



From Central Space to Urban Place, seminar 2

Spaces, places, and the earliest urbanisation
of South Scandinavia

Edited by Mikael Manøe Bjerregaard, Kirstine Haase & Mads Runge



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Report from an international seminar at Lindholm Høje,
November 30th - December 1st 2021

Edited by Mikael Manøe Bjerregaard, Kirstine Haase & Mads Runge

Kulturhistoriske studier i centralitet
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From Central Space to Urban Place (2:2)

Spaces, places and the earliest urbanisation of South Scandinavia.

Lindholm Høje, November 30th - December 1st, 2021.

November 30th

Session 1: Urbanisation & interaction; definitions, theories & methods (chair: Torben Sarauw)

- 11-11.30: Mads Runge (Odense City Museums): Introduction. Urbanisation in a space & place perspective.
- 11.30-12: Søren Sindbæk (UrbNet, Aarhus University): Past, present, and future approaches to research in the earliest urbanisation.
- 12-12.30: Johan Sandvang Larsen (Aarhus University): Field methods in Danish urban archaeology: innovations, developments, and movements.

Session 2: Organisation and networks of the emporia (chair: Torben Trier Christiansen)

- 14-14.30: Morten Søvsø (Museum of Southwest Jutland): Were the emporia "islands" in an agrarian hinterland?
- 14.30-15: Sara Croix (UrbNet, Aarhus University): People, time, and place in Viking-Age Ribe
- 15.30-16: 15.30-16: Annemarieke Willemsen (National Museum of Antiquities, Leiden): "Vicus famosus": How urban was Dorestad?
- 16-16.30: Sebastian Messal (German Archaeological Institute, Berlin): Baltic coastal trading places in the transition area between the Continent and South Scandinavia.

December 1st

Session 3: Networks of the earliest cities (chair: Jesper Hansen)

- 9-9.30: Mogens Bo Henriksen (Odense City Museums): The metal-rich sites – between the city and the agrarian hinterland.
- 9.30-10: Kirstine Haase (Odense City Museums): Trade, import and urban development.
- 10.30-11: Torben Sarauw (Historical Museum of Northern Jutland): Largescale production? Pit houses and the formation of the earliest cities.
- 11-11.30: Mads Runge (Odense City Museums): Odense and Nonnebakken. City, fortress and the military system of the hinterland.

Session 4: Spaces & places of the earliest cities (chair: Stig Bergmann Møller)

13-13.30: Jens Ulriksen (Museum Southeast Denmark): Urbanisation in a challenged landscape. Manipulation or adaption to the natural conditions.

13.30-14: Jakob Tue Christensen (Odense City Museums): The making of memorial landscapes in the Medieval city.

14-14.30: Christian Vrængmose (Historical Museum of Northern Jutland): Urban fortifications and urbanisation processes in the case of Aalborg and beyond.

Session 5: On-site dissemination of spaces and places; new methods and strategies (chair: Mads Runge)

15.30-15.50: Line Borre Lundø (Odense City Museums) & Nicolai Knudsen (Museum of Eastern Funen): The From Central Space to Urban Place project: Strategy and results in dissemination and learning.

15.50-16.10: Hanna Dahlström (Museum of Copenhagen): On-site dissemination of complex research results. Results of the Urban Encounters project.

16.10-16.40: Matthias A. Maluck (State Archaeology Department of Schleswig-Holstein): Spatial planning and stakeholder involvement in cultural heritage management. The case of the Hedeby-Dannevirke World Heritage Site.



The rage of the elements over a snow-covered Lindholm Høje. Photo: Thomas Roland.

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Johan Larsen presenting in the lecture hall at Lindholm Høje. Photo: Torben Trier Christiansen.



The snow covering the entrance to Lindholm Høje Museum on the second day of the seminar. Photo: Mads Runge.

Introduction

By Runge, Mikael Manøe Bjerregaard and Kirstine Haase

The seminar *Spaces, places and the earliest urbanisation of South Scandinavia* was the second of two international seminars within the project *From Central Space to Urban Place* which was undertaken from 2017-2021 and was funded by the VELUX FONDEN (<https://odensebysmuseer.dk/forskning/forskningsprojekter/from-central-space-to-urban-place/>).

From Central Space to Urban Place consists of research, dissemination, and learning elements. Besides Odense City Museums as project owner, the project partners are Museums of Eastern Funen, Museum of Northern Jutland, Moesgaard Museum, University of Southern Denmark, Aarhus University, and University of Copenhagen. The project also has an advisory board comprised of specialists from the universities of Lund, Oslo, Bergen, Copenhagen, and Aarhus.

The project's aim is to shed new light on the earliest urbanisation processes in South Scandinavia from 400 to 1100 AD. With Odense and Aalborg as case studies, the project explores the development from the central spaces of the Late Iron Age, defined as concentrations of archaeological localities characterised by wealth and functions such as trade, crafts, cult, and defence, to the urban places of the Middle Ages, where the structures of power are concentrated in one location.

The project has had a series of concrete outputs. Concerning dissemination and education, the most important results are the following:

- Four major events located in town (place) and hinterland (space) in the two areas of investigation.
- Development of a so-called toolbox with materials and guides for carrying out similar dissemination projects.
- A session at the European Association of Archaeologists Annual Meeting and presentations at other conferences.

