Assembling the house, building a home

The Late Iron Age longhouse (500-1000 AD)

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Preface

This project started, as so many other archaeological projects, with an excavation. In this case, the excavation of the rich Late Iron Age settlement at Strøby Toftegård that was excavated 1995-2013 in the northern part of Stevns. I got involved in the project in 2011 where I got the responsibility of the last excavation campaigns of the site in 2011-2013 and later of the ensuing processing and publication of the site in connection with the research project *Pre-Christian Cult Sites* conducted by the late Lars Jørgensen at The National Museum, Copenhagen.

As things developed, I got the possibility to extend the work on the settlement complex of Strøby Toftegård to become a PhD-thesis in corporation with my working place, Museum Southeast Denmark, the National Museum and Aarhus University. Because of the historical background of the thesis, the site of Strøby Toftegård still plays a central role in the thesis. However, the thesis also provided me with the possibility of combining two of my main interests within archaeology: the research of the house and home across time and space and a fundamental interest in the epistemological and ontological questions of archaeology.

The context of the thesis implies that it is rooted in a diverse range of archaeological environments stretching from the everyday practical-oriented contract archaeology to the large culture-historical research project and the reflexive and theoretically oriented academic archaeology. In the process, my work has been characterised by an interchange between the diverse research environments at the local museum, the National Museum and at the university. At times, it has been challenging to find the balance between the various environments which each have their own focus areas, approach to and agendas for the archaeological field. On the other hand, I have also found great inspiration in the combination and 'free surfing' between environments. The combination of environments has directly influenced the thesis in the attempt to serve something useful for everybody and must as such be seen as a fundamental premise for the thesis. My hope is that it generally has been for the benefit of the final product and that the thesis will serve to unite elements of archaeology that are sometimes experienced as 'living in different worlds'. It has at least been an ambition for me to try to bridge the gap between the daily practice of archaeology and the theoretical archaeology and demonstrate that they are closer entangled than is always obvious from the surface.

There is a whole range of people that I would like to give my deepest thanks for making the thesis possible. First of all, I would like to thank Svend Aage Tornbjerg for entrusting the archaeological work with Strøby Toftegård to me. I appreciate your confidence. Secondly, the work would not have been possible without the funding for which Lars Jørgensen, the National Museum, Slots- & Kulturstyrelsen,

English summary

The starting point for the thesis was originally an analysis of the large and rich Late Iron Age settlement excavated at Strøby Toftegård, Northern Stevns in Denmark. However, during the working process, a fundamental wonder emerged towards the limited engagement with the longhouses in relation to Strøby Toftegård but also within previous settlement archaeological research more general. The approach to the longhouses in current excavations and settlement research is characterised by quite uniform questions related to the date and function of the longhouses but rarely towards the further interaction between the longhouse and its original inhabitants. This wonder aimed at the existing archaeological practice has lead to a two-fold aim of the thesis: To investigate the longhouse as an archaeological phenomenon and to explore the role of the longhouses in the Late Iron Age settlement at Strøby Toftegård. The over-all aim with the thesis has been to reengage with the longhouses and present a new perspective inspired by the recent theoretical discussions collected under the term of New Materialism.

The thesis consists of four individual articles and a synthesis. Each article investigates specific elements of the archaeological record and the archaeological process in relation to the Late Iron Age longhouse with the aim of exploring alternatives to the conventional approach. The synthesis provide the background and the framework for the articles as well as gather the conclusions from the individual investigations in a mutual analysis of the longhouse as an archaeological phenomenon and the role of the longhouses in the settlement at Strøby Toftegård. The final discussion of the synthesis aims at putting the role of the longhouses into a broader perspective.

The investigation of the longhouse as an archaeological phenomenon demonstrates that the longhouse plays a limited role within settlement archaeology today despite the extensive archaeological data available. It is argued that the limited engagement originates from a general negative perception of the archaeological record of the longhouses as fragmented and deficient. To change the negative perception, it is suggested to work with the longhouses as assemblages based in the assemblage theory of Manuel DeLanda. Within this framework the longhouse, instead of being perceived as a closed, physical entity, is perceived as a collection of heterogenous components including both the physical house and elements as its inhabitants, building traditions, materials and tools, practices and norms. The assemblage is created through the relations between the components and through the ongoing processes of assembling, reassembling and disassembling the longhouse. The ongoing processes brings a specific temporal perspective to the perception of the longhouse. The conclusion is that the longhouse cannot be perceived archaeologically without the people living in, with and around the house and without including multitemporal perspectives. For this change in perspective in the archaeological approach to the longhouses, assemblage theory provides a fruitful and operational framework.

The framework defined by the assemblage theory is applied in the analysis of the role of the longhouses in the settlement at Strøby Toftegård with specific starting point in the archaeological record to identify and describe the components, relations and processes forming the longhouses in their specific context and interpret the properties and capacities of the houses. Based on the analysis, the longhouses are interpreted as having a primary role as dwellings for the inhabitants of the settlement defining a specific place in the world where they can feel at home. The phenomenon of the home is then discussed in a broader perspective by juxtaposing the Late Iron Age longhouses with tent camps at the present Roskilde Festival representing another distinct kind of home but in a completely different context and temporal order than the longhouses. The juxtaposition serves to see both cases in a new light and discuss the phenomenon of the home in a wider perspective. In the analysis, home-making processes in the form of the creation of boundaries of the home, maintenance of the structures of the home and the active creation and use of social memory is discussed in relation to both cases. Based on the analysis, the home is redefined from a specific material setting, which has characterised the conventional archaeological approach to the phenomenon, to primarily being a temporal phenomenon created through practices. The principal temporal quality of the home is defined as a feeling of eternity created through stability and immutability independent of the actual time spent in one place as demonstrated in the juxtaposition of the century-long settlement of the Late Iron Age and the one-week long settlement at the yearly rock festival.

The final conclusions of the thesis is that a reengagement with the longhouses is needed to provide new perspectives in settlement archaeology. It is not necessarily the archaeological record in itself that has limited the possibilities of interpretation the longhouses but to a high degree the questions asked. Assemblage theory has turned out to be a fruitful way to obtain this reengagement as it both provide a new understanding of the longhouses and provide a concrete approach for interpretive descriptions of the archaeological record if more attention is given to the recording of the inherent temporalities of the archaeological record than is given today. In the end, it is a question of perceiving the longhouse as more than a physical structure and a dating fossil but also as a component in the wider assemblage of dwelling.

Dansk resumé

Udgangspunktet for PhD-projektet var oprindeligt en bearbejdning af den store og rige yngre jernalderbebyggelse, som er udgravet ved Strøby Toftegård på det nordlige Stevns. Men gennem analysearbejdet opstod en grundlæggende undren overfor det begrænsede engagement, som der har været med langhusene både specifikt i forhold til Strøby Toftgård men også i den bredere bebyggelsesarkæologi. Den aktuelle tilgang til langhusene i udgravninger og bebyggelsesforskningen er karakteriseret ved relativt ensrettede spørgsmål angående langhusenes datering og funktion men er sjældent rettet mod interaktionen mellem huset og dets oprindelige beboere mere generelt. Denne fundamentale undren overfor den gængse arkæologiske praksis har resulteret i, at projektet fik et todelt formål: at undersøge langhusene som et arkæologisk fænomen og at undersøge langhusenes rolle i deres oprindelige kontekst i den yngre jernalder. Mere overordnet har projektet haft til formål at re-engagere sig med langhusene og præsentere et nyt perspektiv på bebyggelsesarkæologien inspireret af den aktuelle teoretiske diskussion samlet under termen New Materialism.

Projektet er bygget op af fire individuelle artikler og en syntese. Hver artikel behandler specifikke elementer af det arkæologiske materiale og den arkæologiske process i forhold til yngre jernalders langhuse med det formål at undersøge alternativer til den gældende praksis. Syntesen giver en baggrund og ramme for artiklernes undersøgelser samt samler konklusionerne fra de individuelle undersøgelser i en fælles analyse af langhuset som arkæologisk fænomen samt langhusenes rolle i bebyggelsen ved Strøby Toftegård. Den afsluttende diskussion har til formål at sætte langhusenes rolle ind i et bredere perspektiv.

Undersøgelsen af langhuset som arkæologisk fænomen viser, at langhusene spiller en begrænset rolle i bebyggelsesarkæologien idag på trods af et rigt og omfattede arkæologisk materiale. Der bliver argumenteret for, at det begrænsede engagement med langhuset har rod i en generel negativ opfattelse af det arkæologiske materiale som fragmenteret og mangelfuldt. For at ændre den negative opfattelse bliver det foreslået at arbejde med langhusene som 'assemblages' baseret på assemblage teori, som er blevet præsenteret af Manuel DeLanda. Istedet for at blive opfattet som sammenhængende og fysiske enheder, skal langhuset indenfor denne teoretiske ramme præsenteres som en samling af heterogene komponenter, der både inkluderer den fysiske struktur og elementer som husets beboere, byggetraditioner, materialer og redskaber, praksis og normer mv. Samlingen (eller 'assemblagen') skabes gennem de relationer, som defineres og skabes mellem komponenterne, og gennem de løbende processer, som sideløbende skaber, genskaber og afvikler langhuset. De løbende processer bringer et specifikt temporalt perspektiv ind i forhold til langhuset. Konklusionen er, at langhuset ikke kan undersøges arkæologisk uden at tage højde for de mennesker, som oprindeligt levede i, med og omkring

huset og uden at tage højde for de multitemporale perspektiver indeholdt i det arkæologiske materiale, der udgør langhuset. Til at operationalisere dette skift i perspektiv udgør assemblageteorien en frugtbart og anvendeligt ramme.

Den tilgang som defineres af assemblageteorien blev sat i spil i analysen af langhusenes rolle i bebyggelsen ved Strøby Toftegård ved med udgangspunkt i det arkæologiske materiale at identificere og beskrive de komponenter, relationer og processer, der former langhusene i deres specifkke kontekst. Baseret herpå kan der fremsættes en fortolkning af de egenskaber og muligheder, som langhusene indholder. På baggrund af analysen blev langhusenes primære rolle tolket som beboelse for indbyggerne i bebyggelsen og som et sted, der definerede et specifikt sted i verden, hvor beboerne kunne føle sig hjemme. Hjemmet som fænomen blev derefter diskuteret i et bredere perspektiv ved at sammenholde yngre jernalders langhuse med teltlejre ved nutidens Roskilde Festival. Festivallejrene repræsenterer også skabelsen af et hjem blot i en anden kontekst og varighed end langhusene. Sammenstillingen fungerer som en måde at se begge eksempler i et andet lys og at diskutere fænomenet hjem i et bredere perspektiv. I analysen blev praksiser, der skaber et hjem i form af skabelsen af hjemmets grænser, vedligeholdelsen af hjemmets centrale strukturer og den aktive skabelse og brug af en fælles historie diskuteret i forhold til begge eksempler. Baseret på analysen kan hjemmet omdefineres fra at være karakteriseret som et bestemt materielt set-up, som er den tilgang til fænomenet, der har præget den arkæologiske tilgang, til primært at være et temporalt fænomen, der skabes genenm praksis. Den primære temporale kvalitet ved hjemmet kan således defineres som en følelse af 'evighed' skabt gennem foranderlighed og stabilitet uafhængigt af den reelle tid man bebor et bestemt sted. De samme temporale dimensioner findes uanset om man bor i en yngre jernalder bebyggelse, som strækker sig over flere århundreder eller om man flytter ind i en teltlejr en uge på den årlige Roskilde Festival.

Den endelig konklusion på projektet er, at et re-engagement med langhusene er nødvendigt for at kunne give et nyt perspektiv til bebyggelsesarkæologien. Det er ikke nødvendigvis det arkæologiske materiale, som har sat begrænsingerne for vores fortolkninger af langhuset tidligere men i høj grad de spørgsmål, som er blevet stillet. Assemblageteorien har vist sig at kunne give et rammeværk, der både giver en ny forståelse af langhuset som fænomen og som præsenterer en konkret fortolkende-deskriptiv tilgang, som kan bruges i forhold til det arkæologiske materiale, hvis de metoder, der er tilgængelige idag udvikles til at give mere opmærksomhed til registreringen af de iboende temporale dimensioner i det arkæologiske materiale end der gøres idag. I sidste ende er det et spørgsmål om at ændre opfattelsen af langhuset til at være mere end den fysiske struktur og et daterende 'fossil', men til at være en komponent i den bredere 'assemblage', der udgør menneskets beboelse af verden.

Introduction

This thesis evolves around the longhouse of the Late Iron Age (500-1000 AD) and therefore also around the people who once built and lived in them. Houses are a rich and important source to human life shedding light on fundamental aspects of everyday life as well as general norms in the surrounding society. Alone the excessive number of studies of the phenomenon of the house within anthropology and archaeology serves to demonstrate the central position of the house as a source to human life (e.g. Rapoport 1969, Bourdieu 1970, 1977, Lévi-Strauss 1982, Hillier & Hanson 1984, Kent 1990, Samson 1990, Douglas 1991, Pearson & Richards 1994, Benjamin & Stea 1995, Carsten & Hugh-Jones 1995a, Birdwell-Pheasant & Lawrence-Zuñiga 1999, Brück & Goodman 1999, Ingold 2000, Morley 2000, Gerritsen 2003, Stoklund 2003, Winther 2006, Buchli 2013, Bille & Sørensen 2016a). Common for the studies is an argument that the house has properties and qualities that reach beyond its function as physical shelter and technical construction. The house is perceived as an expression of how people over time and space create a place in the world to dwell; creating a home. In this context, home is not used in a modern meaning of the word but as a general expression of how people dwell in and with the world (Ingold 2000, Heidegger 2001, Mallet 2004, Winther 2006, Højer & Vacher 2009). The house is in that sense often loaded with meanings, symbols, norms and regulations that shape and is shaped by life in the house.

As such, it seems logical that houses should play a central role in Danish-South Scandinavian settlement archaeology which is the field that I am working within. However, it must wonder that the questions asked to the longhouses - in this case the Late Iron Age longhouses - within settlement archaeology are so uniform. Mainly, the questions asked are concerning the date and the function of the house serving to put the house into the existing interpretational models and must at best be characterised as basic. The questions are, on the other hand, rarely related to the role of the longhouses for people in the Late Iron Age and as good as never to the role of longhouses as homes for its inhabitants.

The concrete starting point for the thesis is an analysis of the large Late Iron Age settlement at Strøby Toftegård, Northern Stevns which were inhabited for more than 300 years. As such it must have served as a particular place for the inhabitants. Yet, also in previous work with this site the engagement with the longhouses has been limited. The settlement has been interpreted as a magnate farm surrounded by specialised working areas (Tornbjerg 1998). But the longhouses has only to a very limited degree been included in the interpretational work until now. Leading from this experience with the analysis of Strøby Toftegård and more than 15 years of experience in excavation archaeology, the limited enthusiasm and lack of engaged approach to the longhouses have triggered my curiosity both towards understanding the background for the current practice in the typical archaeological settlement

investigation today and towards how to provide a richer interpretation of the longhouses. It is these questions that I aim to address in the thesis.

A basic premise of the approach in the thesis is that the limited engagement with the longhouses is approached as both a theoretical and a methodological issue. There is a close connection between the ontology of the archaeological record (the perception of what the archaeological record is an expression of) and the epistemology of archaeology (which questions are asked and what is done to answer them). The question is as such a matter of how longhouses are dealt with in theory and practice - in the field, in the recordings and in the interpretations. In the end, it is through practice, the archaeological data, which constitute the foundation of all future engagement and interpretations of the excavated phenomenon, is created. Ideally, there should be a close coherence between what we think the archaeological record is and how we record and work with it.

Development within archaeology only happens due to an ongoing search for better and more adequate ways to describe the archaeological record and the continuous evaluation and discussion of existing practices. Whereas development within the last years mostly have been focused on the development of scientific methods in the search for more precise dating methods, provenience of materials, statistical correlations and the like, less attention has been offered on the development on the ontological and epistemological aspects of the archaeological record even though it is fundamental to how we ask questions to the record (Sørensen 2017). The motivation for the project is therefore a search for new questions and new ways of approaching the longhouses that can serve as alternatives to the standardised and uniform approach to the longhouses in the present archaeological practice and a call for a renewed engagement with them as archaeological phenomenons.

In the thesis, this will be be accomplished through an analysis of the historical background of the research of the Late Iron Age longhouses and an analysis of the longhouses in the Late Iron Age settlement at Strøby Toftegård. In relation to both analyses, assemblage theory (DeLanda 2006, 2016) will be explored both as a new understanding of the archaeological record and a tool for interpretive-descriptive analysis.

Aims of the thesis

The aim of the thesis is two-fold:

- to investigate the Late Iron Age longhouse as an archaeological phenomenon
- to investigate the role of the longhouse in the Late Iron Age

The investigation of the Late Iron Age longhouse as an archaeological phenomenon is aimed at reviewing how the longhouse has been perceived by archaeologists within former and present settlement archaeology. That involves investigating both what the archaeological record of the longhouse is, what is done to it in the archaeological process and how it affects the archaeological data created. The investigation is primarily targeted at theoretical and methodological perspectives on the longhouse. The

aim is to understand the background of current practices in order to open for an exploration of alternative approaches to the archaeological record.

The investigation of the role of the longhouse in the Late Iron Age is aimed at analysing and exploring what the longhouse was in its original context. More specifically, it will be investigated using the longhouses in the settlement at Strøby Toftegård, Northern Stevns as a starting point. The examination is aimed at understanding how the longhouses interacted with people living in, with and around the house. In this context, that does not mean to search for a original 'meaning' behind the longhouse but the properties and effects of the longhouse in its context. The investigation is interpretational and explorative and is primarily targeted at interpretive perspectives on the longhouses. The aim is to present an interpretation of the role of the longhouse that goes beyond the conventional analysis of date and function of the longhouse and give the longhouses a more central position within the general understanding of the settlement.

The two aims should not be perceived as separate but as entangled and connected. The perception of the longhouses as an archaeological phenomenon and how it is dealt with define the possibilities for the interpretations of the role of the longhouse in its original context. At the same time, the questions asked in the investigation of the role of the longhouse on a general level direct the perception of the longhouse. In the context of this thesis, the two aims will be kept separately for the clarity of the analyses and discussions. Besides, it is a matter of the logical progress of the thesis as the theoretical and methodological framework defined in the investigation of the longhouse as archaeological phenomenon will be put into use in the following analysis of the role of the longhouse in the Late Iron Age.

The overall aim with the thesis is to introduce and explore assemblage theory as a new way to think about the archaeological record that potentially will change the general perception of the longhouses. My hope is that an engagement with the longhouse on its own premises will enrich the research within Danish settlement archaeology and in that way contribute to the development and debate more generally within a central field of Danish archaeology.

Archaeological framework

In the context of the thesis, *longhouse* is used as a morphological and descriptive term describing a post built building that is longer than it is wide. Longhouse is thus aimed directly at a particular construction and house form rather than related to the spatial organisation (Jørgensen & Eriksen 1995:17), interpreted function (Tornbjerg 1998:222) or size (Artursson 2005) of the building. The longhouse is the prevailing house architecture from the Neolithic and into historic times in Southern Scandinavia. In the Late Iron Age, the architecture of the longhouse was diverse with distinct variations in dimensions, construction details and layout, but in general the longhouses had an internal three-aisled roof-supporting constructions with pairs of posts in the whole length of the house. Many longhouses from the period were furthermore characterised by curved walls, large distances between the inner posts, slanting

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buttresses and straight gables (e.g. Skov 1994, Schmidt 1994, Jørgensen & Eriksen 1995, Artursson 2005, Eisenschmidt 2013, Christensen 2015). Due to the preservation conditions of the longhouses, relatively little is known about the use of the longhouses or their role in the settlements except on a very general level.

Geographically, the project is located in *Southern Scandinavia* covering modern Denmark and Southern Sweden. This geographical framework both applies to the investigation of the longhouses in a prehistoric context and in a present archaeological context. In the present context, my starting point is the everyday archaeology in Denmark and the investigation will primarily stay within the modern boundaries of Denmark as the research history and the current organisation is defined by specific conditions e.g. the organisation of the archaeology on a national and local level, the methods applied and the registration systems used in the process that varies from country to country. The discussion of the practical aspects will therefore necessarily be rather local seen from an international perspective. My hope, though, is that the subjects discussed still find resonance within the broader field of settlement archaeology in Scandinavia and Northern Europe and in that way will contribute to the development of the field on a broader scale.

The temporal framework is formally defined as the *Late Germanic Iron Age and Viking Age* which in round numbers covers the period 500 - 1000 AD. In the thesis, the period is designated as Late Iron Age for convenience which will cover the relevant period unless other is stated.

In terms of archaeological material, the key site of the thesis is the Late Iron Age settlement at *Strøby Toftegård*. The large and rich settlement is dated to c. 650 - 1000 AD and was found and excavated in the period 1995-2013 (Woller 1998, 2001, Sørensen 2000, Beck 2013, 2014a). In total, 46.020 m2 have been excavated, which equals 29% of the estimated settlement area of 160.000 m2. In the excavations, 109 longhouses have been identified, and even though the settlement has not been totally uncovered, it is believed that the most densely inhabited areas of the settlement have been included in the investigations and the selection of longhouses is representative of the settlement. In terms of preservation conditions and the general character of the longhouses, the site serves as a typical example of a settlement excavation dated to the period even though it also contains features that challenges the existing interpretational models. The site will be presented in more details in the chapter 'Assembling the house'. A detailed presentation of the individual longhouses can be found in article 3, appendix A and B.

During the archaeological analysis of the Late Iron Age longhouse, complementary archaeological material have been included when a broader perspective was needed. In an analysis of the use of house types in practice (article 2), the analysis is based on a broad range of examples of longhouses referred to as 'Trelleborg houses' found through a cursory search in the two national databases *Fund&Fortidsminder* (Denmark) and *Fornsök* (Sweden) complemented with examples from the yearly publication *Arkæologiske Udgravninger i Danmark* (1984-2005) and relevant literature. The aim has not been to provide an exhaustive list of longhouses of the house type but to present a list as base for

the analysis that is representative of the varied uses of the house type. In a detailed analysis of specific architectural features in relation to the biography of the longhouses (article 3), other examples of longhouses from the period have been included when relevant. The included examples have been mainly been found in the literature even though a few examples of unpublished longhouses also have been included. In an analysis of memory practices in the Late Iron Age settlements (article 4), the settlement at Strøby Toftegård has been compared and discussed in relation to three other settlements of similar character, development, structure and social environment found at Gammel Lejre, Tissø and Järrestad. In the final chapter (*Assembling the house, building a home*), the longhouses at Strøby Toftegård are juxtaposed to tent camps at the present Roskilde festival in an analysis and discussion of home-making practices in a broader perspective. The camps at the Roskilde Festival has been the subject of two ethno-archaeological investigation in 2006 and 2012 that both involved archaeological registrations, participant observations and selected interviews (Beck et al 2007a, Albris et al 2008).

Theoretical framework

Broadly speaking, the theoretical background of the research field of the longhouse has followed the general development in theoretical archaeology from a culture-historical approach to a processual and later a post-processual approach. Not all theoretical approaches have had equal impact on the field though and elements of them all still can be found within the field today. An increasing critique towards the approach to basic elements in current archaeology more generally, e.g. typology, scale, the character of the archaeological data, time and temporality, indicates that archaeology might be on the threshold to a new major change in theoretical perspectives (Olsen 2003, 2010, Lucas 2005, 2012, Domanska 2006, Knappett & Malafouris 2008, Ingold 2007, 2008, 2013, Webmoor 2007, Normark 2009, 2010, Hicks 2010, Harrison 2011, Olivier 2011, Hodder 2012, Olsen et al 2012, Pétursdóttir 2012, Witmore 2013, 2014, Hamilakis & Jones 2017). This 'new' turn have been developed over the last 20-30 years as a persistent critique of the modern division between culture and nature, between humans and things - not only in archaeology but within a diversity of fields from philosophy, literature and anthropology to geography, biology and environmental studies (Coole & Frost 2010:20, Fahlander 2017:69). Collectively, the turn is gathered under the term New Materialism (or post-humanism, 'the material turn' or 'the ontological turn' which are other terms covering the same phenomenon).

New Materialism is used as a unifying term under which a varied range of more specific theories are gathered e.g. actor-network theory (ANT) (e.g. Latour 2005, Mol 2010), object-oriented ontologies (OOO) (e.g. Bryant 2011, Harman 2011), assemblage theory (Bennett 2005, DeLanda 2006, 2016), micro-archaeology (e.g. Cornell & Fahlander 2002) and symmetrical archaeology (e.g. Olsen 2010, Olsen et al. 2012, Olsen & Witmore 2015). New Materialism is still a field under development and cannot be presented as one finished 'set of theories' (Coole & Frost 2010:4). However, there are some features that the diverse range of theories have in common and which can be said to characterise of New Materialism collectively.

A central element within New Materialism is a specific focus on the material dimensions and dynamics in the materialisation of the world (Latour 2005, Coole & Frost 2010:8, 37). It is a 'return to things' (e.g. Domanska 2006, Webmoor 2007, Olsen 2010). The different theories within New Materialism all to a higher or lesser degree argue for a 'symmetrical relationship' or a 'flat ontology' between humans and things. People and the perspective of people should as such not have the priority in relation to the perspective of things. Another central element is a particular relational perspective. Things are defined through their relations as everything always is in some kind of relation with other things, people, phenomenons and contexts (Fahlander 2017:74). Tings are as such not just the object of human actions but active participants in varied relations with humans (Witmore 2014:211). Within New Materialism, terms as networks, meshworks, assemblages and entanglements are ways to articulate the relational character of the world (Latour 2005, DeLanda 2006, Ingold 2008, Hodder 2012). Materiality is that way always 'something more' than matter (Coole & Frost 2010:9). As relations are unstable and need to be reproduced to exist (Bennett 2005), New Materialism has a strong focus on the processes producing (or changing, hindering or enhancing) relations besides the relations themselves. The focus on processes brings a distinct temporal dimension into the studied objects and emphasise the multitemporal character of materiality aiming at including duration, biographies, tensions between past, present and future, development, change, continuity, memory and history along with the traditional linear and chronological development (Lucas 2005, Coole & Frost 2010:36, Olivier 2011). Finally there is a specific focus on scale even though the approaches to scale have differed from arguing that everything is one scale (Latour 2005) to incorporate and bridge the different scales and argue for a multiscalar approach to the world (Cornell & Fahlander 2002, DeLanda 2006, 2016).

To sum up, New Materialism represent a rethinking of the categories of data, science and knowledge and argue for crossing the boundaries between the traditional scientific fields (Coole & Frost 2010:9). Furthermore, it has been argued that studies within the tropes of New Materialism should be driven by a high degree of experimentation, wonder and naiveté (Mol 2010:265, Pétursdóttir 2012, Lucas 2014:312, Witmore 2014:205). The different theories within New Materialism should not be perceived as quantitative methods that can be 'applied' to a study material as such but rather as tools to think with and to enrich the description of the studied phenomenons. Cause and effect are both seen as result of the network rather than a quantitative relationship (Coole & Frost 2010:14). Or as it has been argued in relation with ANT, '*the point is not to purify the repertoire, but to enrich it. To add layers and possibilities. In this tradition, then, terms are not stripped clean until clarity is maximised*' (Mol 2010:257).

The material focus within New Materialism has recently found resonance within archaeology and the ideas have to varied degrees already been explored in archaeological contexts (e.g. Normark 2009, 2010, McFadyen 2013, 2016, Lucas 2014, 2016, Hodder 2015, van Oyen 2015, Fowler 2017, Harris 2017). New Materialism has particularly found its way as a critique of the traditional post-processual archaeology. But even though, it is a reaction against one-sided linguistic, symbolic and phenomenological interpretations, New Materialism should not be thought of as a simple return to an empirical or processual approach to archaeology (Coole & Frost 2010:6). New Materialism

acknowledges and encourage the interpretational elements of the description and do not see the archaeological record as objective as such (Nativ 2017:670). A consequence of New Materialism is a change in focus from, generally speaking, fitting the archaeological into existing interpretational models as 'the society', 'high status', house types or particular functional interpretations towards looking at the archaeological record itself. Or in other words, a general change from a top-down approach to approaching the archaeological record bottom-up. Furthermore, there is a change in the archaeological inquiry from searching for 'the meaning behind the archaeological record' towards the *effect* of the thing in the relations it is part of, towards what it *does* (Witmore 2014:210). New Materialism represents in that way a new approach to the archaeological record both in terms of epistemological as well as ontological matters.

I have chosen New Materialism as theoretical framework in the work with this thesis as I have found resonance with my own reflections (and at times frustrations) over the current approach to the archaeological record, particularly in terms of lack of engagement with the more complex temporal dimensions of the archaeological record. Therefore, I will follow and explore aspects of New Materialism in relation to the investigation of the longhouse as an archaeological phenomenon. More specifically, I have chosen to focus on assemblage theory as it is formulated by Manuel DeLanda who is building on thoughts of Gilles Deleuze and Félix Guattarri (DeLanda 2006, 2016). In very basic terms, within assemblage theory all studied phenomenons are studied as collections of heterogenous components that relate to each other within a specific space of possibilities defined by the processes of producing and reproducing the assemblage. All components contribute with certain properties and capacities to the assemblage but also gain 'something more' from being part of the assemblage. Each assemblage consists of smaller assemblages and is part of larger assemblages. Assemblage theory and how the longhouse can be perceived as assemblages will be presented in more details later in the thesis (see 'The longhouse as an archaeological phenomenon').

 Assemblage theory has previously been applied to archaeology (e.g. Normark 2009, 2010, Lucas 2012, Hamilakis & Jones 2017), but fundamentally, it is still 'under development' (Fahlander 2017:76). In this thesis, the application of the notions of assemblage theory in connection with a concrete archaeological record will as such partly be an exploration of unknown country in the search for the possibilities and the limits of the approach. In the study, I have been fully aware that there are weaknesses of choosing one specific theoretical direction to follow and a risk of presenting a one-sided perspective. However, New Materialism and assemblage theory is still so new within archaeology and potentially groundbreaking in relation to the conventional perception of the archaeological material that it need a thorough processing in relation to the actual archaeological record to be fully understood. A somehow one-sided presentation can in this stage be argued for and even be necessary in order to get to the bottom of what the theoretical approach is and what the consequences of an application is. In that sense, it is my hope that the thesis will contribute with its choice of theoretical framework with a small step in the pioneering exploration of what can become a radically new way of thinking about and working with archaeology.

Framework of the thesis

The thesis is build up of four individual articles and a synthesis. The four articles serves as individual investigations of specific aspects relevant to the more general investigation. They have been written so they both contribute to the investigation of the longhouse as an archaeological phenomenon and to the investigation of the role of the longhouse in the Late Iron Age. The synthesis serves to present the background and framework of the thesis, gather the conclusions from the articles and provide further perspectives on these through a mutual analysis and discussion. The aim of the synthesis is to consider and answer to the two main aims of the thesis. The four articles can be found in their full length in appendix 1 - 4.

In a*rticle 1*, basic features of the archaeological record of the longhouses are investigated by exploring and discussing the temporalisation of the archaeological record taking place during the archaeological process. *Article 2* is an exploration of the use of the concept of house types in settlement archaeology using the iconic house type 'the Trelleborg house' as a case. Alternative approaches to the categorisation of the archaeological record is also discussed. In *article 3*, the longhouses at Strøby Toftegård are analysed and categorised using the life history of each longhouse and how people living in, with and around the houses have engaged with the house over time as categorisation criteria. The biographical approach is explored as an alternative to a conventional functional-typological approach. *Article 4* is an exploration of social memory and memory practices represented in the establishment and inhabitation of the settlement in the Late Iron Age. There is a deliberate progression between the articles that follows - a) the scale of the archaeological material from posthole to settlement and b) follows the typical archaeological process from excavation to interpretation.

The articles have been written as part of the thesis but have been made for quite different contexts. Article 1 and 2 are written for international journals and search to discuss aspects recognised in my work with the archaeological record of the longhouses from Strøby Toftegård on a general level. Article 3 and 4 are written for the publication of the site of Strøby Toftegård where they together with a number of other articles serve to present and synthesise the archaeological material of the site:

> A. S. Beck, J. F. Bican, M. D. Jessen & M. K. Schultz (eds.) in prep. *Strøby Toftegård - the excavations 1995-2013*. Pre-Christian Cult Sites Series. Publications from the National Museum - Studies in Archaeology & History. Copenhagen: The National Museum.

Article 3 is presenting the longhouse constructions from the site and article 4 serves to put the settlement into a broader context of the period. The publication is produced as part of the research project, *Pre-Christian Cult Sites,* based at the National Museum, Copenhagen (Jørgensen & Drotner 2011, Bican et al 2012, Jørgensen 2014).

The first chapter of the synthesis '*The longhouse - characterising a research field*' is a presentation of the history of the research field of the Late Iron Age longhouse. The aim is to present a characterisation of the dominating research agendas and the role the longhouse has played within the research. The chapter

serves as background for the following chapter '*The fragmented longhouse*' where the conditions of the archaeological record and its effects on the general perception of the longhouse as an archaeological phenomenon is discussed. As a consequence of the discussion, it is suggested that a renewed investigation of the longhouse as an archaeological phenomenon is needed in order to present a new understanding of the archaeological record. In the chapter '*The four articles*' the four articles are presented with focus on their aims, context and general conclusions. The article contributes both to teh following investigation of the longhouse as an archaeological phenomenon and the investigation of the role of the longhouse in the Late Iron Age. The first investigation is presented in the chapter '*The longhouse as an archaeological phenomenon*' which based on the explorations in the four articles takes its starting point in assemblage theory as an alternative perspective on the archaeological record. In the chapter '*Assembling the house, building a home*', the conclusions from the articles are gathered and used in an assemblage analysis of the longhouses at Strøby Toftegård with the aim of discussing the role the longhouses played in the settlement of Strøby Toftegård. In the final analysis and discussion, the role of the longhouses as homes is discussed in a juxtaposition with tent camps at the present Roskilde Festival in an analysis of home-making processes recognised in both cases despite their immediate differences in context and duration of the settlement. The juxtaposition serves to discuss the phenomenon of the home in a broader perspective across cultural contexts and temporal orders. At the same time, the discussion serves to identify how to work more specifically with the phenomenon of the home in archaeological contexts in the future.

The longhouse - characterising a research field

The study of the Late Iron Age longhouse has deep roots in the tradition of Scandinavian settlement archaeology. Since the dawn of settlement archaeology in the late 19th century up until today, the overall aim of settlement archaeology has been to understand the development in how and where people lived in the past (e.g. Müller 1906, Hatt 1936, 1938, 1957, Mathiassen 1948, 1959, Becker 1966, 1969, 1972, 1980, Thrane 1976, Fabech & Ringtved 1999, Ejstrud & Jensen 2000, Carlie 2005, Webley 2008, Eriksen et al 2009). Within this research field, the house plays a central role as the physical framework for everyday life in the past (Brück & Goodman 1999:3, Hvass 1993:188, Bille & Sørensen 2016b:4). Furthermore, as one of the most common archaeological structures identified in excavations today, the longhouse holds a great potential for further research and explorations into understanding fundamental conditions of life in the past and how people create themselves a place in the world.

In the following, I will give an overview of the development in the research conducted on the Late Iron Age longhouse with a specific focus on a Danish-South Scandinavian context. The focus is specifically on the longhouses in the agrarian settlements, whereas the buildings in the early towns are not included as this context constitute a research field of its own within the wider field of settlement archaeology (e.g. Schietzel 1981, Clarke & Ambrosiani 1991, Feveile 2006, Skre 2007, Schultz 2008).

The aim of the chapter is to give a characterisation of the role the Late Iron Age longhouse plays in the research field today on the basis of its historical context. That includes characterising the methodology used in finding the longhouses and the changing central research agendas within the field, both in a Danish-South Scandinavian and a broader context. Besides placing the longhouse on the archaeological research map, the chapter serves as an essential background for the further direction of the thesis.

Finding the longhouse

In the early days of archaeology, no physical remains of Late Iron Age longhouses had yet been investigated in Southern Scandinavia and the character of the archaeological record related to the longhouse was completely unknown. Instead, the earliest sources for interpretations of the longhouse came from descriptions in the written sources as the Icelandic sagas (e.g. Grettís saga, Gislas saga and Egil Skallagrimssons saga), Early Medieval provincial laws (e.g. Jyske lov, Skånske lov, Äldra Västgötalagen) and texts as the Anglo-Saxon poem Beowulf and the Eddas (e.g. Rígsþula). Based on

these, the longhouses of the Late Iron Age were generally interpreted as large, well-built and highly decorated timber-build halls (e.g. Worsaae 1873:28, Müller 1897:687).

Towards the end of the 19th century, there was a growing interest in complementing the written testimonies with other source materials (e.g. Guðmundsson 1889:10, Bruun 1897:150, Müller 1897:629). Much of this early work on the Late Iron Age longhouses took its starting point in Iceland where a wide range of written sources and old place names helped to locate the sites at the same time as house ruins were still visible on the surface (e.g. Bruun 1899, Erlingsson 1899, Vesteinsson 2004:95-96). Furthermore, ethnographical observations were often included in the interpretations as the building traditions in the North Atlantic were perceived as less influenced by foreign impulses than other areas of Scandinavia and as such in direct line with the building tradition of the 'saga times' (e.g. Guðmundsson 1889, Roussell 1953, Stoklund 2003:92, Lucas 2012:31). Even if sometimes limited, the archaeological investigations gave a better understanding of the longhouse as a physical and archaeological structure.

The archaeologists working in Southern Scandinavia were on the other hand challenged as written sources and visible house ruins were not present to the same degree. But inspired by finds of dwelling features from Southern and Central Europe, the National Museum in Copenhagen started a campaign in order to detect similar archaeological features at Danish sites. This campaign lead to the identification of the first post-build structures in South Scandinavia and the first excavation of actual longhouses in 1906 at Kraghede, Northern Jutland (Müller 1906, 1912, Hatt 1928, Martens 2005:48). Even though these early traces are dated to the Roman Iron Age, the recognition of an archaeological record of this character was essential for the later identification of the Late Iron Age longhouse as well.

These early excavations were followed by intense excavation campaigns of well-preserved Early Iron Age longhouses during the 1920s and 1930s by Hans Kjær and later Gudmund Hatt (e.g. Kjær 1928, Hatt 1928, 1938, 1957). Characteristic for the investigated sites were that they were all located in areas where modern cultivation had been sparse and the house ruins therefore still could be identified on the surface (Martens 2005:48). The longhouses were mostly well-preserved with floor layers, construction elements and sometimes with parts of the inventory still in situ, as many of the longhouses had burnt down. The result was a thorough knowledge of the character and layout of the longhouses in the Early Iron Age. But similar finds dated to the Late Iron Age were still missing (Hatt 1936).

The situation changed with the excavations of the ringfort at Trelleborg, Western Zealand. Trelleborg was excavated 1939-1942 by Poul Nørlund (Nørlund 1948). At the ringfort, 31 more or less identical longhouses were investigated inside and just outside the ringfort. In the following decades, excavations were made at the ringforts Aggersborg (1945-1952) (Roesdahl et al 2014) and Fyrkat (1950-1963) (Olsen & Schmidt 1977), where similar longhouses were found. At Aggersborg 27 longhouses (out of 48) and at Fyrkat 12 longhouses (out of 16) were excavated. With their characteristic curved long walls, buttresses leaning towards the walls and large hall in the centre of the house, the longhouses were markedly different from the longhouses previously known from the Early Iron Age (Nørlund 1948:86-87). Due to the uniformity in the architecture and context of the longhouses

combined with the lack of other finds of Late Iron Age longhouses, the longhouses at Trelleborg were interpreted as representative for the longhouse architecture of the Late Iron Age (Schultz 1942, Nørlund 1948, Olsen 1965).

In the earlier parts of the 20th century, the excavations were defined by small excavation trenches rarely covering more than single longhouses, and everything was excavated by hand. But in the 1960s, a new excavation method was introduced at the excavations of the Early Iron Age settlement at Grøntoft. Inspired from settlement excavations in Germany and the Netherlands, the top soil was removed mechanically instead of by hand (Becker 1966, 1969, 1971). The new technique gave the possibility to uncover bigger areas and to investigate the longhouses in their settlement context on a larger scale, but it also produced a different archaeological material than the old excavation techniques (Näsman 1987:69). As the top soil was removed down to the top of the unmodified subsoil, the houses were mainly identified by their foundation features that had been dug into the sub soil, whereas everything above that level e.g. culture layers and ploughed out features were removed with the top soil (Figure 1) (Becker 1966:210). On the other hand, the new excavation technique gave better opportunities to locate and investigate longhouses that were not visible on the surface.

As a result of the new excavation technique, larger and more time efficient investigations could be made, and in the beginning of the 1970s, a 'Settlement Committee' (*Det Arkæologiske Bopladsudvalg*) was formed with the aim to address specific research questions in relation to prehistoric settlements through targeted excavation campaigns (Becker 1980). Among the research questions was the 'missing link' between the well-known Early Iron Age settlements and the still relatively unknown Late Iron Age settlements. The outcome was the large excavations of the settlement sites at Vorbasse, Trabjerg, Sædding and Omgård which resulted in a considerable increase in numbers and knowledge of the Late Iron Age longhouse (Hvass 1980, Jørgensen & Skov 1980, Nielsen 1980, Stoumann 1980).

Another essential circumstance that affected the process of locating the Late Iron Age longhouses happened in 1969, when the protection of hitherto unknown archaeological sites were introduced into Danish law. When excavation could not be avoided due to modern development, funding for archaeological investigations was secured by the state (Albrethsen et al 1979). This development was followed by a professionalisation of the local archaeological museums, and thereby also of the excavation activity, towards the end of the 1970s. The excavation activity was still coordinated centrally but the actual conduction of excavations was transferred from primarily being conducted by the National Museum to be conducted by the local archaeological museums, each operating within a specific geographical area.

The result was a considerable increase in the number of excavations (Mikkelsen 1998:10). The administrative structure of rescue excavations, furthermore, made over-regional excavation projects possible, e.g. the large excavations caused by the national gas pipe line (1979-1986). The large projects were a major breakthrough within settlement archaeology as longhouses from all periods were identified and investigated in large numbers (Näsman 1987, Mikkelsen 1998:9). Where the early days of settlement
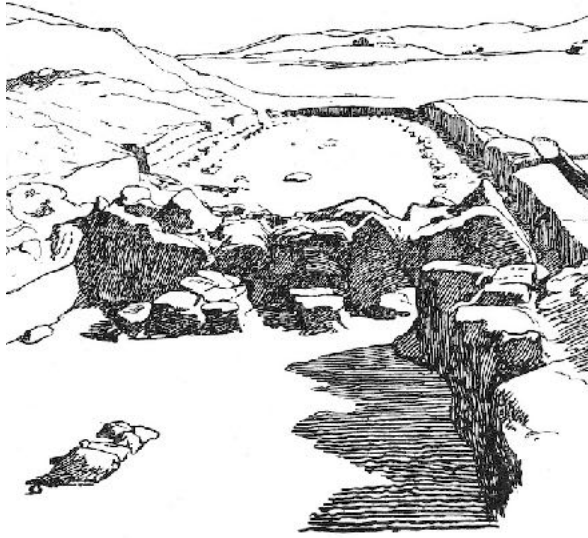
Figure 1: The early excavations were characterised by small, hand-dug trenches covering single house ruins, and the archaeological record consisted of few very well-preserved house ruins with preserved floor layers and building parts. Today, open area excavation is characterised by extensive excavation trenches, whereas the longhouses most often only consists of their foundation features, mainly postholes and no remains of floor layers.
In the top, photo and drawing from the excavations in 1908 at Hofstadir, Northern Iceland (after Bruun & Jónsson 1909). In the bottom, photo from the excavation at Strøby Toftegård in 2013. In the foreground, house K311 during the excavation (photo: Museum Southeast Denmark).

Year	All excavations	Excavations refereed to as settlements	%
2005	380	305	80,3
2006	469	382	81,4
2007	446	341	76,5
2008	425	311	73,2
2009	382	269	70,4
2010	371	268	72,2
2011	520	343	66,0
2012	503	328	65,2
2013	478	279	58,4
2014	351	197	56,1
2015	354	186	52,5

Figure 2: Number of excavations referred to as settlement excavations (not necessarily with finds of longhouses in all sites) compared to the total number of excavations per year 2005-2015 (Source: Fund&Fortidsminder, search 'excavation', specific year and 'Bosættelse').
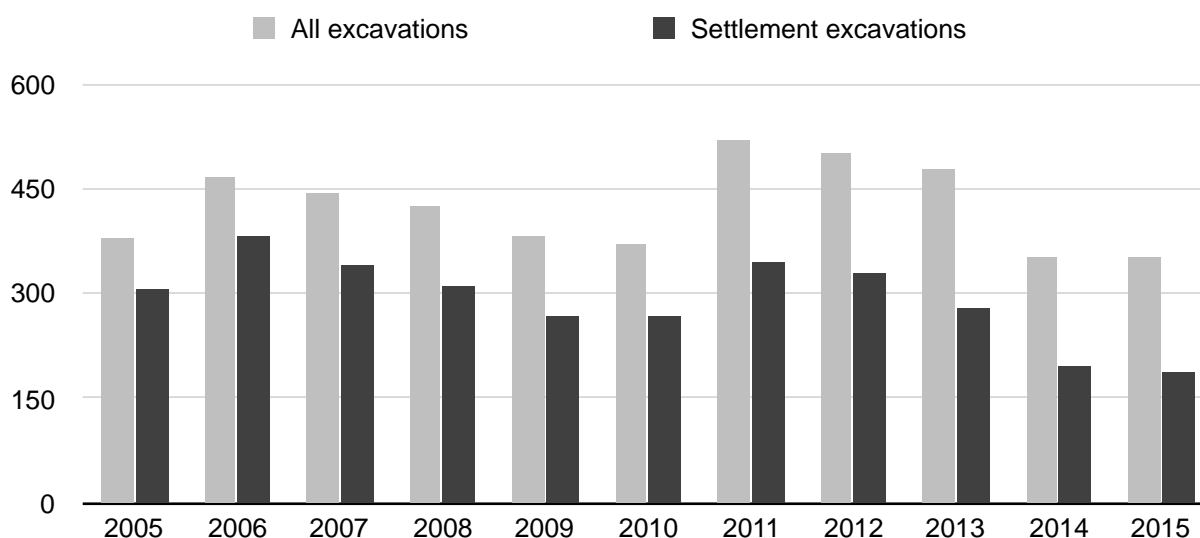
excavations were characterised by a heavy overweight of longhouses being found and investigated in Mid- and Western Jutland and very little were known about the character of the longhouses in the eastern parts of Denmark (Hvass 1984:19), the high excavation activity now resulted in longhouses being investigated in other parts of Denmark as well (Näsman 1987:71, Hvass 1993:189, Christensen & Christensen 2006:27).

The introduction of metal detectors into archaeology during the 1980s and 1990s has furthermore contributed with a large number of new settlement sites, particularly from the Late Iron Age, being discovered (Hvass 1993:193, Henriksen 2000). Among these, new categories of sites were identified as the large and rich elite sites at Tissø and Strøby Toftegård (Jørgensen 1998, Tornbjerg 1998) and the specialised landing places as Gershøj, Næs and Vester Egesborg (Ulriksen 1998, Hansen & Høier 2000), both expanding the variation of longhouses and settlement types known from the Late Iron Age.

In Scania, Southern Sweden, the discovery process of the Late Iron Age longhouses has been similar to the Danish though it began a little later. The mechanised open area excavation technique was introduced during the 1970s, but not with the same immediate success as in Danish excavations as no post-build houses were identified in these first excavations (Martens 2005:51). The first post-build Late Iron Age longhouse in Scania was instead found in an excavation within the town of Lund, where a longhouse dated to around 1010 AD was found (Nilsson 1976, Martens 2005:52). Large excavation campaigns during the 1980s and up until today has changed this image though (e.g. Björhem & Säfvestad 1989, Tesch 1993, Carlie 2005, Staaf & Björhem 2006). Today, the archaeological longhouse record is comparable in character and size to the archaeological record from Denmark.

The increase in the number of excavated sites has continued up until today, where 300-500 excavations (representing all prehistoric and historic periods) are completed every year of which more than 50% typically are categorised as settlement excavations (Figure 2) (*source*: Fund&Fortidsminder). The number of excavated longhouses from the Late Iron Age are increasing accordingly even though longhouses are not identified at all excavated settlement sites (Näsman 1987:71). The high number of excavations per year is a direct result of an efficient central organisation and local management of the museum law securing archaeological investigations of potential archaeological traces in areas affected by modern development. In 2000, around 90% of all excavations were performed as rescue excavations (Ejstrud & Jensen 2000:125). There is no reason to believe that this number has changed markedly today.

Changing research agendas

The agenda in the research of the Late Iron Age longhouses has changed over the years in close connection with changes in the applied archaeological methods, the character of the source material as well as the general theoretical development in archaeology (Figure 3).

The aim of the following presentation is to identify key questions asked in the research of the longhouse over the years. The focus is specifically on research where the longhouse plays the central role and not on research within the broader field of settlement archaeology as such (to the degree these can be distinguished). The presentation is not focused at giving a thorough introduction to individual studies but aims at giving an overview of the most common schools of thought present within the field. The structure in the presentation is historical, and might give the impression of a neat linear development. In reality, the different traditions are often intermixed and more or less still present today within the research field, but a historical structure have been chosen for the sake of clarity.

In the early phase of longhouse research during the first half of the 20th century, Danish and South Scandinavian settlement archaeology was mainly influenced on the one side by the typological tradition of Scandinavian archaeology (Gräslund 1987) and on the other side of the German culture-historical tradition, 'Siedlungsarchäologie', mainly characterised by archaeologist Gustaf Kossinna (Kossinna 1911). In general terms, Siedlungsarchäologie can be defined as the study of the identification and

Date	Theoretical impact	Methodology	Source material	Research questions
Mid-late 19th C	Culture-historical tradition	Written sources	Written sources	Locating and identifying the longhouses archaeologically
Late 19th C		Written sources	Place names	Typology, chronology
		Ethnological observations	Ethnological records	Architectural traditions
		Archaeological investigations - surveys and trenches, mostly visible ruins (Iceland)	Few well-preserved longhouses	Origin and diffusion of architecture
Early 20th C		Archaeological investigations - surveys and trenches, mostly visible ruins (Jutland)	First post-built longhouses (Early Iron Age)	Layout, internal spatial organisation
			Well-preserved longhouses (Early Iron Age)	
Mid 20th C		Large excavation projects (Vallhagar, Trelleborg)	First post-built longhouses (Late Iron Age)	Construction of longhouse
1960 - 70's	Processual tradition	Mechanisation of excavation, large open area	Post-built longhouses outside ring forts	Location of settlements, models
1980's	Post-processual tradition	Professionalisation of archaeology, increase in excavation activity	Large settlement excavations	Typology, dating tool
				Settlement structures
				Function and economy
1990's	British landscape archaeology	Metal detectors	New types of sites	Social organisation, social status
2000's		Increased use of natural sciences	Soil sampling, c14-dates	Cultural landscapes
2010's				The meaning of the house
				House and household

Figure 3: Schematic presentation of the historical development and changing research agendas in settlement archaeology in Denmark

delineation of the homeland of specific culture groups (Trigger 1989:165). Typology and classification were central concepts in this identification process, as culture groups were defined on the basis of their material culture. Furthermore, there was a close link between archaeological and ethnological research in terms of investigating and identifying specific national architectural traditions in a long time perspective in the Danish-South Scandinavian area (e.g. Jensen 1915, Zangenberg 1925, Steensberg 1953, 1974, Møller 1963, Stoklund 1963, 1980).

The earliest research questions in relation to the Late Iron Age longhouses was primarily aimed at how to locate the longhouses from the period. But with the excavations of Trelleborg, the Late Iron Age longhouse became part of the broader longhouse research of the time. The architecture of the longhouses played a central role in the identification of national and regional architectural traditions in time and space and the longhouses at Trelleborg were seen as a typological connection between the three-aisled Early Iron Age longhouse and the Medieval one-aisled longhouse (e.g. Nørlund 1948, Steensberg 1974, Christensen 1987, Jensen 1987, Rasmussen 1994, Schmidt 1994, Skov 1994). A central issue in this relation was to understand the concrete construction of the longhouse and particularly the buttresses, which had until then been an unknown architectural feature. The earliest interpretation was presented by the architect C.G. Schultz, where the buttresses were interpreted as a gallery around the house (Figure 4) (Schultz 1942). Schultz' interpretation was later discussed and heavily criticised both in

Figure 4: The earliest reconstruction of the Trelleborg house built in 1942 by architect C. Schultz, who also participated in the excavations at Trelleborg. The buttresses were interpreted as a gallery surrounding the building. Later excavations showed that the buttresses had been slanting towards the house and probably were a more integrated part of the house construction (photo by author).

relation to the actual archaeological features excavated and in relation to the interpretation of the function of the buttresses in the construction it self (Lauring and Hoff-Møller 1952, Larsen 1957, Olsen 1968, Christensen 1973, Schmidt 1977).

The specific nationalistic aspects of the culture-historical research has disappeared, but the investigation of the architectural tradition has continued up until today in numerous studies of regional building traditions (e.g. Zimmermann 2001a, Artursson 2005, Mikkelsen 2006, Eisenschmidt 2013, Hansen 2015, Laursen & Holst 2017) and of the introduction of particular architectural elements and their geographical origins (e.g. Herschend 1989, Zimmermann 1992, Waterbolk 1994). Also the debate of the construction of the Late Iron Age longhouse have continued, mainly in relation to specific reconstruction projects (e.g. Schmidt 1985, Larsen 1994, Komber & Draiby 1999, Poulsen & Draiby 2005, Ejstrud 2014). Whereas much of the construction debate has been focused on technical aspects of the longhouse, a social dimension of the construction debate is found in research related to the consumption of building materials and man power necessary in the building process (e.g. Draiby 1991, Jessen 2015).

During the 1960s and 1970s, the influence from the German Siedlungsarchäologie was still strong in Danish-South Scandinavian settlement archaeology. The perspective of the Siedlungsarchäologie had changed away from a focus on culture groups to a more neutral study of settlement patterns over time in the landscape (Jankuhn 1977, Gramsch 1996:20-21). In the same period, new theoretical influences came from USA with the development of a processual archaeology (e.g. Binford 1962, 1980, Trigger 1968, Higgs & Vita-Finzi 1972, Hodder & Orton 1976). Both traditions are characterised by studies of settlement patterns particularly on an ecological-economical background to understand the relationship between humans and landscapes and the use of systematic and statistical methods in the aim of obtaining as objective a record as possible. But whereas processual archaeology are often based on theoretical models, Siedlungsarchäologie has a strong base in the empirical record which characterises Danish-South Scandinavian settlement archaeology even today.

In these years, the research changed from a focus on the individual longhouse to investigating the longhouse in its wider settlement context; a perspective that was supported by the new excavation methodology with large open area excavations uncovering previously unknown settlement complexes (Becker 1980). As a basis for a better understanding of the settlement structures and more general settlement patterns, the research of the longhouse was primarily targeted at questions of date, the function of the house and the social organisation it represented.

A precise date of the longhouse has in most contexts been seen as a prerequisite for the further research process of the longhouse (Hvass 1989:22, Holst 1999:21, Hansen 2015:54). In the early excavations, the dating process was mainly connected to house typological observations, stratigraphy and artefact datings (e.g. Nielsen 1980, Hvass 1983). The large excavation campaigns during the 1980s made a renewed focus on typologies and dating relevant as efficient and stable typologies were needed in the field work. Since the early 1990s, several typological studies have been presented in the search of more precise dating and more strict morphological definitions of the house types (Figure 5) (e.g. Hansen
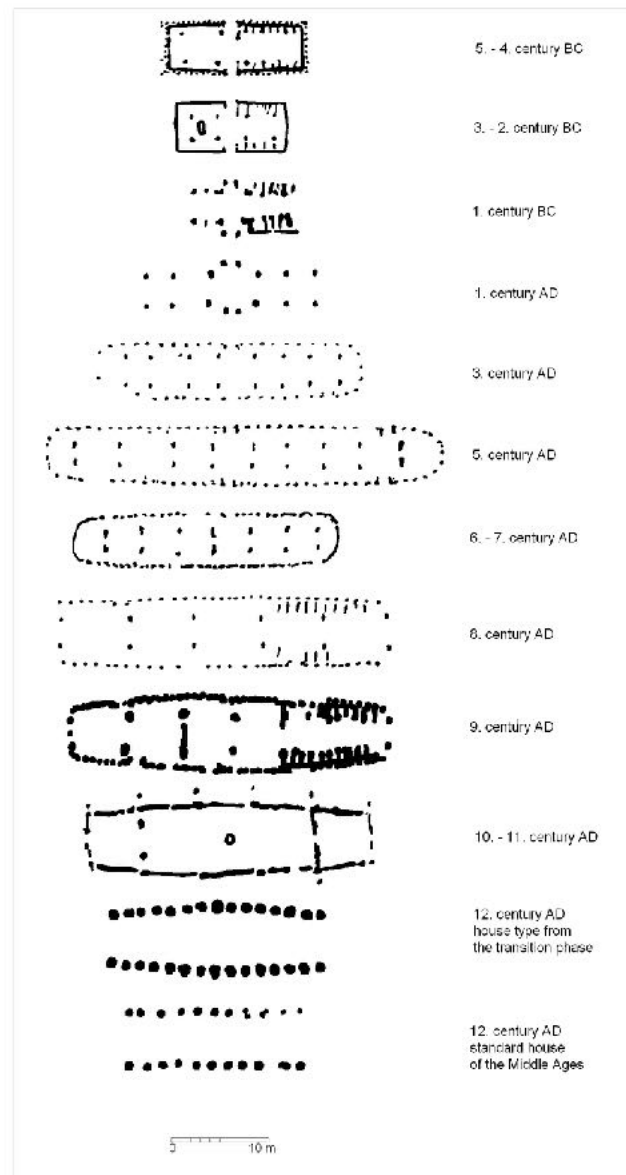
Figure 5: An example of a house typology covering the Iron Age and Early Medieval based on standard houses (after Rasmussen 1994:77).

et al 1991, Fonnesbech-Sandberg 1992, Boye 1992, Tesch 1993, Björhem & Säfvestad 1993, Skov 1994, Jørgensen & Eriksen 1995, Boye & Fonnesbech-Sandberg 1999, Eisenschmidt 2013, Laursen & Holst 2017). As AMS-dating were introduced and datings of small amounts of organic material as charred grains made possible, C14-datings of longhouses became more common after the early 1990s. With the increased use of C14-dating, the possibilities of nuanced interpretations of settlement dynamics and more refined house typologies has increased markedly (e.g. Holst 2010, Villumsen 2013, Hansen 2015). Even though the more precise datings also sometimes challenge the existing typologies (e.g. Villumsen 2013).

Together with detailed landscape analyses, the interpretation of the function of the individual longhouse has played a central role in relation to the interpretation of the socio-economical structure of

the settlement. The preservation of the house construction rarely allows interpretations of the spatial layout and activity zones within the longhouses in more details than a division of the longhouse into areas for dwelling and stable (Mikkelsen 2003). But much research has been done to develop specific archaeological methods for investigating the spatial layout as macro-fossil analysis (e.g. Mikkelsen et al 2008), phosphate analysis (e.g. Zimmermann 2001b, Ethelberg 2011), analysis of micro-refuse (e.g. Milek et al 2014) and soil sampling (e.g. Milek & French 2007).

When the increased use of metal-detectors introduced a new category of site characterised by a high amount of valuable and imported metal artefacts, questions of social organisation and particularly social status became relevant (e.g. Callmer 1991, Fabech & Ringtved 1995, Henriksen 2000. Jørgensen 2002, Söderberg 2003, Carlie 2008, Sørensen 2008, Christensen 2015). These studies are often drawing more or less explicitly on historical models in the attempt to identify and recognise their material expression in the archaeological record (e.g. Herschend 1993, Poulsen & Sindbæk 2011, Carstens 2015). In this process, the architecture, size and character of the longhouse play a central role, particularly if it is extraordinary. Research questions related to the dating of the longhouses, the development of house typologies, the function and social status of the longhouse are to a high degree still characterising the Danish-South Scandinavian settlement archaeology today.

From the 1980s, a new theoretical perspective primarily originating from British archaeology was introduced under the term post-processual archaeology (Hodder 1982, Shanks & Tilley 1987, Tilley 1994). Post-processual archaeology grew out of a critique of the processual archaeology and therefore represent a considerable change in perspective. What gathers the varied and plural perspectives of post-processual archaeology is that instead of the search and development of universal theories, post-processual archaeology emphasised the individual, unique case study and valued the subjective and interpretative perspective. At the same time, it was meant as an answer to some of the interpretational limitations found in processual archaeology and therefore had a specific focus on the symbolic, ritual and social meanings of the archaeological record. Generally, the aim was to get closer to an understanding of past human behaviour. The post-processual archaeology presented a different view on architecture, where the build environment could no longer be seen as a passive background to human lives, but were perceived as active material culture, often with inspiration from socio-anthropological studies (e.g. Bailey 1990, Pearson & Richardson 1994, Tringham 1994, 2000, Brück & Goodmann 1999, Hedeager 2002, Gerritsen 2003, Hamilton et al 2006).

Whereas the post-processual archaeology has had greater influence on Norwegian and Swedish settlement archaeology (e.g. Burström 1995, Kyhlberg 1995, Ängeby 1999, Andersson & Svensson 2002, Hedeager 2002, Eriksen 2015, 2016, Lund & Arwill-Nordbladh 2016), the impact on the Danish-South Scandinavian settlement archaeology has been limited and is mostly represented by single studies e.g. the study of ritual depositions in the longhouse (Carlie 2004), the symbolic, cognitive and communicative aspects of the longhouse architecture (Heimer 2009, Bican 2010, Jessen 2012), the phenomenological aspects of the doorways in the longhouse (Beck 2010, 2014b), the longhouse as an

expression of house societies (Jessen & Holst 2008) and the study of gender roles represented in the longhouse (Croix 2010, 2014).

One research area that seems to have included the perspectives in post-processual archaeology is the research of the hall. From the written sources, the hall is known as a place where people gathered for social and ceremonial activities as feasts, weddings, ritual celebrations and juridical activities, and as a place where political and social networks were maintained and confirmed (Brink 1996, 2005). An increasing number of studies have used the social phenomenon of the hall in interpretations of social, political and ritual aspects of Late Iron Age society (e.g. Herschend 1997, 1998, 2009, Callmer & Rosengren 1997, Jørgensen 2002, 2009, Söderberg 2005, Carlie 2008, Gansum 2008, Heimer 2009, Jessen 2012, Carstens 2015, Christensen 2015).

Through the changing research agendas, a fundamental change in the perception of the longhouse can be recognised. In a culture-historical archaeology, the longhouse was perceived as an artefact on the same level as any other artefact. The form and architecture of the longhouse expressed a specific cultural affiliation which had to be typologised to be identified. With the processual archaeology, the longhouse was no longer seen as an artefact, but as a part of an environment which constituted the background for the life of humans particularly in economical and functional terms. The perception changed again with the post-processual archaeology, where the longhouse was perceived as reflecting symbolic, social and cosmological aspects of the surrounding society thereby opening up for a perspective where the longhouse carried meanings reaching beyond the longhouse as a physical structure.

Today, an increasing critique of the current perception of the archaeological record, gathered under the term New Materialism, claims that research has been too focused on the human being 'behind the artefact' whereas things themselves have been neglected (Olsen 2003, 2010, Webmoor 2007, Hodder 2012, Olsen et al 2012). Things serve as means for the investigation of something else whether it is a specific cultural identity, an environmental background or a symbolic cosmology and world view, but are rarely investigated for what they are in themselves (Witmore 2014:203). Instead it is argued that archaeology should 'return to the things', or in this case the longhouses themselves (Coole & Frost 2010, Witmore 2014, Fahlander 2017). However, where post-processual archaeology only have had limited and slowly increasing impact on the longhouse research, New Materialism still have to make it into the field. But a close connection between studies of architecture and New Materialism demonstrates that New Materialism has the potential of redefining the perception of architecture on a general level and therefore also in archaeology (e.g. Latour & Yaneva 2008, McFadyen 2013, 2016, Lucas 2014, 2016, Bille & Sørensen 2016a). The consequences of the critique and a potential new direction for longhouse research still remains to be explored.

The role of the longhouse in research today
The role played by the longhouse within settlement research has changed over the years. In early research, the individual longhouse played a central role, whereas today, research mainly aims at the

longhouse as part of a larger settlement and landscape context (Fabech et al 1999, Boye 2011, Møller et al 2011). The tendency in research has in that sense been a movement away from the individual longhouse playing a smaller and smaller role in research.

As most longhouses are found today in connection with rescue archaeology, the paradigm of rescue excavations has played a central role in this development. Generally, rescue excavations are characterised by a standardisation of methods and research questions as the fundamental approach to the excavation of archaeological remains is that it is a recording process of data for future research (preservation per record) rather than the investigation of specific, targeted research questions (Madsen 1988, Mikkelsen 1998:10-11, Jensen 2005, Møller et al 2011:4, Lucas 2012:71). With the large number of longhouses discovered in the excavations today, it is understandable if the excavation of the individual longhouse becomes a standard operation moving from one house to the next (Ejstrud & Jensen 2000:125, Jensen 2005:23, Møller 2005:8). The problem is that it also has the consequence that the enthusiasm towards the single longhouse can be limited. And in some cases, even a more or less hostile attitude towards the 'standard Iron Age longhouse' can be experienced claiming that no new knowledge will be produced in the excavation of yet another house (e.g. Hvass 1989:21). As a consequence, it is rare that the output of rescue excavations are presenting radically new perspectives on the longhouse. However, there is a risk that the attitude becomes a self-fulfilling process where little new knowledge is produced due to a standardised engagement with the longhouse, which then becomes an argument for a limited engagement with the house.

On that background, the general impression is that engagement with the individual longhouse is limited and that the longhouse play a more or less peripheral role in settlement archaeology more often used as a mean to something else than as a research object in it self. Or as it was phrased recently: "*People…are often more or less invisible in discussions of houses and settlements in prehistory, as are - somewhat surprisingly - the houses themselves*" (Eriksen 2015:31).

Fragments of the longhouse

The role of the longhouse in settlement research today represents a paradox. Never have the starting point for a rich and multiple research into the longhouse had a better starting point. The data set is large, varied and continuously increasing, a broad range of scientific methods is available and new methods are continuously being developed, methods for c14-dating have been refined and the use more common, the selection of possible theoretical approaches are numerous and finally, excavation activity is still ongoing leaving lots of opportunities for experimenting with new methods, approaches and strategies. But never has the engagement with the individual longhouse played a smaller role in settlement archaeology than it does today.

Following the critique forwarded by New Materialism, the claim would be that the longhouse itself has been overlooked and at best used as a mean to reach other goals in the settlement research as date, structure and function of the settlement rather than perceived as a research object in it self. As a consequence, there is a severe risk of ignoring that large structures, as a settlement site, is constituted by a collection of small-scale phenomenons, as the individual longhouses and households, interacting in complex networks. The perception of the small-scale phenomenon as research objects will in that sense have direct influence on the possibilities for the understanding and interpretation of the larger structures. The aim must therefore be to have as rich a perception of the small-scale phenomenons as possible so they are not becoming a 'caricature of themselves' (Harman 2016:42). Taking this critique seriously, a reengagement with the longhouse itself is needed.

In the following chapter, I will begin by investigating the current perception of the longhouse in more details and discuss it as a background of the limited engagement with the longhouse. I will argue that there is a general negative perception of the longhouse as an archaeological record, and that this attitude - often unintended - stands in the way for a richer engagement with the longhouse.

The total record

The total record is a concept identified and discussed by Gavin Lucas as a fundamental premise running through archaeology since its establishment as a scientific field in the late 19th century (Lucas 2012).

In basic terms, the concept of the total record articulates an ideal of creating as complete a collection of objects from the past as possible (Lucas 2012:19). In the 19th and early 20th century, it was one of the driving forces behind the creation of the first scientific museum collections. It was believed that the more complete the collection was, the more complete image of the past it would create. Or in other words, the aim was to collect as many pieces of the jig-saw as possible and hope that they at some

point would add up as a whole revealing the past as it was (Lucas 2012:40). If a collection remained incomplete, it was perceived as a problem of collecting practices rather than a problem with the record per se.

Also in Danish archaeology, the concept of the total record was central in the early archaeology, and to some degree it still survives in archaeological practice today. Most evidently, it can be found in the considerations behind *Sogneberejsningerne*, the ideal of a total registration of all known monuments and archaeological sites collected by systematic survey of each parish. The registration was initiated in 1873 by J.J.A. Worsaae from the National Museum (Kristiansen 1985a) and is still updated today in the form of the online database *Fund&Fortidsminder*. Also in the persistent tradition of producing overviews of the Danish prehistory as a total and coherent history of the past can the notion of the total record be recognised (Worsaae 1843, Müller 1897, Brøndsted 1938-1940, Jensen 2000-2004).

At the same time as the concept of the total record is aiming at an ideal of totality, it accentuates the actual incompleteness of the archaeological record. Already early in the 20th century, it was recognised that the complete collection of all archaeological artefacts is not possible (Lucas 2012:46). Towards the middle of the 20th century, the focus in archaeological practice generally changed from how to create the total record to the identification of factors that cause the fragmentation of the record e.g. taphonomy, the ongoing destruction of the archaeological record and the archaeological recording techniques (e.g. Schiffer 1976, 1987, Kristiansen 1985b, Jørgensen & Pind 2001, Orton 2000). The perception of the incompleteness of the archaeological record has changed from being a problem caused by incomplete collections (the full record is 'out there' waiting to be discovered) to being a problem of preservation and retrieval (the full record is an illusion and the surviving traces will always be incomplete and fragmented). Or as D. Clarke has expressed it: '*Archaeology… is the discipline with the theory and practice for the recovery of unobservable hominid behaviour patterns from indirect traces in bad samples*' (Clarke 1973:17).

Since the 1970s, there has been a continuously attention to the preservation state and representativity of the archaeological record in Denmark (e.g. Hvass 1985, Näsman 1987, Jørgensen & Pind 2001). The practice of rescue archaeology has brought issues of preservation and destruction of the archaeological record to the forefront where the archaeological record is often articulated as an 'un-renewable resource' that is disappearing (Hvass 1989:23, Lucas 2012:67). Particularly, the effects of modern cultivation of the archaeology has been highlighted as problematic for the preservation of the archaeological record (Baudou 1985, Nielsen 1987, Jørgensen 2001). The focus on the incompleteness and destruction of the archaeological record creates a feeling of lack and loss in relation to the archaeological record which is clearly expressed in the title of a seminar, *Før landskabets erindring slukkes* ('Before the memory of the landscape dies out' (my translation)); a seminar arranged in 2000 by the administrative archaeological organs with the purpose of giving a general status of the preservation conditions of the archaeological sites in Denmark (Jørgensen & Pind 2001).

The concept of the total record and the reactions to the actual incompleteness of the archaeological record are both present in archaeology today where they impact on archaeological practice and the fundamental perception of the archaeological record (Lucas 2014:314). In archaeological practice, the ideal remains the total excavation and the total recording of a site, so the recordings can stand in for the site itself as it is being destroyed (preservation by record) (Lucas 2012:51). The incompleteness and fragmentation of the archaeological record is perceived as a problem that should be overcome. Methods are developed to gain control and compensate for the fragmentation as well as knowledge from well-preserved sites and analogies are used to 'fill in the gaps' (Lucas 2012:51). In the acknowledgment that total excavation rarely is a possibility, national archaeological strategies have been developed to help prioritising in and between excavations by pointing out the gaps in the existing knowledge (Slots- og Kulturstyrelsen 2017). However, that does not change that prioritising and sampling is mostly seen as an unfortunate necessity, not as an active strategy (Madsen 1988, Orton 2000:4).

The fragmented longhouse

Returning to the longhouse, the incomplete state of the archaeological record of the longhouse is obvious. The majority of longhouses are excavated in open fields where modern cultivation has been wearing down the archaeological record over time (Nielsen 1987:87). At the same time, the standard excavation method is defined by removing the plough soil and probable culture layers down to the surface of the subsoil, where only the absolute last remains of the house can be located as systematic collections of archaeological features (Näsman 1987:75). Typically, nothing of the actual physical house in the form of timber, roof, walls or floor layers is preserved in the archaeological remains. Well-preserved houses are in this context houses where the full layout can be identified, whereas badly preserved houses only show themselves as the roof-supporting postholes (Figure 6). Due to the character of the record, when reproduced and shared among archaeologists, the longhouse is to a high degree defined by the excavation plan giving a two-dimensional representation of the house. The archaeological record of the longhouse can in that sense be said to be fragmented in a double sense. Not only is the main part of the longhouse destroyed due to modern activities, but also the three-dimensional quality of the longhouse is gone. Nonetheless, the term house construction is often used in all stages of the archaeological process to designate the systematic collection of foundational features which constitute the actual record.

The perception of the longhouse as fragmented becomes more distinct when compared to other relevant material (Nativ 2017:661). The well-preserved longhouses from the Viking Age excavated in Iceland and Early Iron Age in Denmark gave an impression of what the archaeological record could be like if not disturbed. This image remains (even today) an ideal image of the excavated longhouse. Compared with these finds, the longhouse only defined by postholes and without floor layers present it self as a shadow of what it once was.
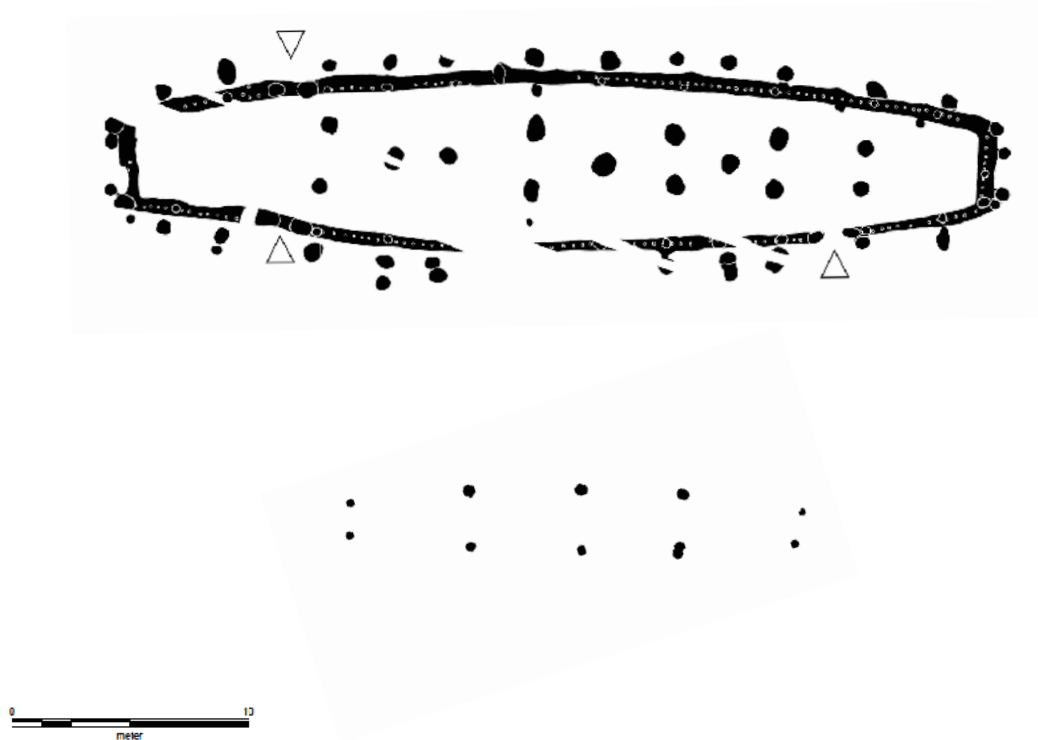
Figure 6: Excavation plan of a well-preserved longhouse (top) with identified roof-supporting posts, gables, wall constructions, door posts and buttresses (house 4, Strøby Toftegård) and a less well-preserved longhouse (bottom) with roof-supporting and gable posts (house 10, Strøby Toftegård). The houses are reproduced in the same scale and have been aligned to the same orientation. Entrances are marked with triangles.

Archaeological artefacts imitating or picturing the longhouse have been included in the interpretations of the architecture of the Late Iron Age longhouse as a compensation for the two-dimensional character of the archaeological record and lack of construction details (e.g. Nørlund 1948, Schmidt 1994, Komber 2001, Lucas 2012:51). Among these artefacts are the hogbacks from Northern England and Southern Scotland (Lang 1984), caskets e.g. the now disappeared Cammin casket (Klindt-Jensen 1970) as well as the rare finds where house models are included in jewellery or amulets, as the recently found fibula from Vindinge, Zealand (Christensen 2015:94-95) or the top of a stave found in a grave at Klinta, Öland (Figure 7) (Petersson 1958). Also the rich iconography of the Late Iron Age and contemporary Early Medieval in Europe includes images of houses in several cases e.g. on the picture stones from Tjängvide and Ardre, Gotland (Figure 8), the Sparlösa stone and on the Bayeux tapestry (Schmidt 1994:129-135). Even though the artefacts and iconography rarely depicts a precise image of the longhouse, they are often used in the interpretations, particularly of the decoration of the longhouses e.g. the coloration or the decorative details, elements that obviously are not very well represented in the archaeological record in other means.

The written sources rarely give detailed descriptions of the longhouses, but on the other hand give an impression of the inhabitants, the life in the houses and the use of the individual parts of the

Figure 7: A miniature model of a house, on top of stave, found in grave at Klinta, Öland, dated to the Viking Age (photo: Gabriel Hildebrand, Historiska Museet, Stockholm (photo cropped and grey scaled)).

Figure 8: Upper part of the picture stone from Tjängvide, Gotland. In the left side is an image of what has been interpreted as a longhouse. A horse rider is arriving to the house on a eight-legged horse and is welcomed by a women (photo: Conrad Johansson).

house (e.g. Guðmundsson 1889, Vidal 2013). When the stories and descriptions are compared to the archaeological record, the lack of floor layers, room partitions and artefacts, make the lack of direct traces of the former life, and not least the original inhabitants inside the house, stand out. The archaeological record can in that sense appear as lifeless and static, an object which have lost its original purpose.

Finally, the building of reconstructions has a significant but not always recognised impact on the perception of the archaeological record. Today, qualified reconstruction projects of longhouses are found e.g. at Ribe Vikingcenter (Ejstrud 2014), Lejre (Larsen 1994, Komber & Draiby 1999) (project not realised in the end) and at Vikingelandsbyen in Albertslund (Poulsen & Draiby 2005). The reconstructed houses have a considerable impact on the perception of the longhouse as a three-dimensional construction at the same time as it gives the possibility of experiencing life in the longhouses in concrete ways (Figure 9) (e.g. (Beck et al 2007b, Christensen & Ryhl-Svendsen 2014). The experience of the physical longhouse both impact on the ideas of the longhouse among the public and professionals (Peterson 2003, Edgeworth 2012, Ejstrud 2014:5). But in the comparison with the reconstructions, the two-dimensional character of the longhouse in the archaeological record is accentuated.

Most of all, the combination of the many source materials to the longhouse creates an ideal image of what the longhouse once was which the archaeological record cannot live up to. In the comparison, the archaeological record presents it self as fragmented, deficient and incomplete, and therefore tend to be perceived in negative terms (Nativ 2017:661). As a self-fulfilling process, due to the fragmentation of the archaeological record, the inclusion of other source materials can be experienced as necessary to 'fill in the gaps' in the process of turning the two-dimensional excavation plan into a three-dimensional building, house and home.

Figure 9: Interior of reconstructed Viking Age longhouse at Ribe Viking Centre, Denmark (photo: Ribe Vikingecenter)

An alternative approach

To sum up, the archaeological record of the longhouse present it self as fragmented and deficient when compared to an ideal image of what it once was. As this comparison often happens in the archaeological process more or less consciously, this has caused a general - though often unintended - disappointment and negative perception of the longhouse. My claim is that the focus on 'what is missing' in the archaeological record is one of the main reasons for the limited engagement with the individual longhouse in current Danish-South Scandinavian settlement archaeology.

To get beyond this negative perception of the archaeological record, in this case in relation with the longhouse, Assaf Nativ argues for an alternative approach to the archaeological record (Nativ 2017). In his own words, he sees the problem this way: "*The heart of the matter is that the archaeological is too quickly and too readily made to serve purposes that are far removed from its concrete conditions. It is immediately put into the grinder of reverse engineering that seeks to discover what it once was, but in the process neglects to consider what it is*."(Nativ 2017:660).

In other words, archaeologists jump too quickly from the fragment to the whole, from concrete objects to conceptual abstractions (Lucas 2014:320). This description of the archaeological process can easily be recognised in the handling of the longhouse where the descriptions of the record rather quickly jump to the three-dimensional construction, not really engaging with what the archaeological record actually is - a systematic collection of postholes and other archaeological features with contents and stratigraphy originating from the lifetime of the house. In this way, Nativ advocates for archaeologists to engage more deeply with the archaeological record and build up the understanding of prehistoric phenomenons from the bottom, rather than produce archaeological interpretations based on theoretical concepts applied to the material top-down. Instead of seeing fragmentation as a deficiency of the record, it should be met as a basic premise of the archaeological record (Lucas 2010:357, Witmore 2014:213, Nativ 2017:666).

For such an operation to succeed, a better understanding of the particular archaeological perspective and what the archaeological record is, also in ontological terms, is needed. First step in an investigation process will be to free the archaeological record from any conceptual ideals originating from other source materials in order to meet the archaeological record on its own premises. In relation to the longhouse, it means free the archaeological record from the ideas of the original state of the house construction and from other types of source materials as the written sources, the iconography and the reconstructions, to the degree it is possible, as they risk to stand in the way of understanding the archaeological record of the longhouse. This is not a critique of previous interpretations including other types of material as such, but rather a necessary step in the process of exploring what is actually present in the archaeological record it self to open up the potential of learning more from the archaeological record as it is. Other sources might still complement at a later step in the process, but at the moment a confidence in what is actually excavated in the field has to be build up from the bottom (Nativ 2017:671).

To create the foundations for this confidence and explore the potential in a new approach to the longhouse, a revived investigation of what the longhouse actually is as an archaeological phenomenon is needed. On that background, the aim of the following chapters is to investigate the archaeological phenomenon of the longhouse in order to pave the way for a richer engagement with the Late Iron Age longhouse - and longhouses more broadly - within Danish-South Scandinavian settlement archaeology.

The four articles

What does it mean to investigate the longhouse as an archaeological phenomenon? First, it involves looking concretely on what the archaeological record is. Secondly, it is an investigation and discussion of the ontological and epistemological state of the archaeological record making up the longhouse. In other words, what is the archaeological record an expression of and how can it be described in the best way (Harman 2016:42)? Finally, it is an examination of the relation between the archaeological record and the interpretations of it. So, what are the possibilities and limitations for interpretation of a record where the premise is that it is incomplete, fragmented and never will tell the 'total story' (Lucas 2014)?

In the context of the thesis, the investigation has been structured around four individual articles and a chapter in the synthesis. The articles serve as targeted exploration of the field whereas the synthesis gather the conclusions of the individual explorations in a in-depth discussion of the longhouse as an archaeological phenomenon.

Each article work on specific aspects of the assemblage of the longhouse, either in general terms or in direct relation with the longhouses at Strøby Toftegård. Some of the subjects will as such be overlapping but also complementing each other. Common for all four articles is that they all aim at a bottom-up approach to the archaeological record and have an explorative approach searching for alternatives to the conventional archaeological approaches. All articles serve as introductory surveys of the possibilities held within assemblage theory and has a distinct focus on the multitemporal dimensions of the record. All four articles can be found in their full length in appendixes 1 - 4.

A deliberate progression has been build into the sequence of articles that a) follows an increase in the scale of the inquiry - from posthole (article 1), over house type (article 2) and longhouses (article 3) to settlements (article 4) - and b) follows the typical archaeological process - from excavation and recording of the individual archaeological feature (article 1), over description and categorisation of the archaeological record (article 2) and the interpretation of the individual site (article 3) to comparative studies discussing similarities and differences in a group of contemporary settlements (article 4). In the following section, a short summary of each of the four articles will be given with focus on aims, context and general conclusions of the articles.

Article 1

The first article begins at the most basic level of the investigation of the Late Iron Age longhouse as an archaeological phenomenon exploring what the archaeological record of the Late Iron Age longhouse *is* through an analysis of the archaeological data production within Danish settlement archaeology from excavation to the archive. The aim is to identify temporal properties of the posthole, the main component constituting the assemblage of the longhouse, as an alternative to the conventional single date used when temporalising the longhouse.

The article takes its starting point in the posthole and follows the archaeological process from excavation to recording and archiving of the archaeological data in the existing recording systems. A fundamental element in the archaeological process, and in the article as such, is the temporalisation of the posthole, or in other words, the explicit establishment and description of the connection between time and the record. The analysis demonstrates how current excavation and archiving practices favour a temporalisation based on the chronological date and, at best, downplay other temporalities in the record e.g. scientific datings, stratigraphical observations, durations and events. At the same time, it is argued that the single posthole contain a complex temporal dimension in the sequence of events, practices and durations inherent in the stratigraphy of the posthole that is often overlooked in the archaeological process. The outcome of the current practice is that temporal complexity of the archaeological record is reduced and often neglected in the interpretation of the longhouse. By demonstrating the direct connection between the practices used in everyday archaeology in Denmark and the possibilities for interpretations of the longhouse, the article is a call for a necessary change in the archaeological process towards methods that to a higher degree encourage the inclusion of multitemporal properties of the archaeological record.

Through the analysis and discussion of the production of archaeological data, article 1 contributes to the exploration of the Late Iron Age longhouse as an archaeological phenomenon with an identification and characterisation of the components of the individual longhouse. It is argued that each archaeological feature constituting the longhouse should be perceived as an assemblage made up of the events, materials, tools, people and intentions involved in the production and maintenance of each feature. In that way, each archaeological feature contributes to the understanding of the individual life history of the single longhouse.

Article 2

Revisiting the Trelleborg house. A discussion of house types and assemblages.

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(Manuscript, submitted to Norwegian Archaeological Review)

Article 2 investigates what happens in the process of typologising the architecture of the Late Iron Age longhouse through a critical review of the use of the concept of the house type. Thereby, the article follows a recent call by Marie Louise Stig Sørensen for a renewed theoretical engagement with typologies. The aim of the article is to explore assemblage theory as an alternative to the house type.

House types are typically used in the daily archaeology either to date, to explain specific architectural developments or to interpret the social contexts of the longhouse. In the article, the iconic Viking Age house type *the Trelleborg house* is used as starting point for an investigation of the connection between the concept of the house type and the archaeological record. In the investigation, the use of the 'Trelleborg house' as a typological concept is examined in relation to specific architectural components typical for the Trelleborg house. The investigation demonstrates when and how the house type is used and its effects on the archaeological record. In practice, references to the Trelleborg house as a typological concept are often used unreflectively and different 'types of types' easily get mixed up causing a limitation of possibilities of social interpretations of the longhouses. As an alternative, it is suggested to approach the architectural concept of the Trelleborg house through assemblage theory; an approach which changes the perspective on the individual longhouse. Instead of seeing each longhouse as more or less successful versions of a specific architectural template, the individual longhouse is perceived as a result of specific historical processes creating the particular longhouse in question. Some processes will be common for a larger group of longhouses creating similarities in the archaeological record, and some processes will be unique for the specific situation creating variation in the record. In that way, the assemblage as an approach makes equal space for variation and similarities in the handling of the archaeological record.

The contribution of article 2 to the investigation of the longhouse as an archaeological phenomenon is to demonstrate how the individual longhouse is a component in the larger assemblage of an architectural tradition. Each longhouse contributes to the development of an architectural tradition and the stabilisation and/or the destabilisation of the architectural tradition simultaneously as the architectural tradition act back as a component in the creation of the single longhouse.

In the third article, the longhouses from the Late Iron Age site of Strøby Toftegård, Eastern Denmark is presented and analysed. The analysis uses the perspective of each longhouse as an assemblage and is based on ideas laid out in article 1 and 2. The aim of the article is to explore a biographical analysis as an alternative to a conventional typo-functional categorisation of the longhouses used in the interpretation of the character of the settlement.

In the settlement at Strøby Toftegård, 109 longhouses of varied character have been identified. The conventional interpretations of the longhouses has been based on assumed functions of the longhouses but without actual links to the archaeological record as the conditions of the record do not allow detailed functional interpretations. In the article, a biographical analysis directly based on the traces in the archaeological record is suggested as an alternative approach. The analysis is structured according to five main phases in the history of the longhouse: planning, building, inhabiting, maintaining and abandoning the longhouse. Through the analysis, patterns and differences in the settlement is identified, but instead of solely being based on morphological differences, the interpretation of patterns and differences is further qualified on the basis of how people in and around the longhouses have engaged and interacted with the houses over time. The output of the analysis is the identification of a group of longhouses as dwelling houses based on their relative complex layout and traces of regular maintenance. Some longhouses stand out as particularly well-built due to the character of the building materials, size and/or additional architectural features which is interpreted as differences in social position among the inhabitants in the settlement. Finally, the archaeological record show that many houses were actively demolished when they were abandoned. Some longhouses were even burnt down or given an elaborated burial, probably as part of rituals in the abandonment process.

Article 3 contributes to the investigation of the longhouse as an archaeological phenomenon as an example of how to work with the longhouse as an assemblage. The analysis demonstrates how the longhouse architecture hardly can be understood without including the relations between the longhouse and the people living in, with and around the longhouses. It also shows that different components are relevant in different phases of the life history of the assemblage. Finally, the analysis demonstrates how each individual longhouse assemblage contributes equally to the larger assemblage of the settlement.

Article 4

Managing time. Expressing social memory in settlements from the Late Iron Age and Viking Age

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The last article is building on elements of article 3 and is written with the purpose of seeing the settlement at Strøby Toftegård in a larger context. The aim of the article is to explore aspects of social memory in relation with settlements in the Late Iron Age and has as such specifically focus on memory practices and the temporal aspects of the longhouse. The analysis of memory practices serves as an alternative to the conventional linear narrative by exploring the relationships between time periods rather than the traditional carefully distinguishing and separating each period from the others in chronological independent entities.

The analysis is based on a comparison of the Late Iron Age-Viking Age settlements Strøby Toftegård, Gammel Lejre, Tissø and Järrestad. The four settlements belong to the same kind of social context and have a similar structure and developmental history. Three memory practices are investigated: the spatial relation of the settlement to older monuments in the landscape, the reuse of house sites and rebuilding of longhouses and, finally, the creation of monuments within the settlement sphere. Each memory practice - performed in the present - are relating to a different kind of past whether it is a mythical, unknown past given new meaning, a near and well-known past that are taken care of or the preservation of the memory of the past into the future. The memory practices are all interpreted as active attempts to create a general sensation of continuity and stability in a dynamic and unsteady society. By connecting past, present and future in very concrete ways, the memory practices are not only communicating a certain relation to the past to the surrounding society. They are also embodying the social memory of the settlement for the inhabitants through physical structures, movements and visibility that are carried into the future. The studied memory practices serve as illustrations of how past, present and future perspectives are directing the interaction between the longhouse and people living in, with and around the house.

The article contributes to the understanding of the longhouse as an archaeological phenomenon by expanding the temporal dimensions inherent in the assemblage of the longhouse from including the life time of the house to reach beyond the individual longhouse into the past and towards the future. Furthermore, the article contributes by demonstrating how the longhouses do not only play a role in the assemblage of the settlement but also in the wider assemblage of dwelling.

The longhouse as an archaeological phenomenon

As presented, the four articles of the thesis each explored the character of the archaeological record and what is done to it in the archaeological process as seen from different perspectives. The explorations served to demonstrate how the longhouse are created as an archaeological phenomenon in relation to the excavation and recording practices, the basic organisation and categorisation of the record, in analysis and in the process of comparison and juxtaposition of archaeological contexts. The explorations give a general image of archaeological practices focusing on organisation and homogenisation of the record for the sake of clarity and overview. The - unintended - effect in most cases, though, is a reductive presentation of the record. As an alternative, the initial explorations in the articles indicate that assemblage theory can be a fruitful tool to avoid reduction and enrich the perception of the archaeological record in general. Therefore, the notion of the assemblage will be pursued in the further investigation of the longhouse as an archaeological phenomenon.

The aim of the chapter is to use assemblage theory to define a theoretical and analytical approach to the longhouse that can enable a richer engagement with the longhouse within settlement archaeology and, in the context of this thesis, more specifically can serve as framework for the further exploration of the Late Iron Age longhouse. Implicit lies that the aim is to break with the general negative perception of the archaeological record of the longhouse and explore what the archaeological record actually contains in order to build a greater confidence in the archaeological record.

Accordingly, first, a general introduction to assemblage theory will be given. The introduction will be followed by a more detailed review of the key concepts of assemblage theory in relation to the longhouse as an archaeological phenomenon.

Assemblage theory - an introduction

Assemblage theory has been developed by the philosopher Manuel DeLanda, building and elaborating on ideas laid out by philosophers Gilles Deleuze and Félix Guattari (Deleuze & Guattari 1987, DeLanda 2006, 2016). The approach has a specific focus on the material aspects and relations constituting the world and promotes a flat ontology between humans and non-humans. In that way, assemblage theory evolves around much the same themes as other movements within New Materialism but within its own framework and terminology.

According to assemblage theory, everything can be studied as assemblages - from the composition of a molecule to cities, societies and galaxies crossing the traditional boundaries between scientific, humanistic and social studies (DeLanda 2006:5-6). The study object is only a matter of the

scale of the research question and the definition of the assemblage being studied. An assemblage is a whole made up of heterogenous components that each contributes to the assemblage with certain properties (DeLanda 2006:11, 2016:20). But the assemblage is not reducible to its components, as the interaction and relations between the components are also giving the assemblage some specific properties of its own (DeLanda 2006:4, 34). Relations between the elements are in this way as essential as the elements themselves (DeLanda 2006:9-11, 2016:10). The relations are constituted by their association and how they interact, impact or exclude each other, and the assemblage can act back on the relations and components (DeLanda 2016:21). Assemblages are dynamic and only exists due to the ongoing process of assembling (DeLanda 2006:13-14, 2016:22, Bennett 2005). When using assemblage theory, the approach must therefore necessarily be dynamic and temporal.

The main difference between Actor-Network theory and assemblage theory lies in whether they recognise the existence of larger networks or not. Actor-Network theory rejects larger networks as 'the social' or 'the society' as having an existence of it own outside the individual actants and relations (Latour 2005:8). Networks only exist at one level, whereas assemblage theory acknowledges that there are different levels of assemblages, and 'the social' or 'the society' can constitute an assemblage in itself. Each assemblage is constituted by smaller assemblages and is it self a component of larger assemblages (DeLanda 2006:17). As well as smaller assemblages impact on the larger assemblages, the larger assemblages act back on the smaller assemblages, as each assemblage will gain 'something more' from being part of the larger assemblage (DeLanda 2016:10). The assemblage of 'the social' or 'the society' will as such not only consist of components but also have a certain existence and effect acting back on its components.

Even though assemblage theory has not been developed for archaeology specifically, it has already had a certain appeal within field (e.g. Normark 2009, 2010, Harrison 2011, Lucas 2012, Olsen et al 2012, Witmore 2014, Bille & Sørensen 2012, Hamilakis & Jones 2017). The appeal of assemblage theory to archaeology is manifold. Besides being based on material studies, assemblage theory has a distinct temporal dimension demonstrated by DeLanda's own use of assemblage theory in studies of material history (e.g. DeLanda 2016). Furthermore, DeLanda has been explicit about the framework being applicable in other cultural contexts and other time periods than historical and modern Western societies (DeLanda 2006:6). Finally, the term assemblage is not foreign to archaeology where it previously has been used designating a collection of a certain kind of artefact (e.g. arrowheads) or a combination of artefacts deposited together in a certain context (e.g. a burial) (Hamilakis & Jones 2017:77). The well-known term can in itself have made it easier for assemblage theory than other parts of New Materialism to find space within archaeology even though the new definition of the assemblage differ considerably from the conventional uses of the term (Lucas 2012:200).

Since its entry into archaeology, assemblage theory has been used in varied areas of archaeology: as critiques of conventional typologies (e.g. Fowler 2017), in architectural studies (e.g. Normark 2009, 2010, Bille & Sørensen 2016), in studies of burials (e.g. Fowler 2013, Crellin 2017), in discussion of specific issues in archaeology as scale or time (e.g. Hamilakis 2017, Harris 2017) and in

general ontological discussions of the archaeological record and its nature (e.g. Harrison 2011, Lucas 2012, Olsen et al 2012, Witmore 2014, Hodder 2015).

Overall, assemblage theory works as an instrument to study complex phenomenons from a bottom-up approach (DeLanda 2006:32, Lucas 2012:163). By starting a study with identifying the components and the relations between the elements, the understanding of the assemblage is build up from the practices and processes creating the assemblage instead of a pre-supposed idea of what constitute the phenomenon prior to the study. Assemblage theory is as such in direct line with the call made by Nativ to start the archaeological inquiry with what the archaeological record is, rather than what it was (Nativ 2017). Building on DeLanda's definition of the assemblage and on previous applications of assemblage theory in archaeology, a more detailed presentation and discussion of key concepts of assemblage theory will be examined in direct relation to the longhouse. The investigation will begin with the identification of the components of the longhouse and the character of their relations which since will lead to discussions of the processes in the creation of the assemblage of the longhouse. Or in other words: "… *the ideal is to pursue an understanding of architecture by exploring how the elements infold and unfold with each other to the very point of indistinction*" (Bille & Sørensen 2016b:12).

Components

The *components* of an assemblage are the heterogenous collection of elements that compose the assemblage through their relations and interactions with each other. This means that both the material and physical elements but also e.g. how an assemblage is used, experienced and how it relates to other assemblages are equal components of the assemblage. Each component contributes to the assemblage with certain *properties* which gives the assemblage the capacity to interact (DeLanda 2006:10). Necessarily, some components will be specific to the individual assemblage whereas some will be common with other similar assemblages.

When approaching the house as an assemblage, instead of perceiving the house as a given coherent and closed entity, the house should be met as a *'a whole from the sum of it parts'* (Harrison 2011:155). Accordingly, the assemblage of the house consists of a heterogeneous collection of both tangible (e.g. building materials, constructions, tools and work force) and intangible (e.g. actions, experiences, norms and traditions), human (e.g. inhabitants and guests) as well as non-human (e.g. cooking facilities and doorways) components. In other words, all the elements that 1) make the house recognisable as a house and 2) make the house recognisable as exactly that house (Normark 2009). The first step in the investigation of the longhouse as an archaeological phenomenon is therefore to identify the components and the properties they contribute with in the assemblage.

The components of the longhouse are defined by the archaeological record. As it has been described previously, the character of the archaeological record has changed concurrently with the methods applied in the excavation situation. Today due to preservation conditions and methodology, the

longhouse is not identified through remains of the actual house construction, but through the systematic collection of archaeological features of which the majority are postholes (Näsman 1987:75). Each archaeological feature contributes to the assemblage of the longhouse with two components: the matter and the stratigraphy. The combination of matter and stratigraphy constitute the archaeological feature. This might seem as basic knowledge to most archaeologists, but a detailed description of the components is important in order to identify their contribution to the assemblage.

The matter designates the actual materiality of the archaeological feature and consists primarily of soil of varied character and colour according to its composition. In the soil, stones, particles, grains, micro finds and artefacts are found as intentional or unintentional inclusions. It is the difference in character, colouration and inclusions that constitute the basis for identifying the feature in the first place and for the recognition of the stratigraphy (Figure 10). The properties of the matter is both temporal and spatial. The matter can date the establishment, use or backfilling of the archaeological feature through

Figure 10: Section of a posthole of one of the buttresses in house 2, Strøby Toftegård. The stratigraphical entities has been marked for clarity: the primary cut, the impression of the original post, the backfilling of the hole and traces of pulling the post out of the posthole at the demolition of the house (photo: Museum Southeast Denmark, marking by author).

dating of artefacts or organic materials. At the same time, the matter has a spatial property as it can mirror activities in the area around the feature, even though experimental studies have shown that there are serious issues with establishing a certain connection between matter and activity particularly when no floor layers are preserved to bind activity and structure together (Milek et al 2014:145).

The stratigraphy of the archaeological feature designate the location of the matter and is constituted by layers and interfaces (Harris 1989). Layers consist of matter added to the feature, whereas interfaces are traces of removal of matter in the form of cuts, secondary cuts or passive surfaces on which new deposits can be formed. The stratigraphy is in that sense the material residue of the sequence of events in the past that created the archaeological feature (Shennan 1993:55, Pauketat & Alt 2005:231, Larsson 2006:51, Lucas 2008:60, McAnany & Hodder 2009:9). In very basic terms, the archaeological feature is the physical remains of a hole that was dug, and later filled up as the consequence of a sequence of singular or repeated events and actions (raising the post, removing the post, backfilling the posthole) (Zimmermann 1998:25, Lucas 2008:61). Each action and event have potentially left a mark in the stratigraphy of the posthole which is revealed when excavated, and each archaeological feature has its own specific *chaîne opératoire* (Pauketat & Alt 2005:217). The stratigraphy at the open area excavations is in most cases relatively simple having a minimum of stratigraphical units. Only rarely are features intercutting each other complicating the stratigraphy (Berggren 2009:23).

The properties of the stratigraphy is primarily temporal as it is a product of a sequence of events taking place over time and in relation to previous events (Harris 1989:29ff, Lucas 2012:170, Felding and Stott 2013:34, Gosden and Malafouris 2015:701f, Bille and Sørensen 2016:10). The temporal insight given by the stratigraphy is more complex than a single date as it both contain aspects of single events and duration (Lucas 2008) which, as argued in article 1, if taken into account will add to the temporal dimensions of the longhouse.

To sum up, the components defined by the archaeological record are the remains of the house as well as the practices which created the remains in the process of building, inhabiting and demolishing the longhouse. The archaeological record of the longhouse should in that sense not only be seen as passive, physical objects to be described and measured, as in a conventional Cartesian approach to the record (Coole & Frost 2010:7), but also as remains of actions and events in the past - or in this context as acts of creating and recreating the assemblage of the longhouse.

People and the archaeological house
Practices identified in the stratigraphy of the archaeological features imply that people are inherent components of the assemblage of the longhouse. As the absence/presence of people has been central for much archaeological debate over the years and the subject is problematised specifically by New Materialism, it is relevant to discuss the role of people in relation to the archaeological record in more depth as part of the investigation of the longhouse as an archaeological phenomenon.

New Materialism is developed as a critique of the modern tendency to put human beings in a central position (e.g. Latour 2005, Coole & Frost 2010, Olsen 2010, Olsen et al 2012, Witmore 2014).

Particularly the last 20-30 years of linguistic, post-structuralistic, phenomenological and symbolic approaches have been critiqued for being anthropocentric and putting people's ideas about things before the things themselves. At the core of the critique is that in the process of searching for symbolic meanings, religious rituals and household structures, things and what things do has been forgotten in this process (Olsen 2010:26-32). One of the main aims of New Materialism is therefore to de-center human beings aiming at a symmetrical balance between things and humans.

Where the critique is relevant in areas of archaeology where particularly post-processual perspectives have been dominant e.g. in studies of monuments and architecture in other contexts than Danish-South Scandinavian settlement archaeology, the critique of anthropocentrism has less relevance in relation to the study of the longhouse in Denmark where post-processual research only have had limited impact. Instead, the opposite can be said to have been the problem in longhouse research; that the human has been absent in the longhouse research except as a possibility for further interpretational perspectives and in dissemination situations. The absence of people in the longhouse research partly mirrors the actual absence of living people which can be said to always have 'haunted' archaeology (Lucas 2012:178). With no living people to ask 'who, how and why', these questions have been ignored in research or even rejected as impossible to investigate, maybe most clearly illustrated by the famous Hawkes' ladder of inference (Hawkes 1954, Lucas 2012:137). Hawkes ladder of inference defines in four steps of increasing complexity, the archaeological inquiry as going from technological, over subsistence-economic and social/political to religious questions. Only the first and possible the second are perceived as possible to answer without direct contact with the people involved. The rest should be left to anthropologist to work with (Hawkes 1954:168).

However, the strong positivistic tradition in settlement archaeology can be another central reason for the absence of people in the longhouse research (Beck 2010). Within the positivistic tradition, focus has been on recording the archaeological data as objective as possible. In practice, this has meant deliberately downplaying human aspects of the record e.g. subjective descriptions, experiences and interpretations for the sake of reproducing the archaeological record objectively. Not until an objective description of data had been produced, it could be interpreted using different theoretical perspectives reintroducing human perspectives but the archaeological data as such has been perceived as free from theoretical loading (Lucas 2012:60, 71-72). When all human aspects at first are extracted from the record and then later 'reinserted' in the interpretation of the archaeological record, humans are easily presented in very general terms detached from the archaeological record or as mere caricatures. Humans are simply getting 'too late' into the process in this way (Thomas 1996:88).

In the case of most longhouse research in a Danish-South Scandinavian context, it has therefore not been a question of 'too much human' in the interpretations, but actually 'too little' human aspects. In both cases though, a critique of the position of the human in relation to the archaeological record is relevant and a redefinition of the relationship is necessary.

Following the notion of the assemblage, humans are an inherent component of the assemblage of the longhouse. Without humans, the longhouse would make no sense, but be reduced to a structure of clay,

wood, straw and soils (Lucas 2012:260). The idea of the house is fundamentally human (Ingold 2000:176-177). But the assemblage of the longhouse is created through the active operation and interaction between the human and non-human components (Bille & Sørensen 2016b:12).

A fundamental premise is on the other hand that the humans in the assemblage of the prehistoric longhouse will never be in the form of known individuals that we can ask about their thoughts, intentions and feelings. Instead, it is necessary to work with a different human presence which by archaeologist Stefan Larsson has been described as 'the acting human' (Larsson 2006:50). 'The acting human' is present in the archaeological record in terms of practices and actions which can be identified in the archaeological record. Instead of beginning with an ideal assumption about the individuals once living in the house, we begin at the archaeological record. That is, in how people have engaged with the house in the process of making and remaking the house (McFadyen 2016:53). As it has been argued particularly in article 3, the concept of 'the acting human' is a presupposition for understanding the archaeological record and necessarily it involves an important interpretational element in the investigation of the archaeological record.

People are as such a necessary component in the work with recording and understanding the longhouse, but their personal views and experiences of the house is not the central in the assemblage. It is their doings, not their opinion that are relevant to the investigation of the assemblage of the longhouse. In other words, humans should be included as 'ingredients', not as 'observers' (Harman 2016:43). New Materialistic perspectives are not a rejection of studying people at all, but the relationship between humans and non-humans should be balanced according to the research questions asked (Lucas 2012:260). In the case of the longhouse, people are an equal component to e.g. the building materials, archaeological features and location of the house. Or in the words of Gavin Lucas: "*Humans are necessary to explain material culture, but not sufficient, and not even always central. Humans act as connective tissue rather than as some originary explanans*" (Lucas 2012:263).

The aim of the research of the longhouse is therefore not to reveal the 'meaning of the house' i.e. what it *meant* to prehistoric people, but to investigate how house, people and other components interact, engage and impact on each other. In this process, assemblage theory serves very well as a tool to redefine the position of the human - in relation to the longhouse research where humans need to be closer included - and in relation to interpretational perspectives where humans need to be decentered.

Relations

The relations between the components are equally important to the assemblage as the components themselves (DeLanda 2006:9-11). The relations are constituted by their physical association or in more intangible ways through practices, ideas and emotions. The relations are not just passively present but have to be acted out in order to be. The understanding of the individual component can in that sense only be obtained through how it interacts, impacts or excludes other components (Hodder 2015:7). Relations exist on all levels of the assemblage at the same time as the assemblage is acting back on its components, in some cases creating new relations (DeLanda 2016:21).

The relations define the role of a component in the assemblage. DeLanda describes the role of a components on a scale between being *material* and *expressive* (DeLanda 2006:12-13). Material roles are defined as the physical setting or location of components in relation to each other e.g. the layout or location of the longhouse (Beck 2014b), whereas the expressive role are expressed through symbols, language or behaviour e.g. the effect of specific choices in building materials (Bican 2010) or gender roles expressed in the organisation of the house (Croix 2010, 2014). Most often, the role is a varied mixture of the two.

Furthermore, DeLanda describes relations as either *internal* or *external* (DeLanda 2016:2, Lucas 2014:318-319). Internal relations are relations that keep the assemblage together and which do not exists outside the assemblage. The internally related components cannot be detached from the assemblage and related to another assemblage without losing at least part of their identity e.g. the archaeological features of the longhouse are internally related, as they do not have a function outside the house construction (except in an archaeological assemblage in the present, where they can be said to gain a new role in the assemblage of excavation - see Fowler 2017 for further discussion). Opposite, the external relations are relations where components retain a certain autonomy so when they are detached from the original assemblage, they can enter into new constellations and interactions (DeLanda 2016:10) e.g. when timber in the construction of the house were reused in a different context or when some of the inhabitants moved from the longhouse to be part of another household.

When the components interact and impact on each other, the components of the longhouse have a certain degree of agency in the creation and recreation of the assemblage (Olsen 2010:151-154). Here agency is defined not necessarily as intentional action but specifically as the possibility to influence on other parts of the assemblage independently of people e.g. when a wattle-and-clay wall is slowly decaying due to time, wind and weather, the wall has agency in the way that it provokes the inhabitants to repair it. A door can also be said to have agency in the way that it can control the access to certain parts of the house and thereby impose certain social norms on the inhabitants (Beck 2014b: 135). Whether the wall is repaired or the closed door is respected is an intentional choice made by people, but they would not have had the choice if the wall or doorway were not interacting in the situation. In that way, human and non-human components shape each other and define the relations they are part of in a dynamic and dialectical process.

For the investigation of the longhouse as an archaeological phenomenon, the focus on relations in the assemblage extend the perception of the properties and capacities of each component of the longhouse and support an understanding of the components as more than separate, detached objects (Bille & Sørensen 2016b:17). The focus is changed from the function and meaning of the individual component to the interaction and effects it has on the assemblage it is part of (Gosden 2005, van Oyen 2015:66). The archaeological features are not only traces of events and actions but also traces of acting out the relations between different components expressed e.g. in choices and decisions in relation to the longhouse, movements in the building or communicative elements of the longhouse (DeLanda 2006:96-97) which the investigations in article 4 can be seen as an example of. The longhouse can in

that sense no longer be perceived as a passive background for people's actions but is itself an integrated and active agent as part of the same actions.

Processes

The relations between the components in the assemblage need to be acted out and confirmed continuously in order to be maintained. When they are not maintained, the assemblage will be disassembled (Lucas 2014:319). The assemblage is therefore not a static phenomenon but dynamic in a constant process of becoming (Bille & Sørensen 2016:17). Besides the components and their relations, the processes in the production and reproduction of the assemblage are therefore essential to understand in the investigation of the longhouse as an archaeological phenomenon and assemblage.

The ongoing inherent processes can be exemplified by the house construction that typically will be in a constant process of decay due to wind and weather at the same time as it is repeatedly maintained and repaired to keep it in a decent state, or in the ongoing interaction, confirmation or dissolution of relationships between members of the household mirrored e.g. in the structure or the demolition of the longhouse. The creation of an architectural tradition as the 'Trelleborg house' investigated in article 2 is also an example of the processes of the assemblage.

Together the processes create and structure a *space of possibilities* which defines the range of possibilities present in the situation where relations are acted out (DeLanda 2006:29-30, 2016:22-23). Possibilities should in this context be understood as a direct translation of what the psychologist James Gibson calls affordances; a combination of *properties* that gives the *capacity* of e.g. exploitation, activity, emotional reactions or movements (Gibson 1977:67, 76-77). Which possibilities that are followed in the situation depends on the circumstances of the situation and the choices of those involved (DeLanda 2006:10, 2016:52).

In relation to the longhouse, the archaeological record of the longhouse is an expression of the possibilities that were present and how they were perceived as exploited in the best way in relation to the situation e.g. through the choice of architecture, construction or building materials (Werner et al 1985:4). The building of a house cannot in that sense be isolated from the situation it was build in. The process does not take place in a neutral world but is an expression of a certain way to relate to - or dwell in - the world (Ingold 2000:185-187). Or with Gibson's own words: '*a way of life is a set of affordances that are utilised*' (Gibson 1977:69).

To describe the processes, DeLanda has highlighted two types of processes that define the assemblage: territiorialisation/deterritorialisation processes and coding/decoding processes. *Territorialization processes* are processes that help to define the boundaries of the assemblage, whereas deterritorialisation processes have the opposite effect (DeLanda 2006:13-14, 2016:22-23). The territorialisation process can be spatial but it also works on a more general level aiming at delimiting the specific assemblage from other assemblages (DeLanda 2016:3). Often, both territorialisation and deterritorialisation processes will

be working simultaneously within the same assemblage (Bennett 2005). Territorialisation processes in relation to the longhouse could be fences marking out the farm unit, a demarcation of the doorways to enhance the control with access to the house or fixed family structures, whereas deterritorialisation processes could be lack of resources to maintain the house, merging of households due to intermarriage or attacks and raids on the settlement, where boundaries are crossed and broken down by force.

Coding processes are homogenising the components of the assemblage, whereas decoding processes are doing the opposite (DeLanda 2016:22-23). Coding processes are for instance rules and building regulations or norms that define what is allowed and what is not. The coding processes are essential for the final material layout and output of the assemblage. In other words, the more rigid and formal the rules of the building process are the more coded the assemblage is (DeLanda 2016:23). Coding processes in relation to the longhouse would for instance be building traditions, technology, norms, rituals and regulations of social behaviour that both enable and limits the possibilities present in the building and the use of the house. Decoding processes are for instance new ideas coming from other contexts, development in building tools changing the building process or social inequalities in a group of people. Where territorialising processes are mainly created within the assemblage itself, the coding processes are often coming from external sources impacting on the assemblage.

Focus on the processes creating the assemblage has a fundamental influence on the perception of the longhouse as an archaeological phenomenon. The processes give the assemblage of the longhouse an inherent temporal quality that has multiple dimensions reaching beyond a conventional linear approach to the longhouse. Instead of studying the longhouse as a closed and finished product once it was built, it should be investigated as a product of ongoing processes (Ingold 2010:161-162). In other words, the perspective of the assemblage changes the perspective from 'being' to 'becoming' (van Oyen 2015, Gosden & Malafouris 2015). The longhouse should be perceived as a dynamic phenomenon that constantly act and interact with the situation it is in.

With the notion of the assemblage, focus is also moved from describing general characteristic development processes to describing the individual longhouse as a product of a unique historical situation (DeLanda 2006:3, Normark 2009, Bille & Sørensen 2016b). Each longhouse is build in a situation where some processes are common with other contemporary longhouses and some processes are specific to the studied longhouse. The consequence is that both similarities and variations in the archaeological record of the longhouse are meaningful and contributes equally to the understanding of the longhouse as an archaeological phenomenon.

Multitemporal dimensions of the longhouse
The focus on ongoing processes of creation and recreation that lies inherent within the notion of the assemblage brings a distinct temporal dimension to the assemblage of the longhouse. In the context of the investigation of the longhouse as an archaeological phenomenon, it is therefore relevant to explore and discuss the temporal dimensions of the longhouse in more details.

Time and temporal dimensions are rarely discussed as theoretical concepts within settlement archaeology even though time is a basic premise for the archaeological record. As a consequence, the approach to time within settlement archaeology is still dominated by the linear chronological thinking introduced with culture-historical chronologies in the 19th century, also in practice as argued in article 1. The primary temporal properties investigated in relation to the longhouse are therefore connected to the dating and the typological development of the longhouse which are crucial in relation to the general linear chronological organisation of prehistory (Thomas 2004:61-63). A chronological date has traditionally been regarded as a prerequisite to interpret the longhouse further (Holst 1999:21). But when dating the longhouse, the dating process is aimed at getting as uniform and precise a date as possible (Lucas 2005:5, Laursen and Holst 2017:18). This also means aiming at dating one particular (but rarely more precisely defined) event in the existence of the longhouse (Ingold 2010:161, Villumsen 2013:19).

However, anthropological studies have argued that linear time is just one among several simultaneous ways that humans perceive, use and understand time (e.g. Bloch 1977, Munn 1992, Gell 1992). At the same time does the single date not represent the temporal dimensions presupposed by the ongoing processes as described by the assemblage. On that background, recent theoretical debate within archaeology has argued for an extension of the concepts of time in archaeology towards multitemporal perspectives (e.g. Gosden 1994, Thomas 1996, Olivier 2001, 2011, Harding 2005, Lucas 2005, 2008, 2012, Hamilakis & Labanyi 2008, Ingold 2010, Arnold 2012, Witmore 2013, Lorenz 2014, Gosden & Malafouris 2015, Sørensen 2015, Hamilakis 2017).

In very basic terms, a multitemporal perspective is, as indicated by the term, aiming at a move away from the dominance of one temporal perspective (often the linear chronological perspective) towards representing as many temporal dimensions as possible (Jordheim 2012). This does not mean omitting the conventional chronology but rather complementing it with other, both linear and non-linear, perspectives as exemplified by the investigations in article 3 and 4 (Koselleck 2004, Lucas 2005:38, Jordheim 2012:157). Different temporal perspectives do not mutually exclude each other and it is not possible to say that one temporal property is more 'fundamental' than the other (Harding 2005:90, Gerritsen 2008:146, Cobb et al 2012:8-9, Lorenz 2014:49). But when one temporal perspective is taken for granted and dominates the perception of the record, other temporal perspectives inherent in the archaeological record risk to be overlooked (Lucas 2005:1). The investigations in article 1 and 2 can serve as examples of this tendency.

Where the chronological date is important for identifying the age of the house as an event in time, the longhouse also has a duration connected to the time the longhouse 'exists', in other words a temporal dimension that is stretched over time (Olivier 2001:65-67, 2011:109, Bailey 2007:217, Ingold 2010:161, Arnold 2012:88, Hansen 2015:56-57). A longhouse has an individual life history that stretch from the house is planned and build until it is no more in physical terms and in memories (Kopytoff 1986, Lucas 2005:56, Gosden & Marshall 1999, Gerritsen 2008:147, Joy 2009, Olsen et al 2012:182). The temporal dimension of the duration is as such fundamentally different from the temporality of the event that is

connected to one moment in time. Both event and duration shape the longhouse as a temporal phenomenon.

A temporal dimension of the longhouse lies within the use of the longhouse that gives the house a temporality in direct relation to the household of the house (Carsten & Hugh-Jones 1995b:36-37). The house is used on a daily basis in everyday doings and routines that must be assumed to change according to the time of day and change of seasons. The daily activities represent a repeated rhythm and cycle that is best described as a cyclical temporal dimension. At the same time, the house still accommodates one-time events as feasts, weddings, celebrations as well as accidents and social tensions; events that lies beyond the cycles of everyday life. These events fit better into a linear understanding of time driven by single events. Using a little worn conceptual dichotomy, the longhouse can be said to materialise both cyclical and linear temporal dimensions through the way it is used (Bloch 1977, Gell 1992, Munn 1992:101, Bailey 1993, Lucas 2005:64).

The longhouse in itself is a historical product (DeLanda 2016:13). The longhouse is created and maintained as an ongoing process in direct relation to the specific situation of the current present. However, the situation in the present cannot be seen isolated from what went before and what is thought to come. Practices in the process of creating and maintaining the longhouse is directed both by the experiences of the past and the expectation and anticipation of the (imagined) future. The longhouse contains in that way a distinct temporal dimension that reach beyond the lifetime of the individual longhouse and which has considerable effects on how the longhouse is handled in the present (Olsen 2010:126-128, Harrison 2011:144, Olivier 2011:33-34, 47, Lucas 2012:167, Witmore 2013:130, 2014:223). The assemblage of the longhouse can be said to be created according to norms and traditions oriented towards the past, according to needs and possibilities in the present and according to the expectations, dreams, fears and hopes of the inhabitants for the future and represent as such an entanglement of past, present and future perspectives (Koselleck 2004:259).

Finally, the longhouse materialises a certain perception of time of the people creating the longhouse by embodying specific historical relations through e.g. its architecture, decoration or location which can be loaded with historical references. At the same time, the longhouse will create experiences, memories and stories for the people in and around the house and does in that way play a role in the building up of social memories of the house and the place (Gosden 1994, Jones 2007). The temporal dimension of the longhouse contain as such also emic aspects mirroring how time was experienced in the past.

All in all, the longhouse can be described as a multitemporal phenomenon where several temporal dimensions are represented in the longhouse simultaneously: date, age, life history, events and duration, linear and circular perspectives, historical processes, past experiences, imaginations of the future, needs and situations in the present and emic perceptions of history and time. When the temporal dimensions, as in the conventional recording of the longhouse, are restricted to the chronological date and location in a typological development, the description only gives a limited insight into the temporalities and dynamics of the longhouse. However, thinking of the longhouse as an assemblage will include the

temporalities inherent in the relations and processes of creating the longhouse and as such support a multitemporal perspective. The consequence of including multitemporal dimensions in the description of the longhouse is not just seeing the longhouse as a phenomenon that exist in time but also as a phenomenon that in itself represent and create time. Time becomes more than just an abstract phenomenon of the world but a material and concrete relation with the world (Munn 1992, Lucas 2005, Jones 2007).

Redefining the longhouse as an archaeological phenomenon

Using assemblage theory to investigate the longhouse as an archaeological phenomenon changes the ontological state of the archaeological object fundamentally (Lucas 2014:319). Instead of seeing the longhouse as a coherent, physical whole, it is perceived as a dynamic collection of heterogeneous components including people in and around the longhouse and how they relate to and affect each other. Each component contributes to the phenomenon we call 'the longhouse'.

Instead of seeing the longhouse as a structure that is passively present, the longhouse is perceived as constituted by the relations and interactions between the components of the assemblage. If the relations and interactions are not actively maintained a process of dis-assembling of the longhouse begins both concretely and conceptually. There is not one component that can be emphasised as primary compared to other components as they all play a role in the creation of the assemblage.

Instead of seeing the longhouse as a static phenomenon, it should be perceived as an ongoing, dynamic process of producing and reproducing or altering and changing the composition of the assemblage through stabilising and destabilising processes present in the assemblage simultaneously. The study of the longhouse becomes '*a grounded analysis of how assemblages come to life, dis-assemble and make up new life worlds*' (Bille & Sørensen 2016b:19).

Without doing too much violence on the ontology promoted by assemblage theory, the key concepts of assemblage theory can be translated into analytical units which can be searched for and described in the archaeological record. This is also how assemblage theory is operationalised by DeLanda himself in what he calls assemblage analysis (DeLanda 2006:49).

Basically, the assemblage analysis can be characterised as a descriptive-intepretive tool (Nativ 2017:670). Descriptive — because the notion of the assemblage is used to identify the relevant elements to describe a studied phenomenon with, and interpretive — as all description is interpretive. Describing the assemblage will therefore necessarily also include an interpretation of the studied phenomenon. The description should in that way not be confused with an objective description as aimed at particularly within the processual archaeology (Binford 1975, Nativ 2017:661). Even though quantitative methods can be incorporated in the interpretative description, assemblage analysis should not in it self be perceived as a tool for quantitative analysis in line with e.g. correspondence analysis and other statistical approaches that can be 'applied' to the archaeological record. There are a profound difference between the quantitive methods and the assemblage analysis in the way that assemblage theory explicitly

includes people, their actions and social dynamics as an inherent part of the analysed assemblage. Furthermore, the assemblage has a specific focus on the process of becoming rather than the being of the assemblage (van Oyen 2015, Gosden & Malafouris 2015, Bille & Sørensen 2016b:17). Being in this context is understood as the physical features which most of the quantitative methods are based on, and becoming as the practices and processes that lead to the emergence of the physical features in the first place and later to how they are maintained and stabilised (van Oyen 2015:70). If perceiving the assemblage analysis as solely quantitative, there is a risk that some of the fundamental interpretational elements of the assemblage analysis will be missed.

The primary method of the assemblage analysis is therefore the interpretative description. More specifically, an assemblage analysis involves an identification and description of the components in the assemblage, a characterisation of how the components relate and interacts and of the processes (territorialisation/deterritorialisation, coding/decoding) producing the assemblage (Figure 11). As such it represents a bottom-up approach to the archaeological record (DeLanda 2006:32).

The approach of the longhouse as an assemblage is used deliberately to avoid simplifications of the phenomenon of the longhouse. The longhouse must necessarily be perceived as a phenomenon
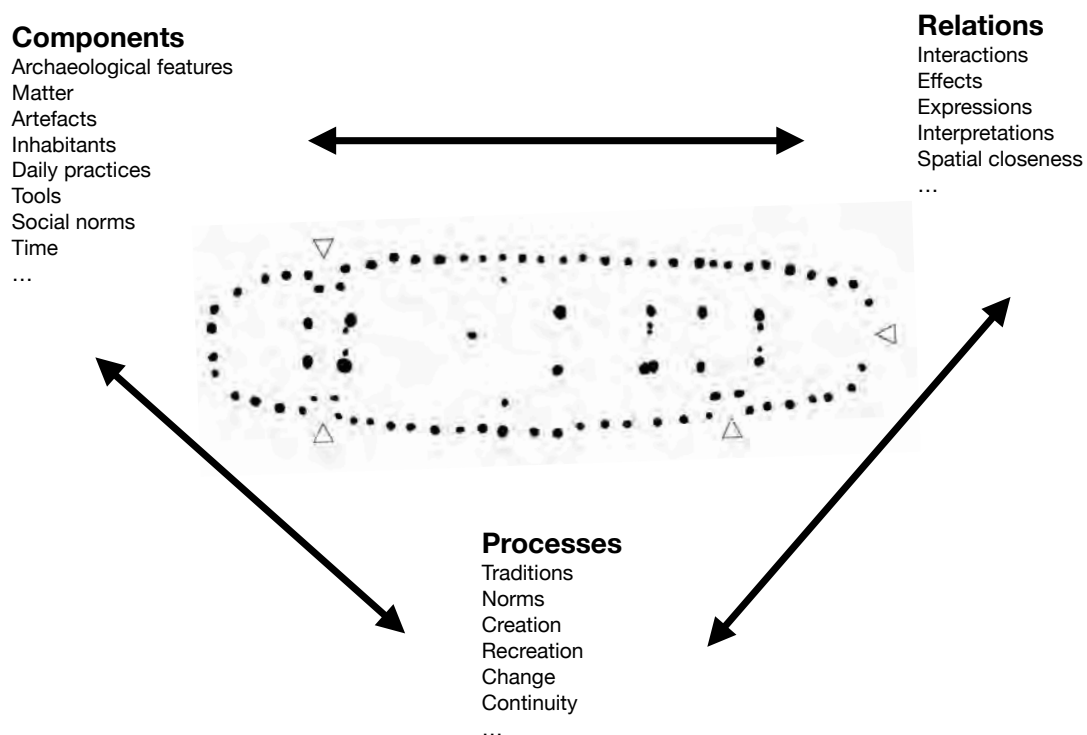

Figure 11: Diagram of the assemblage of the longhouse. The elements noted under components, relations and processes respectively is not complete and will always change in relation to the specific assemblage investigated.

constituted by smaller assemblages and as part of larger assemblages as well (DeLanda 2006:17, Olsen et al 2012:181). It acknowledges that the longhouse was a complex phenomenon in its own present and add layers to the description of the phenomenon in our present, as it allows an analysis on multiple scales. The aim is not to reduce the description of the archaeological record until clarity is found but instead to enrich and add complexity to the phenomenon through the archaeological process (Mol 2010:257, Boozer 2015).

Most importantly though, assemblage theory should be used in practice to pose new questions to the longhouses and their archaeological record. Not all questions will be possible to answer straight away, but in the action of posing them, they provide possibilities for new perspectives on the phenomenon of the longhouse (Tringham 1995:97). The concept of assemblage theory makes it necessary not only to include questions related to spatial aspects as in many conventional studies of the longhouse but also to engage with more complex temporal aspects of the longhouse.

Assembling the house, building a home

The theoretical framework defined in the previous chapter on the basis of assemblage theory redefine the perception of the longhouse. The logical next step in the investigation of the longhouse as an archaeological phenomenon is to evaluate its applicability by putting the framework into play in relation to a concrete archaeological material. Accordingly, the assemblage analysis will be used in an investigation of the role of the longhouses found in the Late Iron Age settlement at Strøby Toftegård, Northern Stevns in Denmark.

The settlement at Strøby Toftegård was excavated 1995-2013 and the excavations revealed the remains of a settlement complex with extensive settlement features and a rich and diverse range of artefacts (Woller 1998, 2001, Sørensen 2000, Beck 2013, 2014b). The establishment of the settlement has been dated to
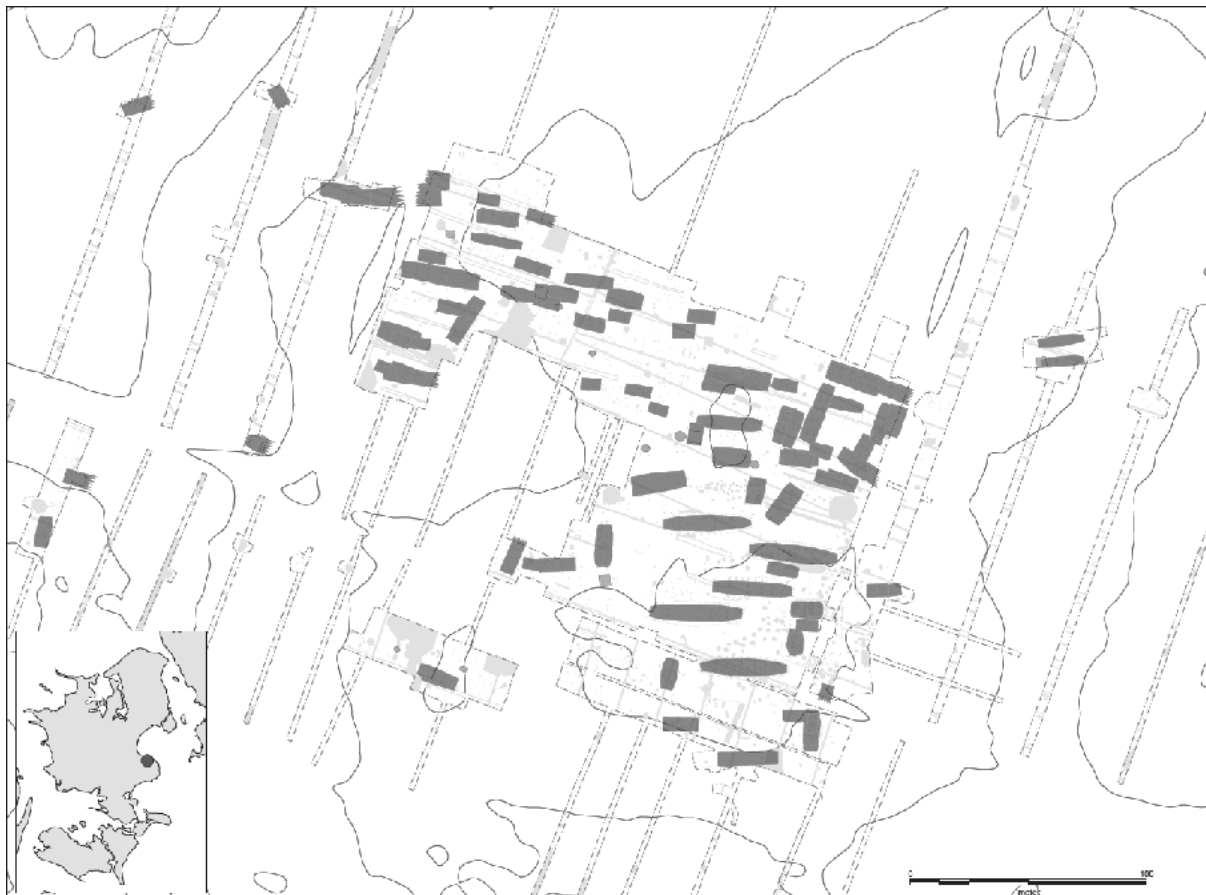

Figure 12: Overview of the Late Iron Age settlement at Strøby Toftegård. All longhouses are marked out.

the middle of the 7th century and have been inhabited until just before 1000 AD (Tornbjerg 1998). In total, 109 longhouses were identified in the settlement (Figure 12). Five large longhouses stand out from the rest due to their central location, their architecture and quality of the buildings as well as the concentration of valuable and exotic artefacts found in the area around them including a large amount of glass sherds, silver bits, Arabic coins, eight gold foil figures and imported jewellery. The settlement has in previous contexts been interpreted as a local magnate farm with a surrounding work shop area (Tornbjerg 1998) but the actual function, character, use and activities in the settlement are not known in any details. Until now, the longhouses, except from the five large longhouses, has been more or less neglected in the interpretation of the site. The aim of this chapter is to reengage with the longhouses at Strøby Toftegård in the analysis of the role of the longhouses to give them a more central role within the description and interpretation of the settlement.

The ensuing analysis will use assemblage theory as an analytical tool. According to the assemblage theory, the aim of the analysis is to describe components, relations and processes leading to an identification of the properties and capacities of the assemblage of the longhouse (DeLanda 2006:49). The hypothesis is that the properties and capacities of the longhouse are defining for the role the longhouses played in the settlement. The analysis is a follow-up on the individual analyses of the four articles of the thesis. The relevant conclusions from the articles will be gathered in the mutual analysis and used in the interpretation of the role of the longhouses as well as a discussion of the phenomenon that the longhouses represent in a broader perspective.

The approach to the archaeological implementation is fundamentally experimental as similar investigation have not been made previously within Danish settlement archaeology. This also means that an explicit open-mindedness, sensitivity and curiosity towards where the archaeological record directs the investigation (Pétursdóttir 2012, Witmore 2014:218). The over-all aim of the analysis, it is to present a new interpretation of the role of longhouse in the Late Iron Age as a specific dynamic relationship between people, house and temporality that can serve as a realistic alternative to the conventional description focussing on date, house type and functionalist aspects.

Assembling the house
The archaeological record is the starting point for the analysis. The archaeological record at Strøby Toftegård is characterised by preservation conditions that only leave the foundational features of the longhouses; a typical situation for settlement sites in Southern Scandinavia. No floor layers or internal features have been identified in the longhouses. As the four articles demonstrate, assemblages are found on several levels in the settlement at Strøby Toftegård. Each longhouse is constituted by smaller assemblages represented by the individual archaeological features (article 1), but is also a component of larger assemblages of concrete settlement units and the settlement in total (article 3) and relate to general assemblages as the architectural tradition (article 2) and the creation of social memory (article 4). The analysis of the role of the longhouses must therefore necessarily be multi-scalar and include other assemblages when relevant.

First step in the assemblage analysis of the longhouses at Strøby Toftegård is to identify and characterise the *components* of the assemblage relevant for the discussion of the role of the longhouses. Based on the foundational features, the relevant components are the building structure, the layout, the building materials, the use of the longhouses and the practices identified in relation with the longhouses.

The building structure is defined by the systematic location of the foundational features. As described in article 3, the identified building structures show that the majority of the longhouses at Strøby Toftegård were build as three-aisled constructions following the same general building tradition. The size of the longhouses varies though and some houses have been elaborated by adding extra features in the form of buttresses or complementing the roof-supporting construction with middle-posts.

The structure of the longhouse defines the layout in terms of number of rooms, the size of the rooms and the access routes to and in the longhouse, as argued in article 3. The number of rooms and the organisation of the access routes varies considerably among the longhouses at Strøby Toftegård. The layout in a smaller group of longhouses are characterised by having one room, a hall room, that is bigger
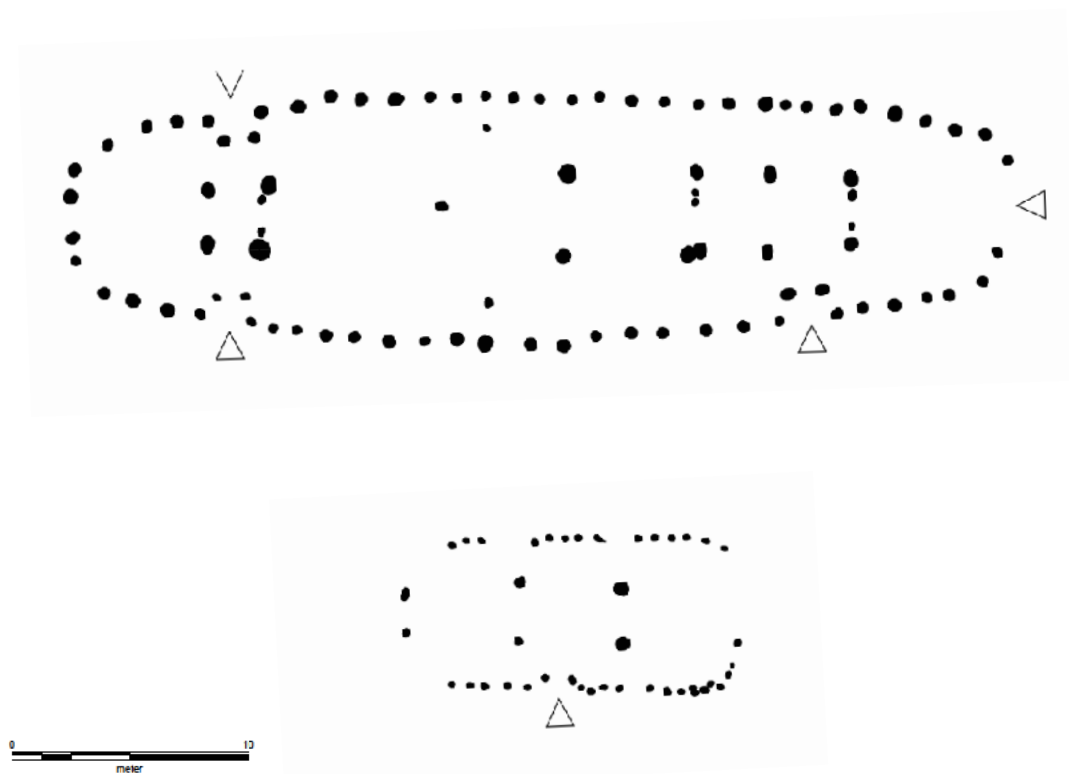
Figure 13: At the top, an example of a 'complex' longhouse (house 2, Strøby Toftegård). The longhouse has seven rooms inclusive a hall room, three entrances and a possible open eastern gable. Three partition walls further control later access in the house. In the bottom, an example of a less complex longhouse (house 7, Strøby Toftegård). The house only have one entrance in the middle of the house and three possible rooms. The houses are reproduced in the same scale and have been aligned to the same orientation. Entrances are marked with triangles.

than the rest of the rooms. The doorways were in most cases characterised by being withdrawn from the long sides of the longhouse creating a special entrance space. In some longhouses (mostly in longhouses with a hall room), partition walls adds to the control of access routes and the segregation of the houses. A general difference among the longhouses can be distinguished between 'complex longhouses' with four or more rooms and 'less-complex longhouses' with two to three rooms that indicate different kinds of use (Figure 13).

The archaeological features give a basic impression of the most common building materials, as it has been discussed in article 3. The postholes show that the longhouses at Strøby Toftegård were build as timber constructions and excessive finds of burnt clay indicate that most houses had walls of wattle-and-daub. Despite the general similarities, the dimensions of the archaeological features demonstrate that there were also considerable differences in the quality of the building materials used. The longhouses in one of the settlement units stand out as particularly well-built indicating differences in possibilities in the building situation.

Only a general impression of the use of the longhouses can be inferred on the basis of the foundational features and the artefacts found in them. As argued previously and in article 3, the layout indicate that longhouses were used in different ways. Based on a fundamental assumption that the more rooms present in the longhouse, the more complex and varied use of the longhouse must be imagined, it must be assumed that the activities in the complex longhouses have been activities where it was an advantage that they took place in the vicinity of each other e.g. the composite of daily activities of everyday life, whereas the less complex longhouses could have housed activities that could, or should, take place more isolated from the rest of the activities in the settlement. In some cases, the foundational features of the longhouses at Strøby Toftegård contain artefacts from which general activities can be inferred. Most artefacts seem to have been mixed in when backfilling the postholes after demolition of the house and does in that sense not have direct relation to activities in the vicinity of the feature during the lifetime of the house. Instead they give a general idea of the range of activities performed in the houses and the settlement. Bones and sherds of ceramics are the most common finds in the archaeological features. Sherds have been found in 24 out of 109 longhouses and bones have been found in 34 longhouses. In 17 cases, ceramics and bones have been found in the same longhouse. The majority of the bones were fragmented and some burnt. Most of the bones were interpreted as the remains of cooking (Gotfredsen in press). Only in four longhouses, trace of crafts in the form of tools or remains (e.g. slag) were found. In a few cases, special finds have been uncovered in the archaeological features. Arrowheads or knives have been found in the postholes of three longhouses, two houses have finds of silver coins and in two houses, one gold foil figure have been found in each house. In five houses, glass sherds have been found and glass beads have been found in four houses. Of these finds, the foundational features of one house (house 2) rather exceptionally contained both an arrowhead, an Arabic coin, a gold foil figure, a glass sherd and two glass beads. To sum up, the finds of ceramics and bones indicate that cooking activities were primary. These were both found in houses with a complex layout and a less-complex layout. The more exceptional finds are to a large degree but not exclusively found in the houses belonging to the central unit indicating a different range of activities in this area than

in the other settlement units. The arrowheads and knives can have been deposited deliberately as a ritual deposit securing the prosperity of the household (Carlie 2004). All in all, the artefacts give a general impression of regular settlement activities rather than specialised crafts in connection with the longhouses.

As argued in article 1, practices in relation to the longhouse can be identified in the stratigraphy of the archaeological features. Also 'extra' archaeological features originating from repairs of the longhouse reveal practices in relation to the longhouse, as discussed in article 3. The practices mirrored in the foundational features of the longhouses at Strøby Toftegård are related to the building process and the choices made in that connection, the maintenance of the longhouses as well as the deliberate demolition of the houses. More than half of the longhouses show traces of replaced posts. The complex longhouses are more often repaired than the less complex longhouses. More than half of the longhouses at Strøby Toftegård show traces of being demolished after they went out of use. Finally, the rebuilding of longhouses, as discussed in article 4, are also bearing witness of practices around the longhouse. In some cases, the complex longhouses are rebuild in the same site as their predecessor, whereas in the case of the five central longhouses, this is not the case.

Based on the components, the general impression of the longhouses is that there is a high degree of similarities between them in terms of their use. The primary use of the longhouses seems to be related to ordinary dwelling activities and the complex longhouses seems to be the central structure. On the other hand, the concrete performance of the longhouses show considerable differences between the longhouses where some longhouses stands out with additional architectural features, high quality of building materials and an extended range of activities compared to the other longhouses.

The components in the assemblage of the longhouse *relate* to each other and through the relations the assemblage is created. The relations are both spatial and temporal as they are acted out over time. For the interpretation of the role of the longhouse the relations between people and the longhouse and between the longhouse and other features in the settlement are particularly relevant.

As argued in both article 1, 3 and 4, the relation between people and the longhouse do not stop at the building of the longhouse but continues during its inhabitation until the longhouse is abandoned and some times even longer. With the longhouses at Strøby Toftegård, the ongoing relation between people and the longhouse is particularly mirrored in the maintenance of the longhouses where the replacement of posts prolonged the lives of some longhouses. After a longhouse went out of use, there is a specific practice of rebuilding selected longhouses in the same site and in that way secure the longhouse a continued existence as described in article 4. The extraordinary reworking of two of the longhouses into monuments within the settlement furthermore show that the relationship between people and the longhouses went beyond the actual lifetime of the longhouse and contributed to the creation of the social memory of the place. It must be assumed that the people involved in these relations were primarily the inhabitants of the longhouse, whereas in some cases the relationship have reached beyond the single household as in the case with the creation of the house monuments. Another case where the relationship reached beyond the single household is in the building of the longhouse. In
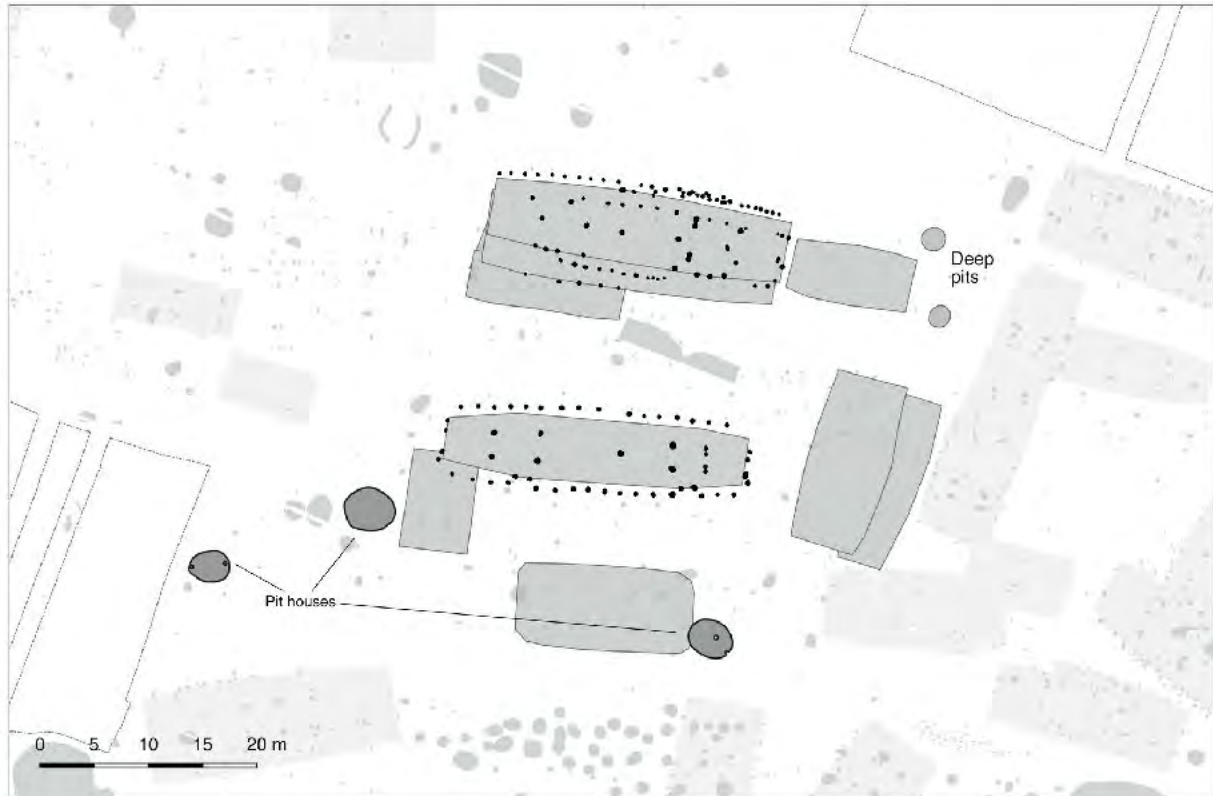
Figure 14: An example of one of the settlement units in the settlement at Strøby Toftegård. The 'complex' longhouses have been marked out with grey and with the archaeological features enhanced in black. The less complex longhouses are only marked in grey. In the northeastern part of the settlement unit are a number of deep pits and in the southern part are three pit houses. The settlement unit have three phases of 'complex' longhouses. Which of the smaller and less complex longhouses that belong to which 'complex' longhouse cannot be certainly settled. The southern-most complex longhouse has been c14-dated to 648-720/741-766 AD (95%).

article 2 it was argued that the building of the longhouse takes place in relation to a general building tradition, norms, regulations and ideas of the surrounding society in combination with personal choices, needs and wishes. The challenge is to find the right balance between the personal choices and what is generally accepted as a 'proper' longhouse. The combination is mirrored in the similarities and variations in the concrete building of the individual longhouses.

The individual longhouse both relate to other built features in the settlement and to the older features in the landscape. As described in article 3, based on the relations between the longhouses, at least nine contemporary settlement units be identified, each unit being structured around one complex longhouse and one or several less complex longhouses, possible storage constructions, pit houses, large pits and wells (Figure 14). Despite concrete differences there are similarities in how the longhouses relate to each other which indicate that the units represent the same kind of use. One unit stands out though. The central unit only have few other longhouses and no storage constructions and large pits related to the unit. Instead, a large number of cooking pits has been found surrounding the area

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supporting the impression that the area housed alternative activities compared to the other settlement units. No fences has been identified delimiting the settlement units from each other despite this is a feature known from other contemporary settlements e.g. Vorbasse, Tissø or Gammel Lejre (Hvass 1980, Jørgensen 2009, Christensen 2015). Only the central unit seems to be distanced from the others, not by a fence but by a void of archaeological features following the row of cooking pits. Despite the lack of fences, the settlement units appear as independent units and it must be assumed that each unit represents an individual household. A central discussion in article 4 was the relation between the longhouses and older monuments in the landscape. At Strøby Toftegård, the longhouses in the central unit seems to relate directly to a small group of urn graves from the Late Bronze Age. More generally, the settlement is relating to a Neolithic mound by including it into the settlement. The close spatial relationship can be seen as a way to relate concretely to the history and social memory of the landscape.

Based on the relations of the longhouse assemblages, the longhouse is kept together through an ongoing relation between its inhabitants and the concrete structure of the longhouse. At the same time, the relations reach beyond the single longhouse and puts it in relation with traditions, norms and ideas in the surrounding society as well as with the history of the landscape it is built into.

In the ongoing creation and recreation of the assemblage, certain *processes* are characterising the formation. The processes have generally been described by DeLanda as either stabilising the assemblage (territorialising and coding processes) or destabilising (deterritorialising and decoding processes) (DeLanda 2006:13-14, 2016:22-23). All processes are acting simultaneously within the assemblage.

Territorialising processes are stabilising the assemblage by emphasising and maintaining the boundaries of the assemblage. The ongoing maintenance of the longhouses at Strøby Toftegård, as discussed in article 3, is one of the territorialising processes acting within the longhouses. By maintaining the physical structure, the assemblage of the longhouse is also maintained. The practices of rebuilding longhouses in the same location as their predecessor and the monumentalisation of certain longhouses as discussed in article 4 are also territorialising processes actively creating stability and continuity in the presence of the longhouse. The differences in the performance of the longhouses, where some longhouses seems more well-built than others, can work as a territorialising process in the creation of the social position of the inhabitants with the settlement at Strøby Toftegård. Deterritorialising processes, on the other side, are for instance the ongoing decay due to wind and weather that break down the longhouses. The lack of fences between the settlement units can also be perceived as a deterritorialising process as the boundaries of the settlement units are more fluent and thereby potentially changing. Another possibility is that the boundaries can have been marked in other ways than concrete fences.

Coding processes are stabilising the assemblage by homogenising the components. In relation to the longhouse, coding processes can be exemplified by the similarities in building traditions between the longhouses at Strøby Toftegård. As it has been discussed in article 3, with few exceptions all the longhouses are build according to the same - long-lasting - tradition of the three-aisled longhouse. As further described in article 3, the longhouse structure in itself can enable coding processes defining ways

to meet and behave in the longhouses. The doorways can control access to particular areas in the house where only some members of the household are allowed (Beck 2014b). The doorways can also keep people not belonging to the household out of the house. Decoding processes includes impulses from the world outside the settlement. The imported artefacts found in the settlement bear witness of a wide network of contacts stretching far out to Northern Scandinavia, the western and southern parts of Europe and the British isles. Along with the objects, ideas and new knowledge must have been brought to the settlement, maybe challenging existing ideas by presenting new ways to do things (Helms 1988, Ashby 2015).

Based on the identified processes in the production of the assemblages of the longhouses, it seems that the stabilising processes have been dominating over the destabilising processes in the settlement at Strøby Toftegård.

The role of the longhouse

The description of the components, relations and processes creating the assemblages of the longhouses at Strøby Toftegård demonstrates that the use of the longhouses primarily was related to everyday activities, the maintenance of the longhouses was ongoing and aimed at particular longhouses and the stabilising processes was dominating the assemblages. These circumstances point towards a mutual interpretation of a primary role of the longhouses as dwellings for the inhabitants of the settlement. The similarities between the longhouses in building tradition, general building materials and the structure of the settlement units furthermore show that the longhouses all had the same primary use, and no specialised working areas could be found in the settlement. The complex longhouses seems to have been the central structure of the dwelling that were maintained to a higher degree than other longhouses. Even the central unit that stood out from the rest due to the character of the longhouses and activities in the area seems first and foremost to have had a role as dwelling unit and only secondary to house activities that are not found in any of the other settlement units.

Within archaeology, dwelling is traditionally perceived as a functional concept that designate the structure where activities of daily life as cooking, sleeping, child caring, working, producing and socialising is performed. The house has been perceived as a 'container of life activities' (Ingold 2000:185). But according to philosopher Martin Heidegger a broader perception of the dwelling concept is needed. In the essay '*Building, dwelling, thinking*', Heidegger defines dwelling as 'being in the world'. '*The way in which you are and I am, the manner in which we humans are on the earth is Buan, dwelling*' (Heidegger 2001:145). Within the concept of 'being in the world' lies that dwelling is both an active relation with the world and the creation of a place to be in the world. Dwelling is not just a state of existence, but also a verb, it is something you do. It is created *through* e.g. the activities traditionally designated as dwelling activities. '*We do not dwell because we have built, but we build and have built because we dwell, that is, because we are dwellers*' (Heidegger 2001:146). Creating a dwelling is in that sense an ongoing process and do not exist in a 'finished, crystallised' form (Ingold 2000:188). Or in other words, according to Heidegger humans '*must ever learn to dwell*' (Heidegger 2001:159). However,

to Heidegger 'to be' is also to be somewhere (Cresswell 2009:171). Dwelling is in that sense connected to a location, a place to be at home where the world is gathered and made meaningful (Heidegger 2001:151-152, 156).

Heidegger's concept of dwelling has been used as foundation for a whole field of dwelling research particularly developed within the last 10-20 years (e.g. Ingold 2000, Mallet 2004, Winther 2006, Højer & Vacher 2009). In the context of this analysis, it is particularly relieved as dwelling in a Heideggerian sense is not unlike to what a definition of dwelling as an assemblage would look like: as an entanglement of people, things, practices, emotions, meanings and contexts in an ongoing process of assembling and dis-assembling (Bille & Sørensen 2016b:3).

In that light, the assemblages of the longhouses at Strøby Toftegård can be said to contain the *properties and capacities* of creating a dwelling; understood as a specific place in the world for the inhabitants to dwell. First of all, the longhouses had the property and capacity as a physical place in the world where the inhabitants could return to after the work of the day, trips in the local area or longer journeys. As a physical place, the longhouse also had the capacity pf representing a place where the inhabitants could anchor their experiences, knowledge, ideas and perceptions of the world to. Secondly, the longhouses had the property and capacity to create social differences within the settlement through the differences in building materials, size, layout and architectural details of the longhouses. In the materialisation of social differences, the longhouses created a clearly defined place for the inhabitants to find and define themselves within the social hierarchy and dynamics of the settlement. Finally, the longhouses had the property and capacity to create a place in the world in a temporal sense. By being a historical being in itself and by creating concrete connections to the social memory of the settlement and the wider landscape, the longhouse encouraged the inhabitants to find their own place in relation to the wider history of the world.

To sum up, the longhouses in the settlement at Strøby Toftegård fulfilled a primary role as dwellings, not only understood as a physical container for the activities of the inhabitants, but as the creation and maintenance of a place in the world for the inhabitants to dwell - or in other words, in the process of assembling the house, the inhabitants created a home.

Building a home

The aim of the final section of the chapter is to use the longhouses from Strøby Toftegård to discuss the *phenomenon of the home* in a wider perspective. To secure a broader and more general perspective on the subject, the longhouses will be juxtaposed to homes from a completely different archaeological context. Here I have chosen the tent camps established at the camping site at the present Roskilde Festival. Both the longhouses and the tent camps represent distinct cases of home-making but in very different contexts and of very different temporal orders. While the longhouses at Strøby Toftegård represent a permanent agrarian dwelling with a century-long continuity, the festival campsites represent temporary dwellings inhabited for one week during a yearly rock festival.

The divergent case studies have been chosen deliberately on the basis of their differences rather than their similarities. In conventional archaeological comparative work, this kind of analysis would typically be deemed impossible, because it compares the incomparable: practices and architectures of two differing and unrelated contexts and types of societies. However, the claim is that it is exactly the 'unrelatedness' of the two cases that make the cross-cultural comparison relevant and fruitful in this context (Willerslev & Sørensen in press). The aim is not to look for any undiscovered connection between the inhabitants of the Late Iron Age Strøby Toftegård and the participants at the festival in order to use one case to inform the other but to use the two cases as prisms for seeing both in a different light. The approach works as an experimental route into discussing home-making practices in a broader perspective. The thesis is that the unconventional juxtaposition will feed new, and unexpected, reflections on the subject in a similar manner as practical experiments can be used to create unforeseen insights and new questions (Beck 2011, Narmo 2011).

Even though the importance of studying houses and daily life as a source to understand the development of societies was recognised already in early anthropological and archaeological studies, it was not until the late 20th century a more specific research field related to the concept of the home emerged (Buchli 2013). In particular, studies by anthropologists Claude Lévi-Strauss, Pierre Bourdieu and architect Amos Rapoport has been emphasised as fundamental to the emergence of the field in an anthropological/ archaeological tradition. Through extensive cross-cultural studies, Amos Rapoport argued for the house as a cultural, not only a functional and rational, phenomenon (Rapoport 1969). Lévi-Strauss studied the close relation between the house and the household and his concept of 'house societies' has been widely applied (Lévi-Strauss 1982, Carsten & Hugh-Jones 1995b:12). Bourdieu used detailed studies of the Kabyle house as foundations for the theory of practice describing the dialectic relationship between the physical house, the inhabitants and their habitus (Bourdieu 1970, 1977). All studies contributed considerably to the perception of the house as more than just the physical structure and a place for shelter.

Today, research on the concept of home can be found in an extensive range of fields stretching from anthropology, geography and history to architecture, psychology and sociology. The result is a varied range of perspectives on the phenomenon including studies of architectural form (e.g. Glassie 1975, Deetz 1977), spatial and symbolic organisations of the home (e.g Hillier & Hanson 1984, Kent 1990, Pearson & Richards 1994), consumption studies (e.g. Miller 1987, 2008, Morley 2000), households and social organisation (e.g. Samson 1990, Blanton 1994, Carsten & Hugh-Jones 1995a, Bloch 1995, Birdwell-Pheasant & Lawrence-Zúñuiga 1999a, Joyce & Gillespie 2000, Gerritsen 2003), studies of the linguistic and conceptual origin of the home (e.g. Benjamin & Stea 1995) and phenomenological studies of dwelling (e.g. Bachelard 1994, Bender et al 1997, Ingold 2000, Hamilton et al 2006). Despite the varied range of fields that have worked with the phenomenon of the home, an over-all development can be recognised in the perspective from the home as a particular material and social setting to the home as practice, as 'something you do' (Werner et al 1985, Douglas 1991, 2001, Lefebvre 1991, Carsten & Hugh-Jones 1995b:36-42, Birdwell-Pheasant & Lawrence-Zúñuiga 1999b:3-5,

Ingold 2000, 2013, Winther 2006, Buchli 2013:72-73, Bille & Sørensen 2016b:7, Brun 2016:426). A development which resonates with the Heideggerian definition of dwelling described in the previous chapter and the notion of dwelling as an assemblage in it self.

Together, the varied studies of the home has demonstrated that even though the word 'home' do not exist in all cultural contexts, the concept of 'the home' can be found across cultures, time periods and different ways to live (Werner et al 1985, Benjamin 1995:297, Prussin 1995). Even though the concrete setting and organisation of the home varies, a home is defined, cross-culturally, as a place that offer protection, stability and regularity in everyday life (Werner et al 1985:15, Bailey 1990:23, Douglas 1991:287, Bachelard 1994, Benjamin 1995:298, Heidegger 2001:147). In other words, a home is a state of 'immutability' and in that sense is a well-known place you can return to again and again.

In archaeology, the concept of the home has played a less prominent role than in other fields (Tringham 1995). Archaeologists have preferred using concepts as house, building, dwelling, settlement and architecture to designate excavated buildings whereas the concept of home has been reserved for more interpretative approaches, mainly within the post-processual archaeology, and even here the use of the concept has been perceived with certain restraint. To talk about 'homes' has been perceived as impossible due to severe gaps in knowledge about the appearance of the original house, the lack of knowledge about the inventory and the profound absence of the original inhabitants. The general tendency within archaeology has been that a close-to full reconstruction of the house had to be produced and argued for before including more interpretational and emotional concepts. However, if adapting a perception of the home as something you do and thereby defined by practices rather than a particular physical setting, it opens up possibilities for an archaeological perspective on the home that do not have to start at the concrete reconstruction of the house. Instead, a study can take a starting point at the practices and temporalities within the assemblage of the house which create 'the home' and of which traces can be rich - even in a fragmented archaeological record.

On that background, the creation of a home in the longhouses at Strøby Toftegård and the camps at the Roskilde Festival respectively will be investigated and discussed in the following based on the home-making practices in the creation of boundaries, in the maintenance of the physical structures and in the creation and use of social memories.

Camps at Roskilde Festival
Whereas the longhouses at Strøby Toftegård has been thoroughly presented in the articles and in the previous analysis, they will not be introduced further. However, the camps at the Roskilde Festival probably needs an introduction to be understood in this context.

Roskilde festival takes place one week in the end of June every year and gathers around 130.000 participants in an area south of the town of Roskilde. The festival is one of the biggest music and cultural events in Northern Europe and has existed since 1971. Around the central festival area where the music scenes are located, there is a widely stretched camping site where the participants stay in tent camps during the week (Figure 15). In 2006 and 2012, selected festival camps were the target for ethno-

Figure 15: Air photo of part of the camping site at Roskilde Festival. In each square, 10-20 camps are gathered depending on the size of the individual camps. Photo: Stiig Hougsen

archaeological investigations including archaeological registrations, participants observations and interviews with the inhabitants (Beck et al 2007a, Albris et al 2008). The following discussion is based on data from these two investigations complemented with additional interviews with festival participants and organisers made in connection with a project independent of the archaeological survey (Zak et al 2010).

The participants typically arrive in groups of varied sizes which most often consist of people who know each other before the festival. When the gates are opened on the first day of the festival, the participants rush in to get a camping site. From the gates are opened and to the moment when the main structure of the camps is established often takes less than an hour (Hammer 2015). Setting up the camps happens in that sense under substantial time pressure and in competition with neighbours, other participants and the festival guards who try to keep the establishment of the camps within the limits of the outlined areas (Figure 16). The organization of the camps can therefore not be planned before hand but happens 'in the process'.

The typical festival camp consists of a number of individual, personal tents for sleeping and one or more garden pavilions roofing a common social area where the inhabitants of the camp meet up and hang out most of the time (Figure 17). The common area can be equipped with furniture as chairs, tables and stereos, but everything has to be brought in by the participants. The camp serves as an assembly point and a 'safe haven' for the inhabitants during the festival in a more fundamental way than any of the common areas at the festival do. This is the place where the inhabitants can withdraw to relax, meet up

Figure 16: Participants at the Roskilde Festival rush into the camping site at the opening of the gates (photo: Unger Anthon).

Figure 17: Photo from a typical festival camp. The centre of the camp is defined by a garden pavilion under which the participants gather. The area constitutes the social centre and the most important part of the camp. Around the pavilion are the private tents of the inhabitants of the camp put up, often with their entrance pointing towards the social centre of the camp (photo: woman.dk).

with friends and keep other festival participants at a distance. In that way, the campsite is a place where the inhabitants feel 'at home'.

Boundaries

Socialising is a fundamental element in both the environment of the Late Iron Age longhouse and at the Roskilde festival. In the Late Iron Age, feasting and visiting played a major role in keeping up networks, friendships and alliances (Brink 1996, 2005, Herschend 1997, 1998, Gansum 2008, Poulsen & Sindbæk 2011, Jessen 2012, Carstens 2015). The archaeological record at Strøby Toftegård demonstrates considerable traces of extraordinary food production (cooking pits) and a large number of sherds of drinking glasses which could be interpreted as the concrete traces of feasting activities. Eight gold foil figures as well as the imported artefacts also show a considerable social network with far-reaching contacts (Baastrup 2016, Baastrup in press). An impression of how fundamental feasting, socialising and visiting were in the Late Iron Age society can furthermore be deduced from the large share of the strophes in the probably contemporary poem *Hávamál* that contain rules and good advices of how to behave as a guest or as a host and how to remember to visit your friends more generally (Bø 1960:338).

In the context of the festival, socialising is - beside the music - a main reason for the participants to participate in the festival (Vagnby 2010:22). The festival organisers acknowledge the importance of this aspect in their regulations of the festival camping site by, as the only European festival, allowing white garden pavilions in the camping site to cover the common area of the camps as this is an essential place for socialising at the festival (Roskilde Festival 2013:11).

But in the process of socialising, the physical and mental boundaries of the home can be challenged, and there is a risk that boundaries, physical as well as social, can be ignored. In the socialising process, boundaries are as such constantly negotiated, defined and redefined, and the material structures are adapted to the present situation.

As described previously, the archaeological record do not show whether each dwelling unit at Strøby Toftegård were individually fenced or not. Clearly, the walls of the longhouses marked a boundary between inside and outside the house, and one to three doorways constituted the access points to the house. In the complex longhouses, the doorways were often elaborated and enhanced e.g. by additional posts (buttresses) and inner constructions (Figure 18). The enhancement of the doorways meant that they were separated from the wall physically, and in this way defined as their own physical space — an entrance (Beck 2014b:132). The effect of the enhancement was that the distance between outside and inside was increased, and access to the longhouse formalised. Unexpected guests could be kept waiting in the liminal zone between inside and outside the house increasing the general control of who entered the house (Beck 2014b).