• Development of a series of learning courses and materials in collaboration with the teacher training department at University College Lillebælt, tested on several school classes. The developed materials are available for free on Odense City Museum's webpage (<https://odensebysmuseer.dk/undervisning/?age=all&m=all&type=all&theme=spacetoplace¤tPage=1>).

The research part has, among other things, resulted in the following:

- A comprehensive anthology with all research contributions (Runge et al. 2021), an article in *Boreas* on coastlines in Northern Jutland (Kristiansen et al. 2020), a series of publications in the research centre CENTRUM's report series, and two seminar reports (of which the present is number two). The reports can be downloaded from Odense City Museum's webpage (<https://odensebysmuseer.dk/forskning/forskningscentret-centrum/udgivelser-fra-centrum/>).
- Two international seminars, a session at the European Association of Archaeologists Annual Meeting and different lectures in various conferences.
- A series of scientific and archaeological surveys.

This publication presents the seminar papers in the form of an abstract, slides from the presentations, a summary based on the recorded lectures, an overview of the subsequent discussions and recommendations for further reading. The summaries are written by curator Mikael Manøe Bjerregaard and curator, Ph.D. Kirstine Haase, both Odense City Museums, and approved by the authors. The purpose of the publication is to make the many excellent contributions from the seminar available to a broader audience.

The seminar at Lindholm Høje must be seen in connection with the project's first seminar, which was held in Odense in May 2018. Thus, the first



Fig. 1: A snow-covered Lindholm Høje. Photo: Thomas Roland.

seminar dealt with aspects of *space*, whereas this second seminar focused on the aspects of *place* and the connection between space and place. The first seminar was concerned with reconstructing and analysing the social organisation of landscapes from the period Late Iron Age to the Early Middle Age.

This second seminar also has a natural focus on the main concepts of the *From Central Space to Urban Place* project. However, just as important is an interest in relating these issues with other theoretical and methodological concepts and other spatial and chronological areas dealing with urbanisation processes.

The seminar is structured into five sessions. Session 1 puts the From Central Space project into an overall framework with other urbanisation studies. Session 2 deals with Southern Scandinavia's earliest urban structures, the Emporia, and their external relations and internal organisation. Sessions 3 and 4 deal with the same subjects for the next phase of cities in the late Viking Age and early Middle Ages. Session 5 presents new methods and strategies for

on-site dissemination of places and spaces. We want to thank all the speakers for two inspiring days, with excellent papers and lively discussions with high engagement both in plenary and in a series of informal talks outside the auditorium. As if all of that was not enough, the worst snowstorm at these latitudes in several years put a memorable final on top of the seminar.

Literature

Kristiansen, S.M., Ljungberg, T.E., Christiansen, T.T., Dalsgaard, K., Haue, N., Greve, M.H. & Nielsen, B.H. 2020: Meadow, Marsh and Lagoon: Late Holocene coastal changes and human-environment interactions in Northern Denmark. *Boreas. An international journal of Quaternary research*. London.

Runge, M., M.R. Beck, M.M. Bjerregaard & T.B. Sarauw (eds.) 2021: *From Central Space to Urban Place. Urbanisation processes in Viking Age and Medieval Odense and Aalborg, Denmark*. University Press of Southern Denmark.

Part 1:

*Urbanisation and interaction,
definitions, theories, and methods.*

Introduction. Urbanisation in a space and place perspective.

Mads Runge (Odense City Museums)

Abstract:

The first part of the lecture presents the thoughts behind and the structure of the seminar. The seminar must be seen in connection with the project's first seminar, which was held in Odense in May 2018. Thus, the first seminar dealt with aspects of **space**, whereas this second seminar will focus on the aspects of **place** and the connection between space and place. The seminar has a natural focus on the main concepts of the *From central space to urban place* project. Just as important is an interest in relating these issues with other theoretical and methodological concepts as well as other spatial and chronological areas dealing with urbanisation processes.

The seminar is structured in five sessions, where the first puts the From Central Space project into an overall framework with other urbanisation studies. Session 2 deals with the external relations and internal organisation of southern Scandinavia's earliest urban structures, the Emporia, while sessions 3 and 4 deal with the same subjects for the next phase of towns in the late Viking Age and early Middle Ages. Session 5 presents new methods and strategies for on-site dissemination of places and spaces.

The second part of the lecture presents the main elements of the *From Central Space to Urban*

Place project. The project, which is funded by the VELUX FONDEN and conducted over the years 2017-2021, analyses the early urbanisation in southern Scandinavia based on the relationship between town and hinterland within the period 400-1100 AD. The project involves archaeology, history, place names, and natural sciences, and the participants come from a range of museums and universities. The focus of the project is the urbanisation process leading to the emergence of the towns of Aalborg and Odense. Both towns emerged in fjord landscapes rich in archaeological prestige findings, predating the towns' establishment around AD 900. By mapping and analysing various growth factors, it is possible to make a diachronic description of the two fjord landscapes' organisation of power within areas such as trade and specialised crafts, religion, and military. The landscape's variation between the two areas meant that communities in Aalborg and its hinterland were oriented towards the water and, to some extent the international contacts, while Odense rather oriented itself towards the inland and the local and regional networks. On this background, the two areas underwent various developments within the study period. While significant growth factors for Aalborg seem to be trade and international contacts, centrality in the religious and military sphere was decisive for Odense's background.

Introduction

-

Urbanisation in a space & place perspective

Mads Runge

THE VELUX FOUNDATIONS

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Figure 1 Title.