At the festival camps, the inhabitants are well aware of which tents belong to their own camp and which do not even though the tents are placed very close to each other in what for an outsider looks like chaos (Beck et al 2007a:22). The boundaries of the camps are in that way obvious for the inhabitants
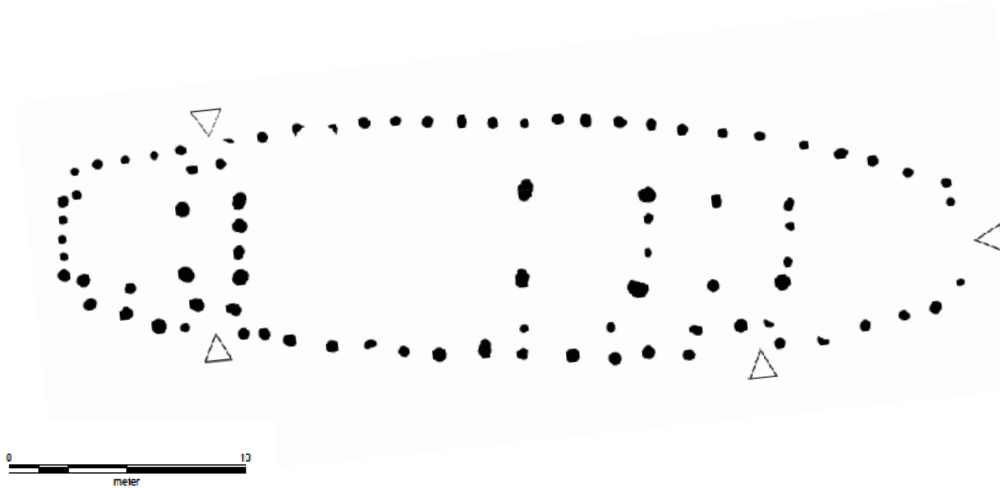
Figure 18: In the top, an example of a longhouse with doorways that were enhanced (house 1, Strøby Toftegård). The doorways were located in the longwalls but were flanked on the outside by buttresses which created a physical space in-between inside and outside. The doorways and the open eastern gable are marked with triangles.

In the bottom, an example of a doorway, which have been withdrawn from the wall in a reconstructed longhouse at Vikingecenter Fyrkat. The effect is in the same way, that the doorway make up a physical space of it own. The reconstruction is based on excavated longhouses from Vorbasse (photo by author)

but can be more ambiguous for people outside the camp. Therefore, it feels necessary in some cases to mark out the boundary of the individual camp by physical 'fences'. This is acted out in the form of plastic string, drawn graffiti lines, sheltering with tarpaulin or markings with more substantial fences (Figure 19). The fence is not necessarily all the way around the camp, but can be placed strategically in 'critical' areas, where other people walk by, crosses invisible boundaries or stops in undesired places to interact and potentially challenge the boundaries of the camp. Unwanted access routes can also be blocked with garbage. Entrances to the camp can be clearly marked out (without being combined with any other type of fence) to mark the 'right way' to enter the camp. Even if it is possible to step over the

physical boundaries, they are most often respected, and if not, the material structure is adapted and boundaries further enhanced.

Common for the practices at the boundaries in both the longhouses and the festival camps are that they are focused on keeping a high degree of control with whom crosses the boundary and where and how they cross it. This is done by defining the boundary and the entry points clearly and keep maintaining and adapting the boundaries in relation to the actual situation.

Figure 19: Four examples of the creation of boundaries in camps at Roskilde Festival. (a) 'invisible' boundary between two camps marked by where the camps to the left stops cleaning (photo by author); (b) a physical fence (photo: Neal Hendrix), (c) an elaborate entrance made from camping chairs (after Boding-Jensen 2014), (d) shielding of the camp with a banner (and a clear message) (photo: Neal Hendrix).

Maintenance

The materiality of the physical structures of the home defines the immediate durability and need for maintenance of the central structures of the home. The longhouses at Strøby Toftegård were all solid timber buildings fixed firmly in the ground. Most longhouses seem to have had walls of wattle-and-daub, whereas the roofing materials are unknown. The choice of materials and technology for the longhouse meant that it had to be cared for and repaired regularly e.g. by maintaining the clay walls or by replacing posts in the structure. With proper maintenance, the longhouse is estimated to have had a lifetime of 25 to 75 years (Zimmerman 1998:50, Hansen 2015:101).
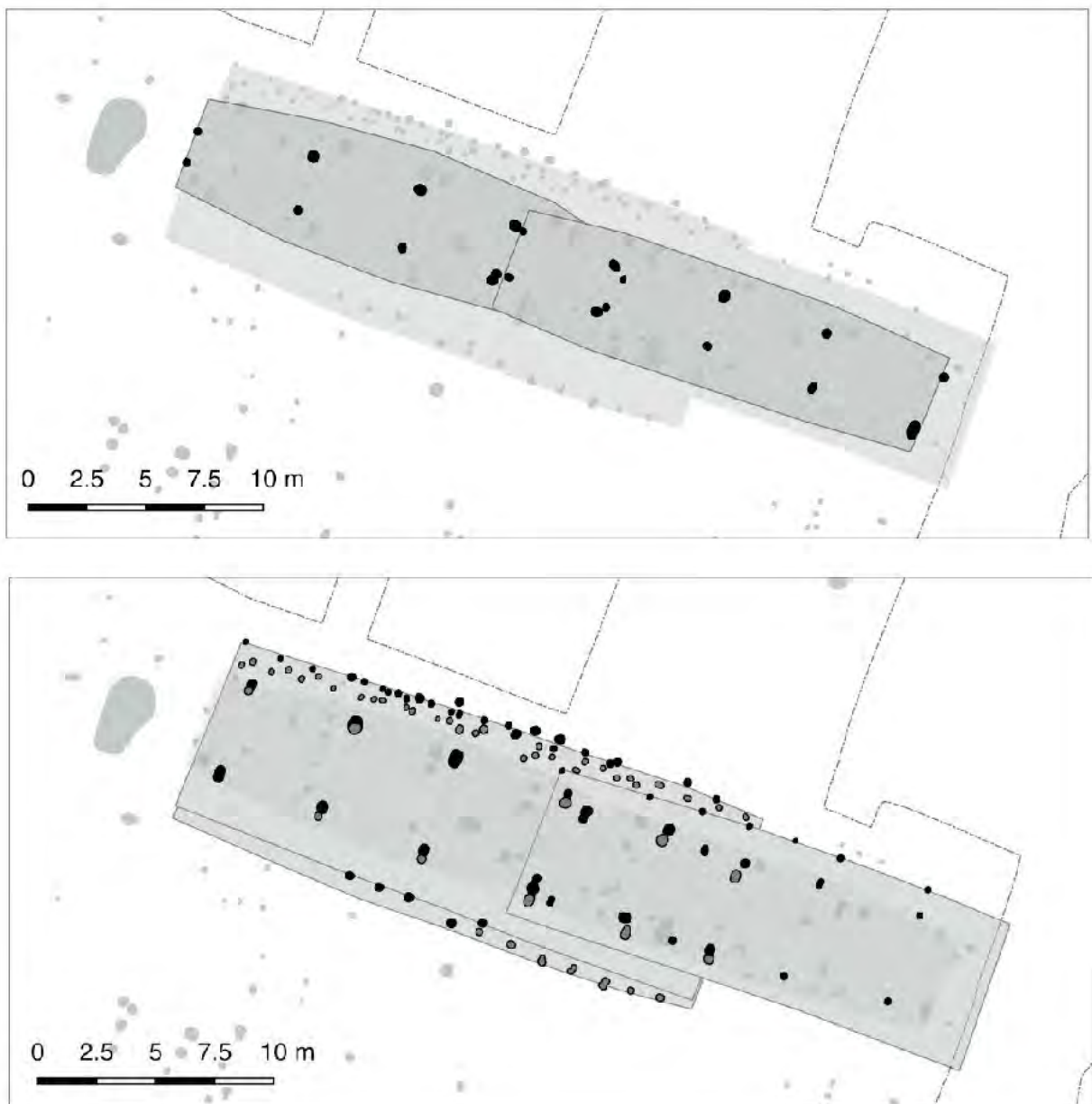

Figure 20: The most extreme example of longhouses rebuilt in the same site in the settlement at Strøby Toftegård (house 10, 11, 12, 47 and 86). The actual sequence of the houses are unknown. The sequence of longhouse have been split up for clarity. In the top: house 10 and 86, in the bottom: house 11, 12 and 47.

The physical constructions in the festival camps consist of individual tents and garden pavilions. The structures do not as such need maintenance even if the stress on the structures can be extreme, as the tents and pavilions are often retained for the one week of the festival and in many occasions left behind when the festival is over (Albris et al 2008:19). The structure of the camp is still maintained though, but rather than the physical structures of the camp, it is the general debris of festival life accumulating in the camps that needs to be handled properly in order to maintain the structure of the camp.

The endurance of the home is continuously challenged by wind, weather, use, deposition of garbage and general decay that are breaking down the physical structures. A reasonable balance between decay and maintenance is in that sense necessary in order to uphold the structures that serve as central reference points for the inhabitants and secure the continued existence of the home.

At Strøby Toftegård, the archaeological record does not show traces of the daily and seasonal maintenance of the structures, but do show when posts have been exchanged and parts of the house or whole houses rebuild. As the analysis in article 3 demonstrated, it is most often the roof-supporting posts that were exchanged, but also posts in the walls and gables could be renewed. The complex longhouses were more often maintained than the less complex longhouses and must in that sense have been the central structure of the homes at Strøby Toftegård. The analysis of the maintenance of the longhouses also showed that none of the longhouses were substantially reorganised during their existence, only renewed. The appearance of the houses must in that way have been kept more or less the same as when the house was build. When the longhouse structure went out of use, there are several examples that the central longhouses (but also sometimes the smaller longhouses) were rebuild in the same site as the previous longhouse securing the continued persistence of the longhouse (Figure 20). In that way it was not only the longhouse which were maintained but also the site in itself.

During the festival, there is no particular caring for the personal tents, and they are only sporadically repaired if broken. The engagement in the actual constructions is minimal and at best short-lived. However, the common area with the garden pavilion is cared for and maintained regularly. The area is regularly cleaned up (according to festival standards) removing accumulated garbage that would hinder the continuous use of the area. The specific standards of when an area is useable varies from camp to camp though. Large pieces of garbage that hinder movements and activity in the area are generally removed and dumped at the boundaries of the camp (Figure 21). In some cases, garbage sorting systems are set up in the camps transferring garbage sorting systems from the surrounding society outside the festival in order to keep the rubbish under control (Beck et al 2007a, Albris et al 2008). Even though the individual tents, where the participants sleep and have their personal belongings, can be said to be the most intimate and private part of the festival camps, it is not the individual tents which constitute the central structure of the festival home. Instead, it is the common area that is meticulously maintained to secure its continuous use.

Common for the practices of maintenance at Strøby Toftegård and Roskilde Festival respectively are that they are directed at sustaining and reproducing existing structures. The central structure of the home is more cautiously cared for than the rest of the structure. The analysis showed that the central structure is not necessarily the private spaces of the home, where people sleep, that are considered the central structure but rather the social centre of the home. The maintenance is in that way not only directed towards the continued existence of the physical structures but also towards securing the social structures and the continued social interaction which are essential for the existence of the home.
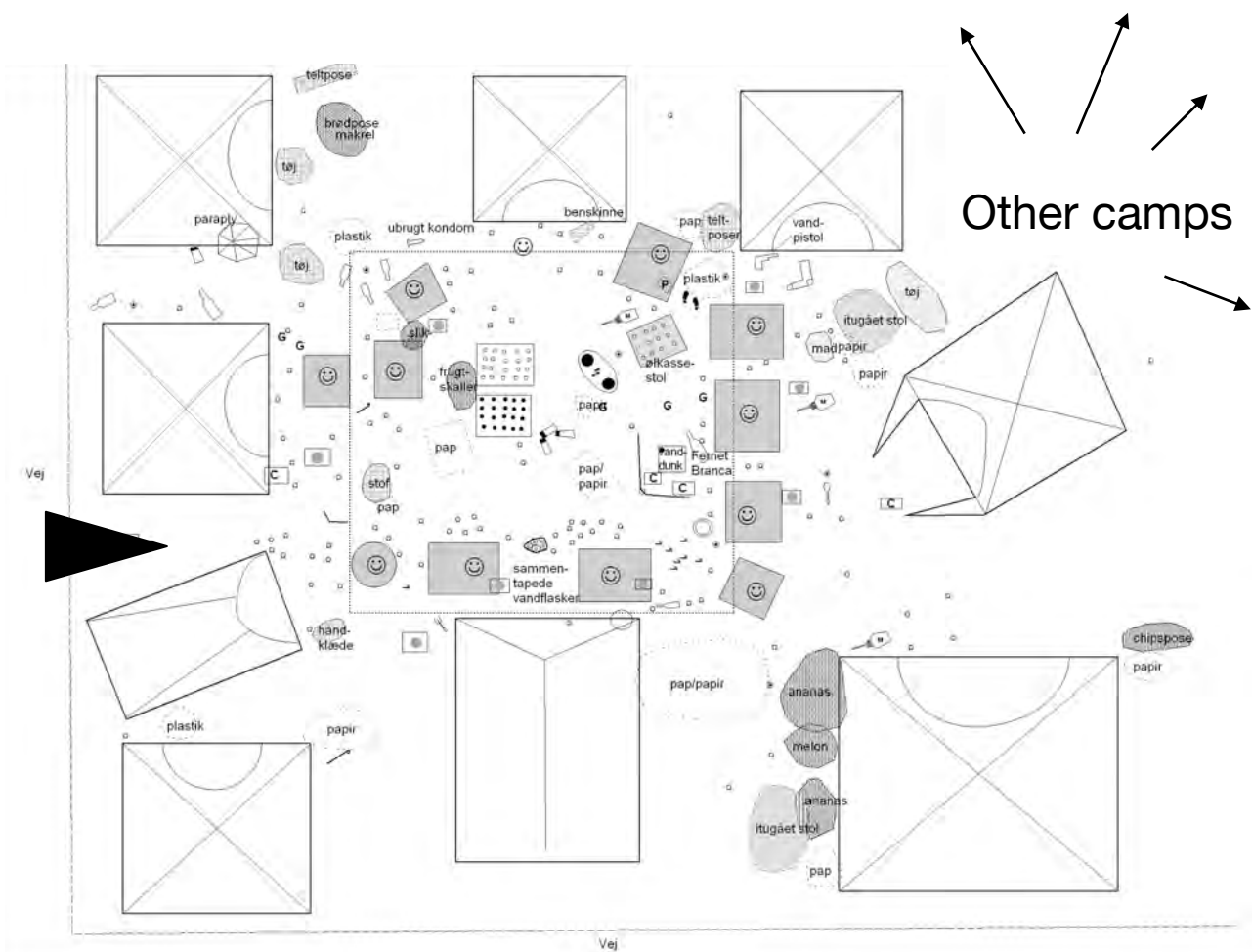

Figure 21: Sketch of one of the festival camps in the 2006-investigations. In the centre of the camp where the inhabitants gather and socialise, the garbage mainly consists of beer tops and cigarette buds, whereas in the outskirts of the camp, large pieces of garbage are found, partly cutting off potential access routes to the camp. The black triangle mark the main entrance to the camp.

Figure 22: Reconstruction drawing of the settlement at Fredshøj, Gammel Lejre with the longhouses lying close to a Bronze Age mound incorporating the ancient monument into the settlement. A similar situation must have been present at Strøby Toftegård where the longhouses lie close to a Neolithic mound, Toftehøj. Even though the distance between the central part of the settlement and the mound, the monument was still surrounded by the settlement at a point in the history of the settlement (drawing by Niels Valentin, after Christensen 2015:fig. 18.6).

Social memory

Social memory connected to a place can be used actively in the making of a home by creating attachment to a place and a common identity of the inhabitants of the home (Jones 2007, Olsen 2010:136, Crossland 2014). The history of the landscape was used actively when the settlement at Strøby Toftegård was established (Figure 22). The settlement at Strøby Toftegård was established just south of a Neolithic mound but at a later point extended to surround the mound and incorporate it more directly into the settlement. Furthermore, a group of Late Bronze Age urns can have been important in the choice of place as the central unit of the settlement were more or less built around them. The older monuments and the mythical history they represent were in that way actively used in the establishment of the settlement, and probably also continuously used as reference points in the general creation and confirmation of the social memory connected to the place (Gosden & Lock 1998, Andrén 2013, Christensen 2015:122). The use of older monuments can both have legitimised the establishment as well as added to the identity of the place felt by the inhabitants (Zachrisson 1994, Thäte 2007, Stenholm 2012). The accumulated history of the settlement itself was also actively incorporated. As described in the previous section, longhouses were rebuild on top of older house sites and selected elements in the settlement, two house sites and an accumulation of burnt stones, were used as monuments that encouraged ongoing interaction with the history and social memory of the place. In that way, the history of the settlement was actively used and developed continuously during the settlement.

At the festival, the history of the site is also important. Many participants return to the festival year after year (In 2016, 77% of the participants at the festival were returning guests, source: Roskilde

Festival Fun Facts). When arriving on the first day, the participants prioritise to get the same location to camp as the year before (interviews in Zak et al. 2010). The participants often lay out elaborate strategies to obtain this continuity e.g. having inside contacts at the festival, be first in line when the gates opens or chose some participants to run ahead to secure the site whereas the rest carry the heavy luggage. By putting up the camp in the same location as the year before, the participants relate to the general social memory of the camp and aim at creating a continuity from year to year. Social memory is important in the creation of the festival home and are furthermore actively created through the active use of themes in the camps. Themes can be acted out in more or less elaborated ways, but often a camp has a common name and in some cases a banner or a flag that gather the inhabitants. In many cases, the accumulated histories of the festival experiences of the inhabitants form a base for internal jokes, individual rituals and traditions as songs, dances or drinking games during the festival (Albris et al 2008:20). Traditions and stories from the year(-s) before often survive and can be revived the next year creating a sense of continuity and common social memory of the group. In the most elaborated cases, the participants dress up and decorate their camp accordingly to the selected theme which are most often the same theme every year. Theme camps as 'Camp Finding Waldo', 'Camp Mordor' or 'Camp Baguette' are good examples of this trend (Figure 23). In that way, a strong sense of identity created through social memory is connected to the camps (interviews in Zak et al 2010). The organisers of the festival encourage the use of theme camps by creating a specific zone ('Dream City') where elaborated theme camps can build their festival home. The groups are let into the camping site two months before the festival begins in order to establish and build their camps (source: dream-city.dk). Furthermore, the festival has an official 'Camp of the year'-competition every year where the camps are competing on being the best in four categories: use of social medias, great theme, sense of community and the ability of having a proper party (source: Camp of the year@Roskilde Festival). Particularly, the use of social medias is deliberately used as a strategy by the festival to create continuity in the history from one year to the next (Vagnby 2010:30).

Common for the practices of social memory is that they create a specific and sometimes very physical connection between the social memory, the place and the inhabitants. This is relevant both at Strøby Toftegård and at the Roskilde Festival camps. The active use of the history emphasise the attachment to the place, a strong identity feeling among the inhabitants as well as a legitimisation of the existing structures, physical and social, in the particular place.

At home across time

As argued, a home is defined cross-culturally as a well-known place to return to and a place that offer protection, stability and regularity in everyday life. However, that makes the home a paradoxical phenomenon if the fundamental premise of world, as described, is constant flux, change and general unsteadiness (Bennett 2005, DeLanda 2006:13-14, Ingold 2010:160-161, Bille & Sørensen 2016b:19). The assemblage of the house is not immutable and static but dynamic and potentially ever-changing in

Figure 23: Two examples of themed camps at Roskilde Festival. In the top, Camp Clown (photo: Helena Lundqvist) and in the bottom Camp Mordor (photo: Nick McKinleay).

the ongoing process of creation and recreation of relations. People are growing older, learning from new experiences, houses are falling apart or being rebuild, members of the household die and new is born, new ideas challenge the existing and unforeseen accidents can happen causing sudden changes (Carsten & Hugh-Jones 1995b:38-40). The stability and immutability of the home is not inherent in the physical structure but have to be created actively through materiality and in practices for the feeling of home to emerge and persist (Gosden 1994:31). And it is in this light the investigated practices should be seen and understood.

The home-making practices of creating boundaries in the home, maintaining the physical structures of the home and building a social memory in connection with the home could be observed both in the case of the Late Iron Age longhouses and at the camps at Roskilde Festival. Despite the immediate differences between the two cases and in the actual performance of each practice, there were conceptual similarities between the practices as they were aimed at actively at the production of an enduring structure which could be called home.

The creation and maintenance of boundaries is fundamental in order to bring the space of the home under control (Douglas 1991:289). The boundaries served to control the access to the home, and thereby also the use of the home and in the end who belong to the household and who does not. A survey made among homeless people have demonstrated that the most essential quality of a home in their eyes is not, as expected, its property to provide shelter but rather the ability to control who enters your space and the activities taking place within this space (Morley 2000:28). Uncontrolled and unwanted crossing of the boundary cause a feeling of violation and represent a potential threat to existing structures. The boundaries of the home are therefore essential for the maintenance of the home itself as they provide security, protection and regularity supporting the stability, immutability and persistence of the home.

The maintenance of the central structures of the home are confirming and reproducing the existing structures both in a practical sense and in a more general sense. By maintaining the physical structures, the social and ideological structures contained within the physical structures are indirectly maintained as well (Bourdieu 1977). Even though, the home is created through practices, it is a fundamental quality for the home to contain a physical structure where the practices can be directed at and which serve as reference point for the inhabitants. Even in nomad cultures where the structures are mobile, the physical tent or other dwelling structures serve as the reference point for the home (Prussin 1995:42). The concrete materiality and durability of the structure is as such not decisive to the feeling of home but the permanence and maintenance of the main structure is. Maintaining the physical structure of the home create stability and endurance and secure that there *is* a place 'to return to'.

The creation and use of social memory connected to the home is actively building up a connection between household and the place called home (Bachelard 1994, Jones 2007, Stenholm 2012:229). In the process of creating a common history, social memory is creating a common identity and unity within the household that enhance the emotional attachment to the home (Thomas 1996:51-54, Birdwell-Pheasant & Lawrence-Zúñiga 1999:6). By actively connecting to the history of the

place, an explanation and legitimisation of existing structures can be found. Social memory is in that way essential for the production of the home as a well-known place and a place to return to in terms of finding 'roots', explanations and a place in the world.

The home-making practices seems each in their own way to create a general sense of stability and continuity; a feeling that nothing unplanned and sudden changes will happen. As such, they find direct resonance in the cross-cultural definition of the home as a safe and immutable place. The study of the two case studies further demonstrates that there is not one specific way to perform the practices and that their means differ. There is as such not a certain material setting, an archetype, that define the home. This can be confirmed by the long and varied range of cross-cultural studies of the home (e.g. Rapoport 1969, Birdwell-Pheasant, D. & D. Lawrence-Zuñiga 1999a, Højer & Vacher 2009). Home is not even necessarily in one specific place, but can be mobile and nomadic (Prussin 1995, Morley 2000:40, Buchli 2013:131).

Instead if a general definition of the home are searched for, the home should be defined as a temporal phenomenon (Werner et al 1985, Bailey 1990, Nielsen 2011). Based on the definition of the home as a place of safety, stability and regularity, it can be argued that the temporality promoted by 'the home' is stasis and permanence (Werner et al 1985:15, Douglas 1991:287, Bachelard 1994, Benjamin 1995:298, Heidegger 2001:147). In other words, inherent to the phenomenon of the home is a feeling of a 'timeless eternity'; that the structure called home will 'persist forever'. And as it was demonstrated by the quite different temporal orders of the two case studies, the creation of the 'eternity of the home' is independent of the actual time spent in one place. Whether living continuously in one place over centuries or dwelling in a tent camp for a week, the inhabitants in both cases work actively to create a fundamental feeling of eternity. In this process, it is the active home-making practices which are essential rather than the concrete material setup.

To create a sense of eternity, it is necessary to create an image in the present of the past and future as identical or at least closely related. A future in this context is markedly different from a modern understanding of the future as driven by change and development (Crossland 2014:39, Jordheim 2015:80). It is a future in direct continuation of the past. Even if performed in the present, home-making practices should in that way be oriented both towards the past and the future.

To describe the tension between past, present and future orientations in actions and practices I have found R. Koselleck's concepts *space of experience* and *horizon of expectation* relevant (Koselleck 2004). According to Koselleck, space of experience and horizon of expectation is an attempt to describe the time-space in which all human actions take place. The space of experience is defined as a 'present past'. It is events of which something have been learned in the past and which is remembered and influence the actions in the present (Koselleck 2004:259). Vice versa, the horizon of expectation is 'the future made present'. It conceptualises the 'hopes and fears, wishes and desires, cares and rational analysis, receptive display and curiosity' in relation to the future that directs the actions in the present (Koselleck 2004:259). Actions take place in that way within the tension between experience and

expectation and will always be directed in varied degrees towards both (Koselleck 2004:256). Experience and expectations embody in that way the past and the future as temporal dimensions of the actions in the present (Munn 1992:106-107, Koselleck 2004:259-260, Harding 2005:97, Olivier 2011, Lucas 2012:208, Lorenz 2014:46).

In that light, the investigated home-making practices in the present should be seen as an entanglement of past, present and future perspectives. Elements in the practices that reproduce, maintain, legitimise and stabilise existing structures, physically as well as socially, can be said to be oriented towards the past, whereas elements of the practices which are oriented towards the future are the elements that secure, protect and put the world under control (or at least create an illusion of control). Both past and future perspectives impact on the practices creating a 'timeless eternity' in the present (Gosden 1994:6-7, Thomas 1996:39-40,44, Nielsen 2011, Jordheim 2012:165, Crossland 2014:39-41).

Importantly though, the focus on stability and continuity in the creation of the 'eternity of home' is not ignoring that material changes do happen. First of all, the home-making are not the only practices acting within the greater assemblage of the home and secondly, the home-making practices are ongoing processes. In the process of anticipating the (imagined) future, the practices can involve changes, adaptions and modification as well as conservatism and un-change according to the need in the present situation. And in some cases, the practices are simply not successful in keeping things stable and under control. Nonetheless, the conceptual aim is to keep sudden and unexpected changes under control and thereby secure the continuous persistence of the home (Nielsen 2011:400). It is in this active process of simultaneous conservatism and adaption that a feeling of eternity is created - even though not timeless at all.

In conclusion, the making of a home, or in wider terms the process of dwelling, is a distinct temporal phenomenon, that is oriented towards the past, present and future simultaneously in order to create a sense of eternity independent of the actual time spent in the place called home. Eternity in this context is not necessarily opposed to the dynamic processes of the assemblage of the house, as the creation of a sense of eternity is an ongoing process of reproducing and adapting to the actual situation in the present. Home or more correctly home-making practices are producing and creating time (Munn 1992:116, Bachelard 1994:6, Gosden 1994:44, Crossland 2014:143).

In archaeology, the one-sided focus of the physical structure of the house has caused that the fragmented state of the record has been perceived as a barrier for the further interpretation and inclusion of the phenomenon of the home in archaeological interpretations. As the current investigation of the longhouses as assemblages and as homes demonstrates, a more active inclusion of the actual archaeological record and the practices and temporalities it represent into the description and interpretation of the archaeological record opens up new and fruitful perspectives on houses in the archaeological setting. If introduced on a broader level to settlement archaeology, a richer understanding of houses as archaeological phenomenons will be gained and a new step be taken in the process of bridging the gap between the archaeological record of the house and the home it once was.

Conclusions

The thesis had two research aims: to investigate the longhouse as an archaeological phenomenon in the present archaeological context of Danish settlement archaeology and to investigate the role of the longhouse in the Late Iron Age. The two aims were investigated individually but in reality they are closely entangled and feeding into each other.

The investigation of the longhouse as an archaeological phenomenon had its starting point in a characterisation of the research field of the Late Iron Age longhouse as seen from a historical perspective. The review showed that, today, the longhouse plays a surprising little role in Danish settlement archaeology and mainly serves as mean for something else, e.g. the dating of a settlement, than as a research field of its own. However, the possibilities for a rich and multiple research into the longhouse has have never had a better starting point than it has today with a large - and still increasing - archaeological record, ever developing scientific methods and a manifold of theoretical perspectives available, so the limited engagement with the longhouse represents a paradox. But as the further investigation demonstrated, it is not the lack of archaeological material that has been the problem. Instead, there is a general perception of the longhouse as fragmented and deficient within archaeology which stands in the way for a wider engagement with the longhouse. Conventionally, focus has been on what the house once was as a living and standing structure rather than what it actually is in the archaeological record. Such perspective causes that the longhouse present it self as a shadow of what it once was and create a certain disappointment and disillusion with the longhouse as a source to prehistoric life.

　　To change the negative perception of the longhouse, it was argued that the focus must change towards a bottom-up approach to the archaeological record by engaging with what the archaeological record actually is. To encourage such a change in perspective a thorough investigation of the archaeological record of the longhouse was initiated using the notion of the assemblage as a starting point. The investigation included four articles and a mutual chapter in the synthesis. The investigation showed that the longhouse is a multitemporal phenomenon that cannot be studied without including the people living in, with and around the house. In that sense, the longhouse can be redefined as an assemblage made up of a heterogeneous collection of components, how the components relate to each other and the ongoing processes involved in the ongoing creation and recreation of the assemblage.

To fulfil the second aim of the thesis, assemblage theory was used as an operational analytical tool in relation to an analysis of the longhouses in the large Late Iron Age settlement at Strøby Toftegård. The

four articles of the thesis each contributed with conclusions from their more specific investigations which was gathered in the mutual analysis in the synthesis. The assemblage analysis provided an interpretative description of the components, relations and processes present in the longhouses at Strøby Toftegård. The aim of the analysis was to identify and describe the properties and capacities of the longhouses as a base for the interpretation of the role of the longhouses. The properties and capacities of the longhouses at Strøby Toftegård pointed towards a primary role of the longhouses as dwellings for the inhabitants by defining a place in the world where they could feel at home both physically, socially and in terms of temporal order.

The perspective on the role of the longhouses was widen up in the following discussion where the phenomenon of the home was discussed in a wider context by juxtaposing the Late Iron Age longhouses with tent camps at the yearly Roskilde Festival. Both cases represent distinct homes but in very different contexts and of very different temporal orders. The analysis showed that through the creation and maintenance of boundaries of the home, the maintenance of the central physical structures and the active creation and use of social memories, a feeling of the home as continuous, stable and immutable is actively created in opposition to a world that is characterised by ongoing change. The home was as such redefined from being a specific material setting as often seen in archaeological studies to be defined by its practices and its temporal qualities. A home is something you do. Fundamentally, a home is a temporal phenomenon characterised by the active creation of a 'timeless eternity' i.e. the feeling that the home will 'persist forever' independent of the actual time spent in a specific place - whether living continuously in one place over centuries or dwelling in a tent camp at a rock festival for a week.

Both investigations show that by introducing a new approach to the longhouse new perspectives and new interpretations can be presented - even in the fragmented and deficient record of the Late Iron Age longhouses. The work with the thesis demonstrated that assemblage theory was fruitful and relevant as a framework for a new approach to the archaeological record and both serves as an ontological framework for a new understanding of the archaeological record and an epistemological approach to the longhouses in terms of defining concepts and elements that can be looked for concretely in the archaeological record.

In general terms, the notion of the assemblage is changing the perspective on the longhouse from perceiving the house as an object towards recognising it as a process. As a consequence, the longhouse is perceived as a multitemporal phenomenon that includes the duration of the house, the sequence of actions creating the house, the development of architectural traditions, the biography of the house, the social memory of the people living in the house and the tension between past, present and future perspectives; temporal dimensions that are not represented by the conventional chronological date. In practice, assemblage theory calls for a richer recording of the archaeological record particularly in terms of temporal properties which initially can be obtained with relatively simple changes e.g. by recording both layers and interfaces in the stratigraphy of the posthole, describing the dating method of the archaeological feature individually and consistently, including explicit interpretations of the

sequence of actions creating the archaeological feature, giving more awareness to the process of typologising and which 'type of type' are used and using a biographical perspective in categorisation, description and interpretation of the house. Finally, more focus on the interaction between features of different periods could add yet another temporal layer to the archaeological record when relevant. However, the development of recording methods should not stop there but be an ongoing process based on continuous evaluation and discussion in relation to the questions asked.

Assemblage theory is in this way not 'just another theory' and not 'just a new descriptive method' but both. It affects both the recording processes and the interpretations. The notion of the assemblage serves as a tool for interpretive descriptions of the archaeological record that articulate aspects which are materially present but rarely recorded e.g. practices and temporalities. Assemblage theory should therefore not be perceived as a theory that can be 'applied' to the archaeological record after recording but should be integrated into a new archaeological practice already at the recording in the field. The aim must be to give as a rich and complex descriptions of the archaeological record as early in the process as possible - and in that sense assemblage theory can serve as a realistic alternative to the conventional descriptions focussing on date, house type and functional aspects.

Most importantly though, assemblage theory should be used in practice to pose new questions to the longhouses and their archaeological record. In the end, it is the questions we ask that delimit or open up the possibilities for interpretation. For a richer settlement archaeology, we need to reengage with the longhouse - as an archaeological phenomenon, as a physical structure, as practices and processes, as a temporal phenomenon, as a home - and in the end as a component in the assemblage of dwelling.

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Appendix 1

Temporalising the house: exploring alternative perspectives on time and the archaeological record within Danish settlement archaeology.

(Article 1)

Temporalising the house: exploring alternative perspectives on time and the archaeological record within Danish settlement archaeology.

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Abstract

This article calls for a renewed debate on the role played by time and temporality within Danish settlement archaeology. Recent theoretical debate has challenged the conventional way of thinking about time in archaeology by drawing attention to the multitemporal character of the archaeological record. In the article, the temporalisation of the archaeological record of the house is discussed based on a critical review of the archaeological process. The analysis shows how basic excavation and archiving practices favours a temporalisation of the house based on the chronological date and, at best, downplays other temporalities. The inherent temporalities of the archaeological record of the house, particularly the posthole, are discussed, and it is argued that the posthole should both be perceived as an object and a process in order to create space for alternative temporalities. Instead of seeing stratigraphy as a property of the posthole, the posthole should be seen as an assemblage made up of the events and materials that created the stratigraphy, a process which is directly related to the life history of the house. It is argued that a multitemporal perspective is a prerequisite for new and fruitful ways to understand the house as an archaeological and cultural phenomenon.

Keywords: *posthole; house; excavation methods; archiving methods; archaeological data; temporalisation; multitemporality; assemblage*

The investigation of house constructions has a long tradition within Danish settlement archaeology. The first traces of prehistoric houses were identified at the turn of the century (Müller 1906), and the number of excavated houses has increased drastically since then. In order to place houses in their right chronological and culture-historical context, a central focus of Danish settlement archaeology has been to investigate the date of the individual house. As a consequence, much research within the field has been aimed at refining both typological studies of houses and scientific dating methods. Latest exemplified by renewed, regional house-chronological studies (Eisenschmidt 2013, Hansen 2015, Laursen and Holst 2017) as well as experiments using large numbers of C14-datings to obtain statistically more precise dates for excavated houses (Villumsen 2013, Hansen 2015). On that background, it seems uncontroversial to claim that the role time and temporality have played in Danish settlement archaeology has primarily been in the form of chronological dates.

In this article, I argue that a renewed debate about the role of time and temporality within Danish settlement archaeology is needed. The predominant position of the chronological date has previously overshadowed other temporalities inherent in the archaeological record and limited the understanding of the house. To encourage the debate, it is suggested that the inclusion of a multitemporal perspective is a prerequisite for new and fruitful ways to understand the house as an archaeological and cultural phenomenon.

Temporalising the record

In very basic terms, *temporalisation* is the process of creating a connection between time and the archaeological record which takes place through the archaeological process based on the entities used in the recording process and the time perspectives reproduced (Munn 1992, p. 116). On a more general level, temporalisation is crucial to the way archaeological data are shaped and interpreted and thereby also for the possibilities for further engagement and reinterpretation of the material (Bowker 2005, p. 12, Lucas 2012, p. 91, Nativ 2017, p. 670).

In settlement archaeology, the chronological date has traditionally been regarded as a fundamental temporal condition of the archaeological record and as a prerequisite to untangle the spatial development of settlements (Holst 1999, p. 21). Chronological dates, whether expressed in calendar years or in culture-historical periods, represent a linear temporality, where time is perceived as individual, measurable time units succeeding each other (Lucas 2005, p. 10). This perception of time is often supported by representations of chronologies or typologies as forward-moving timelines built up by graphically separate periods (Rosenberg and Grafton 2010, p. 20, 244). An epistemological predisposition to consider time as linear has been fundamental to the development of the archaeological field and is still to a large degree so deeply ingrained that it is taken for granted and rarely questioned by archaeologists.

However, anthropological studies have argued that linear time is just one among several simultaneous ways that humans perceive, use and understand time (e.g. Bloch 1977, Munn 1992, Gell 1992). The presentation of alternative temporalities has been followed by an increasing theoretical literature exploring the connection between time and the archaeological record (e.g. Gosden 1994, Thomas 1996, Olivier 2001, 2011, Thomas 2004, Lucas 2005, 2008, 2012, Pauketat & Alt 2005, Bailey 2007, McAnany and Hodder 2009, Ingold 2010, Arnold 2012, Witmore 2013, Gosden & Malafouris 2015, Sørensen 2015, Bille & Sørensen 2016, Hamilakis 2017). These studies have brought focus on the alternative temporal dynamics inherent in the archaeological record – both in terms of how time was perceived in the past (e.g. Gosden and Lock 1998, Bradley 2002, Stenholm 2012) as well as how time is represented, produced and reproduced in the archaeological process (e.g. Larsson 2006, Lucas 2008, Cobb et al 2012, Bailey and Simpkin 2015, Nativ 2017). Furthermore, they have challenged the conventional way of thinking about time in archaeology by drawing attention to the fact that time, first, needs to be appreciated as more than an abstract, neutral 'container' and, second, that time, besides being measurable and linear, also is experienced, repetitive, durational, material, biographical, remembered, processual and non-linear. In other words, time in relation to the archaeological record should be treated as plural, complex and multitemporal.

Whereas the discussion of a more complex approach to time has been included for a long time in other fields of archaeology for instance in the study of monuments (e.g. Holtorf 1998, Thäte 2007), in the micro archaeology of burials (e.g. Fahlander 2003), in object biographies (e.g. Holtorf 2002, Joy 2009) and in some areas of settlement archaeology, particularly the British (e.g. Bailey 1990, Pearson & Richards 1994, Gerritsen 1999), it has only had limited — if any — impact on Danish settlement archaeology.

Generally speaking, Danish settlement archaeology is characterised by a relatively conservative and empirically founded approach to the field. This has, at least partly, its background in the organisation of Danish archaeology where rescue excavations often constitute more than 90% of all excavations per year (Mikkelsen 1998, Ejstrud & Jensen 2000, p. 125). Rescue excavations are generally characterised by a standardisation of methods and a fundamental approach to the excavation of archaeological remains as a process of recording and accumulating data for future research rather than the investigation of specific, targeted research questions (Mikkelsen 1998, p. 10-11, Jensen 2005, Møller et al 2011). At the same time, more than 50% of all excavations over the last 20 years are categorised as settlement excavations (*source*: Fund&Fortidsminder). As a consequence, the logic of the rescue excavation has a great impact on the broader tradition of settlement archaeology. Research questions are mainly aimed at the development of settlement patterns in the wider cultural landscape, often on a positivistic background (e.g. Fabech & Ringtved 1999, Møller et al 2011). In that sense, Danish settlement archaeology is closer connected to the German tradition of 'Siedlungsarchäeologie' (Gramsch 1996) than to the British post-processual landscape archaeology which only have had limited influence (Jensen 2005).

However, the multitemporal perspective represents ways of thinking about time that is very relevant for the further development of Danish settlement archaeology and should therefore be explored. But in order to create space for a multitemporal recording of the archaeological record, the temporalisation process of the archaeological record within the current field must first be investigated.

So far, the discussion of time in relation to the archaeological record has to a large degree been a theoretical discussion. However, I will argue that the temporalisation of the archaeological record is equally a direct result of how the current theoretical notions of time is performed through the practices of the archaeological process and a discussion of the temporalisation should include both theoretical and practical aspects (Larsson 2006, p. 42-44, Cobb et al 2012, p. 6).

The practical aspects are defined as the tradition of how the archeological record is investigated, recorded and archived, which to a large degree are defined by specific conditions as the organisation of the archaeology on a national and local level, the methods applied and the registration systems used in the process. The discussion of the practical aspects will therefore necessarily be quite specific and detailed. On the other hand, if the discussion is not also taken on this level, there is a severe risk that practice will continue as usual and fruitful theoretical discussions have no real impact (Hamilakis & Jones 2017, p. 81).

On that background, in this article, I will use a critical review of the typical excavation and archiving practice in current Danish settlement archaeology to serve as an example of the interaction between theory and practice in the temporalisation of the archaeological record related to the house. The

aim of the article is to explore the possibilities of including a multitemporal approach to archaeological houses.

I begin by characterising the archaeological house as an archaeological phenomenon and the temporalities inherent within the archaeological record of the house. I then analyse the typical archaeological process of excavation and archiving respectively using Danish settlement archaeology as the starting point and discuss the principles of how the archaeological record is temporalised through the transformation process from remains to data. In the final discussion, I explore the principles of temporalisation and the advantages of including other temporalities into the recording of the archaeological record on a more general level. While much of the discussion is placed in a specific Danish context, it is my hope that the debate also will find resonance in other areas of archaeology and inspire to similar reviews of other national registration traditions for the benefit of the development of the broader field of settlement archaeology.

The house and the posthole
The discussion of temporalisation of the record is closely related to the basic question of what the archaeological record is an expression of. The first step must therefore be to characterise the archaeological record constituting the house and the temporal properties inherent within it. The conditions of the material outlined constitute the basic premises for the following analysis and discussion.

Settlement archaeology aims at studying the house as close to its original state as possible but in that process tends to overlook the marked differences between the house in its historical context (what it once was) and the house as an archaeological feature (what it is today) (Nativ 2017, p. 660). As the majority of settlement excavations in Denmark take place in open, cultivated fields and the standard excavation method is defined by removing the plough soil down to the surface of the subsoil, typically nothing of the actual physical house in the form of timber, roof, walls or floor layers is represented in the archaeological remains. Nonetheless, the term *house construction* is often used in all stages of the archaeological process whereas in reality, the majority of archaeological houses are identified solely as systematic collections of archaeological *features* (Näsman 1987, p. 75). The archaeological features constitute the foundations of the house and consist mainly of postholes dug into the subsoil to support the timber construction of the house. On that background, it would be correct to say that the majority of houses excavated in Denmark today are defined by *the posthole* rather than by the construction. As a consequence, the temporal properties of the house must to a large degree equally be defined by the temporal properties of the posthole, and the rest of this section will therefore focus on the posthole.

Conventionally, the primary temporal property of the posthole is the chronological date. The posthole can be dated in several ways, but first and foremost based on what is found within it. As the post decays, artefacts and organic material from activities in the house can be caught in the hollows left by the decaying post (Zimmerman 1998, p. 50). Soil (including artefacts and organic material) can even deliberately have been filled into the hollows to stabilise the construction as the post decayed (Reynolds

1995, p. 23f). When the artefacts or organic material can be dated (typologically or scientifically) and a connection between finds and posthole is probable, the date is normally taken as an indicator of the posthole's chronological date. The posthole can also be dated stratigraphically if it is cutting or being cut by later or previous features. Whether the posthole is dated according to absolute or relative chronologies, the dating process is aimed at getting as uniform and precise a date as possible (Lucas 2005, p. 5, Laursen and Holst 2017, p. 18).

However, a single date only dates one particular (but rarely more precisely defined) moment in the existence of the posthole (Villumsen 2013, p. 19). And it can be argued that the posthole, besides having an age (expressed by the date), also has a duration that stretches beyond a single date both practically as well as conceptually (Olivier 2001, p. 65ff, Bailey 2007, p. 217, Ingold 2010, p. 161, Arnold 2012, p. 88, Hansen 2015, p. 56f). The duration is defined as the time period the posthole was 'active' in. That means the time between the posthole was planned until it went out of use, a time period more or less equal to the lifetime of the house. This perspective opens for a perception of the posthole as the material residue of a sequence of *events* in the past (Harris 1989, p. 41f, Shennan 1993, p. 55, Pauketat and Alt 2005, p. 230f, Larsson 2006, p. 51, Lucas 2008, p. 60, McAnany and Hodder 2009, p. 9). Following Lucas (2008), an archaeological event is defined by being material, understood as an action (or sequence of actions) that takes place in relation to the material world and leaves a material residue.
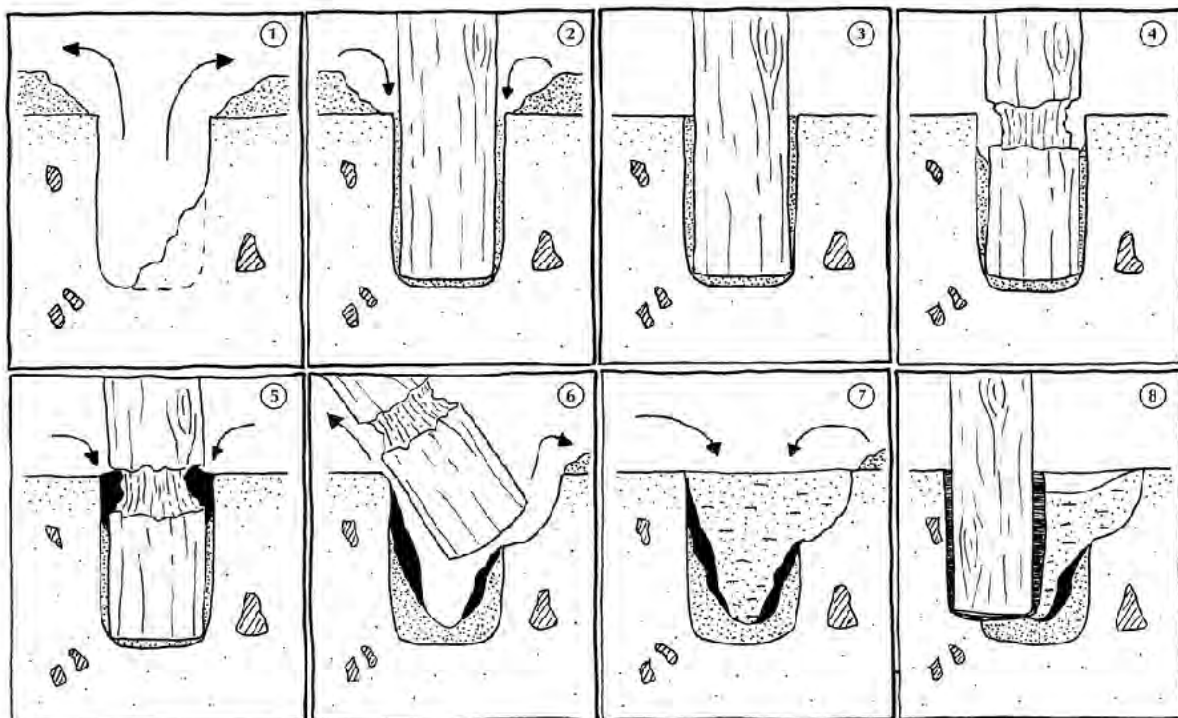
Figure 1. Schematic illustration of the archaeological events forming the posthole: (1) planning and digging the hole; (2) placing the post and backfilling the hole; (3) settling and stabilisation of the fill; (4) rotting of the post at the surface, where air and soil meets; (5) adding of secondary material coincidentally or deliberately; (6) removing the post when repairing or demolishing the house; (7) backfilling the hole, a process that happens either slowly or quickly; (8) if there are secondary cuts (contemporary or later than the primary post) it complicates the stratigraphy. Stratigraphical details can be disturbed or completely removed (drawing by author).

The event that creates the archaeological record can either be momentary or have a longer duration, as it can either consist of singular actions or practices (routinised actions) (Shennan 1993, p. 55, Lucas 2008, p. 61).

In its most banal description, a posthole is a hole dug to fix a post in the ground. But it is also a hole that is filled up when a post is raised as well as a hole that is emptied and loses its function when the house is demolished. In this perspective, the posthole is a process with a specific *chaîne opératoire* (Pauketat and Alt 2005, p. 217). The process can be identified, as many archaeological events have left an imprint on the posthole in the form of the stratigraphic entities: the primary cut, the post impression, the backfill etc. (Figure 1) (Zimmermann 1998, p. 25). Sometimes, secondary cuts and fills (which in some cases can have destroyed previous stratigraphical entities) even complicate the sequence of events. Instead of identifying the layers within the posthole on the basis of their physical presence, they can be identified by the events during which they were formed. Some events were short and momentary (e.g. the digging of the hole), whereas others had a longer duration (e.g. the decay of the post, the backfilling of the posthole), but each entity reflects events in relation to the history of the interweaving activities of building, using, maintaining and demolishing the house.

All in all, the posthole can be said to contain different temporal properties depending on the perception of the posthole as an archaeological phenomenon. In the typical dating process as described above, the posthole is treated as an object or artefact in itself, but the posthole can also be perceived as a process that implement an inherent temporality and duration of its own (Lucas 2012, p. 170, Felding and Stott 2013, p. 34, Gosden and Malafouris 2015, p. 701f, Bille and Sørensen 2016, p. 10). Different temporal perspectives do not mutually exclude each other and it is not possible to say that one temporal property is more 'fundamental' than the other (Gerritsen 2008, p. 146, Cobb et al 2012, p. 8f). Which temporal dimensions that are represented in the archaeological record are instead defined alone by the entities used in recording and the temporal properties reproduced in the archaeological process. A multitemporal approach aims at representing as many temporal perspectives as possible.

The archaeological process
In the archaeological process, the archaeological record goes through a translation process where the archaeological record is transformed from fragmented material remains into coherent archaeological data, which are manageable in the interpretation of the house (Larsson 2006, p. 43). In this context, *remains* are understood as the physical traces of past activities that are uncovered and identified during the archaeological excavation, and *archaeological data* are understood as the drawings, photos and descriptions that record and reproduce the physical traces as detailed as possible. Regardless the degree of details included in the recording, the transformative process from material remains to archaeological data will always translate the archaeological record from one medium (the material) to another (the textual) and in that way be interpretative (Figure 2) (Larsson 2006, p. 40, Lucas 2012, p. 238, Nativ 2017, p. 665).

Neither the identification of the archaeological remains nor the recording of them can be said to be completely objective parts of the translation process. To be recorded, the remains need to be identified
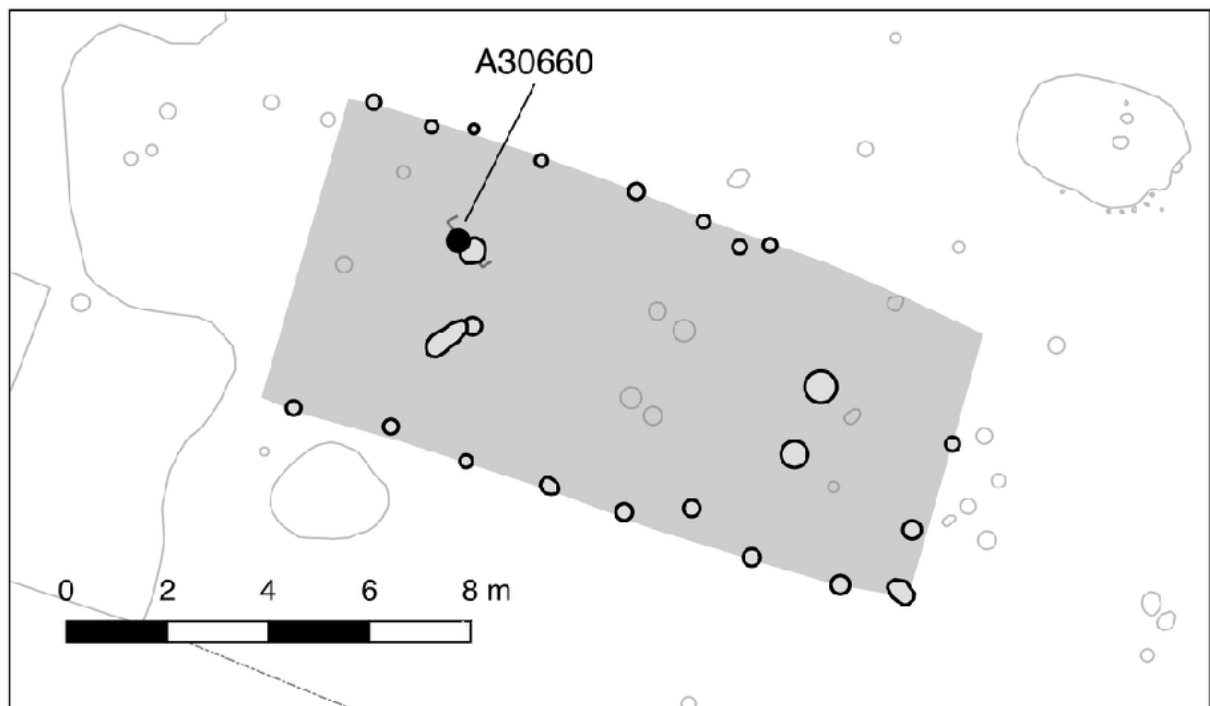
Figure 2. Translation of material remains into archaeological data in the excavation at Strøby Toftegård. At the top, the longhouse K314 during the excavation. The excavated house K314 is in the foreground. At the bottom, the excavation plan of K314. The posthole A30660 used as an illustrative example in the analysis is marked out (Photo & drawing: Museum Southeast Denmark).

and interpreted as remains of something, and recording itself is a creative and interpretative process describing the remains as they are perceived (McAnany and Hodder 2009, p. 2, Edgeworth 2012, p. 77, Nativ 2017, p. 670). Every choice in the process involves a selection of elements and a deselection of other elements (Bowker 2005, p. 12, Larsson 2006, p. 40). In that way, the archaeological data are constructed through the ways that archaeologists handle, document and archive the material (Bowker 2005, Lucas 2012). As archaeology is a destructive science, at the end of an excavation the

archaeological remains will in most cases be gone. Only the archaeological data will persist, stored in archives and shared among archaeologists. The archaeological process is thus decisive for the creation of the foundation for future archaeological engagements with the site. The aim must therefore be to make as rich a reproduction of the archaeological record as possible.

Broadly speaking, the archaeological process typical for Danish settlement archaeology involves two main operations: excavating and archiving. In the *excavating process*, the material remains are initially identified, investigated and recorded. Most of this process takes place in the field, starting at the moment when the excavation begins. The aim of the excavation is to characterise and record data accordingly so the record can work as a substitute for the actual traces (Lucas 2012, p. 68).

      Archiving, on the other hand, is the process by which the documentation and recordings from the excavation are processed, stored and shared e.g. in central databases. The aim for the archiving process is in principle to reproduce the data from the excavation process, but it often includes its own layer of interpretation when data are transferred from field documentation to the archive (Holst 2005). Today, this process is mainly done in front of the computer. Another aim of the archiving process is to harmonise data to make it comparable and manageable for present and future research (Bowker 2005, p. 9). The archiving process creates the foundation for the excavation report where the results of the excavation are synthesised, but this part of the process is not further discussed here.
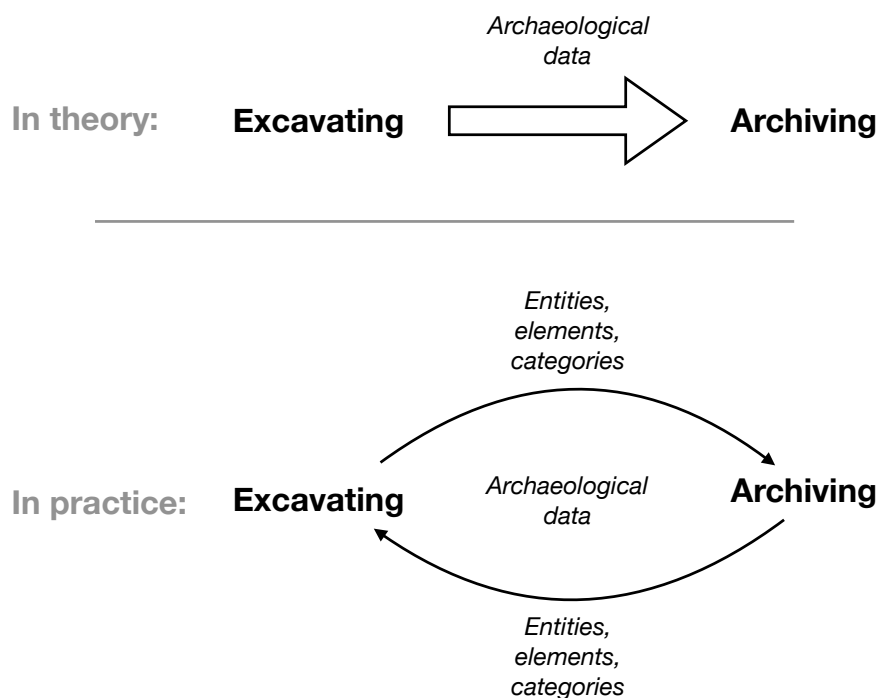
Figure 3. Schematic illustration of the relationship between the two main operations in the archaeological process, excavating and archiving. At the top, the figure illustrates the relationship in theory, where archaeological data are created in a linear process from excavation to archives. At the bottom, the figure illustrates the relationship in practice, where the entities, elements and categories used in excavation define the structure of the archive and vice versa and together create the archaeological data in a dialectical process.

Despite its appearance, the process from excavating to archiving is not necessarily strictly linear. In practice, the relationship between excavation and archiving is fluent and dialectical. The initial recordings from the excavation are affected and shaped by the structure of the archives, in the same way as the archival structure and organisation are affected by the character of the recordings (Figure 3) (Bowker 2005, p. 14, Lucas 2012, p. 232). Even though archiving is usually done after the excavation, the increasing use of digital units with internet connection in the field makes it possible to place field recordings directly into the central archives and databases. The archiving process is increasingly moving 'into the field' and, in that way, merging the excavating and archiving processes.

The following analysis aims at investigating the temporalisation of the house by analysing the practice of the archaeological process characteristic for Danish settlement archaeology. In the analysis, the distinction between the two main operations of the archaeological process, excavating and archiving, will be kept for the sake of the analysis and the clarity of the conclusions. The aim of the analysis is to identify the principles of how the archaeological record is temporalised through the two processes, which will serve as basis for a more general discussion of the principles of temporalisation and the possibilities for a multitemporal approach to the archaeological record.

The analysis will explore the techniques and principles of the excavation and archiving of archaeological data, beginning with an analysis of the existing practices followed by a discussion of the temporal dimensions of the archaeological record. The discussion will focus particularly on the entities used in recording and how time perspectives are represented in the archaeological data. For the sake of a cogent review, it can be necessary to go into details that at first sight might seem banal, but which can turn out to be decisive to the understanding of the temporalisation process. As many practices are taken for granted in settlement archaeology, a fruitful way to create awareness of them is by describing in detail what is actually happening in the process.

To exemplify the archaeological process in the analysis, I will use one particular posthole (A30660) from a longhouse dated to the Late Iron Age to illustrate the process from excavation to the archive. The posthole A30660 was excavated in 2013 at the site Strøby Toftegård (Beck 2014). A30660 is part of longhouse K314 that archaeologically consists of 25 postholes in total, originating from the foundations of the roof supporting construction, the gables and the outer walls (see Figure 2). A30660 is the hole dug for one of the roof-supporting posts. All archaeological features constituting K314 were excavated and documented. There is nothing extraordinary about A30660 or K314, and therefore they serve well as examples of the 'standard' archaeological process.

Excavating the posthole

The excavation process in Denmark is centralised with the majority of excavations (the developer-funded excavations) being administered by the Agency for Culture and Palaces based on common standards, budget models and strategies used in all excavations (Slots- og Kulturstyrelsen 2017). It is therefore meaningful to talk about the archaeological process as rather uniform even if local variations and traditions do exist.

Most settlement excavations are executed as open-area excavations. This excavation technique, introduced by archaeologist C. J. Becker in the 60s at the excavations of the Iron Age village at Grøntoft

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(Becker 1966, 1971), changed the character of archaeology from small and narrow excavation trenches uncovering one house at a time to instead uncover large areas including complete villages and settlement complexes (e.g. Hvass 1983, 1985, Ejstrud and Jensen 2000, Holst 2010). Since then, open-area excavation has become the predominant approach to settlement archaeology in Denmark, as the technique fits well with the fragmented but spatially extensive character of the archaeological record.

In the excavation, each feature is recorded and excavated individually. Postholes are usually box-sectioned. Box-sectioning was introduced into Danish archaeology after the technique had been used at the excavations at Fyrkat in 1950–60 where it proved valuable to investigate not just the depth but also the angle of the original post (Olsen 1968). Furthermore, with the introduction of open-area excavations, the number of archaeological features increased dramatically, which underscored the need for efficient excavation methods. The box-section technique, less time-consuming than the traditional technique of emptying out the archaeological features and recording them, was adopted during the 70s as a standard at all settlement excavations.

Details in the excavation process vary from excavation to excavation according to the character of the archaeology, the strategy of the excavation and traditions at the excavating institution, but the excavation process typically begins when the plough soil is stripped by machine. This process reveals the surface of the subsoil where dug features are visible as darker areas in the light subsoil. In general, the revealed archaeological record is characterised by an uncomplicated stratigraphy where archaeological features of all periods are found in the same surface with only few intercuts (Berggren 2009, p. 23).

The archaeological features (postholes, ditches, pits etc.) are identified and planned. Each identified feature gets a unique ID number. Possible constructions (houses, huts, fences, outbuildings etc.) are identified from the systematic location of features and equally labelled for identification. The construction ID is typically different from the feature ID. In the current example, the posthole is given the feature ID A30660 and is part of the house construction with construction ID K314.

All postholes in a house construction will usually be box-sectioned using a spade and a trowel. The section is normally placed in accordance with any stratigraphical relationships or, if these are not relevant, in accordance with the orientation of the house. Posthole A30660 has a stratigraphical relationship with posthole A30676. Therefore, the section is placed east-west instead of north-south, which would have followed the orientation of K314 (see Figure 2).

The section is first cleaned and photographed. Next, the layers visible in the section are identified and marked out and a drawing of the section with the identified layers is made. Each layer does not get an individual, unique context ID but instead get a number in relation to the drawing (1, 2, 3 etc.). The numbering serves to relate the layers on the drawing to the description of each layer. A30660 has two identifiable layers, layer 2 and 3 (layer 1 is related to A30676) (Figure 4).

The content of each layer is described according to colour, sediment type and inclusions. As the descriptions are made, a preliminary interpretation is typically made of the origin of each layer (post impression, primary fill, traces of the removed post etc.) as well as the role of the post in the house construction (wall post, door post, roof-supporting post etc.). If artefacts are found during the excavation, they are given unique ID numbers referred to as 'x-numbers' (x1, x2, x3 etc.) and referred to the layer and feature they were found in. A30660 is interpreted as a roof-supporting posthole that contains traces of the
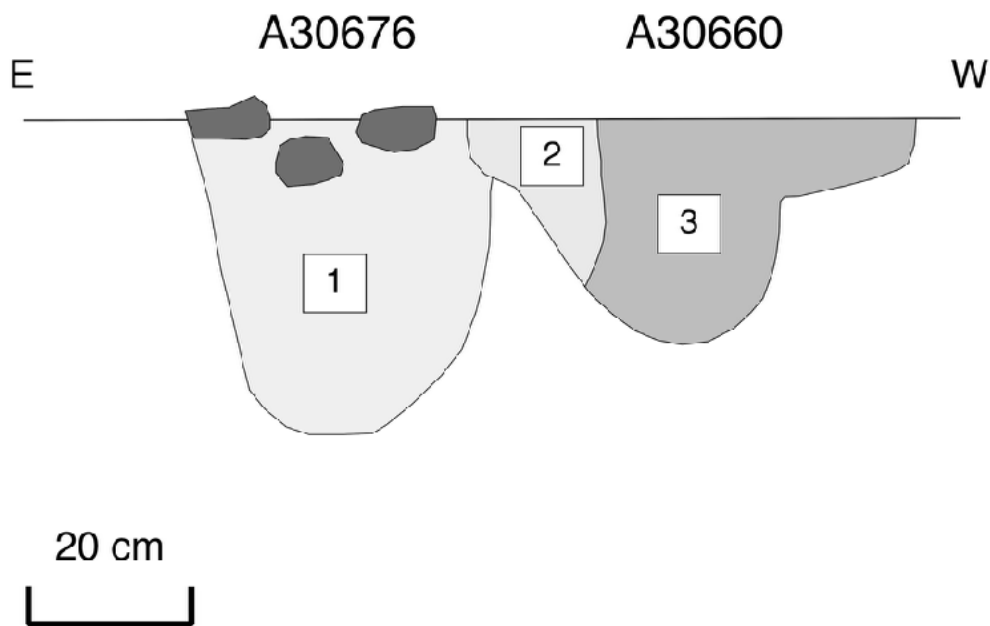
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Figure 4. Section drawing of A30660 (layer 2 and 3) and A30676 (layer 1), seen from the North (drawing: Museum Southeast Denmark)

primary fill from two events: when the post was raised (layer 2) and when it was removed at the demolition of the house, maybe with traces of the original post impression still preserved (layer 3). There are no finds from either of the two layers identified in A30660.

Finally, a soil sample from the youngest layer, preferably the post-impression, in each posthole is taken. The purpose of the soil sample is to acquire organic material suited for C14-dating to date the house. When possible, C14-datings of material from several postholes from the same house are made to support the validity of the result (Villumsen 2013, p. 20, Mikkelsen et al 2016). Dates from typo-chronological interpretations, stratigraphical relations, scientific datings (mainly C14-dating) and dated finds are combined with the aim of getting as precise a date as possible. Typically, the date will be given as being within a certain time period, not as one exact calendar year, even though an exact date remains the ideal. From A30660, a soil sample was taken from layer 3 (the removed post) in which barley, rye and wheat grains were found. The soil sample also contained a large amount of burnt clay, clay slag and charcoal. The grains were not selected for dating because of the risk of contamination due to the intercutting of A30660 with the earlier posthole A30676, but grains from three other postholes in K314 were dated (Figure 5). A30660 is therefore dated on the background of the general date of longhouse K314, not in it self. Furthermore, A30660 is intercutting the post A30676. A30676 is also a roof-supporting post in K314, and A30660 must be a repair of the original roof-supporting post. A30660 belongs in that sense to a later phase of K314. K314 has been dated scientifically (670 - 885 AD), typologically (Late Iron Age) and stratigraphically (later or earlier than a similar longhouse in the same location [K319]). The dating confirms the house as part of a settlement unit within the large Late Iron Age and Viking Age settlement at Strøby Toftegård (Tornbjerg 1998, Beck in press).
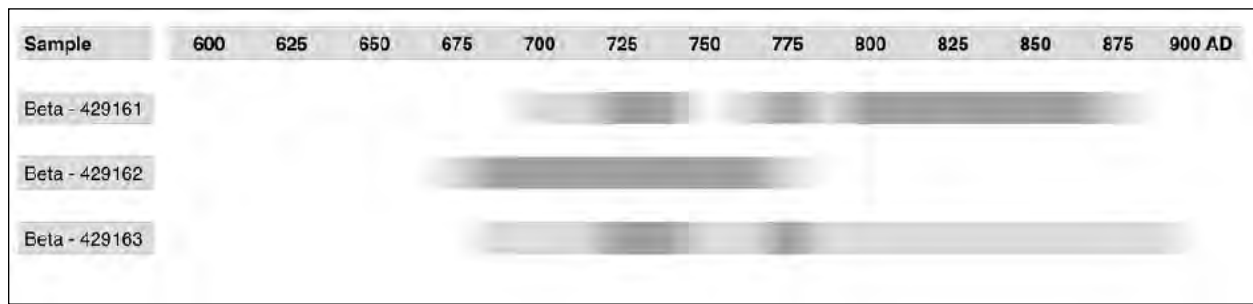
Sample	600	625	650	675	700	725	750	775	800	825	850	875	900 AD
Beta - 429161													
Beta - 429162													
Beta - 429163													

Figure 5. C14-datings of samples from K314.

Beta - 429161 (P168, A30676): 690-750, 760-885 AD (95%) / 725-740, 770-780, 790-870 AD (68%);

Beta - 429162 (P163, A30665): 670 - 775 AD (95%) / 680 - 770 AD (68%);

Beta - 429163 (P170, A30687): 680 - 880 AD (95%) / 715 - 745, 765 - 775 (68%)

Darker areas = 68% probability; lighter areas = 95 % probability

The excavation process defines the entities in the recording of the archaeological record in both theoretical and practical contexts. According to the excavation tradition in Danish settlement archaeology, there are four separate entities in the archaeological record – finds, layers, features and constructions – but only finds, features and constructions are given individual ID numbers. Layers are not recorded as unique entities, and other stratigraphical observations as interfaces and cuts are not numbered or recorded at all (Felding and Stott 2013, p. 33). The organisation of the recording system implies the existence of a hierarchy among the entities recorded, where the stratigraphical layer is subordinated to other entities and seen as 1) a container of finds and 2) a property of the feature rather than as an archaeological phenomenon in itself (Larsson 2006, p. 36, Berggren 2009, p. 24, McAnany and Hodder 2009, p. 5, Lucas 2012, p. 79). Interfaces and cuts are at best seen as properties of the layer but typically are not seen at all.

The hierarchy among entities has implications for the temporalisation of the archaeological house. When layers and other stratigraphical entities are not recognised as separate entities, the temporality inherent in the sequence of the events they represent is easily downplayed and overlooked in the temporalisation of the house. The chronological date of the posthole becomes the most obvious, and often the only, way to record the temporal properties of the house.

As described, the posthole is typically dated on the basis of artefacts, organic material and stratigraphical relations. But what is actually dated in the process? Artefacts and organic material originate from layers within the posthole rather than from the posthole itself, even when the posthole only contains one layer. In the same way, stratigraphical relations are defined by the intercut rather than the posthole as such. Both layers and cuts are directly related to events in the history of the posthole, and in principle, when taking the usual source-critical issues of dating into account, the date of the finds or stratigraphical relations will therefore date the event rather than the posthole per se. In practice though, chronological dates of finds or relations are more often referred to as general date for the posthole and the house to specific events and actions in the history of the house.

In conclusion, I will claim that the conventional use of dates from specific stratigraphical entities in the posthole as general datings of the house is a direct consequence of perceiving layers, interfaces

and cuts as properties of the posthole rather than as individual archaeological phenomena. The temporalisation of the house is in that way influenced directly by the practice of recording and clearly mirrors a perception and recording of the archaeological house as an object rather than as a process. When the excavation process does not support the recording of events and processes, the chronological date becomes the dominating mode of temporalising the archaeological record.

Archiving the posthole

In the archiving process, the data produced in the excavation process are processed and archived, so it can be used as basis for the excavation report and in future research. The main database used in Danish archaeology for archiving archaeological data is Museernes Udgravningsdata (MUD), which is used by 25 out of 27 archeological institutions in Denmark and serves in that way as an image of the standards in Danish settlement archaeology.

MUD has been in use since 2007 (Larsen 2007). Since it was launched, only minor corrections following specific wishes from the institutions have been made (current version: 1.0.0.121). The aim of the database is to provide each museum with safe storage of excavation data as well as to improve the efficiency and homogeneity of the archaeological data (Larsen 2007, p. 28, MUD 2014, p. 7f). Each museum only has access to data from their own excavations.

The structure of the database is site-based, and comparisons between excavation data across different sites cannot be made directly in the system. Connected to each site, every excavation campaign has a set of data lists. Records of the typical open-area excavation include tables of features, finds, photos and drawings, respectively, which are used to archive the excavation data. In the context of this analysis, I will limit my analysis to the feature table and in particular how temporal properties are recorded in this table.

Each numbered archaeological feature has a unique entry in the feature table. The attributes in the description are listed in table 1. The fields *Campaign-ID*, *Feature-ID*, *Main type of feature* and *Start date* are mandatory and these fields constitute the absolute minimum data connected to each feature. The fields *Subtype of feature*, *End date*, *Phase*, *Description* and relations within the database are optional. All fields are in general used for what they are prescribed for, but as the data type of some of the fields are based on free text, there is a possibility for them to be used in alternative ways, if needed.

The fields Start date, End date, Phase and Description are particularly relevant to the temporalisation of the house. The starting date has to be chosen from a predefined list of culture-historical periods (e.g. Prehistory, Iron Age, Germanic Iron Age, Late Germanic Iron Age), with a dating range stretching from Early Palaeolithic to Present. If the material cannot be dated to any of the predefined periods, then Undated can be chosen as starting date. When archived in the database, the feature is thereby automatically given a temporal property, which places the feature in relation to the conventional culture-historical periods.

All additional descriptions of the temporal properties of the posthole are optional. The End date is mainly used when the culture-historical date stretches over more than one period but is otherwise organised exactly as the Start date and incorporates the same predefined periods. The Phase field can be used to give a feature a more precise date in relation to the internal temporality of the site (MUD 2014, p.

Field	Data type
Campaign ID*	Date
Feature ID*	Unique number
Main type of feature*	Predefined types
Subtype of feature	Free text
Start date*	Predefined periods
End date	Predefined periods
Phase	Free text
Description	Free text
Related Features	Database relation
Related finds	Database relation
Related photos	Database relation
Related drawings	Database relation

Table 1. Fields included in the Feature table in MUD and their data type. The fields marked by a * are mandatory, the rest is optional (translation by author).

44), but I have rarely seen this field in use even if it might have been relevant. The Description field is open for a more specific description of temporal properties, including stratigraphical observations and the biography of the posthole (e.g. primary post impression, secondary cuts, post being pulled up etc.). The Description field is based on free text, but most museums have defined their own minimum standards of what should be recorded here and how it should be structured.

Posthole A30660 is registered in the database as belonging to excavation campaign '17-04-2013', and '30660' is the unique feature ID of the posthole. A30660 is described as a 'posthole' (main type) and 'roof-supporting post' (subtype). Furthermore, it is given a starting date, 'Late Germanic Iron Age' and an end date, 'Early Viking Age' (based on the general dating of the longhouse). The 'Phase' field is not used. In the Description field, A30660 is described as follows:

> Depth: 27; Diameter: 54; Sides: uneven; Bottom: rounded; Fill: 2: dark black-brown sandy clay
> with inclusions of charcoal and subsoil (original cut); 3: Light brown-grey clayey sand, small
> inclusion of brown-grey clayey sand, a few small inclusions of red burnt clay (backfilled trace of
> post), posthole is stratigraphically later than A30676 (also part of K314); Interpretation: roof
> supporting post; Excavation method: boxed, soil sample taken (P161) (author's translation) (Figure
> 6).

In the archiving process, the archaeological data are standardised and fitted into the existing database structure. Even though based on the recordings made in the excavation process (e.g. the entities), it is the
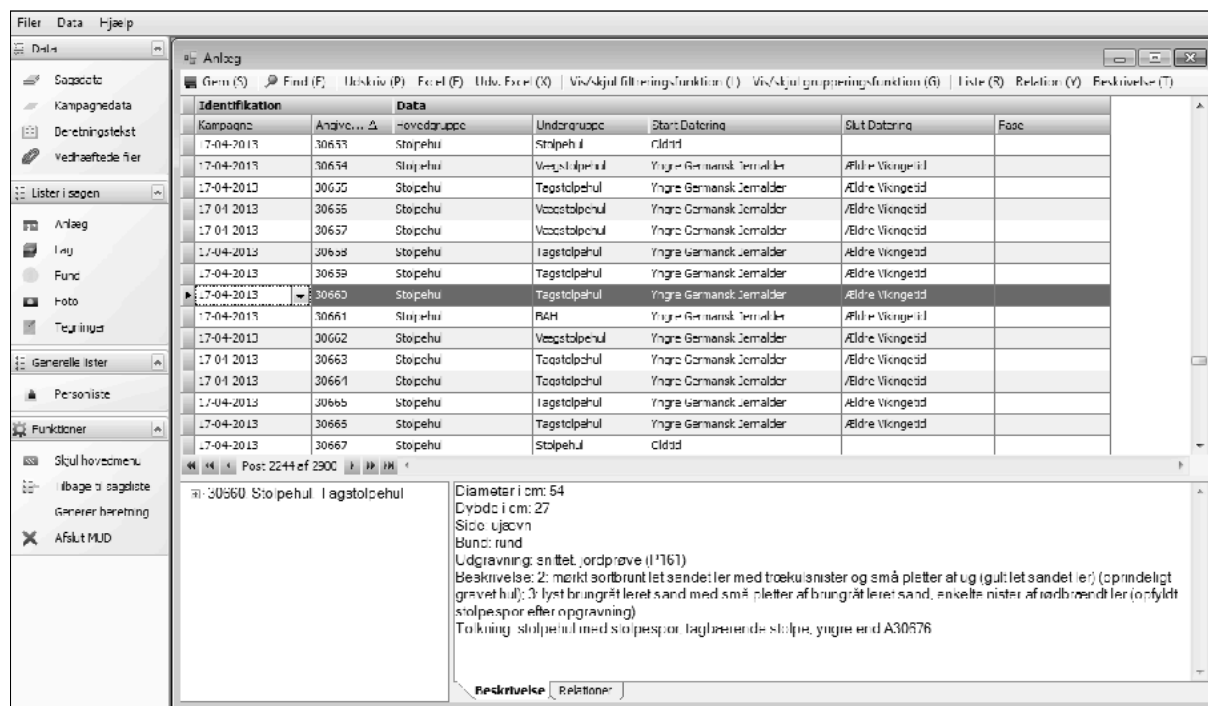
Figure 6. Screenshot from the Feature table in MUD and the recording of posthole A30660.

structure of the database that to a high degree defines the final temporalisation of the archaeological data.

In MUD, the temporal property of the posthole recorded is first and foremost a date in terms of conventional culture-historical period. A chronological date is mandatory for all posts in the database (even if the date is Undated). All other temporal qualities, such as scientific datings, artefact datings, stratigraphy, phasing, biographical observations etc., can also be recorded in the database but are optional and must be described in free text in the Phase or Description fields. As a consequence, alternative temporal properties to the broad chronological date as well as scientific, and often more precise datings, are subordinated the conventional culture-historical periods, not vice-versa, which influences the temporalisation of the house.

Some archaeologists might argue that they are already including events as they interpret the posthole and the origin of the individual layer (primary fill, post impression, exchange of post etc.), but it is a fact that such interpretations have not had any major impact on how houses are interpreted within settlement archaeology in Denmark. As long as interfaces are not recorded on the same hierarchical level as layers, and as long as the recording of events is not formalised as part of the archaeological process, it is still up to the individual archaeologist whether to engage with the temporalities of the archaeological record or not. The general focus in this sense is still on the object (the posthole, the house) rather than the process and the archaeological events (building, using, demolishing).

Furthermore, there is no formal recording in the existing structure of the database of the dating methods used in relation to the single culture-historical period recorded as Start date (and End date). This is the case even though the dating process often combines different (and sometimes contrary) datings from typology, dated finds, stratigraphy and scientific datings and thus ought to be the conclusion of a longer argument. It can be argued that the argument can be described in the Description field as there is

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no formal limits of what can be recorded here, but in my time as a field archaeologist I have never seen the dating method recorded.

All in all, the data structure affects the archiving process and thereby also the temporalisation of the archaeological house through the recording of temporal properties of the posthole. Even though free text fields open up the possibility of using MUD in alternative ways, my analysis shows that the use of the database for archiving is often rather conservative. The difference in how temporal properties are recorded defines a hierarchical relationship between different forms of temporalisations, where some appear as primary and other as secondary. The formal and mandatory role the conventional culture-historical dating has in the database makes the chronological dating the primary temporalisation of the archaeological house, whereas other temporal properties appear secondary and for the most part hidden in the free text of the Phase or Description fields.

Discussion

The analysis of the archaeological process shows how the typical archaeological process within Danish settlement archaeology favours a temporalisation of the archaeological data based on the chronological date, in many cases represented by the conventional culture-historical periods. Since the first chronological theories were presented, the purpose of developing the chronological system has been to develop a framework for organising and systematising the past to 'create order in chaos' (Thomas 2004, p. 61ff, Witmore 2013, p. 130). The same logic directs the temporalisation of archaeological settlement data, where the temporalisation is aimed at dating the house to place it in the right culture-historical context rather than untangling the single events in the house.

But if the temporalisation of the house through the archaeological process consists exclusively of fitting it into a chronological framework and other temporalities are downplayed, there is a severe risk of not thinking about the house - and in a wider perspective the archaeological record - as a temporal phenomena in other aspects than its age (Lucas 2005, p. 40, Olivier 2011, p. 57). In the end, a simplified perception of the house is created, as the temporality of the house is reduced to 1) being there and 2) disappearing at a certain moment in time. The dynamics in between are not described or engaged with, with the result that the house is presented as a static phenomenon (Sørensen 2015, p. 92, van Oyen 2015, p. 74, Bille and Sørensen 2016, p. 6). The house is, with the words of Adams and Adams, reduced to a 'dating fossil' (Adams and Adams 1991, p. 163). It can help to place a site within a certain chronology but is not something that contains a dynamic life history of its own that can contribute to the general interpretation of the site.

For a richer understanding of the house as an archaeological and cultural phenomenon, I will follow Lucas (2005, p. 25) and argue that a broader and more inclusive perspective that actively engage with the temporality of the archaeological record is needed. Instead of seeing the stratigraphy as a property of the posthole, the posthole should be seen as an *assemblage* made up of the events and materials that created the stratigraphy.

An assemblage is a well-known term within archaeology, where it traditionally designates a collection of similar artefacts or a collection of contemporary artefacts that form a specific context, e.g.

the equipment of a burial (Lucas 2012, p. 193ff, Hamilakis & Jones 2017, p. 77). But the concept of the assemblage has recently been reintroduced with the presentation of assemblage theory to archaeology (e.g. Lucas 2012, Bille and Sørensen 2016, Hamilakis & Jones 2017). Assemblage theory has its roots in the works of the philosophers Gilles Deleuze and Félix Guattari but has since been developed further into an analytical tool by Manuel DeLanda (Deleuze and Guattari 2005, DeLanda 2006, 2016). In its new meaning, an assemblage still designates a collection, but, instead of a homogeneous group of artefacts, it is a heterogeneous collection consisting of both tangible and intangible elements as well as the relations between the elements. The assemblage of the posthole will accordingly, among other elements, include the soil, the backfill, the post, the tools, the building, the people who dug the hole as well as the actions around and the intentions for the establishment of the posthole. Essentially, though, the assemblage exists only as a result of the specific situation and composition of the assemblage and changes over time, as the elements and their internal relations change.

Use of the concept of the assemblage as an analytical tool changes the perspective from a conventional top-down to a bottom-up perspective (DeLanda 2006, p. 32). Where a top-down perspective is represented e.g. by the use of the category 'posthole', which imposes a specific concept onto the archaeological record even before it is excavated, a bottom-up perspective is represented by a focus on the processes that produce the archaeological record building the perception of the archaeological record up from the processes and materials present. Or in other word, the posthole is only a phenomenon recognised by the archaeologist. To the people creating the posthole it was the events and actions in relation to the posthole that defined its existence. Thinking of the posthole as an assemblage help us as archaeologists to get beyond the term posthole and creates explicit space for perceiving the posthole simultaneously as an object and a process in connection with its components (Bille and Sørensen 2016, p. 7, Hamilakis 2017, p. 173, Hamilakis & Jones 2017, p. 82). This produces an immensely fruitful perspective in relation to the understanding of the house because, as the anthropologist Tim Ingold (2010, p. 161f) rightly has pointed out, building is not only an object, it is also a verb; it is something you do.