From Central Space to Urban Place

- Urbanisation process of southern Scandinavia 400-1100 AD

VELUX, 2017-2021

- Odense City Museums
- Museums of Eastern Funen
- Museum of Northern Jutland
- Moesgaard Museum
- The National Museum of Denmark
- University of Southern Denmark
- Aarhus University
- Advisory board: The universities of Lund, Oslo, Bergen, Copenhagen and Aarhus



Figure 2 Participants in the research project and the two research areas.



Figure 3 The research project has formed the basis for several dissemination events.

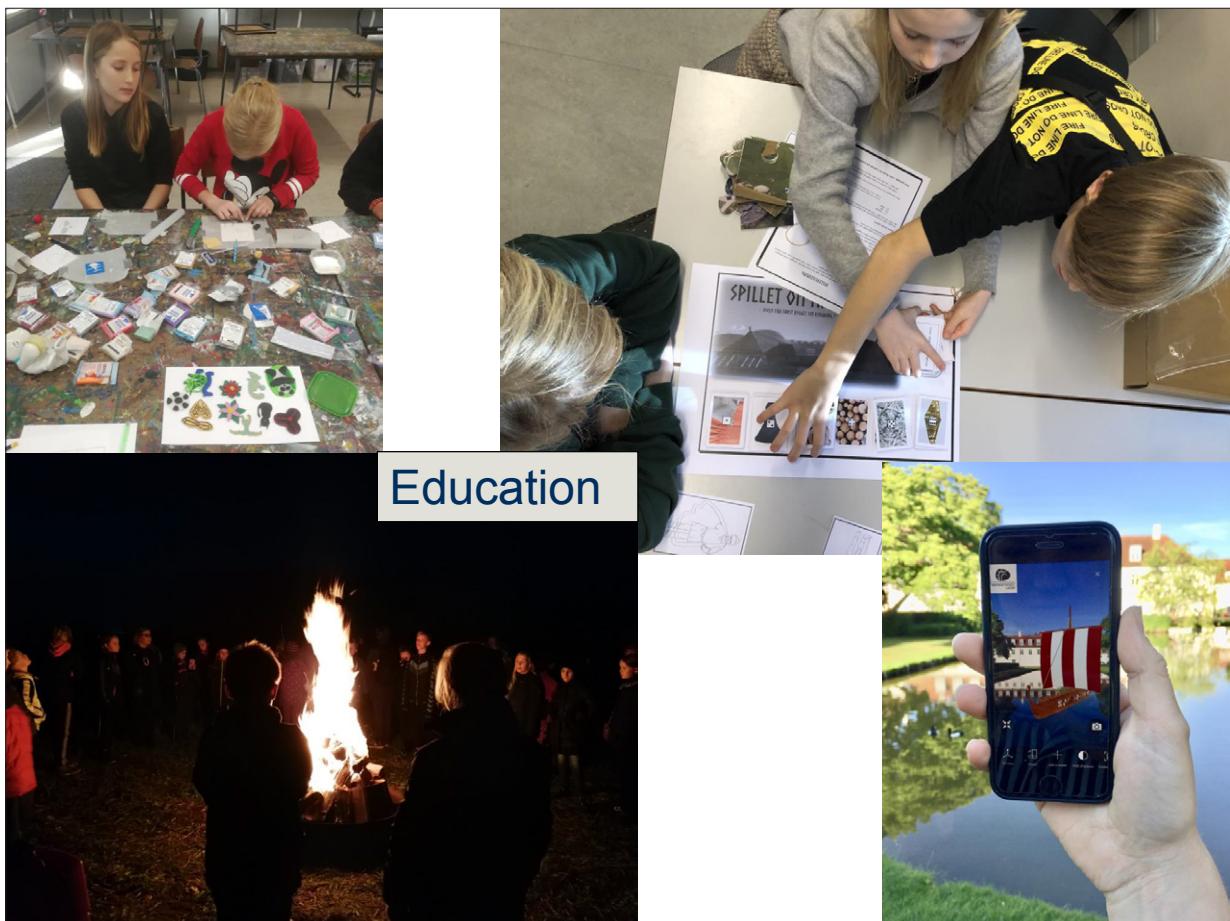


Figure 4 Based on research results and the dissemination events, open-source educational materials for schools have been developed.



Figure 5 The project has had a big output in seminars, surveys, and publications.

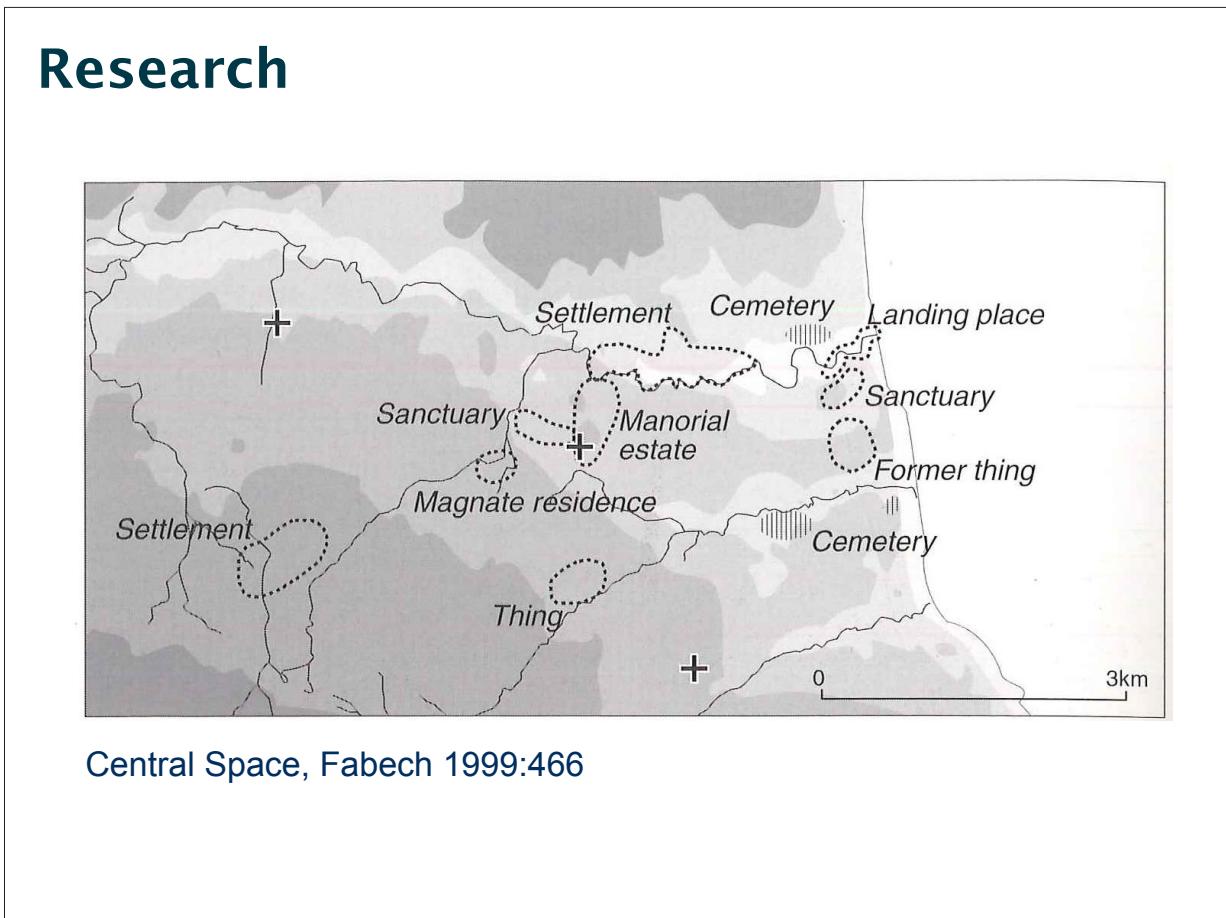


Figure 6 “From Space to Place” refers to this model of late Iron Age/early Viking-Age centres by Charlotte Fabech.

Theoretical background

- Space & Place (Yi-Fu Tuan 1977)
- Central place (Walter Christaller 1968)
- Growth Pole Theory (Francois Perroux 1971; Lisbeth E. Christensen 2014)

Figure 7 The project is based in a space and place-perspective that seeks to bring human dimension to the ecological and geological landscape analysis and in the growth pole theory as defined in Danish archaeology by Lisbeth E. Christensen.

Space & Place

Mentally:

- Space: abstract, place with no definit meaning
- Place: space with a certain meaning

Structurally:

- Space: open form of organisation
- Place: clustering of central function

Figure 8 The definition of space and place within the project.

Central Place Theory & Growth Pole Theory

Central Place Theory:

- Static
- Functional based categories of centrality
- Compare parameters of centrality over across time

Growth Pole Theory:

- Dynamic
- Developent & causality; driving forces
- Actice elements in accumulation of ressources & spread of growth

Central function =/≠ generate growth

Figure 9 The project combines elements of the central place and growth pole theories in its theoretical framework.

Sub-projects

- 1) Centrality and central places in landscape.
 - Landscape/Place names/Metal-rich sites
- 2) Central place, city and hinterland – structure, interaction and specialisation.
 - Settlement, trade, crafts/Military/Cult & Religion
- 3) From central space to city – dynamics and driving forces in the early processes of urbanisation.
 - Synthesis & model

Figure 10 Structure of the project and the anthology.