Therefore, returning to the posthole A30660, how would it contribute to the understanding of the longhouse K314, if A30660 was looked at as an assemblage? First of all, the purpose of digging the posthole is clear. The post raised in A30660 was an exchange of the original roof-supporting post (A30676) in the western end of the house. The other roof-supporting post in pair with A30676 was also exchanged and it seems obvious that the exchange happened at the same occasion as part of a larger repair and maintenance of the house. The digging of the hole and raising the post was probably a relatively quick process as it must be assumed that it was done while the rest of the house was still standing. It was probably members of the household who were involved in the digging of A30660 and the raising of the new post using tools that were part of the inventory of the house.

The establishment of A30660 tells us something about the longhouse K314. Somebody cared for the house and had a wish to prolong its lifetime either because it was a dwelling house and somebody's home or it served a central function within the farm that was important to maintain. The wider archaeological record cannot say much about the more specific use of the house, but the fact that the

house has an earlier or following phase of a similar longhouse build in the same site indicate that it could have been a dwelling, a place with a longer history and a meaning for the people living there.

The inclusions of burnt clay, clay slag and charcoal in layer 3 of A30660 (as well as in some of the other postholes) indicate that the house burnt down in the end, either as an accident or as a deliberate act. Burning down houses which are abandoned is a well-known way to clear a house site both physically as well as mentally and could have been part of rituals used in relation with the abandonment of the house (Tringham 2000). The shape of the secondary cut in the posthole indicates further that the remains of the house were removed deliberately after the fire which support the interpretation of the burning down of the house as a deliberate act. The house had to be completely removed. Such an act must have involved at least the household of the former house but could very well also have involved other households in the settlement participating in a common ritual marking the change.

Thinking of the posthole as an assemblage leads to specific questions that even though they cannot always be answered they cause important reflections in relation to the understanding of the house. The result is, as I see it, a richer idea of what the longhouse K314 once was based specifically on the archaeological record present today. It has even given a little impression of the inhabitants of the house that would not have emerged from a single date. If the rest of the postholes were looked at in the same way and included in the interpretation it is possible that even more details could be given.

Assemblage theory makes the temporality of the posthole explicit. It gives the posthole an inherent dynamic, rhythm and duration at different scales (Lucas 2005, p. 41, Olivier 2001, p. 66, 2011, p. 166, Hamilakis 2017, p. 173ff, Hamilakis & Jones 2017, p. 82). A multitemporal approach to the archaeological record gives renewed possibilities of thinking in alternative temporalities within already existing approaches as chaîne opératoires, biographies or social memories in relation to the house (e.g. Gerritsen 1999, Tringham 2000, Boivin 2008, Stenholm 2012, McFadyen 2013, Bille and Sørensen 2016, Eriksen 2016). Each action e.g. digging the hole, preparing the post etc., must be seen as meaningful actions in relation to the history of the house (Pauketat and Alt 2005, p. 223). Ideally, these are not interpretations that should be added after a basic recording of the posthole but thoughts that should be reflected upon during the excavation and recording of the feature. The aim must therefore be to work towards developing archaeological practices that better reflect the multitemporality of the archaeological record than is the case today (Bailey and Simpkin 2015, p. 188). In a Danish context, this could be accomplished for instance through an adaption of some of the elements of single-context excavation e.g. by the simple operation of giving layers and interfaces individual numbers and descriptions so they are acknowledged on the same level as other entities (Harris 1989). In other traditions and other kind of archaeology, other adaptions might be more relevant.

Conclusions

In the article, I have analysed the archaeological process typically used by archaeologists working with Danish settlement archaeology and argued that there is a problem with the temporalisation of the

archaeological record. The problem is not with dating or chronology per se, but with the predominant position of the chronological date, which leaves little space for alternative temporalities.

Even if only a short critical review of how the chronological date is dominating the archaeological process can be given here, what has been learned from the analysis and discussion is that while a perception of the archaeological record as objects is dominating the current practice, the archaeological record is more usefully understood as fundamentally multitemporal (Lucas 2005, p. 43). The current archaeological process within settlement archaeology is in this way reducing and simplifying the temporality of the house by focusing one-sidedly on the chronological date and ignoring other temporalities. Instead, a perception of the archaeological record as assemblages gives the possibility of including perspectives of the archaeological record both as material objects as well as processes which in the end can contribute with a more complex and richer understanding of the house as an archaeological and cultural phenomenon.

The debate about temporalities of the archaeological house should be viewed not only as a theoretical debate but also to a great extent as a question of practices that reaches deep into the foundations of settlement archaeology. Archaeological data and archaeological practice can hardly be separated, and the archaeological data created will always constitute the point of departure for the archaeological research. The detailed review of the practices used in Danish settlement archaeology can in that way serve as an example of the close connection between theory and practice and hopefully inspire to similar review in other traditions.

The aim of the paper has not been to argue that archaeologists should replace the chronology with a new temporal system but rather that we need to go beyond the chronology and complement it with more complex temporalities. The article is therefore not a critique of chronology as a framework or of archaeological work done previously, but a critique of the lack of reflection over the dominant position the chronology has in and because of existing archaeological practice. More than anything else, the article should be seen as a call for a more extensive debate of the basic methods and practices and their relevance to the archaeological data produced in relation to the questions asked. In the end, if the archaeological data do not express a complex temporality, neither will the questions investigated.

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Appendix 2

Revisiting the Trelleborg house. A discussion of house types and assemblages.

(Article 2)

Revisiting the Trelleborg house. A discussion of house types and assemblages.

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Abstract

The use of house typologies has been a central part of settlement archaeology in Southern Scandinavia since the earliest finds of longhouses but the methods, use and concepts of the approach is rarely - if ever - discussed within the field. The article follows a recent call by Marie Louise Stig Sørensen for a renewed engagement with typologies by investigating the use of the specific house type of the Trelleborg house. The investigation demonstrates when and how the house type is used and the effects on the archaeological record. In practice, references to the Trelleborg house as a typological concept are often unreflective and different 'types of types' easily get mixed up causing a limitation of possibilities of social interpretations of the longhouses. An alternative approach to classification of the archaeological record in the form of assemblage theory is explored and discussed in relation to more complex inquires. It is suggested that assemblage theory is a fruitful way to rethink categorisation in archaeology that provides possibilities for a more complex understanding and interpretation of the development and meaning of the longhouse, and in this case more specifically of the Trelleborg house.

Keywords: *Trelleborg house; Viking Age; architecture; house type; assemblage theory*

The earliest traces of prehistoric longhouses in Denmark were identified at excavations at Kraghede in 1906 (Müller 1912, Hatt 1928). Since then, investigations of agrarian settlements and their longhouses have been a central research field in Danish archaeology. Due to an increased excavation activity within the last 20-30 years, the number of investigated longhouses are extensive and represent all periods from the earliest Neolithic into the historical periods. In order to manage and organise the comprehensive material and the similarities and variation it represents house typologies have been developed that describe the architectural development from the Neolithic to the Medieval period (e.g. Gräslund 1987, Hansen et al 1991, Boye 1992, Björhem & Säfvestad 1993, Rasmussen 1994, Skov 1994, Jørgensen & Eriksen 1995, Nielsen 1999, Boye & Fonnesbech 1999, Zimmermann 2001, Artursson 2005). New finds of longhouses are more or less automatically referred to the existing typologies during or after ended excavation. As such, house types have played and still play a central role in settlement archaeology in South Scandinavia (Martens 2005). Nonetheless, there is rarely a discussion of the applied methods, the

concept of house types or its consequences for the perception of the archaeological record within the field.

In a recent article, Marie Louise Stig Sørensen calls for a renewed engagement with types and typologies in archaeology (Sørensen 2015). Her argument is that even though types and typologies were lively debated during the 20th century, within the last 20-30 years the theoretical debate on the approach has silenced, but the concepts have continued to be used as previously. Today, the concept of the type has become such an integrated part of everyday archaeology that it is taken for granted and it is no longer discussed when it is used, how it is used and the effects it has on the archaeological record. The early typologies were created to establish the culture-historical chronologies but only gave limited insight into the connections and interactions between humans and things (Sørensen 2015, p. 91). The lack of discussion and with that development of the approach has not followed the development in research questions and is in that sense limiting for the understanding and interpretations of the phenomenons they describe. Typology has '*lost its power as a tool to think with*' (Sørensen 2015, p. 85). This situation is easily recognised within South Scandinavian settlement archaeology, where the approach has come to be taken for granted as a 'natural first step' in the investigation of houses and often becomes the goal instead of a mean to get a closer understanding of the prehistoric longhouses.

In this article, I will attend to the essential call of Sørensen and investigate what happens in the process of typologising within the Danish tradition of settlement archaeology. For the sake of the investigation, I will use the Viking Age Trelleborg house as a specific case.

The first Trelleborg houses were identified in the excavations of the Viking Age ringfort Trelleborg, where the excavated longhouses showed a considerable uniformity in their architecture. The architecture were soon formulated as a specific house type typical for the last bit of prehistory. Since then, the house type has been used actively when organising and processing as well as interpreting Viking Age settlements gaining an almost iconic position representing a specific chronological, architectural and interpretational framework (e.g. Schultz 1942, Olsen 1965, Schmidt 1977, Skov 1994, Wranning 1999, Ethelberg 2003, Mikkelsen 2006, Hansen 2015).

The aim of the article is to open up the discussion of the use of house typologies in order to call for awareness of the typological process and its effects on the understanding of the longhouse. My aim is not to question the need for classification in archaeology as such but to investigate how typology is used in practice today and discuss if it always the best way to work with archaeological houses. For comparison an alternative approach to classification of the longhouses inspired by DeLanda's assemblage theory (DeLanda 2006, 2016) will be explored.

In the following, I will begin by characterising the concept of the house type in relation to the Trelleborg house and then investigate actual cases where the house type has been put into use. The use will be characterised and discussed in order to identify potential problems in the present use. An alternative approach inspired from assemblage theory will be presented in relation to the Trelleborg house. It will be discussed in what ways the notion of the assemblage can work as an alternative to typological classification by giving a more complex, but also richer insight into the processes of development and meanings of the longhouse architecture.

The concept of the type

In elemental terms, a type, including a house type, is defined as a category of things grouped together on the basis of specific similarities (Krieger 1944, Spaulding 1953, Ford 1954, Steward 1954, Rouse 1960, Hill & Evans 1972, Adams & Adams 1991). In South Scandinavian archaeology, house types has primarily been defined on the basis of morphology, more specifically the presence of certain constructional features and specific dimensions of the house (e.g. Herschend 1989, Boye 1992, Artursson 2005). The methods used in the process of identifying and defining house types are rarely outlined, but the general impression is that the process is based partly on intuitive description, partly on quantitative measurements of the house. Statistical methods as seriation and correspondence analysis have also been applied to a limited degree with the aim of more strict and consistent definitions of house types (e.g. Madsen 1991, Holst 2004, Laursen & Holst 2017). When types are used successfully in archaeology, the type must be a well-defined and coherent entity. Therefore, the type is often formulated as an ideal type to which the actual archaeological record is related to (Normark 2010, p. 132-133, Fowler 2017, p. 98). For new houses to be identified as a certain type, they need to have as many architectural features in common with the defined house type as possible.

Generally, types are used to classify large quantities of data in order to describe and organise it in a systematic and consistent way (Spaulding 1953, Adams & Adams 1991, p. 47). The order of the typology is often chronological but can also be based on function, social context, geography or other criteria depending on the purpose of the investigation. The purpose is in that way dictating what 'type of type' a given typology is constituting (Steward 1954, Rouse 1960, Hill & Evans 1972, Adams & Adams 1991).

Chronological types will focus on dateable and time sensitive features and will mostly be rather strictly defined, whereas conceptual types based on function or social context will focus on other features and might accept greater morphological variation within the type than a chronological type. It is this fundamental difference between types Irving Rouse emphasises when making a distinction between 'conceptual' and 'productional modes' compared to 'historical' and 'descriptive taxonomies' (Rouse 1960) and Adams & Adams are discussing when comparing Phenetic, Stylistic, Chronological/Spatial, Functional, Emic and 'Cultural' kinds of classifications (Adams & Adams 1991, p. 216-217). Even if archaeologists have often tried to formulate 'all-purpose types' (Hill & Evans 1972, p.236), the principles shaping the different kind of types are essentially different, and it is problematic to use types made for one specific purpose in investigations with a different focus (Adams & Adams 1991, p. 165). Unfortunately, the purpose of house typologies is rarely explicit, and mixing of types made for different purposes does happen.

House types in South Scandinavian settlement archaeology are in most cases defined on the basis of the house as a coherent unit, so the house type represents a specific architectural whole at a particular time and place (e.g. Jørgensen & Eriksen 1995, Artursson 2005). This architectural whole is often perceived as an expression of past meaning that is build according to a specific template existing prior to the building of the house directing the design of the actual house (Mímisson 2016, p. 208).

The Trelleborg house as a type

When the ringfort at Trelleborg, eastern Zealand, Denmark was excavated 1934-1942, it was the first time longhouses from the Viking Age were excavated in larger numbers in Southern Scandinavia (Nørlund 1948). In total, 31 longhouses inside and outside the ringfort were investigated. In the following decades, excavations were made at the ringforts at Aggersborg (1945-1952) (Roesdahl et al 2014) and Fyrkat (1950-1963) (Olsen & Schmidt 1977), where longhouses with similar architecture were found.

With their characteristic architecture, the longhouses at the ringforts were markedly different from the longhouses already known from the Early Iron Age (e.g. Hatt 1928, 1938, Becker 1971). Except from minor differences in size and wall construction, the architecture of the excavated longhouses was so similar that it was assumed that they were build according to the same architectural concept and by the same builder (Figure 1) (Schmidt 1977, p. 115). At the same time, the houses could be dated within a narrow slot of time, based on the dendrochronological datings of the establishment of Trelleborg and Fyrkat to the 980s (Bonde & Christensen 1982). The characteristic, easy-recognisable architecture combined with the uniformity of the architecture and the narrow dating of the longhouses made the Trelleborg house the 'dream scenario' of a house type.

Based on the distinct morphological features of the original longhouses excavated at the ringforts, the *Trelleborg house* is defined from the outside by the curved walls and straight gables (Olsen 1965, Jensen 1987, Wranning 1999). Along the longwalls and in some cases also the gables, buttresses are leaning towards the house, maybe as a part of the supporting construction (Christensen 1973, Schmidt 1977, Waterbolk 1994, Komber & Draiby 1999).

Inside the Trelleborg house, four pairs of roof-supporting posts typically divide the house into three rooms, two smaller gable rooms and a large central hall, forming a strict symmetrical organization of the house (Olsen 1965, Sindbæk & Roesdahl 2014, p. 242). When measured, the original longhouses at the ringforts had a division of the houses into fifths where each gable room measures 1/5 and the hall 3/5 of the total length of the house (Schmidt 1977, p. 155-156, Sindbæk & Roesdahl 2014, p. 220).

Varied definitions of the Trelleborg house has been presented in the literature, not necessarily emphasising all the described elements (e.g. Skov 1994, Wranning 1999, Artursson 2005, Sindbæk & Roesdahl 2014). The specific architectural elements chosen to define the type has varied depending on what function the Trelleborg type should serve. If the typology has been designed to answer questions related to the chronological development of the architecture, e.g. the curved walls and the buttresses are seen as primary defining elements, whereas the internal layout can vary (e.g. Skov 1994). If the typology on the other hand has been aimed at identifying the social context of the Trelleborg house, it e.g. is the hall room and the symmetrical layout of the longhouse that are perceived as primary and the other architectural elements are given less weight (e.g. Sindbæk & Roesdahl 2014). The specific purpose of the definition is rarely explicit and must be induced from the definitions and organisation of the typology if possible.

Since the excavation of the ringforts, the Trelleborg house has been used as a typological concept in the interpretation of an increasing number of excavated settlements outside the ringforts (e.g. Hvass 1980, Nielsen 1980, Schmidt 1994, Jørgensen & Eriksen 1995, Sørensen 2011, Hansen 2015). As such, over the

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years, the Trelleborg house has been consolidated as a well-known house type and is today used both in excavation reports as well as in academic writing as a common used reference to a certain architectural and interpretational concept.
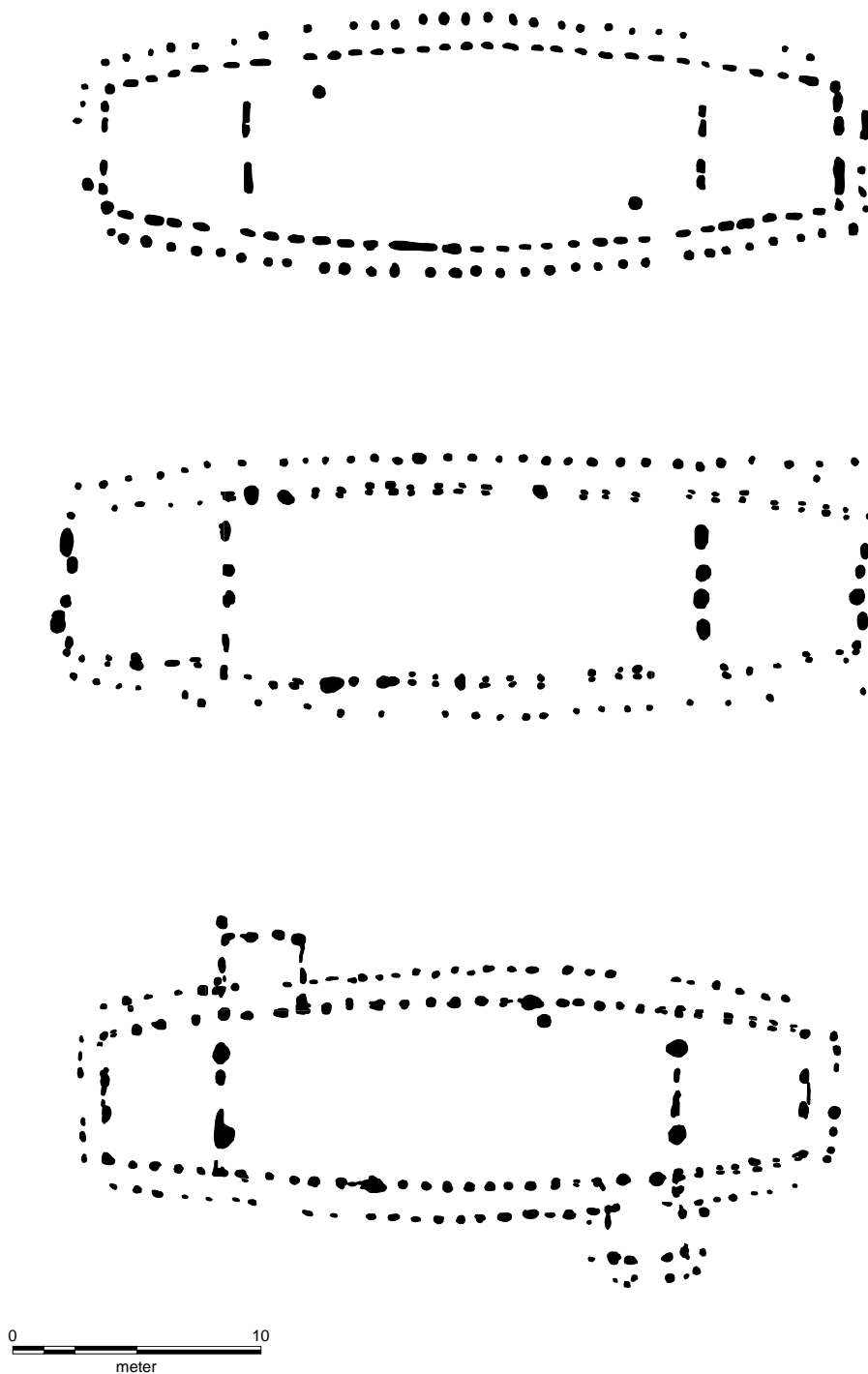

Figure 1. Longhouses from the ringforts Trelleborg (top), Aggersborg (in the middle) and Fyrkat (bottom). Examples of the original 'Trelleborg house' (redrawn from Nørlund 1948, Olsen & Schmidt 1977, Roesdahl et al 2014).

The Trelleborg house in the archaeological record

The following investigation is aimed at getting a general impression of where and how the Trelleborg house is used as a typological concept in the everyday archaeology. The aim is not to discuss whether the type has been used 'correctly' but to study the consequences of the way it is used in relation to the actual appearance of the archaeological record.

The investigation is based on a cursory search in the two national databases *Fund&Fortidsminder* (Denmark) and *Fornsök* (Sweden) giving access to excavation reports (mainly newer digital excavation reports) complemented with examples from '*Arkæologiske Udgravninger i Danmark'* (1984-2005) and relevant literature. The investigated examples have been selected to give as broad and varied insight as possible including both excavation reports and published literature. The investigation does on the other hand not claim to present an exhaustive list of houses being referred to as Trelleborg houses. If a complete study of houses referred to as Trelleborg houses was to be made, a more systematic and thorough search would be needed.

The preliminary investigation demonstrates that the house type, the Trelleborg house, is used eagerly in the interpretations of agrarian settlements outside the ringforts (Figure 2). When referring longhouses to the Trelleborg house, it is in direct relation to the morphological features of the Trelleborg house. To get an overview of the character of the longhouses referred to as Trelleborg houses, the presentation is focused on five central architectural elements of the Trelleborg house: the dimensions of the layout, the curved walls, the buttresses, the hall room and the symmetry of the longhouse.

Figure 2. Map of sites mentioned in the text. White dots mark the ringforts, black dots mark the agrarian settlements.

The Trelleborg house type has been used in relation with longhouses that fit more or less exactly with the strict morphological definition of the Trelleborg house. The longhouses all have curved walls, buttresses and a central hall room and when measured, the gable rooms are 1/5 and the hall room 3/5 of the house length as the original houses at the ringforts. A few examples are Billum BMX (K11), Bytoften (house x), Holbæk Lergrav (A1001), Nørre Felding (house south), Omgård (AV), Østergård (CXIX), Rynkeby (K53), Bøgelund (house 13) (Figure 3a), Lilla Köpinge (house 1) and Huseby (house 6) (Nielsen 1980, Hertz 1987, Olesen 1998, Andersson 2000, Tornbjerg 2002, Nylén & Söderberg 2009, Sørensen 2011, Gjerlevsen & Andresen 2014, Poulsen 2014, Hansen 2015). All houses are dated typologically to the 10th-11th century, in some cases combined with finds and c14-datings (in the cases of Rynkeby and Huseby) that confirm the date.

Some longhouses referred to as Trelleborg houses have the architectural features of the Trelleborg house but are differently dimensioned. At Jelling, excavations revealed three longhouses in connection with the royal monumental area around Jelling church. They all have curved walls, buttresses and a division into three rooms with a central hall, but the internal layout of the houses follows a 1/4-division instead of 1/5-division (Figure 3b) (Holst et al 2013, p. 485). A palisade surrounding the area is dated to 968 AD, and the houses must have been build shortly after (Jessen 2015). Another example has been excavated recently at Ågård, Bjæverskov, where the excavations revealed a house referred to as a Trelleborg house (Figure 3c) (Kristensen 2015, Schultz 2017). The house is well preserved with stone-filled curved wall ditches, buttresses along each longwall and a division into a central hall room and two gable rooms. The division between the hall and the gable rooms is between 1/3 and 1/4 of the total length and in that way quite differently dimensioned than the longhouses at the ringforts. Also the relationship between length and width of the house differ considerably from the original Trelleborg houses. The house at Ågård has been c14-dated to 675-900 AD.

Even if curved walls has been one of the most persistent architectural features defined as characterising the Trelleborg house, longhouses with buttresses and a division of the house into three rooms with a central hall but with straight or only slightly curved walls have also been referred to as Trelleborg houses. Some examples are Agerhøj (K111), Vorbasse (house CVI) (Figure 4a), Åparken (house) and Tygelsjö (house 1) (Hvass 1980, Kling 1988, Eriksen et al 2009, Jessen & Egeberg 2016). The longhouses at Vorbasse, Åparken and Tyglesjö have more or less been dimensioned according to a division into 1/5, whereas the longhouse at Agerhøj is closer to a 1/4-division. The houses were dated on the background of typology and c14-dates (Tygelsjö), that date the longhouses as contemporary with the ringforts to the end of the 10th-beginning of the 11th century.

The Trelleborg house as type has also been used in relation with longhouses that have curved walls and the characteristic three-room partition with a central hall room but no traces of buttresses. Some examples are found at Agerhøj (K130) (Figure 4b), Godthaab (K138), Ho Bugtvej (K40), Hvinderupgård (K9), Langgade 25 (hus 1), Omgård (AIV), Sletten (house 2), Sædding (VIII) and Tjæreborg (K85) (Nielsen 1980, Stouman 1980, Beck et al 2005, Gram & Christensen 2006, Pagh 2007, Møller 2011, Pedersen 2012, Siemen 2014, Jessen & Egeberg 2016). The dimensions of the layout of the longhouses varies between a division into 1/4, 1/5 and 1/6. Most of the longhouses have only been dated typologically, and there is a tendency that these longhouses are dated more broadly to the Viking Age and
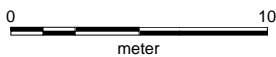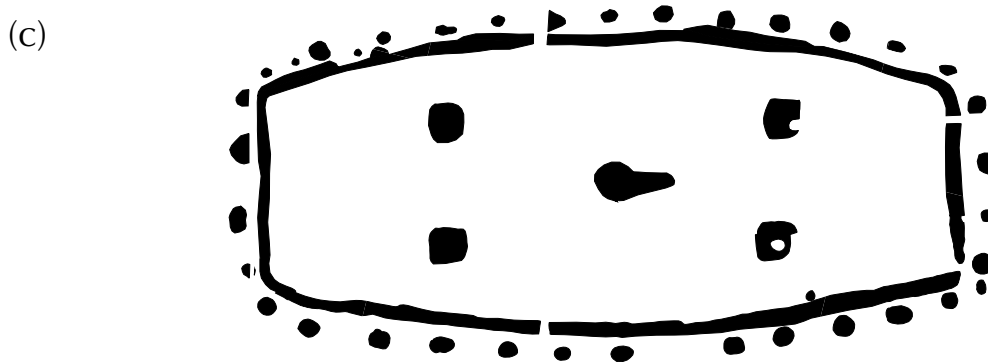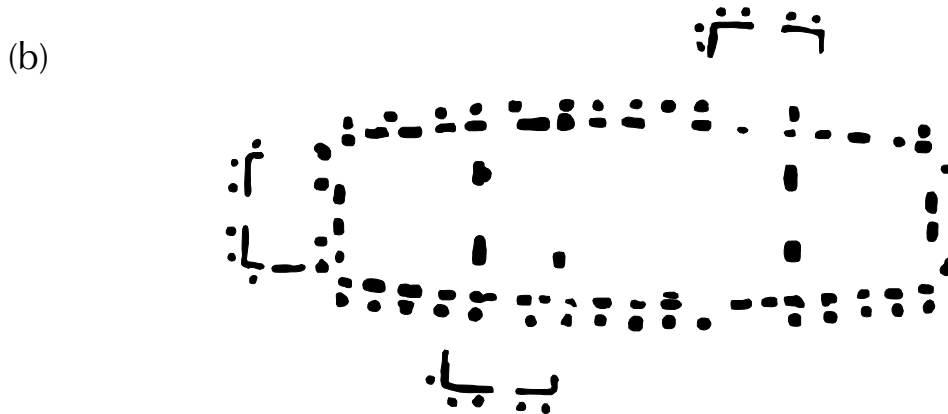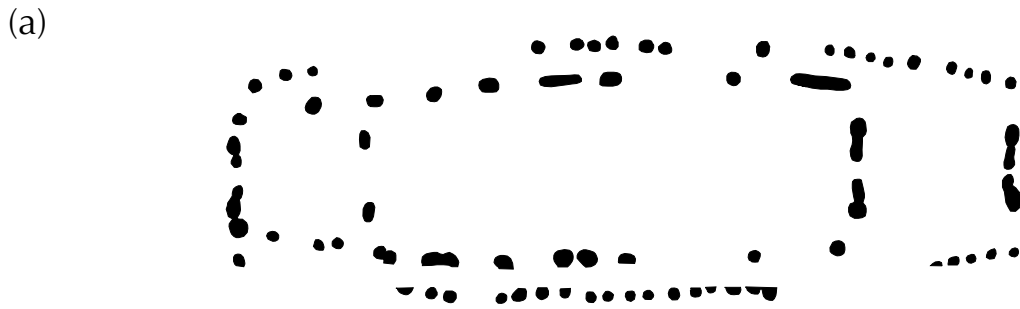
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Figure 3. (a) House 13, Bøgelund. An example of a 'Trelleborg house' found in an agrarian settlement outside the ringforts (redrawn from Tornbjerg 2002). (b) House 3, Jelling. An example of a 'Trelleborg house' but differently dimensioned than the original 'Trelleborg houses'. The longhouse has been dived 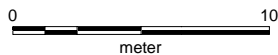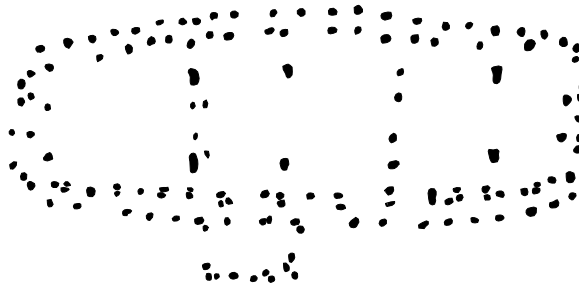into 1/4 instead of 1/5 (redrawn from Holst et al 2013). (c) K2, Ågård. An example of a 'Trelleborg house' but differently dimensioned than the original 'Trelleborg houses'. The longhouse has been dived into 1/3-1/4 instead of 1/5 (redrawn from Schultz 2017).

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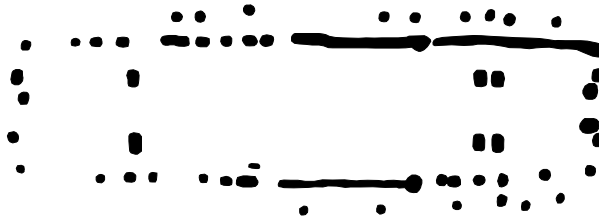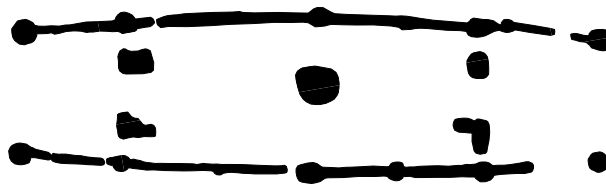
Figure 4. (a) House CVI, Vorbasse. An example of a 'Trelleborg house' with straight walls (redrawn from Hvass 1980). (b) K130, Agerhøj. An example of a 'Trelleborg house' without buttresses (redrawn from Jessen & Egeberg 2016). (c) House III, Herrup. An example of a 'Trelleborg house' without a hall room (redrawn from Eriksen et al 2009).

as such a little earlier than the longhouses at the ringforts, maybe because of the lack of buttresses. When finds and c14-datings (Langgade 25) have been included in the dating process, the longhouses are dated as contemporary with the ringforts in the end of the 10th - beginning of the 11th century.

Of the longhouses found at the excavation of the forecourt of the ringfort of Trelleborg, six (out of 15) longhouses did not have a hall room, but pairs of roof-supporting posts at regular distances in the

whole length of the house (Nørlund 1948). However, they did have curved walls and buttresses as the other longhouses at Trelleborg. Similar longhouses are found e.g. at Herrup (house III) (Figure 4c), Gammel Lejre (house X), Værløse vest (house 2) and Kometvej (house 820) (Nissen 1998, Eriksen et al 2009, Petersen 2010, Christensen 2015). These houses have only rarely been directly referred to as Trelleborg houses, but have still been typologically dated with reference to the Trelleborg house to the Viking Age. Only one house (Gammel Lejre) has been c14-dated which places the house as contemporary with the ringforts in the 10th-11th century.

The investigation revealed that the Trelleborg house type is also used in relation to longhouses that have curved walls, buttresses and three rooms inclusive a hall room, but an asymmetrical layout. One example is house 4 at Östorp (Figure 5a). One of the gable rooms is almost the same size as the hall room breaking the strict symmetry of the Trelleborg house. The house is c14-dated to 980-1030 AD (68%) (Wranning 1999, p.47). Other longhouses have curved walls, buttresses along the long walls and a hall room but more than three rooms and an asymmetrical location of the hall room. Examples of these longhouses can be found at Agerhøj (K82-83), Erritsø (house A2037), Gammel Hviding (Figure 5b), Kalvslund Kirke (house X), Strøby Toftegård (house 1-5), Gammel Lejre (house III, VI, XLI, XLII) and Lockarp 8 (House 32) (Jensen 1986, Heimer et al 2006, Christensen 2008, Søvsø 2013, Tornbjerg 1998, Christensen 2015, Jessen & Egeberg 2016). Only some of the houses have been directly referred to the Trelleborg house as a type, but are often included in the discussion of the definitions of the type (e.g. Sindbæk & Roesdahl 2014). These houses are dated mainly by c14-datings (Strøby Toftegård, Gammel Lejre, Lockarp 8) combined with finds and typology which give the longhouses a wide dating range from the 7th to the 12th century.

Finally, there are examples of longhouses referred to as Trelleborg houses or as inspired by Trelleborg houses which have curved walls, buttresses and a symmetrical layout but with five rooms instead of three. Examples of these are Merlegård 2 (K1), Omgård (house AXXXVIII) and Strøby Toftegård (house 29) (Figure 5c) (Nielsen 1980, Kastholm 2012, Beck in press). House 29 at Strøby Toftegård has been c14-dated to 648-766 AD. The other houses are dated typologically and on the basis of finds to the 10th-11th century.

Besides being used as a descriptive concept, the Trelleborg house is used as a chronological reference in relation to dating issues and interpretations of the social context of the settlement. Traditionally, the introduction of the Trelleborg house is dated to the end of the 10th century based on the original context of the ringforts. The investigation showed that the type is used as the primary argument in the dating process of the majority of the longhouses which of course confirms the conventional typological date of the Trelleborg house but rarely seems to review the typological date critically. Also settlements have been dated based on the presence or absence of Trelleborg houses (e.g. Jørgensen & Eriksen 1995, Olesen 1998, Sørensen 2011, Egeberg 2015).

From early on, the Trelleborg house has been taken not just to be a heuristic entity, but as expressing an actual meaning in the past linked to the social context and environment of the longhouses with direct reference to the context of the original houses found at the ringforts. In a little more than half of the reviewed cases as well as more broadly in the literature, the presence of Trelleborg houses has in that sense been interpreted as an indicator for high status settlements (e.g. Schmidt 1977, p. 140-141,
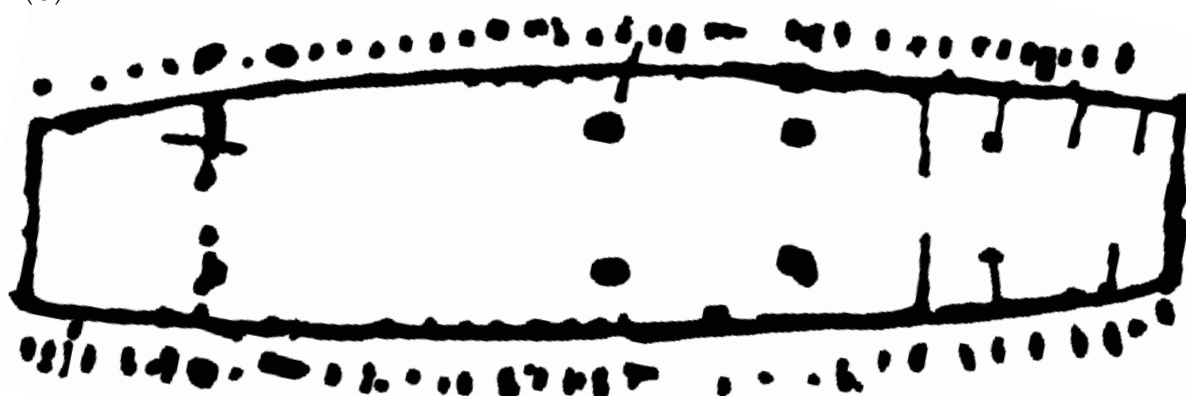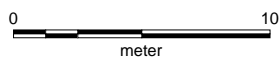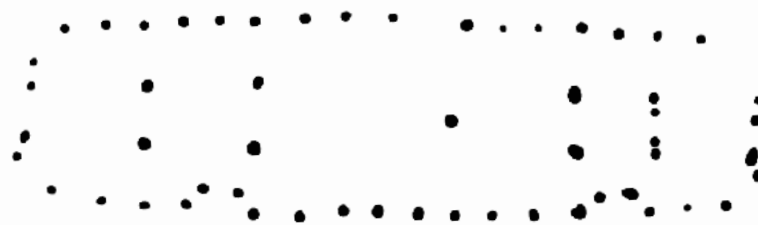
Figure 5. (a) House 4, Östorp. An example of a 'Trelleborg house' with an asymmetrical layout (redrawn from Wranning 1999) (b) Longhouse from Gl. Hviding. An example of a longhouse with curved walls, buttresses and a hall room similar to the 'Trelleborg house' but the number of rooms are more than three and the hall room has an asymmetrical location (redrawn after Jensen 1986). (c) House 29, Strøby Toftegård. An example of a 'Trelleborg house' with a symmetrical layout both with five instead of three rooms (redrawn from Beck in press).

Olesen 1998, Nylén & Söderberg 2009, Sørensen 2011) or as representative of settlements where the inhabitants were directly connected to the Danish king and the formation of the Danish state (e.g. Wranning 1999, Carlie 2005, 2008, Heimer 2009, p. 353-354, Håkansson 2012, p. 363-364, Holst et al 2013, Sindbæk & Roesdahl 2014, p. 242).

All in all, the investigation show that the Trelleborg house as a type is used in relation with longhouses that have certain similarities but also with significant differences when looked at in details. Unfortunately, in most cases the Trelleborg house is used without a more exact reference to *which* definition of the Trelleborg house the use of the term refer to. On that background, there seems to be a common idea of what is contained within the type of the Trelleborg house but which rarely is more precisely defined. With the common idea of the Trelleborg house comes relatively determined ideas about date and the social environment the architecture represent.

Discussion

The investigation of the use of the Trelleborg house as typological concept helps to demonstrate the relation between the concept and the actual archaeological record and what happens in the process of typologising.

On a general level, it is the morphological similarities rather than the differences that seems to be in focus when referring longhouses to the Trelleborg house. With the description as a Trelleborg house, a range of interpretations are more or less uncritically transferred as well. But as the archaeologically record referred to the Trelleborg house seems to be much more varied than indicated by the strict morphological definition based on the original longhouses found at the ringforts, what consequences does that have to the interpretations of the date and the social context?

The temporal quality of the type is defined by its starting date (when it was introduced) and its end date (when it went out of use) (Lucas 2005, p. 104-106). The typological date of the Trelleborg house depends as such on the introduction of the individual architectural features of the longhouse. Curved walls are defined as one of the significant architectural features of the Trelleborg house (e.g. Wranning 1999, p. 41), but with the increasing number of excavations of prehistoric settlements, curved walls have turned out to be a feature that are found more widely in longhouses all through the Late Iron Age, and it was most probably introduced as an architectural element already during the Roman Iron Age (Boye & Fonnesbech 1999, Komber 2001, Artursson 2005, Villumsen 2017).

Buttresses are also traditionally seen as an architectural feature that are introduced with the Trelleborg house architecture (e.g. Skov 1994, p. 142). However, buttresses are already known from houses in Northern Germany and the Netherlands during the 8th and 9th century at sites as Dorestad, Drenthe, Odoorn, Elisenhof and Haithabu, and even as early as 7th century at Warendorf (Winkelmann 1954, Bantelman 1975, Schietzel 1981, Waterbolk 1994). Also in Denmark, there are examples of early use of buttresses. In the settlements at Gammel Lejre and Strøby Toftegård in Denmark, longhouses with buttresses have been dated to the 7th, 8th and 9th century (Tornbjerg 1998, Christensen 2015, Beck in press).

Also the hall room has been emphasised as fundamental in the definition of the Trelleborg house (Olsen 1965). With its large central hall without inner posts, it has been seen as a natural step in the technological development from the three-aisled longhouse of the Iron Age to the one-aisled house of the Middle Ages (Jensen 1987, Christensen 1987, Skov 1994, Mikkelsen 2006). Yet, the earliest hall rooms are found in longhouses that date back to the Late Roman Iron Age and is not as such exclusively connected with the Trelleborg house (Herschend 1993, Larsen & Lenntorp 2004, Carstens 2015).

On that background, it can be argued that the idea behind the architectural features defining the Trelleborg house was present much earlier than the traditional dating of the Trelleborg house. When combined with dates from artefacts found in houses and c14-dates, the traditional date of the Trelleborg houses is in some cases confirmed, but generally the dating range of houses referred to as Trelleborg houses is extended down into the 7th century and up to around 1100 AD (e.g. Strøby Toftegård, house 29 - c14: 648-720/741-766 (95%) (Beck in press) and Huseby, house 6 - c14: 980-1050/1100-1120 (95%) (Nylén & Söderberg 2009)).

In relation to the interpretation of the social context, the investigation showed that longhouses referred to as Trelleborg houses were found in a varied range of contexts from single farms as Sletten (Beck et al 2005), smaller settlement as Bøgelund and Tjæreborg (Tornbjerg 2002, Siemen 2014), organised villages as Vorbasse and Rynkeby (Hvass 1980, Hansen 2015) to magnate farms as Strøby Toftegård and Lockarp 8 (Heimer 2009, Beck in press). The context seems in that way more varied than the often assumed connection to elite and royal environments where the Trelleborg architecture seems to be the primary argument presented for the connection.

All in all, the investigation demonstrated that the archaeological record gives a more varied and messy impression than the strictly defined house type indicates: the architectural tradition is more varied, the dating range is broader, the introduction of the specific architecture of the Trelleborg house is not as clear-cut and the social context varies. The outcome is an ambiguous and insufficient understanding of the phenomenon of the Trelleborg house where the archaeological record tell another story than the conventional common interpretation of the phenomenon of the Trelleborg house.

The ambiguity of the Trelleborg house has been acknowledged previously and continuously debated (e.g. Skov 1994, note 6, Wranning 1999, p. 38-39, Ethelberg 2003, p. 362, Artursson 2005, Hansen 2015, p. 90-92). However, no alternative definition of the type has been presented, and the house type continues to be used more or less unaltered. To get beyond the discrepancy between the house type and the actual archaeological record, it is necessary to understand where the ambiguity emerge and how the use of the type in practice contributes to the confusion. This will be discussed in the following.

A simple explanation for the confusion of the Trelleborg house shall be found in the unclear or lacking references to *which* definition of the Trelleborg house that is referred to in each case. The outcome is that no distinction has been set up between using the Trelleborg house as a chronologically or as a conceptually defined type respectively. The different 'types of types' get mixed up. When the type is used as a top-down concept where the archaeological record is fitted in according to the concept rather than vice versa, the 'type of type' has a profound effect on the final perception of the archaeological record. My impression is that the 'type of Trelleborg house' most often referred to is a chronologically defined

type. This is problematic in cases where the aim is interpretations of the social context because, if unaware, the properties of the chronological type is transferred to the description of the archaeological record that the social interpretation will be based on.

A chronological defined type must aim at as strictly defined introduction and end dates as possible. In order to secure that the type can be defined by specific dates, the type must necessarily present the type as a finished and unchanging object (Sørensen 2015, p. 92, van Oyen 2015, p. 74, Bille & Sørensen 2016, p. 6). In the process, the chronological defined type must emphasise similarities and downplay variation. Furthermore, the chronological type is created to facilitate comparisons across materials in order to transfer properties (the date) from one context to another. In other words, the type downplays the social dynamics, practices and variations within the architectural tradition for the sake of keeping the type as a coherent, stable and 'meaningful' entity.

The type will therefore - in the best of meanings - reduce the complexity of the record in order to make it categorisable and resilient to variation in the archaeological record (Boozer 2015). The result is that the unreflective use of the type reduces not only the date of the longhouse to a single date but also reduces more fundamental temporal qualities of the longhouse and downplay variation within the archaeological record. When confronted with more complex questions in relation with the development and social context of the Viking Age longhouse architecture, the chronological type, will fall short of describing the processes of development and social contexts of the longhouse architecture. The risk is that the possibilities for interpretation and in the end for the understanding of the phenomenon of the Trelleborg houses is limited.

The conventional solution to problems with a house type as the Trelleborg house would be to make a renewed typological study in search of more precise datings and more strict morphological definitions of the house type (Sørensen 2017, p. 7). But the risk is that essential information about the houses in that way will be ignored or lost in the attempt of fitting them into a conceptual framework that is not suited for the questions asked. Instead, I will argue that when working with complex questions that reach beyond the basic dating of the house archaeologists should look for an alternative approach to the classification of the longhouse that are better suited to handle complex temporalities and variation in the archaeological record.

The Trelleborg house as an assemblage

An alternative approach to classification of the archaeological record can be found in the notion of the assemblage. As a philosophical concept, the notion of the assemblage has its roots in the works of the philosophers Gilles Deleuze and Félix Guattari from where it has been developed further into an analytical tool called assemblage theory by philosopher Manuel DeLanda (DeLanda 2006, 2016). DeLanda's assemblage theory has found its way into recent works within archaeology where the approach among other things has found resonance in a critical approach to traditional typologies (e.g. Normark 2009, Harrison 2011, Lucas 2012, Olsen et al 2012, Witmore 2014, Bille & Sørensen 2016, Hamilakis & Jones 2017, Fowler 2017). The following presentation will draw mainly on DeLanda's work but also on how assemblage theory has been used specifically in archaeology.

The term assemblage is not as such a new concept in archaeology. Traditionally, the two most common uses of the word assemblage are as designating a collection of a certain kind of artefact (e.g. arrowheads) or designating a combination of artefacts deposited together in a certain context (e.g. a burial) (Lucas 2012, p. 193-198, Hamilakis & Jones 2017, p. 77). In both uses of the term, it is the associations between objects that defines the assemblage, whether it is similarities between one kind of objects or the spatial association in a common depositional context. In DeLanda's use of the term, the association between the components of the assemblage is also central, but the definition of the concept also differs from the archaeological use of the term in ways that will be described in the following.

According to assemblage theory, all phenomenons can be studied as assemblages. The individual Trelleborg house as well as the architectural tradition of the Trelleborg house are both assemblages on different levels. All assemblages are made up of smaller assemblages as well as they are part of larger assemblages (DeLanda 2006, p. 17, Olsen et al 2012, p. 181). Following that, the architectural tradition of the Trelleborg house is made up of the actual individual Trelleborg houses. The notion of the assemblage connects in this way the individual and the collective, the micro- and macro scale, and move beyond the difference.

Thinking of the Trelleborg house or the architectural tradition of the Trelleborg house as an assemblage means that instead of seeing the studied phenomenon as a given coherent and closed entity, it is perceived as a specific collection of heterogenous components and how the components relate to and affect each other. The components are the parts that create and affects the house or the architecture, and can both be tangible (e.g. building materials, tools and work force) and intangible (e.g. actions, norms and social context), human (e.g. inhabitants and guests) and non-human (e.g. cooking facilities and doorways). Humans, actions, material things and social concepts are all treated as equal parts of the assemblage. It is the specific collection of components that constitute the assemblage, at the same time as the assemblage is acting back on the components constituting it as a 'Trelleborg house' or an 'architectural tradition of the Trelleborg house' (DeLanda 2006, p. 34). In other words, the Trelleborg house can be described as '*a whole from the sum of its parts*' (Harrison 2011, p. 155).

The relations between the components are as essential to the assemblage as the components themselves (DeLanda 2006, p. 9-11). The relations are constituted by their associations, and how they interact, impact or exclude each other. The relations are acted out through practices, activities and processes as well as in more intangible ways through norms, emotions and atmospheres creating the assemblage. In other words in relation to the Trelleborg house or the architectural tradition of the Trelleborg house: '*Architecture … is what emerges when the elements are assembled; that is, the continuity of building blocks, presences and the performance of dwelling and meaning-making*' (Bille & Sørensen 2016, p. 12).

The relations between components can be more or less stable. In each assemblage, there will be relations that support each other and relations that are discouraging each other which either stabilise or destabilise the existence of the given assemblage (DeLanda 2006, p. 13-14, 2016, p. 22, Bennett 2005). Therefore, an assemblage is never a static phenomenon but in a constant process of becoming (Bille & Sørensen 2016, p. 17). This gives a strong focus on the ongoing dynamics creating and recreating the

assemblage rather than its static being. In the context of the assemblage of the Trelleborg house as an architectural tradition, it is not only the building of the first Trelleborg house that create the tradition but also how the architectural tradition is continuously used and maintained.

Each assemblage is created within a 'space of possibilities' which defines the possibilities and limits of how the assemblage is produced and maintained (DeLanda 2006, p. 29-30). The space of possibilities is structured by coding and decoding processes as building technology, norms, rituals and regulations of social behaviour that both enable and limits the possibilities present in the situation. In other words, the more rigid and formal the rules for the building process the more coded the assemblage is - and the more similar are the Trelleborg houses build (DeLanda 2016, p. 23).

In practice, an assemblage analysis of the Trelleborg house is fundamentally a descriptive-interpretive approach (Nativ 2017:670). The analysis starts at the identification and description of the components, their relations and the processes creating and recreating the assemblage. As such it represents a bottom-up approach to the archaeological record (DeLanda 2006, p. 32). The aim is to present an interpretation of the space of possibilities that defines the framework of which the individual house and the architectural tradition were created within. On the surface, assemblage analysis can resemble more quantitative approaches to classification that also have their focus on the components rather than wholes as attribute analysis, multivariate analysis, correspondence analysis and the concept of the repertoire (e.g. Jensen & Nielsen 1997, Jensen 2005, Løvschal & Holst 2014, Laursen & Holst 2017).

On the other hand, there are profound differences between the quantitive methods and the assemblage analysis in the way that assemblage theory explicitly includes people, their actions and social dynamics as an inherent part of the analysed assemblage and as such has a more interpretational approach to the studied phenomenon. Furthermore, the assemblage has a specific focus on the process of *becoming* rather than the *being* of the assemblage (van Oyen 2015, Gosden & Malafouris 2015, Bille & Sørensen 2016, p. 17). Being in this context is understood as the physical features defining the type, and becoming as the practices and processes that lead to the emergence of the physical features in the first place and later to how they are maintained and stabilised (van Oyen 2015, p. 70). The perspective is changed from what the house *is* to what it *does* (Hicks 2010, p. 77, Witmore 2014, p. 210-211).

Whether the descriptive approach of the assemblage theory can be complemented with more systematic quantitative analytical methods remains to be investigated, and is as such outside the scope of this article. Some inspiration can be maybe be found in already existing methods, but generally, there is a risk by transferring methods directly from more quantitatively based approaches, if not aware, that some of the fundamental interpretational elements of the assemblage can be missed.

Returning to the Trelleborg house, every assemblage is a result of historical processes creating the specific assemblage in question (DeLanda 2006, p. 3, Normark 2009, Bille & Sørensen 2016). Some processes will be common for a larger group of assemblages, and some processes will be unique for the specific situation. A Trelleborg house will be build in a situation where both general processes common to house building processes of the period e.g. a specific architectural tradition as well as specific processes in the situation e.g. the needs and wishes of the inhabitants are present. In that way, the notion of the assemblage makes space for both variation and similarities as well as practices and social aspects in the

handling of the archaeological record. According to the notion of the assemblage, it is not the essence of the Trelleborg house that creates the specific longhouses but what is done with, in and around the house that create the Trelleborg house (DeLanda 2006, p. 26, Olsen et al 2012, Witmore 2014, van Oyen 2015, p. 65, Fowler 2017). Instead of evaluating the longhouses as more or less well-made versions of the ideal Trelleborg house (e.g. Wranning 1999, p. 48), the longhouses appear as structures in dialogue with and contributing to a living architectural tradition but also as individual structures each representing a unique historical situation.

In that way, the notion of the assemblage gives a more complex perspective on the temporality of the Trelleborg house, as the assemblage leaves space for the individual development of each component within the assemblage. The components do not necessarily follow the same tempi, rhythms or scales in the development, some components can be exchanged with others, some can be 'rediscovered' and some stay unchanged during the process (Lucas 2005, p. 38). The perspective becomes multitemporal and non-linear. In the case of the Trelleborg house, the notion of the assemblage opens up for a complex interpretation of how architectural traditions emerge, are maintained and disassembled again.

Traditionally, the introduction of the Trelleborg architecture has been interpreted as directly connected to one event (the building of the ringforts) (e.g. Artursson 2005, p. 150-151, Carlie 2008, p. 132-133, Heimer 2009, p. 354, Holst et al 2013, p. 496, Sindbæk & Roesdahl 2014, p. 245). However, as the investigation of the archaeological record showed, the introduction and development of the Trelleborg architecture cannot be seen as one contemporary event but as a process based on architectural elements that already existed previous to the building of the ringforts. The development of the Trelleborg house should in that sense be seen as an ongoing, multitemporal process that both contain material, technological as well as social elements that act together in the creation of the assemblage. The development of the Trelleborg house cannot be studied as an isolated phenomenon but must be seen in relation to the tension of what was before, what happened in the surrounding context and what comes after as part of a continuous process (Lucas 2005, p.17-18).

As a consequence, the assemblage approach to the Trelleborg house questions that a direct connection between the elite environment of the Viking Age and the architecture can be assumed from the architecture alone. The interpreted connection to the elite environment needs to be better qualified by also taking processes and practices in, with and around the houses into account that produce and maintain the architecture. The longhouse should be investigated in the context of the surrounding society which means also including other groups in the society in the interpretation of the development. The development of the Trelleborg architecture should no longer be seen as a purely top-down process confirming already existing interpretations of the social structure in the Late Viking Age, but deserves to be studied more thoroughly in its own right - and here the concept of house types might not be the best approach.

Conclusion

The aim of the article has been to investigate what happens in the process of typologising through a study of the use of the iconic Trelleborg house as a typological concept investigating when and how longhouses has been referred to as Trelleborg houses and the effects of the concept of the house type.

The investigation showed that in the use of the Trelleborg house as a typological concept, the type of the Trelleborg house was rarely strictly defined or referred to a specific definition from the literature. In practice, the type of the Trelleborg house was rather referring to a common but diffuse idea of what the Trelleborg house is and contain. Together with a reference to the Trelleborg house, a specific dating framework and interpretation of the social context is often more or less automatically assumed. The unreflective use of the house type resulted in different 'types of types' not being distinguished and most often being mixed up.

First of all the article can in that way be read as a critique of the unreflective use of house types and the profound lack of explication of purpose and methods used in the identification and definition of types as well as in the distinction between 'types of types'. As it has been argued in the article, the concept of the type is depending on the purpose of the investigation where it is applied. If the type has been defined for another purpose, there is a risk that the type present a reduced and simplified image of the archaeological record when used in other contexts. The consequence in the case of the Trelleborg house was that chronological types were used more generally even when the purpose was more complex inquiries in the form of the development of the architecture or interpretations of the social context. In practice, there is a profound risk that the type can stand in the way for interpreting the Trelleborg house as a complex temporal phenomenon.

Instead of making a renewed typological study of the Trelleborg house, an alternative approach to classification inspired by assemblage theory was presented. A study of the house as an assemblage radically changes the questions asked to the archaeological record and connects the architecture and the processes and practices in, with and around the house directly to each other. Assemblage theory is therefore not just a reframing of typology but represent an alternative way to think about classification in the archaeological record.

Secondly, the article can therefore be read as an argument for changing the perception of the longhouse in settlement archaeology more generally towards perceiving the house as a phenomenon that is more than just the physical structure. The house is an assemblage build up from the practices and processes creating the assemblage which also include people and their interaction with the house instead of a materialisation of a mental template passively reflecting conditions in the surrounding society. Analytically, the assemblage theory provides the possibility of a richer interpretation of the phenomenon of the Trelleborg house through a more complex approach to temporality and variation in the archaeological record.

It would be naive to think that types and categorisations could, or should, be avoided in archaeology. They are part of the tool box that is needed to understand and process the archaeological record, but we should be aware of the limitations in classifications and that typology is not the only approach. Typology should not be perceived as a 'natural step' in the processing of longhouses as it is not a neutral act. The use of typology has an essential impact on how the archaeological record is presented. Therefore, Marie Louise Stig Sørensen is right in her call for a renewed engagement with the typologies. Classification of the archaeological record is '*neither a banal nor an obvious observation process. On the contrary, it is a significant insight: it tells us about a dynamic played out in the human-object intersection*' (Sørensen

2015, p. 90). Typologies - and classifications more broadly - need to be continuously evaluated, debated and developed in order to be relevant and adequate with the actual archaeological record.

Thirdly, the article should on that background be read as a repetition of Sørensen's call for a reengagement with the typologies, in this context particularly within settlement archeology where typologising has become an ingrown unreflective habit instead of an active tool to think with. The overall aim with the article has been to make settlement archaeology think in renewed ways about how the longhouses are presented and perceived. If the aim is to understand the houses as expression of life and social relations a different engagement with the houses is needed, because within the current practice, the use of typologies is limiting for the understanding of the Trelleborg house, for the longhouse as a phenomenon, for the development of settlements and for the kind of life they were active parts of.

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Appendix 3

Living in, with and around the longhouses at Strøby Toftegård. A biographical approach to longhouses in the Late Iron and Viking Age (Article 3)

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Living in, with and around the longhouses at Strøby Toftegård. A biographical approach to longhouses in the Late Iron and Viking Age

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Abstract

The purpose of this article is to present an interpretation of the character of the Late Iron Age and Viking Age settlement complex at Strøby Toftegård based on an analysis of the longhouses as assemblages. As the conditions of the archaeological material makes functional interpretations impossible, the analysis is based on a biographical approach. The analysis is structured around five phases in the biography of the longhouses: the planning, building, inhabiting, maintaining and abandonment of the longhouse. For each phase, relevant architectural elements are analysed with the aim of identifying patterns of similarities and differences. The patterns are brought together in an interpretation of the character of the settlement at Strøby Toftegård as consisting of several contemporary dwelling units. One dwelling unit stands out from the rest of the settlement mirroring that the inhabitants had a privileged position compared to the rest. Along with the privileged position probably followed communal commitments towards the surrounding society. In the analysis, it has been demonstrated that the longhouses cannot be understood without including the relations between the longhouse and the people living in, with and around the longhouses.

Keywords: *longhouse, assemblage, house biography, building, inhabitation, abandonment*

Houses are a rich and important source to human life in the past shedding light on both fundamental aspects of everyday life as well as general norms in the surrounding society (e.g. Rapoport 1969, Bourdieu 1970, 1977, Samson 1990, Pearson & Richards 1994, Carsten & Hugh-Jones 1995, Brück & Goodman 1999, Ingold 2000, Blier 2006, Buchli 2013, Bille & Sørensen 2016a). In an archaeological context, a house is typically defined by the architecture, meaning the physical structure of the house, but with inspiration from the assemblage theory presented by Manuel DeLanda the house can be perceived in more fruitful and rich ways (DeLanda 2006, 2016). According to assemblage theory, a house is an assemblage composed of heterogenous components that besides the physical structure includes people, things, events, experiences and meanings in and around the house and how they relate and interact with each other (DeLanda 2006:95ff, Normark 2009, Lucas 2012:187f, 2014, 2016, Bille & Sørensen 2016b, Mímisson 2016). In other words, studying houses do not just involve describing and interpreting house constructions, but also how people lived in, with and around the houses over time.

With that as the theoretical background for the following article, the aim is to present a detailed analysis of the longhouses found in the settlement at Strøby Toftegård based on a biographical perspective rather than a traditional typological approach to the longhouses. The analysis of the longhouses contributes to the study of the settlement complex in an attempt to get closer to answering the overall question of this publication: 'What is Strøby Toftegård'?

Strøby Toftegård, which is located in the northern part of Stevns, Eastern Denmark, is a large and rich settlement complex dated to the Late Iron Age and Viking Age (650-1000 AD) (Woller 1998, 2001, Sørensen 2000, Beck 2013, 2014a). At first glance, the settlement seems to fit well into existing interpretation models of the period, but a closer study shows that the settlement also questions and challenges the conventional interpretations.

The excavations at Strøby Toftegård revealed a total number of 109 longhouses and 14 smaller building constructions of which the majority belongs to the Late Iron Age and Viking Age settlement (Figure 1). When presenting large data sets, the typical approach within Scandinavian settlement archaeology has been to describe the houses with the use of general categories or house types rather than describing each house individually (e.g. Stouman 1980, Tesch 1993, Jørgensen & Eriksen 1995, Artursson 2005, Sørensen 2011, Eriksen 2015). Categorisations and typologies serve in these cases to describe large quantities of data in a systematic way (Hill & Evans 1972:232f, Adams &

Figure 1. Overview of the excavations at Strøby Toftegård. All houses identified in the excavations (longhouses and smaller buildings) are highlighted. The dot on the map shows the geographical location of Strøby Toftegård.

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Adams 1991:10f). But often, categories or house types are not only perceived as analytical entities but also as entities mirroring meaningful properties and differences in the past whether it is chronological age, function, social status or other relevant conditions.

In the early presentations of the longhouses from Strøby Toftegård, a distinction was made between 'main houses' and 'outbuildings' and the houses were presented according to these two categories (Tornbjerg 1998a, 1998b, Woller 1998). The categories were based on an assumed functional division between main houses, interpreted as dwelling houses, and outbuildings, interpreted as houses with varied functions as stables, workshops, barns or sheds but without dwelling functions. The categories were applied despite the function of the houses could not be further assessed due to the bad preservation of the houses (Woller 1998:98). Only five houses were categorised as main houses. They were all of quite similar construction and between 37 and 40 m long (Tornbjerg 1998a:221). The rest of the longhouses in the settlement were appointed as outbuildings. They were of more varied constructions and between 10 and 28 m long (Tornbjerg 1998a:222ff). The categorisation of the houses lead to an interpretation of the settlement as consisting of a central farm in five phases surrounded by an extensive contemporary working area. The interpretation of the longhouses played an essential role in the perception of the settlement at Strøby Toftegård as a magnate farm and a local power centre.

The two categories used in the interpretation of the longhouses from Strøby Toftegård has rightfully been criticised for not being explicitly defined (Artursson 2005:142). The categorisation is based on theoretical (though undescribed) notions about assumed functions of the longhouses but a more specific link to the architecture or archaeological record except the size of the houses is missing. As a consequence, houses of similar construction and character exists in both categories but have been categorised differently due to differences in size.

Similarly, the interpretation of the five main houses as representing a magnate farm seems to be based mainly on the number, variety and quality of the artefacts found in the area and only secondarily on the size of the houses (Tornbjerg 1998a:230ff). But the interpretation has not been further linked to the longhouses despite that it has been argued in other places that social status was clearly expressed in the architecture of this period (e.g. Jørgensen 1998, Söderberg 2003, Bican 2010, Jessen 2012). What archaeologically defines a main house compared to an outbuilding, or a magnate longhouse compared to a 'common' longhouse within the settlement of Strøby Toftegård therefore still remains to be defined.

As I see it, the answer to the critique cannot be found through a refinement of the existing categories because the problem lies within the approach to the archaeological record and the existing categorisation of the houses from Strøby Toftegård. Generally speaking, the approach represents a *top-down* approach where the categories are defined prior to the analysis and the archaeological record is then fitted into these. Ideally, the categories would have been defined in dialogue with the archaeological record. But when, as in the case of Strøby Toftegård, the categories are based on universal, but not further described notions of function and status in the Late Iron Age and the link to the actual archaeological record is limited, there is a great risk of repeating known (but debatable) interpretations and not learning anything new about the current archaeological record (Brück & Goodman 1999:3ff). This is not a problem specific to Strøby Toftegård but a problem which also have been recognised and debated more

widely within Scandinavian settlement archaeology (e.g. Fabech et al 1999, Ejstrud & Jensen 2000:125, Carlie 2005:14f, Møller et al 2011, Eriksen 2015:30).

As a consequence, I will abandon the existing categories in the following analysis of the longhouses from Strøby Toftegård and instead seek an alternative way into the material by seeking a *bottom-up* approach to the archaeological record (McFadyen 2013, Nativ 2017). The starting point will be the actual information present in the record, and even though predefined notions cannot be fully avoided, the archaeological record will be the primary guide for the analysis. As it will be argued later, the conditions of the archaeological material encourage a focus on the temporal dynamics of the longhouse rather than a spatial or functional focus. Therefore, a biographical perspective has been chosen to explore the archaeological record of Strøby Toftegård as an alternative to conventional categories and house types.

A biographical perspective is focused on mapping the life history of the individual longhouse (e.g. Bailey 1990, Tringham 1995, Gerritsen 1999, 2003, Bukkemoen 2015). The biographical perspective will in that way bring a distinct focus on the temporal dynamics of the longhouse. Compared to the conventional categories and house types that focus on the physical features defining the house, the biographical perspective focus on the processes that create, maintain and maybe change the properties of the longhouse (van Oyen 2015:70). In other words, with a biographical perspective the perspective is changed from the *being* of the longhouse to the processes of *becoming* the longhouse (van Oyen 2015, Gosden & Malafouris 2015, Bille & Sørensen 2016b:17). Function and social status is no longer perceived as properties that lies inherent within the structure of the longhouse, but as properties that are dynamically created in relation with the longhouse. The thesis is that different engagements with the house have resulted in different biographies that mirror properties of the original houses in the past (Gerritsen 2003:38). Besides exploiting the information present in the archaeological record more directly than the conventional categories, the biographical perspective will open new possibilities for understanding the role played by the longhouses in the dynamics of the settlement. In the end, such a perspective will contribute to the deeper understanding of the character of the settlement at Strøby Toftegård.

In the following, I will begin by introducing the archaeological record and the background to the biographical perspective that represent the foundation and the framework of the analysis respectively. The ensuing analysis will be structured according to specific phases in the biography of the longhouse; more specifically the planning, the building, the inhabitation, the maintenance and the abandonment of the longhouse in an attempt to grasp the 'mess of daily life' heuristically. Each phase of the longhouses will be analysed in relation to specific architectural elements relevant to the particular phase and material and spatial patterns in the archaeological record will be investigated. In the final discussion, I will bring the identified patterns together in a general discussion of the character of the longhouses and their role in the settlement at Strøby Toftegård. Even if the discussion will be specifically related to issues relevant to the case of Strøby Toftegård, it is my hope that the approach will inspire to similar analyses of settlement contexts more broadly and in that way contribute to the general development of Scandinavian settlement archaeology.

Longhouses and the archaeological record

A bottom-up approach to the longhouses is closely related to the basic question of what the actual archaeological record constituting the longhouses consists of and how it should be understood as an archaeological phenomenon. The first step is therefore to characterise the archaeological record, as the conditions of the material remains comprise the basic premises for the following analysis and discussion.

The large Late Iron Age and Viking Age settlement at Strøby Toftegård was found and investigated during the period 1995-2013. In all, 46.020 m2 have been excavated, which equals 29% of the estimated settlement area of 160.000 m2. A total of 109 longhouses and 14 smaller buildings have been identified, and even though it cannot be claimed to be the total number of buildings in the original settlement, it is believed that the most densely inhabited areas of the settlement have been included in the investigations and the selection of longhouses is representative of the settlement. Specific information relevant to the analysis of the longhouses is collected in appendix A. Detailed information on all house constructions (longhouses and smaller buildings) can be found in appendix B.

In this context, a *longhouse* is used as a morphological and descriptive term describing any post built building that is longer than it is wide. 'Longhouse' is thus aimed directly at the construction and house form rather than related to the spatial organisation (Jørgensen & Eriksen 1995:17), interpreted function (Tornbjerg 1998a:222) or size (Artursson 2005) of the building.
Some buildings are only identified by one pair of identical roof supporting posts (e.g. house 26 and 43). As examples of well-preserved longhouses with only one pair of inner posts (e.g. house 40 and 52) have been found in the settlement , the 'one-pair-constructions' are interpreted as the same type of longhouse construction - just less well preserved. It seems unlikely that the one-pair constructions should represent poorly preserved pit houses as the orientations of the pit houses and the one-pair constructions are consistently contrary to each other (pit houses are oriented east-west and the one-pair constructions north-south). Furthermore, the constructions are mainly located in the same areas as other smaller longhouses.

The constructions that do not fall within the longhouse definition because they are of a markedly different construction are categorised as small buildings. The smaller buildings are: house 63, 85, 87, 92, K217, K411, G101, G102, G103, G104, G105, G106, G301 and G302. These are either pit houses or square constructions of four posts, which probably have been open storage constructions for hay or similar materials rather than actual buildings (Zimmermann 1992). All longhouses have been included in the analysis, whereas the small buildings are not further discussed in the article.

The majority of the longhouses were recognised already during the excavation while a few longhouses have been deciphered from the excavation plans afterwards. In relation with the processing of the data for this publication, some of the original interpretations of the longhouses have been revised (e.g. the longhouses house 10, 11 and 12) and sequences of longhouses have been further unraveled (e.g. the longhouse K303 becoming longhouse K303 and K305).

The longhouses represent a diverse group of constructions with distinct variations in dimensions, construction details, layout, orientation and house form (Figure 2). Elements of the architecture will be described in details later, but in general the character of the longhouses can be categorised as 'typical
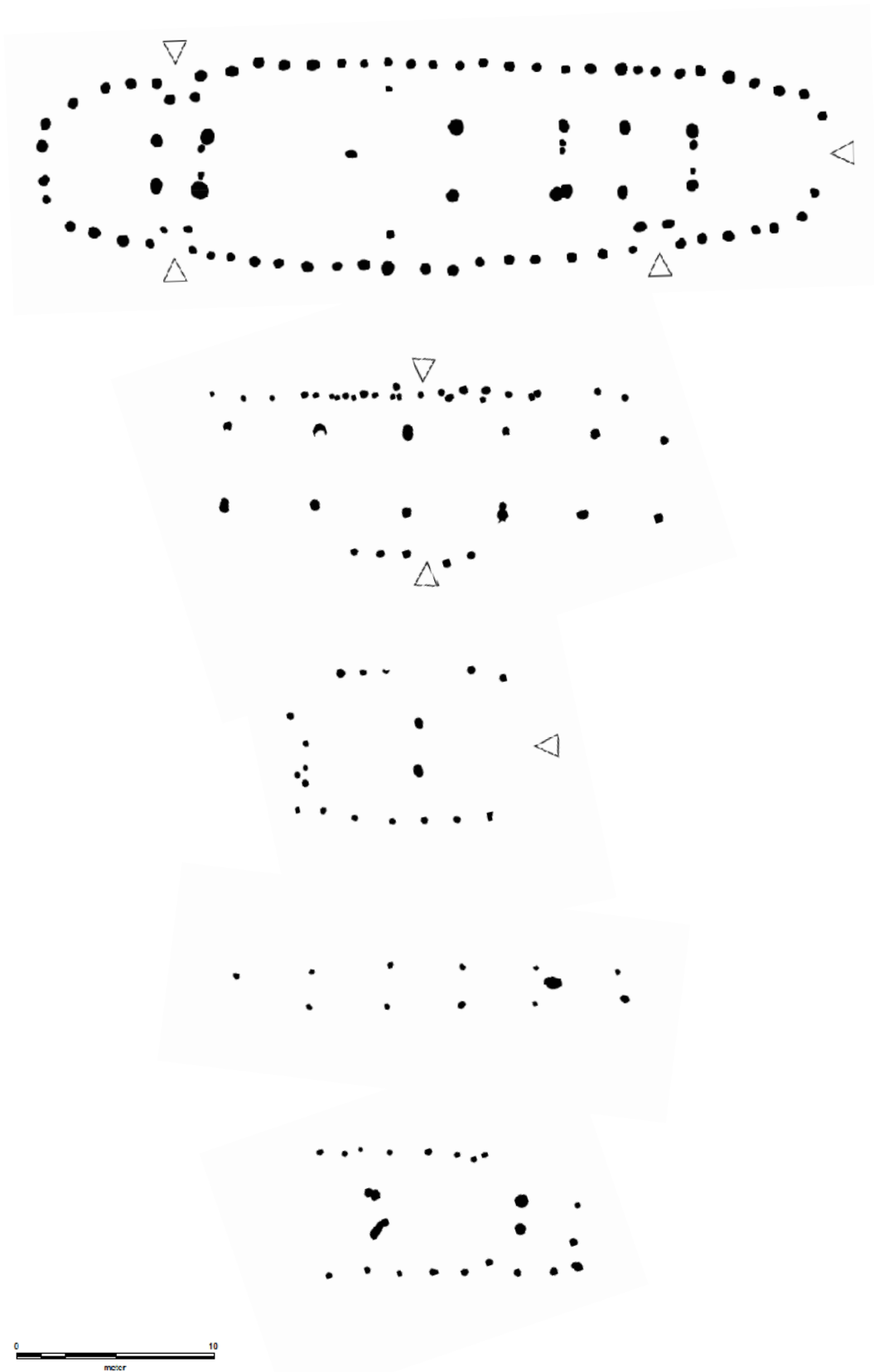
Figure 2. A selection of longhouses from Strøby Toftegård showing the variation of longhouse architecture. From the top to the bottom: house 2, house 11, house 40, K216 and K314. All houses are reproduced in the same scale and have been aligned to the same orientation. Entrances are marked with triangles.

Late Iron Age and Viking Age architecture' with many examples of longhouses having curved walls, large distances between the inner posts, slanting buttresses, straight gables and varied orientations (Skov 1994, Schmidt 1994, Artursson 2005). The majority of the houses are built within a three-aisled building tradition and the architecture of both small and large longhouses has features in common with longhouses at contemporary settlements both in Western Denmark (e.g. Sædding, Trabjerg, Omgård and Vesterbygård) (Stouman 1980, Nielsen 1980, Jørgensen & Eriksen 1995, Eriksen et al 2009) as well as in Eastern Denmark and Scania (e.g. Bøgelund, Gammel Lejre, Västervång and Lockarp) (Tornbjerg 1991, Heimer et al 2006, Carlie 2008, Christensen 2015).

Figure 3. House 4 during excavation. The curved walls, straight gables and outer buttresses is typical for the Late Iron Age architecture. The stone filled wall trench and the roof supporting construction with middle posts is particular to the architecture at Strøby Toftegård. House 4 was the best preserved house in the settlement. Nevertheless, there was no floor layers or fireplaces preserved in the house. Photo: Museum Southeast Denmark.

However, there are also features in the architecture that do not fit in with the existing house typologies. The use of middle-posts in combination with traditional three-aisled construction, open gables and stone-filled wall trenches seems to be more or less specific features of the longhouses at Strøby Toftegård (Figure 3). Furthermore, the presence of buttresses in longhouses at Strøby Toftegård dated as far back as the middle of the 7th Century (e.g. in house 5) do not fit in with the traditional typological dating of the introduction of buttresses to the 10th Century. In that way, the architecture challenges the existing typologies of the period.

The dating of the longhouses is composite and consists of both archaeological, stratigraphical and scientific datings. The archaeological datings are based on finds and typological arguments. The stratigraphical datings are based on the vertical stratigraphy (what is cutting what) as well as the horizontal stratigraphy (what can physically exist at the same time). The scientific dating are conducted on organic materials originating from the foundation of the houses. C14-datings have been made either on bone material (sheep/goat and cow) or on macrofossils (Figure 4, Table 1). When possible, the constructions have been dated with more than one C14-dating to reinforce the validity of the result (Villumsen 2013:20). The datings show that the majority of the longhouses belong to the period 650 to 1000 AD. There are no signs of longhouses belonging to the period after 1000 AD, which is seen as the time where the settlement is abandoned. The datings will be used as a general chronological framework and the dating and chronology of the longhouses will not be discussed further in this article. A discussion of the dating process and the chronological development of the settlement can be found in Beck & Schultz, this volume.

An additional important temporal dimension of the longhouses is the lifetime of the postbuild longhouse. The subject has been lively discussed within archaeology as the information is essential for understanding the longhouses, but there are no ways to objectively measure it except by experimental
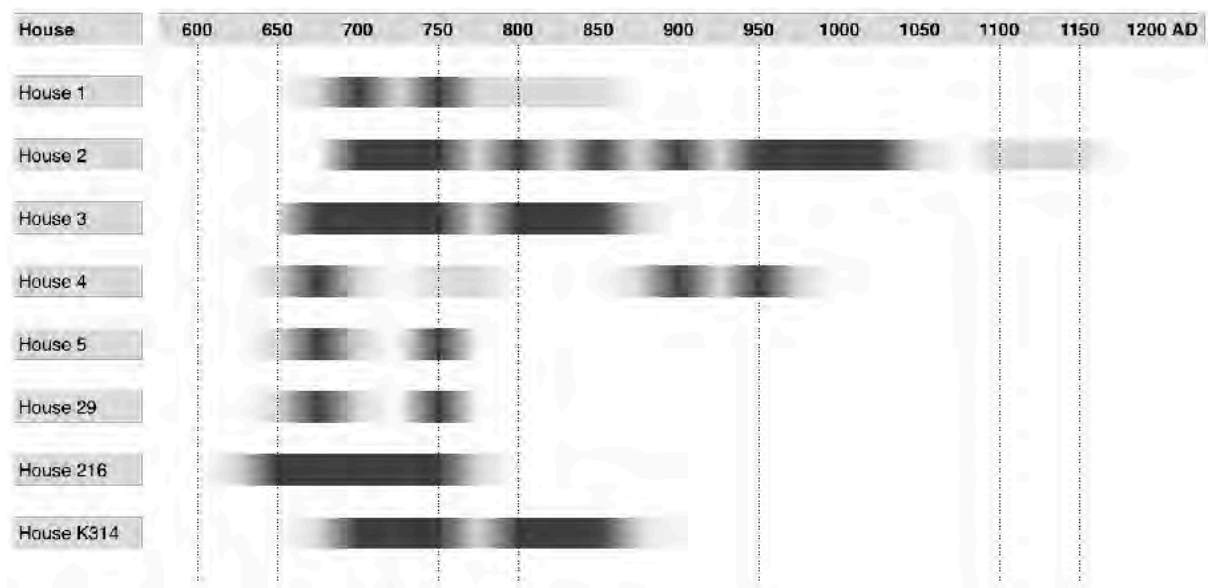
Figure 4. Overview of C14-dated longhouses at Strøby Toftegård (darker areas 68% probability, brighter areas 95% probability).

House	Feature (soil sample)	Sample-no	Material	Radiocarbon age BP	68,3 %	95,4 %
1	10204 (P6)	UBA-31343	Bos taurus, vertebra	1283 +/- 41	675-724 739-768	656-778 791-827 840-863
2	10420 (P7)	UBA-31344	Ovis Capra, radius	1046 +/- 53	901-921 951-1028	883-1052 1080-1152
2	10426 (P8)	UBA-31345	Capra/Ovis, tibia	1242 +/- 35	688-777 792-803 843-853	680-782 786-878
3	11714 (P9)	UBA-31346	Ovis aries, radius	1231 +/- 46	710-746 764-779 789-871	673-891
3	10008 (P10)	UBA-31347	Capra/Ovis, costa	1290 +/- 31	674-715 743-765	664-770
4	10670 (P11)	UBA-31348	Capra/Ovis, diaphysis	1117 +/- 28	894-929 939-970	779-788 869-995
4	10747 (P12)	UBA-31349	Bos taurus, molar	1338 +/- 28	653-685	646-713 744-765
5	10442 (P13)	UBA-31350	Capra/Ovis, molar	1331 +/- 33	654-690 750-761	647-722 740-767
5	10241 (P14)	UBA-31351	Bos taurus, metacarpus	1307 +/- 31	664-695 700-710 745-764	657-728 737-769
29	11628 (P16)	UBA-31487	Bos taurus, molar	1330 +/- 31	655-690 751-760	648-720 741-766
K216	10294 (P38)	Beta-429154	Oat	1260 +/- 30	685-770	670-775 790-800
K216	20408 (P52)	Beta-429155	Barley	1330 +/- 30	660-680	650-715 745-765
K216	20413 (P54)	Beta-429156	Barley	1390 +/- 30	640-660	610-670
K314	30679 (P168)	Beta-429161	Barley	1220 +/- 30	725-740 770-780 790-870	690-750 760-885
K314	30665 (P163)	Beta-429162	Rye	1270 +/- 30	680-770	670-775
K314	30687 (P170)	Beta-429163	Rye	1240 +/- 30	715-745 765-775	680-880

Table 1. C14-datings made on material from longhouses at Strøby Toftegård.

observations (e.g. Reynolds 1995, Zimmermann 1998, Hansen 2015). One factor influencing the lifetime of the houses is how long the earthbound posts last in the ground before they rot. Rather quickly after a post has been fixed in the ground, the rotting process begins, particularly in the zone where earth and air meets (Zimmermann 1998:50). Observations of modern reconstructed longhouses with posts fixed in the ground have shown that the rotting process happens rather quickly (within the first 10-20 years of the building's life) (Reynolds 1995:21f, Hansen 2015:101f). Exactly how quickly the post will be completely rotten is in the end depending on the species of wood, the quality and dimensions of the timber as well as the character of the subsoil (Zimmerman 1998:55, Hansen 2015:97). But the rotting process is not the only factor defining the life time. Observations of modern

reconstructed houses show that the longhouse construction had a certain stability within itself, and rotten posts do not necessarily mean that the house collapses (Reynolds 1995:23, Hansen 2015:101). At the experimental research centre at Lejre, there are examples of reconstructed longhouses which have been standing for more than 50 years (built in 1965) due to regular replacements of posts.

All in all, the lifetime of the longhouses at Strøby Toftegård are estimated to be between 40 and 75 years based on the quality (dimensions) of the timber, the number of replaced posts and the fact that the subsoil consists of clay with bits of chalk which slows down the rotting process (Zimmerman 1998:Tab.2). When a human generation is estimated to around 30 years and a typical lifetime maybe 50 years, the lifetime of the house generally lasted more than one generation. In some cases, people could even be born, grow up and die in the same house.

All longhouses are recognised on the background of the systematic position of foundational postholes and wall ditches. No remains of the actual house construction or floor layers have been preserved, and only in one longhouse (K216), the bottom of a fire place has been discovered in the eastern part of the house. Traces of internal features were not identified in any other longhouse. The record of the longhouses is in that sense generally fragmented, but the degree of fragmentation still varies. Some longhouses include wall posts, gables and doorways so the full layout of the house can be deduced from the excavation plans whereas other longhouses are only identified by the roof-supporting postholes and nothing more. Archaeological finds related to the houses are sparse and only found in the archaeological features in the subsoil from where it can be problematic to link them directly to activities in the house (Milek et al 2014:145). Because of the current state of the archaeological record of the longhouses where no internal features, floor layers and only few artefacts are found in the houses, it is not tenable to try to deduce the activities within the houses directly from the material, and the archaeological record can in that sense only say little directly about the function or social status of the individual house.