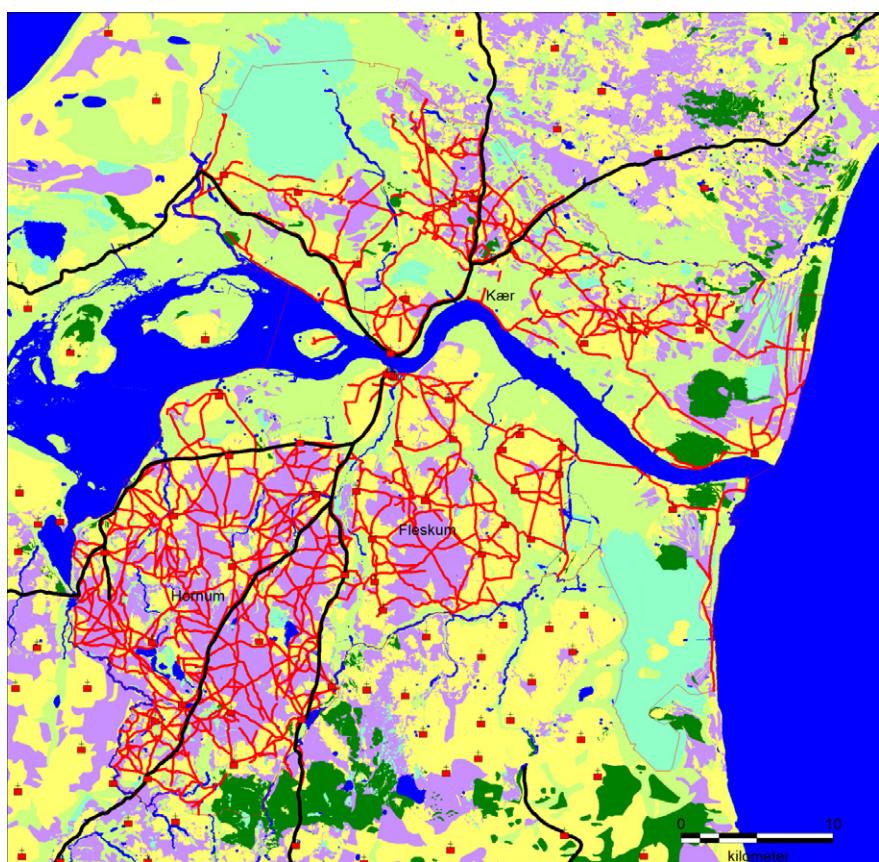
Aalborg/landscape



Hill islands and large marine foreland

Figure 11 Map of hills islands and marine foreland in the Limfjord area around Aalborg.

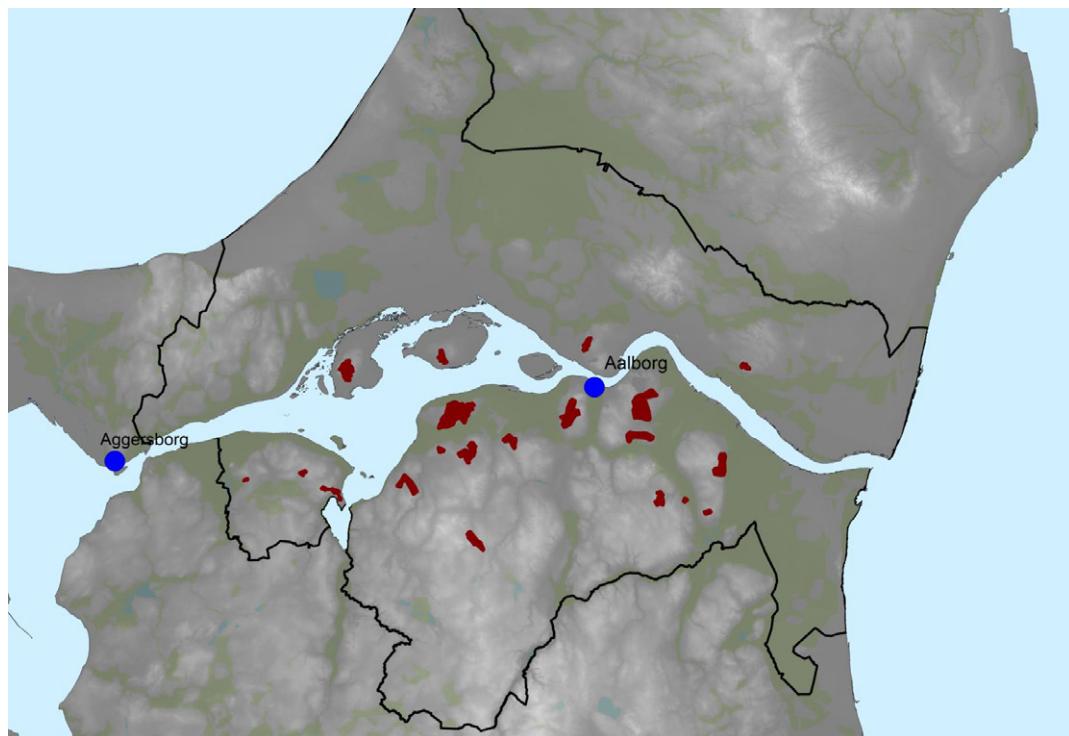
Aalborg/ Roads



Grau Møller & Haue

Figure 12 Main traffic routes on land (black) around Aalborg.

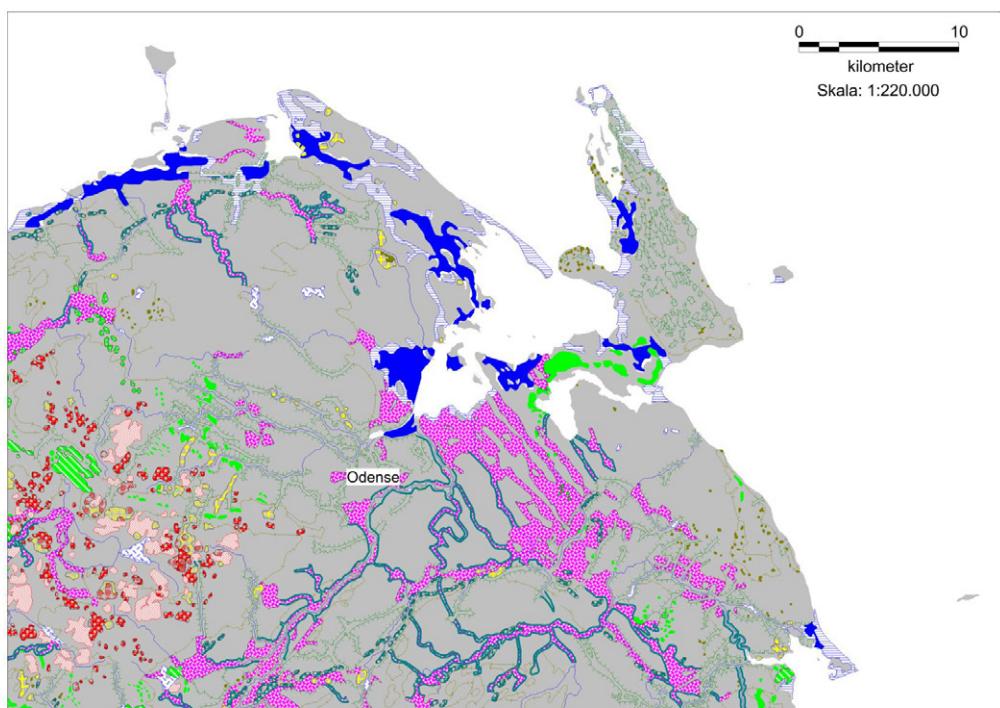
Aalborg/settlement, metal-rich sites



Beck, Christiansen & Henriksen

Figure 13 A special feature in the Limfjord area is large pithouse sites as shown in this map. The sites can probably be linked to the production of ship sails (cf. Sarauw this volume).

Odense/landscape



Transport corridors

Figure 14 The geological conditions of north-eastern Funen. It is dominated by flat agrarian land. To the northeast, the landscape is elevated. Transport corridors are orientated southeast-northwest.

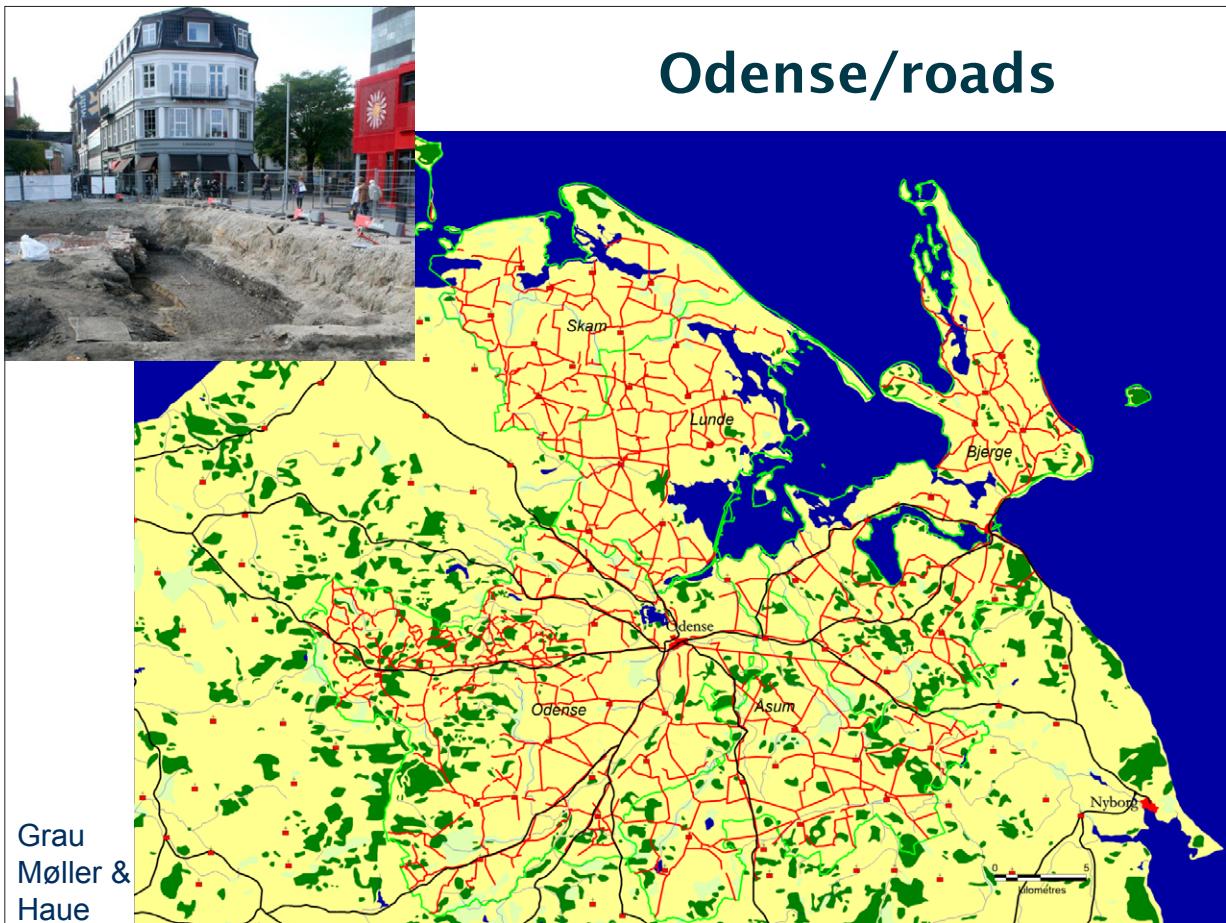


Figure 15 Odense emerged at a nodal point for land routes across Funen.