Instead, I will focus on the archaeological features constituting the longhouse and what they tell us about the house (McFadyen 2013:136). The majority of the longhouses at Strøby Toftegård consist of postholes, and each posthole contains a range of informations in itself. First, the distribution of postholes reveals the physical layout of the longhouse. Secondly, the posthole contains a stratigraphy with layers, cuts and interfaces as traces of the *chaîne opératoire* that created the specific posthole (Pauketat and Alt 2005:217, Beck in press). Thirdly, the number of postholes in a construction demonstrates repairs and reorganisation of the house within its lifetime. Finally, the archaeological record also shows what happened before and after the existence of a house which indirectly can tell about the engagement with the house. All in all, the archaeological record includes informations about events, actions and processes in relation to the history of the individual longhouse and how people in and around the longhouse engaged materially with it over time.

Despite the preservation conditions, the archaeological record is rich in traces of the dynamic development of the individual longhouse from what can be extracted from the excavated features. In that way, the archaeological record encourages an analysis of the temporal dynamics of the house rather than a spatial or functional analysis of activity zones and specific functions of the house.

A biographical approach to the longhouses

To exploit the information held in the archaeological record fully and make the temporal dynamics of the longhouse explicit, I have chosen a biographical approach in the analysis of the longhouses. In the following, I will describe the background of the biographical approach and how it more specifically will be used in the analysis.

The biographical approach was originally developed within anthropological consumption and commodity studies (Appadurai 1986, Kopytoff 1986). From there, it was adapted to archaeological studies of material culture and, relevant to this article, also to archaeological studies of houses (e.g. Bailey 1990, Tringham 1995, Gerritsen 1999, 2003, 2008, Gosden & Marshall 1999, LaMotta & Schiffer 1999, Bukkemoen 2015, Lucas 2016).

Fundamental to the biographical approach is the notion that all objects have a unique biography, a life history of its own (Lucas 2005:106, Joy 2009:545). The objects, in this case the longhouse, 'ages' over time and goes through different life stages - birth, life and death. All stages are equally important in the creation of the longhouse, as the biography of a house contributes to give the house meaning for people living in, with and around the house (Kopytoff 1986:67, Lucas 2005:56, Gerritsen 2008:147, Joy 2009:545). In the case of the longhouse, the meaning of the longhouse is not only created through the building of it and its material presence but also through its history, what activities it has housed, who has inhabited it over time and the memories and stories connected to the house (Gosden & Marshall 1999:172). An old house with a long and complicated history can in that sense have a different meaning than a newly built house even though they are built physically in very similar ways.

The background for including the biographical perspective in archaeological studies of houses has varied. In the study of formation processes, the biographical perspective has been used as a tool to identify the processes impacting and affecting the archaeological record (e.g. Schiffer 1987, LaMotta & Schiffer 1999). Focus has been on how different life stages of the house, e.g. use, decay, abandonment and afterlife, have affected and shaped the archaeological record rather than the house biography itself. Because of the essential role of the abandonment and afterlife of the house in the formation of the archaeological material, most attention has been given to theses phases in the studies (e.g. Cameron & Tomka 1993, LaMotta & Schiffer 1999:22ff). Experimental studies of house building processes are also essentially biographical by specifically studying the production, techniques, resource consumption and social contexts of the building process; in other words the *chaîne opératoire* of the house (e.g. Hansen 1964, Lund & Thomsen 1982, Draiby 1991, Rasmussen 2007, Beck et al 2007). For natural reasons, the primary focus in theses studies has been on the planning and building process rather than the use and decay of the house.

With inspiration from anthropological studies where a close connection between the household and the house had been observed (e.g. Kopytoff 1986:67, Bloch 1995), the biography of the house have also been used as a mean to study the social biography of the household in prehistory (e.g. Bailey 1990, Tringham 1995). Fokke Gerritsen's studies of Late Bronze Age and Iron Age longhouses in the Netherlands is an illustrative example of this perspective in an archaeological context similar to Strøby Toftegård (Gerritsen 1999, 2003, 2008). The longhouses in this period were short-lived (20-25 years) and

often abandoned after one generation (Gerritsen 2003:39). Gerritsen uses this type of house biography to argue that there was a close link between the biography of the house and the life course of the household. When a new household was established, a new house was built, and when the household died, the house died with it. Both the building phase, the inhabitation and the abandonment of the house play central roles in these studies, which differentiate the biographical studies from more conventional spatial studies of activity zones and settlement functions that have solely been focusing on the use period of the house (Gerritsen 2008:148).

In the context of this analysis, I will focus more directly on the biography of the longhouses themselves as an inherent part of the assemblage of the longhouse. The assemblage of the longhouse consists of a heterogeneous collection of components including people in and around the house and how these relate to and interact with each other in ongoing processes of creating, maintaining and changing the assemblage of the house (DeLanda 2006, 2016, Lucas 2016). In that context, a study of the biography of the longhouses can be used as analytical method to describe the processes present in the assembling and disassembling of the longhouse; the *becoming* of the assemblage (van Oyen 2015, Gosden & Malafouris 2015, Bille & Sørensen 2016b:17). The physical structure of the longhouse is an active component in this relationship. The house creates situations for people to engage with - whether it is in terms of the spatial layout of the house, the symbolism of the architecture or the decay of the building materials over time (Tringham 1995:97, Gosden & Marshall 1999:169, Gerritsen 2008:146). The biography is seen as a result of how people actively related to the house at different stages e.g. how the inhabitants engaged with the house over time and which strategies they chose in order to overcome the challenges of each life stage of the house. On that background, the thesis is that differences between houses, whether functional or in social status, are simultaneously a result of the physical construction of the house as well as of how people relate to the houses in practice. The aim of the analysis is not to present the complete biography of each longhouse as this is an impossible - and not necessarily fruitful - goal. Instead the aim is to use the analysis of the unique biographies to identify general patterns of similarities and differences in the biographies of the longhouses (Tringham 1995:98, Gerritsen 2003:38). More specifically, the aim is to investigate whether similarities and differences in longhouse biographies can be used in a broader interpretation of the character of the settlement complex at Strøby Toftegård.

An analytical framework

The analysis of the longhouses at Strøby Toftegård is structured around specific phases in the history of the longhouse. The phases are: the phase of planning, building, inhabiting, maintaining and abandoning the longhouse respectively whereas the afterlife of the houses will be discussed in details in Beck, this volume. The planning and the building phase represent the stages where initial thoughts, building traditions, needs and ideas were materialised, the inhabitation and maintenance of the house represent stages where the house was used, repaired and lived in and finally, the abandonment of the house represent the end of the house. Even though presented as a clear linear process moving from the birth (planning and building) to the death (abandonment) of the house, in reality, the phases are overlapping, taking place simultaneously and physically entangled with each other (Holtorf 2002, Lucas 2005:117, Joy

2009:543). The activities related to each phase can encourage or dis-encourage even undo and erase activities related to other phases. Here the division into phases is used as a heuristic model rather than necessarily as representative of how people in the past experienced life in the houses. Particularly, the planning and the building phase and the inhabiting and maintaining phase respectively are not necessarily experienced as separate in practice, but for the sake of the analysis, the phases will be maintained to make the conclusions stand out clearer; well-aware that reality was much more blurred and messy.

In practice, the analysis is build up around specific architectural elements of the longhouse, instead of the house as one entity. The argument is that different architectural elements were significant at different life stages of the house e.g. the building materials were significant in the building process but of less importance during the abandonment of the house, and the access routes in the house more relevant in the inhabitation phase but less relevant in the building phase. In the analysis, each element will be described and compared to search for patterns of similarities and differences in the architecture of the longhouses and how people around the house handled the challenges of the specific phase.

Accordingly, I have chosen to focus on the roof-supporting construction and the size of the longhouse to explore the planning phase, the timber and construction details of the house to investigate the building phase, the layout and access routes of the longhouse in the phase of inhabitation, in the
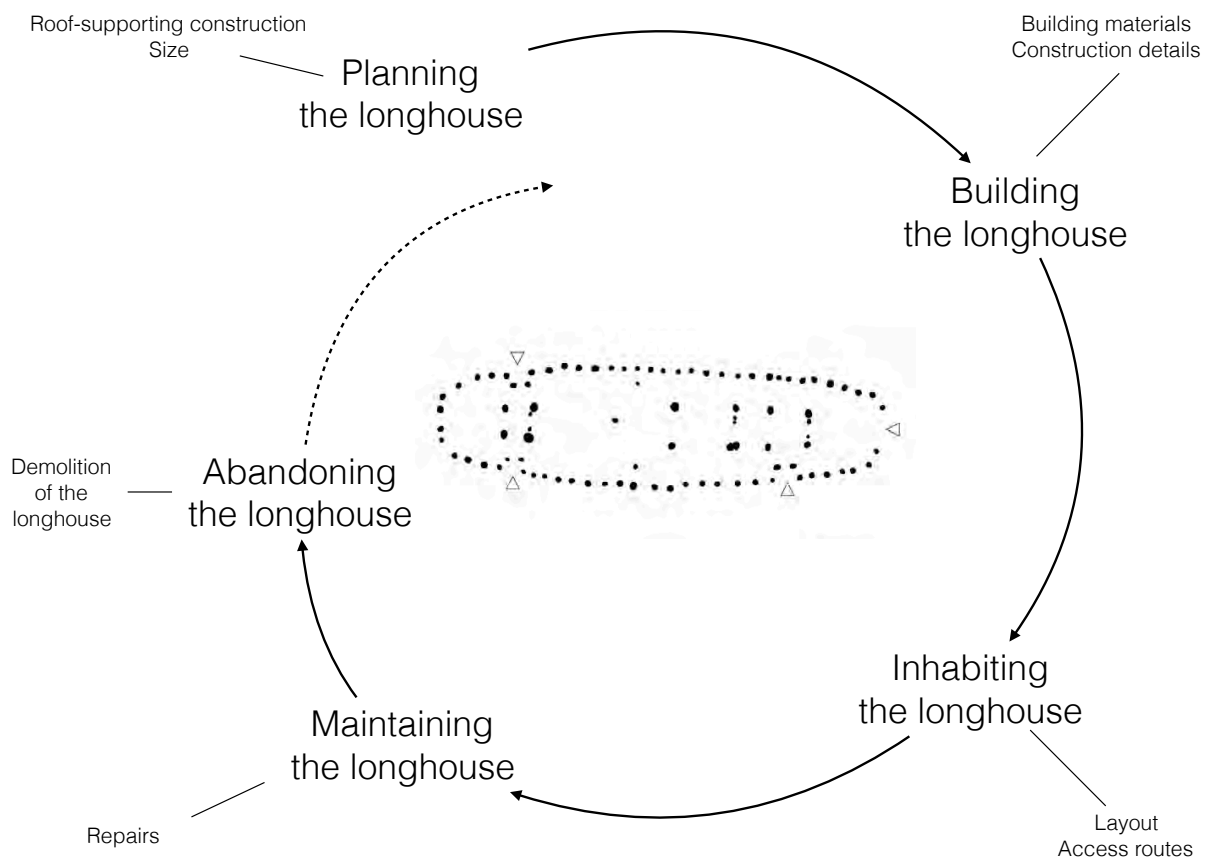
Figure 5. Analytical model for the biographical analysis of the longhouses at Strøby Toftegård, illustrating the life cycle of the house linked to specific architectural elements of the longhouse.

maintenance I have looked at the repairs of the longhouse and finally in the abandonment of the longhouse, the demolition of the house is used to explore this phase (Figure 5). The choice of architectural elements will be further argued in connection with each phase of the analysis. But generally, the choice of architectural elements have been guided by the archaeological record of Strøby Toftegård and the elements present in this specific case. With a different archaeological record and in a different context, other architectural elements might be more obvious or relevant to include.

Planning the longhouse

The planning phase of the longhouse is defined as the phase that lies before the house was actually built. In principle, the planning begins in the moment the first thoughts about the new longhouse is made and ends when the house is build. In that way, the planning phase probably stretches into and to some degree overlaps with the building phase.

The planning phase is mainly characterised by activities, which cannot directly be observed in the archaeological record as it mostly is targeted at the mental process taking place prior to the actual building process in the form of thinking, designing and planning the longhouse. Nonetheless, it had decisive consequences for the final appearance of the longhouse (Lucas 2005:107). If tools as e.g. drawings or models were uses in the process, nothing has been preserved. However, the planning phase was not necessarily structured as a modern architectural planning process, but probably took place more ad hoc with either one builder or the builders as a collective having a good idea of the end product but without an actual preconceived blueprint of the final longhouse construction (Ingold 2000:173, 2013:47ff, Blier 2006, Latour & Yaneva 2008:85, Mímisson 2016:213). How long time period the typical planning phase was stretched over are not known, but some planning ahead of the building process was needed not at least in relation to the collection and preparation of building materials e.g. the timber that needs to be found, felled and prepared.

The architectural elements relevant in the archaeological record of Strøby Toftegård for investigating the planning phase is the roof-supporting construction and the size of the longhouses. Both need to be planned ahead of the actual building process and are expressions of the existing building tradition. The roof-supporting construction has to be planned in the same moment as the house is planned, as it is the first elements to be raised of the house (Draiby 1999, Poulsen 2005). The roof-supporting construction constitutes the core of the longhouse and defines the rest of the construction, the house form and the size of the house. The size of the longhouse also has to be planned before the actual building process as it is partly depending on the roof-supporting construction as well as it has consequences for the need and consumption of building materials.

The roof-supporting construction

The identification of the roof-supporting construction of the longhouses is based on the postholes in the longhouse construction. Due to the great variety in preservation conditions and architectural details, the analysis of the roof-supporting construction only includes the posts raised inside the house but leaves probable gable posts out of the analysis to make the material comparable across differences in preservation.

The majority (90%) of the longhouses at Strøby Toftegård has a traditional three-aisled construction consisting of pairs of posts raised inside the house (appendix A). No houses had a two-aisled construction and only one house had an one-aisled construction (house 41) even though both types of constructions occur in the period (e.g. Skov 1994, Hansen 2015). Another longhouse (K312) also had a one-aisled construction but was dated to 375-540 AD, and has not been part of the Late Iron Age-Viking Age settlement in question here. K312 is therefore not included in the analysis, but further information about the longhouse can be found in appendix B.
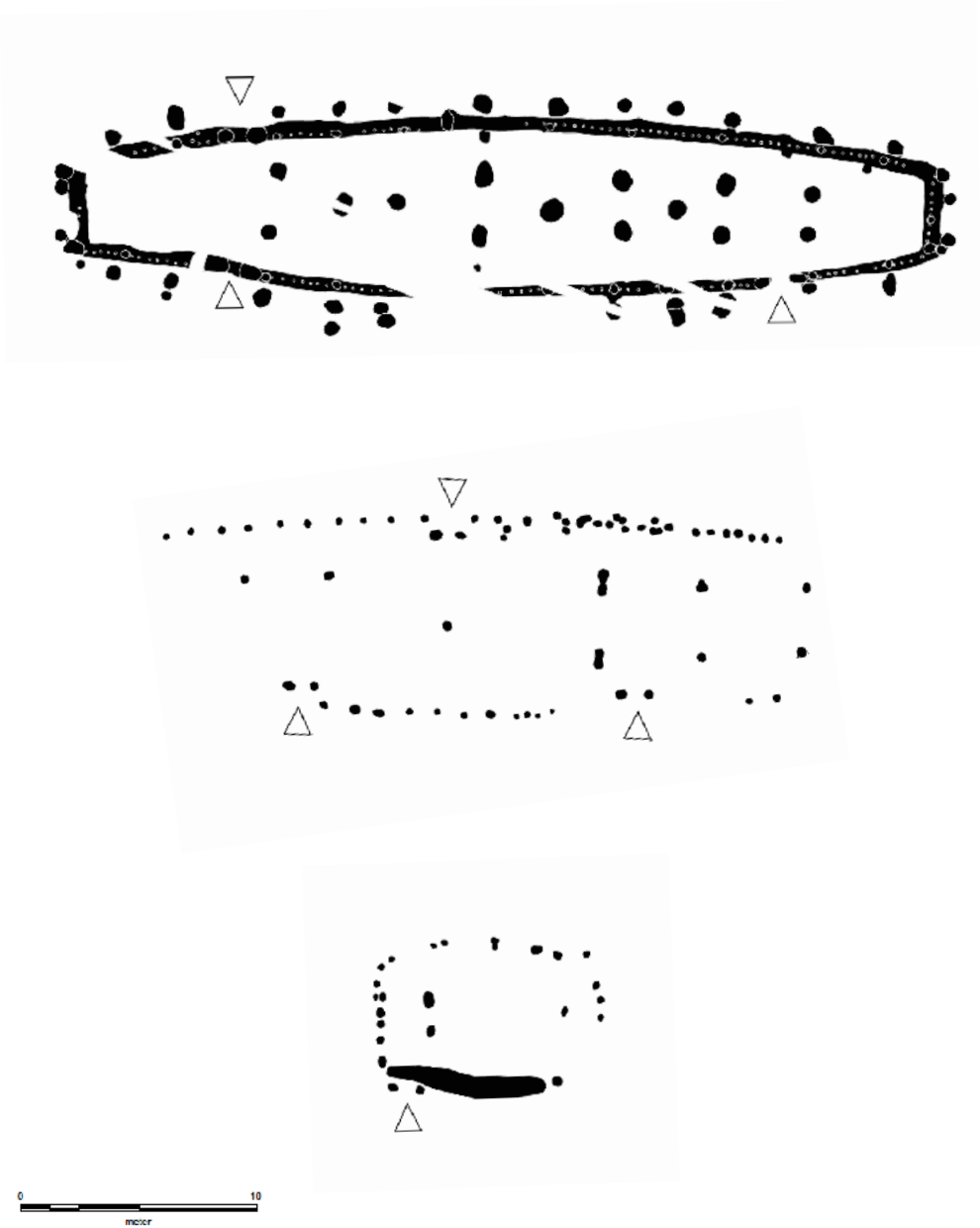
Figure 6. Three examples of longhouses with a three-aisled roof-supporting construction in combination with middle-posts. At the top, house 4, in the middle house 13 and in the bottom house 90. All houses have been reproduced in the same scale and aligned to the same orientation. Entrances are marked with triangles.

A smaller group of longhouses has a three-aisled construction with one or several middle-posts located between the pairs of posts in what looks like a combination of a three- and a two-aisled construction (Figure 6). As the combination of middle-posts and a three-aisled construction is an architectural feature particular to the longhouses of Strøby Toftegård, it is relevant to use some space on discussing this type of construction in more details and whether the middle-posts should be considered an integrated part of the roof-supporting construction or not.

Middle-posts have been observed in eleven longhouses at Strøby Toftegård (house 2, 3, 4, 9, 13, 16, 29, 45, 50, 69 and 90) (appendix A). The longhouses with middle posts are found distributed in most of the settlement (Figure 7). The majority of the longhouses has one middle-post as part of the construction, house 45 have two and house 3 and 4 have four middle-posts. In general, the middle-posts are located centrally in the space where the largest span between two pairs of posts in the roof-supporting construction is found. In house 3 and 4, two middle posts are found in this space.

       The location of the middle-post(-s) suggests that the middle-post (-s) could be a necessary part of the construction when creating large distances between the roof-supporting pairs inside the longhouse. But there are examples of longhouses in the settlement with the same spatial distribution of the pairs in the roof-supporting construction (and even larger distances in between) but where no middle-posts have been found (e.g. house 1 and 24). The middle-posts can in that sense not have been a vital element for the roof-supporting construction.

Figure 7. The settlement at Strøby Toftegård. Longhouses with middle-posts are highlighted.
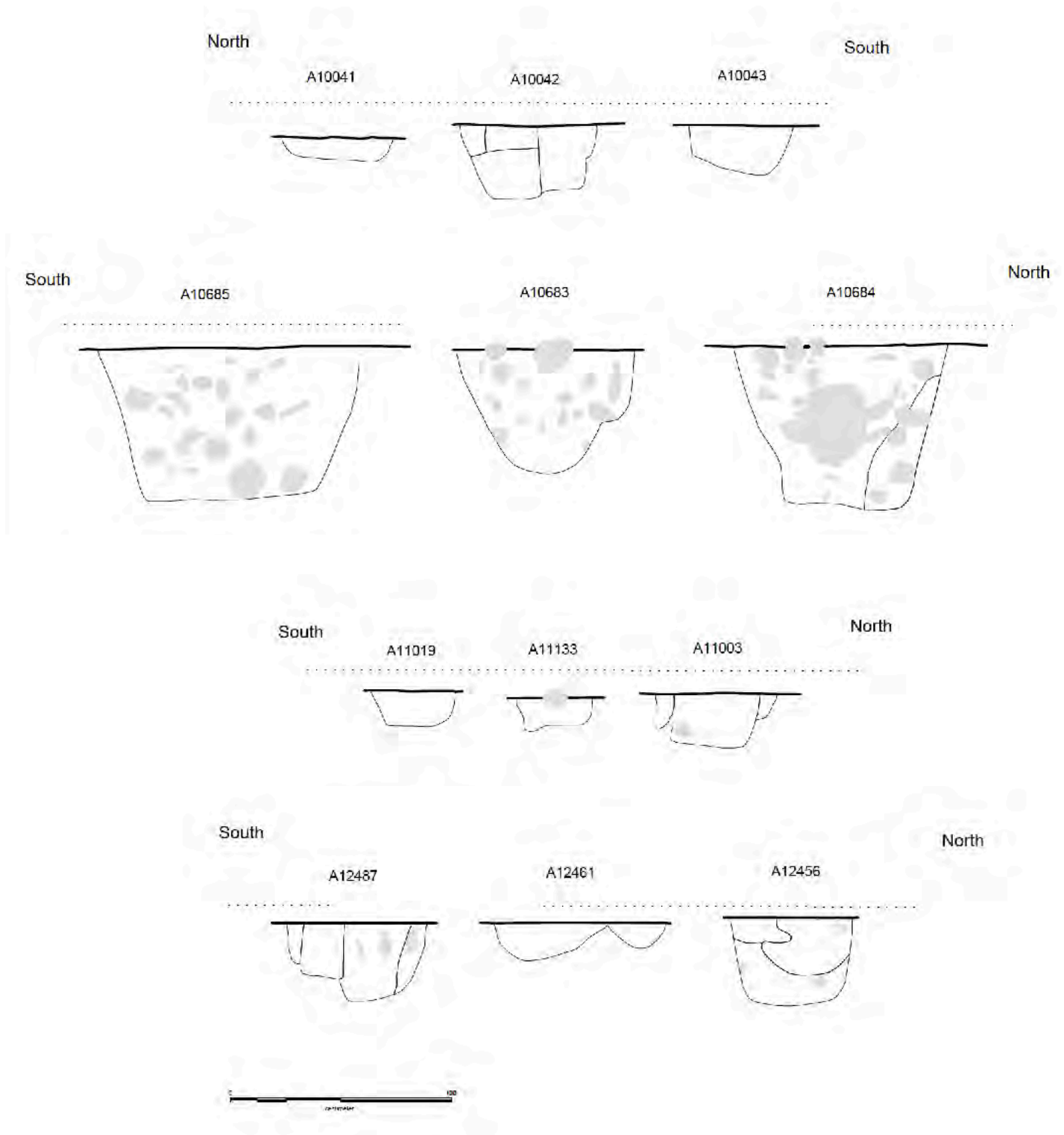
Figure 8. A selection of posthole sections from roof-supporting posts and middle-posts from the same house. From the top to the bottom: house 3, house 4, house 13 and house 50.

When looking at the actual archaeological features, the shape and the fill of the postholes of the middle-posts are similar to the other roof-supporting postholes, and the similarity to the other posts indicate that the middle-posts were raised at the same time as the other posts in the construction. The middle-posts should therefore not be seen as a later addition or a repair of the roof-supporting

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construction but as an original component. However, the dimensions of the postholes (diameter and depth) are often smaller, particularly in the longhouses that only have one middle-post (Figure 8). The difference suggests that the timber did not carry as much weight as the other posts in the roof-supporting construction. All in all, the middle-posts do not seem to be an essential element for the supporting construction but rather as an addition to the construction for other functions than the purely supportive.

Searching the archaeological record for similar constructions to widen up the perspective on the phenomenon, middle-posts are known from a few other sites dated to the same period. In house XL, Gammel Lejre, and house XX, Runegård at Bornholm, a middle-post has been identified centrally in one of the gable rooms (Figure 9a) (Watt 1983, Christensen 2015). The location of the middle-post in the far end of the house is quite different from the location of the middle-posts at Strøby Toftegård, and the function might in that sense not have been the same. In the longhouse at Runegård, the distance of a little more than 8 m between the roof-supporting construction and the western gable might suggest that the post had a supporting function in this particular longhouse, whereas the distance between the last pair of posts and the gable in the longhouse at Gammel Lejre is much less (2,9 m). The post is similar to the other roof-supporting posts but seem superfluous for the construction. On that background, it is not possible to come with any certain statements about the role of the middle-post in relation to the roof-supporting construction in these two cases.

At Ågård by Bjæverskov, Zealand, a longhouse (K2) with a significant middle-post has recently been excavated (Figure 9b) (Kristensen 2015, Schultz 2017). The middle-post is placed in the centre of the longhouse and has the same (if not even greater) dimensions as the traditional roof-supporting postholes. An extension of the posthole has furthermore been interpreted as a ramp for raising the post indicating a post of significant dimensions. The dimensions suggest a supporting function of the post (Kristensen 2015:11). Similar ramps were not found for the other roof-supporting posts though. Furthermore, the Ågård longhouse had a stone-filled wall trench and slanting buttresses, which are features also found in house 4 at Strøby Toftegård. K2 is the only longhouse in the settlement at Ågård with a middle-post, but longhouses of similar construction but without middle-posts have also been found in the settlement.

Finally, longhouses with a combination of three-aisled construction and one or more middle-posts have been found at settlements in Ståstorp, Hilleshög and Stora Bernstorp, Scania (Artursson 2005:131; Strandmark & Ifversen 2008). The longhouses at Ståstorp and Hilleshög each have one middle-post in a similar location as the longhouses at Strøby Toftegård; located centrally in the largest room in the longhouse. The longhouse at Store Bernstorp has three middle-posts (Figure 9c). Two of these are located in a central room on each side of a hearth. The third middle-post is located in a room in the western end of the house. The two central middle-posts might have been located so they make up a 'third' leg in a pair of posts in the construction. This location of the posts is different from the middle-posts at Strøby Toftegård which, except in house 45, are more or less always standing by themselves. None of the posts in the house at Stora Bernstorp have been excavated so their dimensions and character in comparison to the other archaeological features are unknown, and their role in the roof-supporting construction cannot be investigated further. In the settlement, other houses have
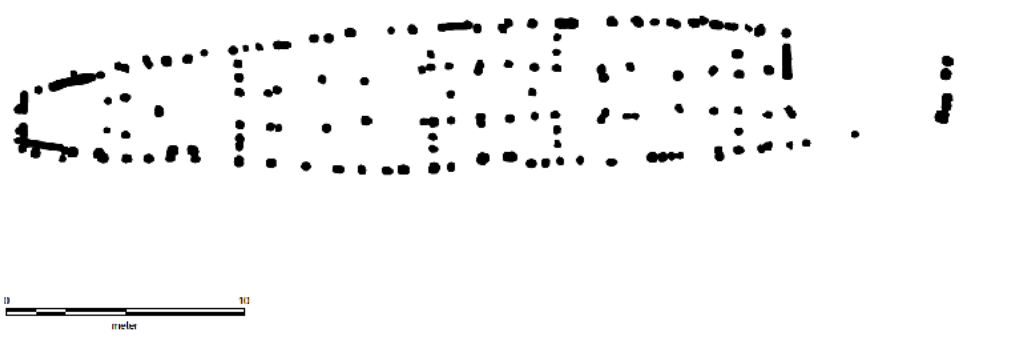
(a)
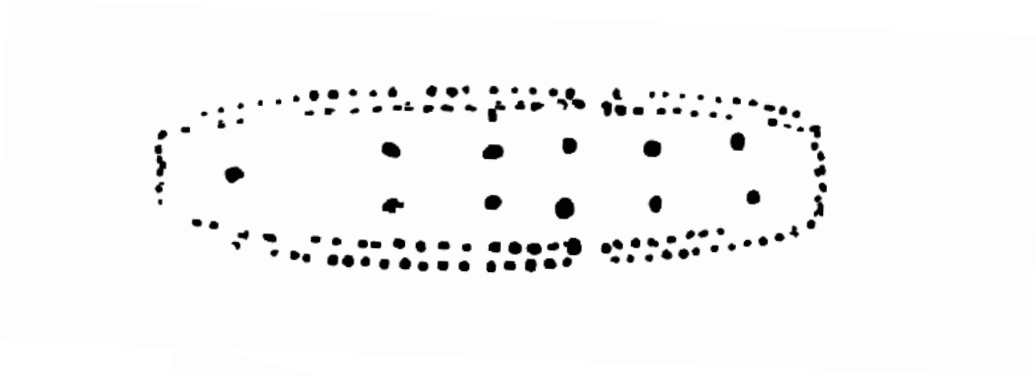
(b)
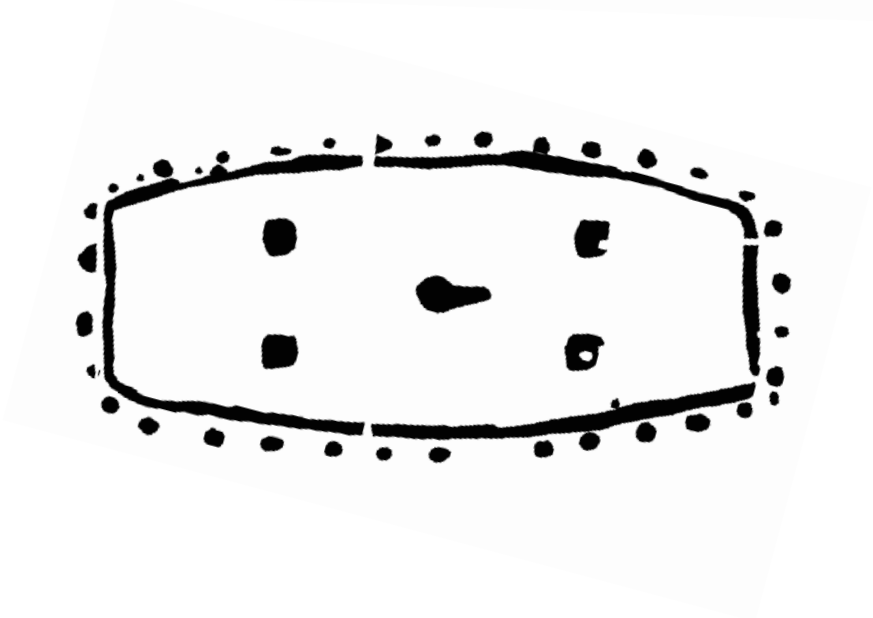
(c)

Figure 9. Examples of longhouses with middle-posts.

(a) House XX, Runegård, Bornholm (redrawn after Watt 1983).

(b) House K2, Ågård, Zealand (redrawn after Schultz 2017).

(c) House 4, Stora Bernstorp, Scania (redrawn after Strandmark & Ifversen 2008).

    All houses have been reproduced in the same scale and aligned to the same orientation.
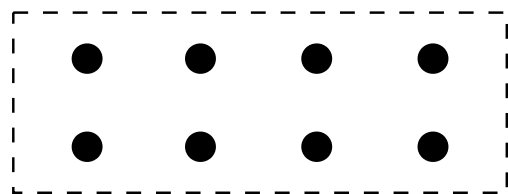
been uncovered with similar roof-supporting construction but without middle-posts, and that in itself insinuate that the middle-posts were not necessary for the supporting construction.

All in all, it can be said that middle-posts in combination with a three-aisled construction are still a rare phenomenon and therefore not a very well investigated phenomenon either. From the presented examples though, it seems probable to conclude that the middle-posts have not been a vital part of the roof-supporting construction as longhouses with similar roof-supporting construction both with and without middle-posts have often been found together. The middle-post rather seems to be an extra feature that could be added or be left out. Alternatively, it is a possibility that the middle-posts have served a completely different function than as part of the supporting construction; maybe in relation to the hearth which could be supported by the often central location of the post in the largest room. A location on both sides of the hearth could also be observed in house 4 at Stora Bernstorp. More attention on this specific construction element and systematic investigations of it in the future will hopefully bring an answer.

From the analysis and discussion of the roof-supporting construction, it must be concluded that the longhouses with middle-posts were also three-aisled longhouses, just with one or more middle-posts added. The architectural principle behind more or less all the longhouses was in that sense the three-aisled construction. However, the longhouses were not identical because the three-aisled construction comes in many variations. Six main principles for the three-aisled construction could be identified based
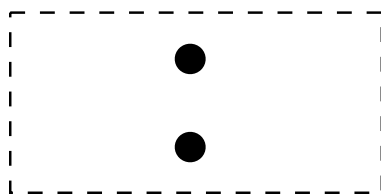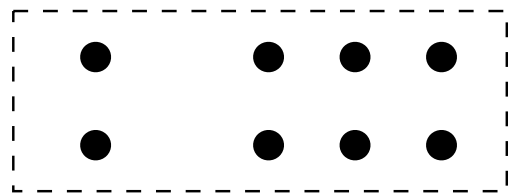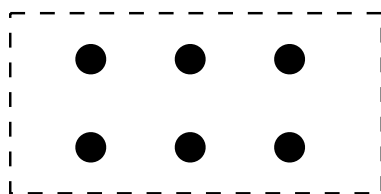
Principle 1: houses with one pair of posts

Principle 2: houses with two pairs of posts with equal distance between the pairs as to the gables

Principle 3: houses with three pairs of posts and similar distance between the pairs

Principle 4: houses with four or more pairs of posts and similar distance between the pairs

Principle 5: houses with four or more pairs of posts, where the distribution of the pairs is uneven

Principle 6: houses with two pairs of posts with significantly larger distance between the pairs than the distance to the gables

Figure 10. Six principles for roof-supporting construction recognised in the three-aisled longhouses at Strøby Toftegård.
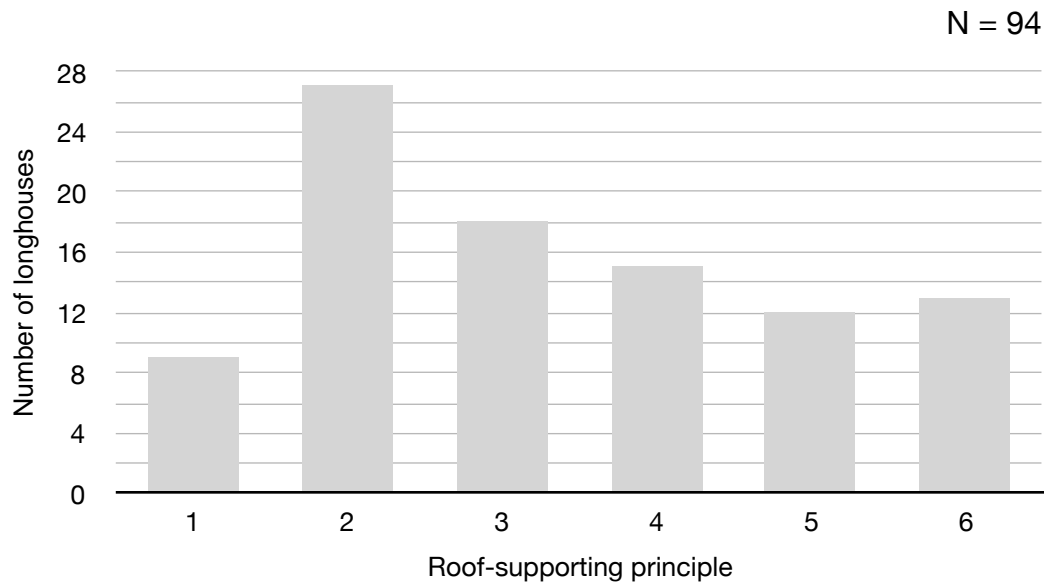
Figure 11. The distribution of longhouses in relation to the six principles of roof-supporting construction (see Figure 10).
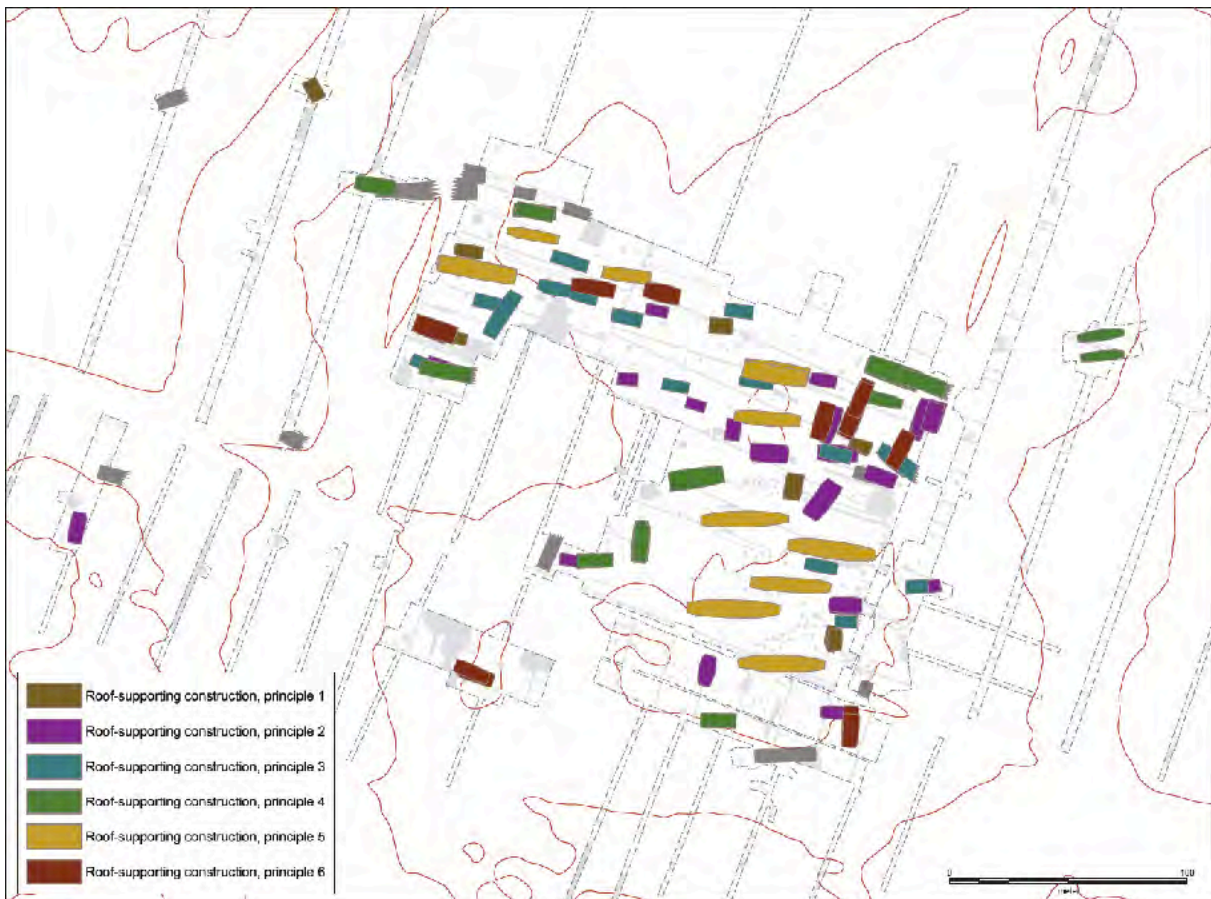

Roof-supporting construction, principle 1
Roof-supporting construction, principle 2
Roof-supporting construction, principle 3
Roof-supporting construction, principle 4
Roof-supporting construction, principle 5
Roof-supporting construction, principle 6

Figure 12. The settlement at Strøby Toftegård. The distribution of the six identified principles of the three-aisled longhouses is mapped. Grey = houses where the roof-supporting principles could not be identified.

on the number of posts and their internal distribution in the roof-supporting construction (Figure 10). Longhouses that are only partly uncovered have been left out of the analysis, but all other three-aisled longhouses are included (94 longhouses in total) (appendix A). Among the longhouses at Strøby Toftegård, principle 2 is the most common (27 longhouses) and principle 1 is the least used (9 longhouses) (Figure 11). The distribution among the other construction principles was relatively equal. All principles are present widely in the settlement (Figure 12), and no particular spatial groupings could be identified.

Size

The size of the houses has in this context been defined as equal to the length of the longhouses, because the preservation conditions at Strøby Toftegård make it problematic to measure the width of the houses. Either no traces of the walls are preserved or there are challenges with identifying the posts at the long sides of the house as wall posts or buttresses.

The length of the longhouses at Strøby Toftegård can only be certainly measured or estimated in houses where at least one gable are identified. In longhouses where only one gable are recognised, the full length is estimated from the notion that the longhouse originally had a more or less symmetrical layout as most of the longhouses where two gables have been identified. In all, the total length can be measured or estimated in 60 longhouses (appendix A). The length varies considerably (Figure 13). The shortest longhouse is 9,2 m (house 16) and the longest is 39,5 m (house 2). Based on the length, four size classes can be deduced: Very large longhouses (more than 34 m) (house 1-5, 50-51), large longhouses between 23 and 30 m (house 11-13, 23-24, 29), longhouses between 17 and 23 m (11 longhouses in all) and smaller longhouses, less than 17 m, which is the largest group with 36 longhouses in total. The four size classes are spread in most of the settlement (Figure 14), though there is a tendency that the largest houses are gathered in the southeastern part of the settlement.
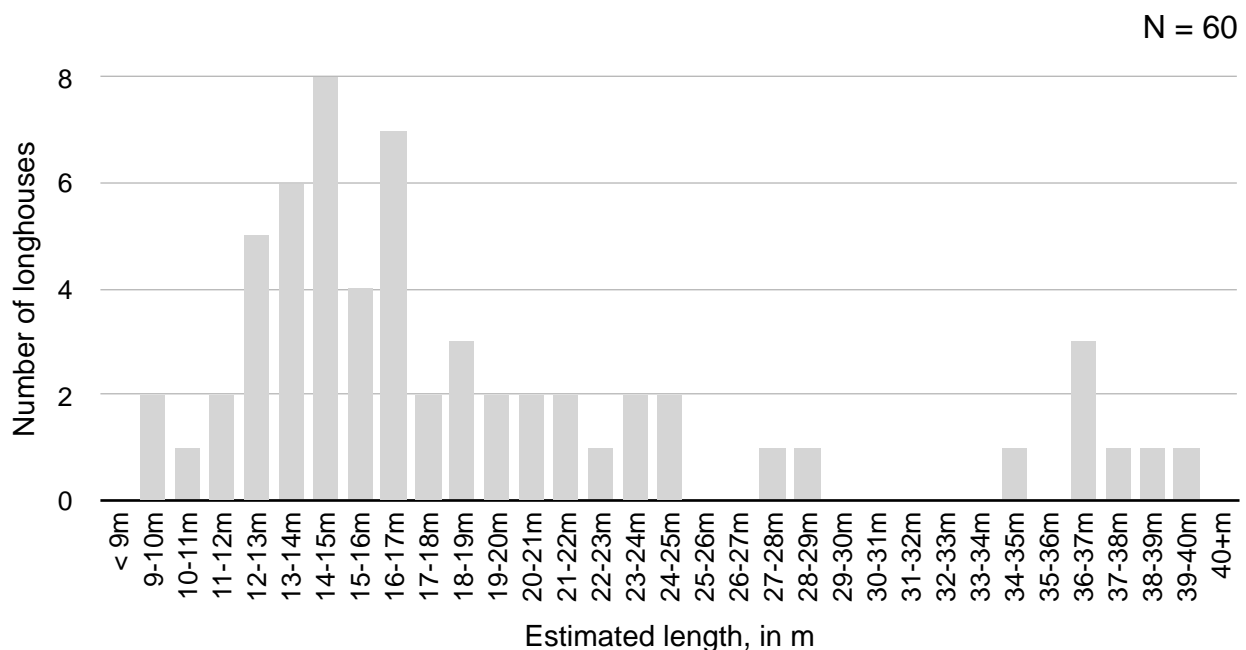
N = 60

Figure 13. The distribution of longhouses in relation to the estimated length of the longhouses at Strøby Toftegård.
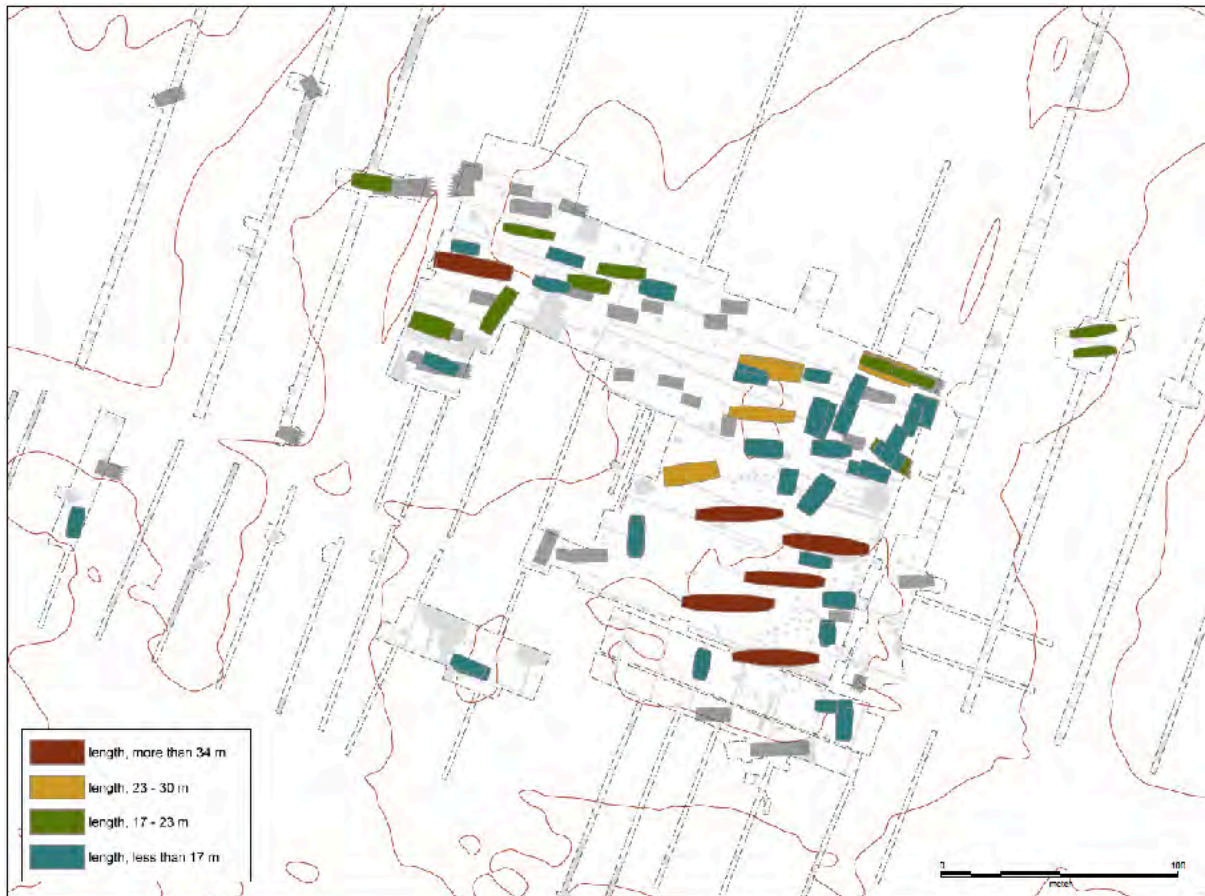
Figure 14. The settlement at Strøby Toftegård. The distribution of the four identified size classes is mapped. Grey = length cannot be measured or estimated

The aim of the planning phase was to combine existing building traditions, norms and ideals with the specific needs and wishes of the inhabitants at the same time as taking the available knowledge, tools and building materials into account. The challenge was to find the right compromise, that fulfilled the wishes of the inhabitants and that the surrounding society would understand and accept as a 'proper longhouse'.

The lack of variation within the general architecture of the roof-supporting construction shows that the building tradition of the three-aisled longhouse was strong in the case of Strøby Toftegård and only few compromises were accepted. Compromises could be made e.g. by adding middle-posts or building a one-aisled construction but in general the construction gives an impression of a relatively conservative planning of the longhouse.

Instead, patterns of similarities and differences were observed within the three-aisled tradition where six principles for the roof-supporting construction were identified and within the size of the longhouses where four size classes were defined. When juxtaposing the principle of the roof-supporting construction with the length of the house, there is a natural correspondence between the number of pairs in the roof-supporting construction and the length of the house (Figure 15). But what is worth to notice is that the same construction principle can be built into houses of quite different sizes. For instance is construction principle 5 used both in houses that are 17-23 m, 23-30 m and longhouses more than 34 m. The choice of construction principle is in that way not a direct consequence of the size of the house but

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must be a conscious decision in the process of planning the longhouse, most probably in relation to the specific use of the house. Reversely, the choice of size of the house is in principle not depending on the use of the house. The variation in size within the same type of construction principles is therefore rather mirroring differences in the specific possibilities present in the current building situation than differences in use.

Interestingly, it seems that even though, extensive repairs and replacements of building elements has been observed in the longhouses at Strøby Toftegård, no later extensions or redesigns have been observed in any of the longhouses. On that background, it seems that when a longhouse was planned (and built), the inhabitants did not reengage with the planning phase, but instead, the longhouses remained more or less the same through their lifetime; maybe even if the use of the house changed?
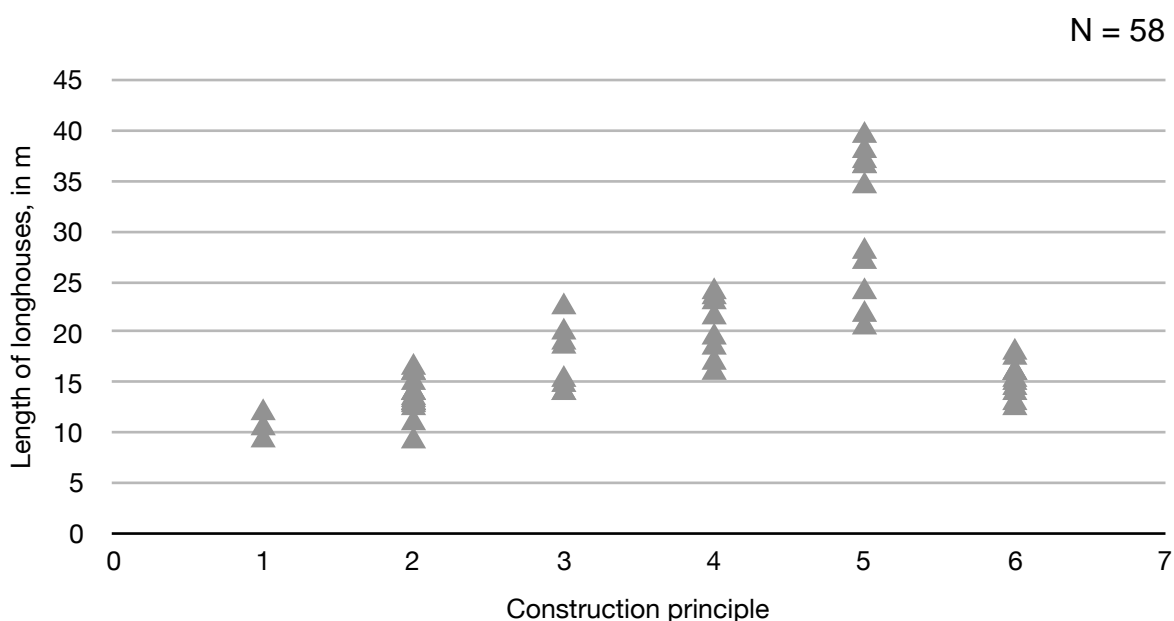
Figure 15. The distribution of the longhouses according to the estimated length of the longhouse and the six identified principles of the three-aisled construction.

Building the longhouse

The building phase in the biography of the longhouse is defined as the time when the longhouse was materialised and got a physical form. The phase begins when the first foundations is dug and ends when the house is ready for inhabitation. In that sense, the building phase overlaps with the planning phase in one end and the inhabitation phase in the other end. However, it can also be argued that the building phase never really ends but is an ongoing process overlapping with the maintaining phase of the house (Ingold 2010:161f, 2013:147ff).

The building process is characterised by building activities connected to raising and constructing the longhouse; activities as digging, levelling, measuring and preparing timber. In terms of time, the building process was probably stretched over a relatively short period of time, where the construction were raised, the outer surfaces (walls and roof) were covered and the house prepared for inhabitation.

Part of the building process must have contained elements of teaching and learning, passing on knowledge, traditions and craftsmanship to the next generation of builders.

The architectural elements relevant to investigate the building phase at Strøby Toftegård is the supporting timber and the construction details at the long sides of the house respectively. Both the timber and the long side constructions can be used to give an insight into the character of the building materials used in the building process. The building materials are an essential source to the quality of the original building and the construction details of the building. Which materials and which details that are chosen are decisive for the appearance and not least the life time of the longhouse.

Timber

In this part of the analysis, the dimensions of the timber posts in the roof-supporting construction will be analysed as a reflection of the robustness and quality of the rest of the construction. Building timber itself has only been preserved in situ in few contemporary settlements (e.g. Lundqvist 2000). In other cases, timber from buildings have been preserved in secondary contexts as bridges (Hansen & Nielsen 1979) and wells (Hvass 1992:248). When distinct impressions of the timber has been preserved in the posthole, it can be another valuable source to the dimensions and sometimes also the shape of the post (e.g. Bican 2010:151f).

Unfortunately, no timber has been preserved and post impressions are only found in a few cases in the archaeological record of the longhouses at Strøby Toftegård. In this case, the postholes in themselves are the best source in the current archaeological record to the character of the timber. The assumption is that the posthole dug for fixing the timber in the ground matches the post raised in it. The assumption are confirmed by the fact that variation in the diameter of the postholes within the same longhouse construction is limited. An analysis of the dimensions of the postholes will in that way work as an indirect source to the utmost dimensions of the timber even though it will not be an exclusive one-to-one relationship.

In the analysis, an average diameter and depth of the postholes holding the roof-supporting posts have been calculated for each house (appendix A). In the calculation of the average, source critical issues as later disturbances and replacements of the post have been taken into account. If credible measurements of the diameter or depth of posthole could not be given, the posthole have been left out of the calculation. Furthermore, working with average measures will partly neutralise disturbances at the single posthole that can have distorted the diameter or depth, but which have not been recognised in the data.

The diameter of the postholes varies, so the smallest diameter of a roof-supporting posthole is 10 cm (house 38) and the largest is 140 cm (house 5). The depth of the postholes varies so the smallest (preserved) depth is measured to 1 cm (House 45 and K216), and the largest depth measured is 78 cm (house 5). Whereas the diameter of the postholes within the same longhouse is more or less uniform, the difference in depth varies more within the same house and fluctuations up to 40 cm have been observed (house 1, 2, 4 and 5). The variations can be caused by local preservation conditions and terrain, but in most cases, it must be a constructional choice, as there is a persuasive tendency that the deepest postholes are found in the middle of the house and the less deep postholes towards the gables. When the
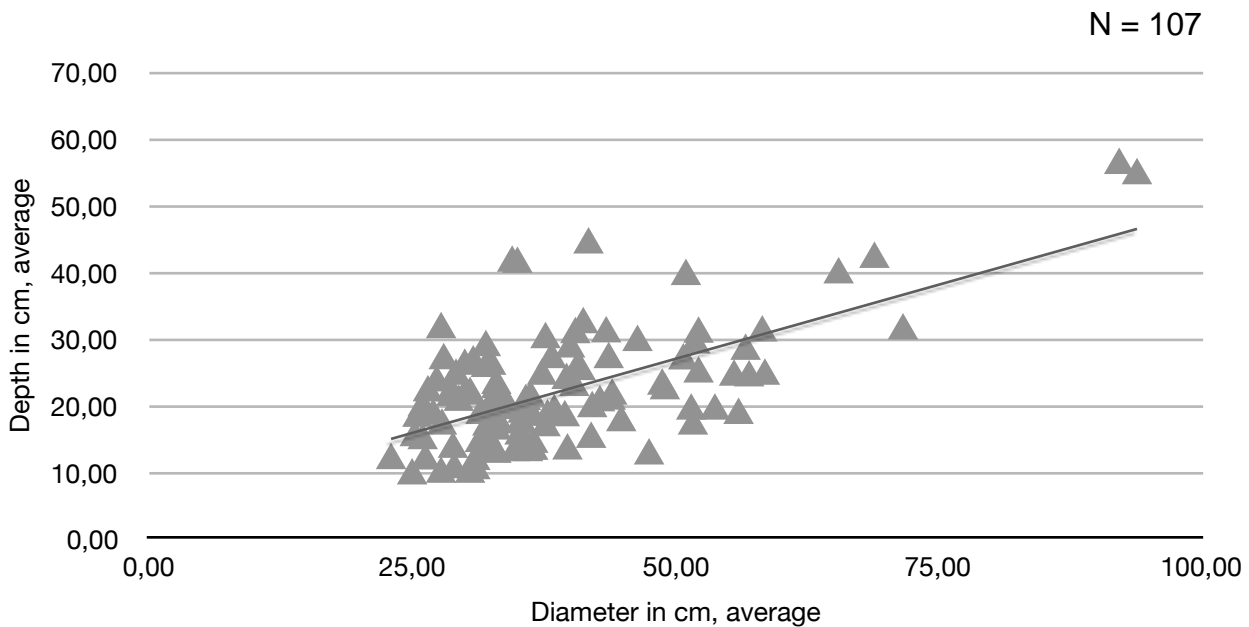
Figure 16. Distribution of average measures of diameter and depth of the roof-supporting posts in the longhouses at Strøby Toftegård. The tendency line mark the ideal relationship between the two measurements.

average diameter and depth are juxtaposed, there is a close relationship between the diameter and depth of the postholes (Figure 16). Generally, the larger the diameter, the deeper the post has been fixed in the ground. The close relationship suggests that the dimensions of the posthole mirror the quality of the construction of each house.

A logic assumption is that there is a relationship between the size of the house and the dimensions of the timber, so the larger the house is the more solid timber is needed as the construction gets heavier. A juxtaposition of the (estimated) length of the houses with the diameter of the postholes maps and confirms this relationship (Figure 17). In the middle of the diagram (marked with a tendency line), the average relationship between the dimensions and the length of the house is shown. The longhouses found around this line are the constructions that defines the norm for building quality within the settlement at Strøby Toftegård. Houses which lies significantly above the line can be interpreted as being 'over-dimensioned' in relation to the quality of the building materials (house 4, 5, 7, 18, 20, 28, 40, 46, K301 and K314) whereas the longhouses that are significantly below the line can be interpreted as 'under-dimensioned' (house 13, 51, 58, 59, 77, K216 and K401) compared to the norm. The boundaries between over-, normal- and under-dimensioned are not definite measurements. The distinctions are relative and should only be taken as a guide hinting towards the general quality of the buildings at Strøby Toftegård. When mapped onto the settlement plan (Figure 18), there is a distinct difference between the over-dimensioned houses which are concentrated in the southeastern part, whereas the under-dimensioned houses are lying closer to the outskirts of the excavated areas. Even though it is only part of the longhouses which can be categorised, the building quality of the longhouses seems to mark a clear division in the settlement.
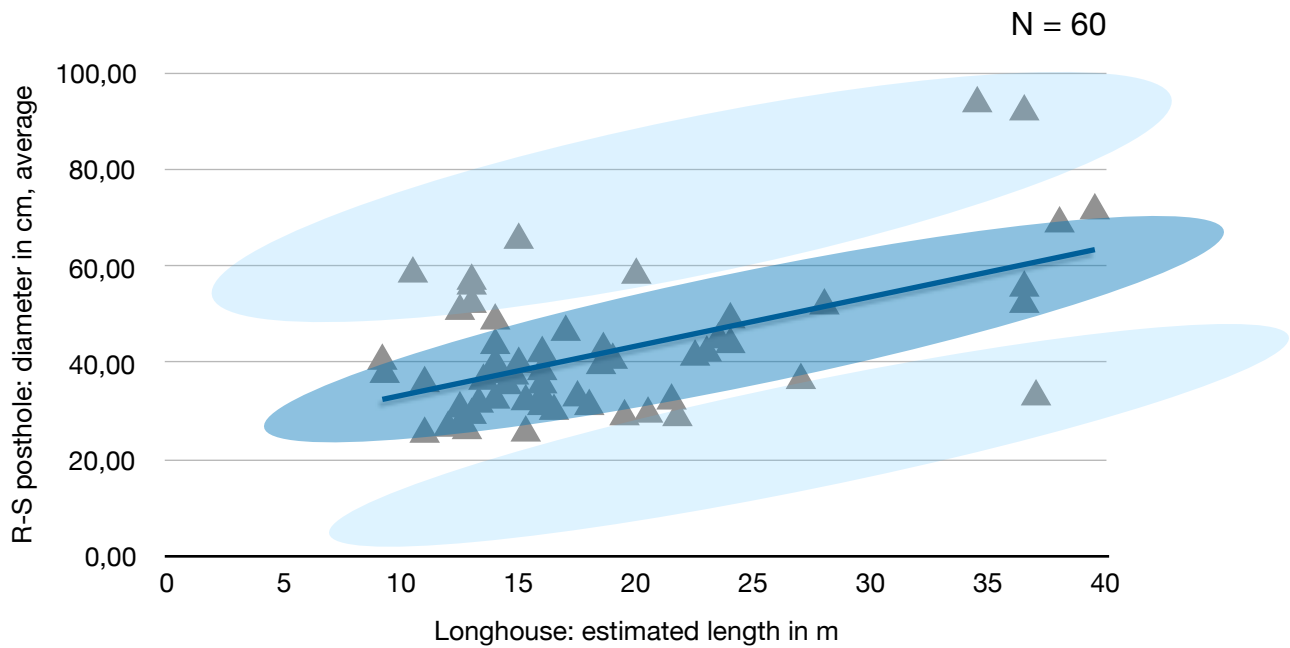
Figure 17. Distribution of longhouses at Strøby Toftegård comparing the estimated length with the average diaper of the roof-supporting posts. The tendency line marks the 'norm' of building quality in the longhouses. Longhouses located far over the line has been interpreted as over-dimensioned, whereas longhouses located far below the line are interpreted as under-dimensioned in relation to the quality of the building materials.
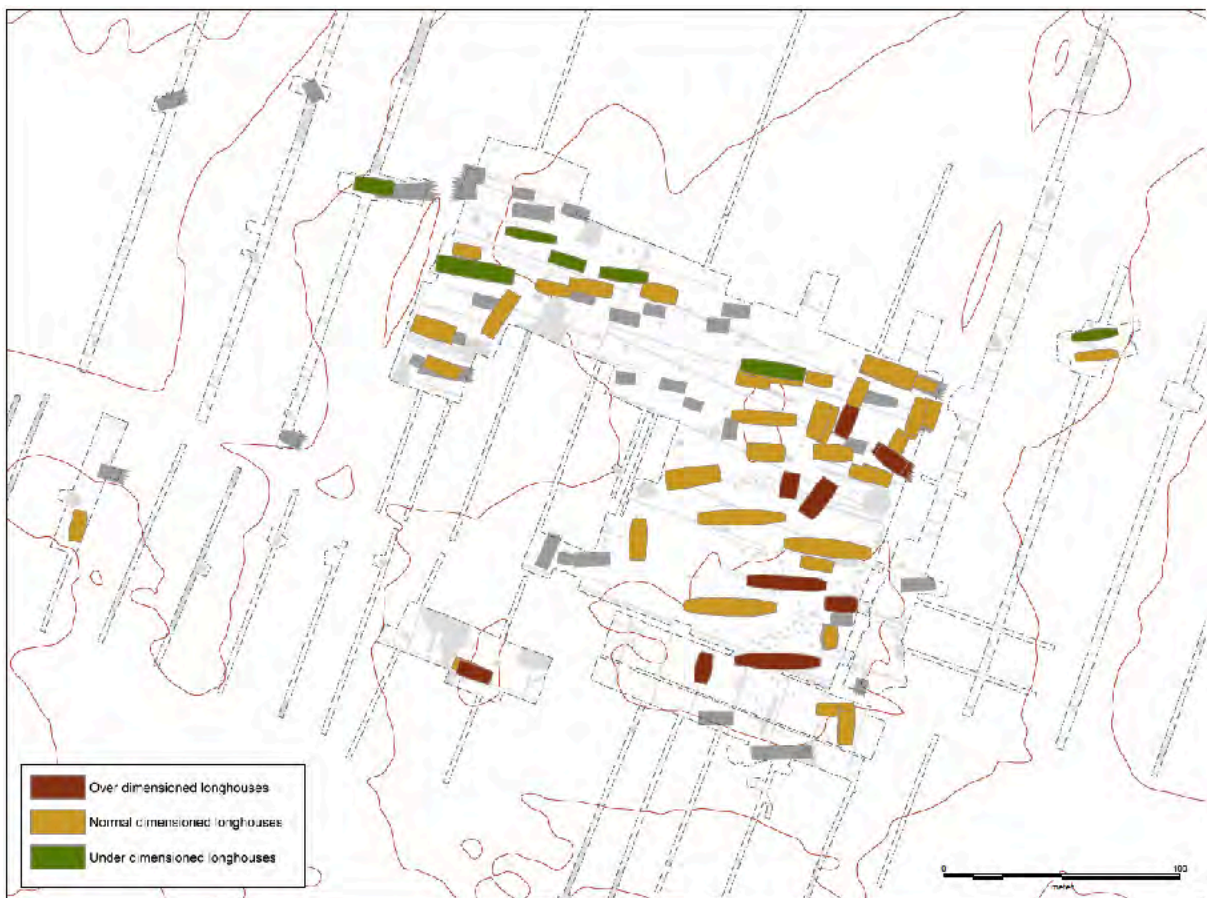

Figure 18. The settlement at Strøby Toftegård. The distribution of the interpreted quality in the used building materials is mapped. Grey = no evaluation can be made

Construction details at the long sides of the house

The constructions at the long sides of the house includes all post- and ditch features observed at the long sides of the houses. The features originate from either wall constructions, buttresses on the outer side of the wall or from both. Due to the preservation conditions at Strøby Toftegård, it is not always possible to distinguish between wall posts and buttresses as the postholes are often too shallow or no post impressions have been preserved revealing the angle of the original post. Therefore, the two architectural elements will be discussed together in this part of the analysis.

Traces of constructions at the long sides of the house have been preserved in 56 longhouses in total (appendix A). In some longhouses, the archaeological traces reveal the full layout of the longhouse, whereas for others, the constructions are only partly preserved. In the longhouses where the layout of the house can be identified, it can be seen that the majority (78%) of the longhouses had curved long sides (40 longhouses with curved long sides compared to 11 longhouses with straight long sides). The longhouses with straight long sides seems mainly to be found in the northeastern part of the settlement, whereas longhouses with curved long sides are distributed evenly in the settlement (Figure 19). The curved shape is often mirrored in the roof-supporting construction (when it consist of more than two pairs of posts), but not as a rule. Longhouses with curved long sides can also have a straight roof-supporting
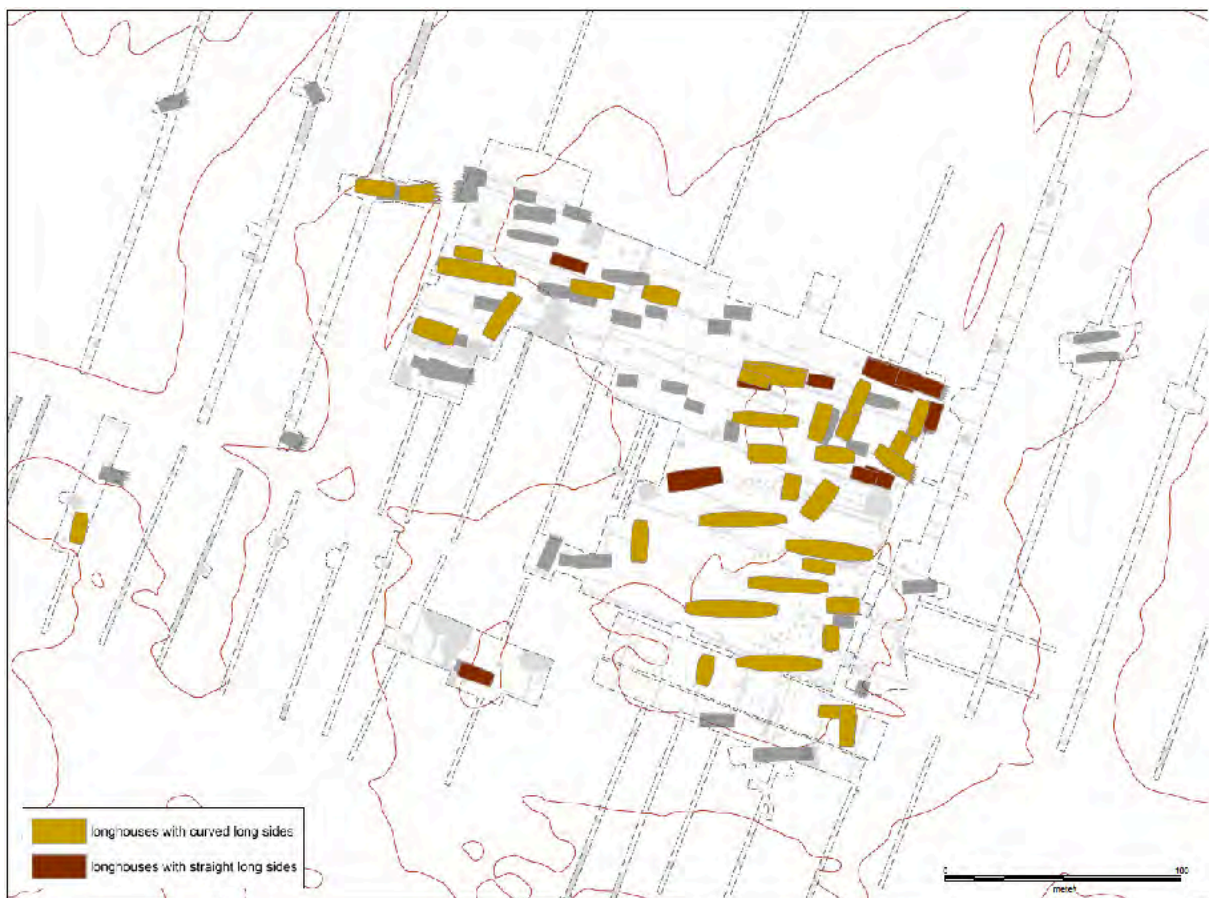

Figure 19. The settlement at Strøby Toftegård. The distribution of longhouses with curved and straight long sides respectively is mapped. Grey = no archaeological features are preserved at the long sides of the longhouse.

House	Long sides, curved or straight	R-S construction, curved or straight
11	1	2
12	1	2
23	1	1
39	1	2
47	1	2
59	1	1
1	2	2
2	2	2
3	2	2
4	2	2
5	2	2
6	2	1
13	2	2
24	2	2
28	2	1
29	2	2
50	2	2
67	2	2
79	2	1
83	2	1
401	2	2

Table 2. Overview of longhouses where the form of both long sides and roof-supporting construction can be identified. In the table 1 = straight and 2= curved.

construction (e.g. house 6, 28 and 79) (Table 2). Longhouses with straight long sides can either have a straight roof-supporting construction (e.g. house 53 and 59) or a curved construction (e.g. house 11, 12 and 47). In that sense, there seems not to be a direct connection between the shape of the roof-supporting construction and the shape of the long sides.

The majority of the long side constructions are present as postholes. Traditionally, wall constructions consisting of a row of postholes are interpreted as a wattle-and-daub construction. This assumption is confirmed by the fact that many longhouses at Strøby Toftegård have remains of burnt clay in the backfill of the postholes which could originate from the walls (57 longhouses out of 108 longhouses), and it must be assumed that the majority of the longhouses in the settlement probably had walls with wattle-and-daub. However, two longhouses distinguishes themselves by having traces of both wall posts and a wall ditch (House 4 and 90) showing that other construction forms were also used in the settlement. Due to limited investigations, details of the construction in house 90 is not known, but the wall construction in house 4 is well-documented. The wall ditch of house 4 was packed with water-rolled stones from the beach, a few flint and chalk blocks but no burnt stones (Fig. 20a) (Woller 1998:22ff). In the bottom of the ditch, traces of larger posts were found in accordance with the roof-supporting posts. In between the posts, smaller stakes were identified standing with a regular spacing of c. 35 cm (Fig. 20b and c). The stakes were 10 cm in diameter. The construction of the wall indicates that the stakes and posts could be holding a plank construction and the stones worked as a drain for the plank wall to keep it from rotting (Tornbjerg 1997:9). Similar constructions with stone filled wall ditches (but not with water rolled stones) and possible plank walls have been observed at other contemporary settlements e.g. in Gammel Lejre (Christensen 2015:107ff), Værløse Vest (Staahl 1996) and at Ågard (Kristensen 2015, Schultz 2017). Even though serious attempts were made in the search for similar traces at the other longhouses at Strøby Toftegård, house 4 seems to be the only house with this kind of wall construction, which must have made

Figure 20. Photos from the excavation of the wall-ditch of house 4. (a) Part of the northern wall-ditch, packed with water-rolled stones. (b) Section of the northern wall-ditch. Stakes with regular spacing were found in the bottom of the wall-ditch. (c) Section of the northern wall-ditch where the relationship between the stone-filled wall-ditch and the stakes from the wall construction can be observed (photos: Museum Southeast Denmark)

it stand out from the rest of the settlement. Both house 4 and house 90 are located in the southeastern part of the settlement.

Some longhouses also had buttresses slanting towards the wall. The presence of buttresses can be verified where the slanting post have left a clear and distinct mark in the profile of the posthole (Figure 21) (see also Olsen 1968). In total, nine longhouses at Strøby Toftegård have convincing traces of buttresses (house 1, 2, 3, 4, 5, 28, 29, 45 and K303) (appendix A). Originally, the number of longhouses with buttresses has probably been higher, but because of the preservation and lack of post impressions, it is not possible to verify whether the postholes at the long sides held buttresses or wall posts. Among the longhouses at Strøby Toftegård, there are also examples of longhouses where post impressions originate from upright standing posts (house 7, 11, 12, 39 and 59) and which did not have buttresses. Longhouses with or without buttresses existed simultaneously in that way in the settlement. Most of the longhouses with buttresses were found in the southeastern part of the settlement (Figure 22).

The function of the buttresses has been heavily discussed, mainly as a part of the roof-supporting construction (e.g. Schultz 1942, Lauring and Hoff-Møller 1952, Larsen 1957, Christensen 1973, Schmidt 1977, 1994, Waterbolk 1994, Komber and Draiby 1999). In the longhouses at Strøby Toftegård, the buttresses are placed with regular spacing in a way that match across the house as well as with the pairs of posts in the roof-supporting construction. Buttresses are only found at the long sides while none of the longhouses have buttresses in the gables as it has been observed in longhouses at e.g. Gammel Lejre (Christensen 2015:107ff) and Trelleborg (Nørlund 1948:69ff). When juxtaposing the presence of buttresses to the six principles for the three-aisled roof-supporting construction defined earlier (see Figure 10), there seems to be a correlation. Houses with verified buttresses have roof-supporting constructions of principle 3, 5 or 6, whereas longhouses that certainly did not have buttresses had a roof-supporting construction of principle 2, 3 or 4. On this background, it seems reasonable to perceive the buttresses as integrated in the roof supporting construction. Interestingly though, buttresses do not belong to one particular roof-supporting principle but can be added to different kinds of constructions which seems to be existing both with and without buttresses. The buttresses do in that sense not seem to be a vital element of the roof-supporting construction but an addition which in style with the middle-posts could be added or left out.

The buttresses can also have served other functions than the purely constructive. In the context of this analysis, the role of the buttresses in the overall appearance of the longhouse is relevant to emphasise. All buttresses identified were related to longhouses with curved long sides, whereas most of the longhouses without buttresses had straight long sides (four out of five). On that background, it seems that the use of buttresses could be a matter of a conscious choice of design rather than a necessary construction element. When present, the buttresses must have appeared as an integrated part of the house wall, making the house look wider, larger and more 'solidly fixed to the ground'. They have certainly given the longhouses a specific look very different from longhouses without buttresses that made these houses stand out from the rest.

When building the longhouse, the aim was to materialise the planned longhouse and make a durable and inhabitable construction. The building phase must have been filled with choices to be made during

Figure 21. Photos from the excavation of house 2. Section through two of the buttresses. The post impression of the slanting post can clearly be identified in the section (photos: Museum Southeast Denmark).

Figure 22. The settlement at Strøby Toftegård. The distribution of longhouses with and without buttresses is mapped. Grey = no archaeological features are preserved at the long sides of the longhouse or the original role of the posts cannot be identified.

that process. The challenge of the building phase was to exploit the possibilities present in the building situation in the best way to build a longhouse that fitted both the inhabitants and the use of the house and which still fitted within the general ideas of the longhouse.

Even though the analysis of the planning phase showed that the longhouses were more or less all build according to the same building tradition, some longhouses stood out from the rest due to quality of building materials and construction details. Some longhouses were build with over-dimensioned timber in comparison to their size, and some longhouses had different wall construction or buttresses added to the construction. The choices in use of building material and construction details must have been made during the planning and the building process and could only be made in the cases where the possibilities were present. Yet, the choices in building material and construction details seems to be a choice related to the appearance of the longhouse rather than a strict necessity for the construction.

Longhouses build of over- and under-dimensioned building materials existed contemporary in the settlement. The differences in the quality of timber were in that sense not a question of overexploitation of the local resources being mirrored in the buildings but rather an expression of conscious choices made in the building process. The impression of the conscious choice behind the use of building materials is further confirmed by the fact that the same houses that were build with 'over-dimensioned' timber were generally speaking also the longhouses which had construction details that made them stand out as 'well-built' e.g. a stone filled wall trench and plank walls (house 4), buttresses (house 1-5 and 28-29) or middle posts (house 3, 4, 9, 29 and 50). On that background, there seems to have been a specific wish of making some longhouses stand out from the rest as well as the possibilities to make this happen.

Inhabiting the longhouse

The phase where the longhouse was inhabited is here defined as the period when the house was in use, by people, animals or both. The period stretches from the house was built until all activity in the house ceased. In practice, the inhabitation phase was overlapping with the maintenance phase as the maintenance has been part of the daily activities, and the analytical distinction is in that sense artificial. Furthermore, in a case like Strøby Toftegård, where the settlement stretches over more than three centuries, the inhabitation phase of one longhouse cannot be seen completely isolated from the ongoing inhabitation of the rest of the settlement.

The inhabitation was characterised by the activities and movements, singular events and routines, that make up the daily life including cooking, sleeping, working, building, taking care of children, foraging and storing, feasting, meeting people and telling stories. The activities were diverse even though only a small part of them have left their mark directly in the archaeological record. The inhabitation period matches the life time of the house, which in the case of Strøby Toftegård have been estimated to be between 40 and 75 years.

As it has been argued on the basis of the premises of the material, it is not possible to reconstruct the activities in the longhouse as such. Instead with base in the current archaeological record, it is possible to analyse the physical structure of the longhouse to understand the spatial framework for the daily use defined by the house (Bourdieu 1970, 1977, Pearson & Richards 1994, Carsten & Hugh-Jones

1995, Ingold 2000:186, Olsen 2010:8, Buchli 2013:74, Bille & Sørensen 2016b:11). Therefore in the following, the inhabitation phase will be investigated by analysing the layout of the longhouse and the routes of access.

Layout of the longhouse

In this context, the analysis of the layout is aimed at the number and size of rooms in the house. The distribution and variation in size of the rooms in the longhouse can point towards some of the general principles for movement and use of the house. In relation to Strøby Toftegård, special attention will be paid to the presence of a 'hall room'; one room that is significantly bigger than the rest of the rooms.

The layout of the longhouse is closely connected to the principles of the roof-supporting constructions defined previously (see Figure 10). The pairs of posts in the roof-supporting construction that were standing in the whole length of the house, created a natural segregation across the house that can be interpreted as room divisions. From this perspective, the longhouses at Strøby Toftegård have between one and seven rooms (appendix A). Most common are longhouses with three rooms (44 longhouses in all) (Figure 23). Traces of partition

walls show that the segregation of the longhouses into rooms were also in some cases marked physically. Partition walls have been preserved in nine houses in total (House 1, 2, 23, 29, 50, 52, 65, 76 and K410) (Figure 24). The use of partition walls can help controlling the access to certain rooms where maybe not all were allowed admission (Beck 2014b). The partition walls are often located close to an entrance of the house and in relation to gable rooms where it also have served a practical function of decreasing draught into the longhouse.
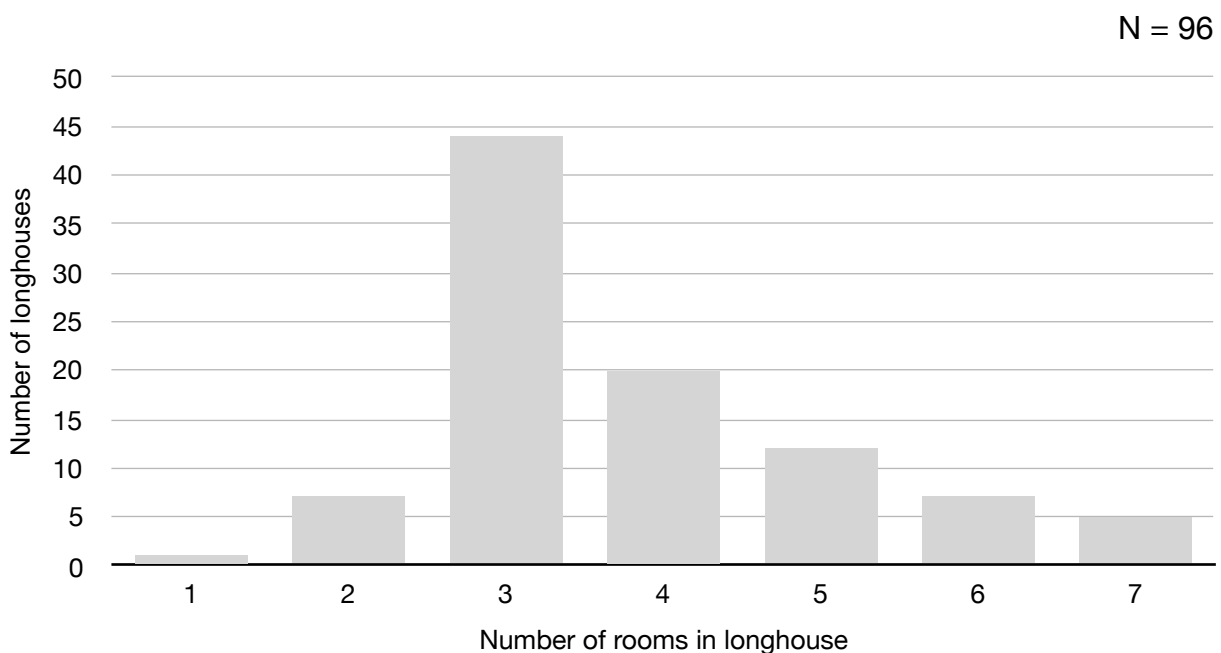

Figure 23. Distribution of longhouses at Strøby Toftegård in relation to the number of rooms present in the longhouse.
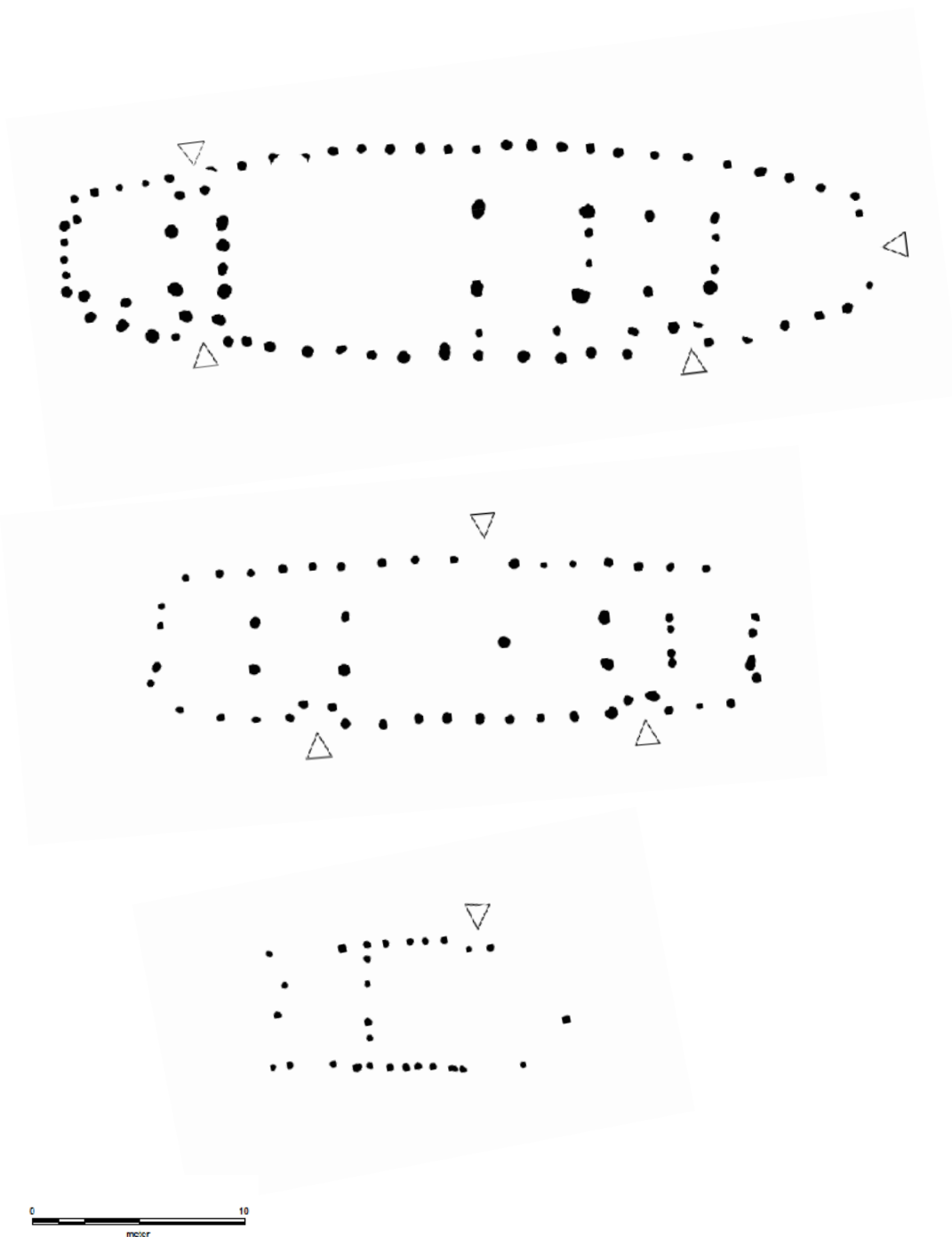
Figure 24. Three examples of longhouses with partition walls. At the top, house 1, in the middle house 29 and in the bottom house 65. All houses have been reproduced in the same scale and aligned to the same orientation. Entrances are marked with triangles.

The size of the rooms in the longhouses varies considerably. The smallest room observed is just above 2 m long (house 58 and K311), while the largest room is 12,9 m long (house 2). In some longhouses, the roof supporting construction creates a room that is significantly larger than the rest, in this context called a 'hall room' (Figure 25). At Strøby Toftegård, hall rooms are found in 28 longhouses in total (appendix A). The size of the hall room varies from a little less than 5 m (house 58) to almost 13 m (house 2) in length. In percentage, the relation between the length of the hall room and the estimated
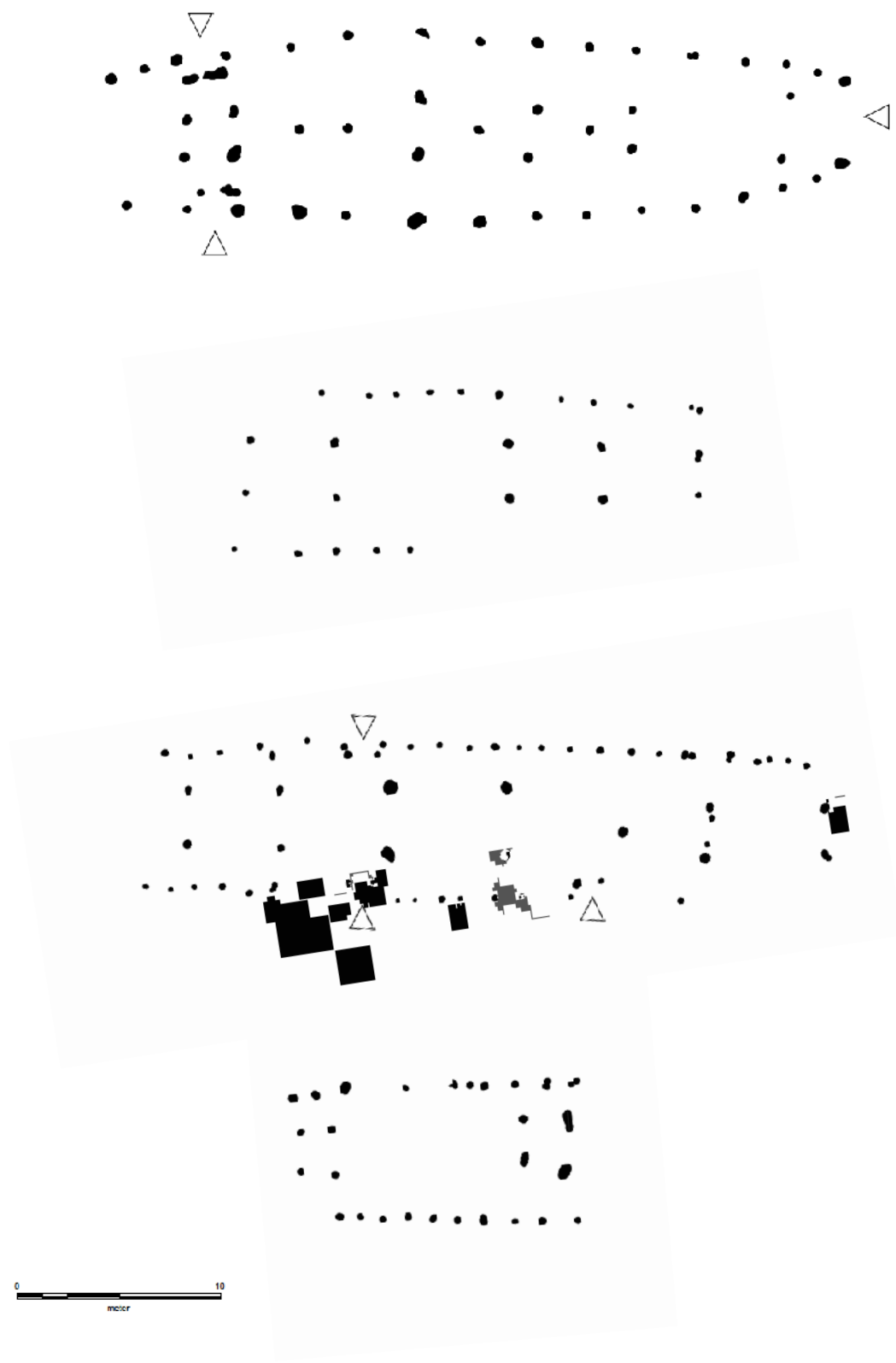
Figure 25. Four examples of longhouses with a hall room. From the top to the bottom: house 3, house 24, house 50 and house K305. All houses have been reproduced in the same scale and aligned to the same orientation. Entrances are marked with triangles.

House	Estimated length (m)	Length of hall room (m)	Percentage of full length
1	38	11,9	31
2	39,5	12,9	33
3	36,5	9,1	25
4	36,5	9,0	25
5	34,5	8,1	23
13	27	11,7	43
18	12,5	6,8	54
19	16	6,1	38
24	24	8,6	36
27	16	6,4	40
29	28	12,4	44
45	16	6,5	41
50	36,5	9,9	27
51	37	10,2	28
58	21,75	4,8	22
65	18	9,4	52
69	17,5	10,8	62
76	15,3	6,9	45
77	20,5	7,5	37
90	9,3	7,2	77
303	14	8,7	62
305	14,5	8,8	61
314	13	6,8	52
319	15	6,3	42
		Average	**42 %**

Table 3. Overview of houses with hall rooms, the estimated length of the longhouse, the measured length of the hall room and the percentage that the hall rooms takes up of the full length of the house.

length of the house varies between 22 and 77% (Table 3), but in average the hall room takes up 42% of the length of the house. Hall rooms were only found in longhouses with roof-supporting principles 5 and 6 (see Figure 10). In some houses, one or two middle posts have been placed in the hall room, but there seems to be no connections between the length of the hall room and the use of middle posts. Interestingly, the hall rooms in the longhouses at Strøby Toftegård are found distributed in most of the settlement and not concentrated in one place (Figure 26). From that, it can be concluded that the hall room as a physical phenomenon and the function it may have served is not only related to the most well-built or largest longhouses but a phenomenon that is found also in the less well-built and smaller longhouses.

Routes of access
The location of the entrances defines the organisation of access and the routes of movements into the house. The entrances show themselves in the longhouses either as a significant gap in the row of wall posts or as posts that are withdrawn from the wall/buttresses. Due to the preservation, entrances cannot be identified in all longhouses, and in several of the longhouses, where entrances have been identified, it is not certain that the total number of entrances has been recognised. The following analysis is only based on the identified entrances.

Figure 26. The settlement at Strøby Toftegård. The longhouses with a hall room are highlighted.

Entrances are located in 45 longhouses at Strøby Toftegård (appendix A). The majority of the longhouses only has one identified entrance, but there are longhouses which have up to four entrances (house 1 and 2). The entrances are mainly located in the long sides of the house. There are three examples of entrances identified in the gables (House 40, 46 and K302), but there are also examples of longhouses with an open gable. An open gable is defined as one marked corner post in each side of the gable and an absence of posts in between. Open gables are found in eight longhouses (house 1, 2, 3, 5, 40, 52, 59 and 88).

   In connection with the entrances, three general principles could be recognised for their location: either the entrances were located in the ends of the house, located central in the house or located in a combination of the two principles (Figure 27). These three principles have also been recognised in other contemporary settlements (Beck 2014b:134, Eriksen 2015:119ff). 20 longhouses had the entrances in the centre of the house, 17 houses had the entrances towards the gables and eight longhouses had a combination of the two principles. The three principles seems to have been distributed equally in the settlement (Figure 28).

During the inhabitation phase, people were living in, with and around the longhouse. The engagement with the house was both practical, social as well as emotional through the activities taking place in the
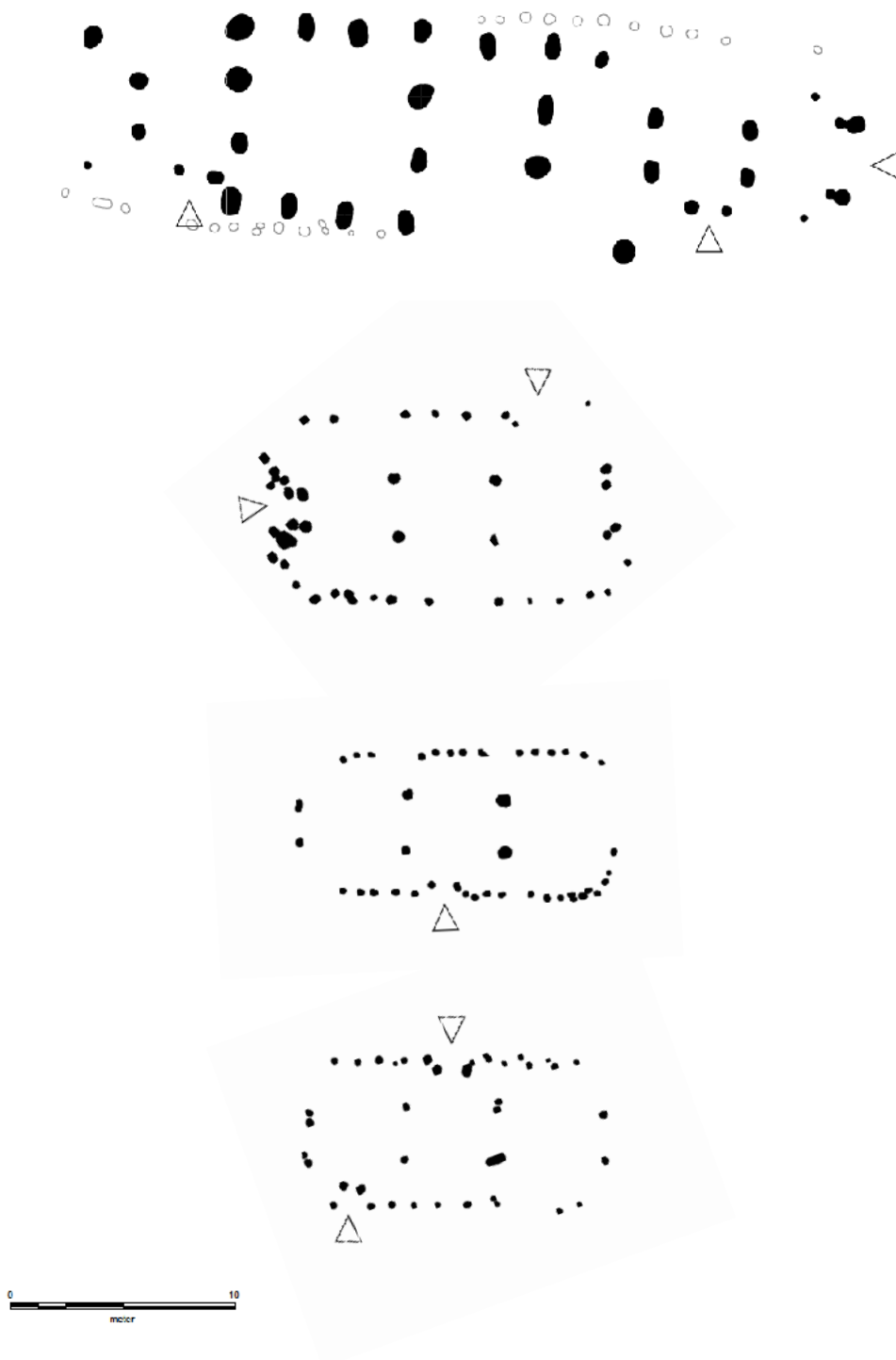
Figure 27. Examples of the three principles for the location of the entrances. From the top to the bottom: house 5 (entrances at the gables), house 46 (entrances at the gables), house 7 (centrally located entrances) and house 31 (entrances both at the gables and central in the longhouse). All houses have been reproduced in the same scale and aligned to the same orientation. Entrances are marked with triangles.
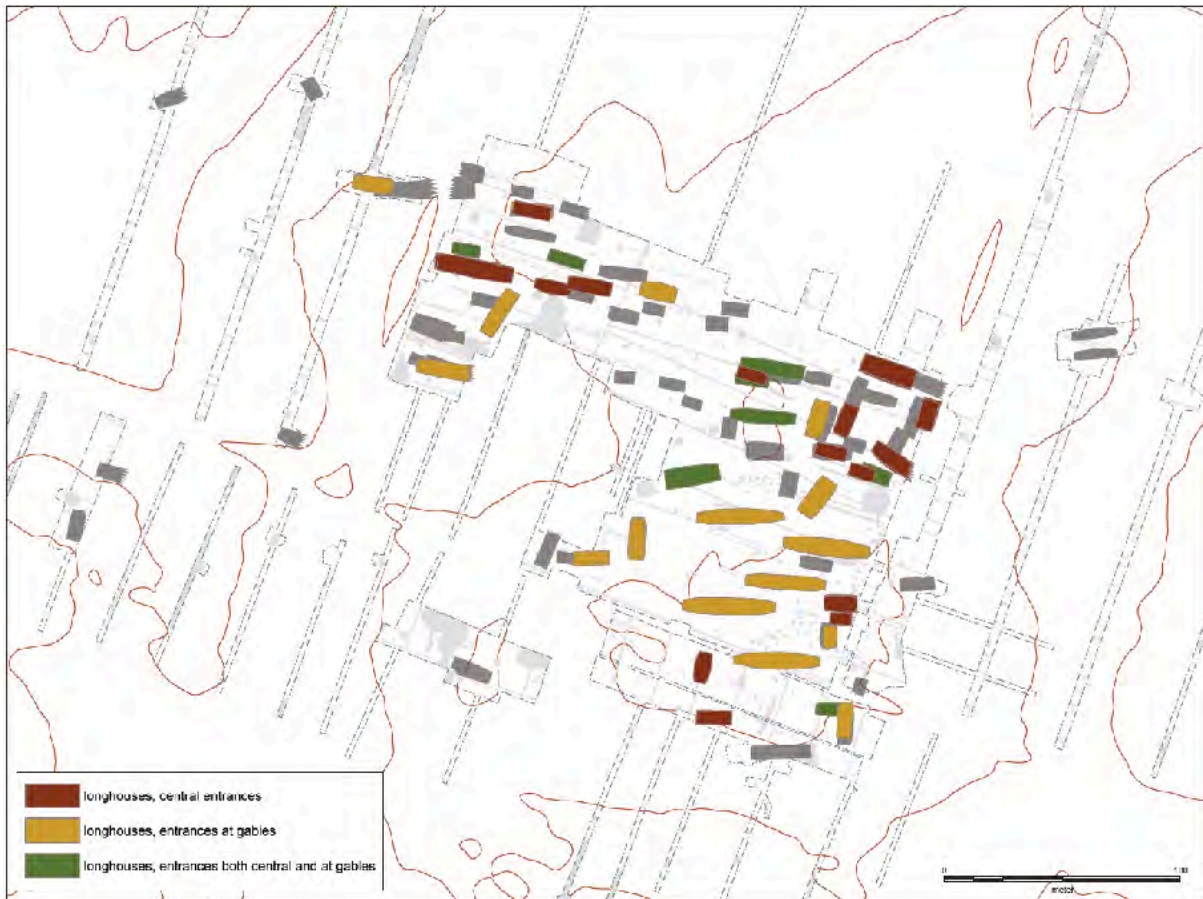
Figure 28. The settlement at Strøby Toftegård. The distribution of longhouses with entrances at the gables, entrances central in the longhouse and longhouses with entrances both at the gables and central is mapped. Grey = no entrances have been identified in the longhouse.

house. The experiences and events in the house created memories and stories (Jones 2007:48). Life in the longhouse was in that way not only a functional relationship but also the location for a learning process, where growing up in the house meant learning about how to behave in 'proper' ways according to the situation (Bourdieu 1970, 1977, Carsten & Hugh-Jones 1995, Ingold 2000). In this learning process, the longhouse not just served as a neutral and passive background but actively created the space for ways to meet, act and be in the house by guiding movements, gestures and actions. The challenge was to create an architecture that reflected and supported current social norms.

The analysis showed that a distinct variation in the layout of the longhouses could be identified based on the number of rooms and the presence or absence of a hall room at the same time as there is a close connection between the layout and the number and location of the entrances of the longhouse. When the entrance principles are juxtaposed to the presence of a hall room in the longhouse, the longhouses with a hall room more often have entrances located towards the gables whereas the longhouses with no hall room more often have the entrances located in the middle of the house (Figure 29). In addition, there is a correlation between the longhouses with hall rooms which are the same houses where traces of partition walls have been preserved (house 1, 2, 29, 50, 65 and 76). Therefore, it can be argued that in the longhouses with a hall room there is a higher degree of control of the access routes than in houses without a hall room.
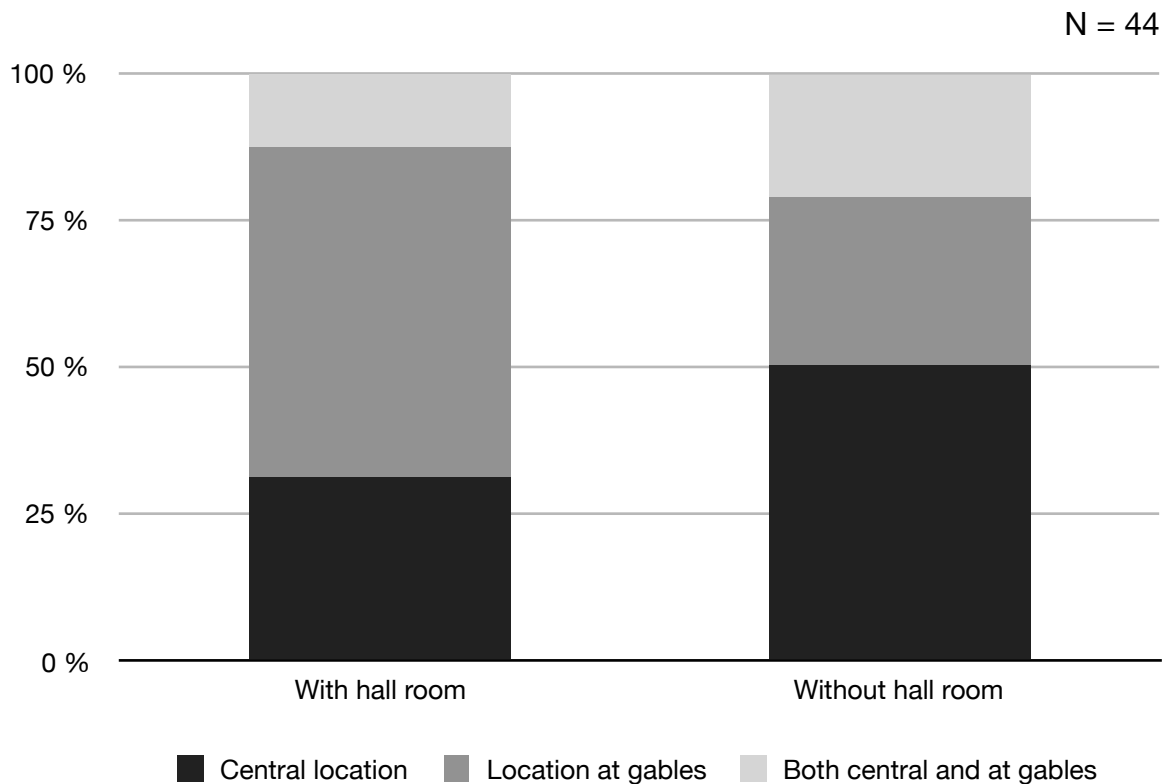
Figure 29. Distribution of the principle of location of the entrances compared to the presences or absence of a hall room in the longhouse (in percentages).

However, there are differences in the degree of control between the houses with hall rooms. It can be observed that in some longhouses, no entrances lead directly into the hall room but to an 'entrance room' just before the hall room (house 1-5, 45, 51, 76 and 90), whereas in other longhouses an entrance has been located leading into the hall room without an entrance room (house 13, 18, 29, 41, 50, 65 and K303). In the latter cases, the entrance are always withdrawn from the wall/buttresses though in a way where the entrance creates its own physical space between the outside and inside working as its own kind of entrance room (Beck 2014b:132). It can be argued that there is still no direct access to the hall room in these cases, but the degree of control is less than in the longhouses where the entrances leads into an entrance room before leading to the hall room.

The layout of the longhouse was an active component in the learning process of act in life e.g. through the guidance and control of access routes. The layout of the longhouse both in terms of number of rooms, special kinds of rooms and location of entrances could reflect and support the ideals of how to behave in the context of the longhouse whether it was in relation to the activities taking place in the longhouse, who are active where or the social context dictated by the longhouse. The variation observed in layout and access routes could in this way mirror differences in how to behave 'properly' in the longhouses.

Maintaining the longhouse

The maintaining phase is defined as the period when the longhouse needs regular maintenance and repairs. In principle, the maintenance phase will start as soon as the house has been built because at the same moment the decay of the longhouse begins. Some time will pass though before maintenance and repairs are necessary. The maintaining phase ends when the decay of the longhouse is so advanced that repairs and maintenance are no longer sensible. In that way, the maintaining phase is to a large degree integrating with the inhabitation of the house and the use of the house in it self are causing wear and decay of the house that needs to be taken care of.

The maintaining phase is characterised both by activities related to the daily, seasonal and routinely maintenance of the house, as cleaning the house, replastering the walls and doing minor repairs, and by larger repairs as replacing rotten posts, rebuilding the walls or putting up a new roof that happens with years in between. All activities serve to prolong the life time of the house and to keep it at a certain standard. In terms of time, the maintaining of the longhouse stretches over most of the life time of the house.

Only the maintenance activities and repairs that involves digging in the ground have left an identifiable mark in the archaeological record. The repairing phase will therefore be analysed by examining the replacement of posts. Repairs of the longhouse is an indirect source to how much were done to prolong the life time of the house, which elements were most vulnerable or get most often repaired and the strategies to stop or minimise the decay.

Replaced posts

For the analysis, all replacements of posts have been identified and counted. Replaced posts were identified in the excavation plan and the section drawings of the postholes. Any replacement count as equal units in the analysis regardless if it is a wall post or a roof-supporting post.
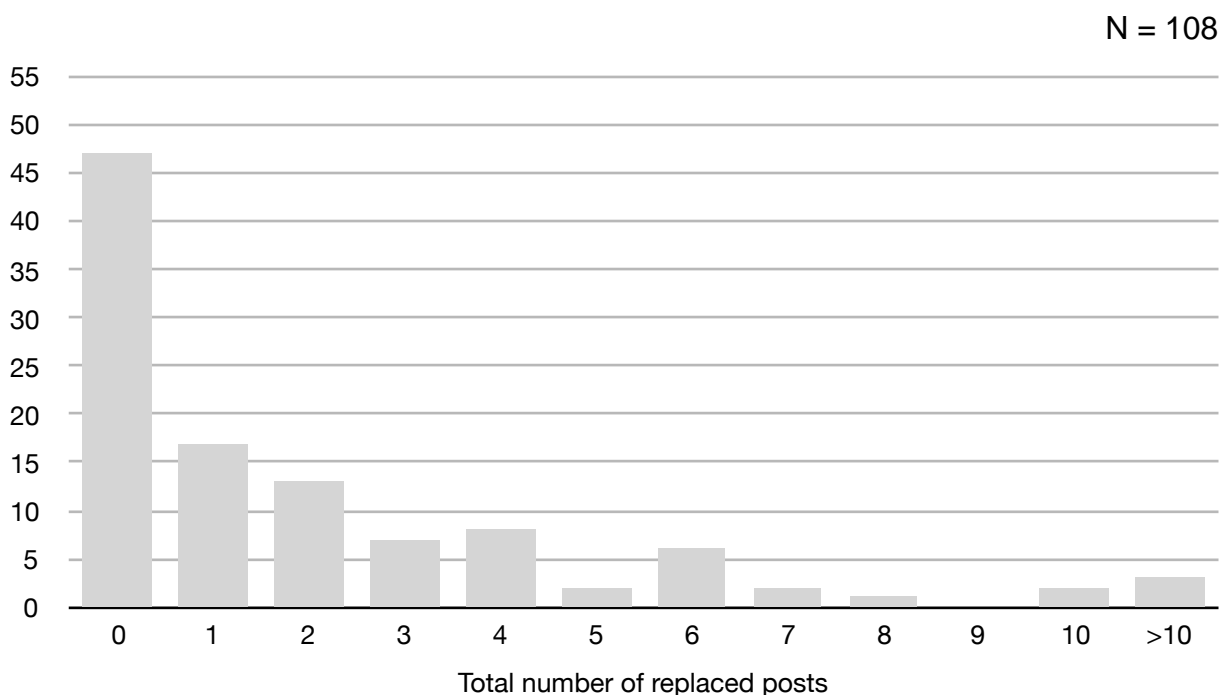
N = 108

Figure 30. Distribution of longhouses at Strøby Toftegård in relation to the number of replaced posts identified in the longhouse construction.

Number of replaced posts	Cases of replaced roof-supporting posts	Cases of replaced wall posts/ buttresses	Cases of replaced gable posts
0	66	82	93
1	18	8	12
2	18	5	2
3	2	4	0
4	3	1	1
5	0	3	0
6	1	0	1
7	0	1	0
8	0	0	0
9	0	1	0
10	0	1	0
>10	0	3	0
Total	42	26	15

Table 4. Overview of the number of longhouses with replaced roof-supporting posts, longhouses with replaced posts at the long sides and longhouses with replaced posts in the gables distributed on numbers of replaced posts. The total number of cases of the respective types of replaced posts are summed up in the bottom.

Replaced posts were observed in a little more than half of the longhouses (61 longhouses in total) (appendix A). Among the longhouses with replacements, the majority have one or two replaced posts (30 longhouses in total) (Figure 30). House 67 have the largest number of replaced posts (17 replaced posts) due to a rebuilding of the eastern long side of the house (Figure 31).

The posts that have been replaced are mainly roof-supporting posts and middle posts, which were observed in 42 cases (Table 4). Most common is the replacement of one or two roof-supporting posts, whereas the number of replaced roof-supporting posts and middle posts rarely exceeds four replacements. In 26 cases, posts in the long sides have been replaced. The number of posts replaced in the walls per longhouse often exceeds one and in three cases exceed ten replaced posts in the same longhouse. The replacement of posts in the gables are only observed in 14 cases, and rarely with more than one post replaced. The number of observed replacements of each architectural element should be seen in relation to 1) the number of posts in the original construction element and 2) the preservation conditions. The concrete number of replaced posts can therefore only work as a guide to which elements are repaired most often and to what extent, not as any exact number. The longhouses with replaced posts are distributed over most of the settlement (Figure 32), and no spatial groupings in the longhouses within the settlement can be identified.

In the maintenance phase, the inhabitants engaged actively with the concrete longhouse by taking care of it with the aim of keeping the house at a certain standard and prolonging the its lifetime. The challenge was to find the balance between the investments in the house and building a new one. How much a longhouse was repaired could both be connected to the quality of the building materials (the poorer quality, the more repairs were needed), the lifetime of the house (the longer the house was standing, the more repairs were needed) or to the social quality of the building to the house (the more social and emotional connections to the house, the more intense wish to prolong its life).
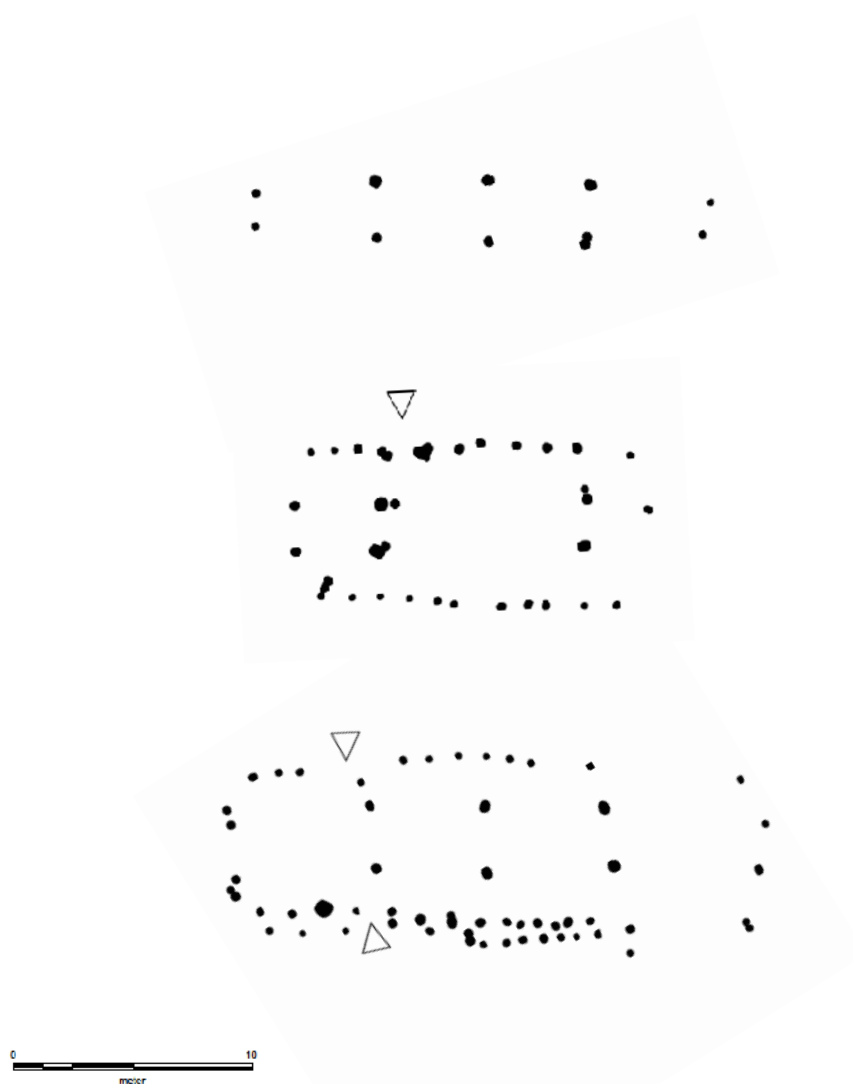
Figure 31. Three examples of longhouses with replaced posts. At the top, house 10 with one replaced roof-supporting post, in the middle house K303 with three replaced roof-supporting posts and at least one replaced post in the long side, and in the bottom, house 67 with one replaced posts in the gable and most of the long side replaced as well. All houses have been reproduced in the same scale and aligned to the same orientation. Entrances are marked with triangles.

The replacement of posts and rebuilding of elements of the house was one way to prolong the lifetime of the house. If the number of replaced posts is taken as an indicator of the general maintenance of the house, it shows that not all houses were taken care of to the same degree.

When the number of replaced posts are juxtaposed to the quality of the timber (over- or under-dimensioned, see 'Building the longhouse'), it is interesting to see that the over-dimensioned longhouses on a general level seems to have more replaced posts than the under-dimensioned longhouses (Table 5). In principle, the contrary could be expected due to the poorer quality of the building materials, but the houses built of good quality timber probably had a longer life time. They could for this reason have been in need of more replacements than the buildings built of poorer quality, where a shorter life time might have been expected. The juxtaposition also confirms that the investment in these houses were greater
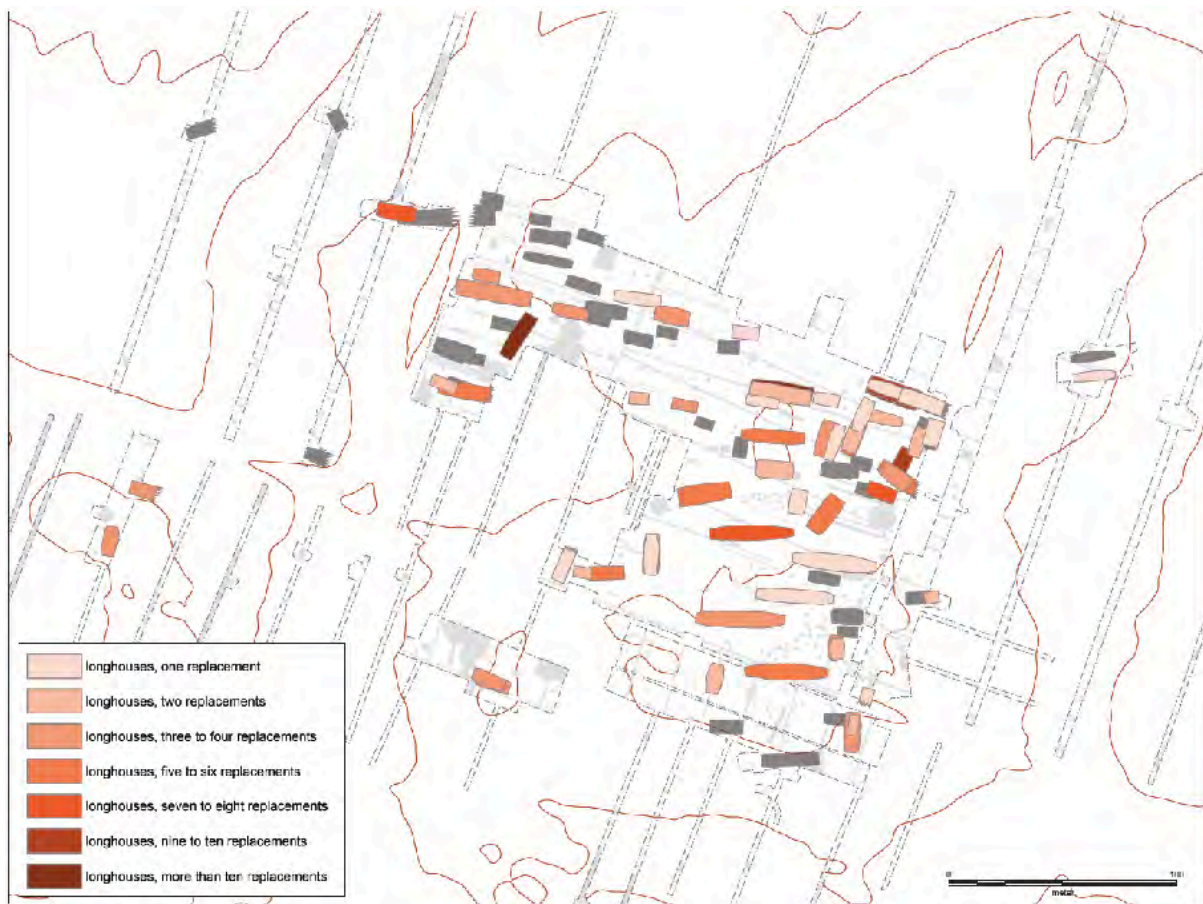
44

Figure 32. The settlement at Strøby Toftegård. The distribution of different degrees of maintenance of the longhouses according to the total number of replaced posts is mapped. Grey = no replied posts have been identified in the longhouse.

than in other houses, not just when they were built but also during their lifetime. When juxtaposing the number of replaced posts to the construction principles of the roof-supporting construction, it can be seen that houses with construction principle 5 and 6 are more often repaired than houses with construction principles 1 to 4. 83% and 77% of the longhouses with construction principles 5 and 6 had posts being replaced, whereas between 44 and 60% of the longhouses with construction principle 1 to 4 had replaced posts (Table 6). The juxtaposition indicates that not only the quality of the building materials but also the use of the building could influence the degree of maintenance. The maintenance could in this way be an indirect reflection of differences in the role that the building played for its inhabitants and in the settlement in general.

Abandoning the longhouse

The abandonment of the longhouse is defined as the phase where the use of the longhouse ceases and the building is given up. The abandonment phase begins when the maintenance of the building stops and inhabitants (people and animals) and activities are moved out of the building. The phase ends, when the house no longer exists as a standing structure, whether it is demolished deliberately or has fallen apart by it self. The abandonment phase is the last phase in the biography of the (physical) longhouse and do not

House	Dimensioned	Replaced posts, all
13	1	15
51	1	0
58	1	0
59	1	0
77	1	1
216	1	0
401	1	7
4	3	5
5	3	1
7	3	0
18	3	6
20	3	4
28	3	6
40	3	1
46	3	6
301	3	2
314	3	4

Table 5. Overview of the quality of the timber (1 = under-dimensioned; 3 = over-dimensioned) compared to the total number of replaced posts in the longhouse construction.

as such overlap with any other phases in the biography. When the abandonment lead to the movement from an old to a new longhouse, the abandonment phase of one longhouse can overlap with the building and inhabitation phases of a new longhouse. The knowledge and memory of the longhouse could live on beyond the existence of the physical house though (Jones 2007, Beck this volume).

The abandonment phase is characterised by the removal of inventory and inhabitants from the longhouse as well as the slow or quick demolition of the longhouse. The longhouse could be left to fall apart by natural decay or be deliberately demolished. In many cases, the building timber was probably reused in new longhouses or other constructions. The abandonment phase could be short or long depending on how the house was given up, and the abandonment phase was not always deliberate and planned. It could also be accidental e.g. if a house burned down or if all members of the household died of illness. Then the abandonment would typically be quick and unplanned (Cameron & Tomka 1999).

In the context of this analysis, the abandonment of the longhouse will be investigated by examining the traces of the demolition of the longhouse. The settlement at Strøby Toftegård has a total life time of around 350 years and during that period, it has been necessary for the inhabitants to handle houses that were no longer functional. The demolition of the houses show how people at the time engaged with the longhouses when they went out of use.

In %	0	1-2	3-4	5-6	7-8	9-10	>10	Total %
Roof-supporting 1	56	22	22	0	0	0	0	100
Roof-supporting 2	48	37	7	4	4	0	0	100
Roof-supporting 3	56	22	11	6	0	0	6	100
Roof-supporting 4	40	20	0	20	7	7	7	100
Roof-supporting 5	17	33	17	17	8	0	8	100
Roof-supporting 6	23	15	46	8	0	8	0	100

Table 6. Overview of the total number of replaced posts in the longhouse construction compared to the principle of the roof-supporting construction (in percentage).

The demolition of the longhouse

The demolition of the longhouse is traced from the stratigraphy of the posthole, where layers and cuts are interpreted as traces of events happening in relation to the longhouse. In principle, the demolition of the longhouse was the last (deliberate) action leaving an impact on the stratigraphy of the posthole, sometimes even erasing traces of earlier actions. The identification of traces of the demolition of the house has in this case been based on traces of secondary cuts either as irregularities in the section, 'messy' stratigraphy within the posthole or irregular post impressions, all interpreted as traces from digging or pulling up the posts when the house was demolished (Figure 33). Lack of post impressions has also generally been taken as a sign of later disturbances of the stratigraphy, but in this context only counted as a trace of demolition if combined with secondary cuts. Furthermore, the actual content of the last stratigraphical layer belonging to the house can contain information of the last actions within the house e.g. if the house burnt down.

As traces of the demolition are delicate, special attention needs to be payed during the excavation and the recording of the archaeological features to this phase in order to identify and document it. It is essential that the traces of the demolition are identified and described during the excavation in the section drawing as well as the content of the backfill of the posthole is thoroughly investigated; a process which, if optimal, should be done on the basis of a soil sample from the particular layer. In the case of Strøby Toftegård, attention in the recording of the archaeological features has not been

Figure 33. A selection of posthole sections exemplifying stratigraphical traces interpreted as traces from the demolition of the house. From the top to the bottom: A10329 from house 6 as an example of an irregular post impression towards the top of the feature interpreted as a post that has been pulled out; A10885 from house 10 and A11565 from house 31 as examples of postholes with secondary cuts interpreted as cuts that have been made to remove the post; A 12862 from house 57 as an example of a posthole with a 'messy' stratigraphy.
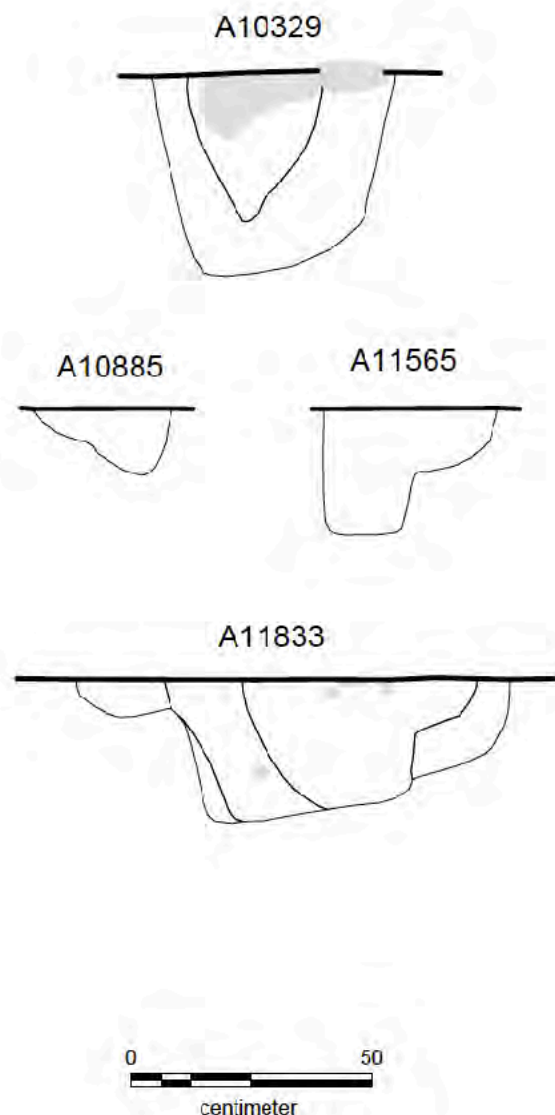
Figure 34. Photos from the excavation of house 4. Section through one of the roof-supporting posts (top) and one of the buttresses (bottom). The postholes have been filled with stones, mainly water-rolled, after the demolition of the house (photos: Museum Southeast Denmark).

specifically on this phase of the houses and very few soil samples was collected and investigated. The archaeological record is in that sense not ideal, but some elements can still be lead from the existing archaeological record.

Traces of demolition, in terms of pulling or digging the remaining posts up, has been identified in 58 longhouses in total (appendix A). For the remaining 50 houses, no certain signs of the demolition could be found, even though some of the longhouses still had no post impressions preserved which could be taken as a sign of demolition. The original number of longhouses being demolished deliberately at Strøby Toftegård could therefore have been higher.

In the case of house 4, the archaeological record not only revealed traces of demolition but also of the active backfilling of the postholes after the posts had been removed. When house 4 was excavated, a large quantity of stones were found packed into the archaeological features. The stones were mainly water-rolled stones from the beach, but also burnt stones and occasional larger stones from the field, blocks of chalk and flint nodules had been used in the postholes. Most of the stones were found packed in the upper levels of the archaeological features (Figure 34). Even though some stones can have been added when the house was build, the majority of the stones rather seems to have been added at the time when the house was demolished (Woller 1998:23). Furthermore, the fact that it was mainly water rolled stones which had to be collected from the beach and transported at least 2 km inland show that an
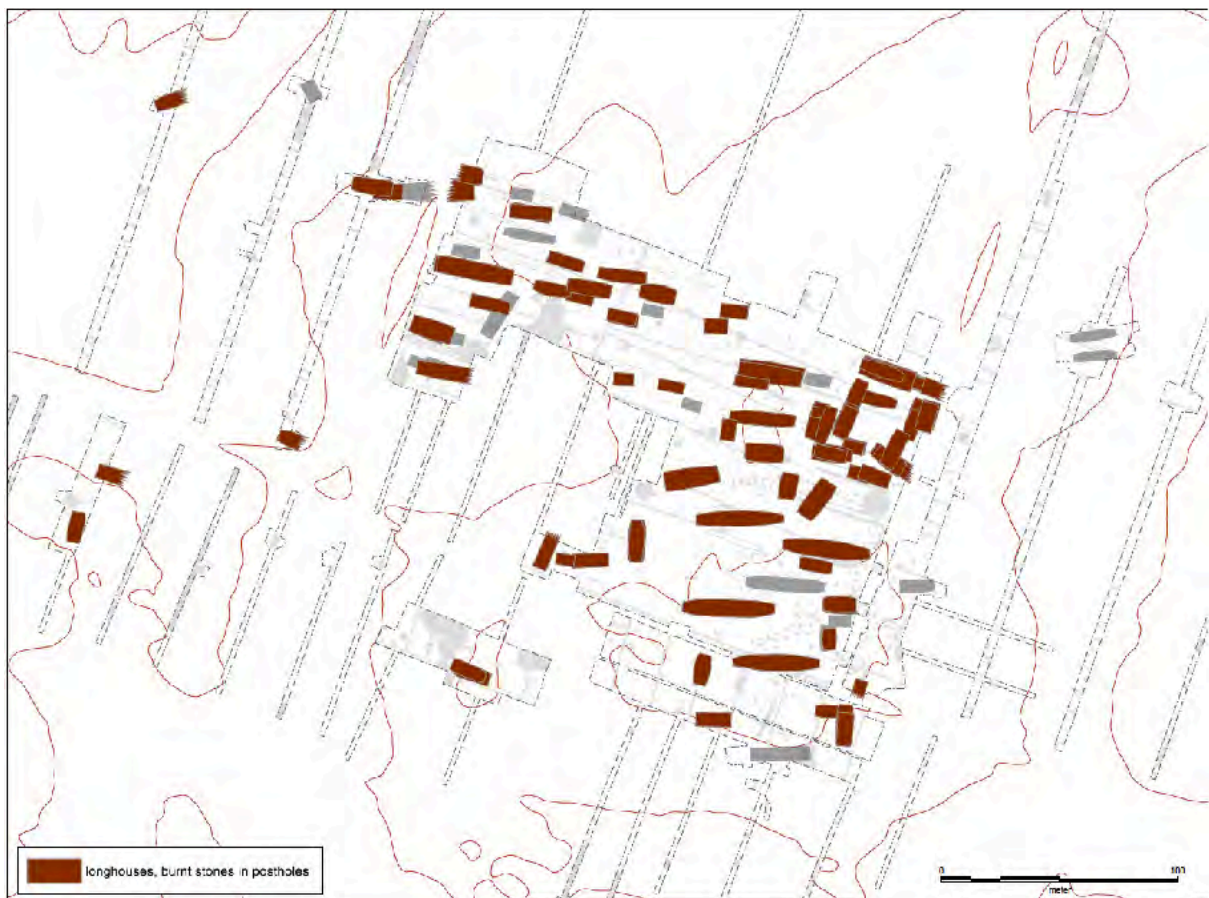

longhouses, burnt stones in postholes

Figure 35. The settlement at Strøby Toftegård. Longhouses with burnt stones in the backfill of the postholes are highlighted.

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extraordinary effort had been invested in the process. The backfilling of the archaeological features with stones must in that sense have been a deliberate action.

When the landowner saw the large amount of stones during the excavation of house 4, he explained that he, his father and grandfather, who had owned the land before him, over the years, had removed loads of stones from the area (T. Agertved, pers.comm.). The story, even though the amount of stones cannot be confirmed archaeologically, indicate that many more stones than the ones found in the archaeological features had originally been in the area suggesting that the whole house might have been covered by stones after the demolition. Further supporting this interpretation is the fact that the house site was not, contrary to many others, reused for building a new longhouse. If the interpretation is right, the stones have made the ruin of house 4 stand out from the rest of the settlement giving the house a presence in the settlement that reached beyond the actual life time of the house. The meaning of giving the house an afterlife will be further discussed in Beck, this volume. In the following, the discussion will focus more directly on the connection between stones and the demolition of the house.

No other longhouses at Strøby Toftegård had the same kind of stone packing with water-rolled stones as house 4. Nonetheless, fragments or larger quantities of burnt stones were found in the postholes of 85 longhouses in the settlement in total (appendix A). This is a large part of the longhouses in the settlement, and they were spread equally in the settlement (Figure 35). The burnt stones were found in all layers of the posthole, but often towards the top of the features. Even though burnt stones generally have been present in the soil and culture layer covering the settlement and in that way could end up in the posthole by coincidence, the amount of burnt stones in many of the postholes suggest that they were added more deliberately when backfilling the postholes. A similar case have been observed at the recently excavated Ågård by Bjæverskov, where the archaeological features of a longhouse, K15, seems to have been packed with large amounts of burnt stones after the demolition of the house (Schultz 2017). The question is whether a more general link between the use of (burnt) stones in the backfill of the archaeological features and the demolition of the house should be searched for in future investigations? A different perspective on the demolition of the longhouses comes from the longhouses that burnt down. Three longhouses at Strøby Toftegård have clear indications of being burnt down (house 5, K314 and K319). In house 5, large amounts of burnt clay from the walls of wattle-and-daub have been found in the archaeological features (Figure 36). A culture layer just north of house 5 (A10116) had a remarkably high concentration of charcoal that also indicate the presence of a fire in the area. Some of the pieces of wattle-and-daub are sintered on one side because they have been burnt at very high degrees (Peter Steen Henriksen, pers. comm.) (Figure 37). As the highly burnt pieces of wattle-and-daub are found in most of the house, it could indicate that they do not come from a specific structure as an oven but from the actual house construction. Sintering is a process that only happens when clay is burnt at more than 1000 °C. Experimental work shows that a house fire is unlikely to reach such high degrees unless the fire is tended and fuelled carefully which could indicate that the fire has been deliberate (Tringham 1994:178). In house K314 and K319, a large quantity of charcoal, burnt clay and white clay slag in the backfill of the roof supporting posts is interpreted as both houses had been burnt down (Henriksen & Mortensen, this volume).

The question is whether the three houses are the only houses that burned down or whether it is a more widely spread phenomenon in the settlement? As consistent soil samples were not included in the
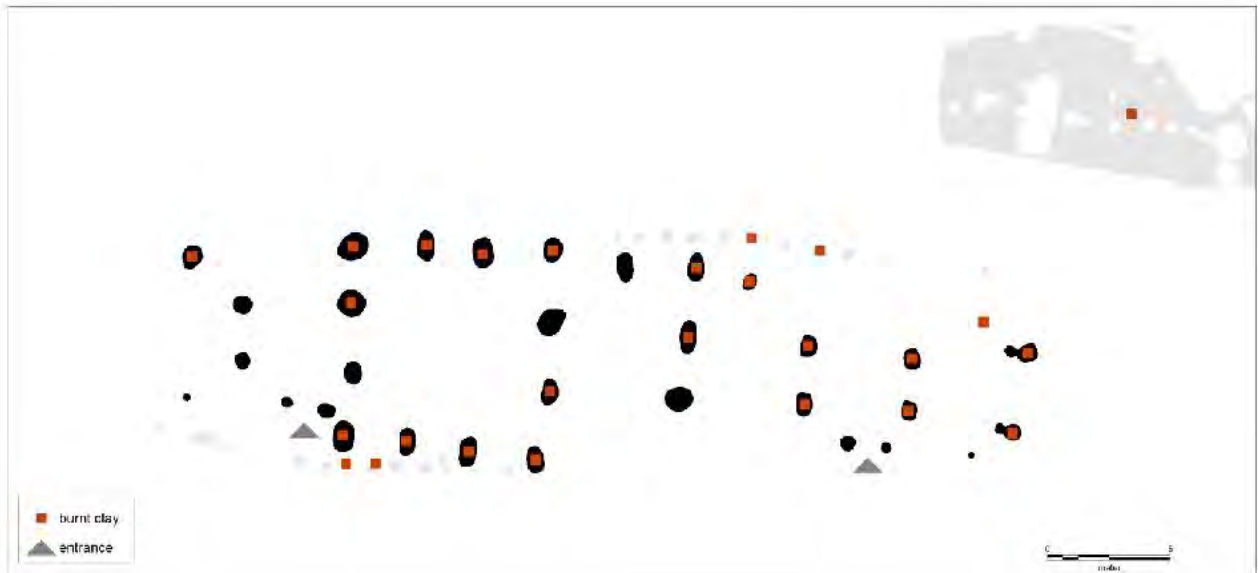
Figure 36. Plan of house 5. Finds of burnt clay have been marked, both in the postholes in the house construction as well as the postholes from the possible artificial plateau house 5 had been built on (see Beck and Schultz, this volume, for further discussion) and the culture layer A10116 just north of house 5.

excavation strategies at Strøby Toftegård, detailed investigations of the content of the posthole fill have not been made. However, from the layer descriptions and finds list in the excavation reports, it can be seen that burnt clay, which is relatively easy to identify in the excavation, has been registered in the postholes of 57 longhouses (appendix A). None of the pieces of clay have the same sintering as the clay pieces from house 5 though, but burnt clay can in itself be an indicator of a house fire. In house 12, 13,

Figure 37. Pieces of burnt and sintered clay from postholes (A10259 and A 10291) in house 5 (photo: Museum Southeast Denmark).

16, 24, 29, 32, 37, 38, 45, 50, 54, 56, 60, 64, 65, 66, 67 and 76, burnt clay was found in an amount and with a general distribution in the house that make it valid as argument for possible house fires. This means that at least 18 longhouses out of 109 longhouses had burnt down. It must be assumed that accidental fires in the contemporary settlements generally was an exception. Even though, the number of house fires should be distributed over 350 years, the share of burnt down houses seems as a relatively high number (17%). The burnt down houses are furthermore spread all over the settlement among contemporary houses where no traces of fire were found (Figure 38). The burnt houses can therefore not be the traces of a fire burning down the whole settlement but it could suggest that controlled fires were used deliberately as a way to demolish the longhouses and clear the house site. Targeted investigations at future sites by using soil samples could possibly bring new knowledge on the more general use of fire in the demolition of longhouses.

In the abandonment, the aim was to move out of the longhouse physically but also potentially to move out of a place to which stories, memories and emotions were connected. The abandonment of the house was in that sense not only a practical activity but also an emotional closure and could in that way be connected with rules and traditions of how to abandon a house in a 'proper' way that included certain rituals and ceremonies (Tringham 1995:87ff, Gerritsen 2003:95ff, Webley 2008:73f, Eriksen 2016). Part of

Figure 38. The settlement at Strøby Toftegård. Longhouses that burnt down and longhouses that maybe burnt down are highlighted.

a proper abandonment could be to remove and erase the longhouse either by demolishing or by burning it down.

The analysis showed that there were differences in how houses were demolished. Some longhouses were deliberately taken down, and probably only few longhouses were actually left to fall apart by themselves. A deliberate demolition of the longhouse was necessary if the house site was needed for building a new longhouse or if the building materials were needed in new constructions.

Some demolitions were more spectacular and involved burning down the house to the ground or the deliberate backfilling and burial of the house with stones. There are no direct correlation between the longhouses being extraordinarily demolished and the quality of their timber or the principle of roof-supporting construction. Still, the extraordinary practices could be an expression of the extra effort invested in some cases in order to clean the area both in a practical and a ritual sense before the building of a new house. The practice suggests that some houses had a stronger meaning in the contemporary society than others. Burying the longhouse in stones or burning it down have similarities to contemporary burial rituals where the body was cremated and/or buried, often with the inclusion of stones in the burial monument or the burial in it self (Ulriksen 2011, Eriksen 2016). Maybe the house was perceived as dead, when it was abandoned and demolished and the proper way to handle the dead 'body' was by giving the house a proper burial?

Living in, with and around the longhouses at Strøby Toftegård
The aim of the analysis has been to investigate patterns of similarities and differences in specific architectural elements relevant to the general biography of the longhouses at Strøby Toftegård. In the following, the separate patterns will be brought together in a broader interpretation of the character of the Late Iron Age and Viking Age settlement complex at Strøby Toftegård.

The analysis was structured according to five phases in the general biography of the longhouse, the planning, building, inhabiting, maintaining and abandoning of the longhouse. For each phase, elements of the physical house as well as traces of how people engaged with the house in the particular phase were presented and interpreted. In that process, both similarities and differences in the assemblage making up the longhouse were identified. Similarities appeared for instance in the dominance of the architectural tradition of the three-aisled construction and in the uniform use of building materials where only few houses stood out. Differences showed for instance in the size and layout of the longhouses and in the degree of maintenance. Furthermore, spatial patterns of the architectural elements were investigated across the settlement showing that some elements were spread all over the settlement, whereas some elements were concentrated in certain areas. On that background, the general impression is that the biographical analysis of the longhouses reflect real differences among the longhouses and can be used as basis of a broader interpretation of the settlement.

The main conclusion of the analysis is that patterns of similarities and differences among the longhouses — or more correctly in the archaeological record of the longhouses — were created by variations in *the use* of the longhouse and in *the possibilities* present in the concrete performance of the longhouse.

The use of the longhouse is defined by the activities that took place in the house, and are mirrored in most of the phases of the biography of the longhouse. Conceptually, the use of the longhouse reaches beyond what conventionally is called the 'function of the house'. The function of the house, e.g. as outbuilding, shed, stable, dwelling house or cult house, is traditionally ascribed as one general function that designates the role the house once had. The use of the longhouse aims to a higher degree towards the daily, seasonal and unique uses of the house in all its varied aspects (Brück & Goodman 1999:4, Ingold 2000:186). In that context, the 'function of the house' does play a role, but it cannot be limited to just one thing. In practice, the longhouse was multifunctional, also in ways that reach beyond the plain practical uses of the house. Furthermore, when speaking about 'the use of the longhouse' the inquiry shifts main focus from the house to the interaction between the house and people in and around the house whereas 'the function of the house' focus mainly on the house itself.

Due to the conditions of the archaeological record, the activities in the longhouses at Strøby Toftegård cannot be observed directly but must be interpreted indirectly from differences in the framework defined by the longhouse. Among the longhouses from Strøby Toftegård, a division could be drawn between 'complex longhouses' understood as longhouses with four or more rooms (roof-supporting construction principles 3, 4 and 5)) and 'simple longhouses ' understood as longhouses with two or three rooms (roof-supporting construction principles 1, 2 and 6).

Based on a fundamental assumption that there was a close link between the layout of the longhouse and the use of it, the more rooms present in the longhouse, the more complex and varied use of the longhouse must be imagined even though a direct one-to-one relationship between one room and one use cannot be expected. Furthermore, it must be assumed that the activities in the complex longhouses have been activities where it was an advantage that they took place in the vicinity of each other e.g. the daily activities of everyday life, whereas the less complex longhouses could have housed activities that could, or should, take place more isolated from the rest of the activities in the settlement.

The analysis also showed that a number of longhouses had a hall room which stands out from the rest due to its size. A large room can in itself have served many purposes, but one kind of activity that has been given particular attention within recent archaeological research is the social activities in relation with feasting halls known from the contemporary written sources (Herschend 1993, 1997, 1998). From the written sources, the feasting hall is known as a place where people gathered for social and ceremonial activities as feasts, weddings, ritual celebrations and juridical activities, and as a place where political and social networks were maintained and confirmed. On that background, feasting halls as a social phenomenon has mainly been connected to the elite networks in society (Brink 1996, 2005, Gansum 2008, Poulsen & Sindbæk 2011, Jessen 2012, Carstens 2015, Baastrup 2016). In the original archaeological definition of a feasting hall presented by Frands Herschend, the hall was interpreted as a special longhouse only serving this particular function (Herschend 1993:182f). But since then, large longhouses with particular large hall rooms has also been linked to the social phenomenon of the feasting hall (e.g. Jørgensen 2002, 2009, Söderberg 2005, Carlie 2008, Heimer 2009, Jessen 2012, Carstens 2015, Christensen 2015).

The find of a gold foil figure in a central posthole in the hall room of house 2, together with six other gold foil figures found in close vicinity to the same posthole but not in situ, support an interpretation of the use of this hall room for extended social and ritual activities as well as elite networks

that reach beyond the settlement at Strøby Toftegård (Watt 2008, Baastrup 2016). On that background, it is natural to ask if the use of the hall rooms in the other longhouses had similar use despite that the activities in the other hall rooms cannot be identified in the archaeological record. In 50% of the cases, hall rooms are found in 'complex longhouses'. The other 50% of the hall rooms are found in longhouses with 'simple layout' (only roof supporting construction principle 6). The large room serves well as a social gathering point for larger groups of people whether it was the household, other inhabitants in the settlement or guests from outside the settlement being gathered. The hall room can in that sense have served a basic social function even though the activities might not have had the same character or range as the social activities in the feasting hall known from the written sources. If houses with hall rooms served specific social purposes, it might also be an explanation that the control of access was higher in these houses than in houses without a hall room as the social context defined certain ways to behave in the house (see also 'Inhabiting the longhouse') (Beck 2014b). Still, differences in access routes and the control of access among the houses with a hall room indicate differences in the social norms and behaviour - and maybe social environment - among the longhouses at Strøby Toftegård. Reversely, the presence of hall rooms in other contexts than the absolute largest and most well-built longhouses suggests that the same norms for social gatherings that existed in the elite environment also existed in more humble contexts just on a smaller scale (Mikkelsen et al. 2008:80).

All in all, houses with different roles and uses mirrored in the distinction between complex and less complex longhouses existed in the settlement at Strøby Toftegård. The 'complex longhouses' probably housed core dwelling and social uses, and many of these longhouses had a hall room, extra architectural features as middle-posts and buttresses and were among the largest longhouses in the settlement. These longhouses are: house 1-5, 10-13, 24, 28(?)-29, 47, 50-51, 58, 68, 86, K215, K216 and maybe 316. These longhouses were generally more often maintained than other longhouses in the settlement. The maintenance can have been an expression of a specific wish to prolong the lifetime of these longhouses because they played a central role in the daily and social life of the settlement. The 'simple longhouses' might have served more specialised uses both in the everyday production, crafts as well as other activities that reached beyond the everyday food production. These longhouses were often smaller and rarely had extra architectural features as middle-posts and buttresses though there are examples of this. Some of the more specialised longhouses had a hall room, which might have had a social use in close relation with the more complex longhouses (house 9, 18-19, 27, 41, 45, 66-65, 69, 76-77, 90, 93-94, K303, K305, K314 and K319).

The possibilities in the performance of the longhouse is defined by the resources present when planning and building the longhouse. The concept of possibilities is in that way related partly to social status as a concept but is aiming broader. Possibilities are not only defined by the material possibilities of the individual but also by what was accepted in and by the community (DeLanda 2006:15f).

In the analysis, the variation in possibilities could be observed directly in differences in the size of the longhouses and in the dimensions of timber, but also more indirectly in the architectural elements as buttresses or middle-posts, that were not vital to the construction but could be added to the longhouse as 'extra features'. Some longhouses were categorised as over-dimensioned and some longhouses as under-dimensioned compared to the norm in the settlement. Assuming that the built longhouse always

represents 'the best longhouse' possible by the available resources in the situation, the differences in the performance of the longhouse indicate that some of the inhabitants had access to building materials of better quality and in larger amounts than the norm as well as to the workforce to process and build a house that were more elaborated.

Both the dimensions but also the additional architectural features influenced directly on the appearance of the longhouse. Many of the longhouses build of good quality timber were the same longhouses which had extra architectural features as buttresses or middle-posts supporting the impression of a 'well-built' construction. Even though all longhouses belonged to the same architectural tradition, some longhouses must have stood out from the rest of the settlement due to conscious choices made in the building process and the possibilities to perform these. By demonstrating the possibilities of the inhabitants directly in the appearance of the house, these longhouses had a communicative facet to their presence which probably was socially conditioned rather than functional. The communication must have been directed as much towards people living in the house as people around the house confirming and maintaining differences in the social position of the inhabitants within the settlement at Strøby Toftegård.

All in all, some longhouses stood out as particularly well-built in relation to the others. The well-built longhouses include both longhouses with complex layouts (house 1-5) and longhouses with more simple layouts (house 7, 9, 40, 46, 90 and K301). The well-built longhouses were more often maintained than the other longhouses in the settlement.

On the basis of the analysis, an interpretation of the character of the settlement at Strøby Toftegård can be given. The complex and the simple longhouses are distributed in all of the settlement lying in between each other indicating that there were no areas in the settlement that served a specialised use. Instead the longhouses give the impression that the same kind of activities were spread out in the settlement, and suggest that the settlement consisted of several household units, each unit consisting of one central longhouse and a number of smaller longhouses with specialised uses, rather than one large household as suggested in the original interpretations.

The well-built longhouses were concentrated in the southeastern part of the settlement and indicate that the inhabitants in this dwelling unit had a privileged social position compared to the rest of the settlement. This unit had features that were not found in any of the other dwelling units. First of all, it had a sequence of five well-built longhouses all having hall rooms, extra features and complex layouts. These longhouses were the largest in the settlement as well. Two of the well-built longhouses in this unit were demolished in extraordinary ways either by being buried under water-rolled stones (house 4) or being burnt down (house 5), which must have been events that involved more people than just the household. The unit had fewer longhouses with simple layout and the constructions than the other dwelling units. However, a group of smaller longhouses connected to the unit were located within a fenced area. Fenced areas were not found in any of the other units and may indicate that these longhouses had a special role that were only managed here. Even though the lack of finds from the archaeological record cannot reveal the use of these longhouses more specifically there is a possibility that they served e.g. as specialised workshops, particular well-protected storage buildings or buildings with ritual use (Jørgensen 2009). A privileged social position has probably been followed by commitments towards the surrounding community. Some of the houses in the central unit can have been

used in ways that reached beyond the household inhabiting them e.g. as social gathering points for the local community or as social institutions in the surrounding society. The communal use can have given the houses a significant meaning not only to the household but to the whole community that resulted in a common interest both in maintaining these houses but also that they had to be 'closed down' in extraordinary ways that involved the whole community.

In conclusion, the settlement at Strøby Toftegård can be characterised as a settlement consisting of several contemporary dwelling units. One dwelling unit stands out due to the better quality of the buildings and longhouses that might have served special, communal functions for the settlement as a whole. The inhabitants of this unit probably had a high social position in the settlement and in the surrounding society. Interestingly though, the high social status were not marked by specialised architecture as it has been identified in other sites e.g. Tissø, Gammel Lejre, Järrestad and Toftum Næs (Jørgensen 1998, 2009, Söderberg 2005, Bican 2010, Christensen 2015, Jessen & Terkildsen 2016). Instead, the same architectural tradition was used all over the settlement and many of the architectural features represented in this unit were also found in the other units in the settlement just on a smaller scale or poorer performed.

Compared to the original interpretation based on the categorisation of the longhouses as either main houses or outbuildings, the new interpretation might at first glance seem to repeat the original categorisation, but it distinguishes itself in several ways.

First of all, the interpretation has been argued with a distinct starting point in the archaeological record. Secondly, the biographical perspective has ensured that the longhouses were not described as static beings but as dynamic ongoing processes of becoming. With the study of the biography of the longhouses components, relations and processes present in the production and reproduction of the assemblages of the longhouse has been identified and described. In that way, the biographical approach has also been fruitful by asking new questions to the archaeological record and thereby bringing focus on new aspects of the longhouses (Kopytoff 1986:67). Even if the questions cannot always be answered in the current situation, they bring inspiration to future investigations that might answer them.

Finally, the categorisation of the longhouses has been nuanced by a more complex understanding of the longhouses, where the categorisation of houses as 'main building' or 'outbuildings' cannot be maintained. By deliberately not giving the houses different values as either primary ('*main* houses') or secondary ('*out* building'), all longhouses are given roles in the creation of the settlement and are seen as equally important for the understanding of the dwelling (Ingold 2000:185ff; Buchli 2013:141ff). A more complex understanding of the longhouses leaves space for a more complex interpretation of the settlement as a whole. Concretely, the interpretation has been refined by perceiving the settlement as several contemporary dwelling units rather than one large unit. On a more general level, the settlement itself now appear as an assemblage made up of a collection of smaller assemblages represented by the individual longhouses. For some, it might seem that the interpretation has become more 'messy'. Instead of basing the interpretation on predefined categories that the longhouses fit more or less successfully into, the boundaries between the new categories are diffuse and overlapping. However, this has been quite deliberate in the intention of creating a description and interpretation that is closer to a fluent reality where meanings and uses of houses can be reproduced, changed, stopped and

reappear. The aim has been to get closer to grasp and reproduce a bit of the 'mess of daily life' as it was experienced in the past.

Most importantly though, the analysis has demonstrated that the character of the settlement is defined by the relations and entanglements between the longhouses and people in and around the houses rather than solely the houses themselves (Tringham 1994:191, Brück & Goodman 1999:14, Ingold 2013:70, McFadyen 2013:139, Bille & Sørensen 2016b:12). All in all, the assemblage and the biographical perspective open the possibility of a more complex as well as more dynamic image of the Late Iron Age and Viking Age settlements by not only looking at what the houses are but also how people living in, with and around the longhouses engaged with them.

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Living in, with and around the longhouses at Strøby Toftegård. A biographical approach to longhouses in the Late Iron and Viking Age

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Appendix A

The analysis in the article *Living in, with and around the longhouses at Strøby Toftegård. A biographical approach to longhouse architecture in the Late Iron Age and Viking Age* is based on data in both appendix A and B.

In appendix A, data used directly in the analysis is presented. The data is mainly extracted from appendix 1 and the house plans, but is in some cases also further processed (e.g. in calculated averages and estimated lengths). Only data from longhouses is included.