Odense/settlement, metal-rich sites

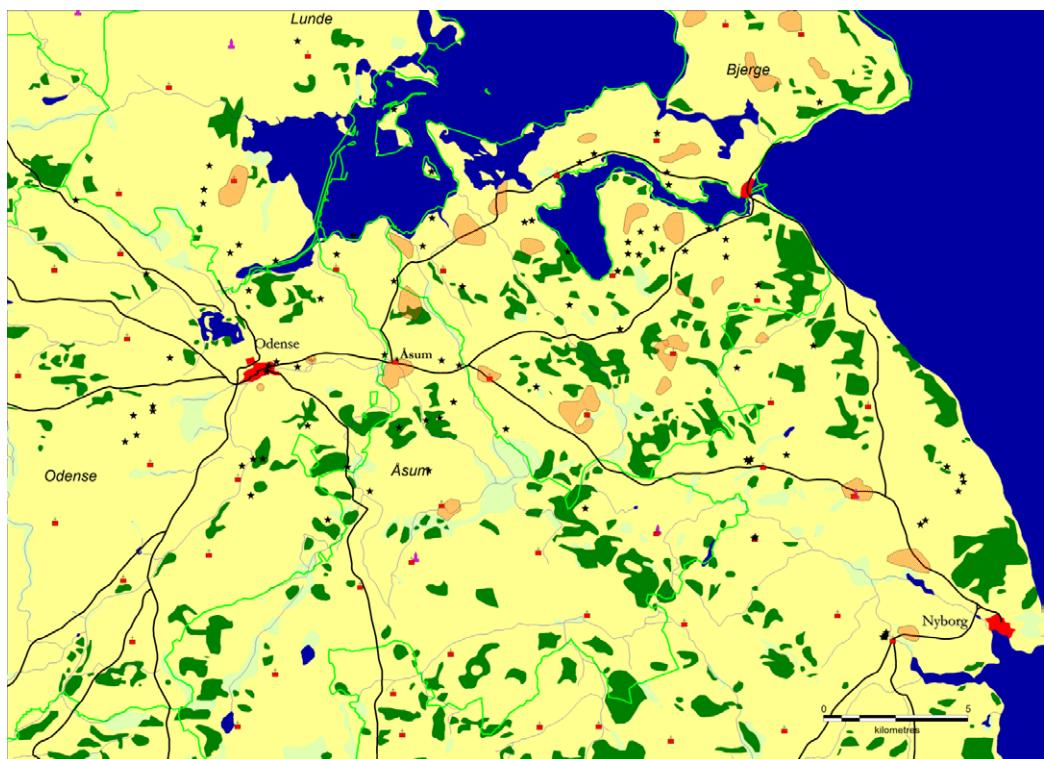


Figure 16 The metal-rich sites in the Odense Fjord are shown in orange.

Phases:

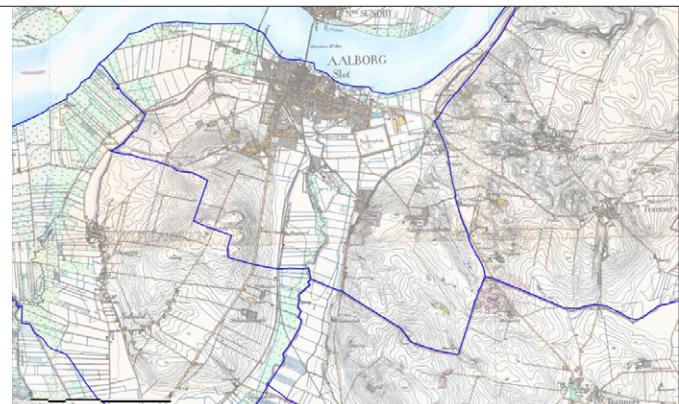
- 400-600 AD
- 600-900 AD
- 900-1100 AD

Growth factors:

- Trade & specialised crafts
- Religion
- Military

Figure 17 The project analyses the development in the case study areas in three phases and with a special focus on specific growth factors.

Conclusion/Aalborg



Jesper Hansen: Primary vills

- Aalborg/Coastal town:

- Trade & specialised crafts
- Outwards, sea routes
- Top down/exogen processes
- Short time depth as central place

Figure 18 Central conclusion about the growth factors of Aalborg.

Conclusion/Odense

- Odense/Inland town:

- Religion, administration, military
- Inwards, land routes
- Bottom up/internal processes
- Longer time depth as central place

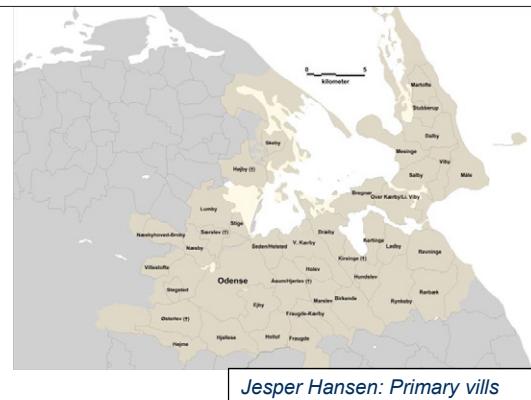


Figure 19 Central conclusions about the growth factors of Odense.

Summary

Introduction

This paper gives an introduction to the seminar held at Lindholm Høje on November 30th and December 1st 2021, and outlines some general research questions and results from the research and dissemination project “From Central Space to Urban Place” funded by the VELUX FONDEN.

Presentation

The full title of the research and dissemination project that ran from 2017-2021 is “From Central Space to Urban Place – Urbanisation processes of southern Scandinavia 400-1100 AD.” The project is a collaboration between several museums and universities and focuses on two case study areas: The Limfjord area around Aalborg and the Odense Fjord area around Odense and north-eastern Funen (fig. 2). In addition to the research, experimental dissemination and educational programs are essential parts of the project (cf. Lundø this volume).