Data in appendix A is recorded according to the following codes:

House = The ID of the house (see figure a in appendix B)

R-S construction: = The fundamental construction of the roof-supporting construction; 0 = unknown, 1 = one-aisled, 2 = two-aisled, 3 = three-aisled

Middle-posts = The presence or absence of middle-posts in the house construction; 0 = unknown, y = yes, n = no

R-S principle = The principle of the layout of the roof-supporting construction; 0 = unknown, 1 - 6 = see figure 10

Estimated length = If both gables are identified the length is as measured, if only one gable is identified it is assumed that the distance from the roof-supporting construction to the missing gable equals the identified gable; 0 = unknown, otherwise given in meters

Size, classes = The estimated length of the longhouse categorised after size class; 0 = unknown, 1 = >34m, 2 = 23-30m, 3 = 17-23m, 4 = <17m

Diameter = The calculated average of the diameter of the postholes in the roof-supporting constructions

Depth = The calculated average of the depth of the postholes in the roof-supporting constructions

Dimensioned = The review of the juxtaposition of average diameter and length of the longhouse; 0 = unknown, 1 = under-dimensioned, 2 = normal-dimensioned, 3 = over-dimensioned

Constructions, long sides = character of the archaeological features identified at the long sides of the house; 0 = unknown, 1 = posts, 2 = posts + ditch

Long sides, curved or straight = The form of the long house based on the long sides; 0 = unknown, 1 = straight, 2 = curved

R-S construction, curved or straight = The form of the roof-supporting construction; 0 = unknown, 1 = straight, 2 = curved

Buttresses = Postholes at the long sides identified as buttresses or not; 0 = unknown, y = yes, n = no

Number of rooms = Number of rooms identified in the longhouse; 0 =unknown, 1-7 = actual number

Hall room = The presence or absence of a hall room in the longhouse; 0 = unknown, y = yes, n = no

Number of entrances = Number of entrances identified in the longhouse; 0 = unknown, 1-4 = actual numbers

Entrance principle = The location of the entrances in the longhouse; 0 = unknown, 1 = central location, 2 = located at the gables, 3 = a combination of 1 and 2

Replaced posts, all = The total number of identified replaced posts in the longhouse construction; 0 = none; otherwise the actual number

Post impressions = The presence of post impressions in one or more postholes in the roof-supporting construction, gables or long sides; 0 = unknown, y = yes, n = no

Posts removed at demolition = Have traces of pulling or digging the post out been identified in one or more postholes in the roof-supporting construction, gables or long sides; 0 = unknown, y = yes, n = no

Burnt clay in posthole = Have burnt clay been found in one or more postholes in the roof-supporting construction, gables or long sides; 0 = unknown, y = yes, n = no

Burnt stone in postholes = Have burnt stones been found in one or more postholes in the roof-supporting construction, gables or long sides; 0 = unknown, y = yes, n = no

Appendix A can also be found online at:

https://fil.museerne.dk/share/s/cvviqy7SS6CYECX5tSgcwg

House	R-S construction	Middle-posts	R-S principle	Estimated length	Size, classes	Diameter, R-S posthole, average	Depth, R-S posthole, average	Dimensioned	Constructions, long sides	Long sides, curved or straight
1	3	n	5	38	1	68,90	42,08	2	1	2
2	3	y	5	40	1	71,62	31,31	2	1	2
3	3	y	5	37	1	55,57	24,36	2	1	2
4	3	y	5	37	1	92,14	56,21	3	2	2
5	3	n	5	35	1	93,83	54,67	3	1	2
6	3	n	3	14	4	43,67	27,00	2	1	2
7	3	n	2	14	4	48,75	23,00	3	1	2
8	3	n	3	0	0	35,00	41,33	0	0	0
9	3	y	1	0	0	56,67	28,25	0	1	2
10	3	n	3	19	3	40,60	25,29	2	0	0
11	3	n	4	24	2	49,00	22,31	2	1	1
12	3	n	4	23,5	2	44,86	17,50	2	1	1
13	3	y	5	27	2	36,40	18,33	1	1	2
14	3	0	0	0	0	36,00	13,00	0	0	0
15	3	n	2	0	0	36,50	14,25	0	0	0
16	3	y	2	9,2	4	40,40	22,80	2	1	1
17	3	n	4	0	0	43,43	30,88	0	0	0
18	3	n	6	13	4	50,75	26,80	3	1	2
19	3	n	6	16	4	42,00	15,00	2	1	2
20	3	n	2	13	4	57,00	24,25	3	1	2
22	3	n	2	16	4	33,00	22,50	2	0	0
23	3	n	4	23	2	42,10	19,62	2	1	1
24	3	n	5	24	2	43,86	20,75	2	1	2
25	3	n	3	0	0	35,20	15,50	0	0	0
26	3	n	1	0	0	47,50	12,50	0	0	0
27	3	n	6	16	4	38,25	27,00	2	1	2
28	3	0	3	20	3	58,25	31,00	3	1	2
29	3	y	5	28	2	51,88	29,20	2	1	2
30	3	n	2	16	4	35,50	18,80	2	1	2
31	3	n	2	13,3	4	31,50	18,60	2	1	1
32	3	n	2	12,8	4	26,00	19,75	2	0	0
33	3	n	2	0	0	33,00	16,25	0	0	0
34	3	n	2	0	0	30,50	9,75	0	0	0
35	3	n	2	14	4	32,33	19,67	2	1	2
36	3	n	2	11	4	35,75	14,50	2	1	1
37	3	n	2	0	0	32,00	15,50	0	0	0
38	3	n	0	12,5	4	27,00	18,50	2	1	2
39	3	n	3	14	4	32,50	26,00	2	1	1
40	3	n	1	10,5	4	58,50	24,50	3	1	2
41	1	n	0	11	4	25,25	15,25	2	1	1
42	3	n	2	16,5	4	30,00	21,50	2	1	2
43	3	n	1	0	0	30,00	26,00	0	0	0
44	3	n	3	0	0	28,00	26,83	0	0	0
45	3	y	6	16	4	31,00	10,29	2	1	2
46	3	n	2	15	4	65,50	39,75	3	1	2
47	3	n	4	0	0	33,14	19,33	0	1	1
48	3	n	3	0	0	29,00	10,43	0	0	0
50	3	y	5	37	1	52,20	30,82	2	1	2
51	3	n	5	37	1	33,00	23,11	1	1	0
52	3	n	1	12	4	26,50	22,00	2	1	2
53	3	n	3	14,8	4	37,33	24,50	2	0	0
54	3	n	4	0	0	37,86	18,38	0	0	0
55	3	n	4	0	0	31,43	14,38	0	0	0
56	3	0	0	0	0	33,83	19,40	0	0	0
57	3	0	0	0	0	51,00	39,50	0	0	0
58	3	n	5	22	3	28,70	22,00	1	0	0
59	3	n	3	15,3	4	25,50	18,17	1	1	1
60	3	n	3	0	0	35,80	20,69	0	0	0

House	R-S construction, curved or straight	Buttresses	Number of rooms	Hall room	Number or entrances	Entrance principle	Replaced posts, all	Post impressions	Posts removed at demolition	Burnt clay in postholes	Burnt stone in postholes
1	2	y	7	y	4	2	1	y	y	y	y
2	2	y	7	y	4	2	4	y	y	y	y
3	2	y	6	y	3	2	8	y	y	y	y
4	2	y	6	y	3	2	5	n	y	y	y
5	2	y	7	y	3	2	1	n	y	y	n
6	1	0	4	n	0	0	0	y	y	n	y
7	0	n	3	n	1	1	0	n	0	n	y
8	1	0	4	n	1	1	0	n	y	n	n
9	0	0	3	y	0	0	4	n	y	y	n
10	2	0	4	n	0	0	1	y	y	n	y
11	2	n	7	n	2	1	10	y	y	y	y
12	2	n	7	n	2	1	14	y	y	y	y
13	2	0	5	y	3	3	15	n	0	y	y
14	0	0	0	0	0	0	0	y	0	n	y
15	0	0	3	n	0	0	0	y	0	y	y
16	0	0	3	n	0	0	1	y	y	y	n
17	2	0	5	n	0	0	2	n	y	y	y
18	0	0	3	y	1	1	6	y	y	n	y
19	0	0	3	y	0	0	1	n	0	n	y
20	0	0	3	n	2	1	4	y	0	y	y
22	0	0	3	n	0	0	1	y	0	n	y
23	1	0	6	n	3	3	6	y	y	n	y
24	2	0	5	y	0	0	2	n	y	y	y
25	2	0	4	n	0	0	1	y	y	n	y
26	0	0	2	0	0	0	0	n	0	n	y
27	0	0	3	y	0	0	10	n	0	y	y
28	1	y	4	n	2	1	6	y	y	y	y
29	2	y	5	y	3	3	5	y	0	y	y
30	0	0	3	n	0	0	2	n	y	n	y
31	0	0	3	n	2	3	7	n	y	n	y
32	0	0	3	n	0	0	2	n	y	y	y
33	0	0	3	n	0	0	0	n	n	n	y
34	0	0	3	n	0	0	0	y	y	n	n
35	0	0	3	n	0	0	0	y	y	y	y
36	0	0	3	n	1	1	1	y	y	y	y
37	0	0	3	n	1	1	0	y	0	y	y
38	0	0	5	n	1	1	1	y	y	y	n
39	2	n	4	n	3	3	0	y	0	y	y
40	0	0	2	n	0	0	1	y	y	n	y
41	0	0	1	y	1	1	0	y	0	n	y
42	0	0	3	n	0	0	0	y	0	n	y
43	0	0	2	0	0	0	0	y	0	n	y
44	1	0	4	n	1	1	0	y	0	n	y
45	0	y	3	y	1	2	3	y	0	y	y
46	0	0	3	n	2	2	6	y	0	n	y
47	2	0	0	0	0	0	1	y	0	n	n
48	2	0	4	n	0	0	2	0	0	y	n
50	2	0	6	y	3	1	3	y	y	y	y
51	2	0	6	y	1	1	0	y	0	y	y
52	0	0	2	n	2	3	4	y	0	n	n
53	2	0	4	n	1	1	3	y	y	n	y
54	1	0	5	n	1	2	0	n	0	n	y
55	1	0	5	n	1	1	0	y	0	y	y
56	0	0	0	0	0	0	0	n	y	y	n
57	0	0	0	0	0	0	0	y	y	n	y
58	2	0	6	y	0	0	0	post	Posts	y	Burnt
59	1	n	4	n	2	3	0	y	0	n	y
60	2	0	4	n	0	0	0	n	0	y	y

House	R-S construction	Middle-posts	R-S principle	Estimated length	Size, classes	Diameter, R-S posthole, average	Depth, R-S posthole, average	Dimensioned	Constructions, long sides	Long sides, curved or straight
61	3	n	3	0	0	33,00	12,75	0	0	0
62	3	n	2	0	0	34,75	13,00	0	0	0
64	3	n	3	0	0	32,00	28,80	0	0	0
65	3	n	6	18	3	31,00	11,67	2	1	2
66	3	n	3	0	0	30,80	26,50	0	0	0
67	3	n	3	22,5	3	41,25	32,25	2	1	2
68	3	0	4	0	0	33,25	17,17	0	0	0
69	3	y	6	18	3	32,80	19,80	2	1	2
70	3	n	2	0	0	26,25	11,75	0	0	0
71	3	n	1	0	0	32,50	17,00	0	0	0
72	3	n	2	14	4	37,67	16,75	2	1	0
74	3	n	3	0	0	36,25	21,20	0	0	0
75	3	n	2	0	0	51,67	17,00	0	0	0
76	3	n	6	15	4	32,00	25,67	2	1	2
77	3	n	5	21	3	29,43	20,57	1	0	0
79	3	n	4	17	4	46,40	29,57	2	1	2
80	3	n	2	0	0	26,00	14,80	0	0	0
81	3	0	0	0	0	28,71	21,29	0	0	0
82	3	n	4	0	0	44,00	21,50	0	0	0
83	3	n	4	16	4	38,50	19,17	2	1	2
86	3	n	3	18,6	3	42,83	20,50	2	0	0
88	3	0	0	0	0	32,00	15,00	0	1	0
89	3	n	0	0	0	27,33	23,50	0	0	0
90	3	y	1	9	4	37,67	30,00	2	2	2
91	3	n	2	13,5	4	0	0	0	1	2
93	3	n	6	0	0	40,50	30,75	0	0	0
94	3	n	6	0	0	53,75	19,25	0	0	0
95	3	n	1	0	0	25,00	9,50	0	0	0
201	3	0	0	0	0	36,50	13,20	0	0	0
212	3	n	3	0	0	27,83	17,00	0	0	0
213	3	n	2	0	0	23,00	11,80	0	0	0
214	3	n	2	0	0	27,75	9,75	0	0	0
215	3	n	4	18,5	3	39,50	18,25	2	0	0
216	3	n	4	19,5	3	28,88	13,50	1	0	0
301	3	n	2	13	4	56,00	18,60	3	1	2
302	3	n	2	12,5	4	30,50	21,75	2	1	2
303	3	n	6	14	4	39,67	23,86	2	1	2
304	3	n	2	0	0	27,75	31,50	0	0	0
305	3	n	6	15	4	35,33	17,40	2	1	2
311	3	n	4	0	0	31,60	12,90	0	0	0
314	3	n	6	13	4	52,20	24,83	3	1	1
315	3	n	2	13	4	29,17	24,50	2	1	2
316	3	0	0	0	0	41,00	25,20	0	1	0
319	3	n	6	15	4	39,75	13,25	2	0	0
401	3	n	4	21,5	3	32,14	16,86	1	1	2
402	3	n	0	0	0	41,75	44,25	0	1	0
403	3	0	0	0	0	51,50	19,25	0	1	2
410	3	0	0	0	0	40,00	28,60	0	0	0
419	3	n	1	0	0	34,5	41,5	0	0	0
423	3	0	0	0	0	33,89	20,33	0	0	0

House	R-S construction, curved or straight	Buttresses	Number of rooms	Hall room	Number or entrances	Entrance principle	Replaced posts, all	Post impressions	Posts removed at demolition	Burnt clay in postholes	Burnt stone in postholes
61	1	0	4	n	0	0	0	n	0	y	y
62	0	0	3	n	0	0	0	n	0	n	n
64	1	0	4	n	0	0	0	n	y	y	y
65	0	0	3	y	1	1	0	n	0	y	y
66	2	0	4	y	0	0	0	y	y	y	y
67	2	0	4	n	2	2	17	y	0	y	n
68	2	0	0	0	1	2	6	y	y	y	y
69	0	0	3	y	0	0	0	y	0	n	y
70	0	0	3	n	0	0	0	n	0	y	y
71	0	0	2	0	0	0	0	n	0	y	n
72	0	0	3	n	0	0	0	n	0	n	n
74	1	0	4	n	0	0	4	n	y	n	y
75	0	0	3	n	0	0	2	n	y	n	y
76	0	0	3	y	1	2	3	n	y	y	y
77	1	0	5	y	0	0	1	n	0	y	y
79	1	0	4	n	1	2	2	n	y	n	y
80	0	0	3	n	0	0	2	y	y	y	y
81	1	0	0	0	0	0	1	n	0	n	y
82	2	0	5	n	1	2	6	n	y	y	y
83	1	0	4	n	1	2	1	n	y	n	y
86	2	0	4	n	0	0	1	n	y	y	y
88	0	0	0	0	0	0	0	n	0	y	y
89	0	0	3	n	0	0	0	n	0	n	n
90	0	0	3	y	1	2	2	y	y	y	y
91	0	0	3	n	1	1	0	0	0	0	y
93	0	0	3	y	0	0	2	n	0	n	y
94	0	0	3	y	0	0	0	n	y	n	y
95	0	0	2	n	0	0	0	n	0	n	y
201	0	0	0	0	0	0	1	n	0	y	y
212	1	0	4	n	0	0	0	y	y	n	n
213	0	0	3	n	0	0	2	n	0	n	n
214	0	0	3	n	0	0	0	y	y	n	n
215	2	0	5	n	0	0	1	n	y	n	n
216	2	0	5	n	0	0	0	n	y	y	Burnt
301	0	0	3	n	1	1	2	n	y	y	y
302	0	0	3	n	1	3	0	n	0	y	y
303	0	y	3	y	1	2	4	y	y	n	y
304	0	0	3	n	0	0	2	y	y	n	y
305	0	0	3	y	0	0	4	y	y	y	y
311	1	0	6	n	2	1	0	n	0	y	y
314	0	0	3	y	0	0	4	n	y	y	y
315	0	0	3	n	0	0	3	y	y	y	y
316	0	0	0	0	0	0	3	y	y	n	y
319	0	0	3	y	0	0	3	y	y	y	y
401	2	0	5	n	1	2	7	y	0	n	y
402	0	0	3	n	0	0	0	n	0	n	y
403	0	0	0	0	0	0	0	n	y	y	n
410	0	0	0	0	0	0	0	y	y	y	y
419	0	0	2	0	0	0	0	y	0	n	n
423	2	0	0	0	0	0	0	n	0	n	y

House	R-S construction	Middle-posts	R-S principle	Estimated length	Size, classes	Diameter, R-S posthole, average	Depth, R-S posthole, average	Dimensioned	Constructions, long sides	Long sides, curved or straight
1	3	n	5	38	1	68,90	42,08	2	1	2
2	3	y	5	40	1	71,62	31,31	2	1	2
3	3	y	5	37	1	55,57	24,36	2	1	2
4	3	y	5	37	1	92,14	56,21	3	2	2
5	3	n	5	35	1	93,83	54,67	3	1	2
6	3	n	3	14	4	43,67	27,00	2	1	2
7	3	n	2	14	4	48,75	23,00	3	1	2
8	3	n	3	0	0	35,00	41,33	0	0	0
9	3	y	1	0	0	56,67	28,25	0	1	2
10	3	n	3	19	3	40,60	25,29	2	0	0
11	3	n	4	24	2	49,00	22,31	2	1	1
12	3	n	4	23,5	2	44,86	17,50	2	1	1
13	3	y	5	27	2	36,40	18,33	1	1	2
14	3	0	0	0	0	36,00	13,00	0	0	0
15	3	n	2	0	0	36,50	14,25	0	0	0
16	3	y	2	9,2	4	40,40	22,80	2	1	1
17	3	n	4	0	0	43,43	30,88	0	0	0
18	3	n	6	13	4	50,75	26,80	3	1	2
19	3	n	6	16	4	42,00	15,00	2	1	2
20	3	n	2	13	4	57,00	24,25	3	1	2
22	3	n	2	16	4	33,00	22,50	2	0	0
23	3	n	4	23	2	42,10	19,62	2	1	1
24	3	n	5	24	2	43,86	20,75	2	1	2
25	3	n	3	0	0	35,20	15,50	0	0	0
26	3	n	1	0	0	47,50	12,50	0	0	0
27	3	n	6	16	4	38,25	27,00	2	1	2
28	3	0	3	20	3	58,25	31,00	3	1	2
29	3	y	5	28	2	51,88	29,20	2	1	2
30	3	n	2	16	4	35,50	18,80	2	1	2
31	3	n	2	13,3	4	31,50	18,60	2	1	1
32	3	n	2	12,8	4	26,00	19,75	2	0	0
33	3	n	2	0	0	33,00	16,25	0	0	0
34	3	n	2	0	0	30,50	9,75	0	0	0
35	3	n	2	14	4	32,33	19,67	2	1	2
36	3	n	2	11	4	35,75	14,50	2	1	1
37	3	n	2	0	0	32,00	15,50	0	0	0
38	3	n	0	12,5	4	27,00	18,50	2	1	2
39	3	n	3	14	4	32,50	26,00	2	1	1
40	3	n	1	10,5	4	58,50	24,50	3	1	2
41	1	n	0	11	4	25,25	15,25	2	1	1
42	3	n	2	16,5	4	30,00	21,50	2	1	2
43	3	n	1	0	0	30,00	26,00	0	0	0
44	3	n	3	0	0	28,00	26,83	0	0	0
45	3	y	6	16	4	31,00	10,29	2	1	2
46	3	n	2	15	4	65,50	39,75	3	1	2
47	3	n	4	0	0	33,14	19,33	0	1	1
48	3	n	3	0	0	29,00	10,43	0	0	0
50	3	y	5	37	1	52,20	30,82	2	1	2
51	3	n	5	37	1	33,00	23,11	1	1	0
52	3	n	1	12	4	26,50	22,00	2	1	2
53	3	n	3	14,8	4	37,33	24,50	2	0	0
54	3	n	4	0	0	37,86	18,38	0	0	0
55	3	n	4	0	0	31,43	14,38	0	0	0
56	3	0	0	0	0	33,83	19,40	0	0	0
57	3	0	0	0	0	51,00	39,50	0	0	0
58	3	n	5	22	3	28,70	22,00	1	0	0
59	3	n	3	15,3	4	25,50	18,17	1	1	1
60	3	n	3	0	0	35,80	20,69	0	0	0

House	R-S construction, curved or straight	Buttresses	Number of rooms	Hall room	Number or entrances	Entrance principle	Replaced posts, all	Post impressions	Posts removed at demolition	Burnt clay in postholes	Burnt stone in postholes
1	2	y	7	y	4	2	1	y	y	y	y
2	2	y	7	y	4	2	4	y	y	y	y
3	2	y	6	y	3	2	8	y	y	y	y
4	2	y	6	y	3	2	5	n	y	y	y
5	2	y	7	y	3	2	1	n	y	y	n
6	1	0	4	n	0	0	0	y	y	n	y
7	0	n	3	n	1	1	0	n	0	n	y
8	1	0	4	n	1	1	0	n	y	n	n
9	0	0	3	y	0	0	4	n	y	y	n
10	2	0	4	n	0	0	1	y	y	n	y
11	2	n	7	n	2	1	10	y	y	y	y
12	2	n	7	n	2	1	14	y	y	y	y
13	2	0	5	y	3	3	15	n	0	y	y
14	0	0	0	0	0	0	0	y	0	n	y
15	0	0	3	n	0	0	0	y	0	y	y
16	0	0	3	n	0	0	1	y	y	y	n
17	2	0	5	n	0	0	2	n	y	y	y
18	0	0	3	y	1	1	6	y	y	n	y
19	0	0	3	y	0	0	1	n	0	n	y
20	0	0	3	n	2	1	4	y	0	y	y
22	0	0	3	n	0	0	1	y	0	n	y
23	1	0	6	n	3	3	6	y	y	n	y
24	2	0	5	y	0	0	2	n	y	y	y
25	2	0	4	n	0	0	1	y	y	n	y
26	0	0	2	0	0	0	0	n	0	n	y
27	0	0	3	y	0	0	10	n	0	y	y
28	1	y	4	n	2	1	6	y	y	y	y
29	2	y	5	y	3	3	5	y	0	y	y
30	0	0	3	n	0	0	2	n	y	n	y
31	0	0	3	n	2	3	7	n	y	n	y
32	0	0	3	n	0	0	2	n	y	y	y
33	0	0	3	n	0	0	0	n	n	n	y
34	0	0	3	n	0	0	0	y	y	n	n
35	0	0	3	n	0	0	0	y	y	y	y
36	0	0	3	n	1	1	1	y	y	y	y
37	0	0	3	n	1	1	0	y	0	y	y
38	0	0	5	n	1	1	1	y	y	y	n
39	2	n	4	n	3	3	0	y	0	y	y
40	0	0	2	n	0	0	1	y	y	n	y
41	0	0	1	y	1	1	0	y	0	n	y
42	0	0	3	n	0	0	0	y	0	n	y
43	0	0	2	0	0	0	0	y	0	n	y
44	1	0	4	n	1	1	0	y	0	n	y
45	0	y	3	y	1	2	3	y	0	y	y
46	0	0	3	n	2	2	6	y	0	n	y
47	2	0	0	0	0	0	1	y	0	n	n
48	2	0	4	n	0	0	2	0	0	y	n
50	2	0	6	y	3	1	3	y	y	y	y
51	2	0	6	y	1	1	0	y	0	y	y
52	0	0	2	n	2	3	4	y	0	n	n
53	2	0	4	n	1	1	3	y	0	n	y
54	1	0	5	n	1	2	0	n	0	n	y
55	1	0	5	n	1	1	0	y	0	y	y
56	0	0	0	0	0	0	0	n	y	y	n
57	0	0	0	0	0	0	0	y	y	n	y
58	2	0	6	y	0	0	0	post	Posts	y	Burnt
59	1	n	4	n	2	3	0	y	0	n	y
60	2	0	4	n	0	0	0	n	0	y	y

House	R-S construction	Middle-posts	R-S principle	Estimated length	Size, classes	Diameter, R-S posthole, average	Depth, R-S posthole, average	Dimensioned	Constructions, long sides	Long sides, curved or straight
61	3	n	3	0	0	33,00	12,75	0	0	0
62	3	n	2	0	0	34,75	13,00	0	0	0
64	3	n	3	0	0	32,00	28,80	0	0	0
65	3	n	6	18	3	31,00	11,67	2	1	2
66	3	n	3	0	0	30,80	26,50	0	0	0
67	3	n	3	22,5	3	41,25	32,25	2	1	2
68	3	0	4	0	0	33,25	17,17	0	0	0
69	3	y	6	18	3	32,80	19,80	2	1	2
70	3	n	2	0	0	26,25	11,75	0	0	0
71	3	n	1	0	0	32,50	17,00	0	0	0
72	3	n	2	14	4	37,67	16,75	2	1	0
74	3	n	3	0	0	36,25	21,20	0	0	0
75	3	n	2	0	0	51,67	17,00	0	0	0
76	3	n	6	15	4	32,00	25,67	2	1	2
77	3	n	5	21	3	29,43	20,57	1	0	0
79	3	n	4	17	4	46,40	29,57	2	1	2
80	3	n	2	0	0	26,00	14,80	0	0	0
81	3	0	0	0	0	28,71	21,29	0	0	0
82	3	n	4	0	0	44,00	21,50	0	0	0
83	3	n	4	16	4	38,50	19,17	2	1	2
86	3	n	3	18,6	3	42,83	20,50	2	0	0
88	3	0	0	0	0	32,00	15,00	0	1	0
89	3	n	0	0	0	27,33	23,50	0	0	0
90	3	y	1	9	4	37,67	30,00	2	2	2
91	3	n	2	13,5	4	0	0	0	1	2
93	3	n	6	0	0	40,50	30,75	0	0	0
94	3	n	6	0	0	53,75	19,25	0	0	0
95	3	n	1	0	0	25,00	9,50	0	0	0
201	3	0	0	0	0	36,50	13,20	0	0	0
212	3	n	3	0	0	27,83	17,00	0	0	0
213	3	n	2	0	0	23,00	11,80	0	0	0
214	3	n	2	0	0	27,75	9,75	0	0	0
215	3	n	4	18,5	3	39,50	18,25	2	0	0
216	3	n	4	19,5	3	28,88	13,50	1	0	0
301	3	n	2	13	4	56,00	18,60	3	1	2
302	3	n	2	12,5	4	30,50	21,75	2	1	2
303	3	n	6	14	4	39,67	23,86	2	1	2
304	3	n	2	0	0	27,75	31,50	0	0	0
305	3	n	6	15	4	35,33	17,40	2	1	2
311	3	n	4	0	0	31,60	12,90	0	0	0
314	3	n	6	13	4	52,20	24,83	3	1	1
315	3	n	2	13	4	29,17	24,50	2	1	2
316	3	0	0	0	0	41,00	25,20	0	1	0
319	3	n	6	15	4	39,75	13,25	2	0	0
401	3	n	4	21,5	3	32,14	16,86	1	1	2
402	3	n	0	0	0	41,75	44,25	0	1	0
403	3	0	0	0	0	51,50	19,25	0	1	2
410	3	0	0	0	0	40,00	28,60	0	0	0
419	3	n	1	0	0	34,5	41,5	0	0	0
423	3	0	0	0	0	33,89	20,33	0	0	0

House	R-S construction, curved or straight	Buttresses	Number of rooms	Hall room	Number or entrances	Entrance principle	Replaced posts, all	Post impressions	Posts removed at demolition	Burnt clay in postholes	Burnt stone in postholes
61	1	0	4	n	0	0	0	n	0	y	y
62	0	0	3	n	0	0	0	n	0	n	n
64	1	0	4	n	0	0	0	n	y	y	y
65	0	0	3	y	1	1	0	n	0	y	y
66	2	0	4	y	0	0	0	y	y	y	y
67	2	0	4	n	2	2	17	y	0	y	n
68	2	0	0	0	1	2	6	y	y	y	y
69	0	0	3	y	0	0	0	y	0	n	y
70	0	0	3	n	0	0	0	n	0	y	y
71	0	0	2	0	0	0	0	n	0	y	n
72	0	0	3	n	0	0	0	n	0	n	n
74	1	0	4	n	0	0	4	n	y	n	y
75	0	0	3	n	0	0	2	n	y	n	y
76	0	0	3	y	1	2	3	n	y	y	y
77	1	0	5	y	0	0	1	n	0	y	y
79	1	0	4	n	1	2	2	n	y	n	y
80	0	0	3	n	0	0	2	y	y	y	y
81	1	0	0	0	0	0	1	n	0	n	y
82	2	0	5	n	1	2	6	n	y	y	y
83	1	0	4	n	1	2	1	n	y	n	y
86	2	0	4	n	0	0	1	n	y	y	y
88	0	0	0	0	0	0	0	n	0	y	y
89	0	0	3	n	0	0	0	n	0	n	n
90	0	0	3	y	1	2	2	y	y	y	y
91	0	0	3	n	1	1	0	0	0	0	y
93	0	0	3	y	0	0	2	n	0	n	y
94	0	0	3	y	0	0	0	n	y	n	y
95	0	0	2	n	0	0	0	n	0	n	y
201	0	0	0	0	0	0	1	n	0	y	y
212	1	0	4	n	0	0	0	y	y	n	n
213	0	0	3	n	0	0	2	n	0	n	n
214	0	0	3	n	0	0	0	y	y	n	n
215	2	0	5	n	0	0	1	n	y	n	n
216	2	0	5	n	0	0	0	n	y	y	Burnt
301	0	0	3	n	1	1	2	n	y	y	y
302	0	0	3	n	1	3	0	n	0	y	y
303	0	y	3	y	1	2	4	y	y	n	y
304	0	0	3	n	0	0	2	y	y	n	y
305	0	0	3	y	0	0	4	y	y	y	y
311	1	0	6	n	2	1	0	n	0	y	y
314	0	0	3	y	0	0	4	n	y	y	y
315	0	0	3	n	0	0	3	y	y	y	y
316	0	0	0	0	0	0	3	y	y	n	y
319	0	0	3	y	0	0	3	y	y	y	y
401	2	0	5	n	1	2	7	y	0	n	y
402	0	0	3	n	0	0	0	n	0	n	y
403	0	0	0	0	0	0	0	n	y	y	n
410	0	0	0	0	0	0	0	y	y	y	y
419	0	0	2	0	0	0	0	y	0	n	n
423	2	0	0	0	0	0	0	n	0	n	y

Living in, with and around the longhouses at Strøby Toftegård. A biographical approach to longhouse architecture in the Late Iron Age and Viking Age

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Appendix B

The analysis in the article *Living in, with and around the longhouses at Strøby Toftegård. A biographical approach to longhouse architecture in the Late Iron Age and Viking Age* is based on data in both appendix A and B.

In appendix B, basic data on all longhouses and small buildings identified in the excavations of Strøby Toftegård 1995-2013 are presented. The presentation has been structured to give an overview of the character of the interpreted building as well as of the archaeological record constituting the interpretation.

Dating codes used:

LBA = Late Bronze Age (c. 1000 - 500 BC)
GIA = Germanic Iron Age (c. 400 - 750 AD)
LGIA = Late Germanic Iron Age (c. 600 - 750 AD)
VA = Viking Age (c. 750 - 1050 AD)
EVA = Early Viking Age (c. 750 - 900 AD)
LVA = Late Viking Age (c. 900 - 1050 AD)

Figure a: Overview of houses (longhouses and small buildings) excavated at Strøby Toftegård 1995-2013. Each house is labelled with an ID number used as a reference in the text and in the appendixes.

House 1

Longhouse

House construction:

Length (measured): 38 m

Roof-supporting construction: Three-aisled, six pairs

Span in roof-supporting pairs: 2,8 - 3,2 - 3,8 - 4,0 - 3,6 - 3,3 m

Distance between roof-supporting pairs: 2,3 - 11,9 - 4,9 - 3,1 - 2,9 m

Constructions - gables: Western gable construction with five posts, closed construction; eastern gable open

Constructions - long sides: Only few posts of the wall preserved in the southern long side, wall posts are not as deeply founded as the buttresses; postholes on outside of wall in northern and southern long side originates from buttresses slanting towards the wall (based on post impressions).

Entrances: Two entrances in the southern long side; one entrance in the northern long side; eastern gable open

Partition walls: One partition wall between western entrance room and hall room; one partition wall between two rooms in the eastern part; one partition wall between the eastern entrance room and gable room

Orientation: WNW-ESE

Archaeological features

Type of features: Postholes, homogenous

Degree of investigation: All archaeological features fully excavated and all fillings sieved

Reinterpretation in relation to excavation report: Yes

Depth, roof-supporting postholes: 12 - 72 cm

Depth, posts in gables: 7 - 28 cm

Depth, posts in long sides: 4 - 59 cm

Archaeological features, general biography: One possible replaced post in the southern long side; post impressions are present in some but not all of the roof-supporting posts and posts in the long sides; several posts both roof-supporting and in the long sides have traces of posts being removed at demolition of the house (based on secondary cuts in postholes).

Burnt clay in postholes: Yes

Burnt stones in postholes: Yes

Finds

Ceramics, sherd of slavic ceramics of Fresendorfer type (800-950 AD); bones; burnt clay; flint blade; glass sherd (x374) (LGIA); bronze spiral (x349) (VA); iron nail (x393); iron fitting (x570)
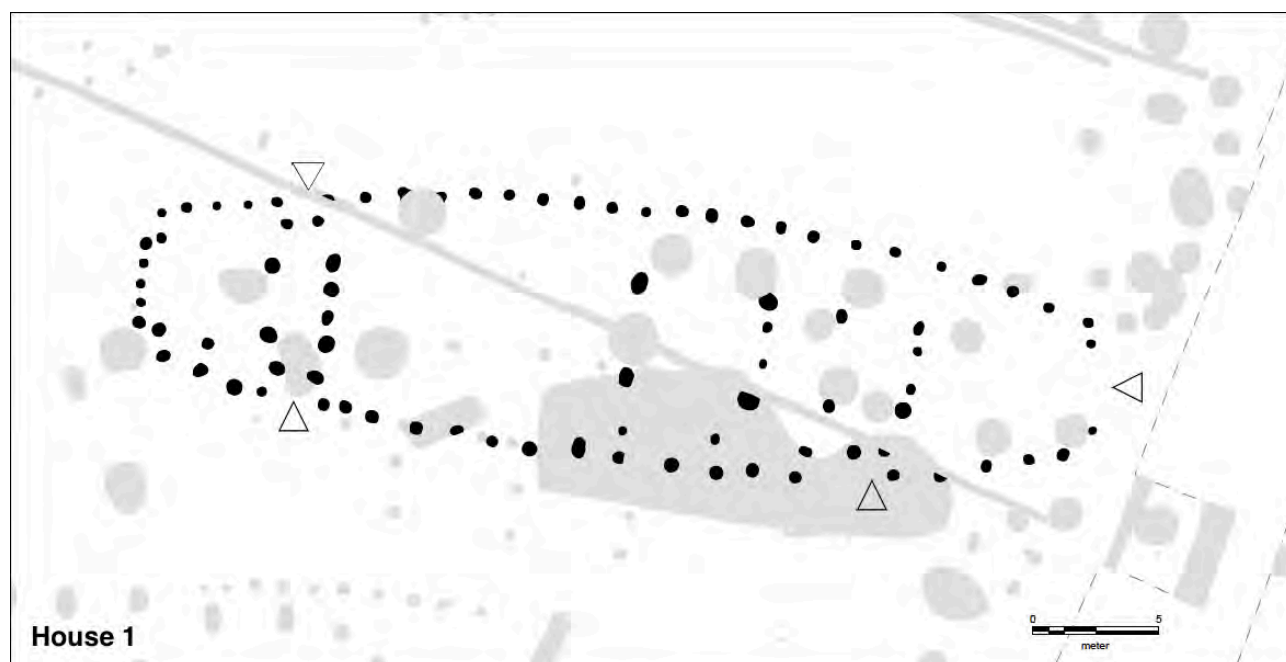
Date: Early Viking Age, 800-900 AD

C-14 date: 656-778/791-827/840-863 AD (95% probability)

Dating method: C14; typology; finds; stratigraphy; burnt stone in postholes

Stratigraphy: Earlier and later than cooking pits in the area; later than house 6 and culture layer A10116

House 1

The rest of appendix B can be found online at:

https://fil.museerne.dk/share/s/T6HVerJpRvyPwj31y1tQLA

Appendix 4

Managing time. Expressing social memory in settlements from the Late Iron Age and Viking Age
(Article 4)

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Managing time. Expressing social memory in settlements from the Late Iron Age and Viking Age

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Abstract

This article aims at discussing practices of social memory expressed in Late Iron Age and Viking Age settlements through an analysis of three memory practices: the inclusion of older monuments into settlements, the rebuilding of longhouses and the creation of monuments in the settlements themselves. The analysis is based on four Late Iron Age-Viking Age settlements of similar social context, structure and developmental history: Strøby Toftegård, Gammel Lejre, Tissø and Järrestad. The analysis demonstrates that older monuments of varied character and date can be incorporated when the settlements are established as a way to deal with the long history of the landscape. Furthermore, it is argued that the large and central longhouses are often rebuilt in the same place during the inhabitation process as a way to deal with the near past and finally the analysis showed that selected house sites and accumulations of burnt stones can have acted as monuments in the settlement as a way to bring a certain version of the history into the future. All practices serve to actively create continuity between the past, present and future, and maintain a sense of stability in a dynamic and unsteady society of Late Iron Age and Viking Age. Memory practices are active elements in the processes of establishing, negotiating and re-negotiating the existence and role of the settlements in the local area. However, the practices can also be interpreted as expressions of the general temporal structures guiding life in the period that defined how the inhabitants of the settlements perceived their own place in the world.

Keywords: *Late Iron Age, Viking Age, elite settlements, multitemporality, memory, the past in the past, continuity.*

When the large and rich settlement at Strøby Toftegård was established in the 7th century AD, it was not the first time in history people had occupied the place. Excavations at the site show that people had been living there for varied periods during the Neolithic, the Late Bronze Age and the Iron Age, a few centuries before the Late Iron Age-Viking Age settlement was established (Schultz, this volume). In this article, I will argue that the inhabitants in the Late Iron Age-Viking Age settlement were aware of the previous activities and deliberately incorporated these into the social memory of their dwelling in the landscape, as a way to manage time in an unsteady and dynamic world.

The central role that kinship, genealogies, ancestors and historical events play in contemporary written sources as the Eddas and on the rune stones, as well as in the later Icelandic sagas describing the period, demonstrate that people in the Late Iron Age and Viking Age had a strong concept of the past (Arwill-Nordbladh 2007, Stenholm 2012:61ff). However, the archaeological record show that people not only related to the past in terms of story telling and inscriptions but also in very concrete ways through the active interaction with remains of the past.

A varied range of archaeological studies has for instance demonstrated how the re-use of older burial monuments for new burials was a common and deliberate practice in the Late Iron Age and Viking Age in Southern Scandinavia (e.g. Artelius 2004, Pedersen 2006, Thäte 2007, Larsson 2010, Ulriksen 2011, Stenholm 2012, Williams 2014, 2016, Eriksen 2016, Klevnäs 2016, Lund & Arwill-Nordbladh 2016). In a study covering the re-use of monuments in the Late Iron Age in Denmark, Southern Norway and Sweden, Ewa Thäte has shown that re-use practices were not directed at specific types of burial monuments or monuments from a specific period (Thäte 2007:167ff). Rather, it was the general practice of relating to physical remains of the past that was the consistent element in the practice. In this way, the past as a concept played an important and rather concrete role in burials and burial rituals in the Late Iron Age. Furthermore the high frequency of high status burials among the studied burials indicate that the practice of re-using older monuments had a social and political dimension (Thäte 2007:276).

Whereas studies of the concept of the past in the relationship between burials and monuments are well-represented in archaeological studies, the perception of the past through more mundane practices in settlements have been given less attention (Stenholm 2012:38). We must assume that in general when new settlements were established during the Late Iron Age and Viking Age (in this context covering the period 500-1000 AD and in the following called Late Iron Age for convenience) in Southern Scandinavia, they were not established in empty landscapes, but in landscapes abundant of traces from previous activities in the form of graves, monuments, earthen structures, culture plants and settlement debris — and therefore also of history. Histories of the landscape were probably eagerly shared and therefore widely known, but if nothing else, the persistence of the physical remains must have compelled inhabitants in the landscape to explain and make a meaning of traces of the past in relation to their own contemporary world. In that sense, it must have been equally crucial to make a meaning of the past in order to settle in a landscape with a history already and - over time - relate to one's own history created in the landscape.

In the following, I will investigate settlement practices that express an active interaction with the past in order to understand how the past was used in the creation of the social memory in the Late Iron Age. The aim of the article is to contribute with new perspectives on the broader understanding of dwelling and the temporal structures guiding everyday life in the Late Iron Age.

More specifically, the article is structured around an analysis of three kinds of memory practice: the inclusion of older monuments into settlements, the rebuilding of longhouses and finally the creation of monuments within the settlement sphere. A selection of similar settlements at Strøby Toftegård, Tissø, Gammel Lejre and Järrestad, which all belong to what has been defined as dwellings for the social and political elite, will be the starting point. The aim of the article is not to make an exhaustive study of the phenomenon or to present an all-encompassing interpretation of the practice but rather to use the

analysis as a starting point for a discussion of the wider effects of temporal concepts in dwelling practices in the Late Iron Age and Viking Age - in this article and as a basis for future studies.

The four sites

The starting point for the analysis is the four Late Iron Age settlements at Strøby Toftegård, Gammel Lejre, Tissø and Järrestad (Figure 1). In the analysis, the concrete practices in the settlements will be juxtaposed and discussed in relation to teach other. The sites have been chosen because of their particular similarities in social context, structure of the central settlement unit and history of establishment and inhabitation; similarities, which have lead to comparisons in other contexts as well (e.g. Söderberg 2005, Jørgensen 2009, Christensen 2015). How explicit aspects of social memory have been discussed in relation to each site varies, and a broader analysis of how social memory is expressed across the settlements have not been done previously.

The settlement at *Strøby Toftegård* was established in the middle of the 7th century AD (Tornbjerg 1998, Beck & Schultz, this volume) and located on a small plateau in the relatively flat and open landscape of Stevns, eastern Zealand (Schultz, this volume) (Figure 2a). Traces of earlier activities dated to the Neolitihic, Late Bronze Age and Iron Age have been identified at the site in the form of settlement features, graves and at least one longhouse. The last phase of inhabitation in the specific location happened at the transition between Roman and Germanic Iron Age and seems to consist of one short-lived farming unit. In that sense, there is no spatial continuity between the previous occupation and the Late Iron Age settlement. The excavations showed that the Late Iron Age settlement at Strøby Toftegård
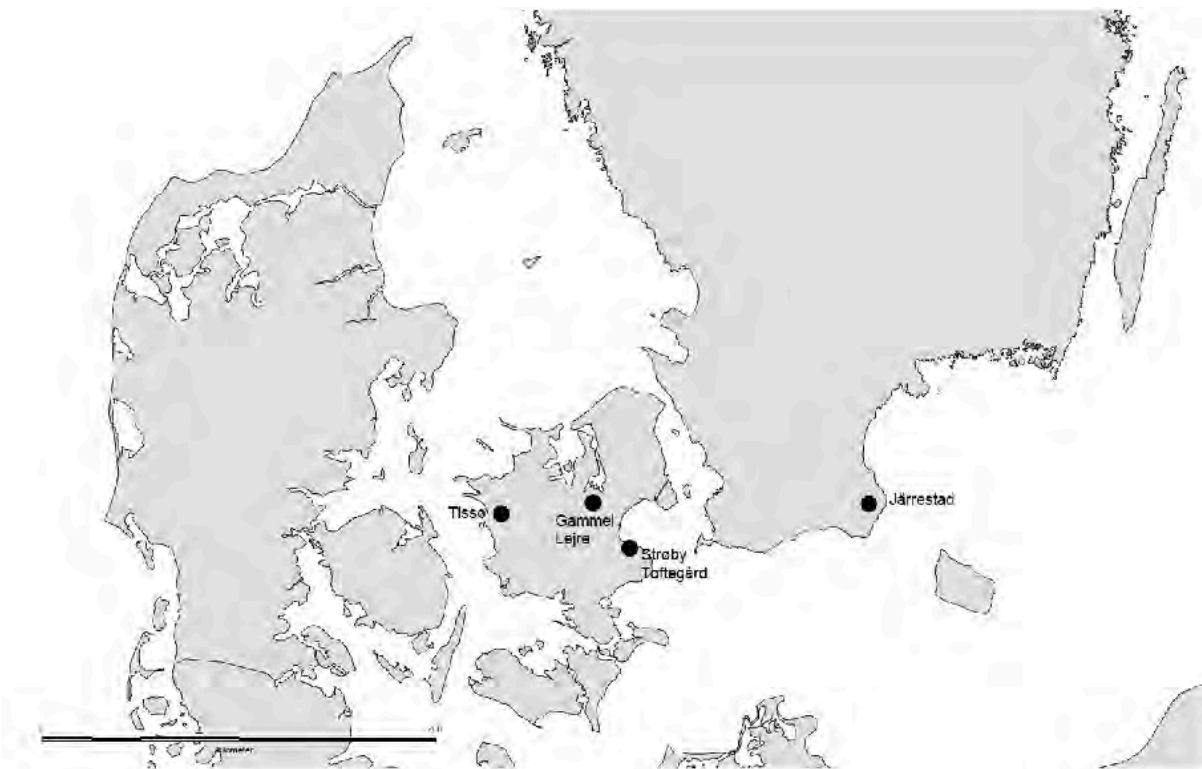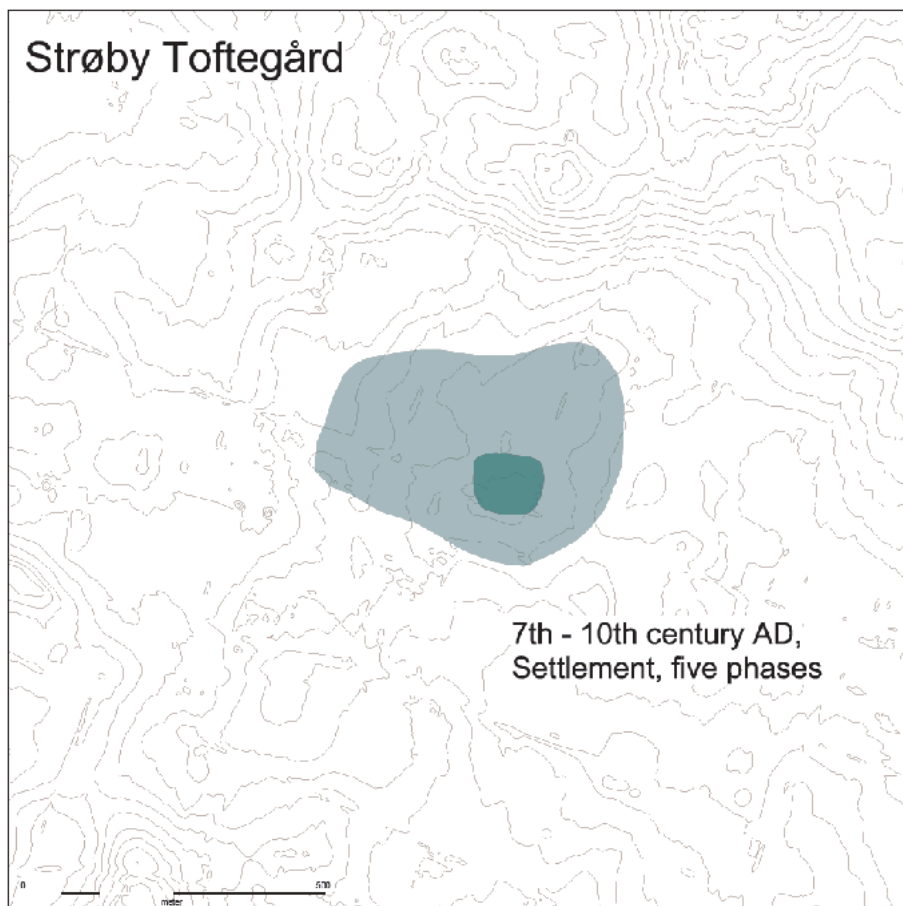

Figure 1. Map of the four sites included in the analysis.

(a)

Strøby Toftegård

7th - 10th century AD,
Settlement, five phases

0   500
meter

(b)

Gammel Lejre

Fredshøj
6th - 7th century AD,
Settlement, two phases

Mysselhøjgård
7th - 9th century AD,
Settlement, three phases

Mysselhøjgård
9th - 11th century AD,
Settlement, three phases
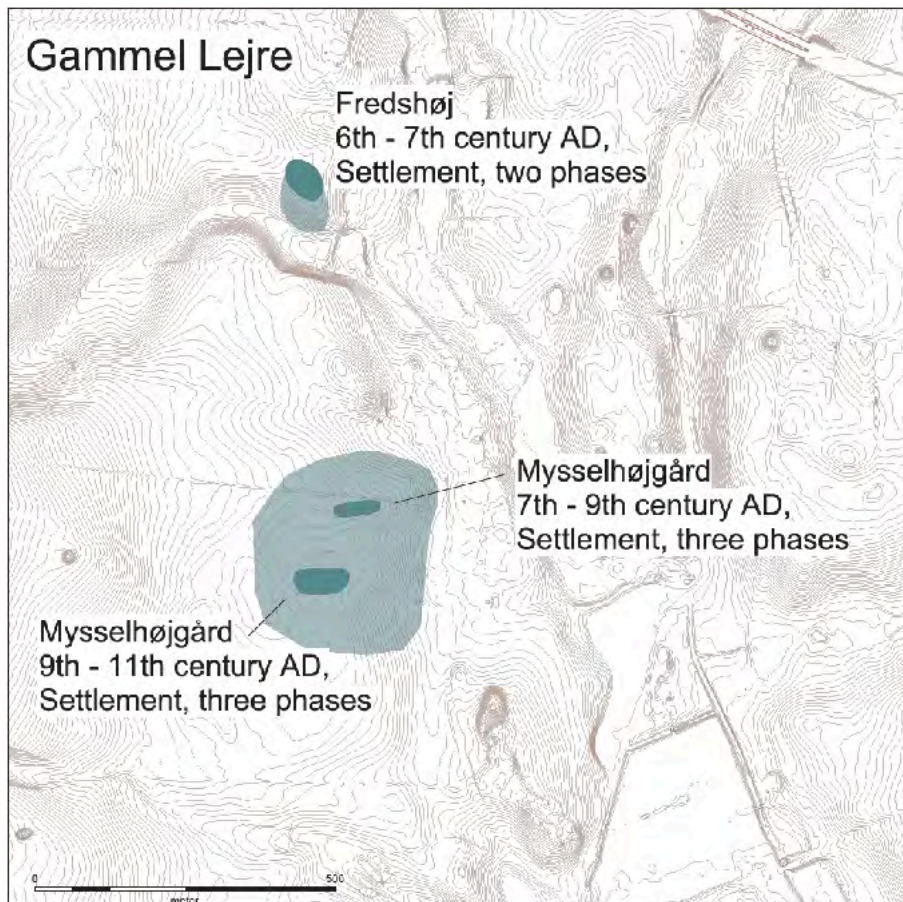
0   500
meter

Figure 2. The establishment and development of the settlements at Strøby Toftegård and Gammel Lejre in their landscape context. The darker areas mark the large longhouses, the lighter areas the surrounding settlement.

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consisted of up to nine contemporary dwelling units. One dwelling unit stands out as having a higher social position due to its central location, large and well-built longhouses (35-39,5m) and concentration of valuable and imported artefacts (Beck & Schultz, this volume). The settlement was given up at the end of the 10th century AD. Maybe the occupation continued at the nearby site Kastaniehøj, c. 800 m further to the west where stray finds dated to the Late Iron Age and up to 1100 AD as well as settlement traces indicate the existence of a settlement parallel and beyond the existence of Strøby Toftegård (Tornbjerg 1998:232). Only limited excavations have been done at Kastaniehøj until now and the character of the settlement and the connection to Strøby Toftegård is not fully known yet (Sørensen 2000, Schultz, this volume).

The large settlement at *Gammel Lejre*, central Zealand was established in the beginning of the 6th century AD at Fredshøj on a marked plateau on the western side of the stream, Lejre Å (Christensen 2015) (Figure 2b). A large longhouse (47 m) and a smaller longhouse formed the settlement structures. The excavations at Fredshøj showed that two smaller longhouses had been located in the same place a few hundred years before. The houses have been suggested typologically dated to 200-400 AD and represent a small dwelling unit in one phase (Christensen 2015:59f). There seems to be no continuity from the early occupation to the large longhouse, that marks the beginning of the high status residence at Gammel Lejre. During the 7th century AD, the residence was moved c. 500 m to the south to another marked plateau at Mysselhøjgård. In this location, the settlement had two major building phases, each with three to four phases of exceptionally large buildings (45-61 m). A large activity area with pit houses was located between the magnate farm and Lejre Å, but the extension of this has not yet been investigated. The site was abandoned or moved in the middle of the 11th century AD.

The rich settlement at *Tissø*, western Zealand have a similar story of establishment as Gammel Lejre. During the 6th century AD, a residence was established at Bulbrogård in the northern part of a plateau at the western shore of the lake, Tissø (Bican 2010a) (Figure 2c). No traces of earlier occupation were identified during the excavations. The Late Iron Age settlement was in that sense located on 'new' land (Bican in prep.). Around 700 AD, the site was moved 600 m further to the south, where the high status residence was re-established at Fugledegård (Jørgensen 1998, 2002, 2009). At Fugledegård, four phases of large longhouses (35-48 m) enclosed by a palisade were identified. North and south of Fugledegård, an extensive activity area with pit houses were located. The settlement was abandoned in the middle of the 11th century AD.

At *Järrestad 45:1*, southeastern Scania, a high status residence was established in the middle of the 6th century AD at a prominent location on the northern side of the stream, Tommarpsån (Söderberg 2003, 2005) (Figure 2d). The occupation had four phases of large longhouses (37-50 m). In the excavations, settlement remains and houses dated to the Late Bronze Age and Early Iron Age have been found, but no traces show direct continuity to the occupation in the Late Iron Age (Söderberg 2003:31ff). Around the large longhouses, traces of a larger contemporary settlement has been found, though the investigations of this element has been limited. A neighbouring settlement (Järrestad 50), which has been excavated on another topographical plateau c. 600 m east of the high status site, have been dated 300-600 AD and the occupation is in that sense earlier and overlapping in time with the high status site (Söderberg 2005:83). The relationship between the two sites is not clear. As the older settlement exists simultaneously with the high status residence, it seems unlikely that the inhabitants on the magnate unit
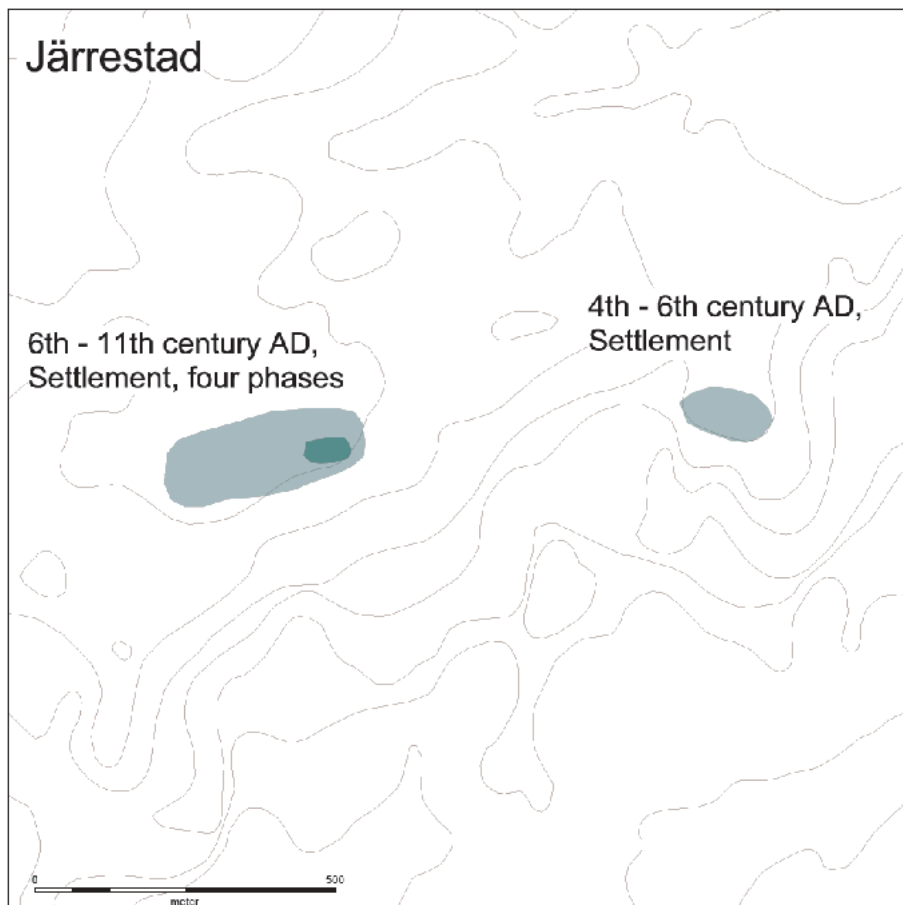
(c)
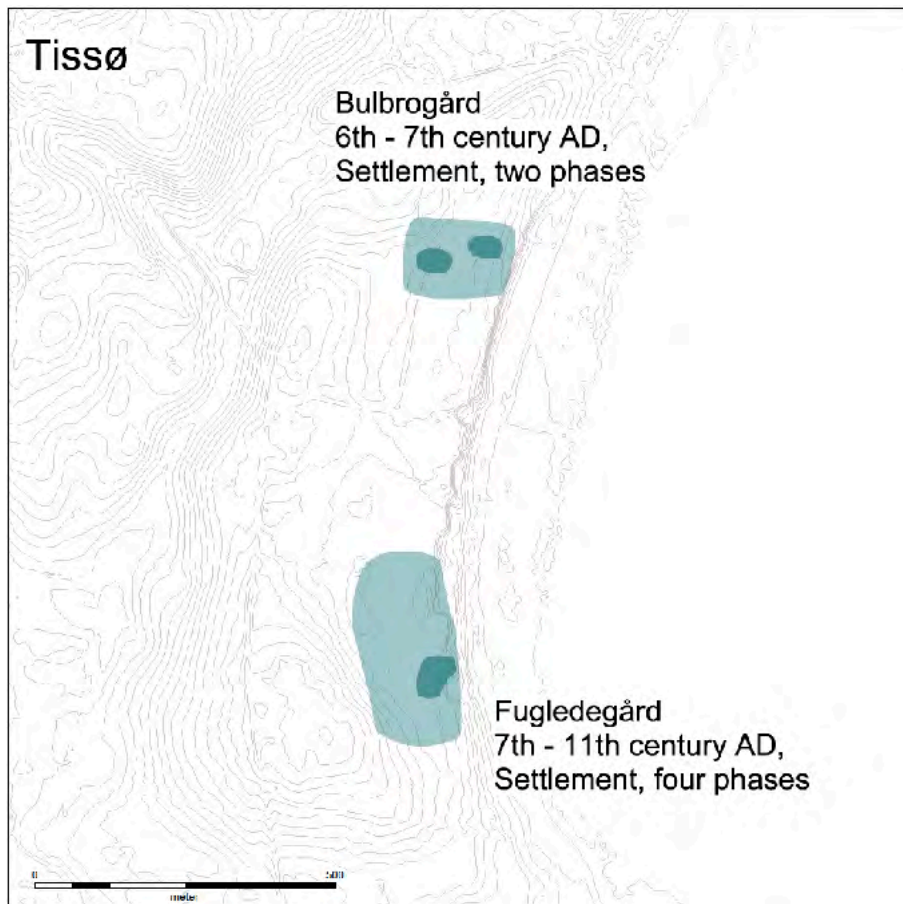
(d)

Figure 2 (continued). The establishment and development of the settlements at Tissø and Järrestad in their landscape context. The darker areas mark the large longhouses, the lighter areas the surrounding settlement.
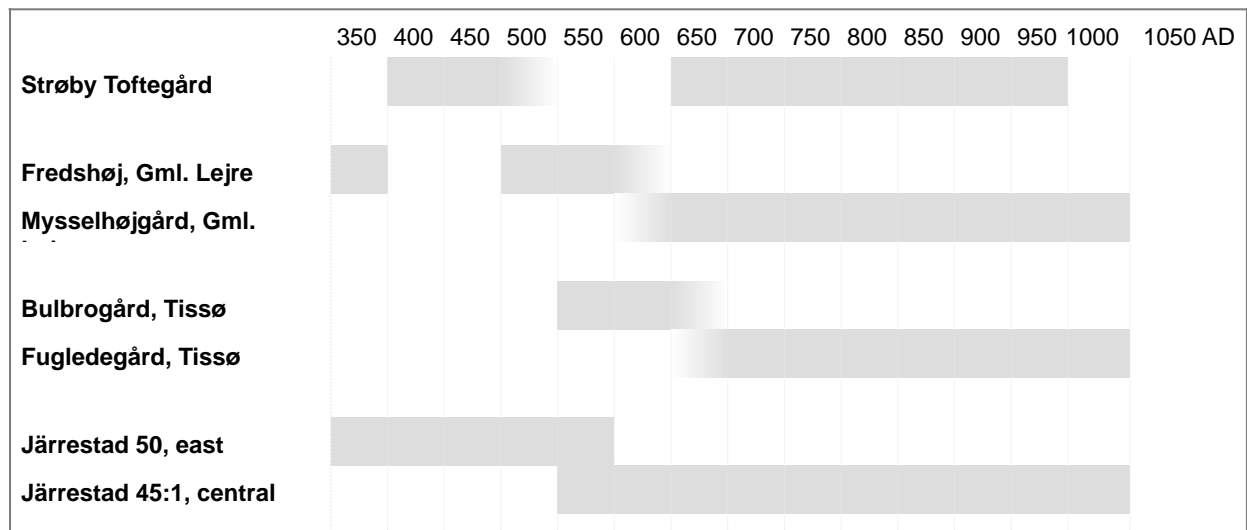
| | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 | 950 | 1000 | 1050 AD |

Strøby Toftegård

Fredshøj, Gml. Lejre

Mysselhøjgård, Gml.

Bulbrogård, Tissø

Fugledegård, Tissø

Järrestad 50, east

Järrestad 45:1, central

Figure 3. Overview of the dates of establishment and abandonment of the four sites included in the analysis.

originated from the older settlement though. The rich Late Iron Age settlement was given up or moved in the middle of the 11th century AD.

All four case studies are established in the 6th-7th century AD, and they all seem to be given up just before or during the 11th century AD (Figure 3). Even though we must presume that these settlements were not established in completely unknown country, they all seem to represent a new phenomenon in the specific place at the moment they were established. The new-establishment is a feature which is markedly different from other contemporary high status sites that show a settlement continuity starting earlier in the Iron Age as Sorte Muld (200 BC - 850 AD), Uppåkra (100 BC - 1000 AD) and Gudme (200-1000 AD) (Michelsen & Sørensen 1996, Larsson & Lenntorp 2004, Adamsen et al 2008, Jørgensen 2010).

The structure of the sites is also similar. The settlements are build up around a central, high status unit, consisting of a large longhouse, often with an associated enclosure with special buildings inside (Figure 4). In some contexts, the large longhouses of the central unit have been designated as 'halls' (e.g. Herschend 1993, 1997, Söderberg 2005, Jørgensen 2009, 2011, Carstens 2015). The term has been used both to address the specific architecture of the longhouse as well as its probable function in cultic and representational contexts, but the ambiguous use of the term has made the definition of the term unclear and therefore problematic (Stenholm 2012: 173, Carstens 2015:14). As a discussion of its definition is beyond the scope of this article, the more neutral 'large longhouse' have been chosen to indicate that the longhouses in the central unit stand out from the other longhouses in the settlement. This does not exclude that the large longhouses served representational and cultic functions in the settlement though. Around the large longhouses in all the sites, houses and activities of varied character have been investigated. The find material from each site places the settlements among the elite of the Late Iron Age society due to the quantity, quality and character of the artefacts.
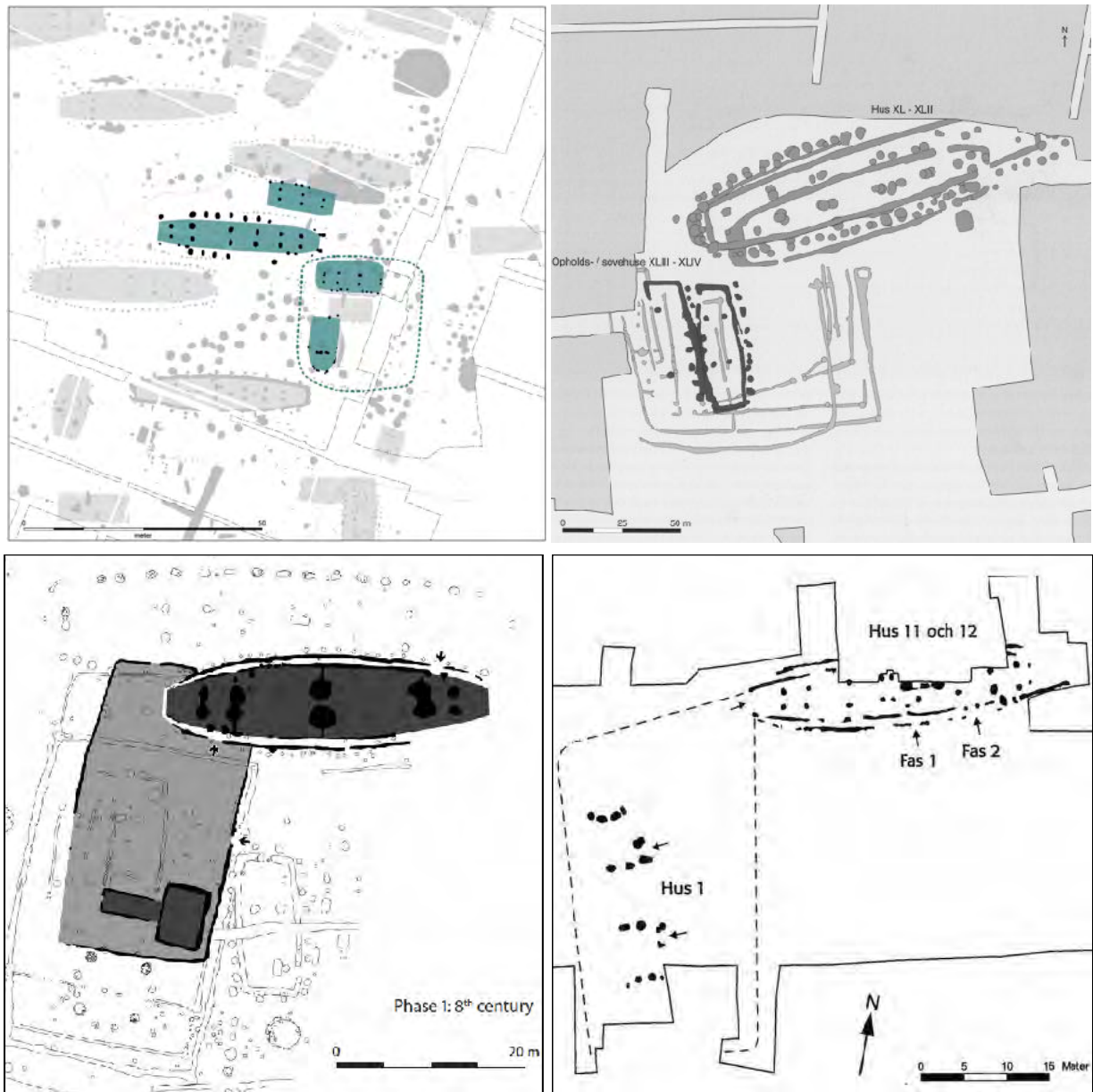
Figure 4. Overview of the structure of the large longhouses and additional constructions in the period c.650-700 AD. Strøby Toftegård, house 5, Mysselhøjgård, house XL-XLII (after Christensen 2015:fig. 6.39), Fugledegård, House 10 (after Jørgensen 2009:fig. 14) and Järrestad, House 11/12 (after Söderberg 2002a:fig. 26).

In that way, the settlements were - at least archaeologically - established on the same premises and the similarities in their general character make a comparison of the sites a fruitful starting point for a comparison of memory practices used in the establishment and the inhabitation of the settlements.

Social memory as perception of the past

The question of how people in the past related to their own history has not been a conventional question within the traditional chronological archaeological narrative, where each period is carefully distinguished and separated from the others with the aim of creating 'an Iron Age only consisting of Iron Age' (Olivier 2001:64). But instead of exclusively looking at a specific period, this study aims to explore the

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relationships between periods, more specifically how people in the Late Iron Age perceived time, the past and its remains.

Over the last two decades, the study of the perception of 'the past in the past' has got increasing attention within archaeology. The first studies related to 'the past in the past' was published in the 1980s and 1990s particularly within British archaeology, where the field developed parallel to and sometimes integrated with British landscape archaeology (e.g. Tilley 1994, Thomas 1996, Edmonds 1999, Johnson 2007). Since then, a still-growing number of studies of the perception of the past in the past have been made in varied archaeological contexts — internationally (e.g. Bradley 1987, 1998, 2002, Bailey 1990, Rowlands 1993, Gosden 1994, Williams 1998, 2016, Tringham 2000, van Dyke & Alcock 2003a, Jones 2007), as well as in Scandinavia (e.g. Baudou 1989, Zachrisson 1994, Artelius 2004, Thäte 2007, Stenholm 2012, Eriksen 2016, Lund & Arwill-Nordbladh 2016). In the same time, studies have developed from addressing the rather narrow study of 'the past in the past' focused specifically on the re-use of older monuments to a broader study of the concept of social memory (Jones 2007:3, Williams 2016:403).

In general terms, *social memory* designates 'how communities remember' (Connerton 1989, Halbwachs 1992). Inherent in the term 'social memory' lies that memory is a social act, thereby separating it from the memory of the individual, though the two are internally dependable and interwoven (Jones 2007:44). Where memories of the individual are personal, social memory constitutes the common reference within a group (Connerton 1989:38, Stenholm 2012:21). Social memory is build up by shared ideas, traditions, norms, histories, genealogies and sayings reaching beyond the lifetime of the individual. Social memory relates directly to a shared past by establishing a link between previous experiences and the situation in the present that creates a connection between contemporary identity and history (French 1995:9, Stenholm 2012:37). In other words, social memory designates the shared notion of why things are in a particular way in the present based on a common perception of the past (van Dyke & Alcock 2003b:2).

A common perception of the past is only created when histories of the past are shared among people and furthermore transferred from generation to generation. Anthropologist Paul Connerton has described the process of sharing memories as divided between *inscribed* and *incorporated practices* (Connerton 1989). Inscribing practices uses external medias as text, images, structures or monuments as instruments to share history. In the Late Iron Age society, this practice is represented e.g. in the performance and repetition of songs, stories and law texts at social events (Brink 2005:91). Inscribing practices are often highly formalised and intentional (Hamilakis & Labanyi 2008:12). Incorporating practices on the other hand uses the body as instrument and designate the kind of memory that is contained in habits, rituals and bodily practice. Through repeated, embodied practices as movements and gestures are norms and ideas acted out, but often in less intentional and conscious ways than the inscribed practices (Olsen 2010:122, Lucas 2012:28). The embodied practices create experiences that is 'sedimented in the very movement of the body' as social memories (Jones 2007:11). An illustrative example of incorporated practices is when people stand up as an important person enters the room. The gesture is a way of remembering the status of that person and at the same time confirm that relationship to all in the community (Strathern 1996:32).

Connerton's theory of incorporated practices highlights the role of material practice in the formation processes of social memory where physical things has an important role as mnemonics (van Dyke & Alcock 2003a, Lucas 2005:84f, 2012:205ff, Jones 2007, Olsen 2010:109ff, Crossland 2014). The concept of incorporated practice links in that way settlements and settlement practices with the more general concept of social memory - and in relation to the current study - how the perception of the past is expressed and shared through settlement structures and practices (Jones 2007:48).

The physical structure of the settlement constitutes in a very concrete way the spatial and social framework within which daily practices as childcare, cooking, food production, crafts, seasonal feasting and religious rituals were conducted. Through location, organization and building practices, the settlement directed movement patterns, communication, access, experiences, view sheds etc. which defined the possibilities for how daily practices within the settlement were performed (Bourdieu 1970, Carsten & Hugh-Jones 1995:2f, Ingold 2000). But simultaneously, the same settlement structure was created and recreated through the daily practice. The relationship between structure and practice is a dialectical and dynamic process where it is neither the physical structure nor the daily practice that create the other but instead an entanglement where the physical settings and the practices presuppose each other in order to exist (Jones 2007:37). A study of the settlement structure will therefore necessarily also imply a study of the practices that constituted the structure and vice versa.

How the settlement structure is interacting with the history of the landscape will act out a certain perception of the past through the daily practices, intentionally and unintentionally (Bailey 1990, Gosden 1994:124, Tringham 2000, Jones 2007:49, Lund & Arwill-Nordbladh 2016:418). Because social memory is created in the present and so closely linked to physical structures and material practices, it is open for intentional and unintentional political and ideological manipulations (LeGoff 1996:98f, 111ff). As many historical and contemporary examples show, social memory can play an important political and strategical role in the negotiations of power (e.g. Munn 1992:109ff, van Dyke & Alcock 2003a, Thäte 2007). By controlling and managing the shared notion of the past, conditions in the present can be naturalised. One way of doing this is through the organization of settlement structures. The existing social order, rights to power and ownership to land can in that way be legitimised in ways that become hard to challenge (Bradley 1987:3, Lucas 2005:88). Through incorporated practice, the perception of the past will be transferred from person to structure, from structure to person and from generation to generation (Jones 2007:48).

An important point made on the basis of studies of social memory by Chris Gosden and Gary Lock is that the past is not just one phenomenon but several. A prerequisite for understanding people's practices in relation to the past is therefore to understand *which* past the practices are oriented towards (Gosden & Lock 1998). Following from that, Gosden and Lock defines two 'kinds of past'; a *genealogical past* and a *mythical past* (Gosden & Lock 1998:4f). Genealogical past is when the antecedents are known in the way that they are direct forefathers, known from stories or in other ways can be named. Mythical past is the past that lies beyond actual memory. In a mythical past, the antecedents are not known, but are given the role as mythical ancestors. The two kinds of pasts are linked and are existing simultaneously, but they will be differently balanced according to the context.

Even though the distinction between mythical and genealogical past has been critiqued for being too dichotomous, it is useful on a general level because it points out the difference in the perception of the past related to the perceived 'pastness' of the past - a condition that will impact on the practices chosen. The practice related to a known past is often repeating the practice of the antecedents thereby creating a direct link to the past, whereas in relation to an unknown past, practice will have to create new meanings to ancient features (Lund & Arwill-Nordbladh 2016:421). The difference defines the degree of 'creativity' that is involved in creating a relationship with the past through practice and serves as a fruitful background for understanding the concrete choice of settlement practices in the context of the following analysis.

Incorporating ancient monuments

Since the Neolithic through the Bronze Age and Iron Age, large and smaller burial monuments were built in the landscape to honour and commemorate the dead (Fahlander & Oestigaard 2008). The monuments made a major impact on the landscape. Even centuries or millenniums later when the memory of the buried persons had died out, the physical monuments continued to be present in the landscape where the Late Iron Age settlements were later established. This part of the analysis will target how the newly established settlements relate spatially to ancient monuments in the landscape.

At Strøby Toftegård, the settlement was established c. 250 m south of the burial mound, 'Toftehøj' (Figure 5) (Schultz, this volume). Today, Toftehøj is only visible as a low hill in the surface of the field. What is visible today is only the last remains of the monument, and the mound must have been more prominent
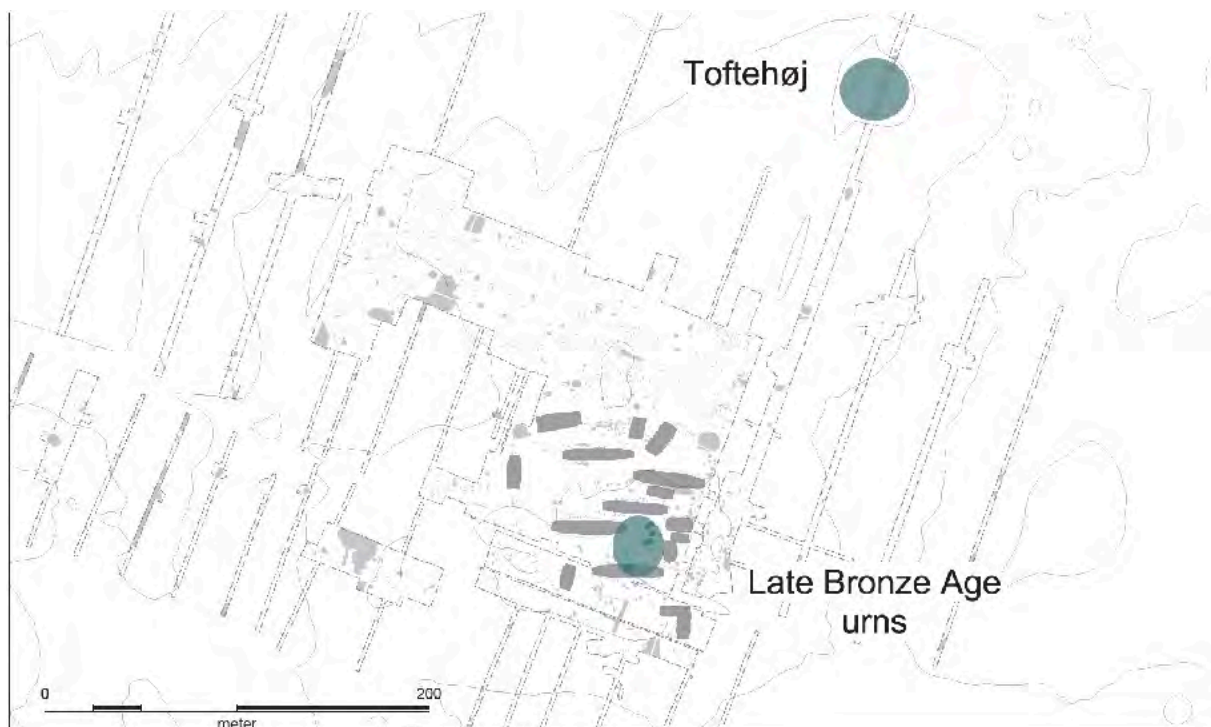

Figure 5. Older grave monuments at Strøby Toftegård. Toftehøj is a Neolithic mound. The longhouses, including the large longhouses, in the elite residence are marked in dark gray.

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in the Late Iron Age. In the National Record (sb 050612-1), the mound is described as partly destroyed in 1820 and finally removed in 1895. A small excavation of the mound in 2012 showed the remains of a central stone built grave which broadly dates the mound to the Neolithic (Beck 2013). The informations from the National record of at least two additional stone built graves and a Late Bronze Age urn found at the excavations indicate that the mound had been reused several times during its life span though the date of the reuse is not known more precisely.

The mound has been clearly visible from the central farm in the settlement, and settlement features both south and north of the mound show that the settlement at some point surrounded the mound. The features include postholes, a shallow culture layer and a deep pit. In the pit, sherds of Viking Age ceramics, a whet stone, bone fragments and other typical settlement debris were found. As the excavations in the area have only been limited, the extension and character of the settlement in the area is not fully known but the close relationship between the mound and the settlement indicates that the mound was incorporated into the settlement.

However, the Neolithic mound was not the only burial in the area, as the central farm was established on top of a small urn field dated to the Late Bronze Age. Five, probably six, urns were found during the excavation of the central farm (Woller 1998:8). One urn was relatively well preserved whereas the other urns were more heavily damaged by modern ploughing (Figure 6). All urns contained burnt bones. Grave goods were only found in grave B (needle, double button and a razor, all in bronze) and grave D (a small bronze button) (Baastrup, this volume). Five urns were placed in a group within a distance of less than 10 m from each other, whereas the sixth possible urn was placed 20 m south-west of the group.

In the central farm, the large longhouse, house 5, which is thought to be the first longhouse in the magnate farm, is located right north (less than 6 m) of the urns. House 4, which is thought to belong

Figure 6. Grave A during excavation. The urn is dated to the Late Bronze Age and only contained the burnt bones of an individual (photo: Museum Southeast Denmark).
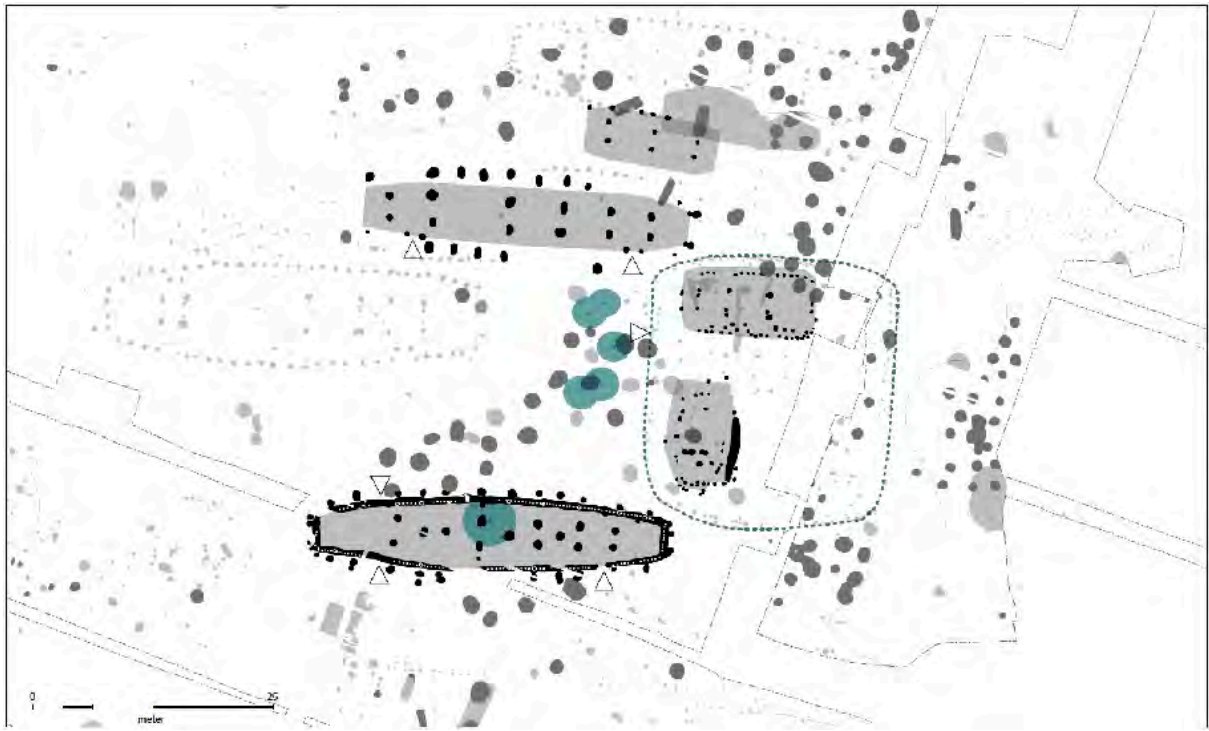
Figure 7. The urns dated to the Late Bronze Age are marked in blue. House 4 and 5, the large longhouses, are the first of the large longhouses. Between house 4 and 5 is a small enclosure with houses in several phases, probably belonging to both phases of the large longhouses. Entrances to the longhouses and the enclosure have been marked. The cooking pits in the area are marked in darker grey. They belong to the following phases of the settlement after house 4 and 5 went out of use.

to the following phase of the farm, is build on top of one of the urns, and the small fenced area, that is thought to belong to both house 4 and 5, is just east of the group of urns (Figure 7). The location could give the impression that the central farm was more or less built around the urn field.

The question is whether the urns had been marked with small barrows or in other ways were identifiable and visible, when the Late Iron Age settlement was established. Small barrows (often down to 5 m in diameter) is known to have been built as markings of urn graves during the Late Bronze Age (Jensen 2002:385f). In Northern Stevns close to Strøby Toftegård, grave fields with small Late Bronze Age mounds are known e.g. from Gjorslev Bøgeskov and Magleby Skov, where a large number of mounds of this type has been preserved. The occurrence of this type of monuments in the local area could indicate that this type of marking had been common even though Late Bronze Age urn fields without barrows are also known from the period. If the urns had been marked with small barrows, the barrows must have been removed quite early in the existence of the settlement, probably already at the building of the first longhouse and at the building of house 4 at the latest. Otherwise, they would have been in the way for access to house 5 and to the small fenced area between house 4 and 5. When house 5 was built, it has been argued that it was built on an artificial platform (Beck & Schultz, this volume). It is a possibility that material from the possible barrows can have been used to build the platform. Older material as flint flakes and flint tools dating to the Neolithic or the Bronze Age, were found in the postholes of house 5 whereas almost no flint was found in any of the other houses in the area (table 1) indicating that the

House	Flint flakes	Flint tools
House 1	0	0
House 2	3	0
House 3	0	0
House 4	0	1 1/2
House 5	8	0
House 6	0	0

Table 1. Finds of flint flakes and flint tools in the longhouses around house 5.

filling in the postholes could originate from somewhere else than the regular field surface. However, as the plateau was not recognised during the excavation, the material in the plateau could not be investigated archaeologically and it will remain speculative whether material from older mounds were used here. Nonetheless, if the interpretation is right, it could be argued that the older monuments had been actively been built into the settlement.

All in all, the archaeological record from Strøby Toftegård indicate that the settlement actively related to the older monuments in the area. A Neolithic mound had been incorporated into the settlement, and the central farm were, intentionally or not, built around a small urn field from the Late Bronze Age.

When the settlement at Fredshøj, Gammel Lejre, was established, the large longhouse (house II) was built less than 10 m from the burial mound 'Møllebjerget' (Figure 8) (Christensen 2015:81ff). 'Møllebjerget' has not been excavated but probably dates to the Bronze Age. Even if the mound has been heavily disturbed during modern times, it is still visible today and must have been even more prominent in the Late Iron Age. The small distance between the mound and the longhouse indicates that the longhouse was built in direct relation to the older monument. Other locations could easily have been chosen north and west of the mound, and the location of the large building must in that way have been chosen quite deliberately.

When the settlement moved south to Mysselhøjgård in the middle of the 7th century, the settlement moved to a location where no older graves or monuments have been recorded in historical times. An artificial platform was built as foundation for the large main longhouse. The platform is described by the excavator Tom Christensen as containing turf even though it does not seem to be a regular turf construction. Based on the occurrence of turf material as well as the finds of two bronze buttons and a tutulus — finds that are normally found in Bronze Age graves — Christensen has suggested that some of the material for the platform was taken from a now unknown Bronze Age mound in the area (Christensen 2015:122). In that way, the past was literally 'built into' the present of the settlement. A situation that could be paralleled with the possible situation at Strøby Toftegård even though speculative. All in all, there seems to have been an active relation between monuments and the settlement, particular when the residence was established at Fredshøj, but maybe also when the settlement site moved to Mysselhøjgård and to some degree had to 're-establish'.

At Bulbrogård at Tissø, the settlement was established in the middle of the 6th century where it consisted of a large hall and a smaller longhouse within a fenced area. A large palisade surrounded the plot (Bican 2010a, in prep.). Along the shore of lake Tissø burials from varied periods have been found. Just 100 m south of the settlement at Bulbrogård, eleven Late Neolithic graves, two Late Bronze Age urns and one

Figure 8. The settlement at Fredshøj, Gammel Lejre. The large longhouse, house II, is marked in dark grey and 'Møllebjerget', a Bronze Age mound, is marked in blue (after Christensen 2015:fig. 5.2, markings by the author).

grave from the Early Roman Iron Age was identified (Bican 2010b) (Figure 9). Bican argues that the graves might have been marked on the surface, but if so only with rather shallow mounds, as some of the graves are intercutting (Bican 2010b:30). Furthermore, a Late Iron Age pit house is cutting one of the Neolithic graves confirming the impression that the graves were not visible as prominent monuments in the landscape. Further south more burials, dating to the Late Neolithic and Late Bronze Age, have been found. Thus even though each grave have only been marked by small mound and in that way not prominent as individual monument, the joint number of markings can have been prominent and given a general impression of an ancient 'necropolis' that people in the Late Iron Age had to relate to in some way. Wether this was the case or not will remain speculative.

When the settlement moved south to Fugledegård, the large central longhouse was built less than 20 m north of a group of four burials dated to the Roman Iron Age (Figure10). Whether they had
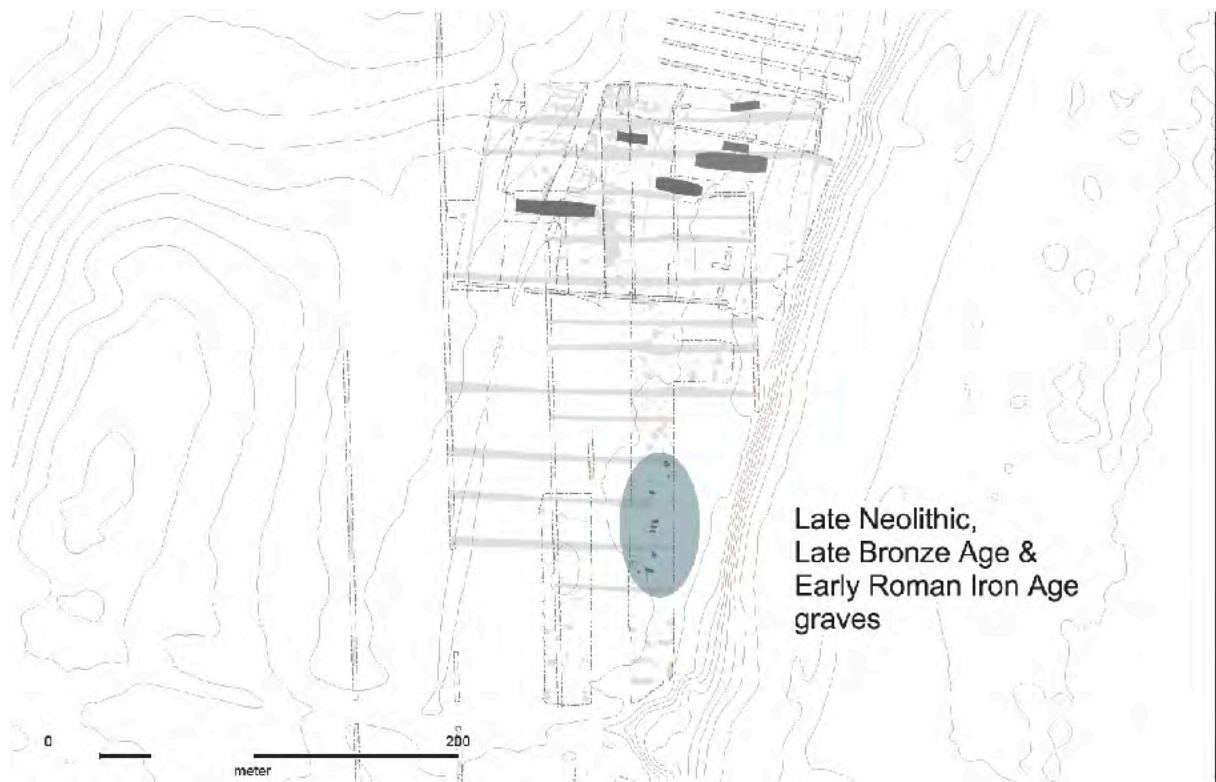
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Figure 9. The settlement at Bulbrogård, Tissø. The longhouses are marked in dark grey. A group of graves, dated to the Late Neolitihic, Late Bronze Age and Early Roman Iron Age graves are marked in blue.
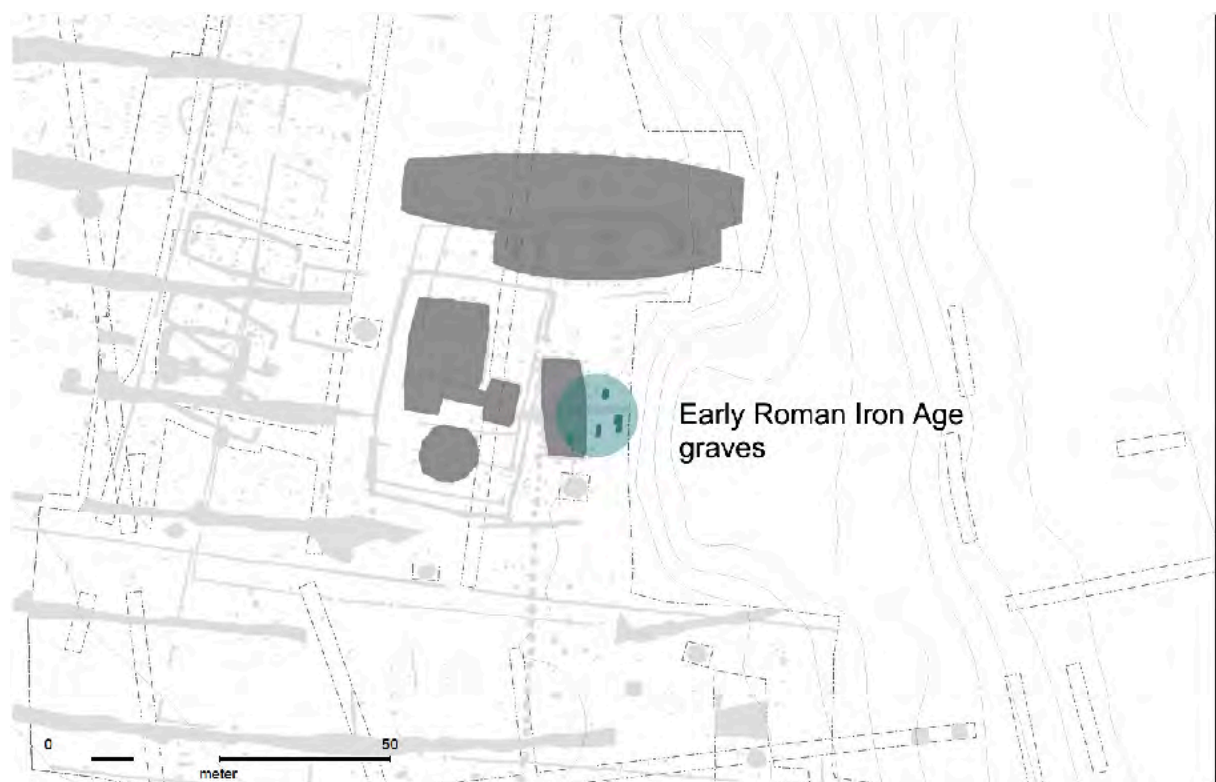

Figure 10. The central part of the settlement at Fugledegård, Tissø. The large longhouses and additional longhouses are marked in dark grey. A group of four graves dated to the Early Roman Iron Age is marked in blue.

been marked when the longhouse was built cannot be told from the archaeological record, but it is sure that if the graves had been marked, the markings must have been removed during the habitation as a house from the last phase was built on top of one of the graves. With the movement and re-establishment of the settlement, the spatial relationship to older graves became closer and more direct even though it cannot be said whether the relationship was intentional or coincidental. In conclusion, the relationship between the two phases of the settlement and older burial monuments is not as obvious as it was at Strøby Toftegård and Fredshøj, but it cannot be rejected either that the high number of older burials in the area in general could have played a role in the establishment and location of the settlement.

The settlement at Järrestad was established around 650 AD. There were only few traces of previous activity in the area but c. 30 m southwest of the large longhouses a Late Bronze Age urn grave was found (Söderberg 2002a:42f). According to Fornsök, other urns have been ploughed up in the area over time, maybe originating from what originally had been a small urn field (RAÄ Järrestad 45:3). There are no traces of barrows or other markings on the surface. East and northeast of the settlement, several Neolithic graves have been found, two of them still marked by a mound. The closest mound is located within a distance of 100 m of the large longhouses and could at least in theory have been incorporated in the settlement in the same way as Toftehøj was at Strøby Toftegård (Figure 11). No excavations have been done in the area that can either confirm or disprove a possible relationship though.

The excavator Bengt Söderberg does not see a specific connection between the magnate residence and the urn(-s) from the Late Bronze Age, but calls attention to the (historical) names of the two
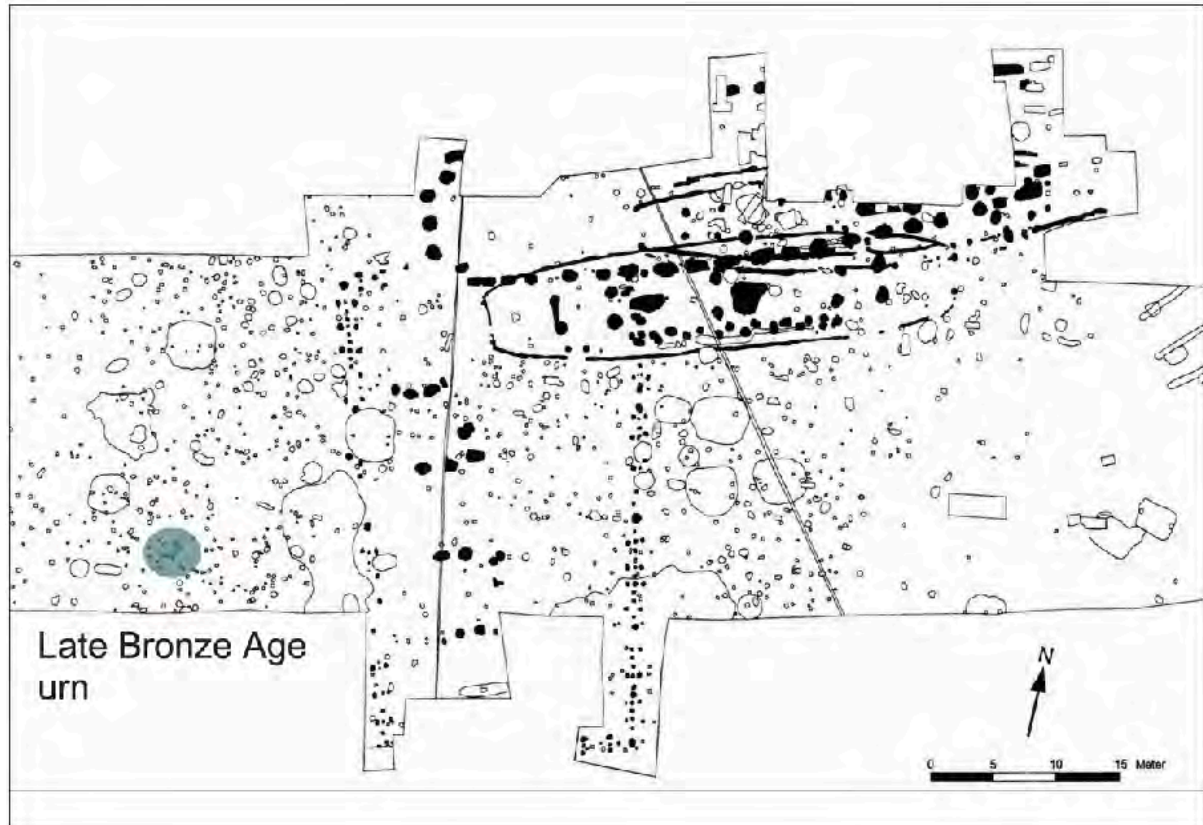

Figure 11. The settlement at Järrestad. The large longhouses are highlighted in black, the location of the urn dated to the Late Bronze Age is marked in blue (after Söderberg 2002a:fig. 25, marking by the author).

Neolithic mounds, that were called 'Jarladösen' (the Earl's dolmen) and 'Jarlfruns dös' (the wife of the Earl's dolmen) respectively. Even though the names probably have been given later in history, Söderberg's thesis is that they might reflect a historical link already created in the Late Iron Age between the inhabitants of the large longhouses, their possible social position and the ancient monuments (Söderberg 2002b:303). Furthermore, Söderberg emphasises the monuments and the history of the landscape more generally as an important reason for the location of the magnate residence (Söderberg 2002b:306f). In that sense, an active relationship between the monuments and the settlement could be assumed.

The four settlements presented here were all established in landscapes that were rich in ancient monuments, and it seems that they were located in direct relation to these even though in some cases more hypothetical than others. The monuments connected to the four sites in the analysis are of varied type and dates, including Neolithic megalithic monuments, Late Neolithic graves, Bronze Age mounds and Late Bronze Age urns. The variation demonstrates that it is not a certain kind of monument or a specific period that are perceived as particularly relevant in the Late Iron Age. The monuments rather represent a general idea of an ancient past, as had also been pointed out by Thäte in relation to reuse of monuments for burials (Thäte 2007:167ff).

At Strøby Toftegård, Fredshøj and Fugledegård, the relationship was acted out as a direct spatial relation between ancient monuments and the settlements, where houses were either placed on top of or right next to older graves, or monuments were incorporated and even built into the settlement. At Mysselhøjgård, Bulbrogård and Järrestad, a general spatial relationship could be identified though it was more distant and in some cases speculative.

The question is whether the spatial relationship was intentional or just occurred by coincidence. For the relationship to be intentional, the burials need to have been recognisable at the time of the establishment of the settlement either in the form of visible monuments, markings or in stories and memories about a site. Because of the preservation conditions of the archaeological sites in modern cultivated fields, in many cases it is not possible to reconstruct if the graves have been visible on the surface in the Late Iron Age. Instead an investigation for similar practices in the broader archaeological material can be a way to get the impression whether it was a more widespread phenomenon in the Late Iron Age or not.

Without being an exhaustive overview, several examples of contemporary settlements with a close relationship to older burials can be mentioned: Just 800 m west of Strøby Toftegård, the settlement at Kastaniehøj was established right next to a Bronze Age mound (Sørensen 2000). Also the large settlement area at Uppåkra, Scania included at least four Bronze Age mounds (Larson & Lenntorp 2004:39). At Lockarp, also in Scania, a magnate farm was established in the late 10th Century on top of a small urn grave field from the Late Bronze Age (Heimer et al 2006:26f). At the high status settlement at Slöinge, Halland, a prehistoric, though still undated grave field was found just south of the settlement (Lundqvist 2000:20). In western Denmark, a large settlement was established at Langvang, right next to a mound which originated from the Late Neolithic (Sørensen 1988). The mound had furthermore been re-used for burials several times, lastly in the Late Germanic Iron Age (around 600 AD). Also the recently investigated magnate farm at Toftum Næs was constructed between two groups of graves from the Roman Iron Age (Terkildsen 2014, Jessen & Terkildsen 2016) (Figure 12).
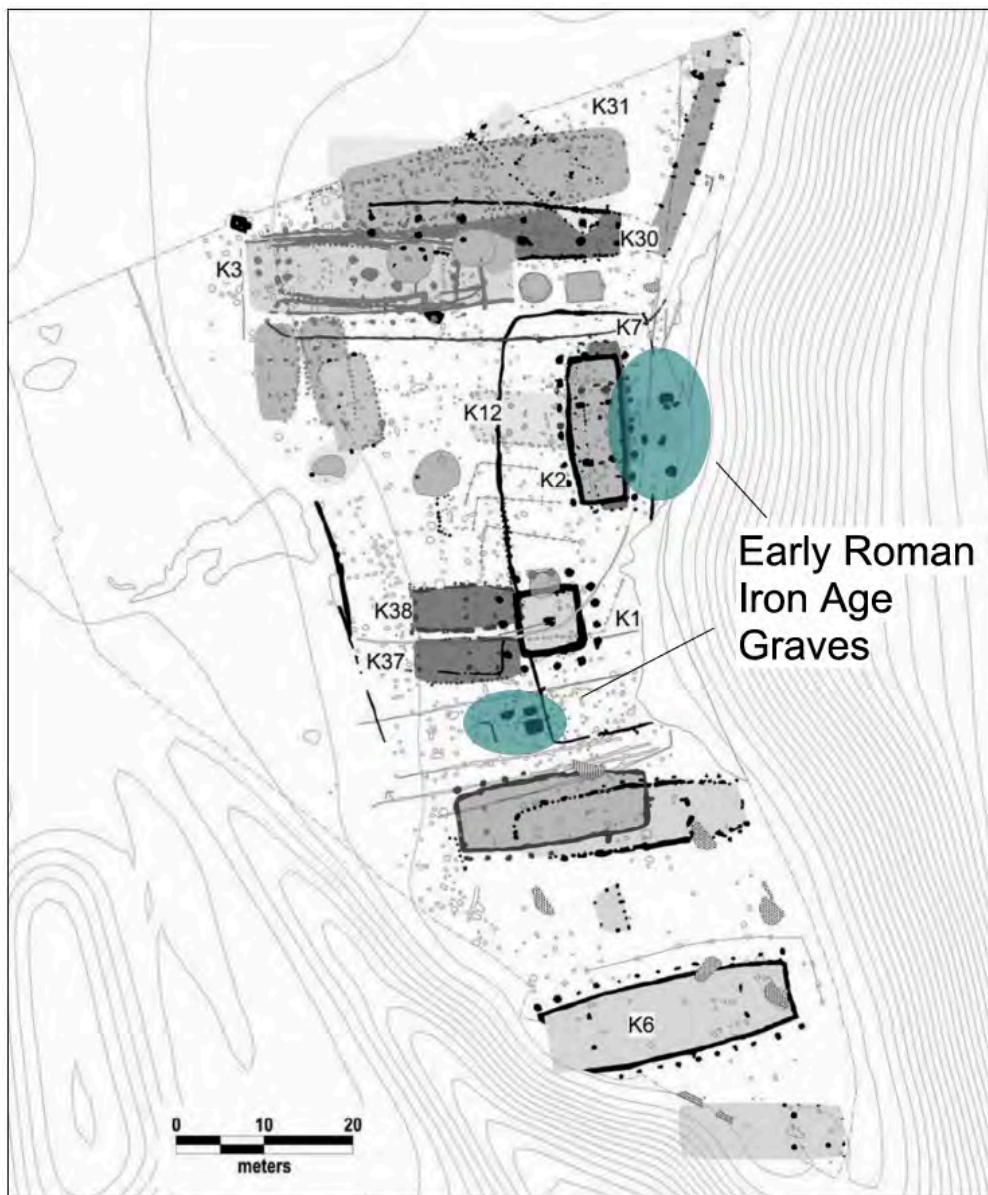
Figure 12. The settlement at Toftum Næs. All longhouses are marked in grey. Two groups of graves from the Early Roman Iron Age are marked in blue (after Jessen & Terkildsen 2016:fig.2, markings by the author).

Not all settlements show a direct relationship to older monuments though. No older graves have been found e.g. at the settlement at Sædding, Trabjerg, Vorbasse, Omgård or at the 9th century settlement at Aggersborg (Stouman 1980, Nielsen 1980, 1987, Jørgensen & Eriksen 1995, Roesdahl et al 2014). Neither the settlement Bøgelund, 4 km south of Strøby Toftegård, show any direct links to older monuments (Tornbjerg 2002) nor the contemporary settlements at Sletten, Vestervang and Gevninge-Nødager (Beck et al 2005, Kastholm 2008, Ulriksen 2008) just to mention a few. Some of these are interpreted as belonging to the same social strata as the four case studies (Omgård and Aggersborg).

In conclusion, the general image from the archaeological record is that a spatial link between older monuments and settlements can be identified in many sites, where the monuments are incorporated into settlements in varied ways, but not at all sites. It is remarkable that the settlements that have a clear connection to older monuments tends to be sites interpreted as settlements with a high

social status (e.g. Uppåkra, Slöinge and Toftum Næs), whereas a connection to older monuments seems to be less prominent at the more ordinary settlements. The pattern could indicate that there was a deliberate choice behind the creation of the link between some settlements and the deep history of the landscape.

When looking for interpretations of the practice of creating links to older monuments, the practice probably both had a mythical and a political dimension. The time distance between the building of the monuments and the establishment of the settlements are in all cases of a duration where the inhabitants had no chance of being related to those who originally built or was buried in the monuments. Following Gosden and Lock, the monuments belong to a deep and mythical past where the buried represent mythical ancestors (Gosden & Lock 1998). This means that a new connection between the past and the present had to be created in order to make the past relevant. By creating a physical connection between the settlement and the monuments, the mythical ancestors were directly linked to the everyday landscape of the inhabitants and could in that way become part of their own history by giving it a (new) mythical framework.

That the practice also could have a political dimension is indicated by the Early Medieval concept of Odal studied in an archaeological context by Torun Zachrisson (Zachrisson 1994). The concept is known from the Early Medieval provincial laws (e.g. Gulatings law, Frostatings law, the Östgöta and Västgöta laws) and from Snorre Sturlassons Edda (Zachrisson 1994:220, Thäte 2007:277) where the term 'Odal' designates 'inherited land'. The phenomenon of Odal is closely related to the nordic word for nobility, 'adel' and to get a 'odals-right' to the land, according to the laws, the land should be inherited through four to six generations (Hafström 1967:495f, Zachrisson 1994:221). The concept indicates an inherent temporal dimension in the connection between genealogy, the past and special rights to land. Several of the early Medieval law texts (e.g. Östgöta and Västgöta law) explicitly describe an 'Odal farm' as a farm that has an ancient mound on its land. Following this, Zachrisson suggests that a close connection between a farm and ancient monuments can have been a material expression of the Odal, also before the Early Medieval. By physically demonstrating a close relationship between the inhabitants and the ancestors, the inhabitation (and thereby ownership) is 'proved' to stretch far back in time (Zachrisson 1994:226, Thäte 2007:277). In relation to the newly established settlements at Strøby Toftegård, Fredshøj, Bulbrogård and Järrestad, the physical connection to ancient monuments can in that way be interpreted as a way to legitimate their establishment. By actively creating a link to the longer history of the landscape, they are creating a social memory in connection to the place and thereby an 'instant' right to settle.

To conclude, the relationship between settlements and older monuments seems to be intentional and to have both mythical and political dimensions. However, there seems not to be an exact formula for how to act this relationship out. Direct links to the deep history of the landscape are created either by locating the settlement right on top of the graves, by locating central buildings with direct reference to a monument or incorporating the monument in the settlement more generally. By incorporating ancient monuments into the settlements, a direct physical connection with the history of the landscape and the ancestors was created. The social memory of the landscape was in that way not only transferred through

inscribed practices as told in formal stories and songs, but also as a physical relationship that the inhabitants were reminded of through incorporated practices when moving around in the settlement and through the daily vision of the ancient monument. In this way, the practice created continuity with a deep and mythical past into the present which can have played a major role in negotiating ownership to land and power but also express a more general idea about how the inhabitants perceived their own place in the world.

Rebuilding the longhouse

When the lifespan of a settlement lasted longer than the individual longhouse, at some point the house would need to be rebuild as the timber used in the longhouses only had a limited durability when fixed in the ground (Zimmermann 1998). During the rebuilding process, reuse of the plot of land where the previous longhouse had stood, the house site, could be necessary or even desired. This part of the analysis will focus on the practice of rebuilding and reuse of house sites in the four case studies. Particular focus will be on the investigation of practices around the large longhouses in comparison with the other longhouses in the central units of the settlements.

The central unit at Strøby Toftegård had a lifespan of c. 350 years and five large longhouses were identified as belonging to the central unit. Similarities and differences between the individual longhouses makes it plausible that the houses represent one longhouse that were rebuild five times in a sequence, starting with house 5, ending with house 2 (Figure 13) rather than being contemporary buildings (Beck &
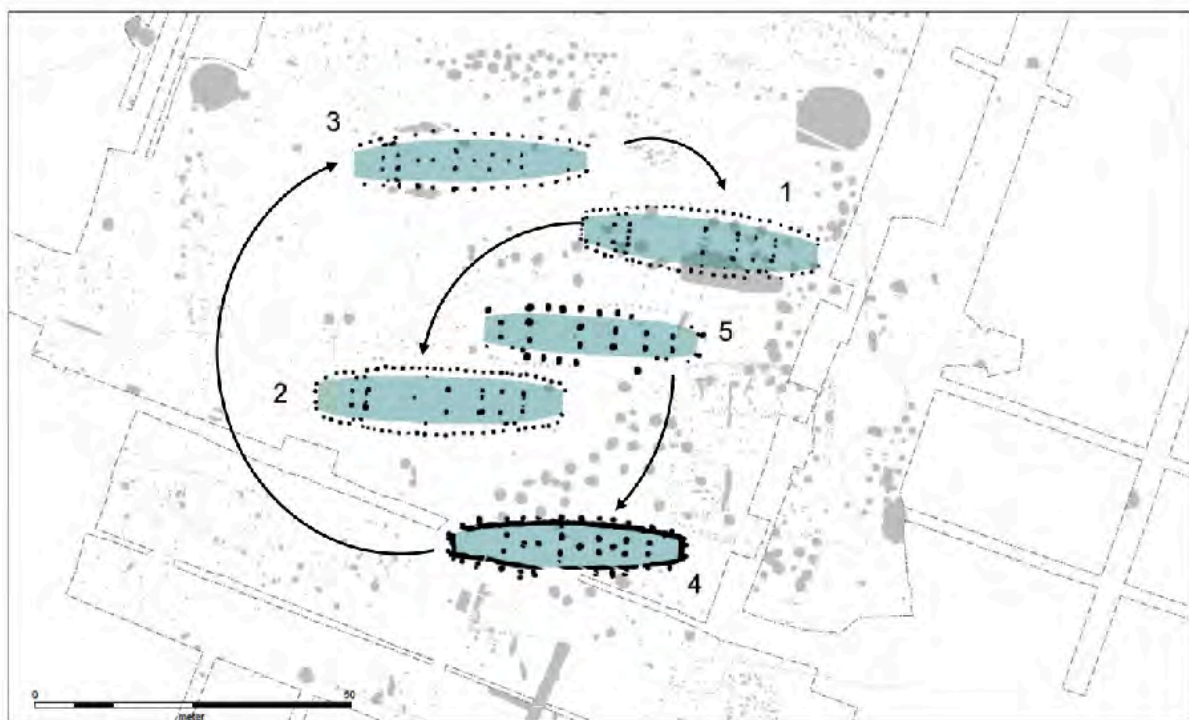

Figure 13. The sequence of large longhouses at Strøby Toftegård. None of the large longhouses has been rebuild in the same location as its predecessor. The numbers refer to the house number they got during the excavation and has nothing to do with the chronological sequence of the longhouses.

Schultz, this volume). Each time a new large longhouse was build, the building site was moved to a new location within the unit.

The other longhouses within the central unit show a different rebuilding process. Several of the smaller longhouses were rebuild on top of a predecessor of similar construction reusing the same site as well (house 7 and 91, house 9 and 90, house 79 and 83, house K303 and K305). In one case, one longhouse was rebuild in one phase (house K303 and K305) but placed perpendicular on a previous or later building (K302). House 6, 8, 40, 46 and K301 do not seem to have been rebuild neither on the same house site nor in any other places within the unit.

All in all, the practices around the rebuilding of longhouses differed. The large longhouses were moved to a new location for each rebuilding process whereas the smaller longhouses were either rebuild in the same location or not rebuild at all.

In Gammel Lejre, the settlement at Fredshøj had a lifespan of a little more than a century, and two possible phases of large longhouses were identified, though there are some uncertainties about the character of the longhouse belonging to the later phase (Christensen 2015:81, Christensen pers. comm.). The two large longhouses were build in the same site with the later house (house III) only a little displaced to the north to the first longhouse at the site (house II) (Figure 8). To one of the phases (or both) belongs house VI, VII and VIII, which all seems to have had one building phase with no reuse of the site.

The later settlement at Mysselhøjgård existed for at least 400 years. The first large longhouse after the movement was built on an artificial plateau and were rebuild in the same site at least three times as a sequence of large longhouses (house XL, XLI, XLII) (Figure 4). Later, a new sequence of large longhouses was build southwest of the first location. Here, the large longhouse was rebuild at least three times as well (house III, IVab, IVcd) (Figure 14).

Many additional longhouses have been found in connection with the two building phases at Mysselhøjgård. In the earliest phase, just south of the large longhouse a small fenced area encloses a longhouse that was rebuild in almost the same site at least one times (house XLIII, XLIV). Further south, two connected longhouses were rebuild, but in the building process moved a little to the east not overlapping with the older longhouses. The house construction changed at the same time. The longhouses outside the palisade surrounding the large longhouses were rebuild in the same location reusing the house site. The most extreme case of rebuilding is the longhouses house XX, XIX, XVIIIab, XVII and XVI that were rebuild in the same site at least four times, reaching into and creating continuity to the later building phase of the Mysselhøjgård-settlement (Christensen 2015:66-68). In the later building phase, a sequence of four houses were build in the same site just north of the large longhouses. The construction and orientation changed considerably at each rebuilding including a large pithouse in the last phase and does in that way not look like actual rebuilding but rather a deliberate reuse of a site (Christensen 2015:85f). Two houses are following each other but placed perpendicular to each other so the later overlaps the earlier (house IX, IXa). Two longhouses have not been rebuild and the house sites not reused in other ways.

All in all, many of the longhouses at the settlements at Gammel Lejre are build in relation to earlier longhouses on the site. At Fredshøj, this is only relevant for the large longhouse but at Mysselhøjgård, it is a general feature and in one case creating continuity between the two major building
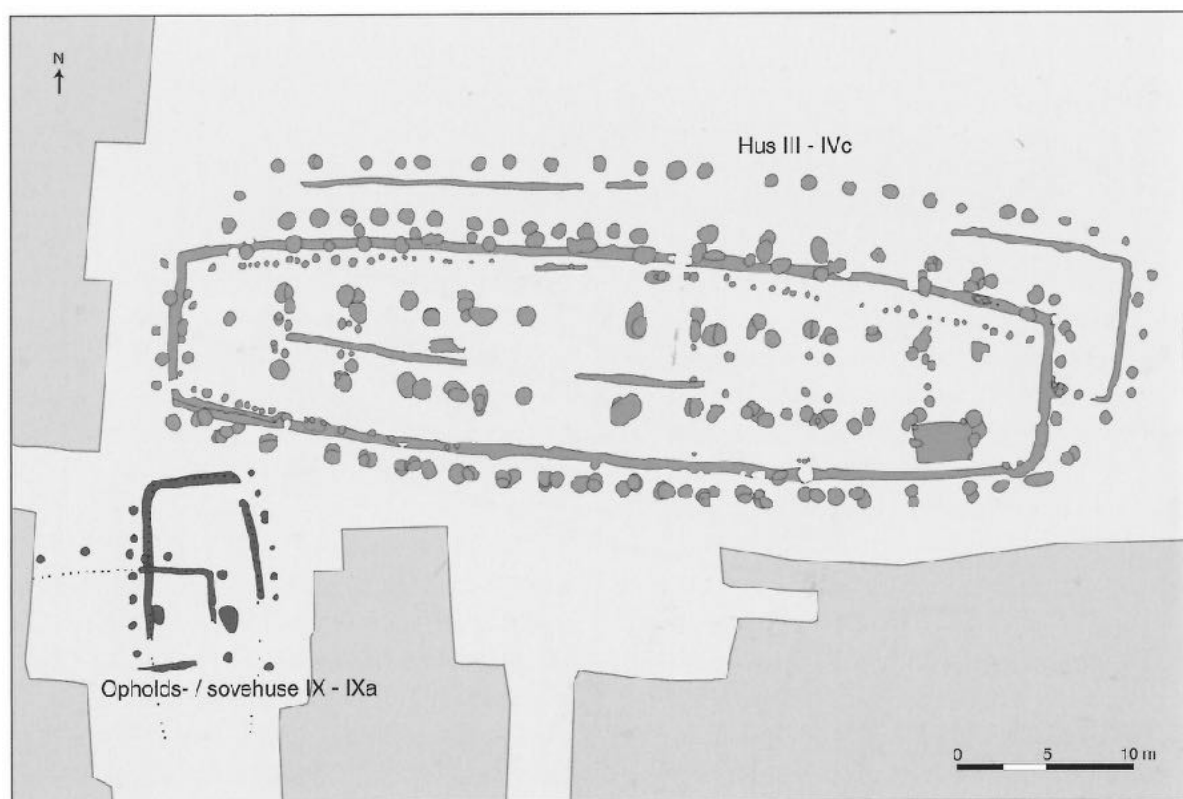
Figure 14. The youngest sequence of large longhouses at Mysselhøjgård, Gammel Lejre, House III, IVab and IVcd (after Christensen 2015:fig.6.40). The longhouses are rebuild more or less in the same location.

phases. In two cases, the longhouses seems located in direct opposition to their predecessor. Only few longhouses have one building phase.

The settlement at Bulbrogård had a lifespan of a little more than a century, and two phases of the settlement have been identified (Bican in prep.). Each phase consists of a large longhouse, one or two additional longhouses and a large fence (Figure 9). When the second phase was build the whole unit was moved towards the east. None of the longhouses are reusing any former longhouse site, and there is a possibility that the two phases of the unit have been more or less overlapping in time (Bican in prep.).

Later, the settlement was moved to the south to Fugledegård, where the settlement existed for more than 300 years. Four phases of the same unit have been identified (Figure. 15) (Jørgensen 2009:10). In at least two, but maybe three phases, the same longhouse was rebuild in the same location (Jørgensen 2005:136). With a depth of 3 m and a diameter of 2-3 m, the dimensions of the central postholes for the roof supporting posts indicate that even the same postholes were reused and re-dug several times (Jørgensen 2002:233). In the last one or two phases, the large longhouse was rebuild slightly to the north, still overlapping with the older house, but the type of house construction changed markedly.

To each phase of the large longhouse belongs a fenced area enclosing a smaller building. Only in phase two, the building seems to have been rebuild once in the same location as a renewal of the building. Otherwise, the house construction and orientation of the smaller building changed from building phase to building phase, and none of the smaller buildings were overlapping. Other longhouses

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Figure 15. The large longhouses at Fugledegård, Tissø. The large longhouses have been rebuild at least four times in more or less the same location.

in the settlement complex belong to the later phases (Jørgensen 2002:231ff). None of these longhouses overlaps with older buildings or seems to have been rebuild.

All in all, in the Bulbrogård-phase of the settlement, none of the longhouses were rebuild in the same location but all moved to a new location when rebuild. In the Fugledegård-phase of the settlement, the large longhouses show an extreme form of rebuilding and reuse of the same house site, whereas most of the other houses at Fugledegård only exists in one phase and if they were rebuild they generally changed type of construction and location.

At Järrestad, the settlement had a lifespan of 500 years, and four phases of large longhouses has been identified (Figure 16) (Söderberg 2003). The rest of the complex is only partly uncovered. The two earliest phases of the large longhouse (house 11/12) have been rebuilt on exactly the same spot, probably reusing some of the same postholes as well. In the following phase, the construction of the large longhouses changed slightly and was moved a little to the south, but still overlapping with house 11/12. In the last phase, the construction of the large longhouse changed markedly and the longhouse moved slightly to the north.

In direct connection with the large longhouses, a fenced area with a building has been found. The building belongs to either phase 1 or 2 or maybe both. It does not seem like the house has been rebuild or the house site reused, even though the fence around the area was rebuild. In the last phase, pit houses have been found in the area (Söderberg 2002a:56). Of the other longhouses belonging to the settlement complex, most longhouses have not been rebuild (Söderberg 2002a:67ff). In two cases,
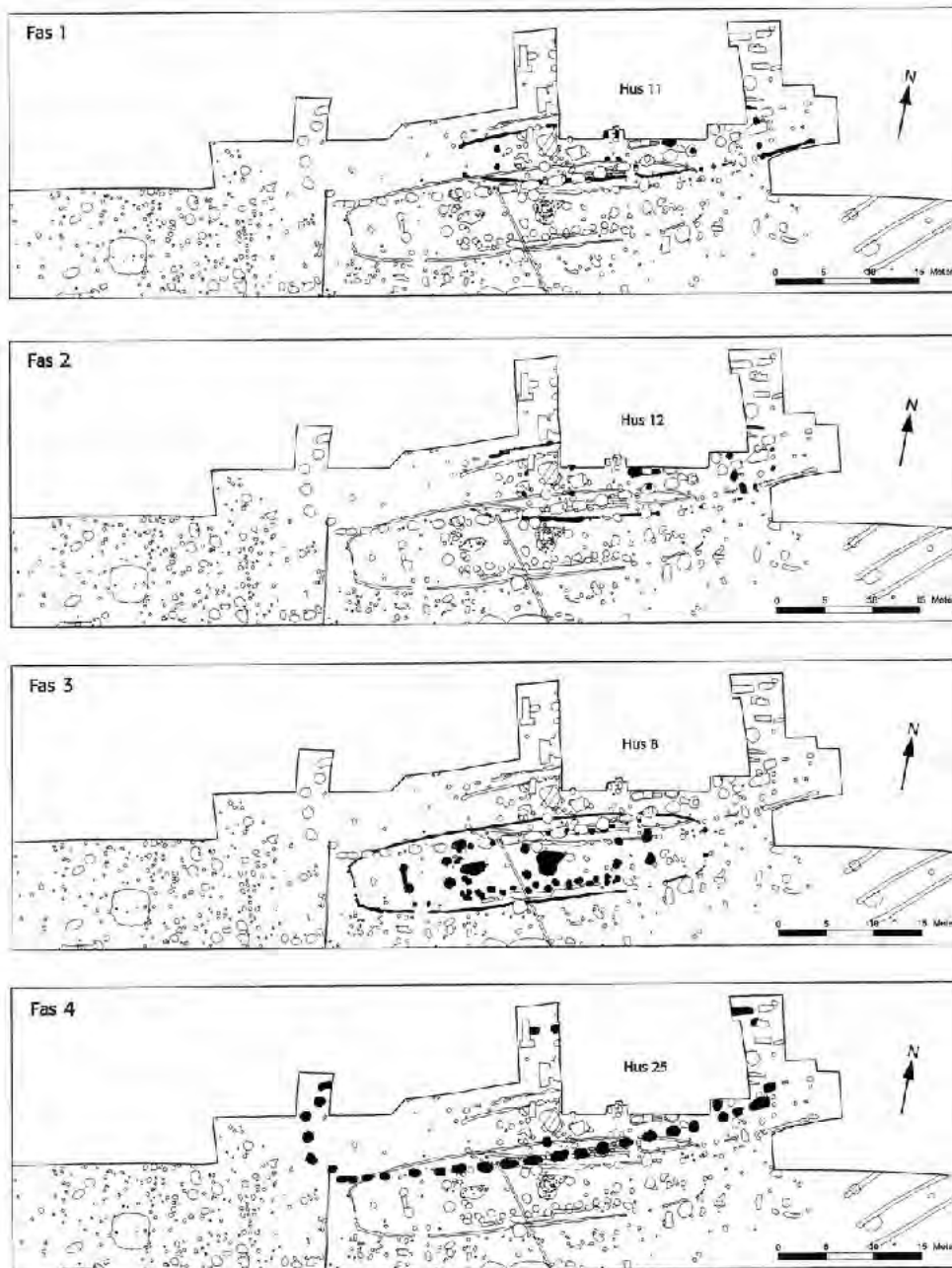
Figure 16. The four phases of large longhouses at Järrestad (after Söderberg 2002a:fig 26). The large longhouses are rebuild more or less in the same location.

longhouses are build reusing a house site where the later longhouse has been placed perpendicular to the earlier house.

All in all, the practice of rebuilding longhouses at the settlement at Järrestad show similarities to the practices observed at Tissø. The large longhouses show a large degree of continuity, whereas all other houses have not been rebuild, and if they have, they changed location, construction and/or orientation.

The analysis demonstrates that house sites were often reused in Late Iron Age settlements. Three kinds of reuse practice could be identified: rebuilding, overlapping or no reuse. Rebuilding is defined by the house site being reused for a building of similar construction and in more or less exactly the same place

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as its predecessor. Overlapping is defined by the site being reused for a longhouse oriented markedly differently than the previous house. No reuse is defined by the housing plot being avoided for later buildings and constructions.

Rebuilding was identified in all the reviewed settlements. At Fredshøj, Mysselhøjgård, Fugledegård and Järrestad, the large longhouses were rebuild in more or less the same site, sometimes even reusing some of the postholes from the previous building. At Strøby Toftegård, the smaller longhouses in the central unit were rebuild but normally only once whereas the large longhouses moved to a new location at each rebuilding. At Mysselhøjgård, other longhouses than the large longhouses were also rebuild in the same site as their predecessor up to five times in the same site.

When rebuilding a longhouse in a house site, it is obvious that the time gap between the two houses, must have been short. As soon as the old house was demolished, the new house must have been built, particularly when reusing the same dug features. In that sense, it is reasonable to assume that it was the same inhabitants moving into the new house as occupied the previous longhouse. When reproducing the previous longhouse, the structure of the old house were continued into the next house generation and it can be discussed whether the new longhouse should be perceived as a new house or if old and new longhouse conceptually were the same longhouse. Rebuilding created in this way continuity with the near past by reproducing the longhouse and probably also the social structures it housed and was a part of.

The practice of overlapping was not observed in the practices of rebuilding the large longhouses in any of the cases even though it should be mentioned that the character of the building changed markedly in the latest phase both at Fugledegård and Järrestad at the same time as the location was changed slightly. In relation to the smaller longhouses in the central units, it was observed in a few cases at Strøby Toftegård, Mysselhøjgård and Järrestad, that longhouses were located perpendicular on its predecessor.

When longhouses are overlapping, the time gap between the two longhouses can have been longer and the close relation to the inhabitants of the previous house be gone, but not necessarily if an overlap is consciously aimed at. When the old house structure is not respected, it can be a matter of a deliberate break where continuity is not desired or no longer important to mark out. Sometimes a break with former structures is necessary in order to create new relationships. The practice of making longhouses overlap can in that way mark a very concrete break with the near past whether it is in terms of a considerable change in the concrete inhabitants, the structure of the household or the use and meaning of the house.

Eventually, in some cases it seems that reuse of a house site was deliberately avoided. At Strøby Toftegård and Bulbrogård, when rebuilding the large longhouses they were moved to a new location each time. The move of settlements from Bulbrogård to Fugledegård, from Fredshøj to Mysselhøjgård and within Mysselhøjgård also involves a choice of not reusing a certain house site. As the chronological connection between smaller longhouses in different locations can be hard to establish unless they are of a particular construction or fenced, the avoidance of a house site can only be discussed in the cases where the small longhouse has one building phase. Examples of small longhouses with only one phase has been observed in all the four sites in different degrees. In the case of Fugledegård, the sequence of buildings just south of the large longhouses must have been deliberately moved to a new location when

rebuild, which can only be observed due to the fence surrounding the area connecting the smaller longhouses chronologically and conceptually.

Reconstructing the time gap between two longhouses where the house site is not reused is not as straight forward as with the other practices of reuse, but in the cases of Strøby Toftegård, Bulbrogård and Fugledegård, the time gap must have been short as the temporal coherence between the longhouses is clear. The two constructions following each other can even have been overlapping in time and the continuity between the constructions in that way be more direct than when the same longhouse is rebuild in the same house site. On the other hand, there can also be specific reasons for avoiding a specific house site if it in some way has become polluted and taboo (Douglas 2001). This could be the case e.g. if the former inhabitants got ill and died, the house accidentally burnt down or in other ways things happened that the new inhabitants did not want to be associated with. Then a deliberate discontinuity is aimed at. In the case of the large longhouses at Strøby Toftegård and the smaller fenced-in building at Fugledegård, there is more than one movement involved, and here an explanation related to direct continuity seems more plausible than avoidance. Wether the choice of not reusing an exact house site is related to overlap in time or deliberate avoidance of a house site, the choice is made in direct continuity of what has happened in the near past.

The question is if the different practices of rebuilding and reuse of house sites are purely practical or if there is a more fundamental meaning of the practice. The great variety in practice indicate that it is not a matter of a practical choice. If it was practical, a more uniform practice would be expected. Instead, it seems that the ways people related to the rebuilding of certain longhouses were deliberate.
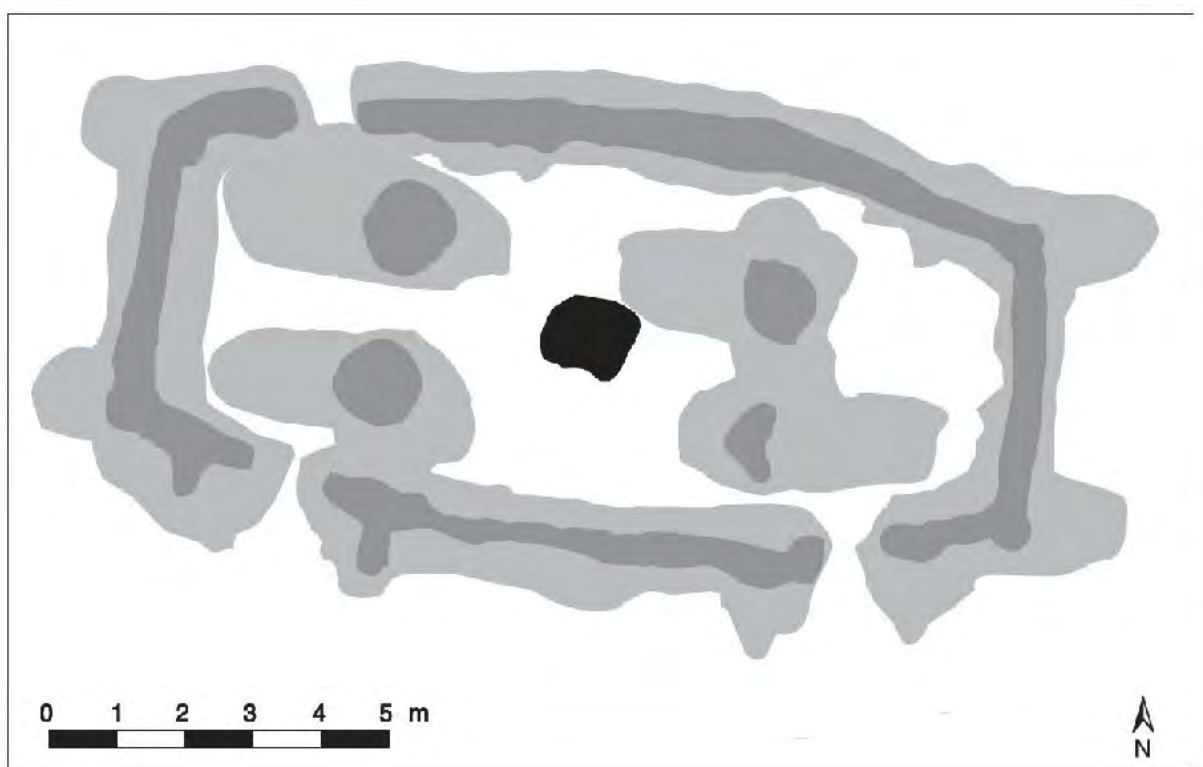

Figure 17. The cult house from Uppåkra (redrawn after Larsson & Lenntorp 2004:fig. 17). The small longhouse has been rebuild in the same location, often reusing the same postholes, seven times.

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That physical continuity was important and meaningful can be exemplified by one of the most extreme cases of rebuilding observed in the period. At Uppåkra according to the excavators, a certain longhouse was rebuilt seven times on the same site reusing the same dug features during the period from the Early Roman Iron Age and into the Viking Age (Larsson & Lenntorp 2004) (Figure 17). Due to the special character of the building and the amount of distinct artefacts as gold foil figures, glass sherds, ring-formed door handles and weapon deposits found in relation with the building, the building has been interpreted as a cult building. In this case, the long continuity of the building over several centuries has probably been aimed at and has helped to give the building its specific meaning.

In the same way, overlapping house constructions can also have been used deliberately in negotiations of politics and power. An obvious example is the settlements built at the Scottish Isles after the Nordic colonisation. The majority of the new settlements were located at the same sites as older native settlements, where the new inhabitants build their - rectangular - longhouses directly on top of the native - circular - houses (Ritchie 1993:25). In this case, the rebuilding practice works as a deliberate break with the past and becomes a matter of demonstrating political power and domination.

The practice of rebuilding, overlapping or not reusing a house site seems in that way as a deliberate choice that has been meaningful in the contemporary society. Among the large longhouses, where the longhouses are either rebuild or the house site not reused and there often is a close similarity to the architecture of the predecessor, it seems that the practice has been chosen to create a strong sense of continuity. In both cases, we must assume a continuity in the household as well, which has been supported by the reproduction of physical and social structures and in that way legitimated the continued inhabitation and position of the inhabitants (Bailey 1990:38)

All in all, rebuilding practices represent a way to relate to the near past or what Gosden and Lock calls the genealogical past; a past where the ancestors are known (Gosden & Lock 1998:6). Through the rebuilding practices, continuity or a deliberate break with the near past are actively created. The rebuilding situations will always as a starting point be individual as it is directly linked to the specific settlement, time and inhabitants involved which will create a certain variation in how the rebuilding practices are acted out concretely. By acting physically in relation to the near past, the continuity or break with the near past became an incorporated practice. In other words, the relation to the inhabitants own history in their present was not only told formally in stories but also actively acted out.

Creating monuments

As described earlier in the text, monuments are build to remind those who engage and interact with them of certain persons, events or stories. Most monuments are build intentionally, but also less intentional remains and ruins can over time become monuments. The final part of the analysis will focus on the creation and use of monuments in the Late Iron Age, but whereas monuments traditionally in this period are linked to burials and commemoration in the form of e.g. grave mounds, ship settings and rune stones, in this context, the analysis will focus on elements in the settlement acting as monuments.

Figure 18. The monuments within the settlement at Strøby Toftegård. House 5 was build on an artificial plateau that was still present in the settlement after the house was demolished and burned down. House 4 was buried under a layer of water-rolled stones. Both house monuments are marked in blue. Just south of house 4, a large concentration of brunt stones were found, probably the last remains of a pile of burnt stones, here marked in dark grey. The grey dots are burnt stone recorded in the field surface. Recording has only been done in the southern part and the sharp boundary towards the rest of the settlement is therefore not real.

As described in the previous part of the analysis, the large longhouse in the central unit at Strøby Toftegård was moved to a new location each time it was rebuilt. At each rebuilding situation, the inhabitants had to deal not only with the new building but also with the remains of the previous longhouse. House 5 was the first in the sequence of large longhouses and had most probable been built on an artificial plateau at the highest point in the settlement (Beck & Schultz, this volume). When the longhouse went out of use, it was demolished and probably burnt down deliberately (Beck, this volume). But the plateau remained, indicated by the fact that the house site was not reused, even though the area around the house site is rich in traces of activity e.g. cooking pits (Figure 18). Despite, the longhouse had been removed, the plateau must still have been physically present and visible through the lifetime of the settlement.

House 4 was probably build while house 5 was in use or shortly after. When the longhouse was given up, the house construction was demolished and all postholes backfilled. The backfill seems to have consisted mainly of water-rolled stones from the beach, but also burnt stones and occasional larger stones from the field, blocks of chalk and flint nodules had been used (Figure 19). Further informations about large amount of stones being removed from the area by the landowner over time, there are indications that the whole house had originally been covered in stones after the demolition (Beck, this

Figure 19. House 4 during excavation. The foundations of the longhouse was packed mainly with water-rolled stones, here exemplified by the wall ditch (top) and a sequence through one of the roof-supporting posts (bottom). The landowner furthermore said that a huge amount of water-rolled stones had been removed from the area over the years (photos: Museum Southeast Denmark).

volume). The burial of the house site is supported by the fact that the house site is not reused for later activities even though several e.g. cooking pits are dug in the area around the house (Figure 18). The used of water-rolled stones to cover the house site demonstrates that a considerable effort was put into the creation of the stone cover as the large amount of stones had to be picked up at the beach and transported at least 2 km inland. The stone fillings and -cover was in that way not a random activity but a deliberate act, and it seems that the house site has been marked permanently, not unlike a stone cairn.

House 3 was the next longhouse in the sequence, and when the house went out of use it seems that it was demolished. The area was probably reused after the demolition. House 1 that followed house 3 was also demolished after use, and the area heavily reused for cooking pits. House 2 was the last longhouse in the sequence. Also this house was demolished after it went out of use. No traces around the house indicate that it had been further elaborated or reused after the demolition.

Before the excavation of the southern parts of the settlement, a high concentration of burnt stones in the topsoil was observed in the field just south of the large longhouses, and a thorough recording of burnt stones in the filed surface was done just before the removal of the topsoil. The stone concentration could not as such be investigated archaeologically, but underneath it, the remains of a culture layer was preserved, indicating that this area had been protected more than the surrounding areas against modern cultivation. The concentration of burnt stones in the top soil could be interpreted as the last remains of a larger concentration of burnt stones as they have been observed in other settlements in the Late Iron Age (Figure 18). In the covered area, several cooking pits have been recorded and the stone pile can in that way only have been built up and present during the later parts of the settlement.

All in all, the archaeological record indicate that house 5 and 4, which were the first longhouses at the site, were deliberately elaborated after they had been demolished in ways that made the house sites stand out as a sort of monument for the following generations, whereas the following large longhouses did not get the same treatment. Later in the history of the settlement, a concentration of burnt stones was created just south of house 4. The character of the concentration of stones is not known in more details, but the amount of stone gathered in one site and the materiality of the burnt stones alone must have given the feature a permanent and more or less monumental character.

In the settlement at Fredshøj, Gammel Lejre, the small longhouse house VIII was possibly built on an artificial platform, which, in that case, must have been visible in the landscape long time after the settlement had moved (Christensen 2015:61). But as the settlement moved, the platform should not necessarily be thought of as a monument within a 'living' settlement. Downhill from where the large longhouses were located, a large accumulation of burnt and fragmented stones was found. The pile was 20 m in diameter and 1 m high at the time of excavation, and seemed to have been built up continuously during the settlement (Christensen 2015:173).

At Mysselhøjgård, the first large longhouse and the two succeeding phases were built on an artificial platform. When the large longhouses moved to a new location during the second building phase of the settlement, the large longhouse (house XLII) was demolished and burnt down, probably deliberately, but the platform was left as it was. In the late 10th century, a little more than 150 years after the last house stood there, the platform was reused for a number of burials (Christensen 2015:151ff). One of the burials was located centrally in the platform, whereas two graves were located in the foot of the
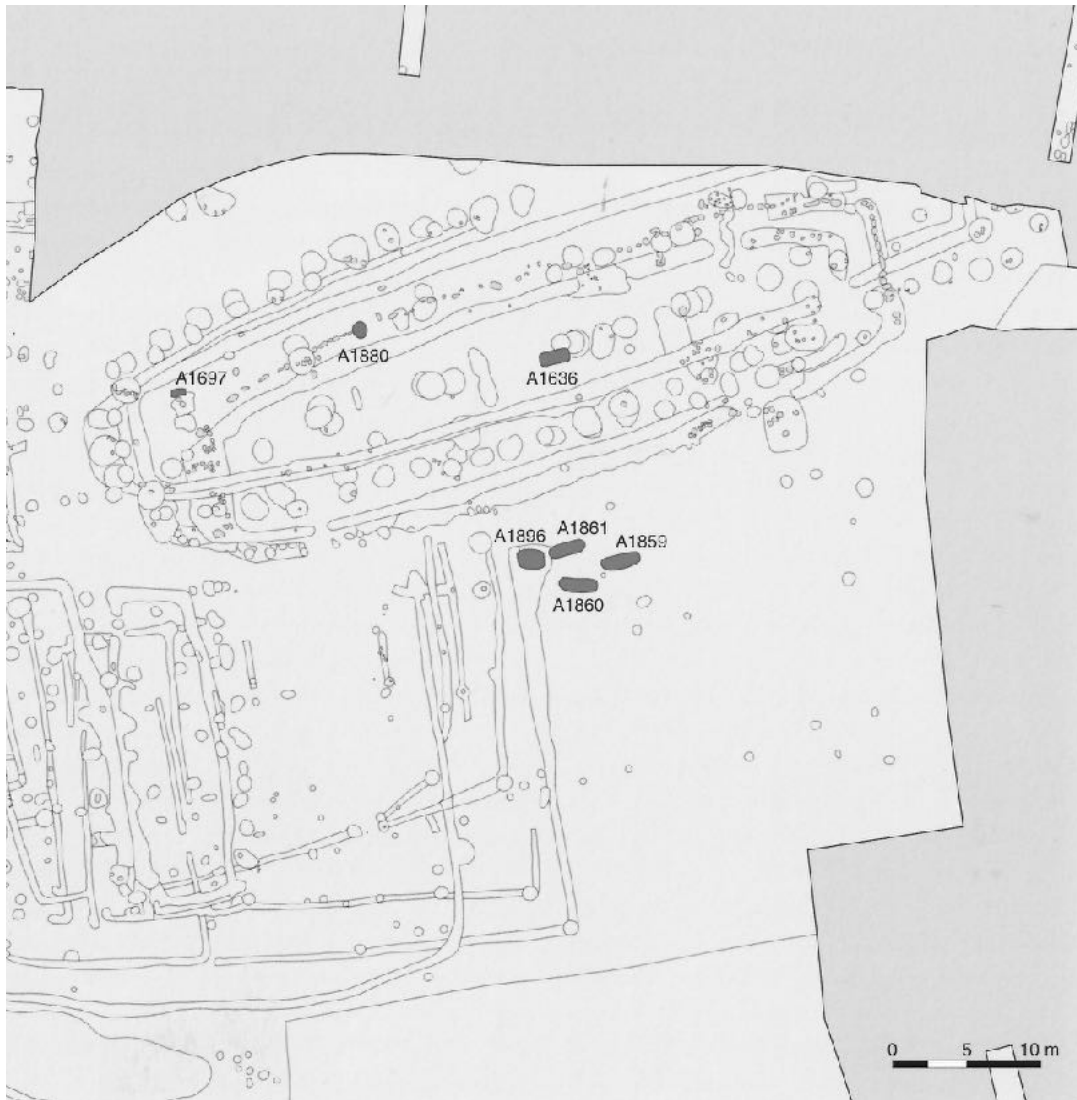
Figure 20. Burials made in and around the artificial plateau of house XL-XLII at Mysselhøjgård, Gammel Lejre. The time gap between the last longhouse and the graves is at least 100 years (after Christensen 2015:fig.8.2).

platform (Figure 20). Four graves were located just outside the platform referencing its orientation. When the sequence of large longhouses in the second building phase were given up there are no traces that the house site was being elaborated, but this is also contemporary with the last phase of the rest of the settlement.

Similarly to Fredshøj, a large concentration of heavily burnt stones was also found at Mysselhøjgård. The concentration was up to 37 m in diameter and 1,5 m high (Christensen 2015:173). The stones seemed to be accumulated over several events during the lifetime of the settlement (Christensen 2015:176). Among the stones and around the accumulated stones, scattered finds of fine ceramics, animal bones, tools and remains of iron smithing have been found (Christensen 2015:166,176f). The stone heap was located more than 100 m southeast of the large longhouses (Figure 21).

All in all, during the settlement at Fredshøj a large concentration of burnt stones was built up, but as the settlement moved to Mysselhøjgård after a relatively short period no later engagement with the
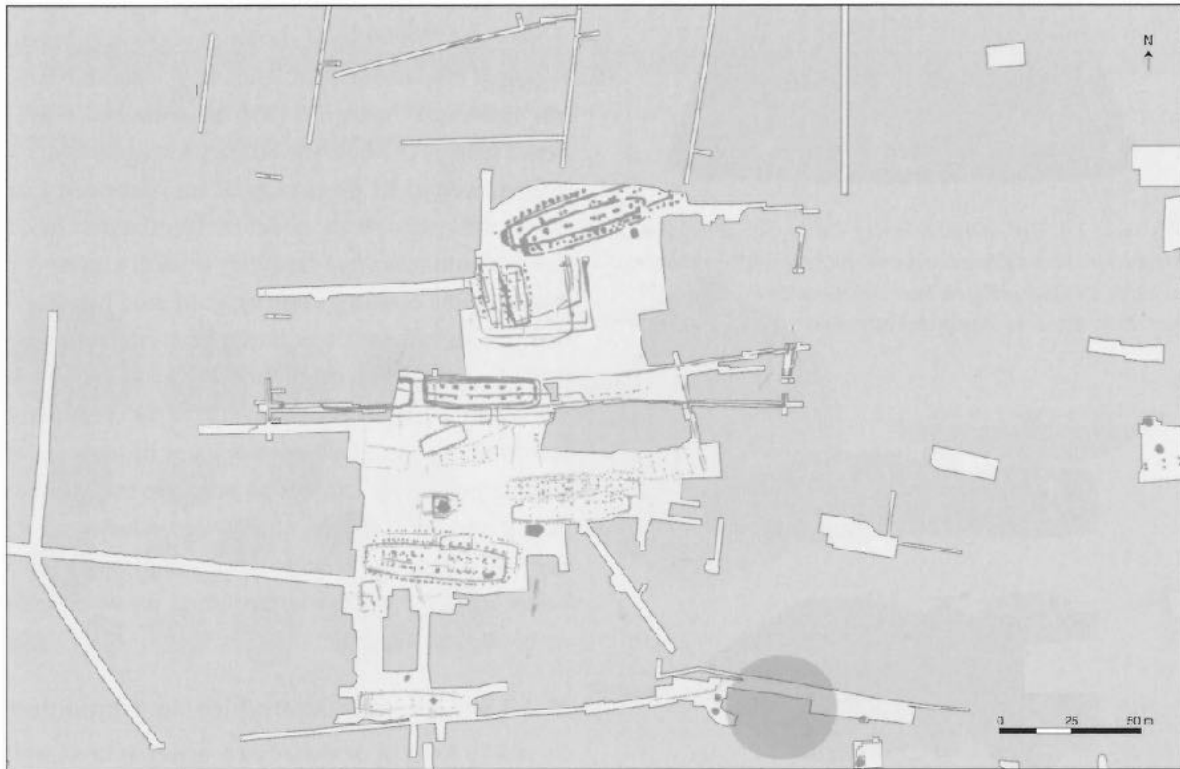
Figure 21. The large stone pile at Mysselhøjgård, Gammel Lejre, marked in dark grey (redrawn after Christensen 2015:fig.11.13).

settlement traces was relevant. At Mysselhøjgård, it is different. A plateau from the earliest large longhouses must have been visible long after the longhouses were removed. That the house site was interpreted as a monument was confirmed by a later use of the site for several burials. A large pile of burnt stones was build up during the settlement.

At Bulbrogård, Tissø, there are no traces that the longhouses have been elaborated after their demolition, and no traces of an accumulation of stones have been found. The situation at Bulbrogård is in many ways similar to Fredshøj, where the relatively short inhabitation phase and following move to Fugledegård has made the interaction with older settlement remains less pressing than it must have been in settlements with a longer occupation period.

At the later settlement at Fugledegård, the many phases of large longhouses built on top of each other in exactly the same place means that the reins of the previous longhouse must have been removed completely when rebuilt. That leaves out the possibility that any of the large longhouses have been monumentalised in the same way as it happened at Strøby Toftegård and Mysselhøjgård. However, a concentration of burnt stones was found just north of the large longhouses during the excavations (Jørgensen 2009:11) (Figure 22). The concentration could only be superficially investigated archaeologically, and its character is not fully known. No structures were found under the pile, but the closeness (less than 25 m) to the large longhouses connects it to these.

All in all, due to the movement of the settlement at Bulbrogård and the rebuilding practices at Fugledegård, the large longhouses have not been monumentalised for later generations to engage with, but maybe the extreme form of rebuilding reusing the same site have had a similar effect. A stone
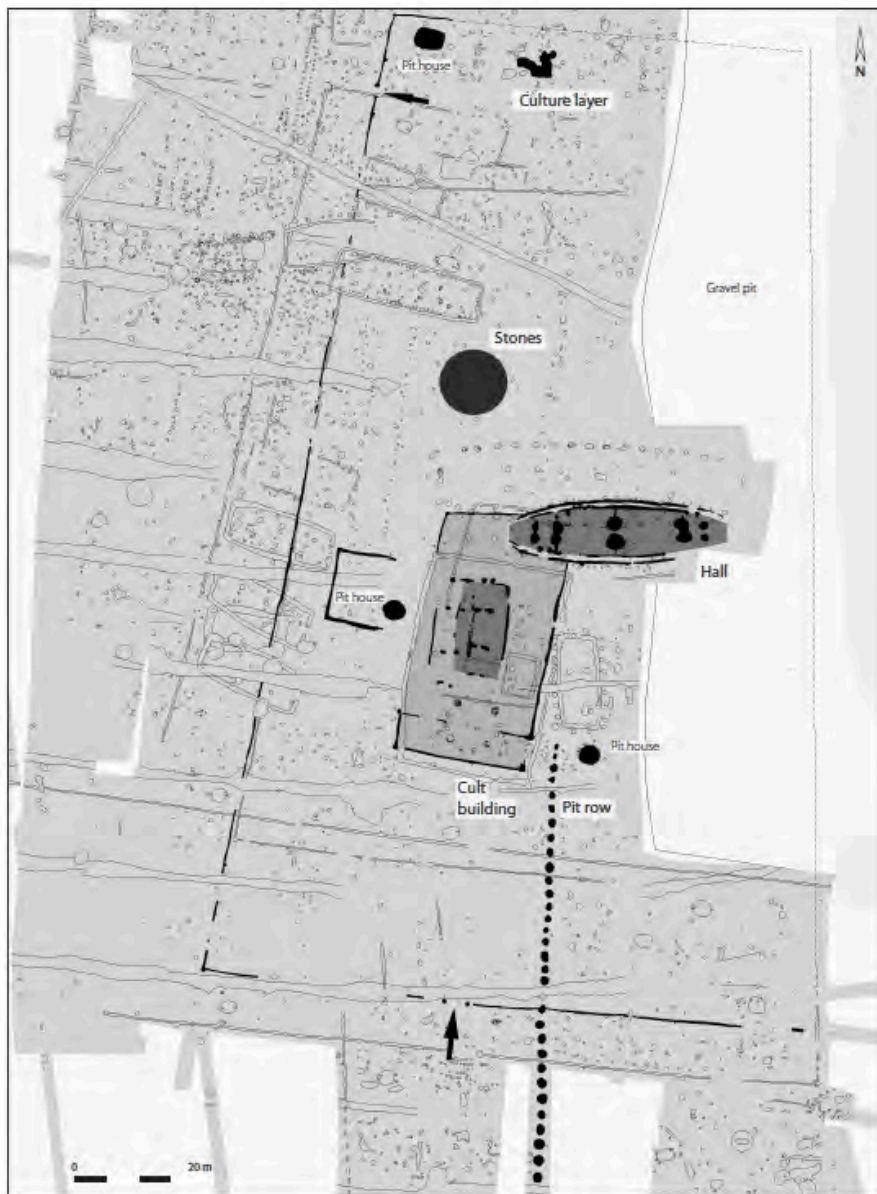
Figure 22. The settlement at Fugledegård, Tissø in the 8th-9th century. The possible stone pile is marked in dark grey (after Jørgensen 2009:fig.13).

concentration in the central part of the unit at Fugledegård must have been build up during the settlement period in a similar way as the stone heaps at Strøby Toftegård, Fredshøj and Mysselhøjgård. With its central location, it must have been a significant feature in the settlement.

Finally turning to Järrestad, the situation was quite similar to Fugledegård. The large longhouses had been rebuilt in the same location several times which leaves out the possibility of a monumentalisation of previous house remains.

To the east of the large longhouses (c. 50 m), a large layer of burnt stones was found in a wet depression in the landscape (Figure 23). The archaeological investigation showed that the concentration of burnt stones, contrary to the stones at Mysselhøjgård, had been laid out in one event in the beginning of the 9th century. Another layer of stones were added towards the end of the settlement (Söderberg 2003:141). The lack of charcoal and other material between the stones indicate that the stones must have
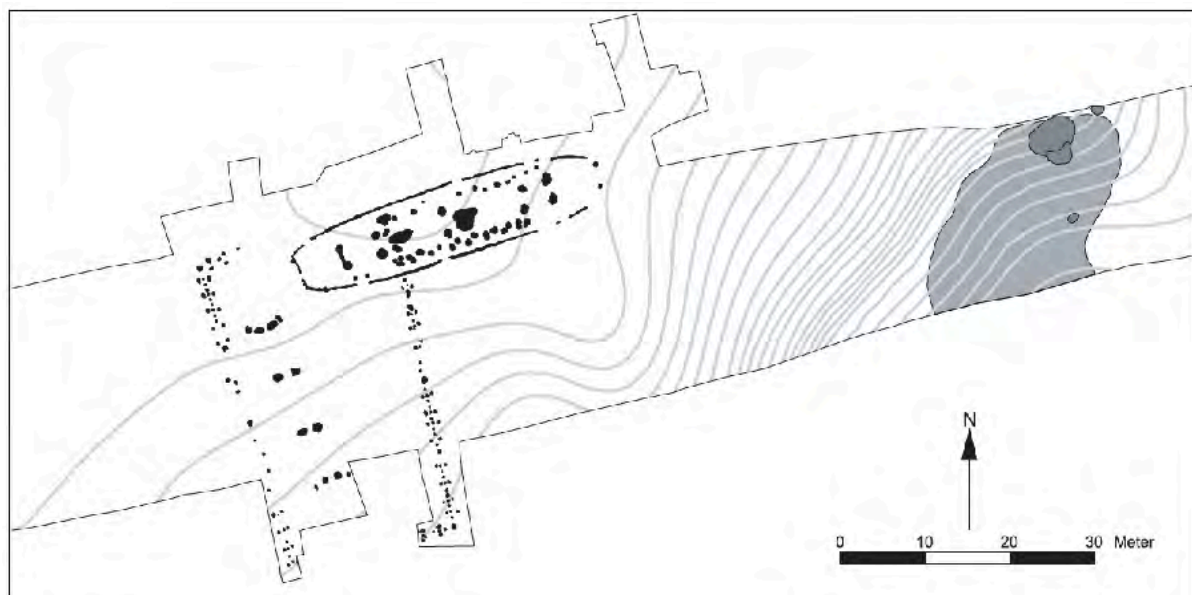
34

Figure 23. The large longhouse at Järrestad in the 8th-9th century. Just east of the large longhouses, a large stone pile was found in a wet area (after Söderberg 2002b:fig.10)

been accumulated over a longer period in another place before they were moved to where they were found today (Söderberg 2003:127,135). Maybe the movement of the stones happened in relation with the rebuilding of one of the large longhouses.

All in all, the large longhouses have not left any remains during the settlement as all traces must have been removed in the rebuilding processes of the large longhouses. A concentration of stones seems to have been built up during the settlement and moved to a marshy area at two occasions. As there is no reason to believe that the accumulation of burnt stones have been made at a larger distance from the large longhouses, the stone heap must have been an integrated part of the central part of the settlement as it was observed at the other sites as well.

The analysis demonstrated that certain traces of settlement activities were allowed to survive beyond the lifetime of the single longhouse and the inhabitants interacted actively with these during the lifespan of the settlement. In some cases this included remains of the large longhouses and in all of the four settlements it included accumulated concentrations of burnt stones. In the following, I will discuss these features role as intentional monuments in the settlement sphere.

Monuments anchor individual and collective memories to physical places and help to commemorate the persons, events or phenomenons they were build for. By being physically present and visible, the monument is a constant reminder for people to interact with the past through rituals and/or daily routines (Stenholm 2012:34). Monuments are often build in durable materials to last 'forever' and are in that way not only oriented towards the present but also towards the future (Holtorf 1997:47). Monuments are, generally speaking, build in the present to secure a legacy for future generations.

Observations from prehistoric contexts and experimental reconstructions demonstrate that the ruins of a longhouse even when originally built in timber and clay can be visible for a very long time; still after 2000 years if the area has not been cultivated (Hatt 1938, Stenholm 2012:168). The remains of any

longhouse must in that way have been visible if the traces are not actively removed. The remains that were not removed at the demolition of the house have been present as physical features that the inhabitants passed by and engaged with in their daily routines and movements in the settlement. In the daily meeting, the house site must have reminded the inhabitants of older generations and the general history of the settlement through the incorporated practices (Lucas 2005:40f, Stenholm 2012:220f). In the analysed settlements, there were no signs of the large longhouses being left to fall apart and to become ruins by themselves. When they were renewed, they were actively demolished, maybe even burnt off. In the cases of rebuilding the longhouse in the same site, the remains must have been actively removed. However, in some cases, the house sites were elaborated to stand out, as it was the case with house 4 at Strøby Toftegård. The house site was deliberately monumentalised.
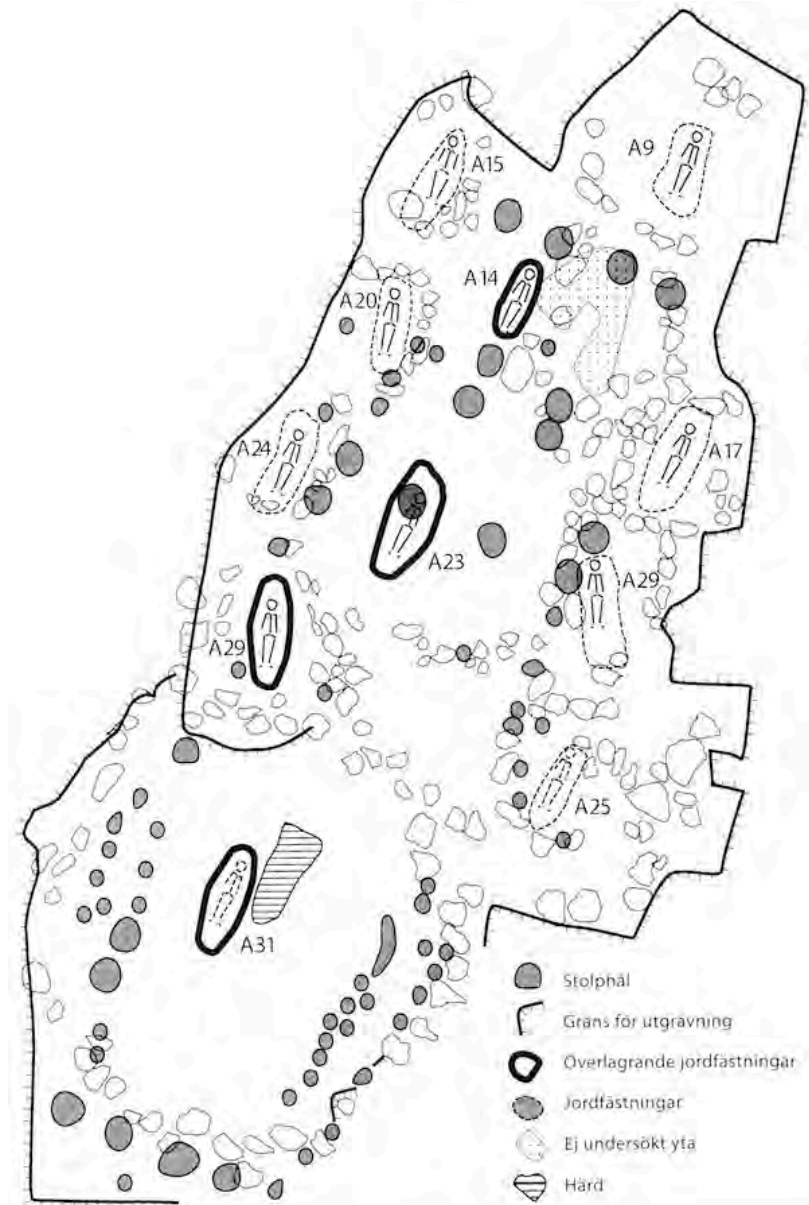

Figure 24. An example of Viking Age graves (10th-11th century) placed on top of a longhouse from the Early part of the Viking Age at Hässelby 151 (after Stenholm 2012:fig.90).

Using a house site for burials is also a way to enhance the commemorative aspect of the house site, as it was the case at Mysselhøjgård. The monument got a new dimension, not only commemorating the first inhabitants, but adding to the history of the place by adding new individuals to the site. Studies show that adding burials to older house sites was a practice that was found in several areas of Scandinavia during the Late Iron Age e.g. it has been observed at Engelaug (NO), Espeland (NO), Arninge 75 (SE) and Hässelby (SE) to mention a few (Figure 24) (Thäte 2007, Stenholm 2012, Eriksen 2016). In general, the graves seem to be added to houses that are more than a century older than the graves and there is in that way not necessarily a direct link between the original inhabitants and the buried

(Stenholm 2012:200f). The location of some of the graves show clear awareness of the house underneath it e.g. when located in the door opening of the house (Thäte 2007:113f, Eriksen 2016:479). Based on a study of burials located in older longhouses, Marianne Hem Eriksen suggest that it was not only the concrete persons that were buried in the house, but also the house it self that was buried as part of its rite de passage (Eriksen 2016:489ff). House 4 at Strøby Toftegård could be an example of a 'house burial' where water-rolled and burnt stones have covered - and buried - the house. Following this thought, the occasional burning of the large longhouses as observed at house 5, Strøby Toftegård, house XLII, Mysselhøjgård and house 3, Bulbrogård, could further resemble cremation burials of the longhouses (Tringham 2000:124, Eriksen 2016:490). The burial of the 'house body' can have further supported the commemorative element of the persisting house remains.

All in all, the analysis shows that the house site could be turned into a monument after it had been demolished, sometimes even deliberately enhanced and elaborated to become a monument. Burials could also be added to the 'house monument' enhancing the commemorative element of the monument as part of the ongoing engagement with the history of the site.

The function and meaning of the concentration of burnt stones have been discussed from both practical as well as ritual perspectives (e.g. Christensen 2015:173ff). The function of the stones have not been settled but different uses for the stones have been suggested e.g. they could have had a function in cooking large amount of meat or they could have been used when brewing beer. Both functions can be connected not only with daily cooking but also with feasting and ritual meals. Alternatively, the stones could have been used in wood working when bending wood with the help of hot steam or the stones could have been used in saunas.

A different interpretation put the stone concentrations in direct relation to the pre-Christian cult. The heaps of stones have, mainly based on written sources, been interpreted as hørgs, as places for offerings and rituals in the open air (Olsen 1965). The finds associated with the stone concentration at Mysselhøjgård contained fine table ware, production remains and bones of e.g. eagle, beaver and wolf; finds that have a special character and could be related to ritual feasting (Christensen 2015:178). But as only few of the stone heaps have been properly archaeologically investigated, very little is known about their structure, the ire accumulation history of finds related to the stone features. Their role in ritual context is therefore only a suggestion as it is now.

However, the size and permanence of the stone piles alone give them a monumental character. They seem to be established early in the lifetime of the settlements and to be accumulated continuously during the lifetime of the settlement with regular activities and adding of stones to the feature. In that way, the stone heap represent the only structure which had existed through the whole history of the settlement. The repeated practice and interaction can in it self be interpreted as an incorporated memory practice, where the history of the settlement was commemorated through the deposition of stones. In that sense, whether it was meant to or not, the burnt stones have served as monuments within the settlements.

In conclusion, monuments are not exclusively connected to burials, but can also be created and incorporated in settlement contexts. In the four settlements, monuments were present as elaborated house sites and stone piles. Both types of monuments were related to incorporated practices interacting

with the monument. That the interaction was ongoing can be showed by the later addition of burials to a monumentalised house site at Mysselhøjgård, and by the continuously accumulation of burnt stones in the stone heaps. The monumentalisation took place, while the surrounding settlement was still in function, often starting at the earliest phases of the settlement, whereas it did not happen after the last phase of the settlement. The settlement monument was in that way something that was directly oriented towards the inhabitants in the settlement. Both the house sites and the stone piles are characterised by their physical permanence that reach beyond the lifetime of the individual longhouse and the lifespan of the settlement, and the monuments represent a very concrete way to hand over the history to the coming generations. In that way, continuity between the past, present and into the future was created actively.

Managing time, creating continuity

In the analysis, three specific memory practices identified within Late Iron Age settlements have been investigated: the incorporation of ancient monuments into settlements, practices of rebuilding the longhouse and the creation of monuments within the settlement sphere. All three practices are examples of incorporated and embodied memory practices that actively interact with elements of the past on different levels. Each practice engage with and produces physical structures which affect the inhabitants of the settlement and shape their perception of the past intentionally as well as unintentionally. Here, the three practices will be brought together in a final discussion of the temporal structures created in settlements in the Late Iron Age.

The three memory practices are oriented towards quite different elements of the past: ancient monuments from a deep, mythical past, house ruins from the near and genealogical past and the creation of monuments securing the near past for future generations. The conclusion is that 'the past' in not just one thing, but several 'kinds of past' can be at play at the same time. What unifies the three practices is the perception of the past as something that is interacted with and actively handled in the present in the attempt of anticipating the future (Gosden & Lock 1998:11, Jones 2007:53, Jordheim 2015:71).

When elements from the past actively is brought into the present and the future, continuity is created between the past, present and future (Strathern 1996:34, Lucas 2005:83, Crossland 2014:180). Continuity is a basic temporal concept. With continuity, long-term connections and similarities over time are emphasised. The stable and unchanging elements in a society is accentuated and discontinuities and changes are actively downplayed. Continuity is thereby helping to create an image of the world as durable and immutable, though not necessarily as timeless. Continuity is securing that the future is perceived as a place characterised by stability and immutability (Crossland 2014:39, Jordheim 2015:80). The effect is that the world is experienced as a well-known and safe place where there is no distinct distance between the past, present and future (Munn 1992:106f).

Besides the practices analysed here, reuse of older monuments for burials, citations of older artefacts, raising of rune stones and the character of the written sources confirm that continuity was actively created and highly valued in the Late Iron Age as a temporal perspective (e.g. Thäte 2007, Stenholm 2012, Arwill-Norbladh 2007, Williams 2016). On a general level, active use of memory practices are often seen in direct relation with unstable periods or periods of conflict in societies (Bradley

1987, Thäte 2007:32f, 63, Stenholm 2012:40). A response to avoid potential uncontrolled change could be to legitimise the existing structures by actively use the past to create a general sense of continuity. If succeeding in creating an image that things has 'always been like this', it is harder to challenge and change the conditions in the present (Gren 1994:92, Thäte 2007:63). One way to create continuity is to manage how the past is disseminated and create solid and indisputable connections between the past, present and future through emphasising and shaping the physical and visual presence of the past as it was the case with the memory practices analysed here (Munn 1992:109ff, Van Dyke & Alcock 2003b:2).

The need for a strong focus on continuity can have ben provoked by a general feeling of instability and the dynamic structures of Late Iron Age society. In the period, new ideas and knowledge were coming to Scandinavia as a by-product of the increased contact with Europe through raids, trading routes and travelling, and these must have presented a constant challenge to the existing structures (Ashby 2015). At the same time, there were no fixed power structures in the South Scandinavian communities, as power was spread out on a flexible group of magnates of varied character (Sindbæk 2008). The political elite was defined by the social relations they participated in and depended on local and regional support, conditions that could change relatively quickly. Therefore, the elite participated in large social networks where regular visits and feasting played an essential role in maintaining the contacts, the support and in the end the powerful position (Brink 1996, 2005, Herschend 1997, 1998, Gansum 2008, Poulsen & Sindbæk 2011, Jessen 2012, Carstens 2015, Baastrup 2016). Power was negotiated and re-negotiated and could in that way also potentially be changed if not constantly legitimised and reconfirmed.

From the analysis, it was also demonstrated that there was a considerable variation in how each practice was conducted in practice. Depending on the situation and context, the specific need for the creation of continuity, stability and legitimisation can have varied from site to site. Therefore, the variation in how explicit social memory was expressed in the settlement and how memory practices were conducted in practice presumably mirror the unique situation and conditions of the specific settlement. Furthermore, it might not be the same practices or strategies used at the time of establishing a new settlement compared to a situation where power structures in an existing settlement is challenged or when the settlement is reorganised e.g. when handed over to the next generation. Different practices might be adequate in different situations.

When establishing a settlement in a new location, the choice of location and the establishment itself needs to be legitimised and approved by inhabitants as well as local neighbours. In this situation, a concrete link to the history of the landscape can be powerful. The incorporation of ancient monuments might lead attention to the continuity of the inhabitation of the landscape rather than to questioning the choice of location. As argued, the phenomenon of Odal also directly linked ancestors, genealogy, inheritance and rights to land (Zachrisson 1994, Thäte 2007:277). A newly established settlement could in that light be interested in creating a link to ancient monuments in order to give the settlement a (constructed) past with an inherent right to the land. When establishing the settlement, the deep and mythical past can be important, using the ancestors as legitimation for rights to land and power.

To exemplify, ancient monuments in the form of visible mounds were incorporated directly into the settlements at Strøby Toftegård and Fredshøj. At Järrestad, a similar connection has been suggested

but not archaeologically investigated. This could be a way to gain right to the land and communicate this right to both inhabitants and neighbours. At Bulbrogård where no prominent monuments were incorporated into the settlement and the references to the history of the landscape were more indirect, the situation can have been different. Maybe the inhabitants at Bulbrogård already had established rights to the land at the time, when the settlement was created. A right they could have brought with them from a previous, not yet known, settlement site. The same argument can apply to Mysselhøjgård and Fugledegård that both represent later phases of the settlements established at Fredshøj and Bulbrogård respectively. The legitimisation and right to the land were already gained when the early settlement was established and it did not need to be further supported as the settlement moved. The legitimacy was moved with the settlement to the new location.

During the inhabitation, focus might have changed from the ancient past to also include the inhabitants' own near and genealogical past as it was created continuously in the site. Each settlement had its own internal, social dynamics, that caused developments and changes in the composition of the inhabitants and the settlement. In this process, the re-use of house sites in appropriate ways in relation to the situation can have been a way to show that the near, genealogical past were under control and not free for anyone to interpret as they wanted.
Variations in internal dynamics can have caused that some houses were rebuild in the same place as its predecessor and other houses were moved to a new place.

The rebuilding of the large longhouses at Mysselhøjgård, Fugledegård and Järrestad can serve as examples. By rebuilding an exact copy of the longhouse in the exact same place several times, even in some cases reusing the same archaeological features, must have been a strong indicator of the continuity and stability of the power structures. When the large longhouses at Strøby Toftegård were not build in the same site, this might be connected to the power structures maybe being less consolidated in this settlement. Therefore, a more direct continuity in the form of building the new longhouse while the older longhouse was still standing was a necessary strategy. That the power structures were organised differently in the settlements and therefore needed to be handled differently in another possibility.

When a reorganisation of structures and house site was unavoidable, it could leave a small opening for questioning the existing structures. In these cases, it could be essential to create a clear link to the previous and deliberately 'hide' the change. The temporal focus changes towards the future and how to hand over the past to new generations. Building monuments could be one strategy to secure and take control of the past in the future and a way to solidify the legitimacy to power. In their permanence, monuments serve to legitimise existing conditions by creating an image of stability (Gren 1994:92; Thäte 2007:63). Monuments constitute a concrete place to commemorate the past, but also secures that the past is always visible, present and non-questionable.

This perspective can be exemplified through the monumentalisation at Strøby Toftegård and Mysselhøjgård. At Strøby Toftegård, it was the first large longhouses in the settlement that was monumentalised, not the later. Their legacy was in that way secured to live on. This could be an intentional strategy due to the relatively dynamic structure of the central unit and ongoing reorganisation of the settlement. Or maybe the existing power structures was challenged by somebody of equal social status settling in the same area e.g. at the nearby Kastaniehøj creating a need to reconfirm the social status and rights to the land? At Mysselhøjgård, the monumentalisation happened when the large

longhouse changed their location within the settlement and the platform was left as a visible witness of the previous longhouse sequence. Much later the inhabitants reengaged with the monument by adding a number of burials thereby confirming the structure's function as a monument. A practice, which can have been necessary at the specific moment in the settlement history due to a historical situation that today is unknown.

Memory practices and social memory are shaping the temporal structures the inhabitants are living within through embodied practices defining the inhabitants' sense of time. The practices are as such not only conscious strategical actions in a political context but should rather be perceived as essential elements in the process of dwelling, in how people build up relations to the world and find their own place in the world (Jones 2007, Stenholm 2012:229).

In a broader perspective, dwelling can be described as an assemblage made up of a heterogenous collection of related things, houses and landscapes, people and practices, infolding and unfolding in an ongoing creation and recreation of the relation with the world (DeLanda 2006, 2016, Lucas 2014, 2016, Bille & Sørensen 2016). In the assemblage, the memory practices are an important element in the assemblage contributing with a distinct temporal dimension. Dwelling is as such not only defined by the physical constructions made for dwelling but also by how people engage with these over time - creating time - during the process of dwelling. Conventionally, this temporal relation would be defined by the actual duration of the dwelling. However, as demonstrated in the analysis, the temporal dimensions of dwelling reaches beyond the individual longhouse and into the past and the future. Both perspectives towards the past and the future directs actions and practices in the present. Dwelling is as such not only a temporal relation with the world, but fundamentally multitemporal.

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