The output of the project has been manifold:

Dissemination & education:

- Four major live events
- A “toolbox” for free download with description and manuals of different dissemination and education projects
- A session at the European Association of Archaeologists conference
- Presentations at various seminars.
- Development of several learning courses and materials

Research:

- Two international seminars as well as a session at the European Association of Archaeologists conference
- Lectures at various seminars
- Various scientific and archaeological surveys
- Publication of an article in Boreas on coastlines in Northern Jutland, two seminar reports, a comprehensive anthology with all research contributions, and a series of open-source publications in CENTRUM’s report series (<https://odense-bysmuseer.dk/forskning/forskningscentret-centrum/udgivelser-fra-centrum/centrum-forskningscenter-for-centralitet-rapport/>).

Urbanisation in a space and place perspective

The project analyses the urbanisation processes of Southern Scandinavia in 400-1100 AD with Odense and Aalborg and their hinterland as cases. The overall research topic of the project is the connection of the pre-urban centres (spaces) of the late Iron Age with the towns (places) of the Viking and Middle Ages.

Methodologically the analysis combines overall landscape studies with detailed analysis of artefacts and structures. The data material consists of archaeology, place names, topography, geology, written sources and natural sciences.

The long-term perspective that covers the centuries before and after the establishment of towns, and a spatial perspective that covers both the towns and their hinterland, represents a broader approach to the urbanisation processes than is often seen. To enable such an analysis, a theoretical and methodological conceptual apparatus has been established that can accommodate analyses across the periods’ highly varied forms of organisation, society, technological preconditions, and networks (cf. fig. 7).

In the project, space and place are primarily used in a structural sense, where space is perceived as an open form of organisation with the different functions spread over different locations in a wider area. Place is characterised as a clustering of central functions. Thus, space and place are used as a concept to connect the analysis of landscapes and towns.

The project combines elements from the central place and growth pole theories in its theoretical framework. The central place theory’s overall definition of centrality and the functional-based categories of central places make it possible to compare centrality parameters across time. In contrast, the growth pole theory focuses on dynamic development and its causality. The growth pole theory can isolate factors that are decisive for the location and emergence of the central places as well as the driving force in the development of growth and general economic wealth. The project consists of three sub-projects (cf. fig. 10), moving from basic analysis of landscapes to analysis of structure, interaction, and specialisation; and finalising in a broader synthesis.

A few overall conclusions about the landscape, settlement, and logistics of the two areas will be

presented in the following. The Limfjord area is characterised by large marine forelands and several hill islands (fig. 11-13). The landscape had very specific conditions for the location of settlement, roads etc. and the settlements of the research period are almost exclusively located on the hill islands. The Limfjord was probably a vital transit route for trade and an important stop for the Viking-Age fleet.

The landscape conditions of the Odense Fjord area are quite different (fig. 14-16), as the land is flat and dominated by excellent agrarian land. A few exceptions are elevated areas to the north-east of Odense at the possible lookouts, Munkebo Bakke and Fyns Hoved. Several natural harbours with the Kertinge Nor/Kerteminde Fjord-system as the most dominant also characterises the area. Research by Mogens Bo Henriksen has shown that the Odense River leading to the town of Odense was not navigable for larger ships. Instead, Kertinge Nor/Kerteminde Fjord might have served as the harbour of Odense in the Viking Age. Not oriented toward the water, Odense had a marked position in relation to the land traffic routes. Especially the east-west route across Funen was important for the town's location. At Odense, this route crossed a natural crossing over the Odense River. The flat and fertile land of north-eastern Funen was heavily settled in the research period. The metal-rich sites are often located close to possible natural harbours, but more importantly, also close to the land routes.

Conclusion

In conclusion, Aalborg must be defined as a coastal town, and the most dominant growth factors in the area are trade and specialised crafts. Aalborg is orientated outwards, and the royal power is an important factor, at least from AD 900 with the town ditch and the parcelled-out market area. Aalborg has a short time depth as central place, which might be evident from how the primary vill of Aalborg is "cut out" of older vills.

On the other hand, Odense must be defined as an inland town based on religious, administrative, and military functions. Its location as dominant of the land routes in the region supports this regional focus. Odense has a longer time depth as a central place than Aalborg, which is evident from the sacred place, Odin's Vi, which probably has its roots in the late Iron Age. This might also be seen in the

map with the primary vills where Odense does not seem to have been "cut out" of other vills. The urbanisation of Odense thus has a basis in bottom-up and internal processes. From the late 10th-century, the royal power played an essential role in the town's development.

Questions

How did you decide on the subdivision of time periods in this project (cf. fig. 17) ?

In the research, some quite big changes in society are detected around AD 600 compared to the preceding centuries. We interpret this as the starting point for the development of urban structures. Around AD 1100, the towns are fully developed. In this way, the project covers the centuries leading up to the urbanization process and the centuries after the development of the towns.

Further reading

Runge, M., M.R. Beck, M.M. Bjerregaard & T.B. Sarauw (eds.) 2021: *From Central Space to Urban Place. Urbanisation processes in Viking Age and Medieval Odense and Aalborg, Denmark*. University Press of Southern Denmark.

Past, present, and future approaches to research in the earliest urbanisation

Søren M. Sindbæk (UrbNet, Aarhus University)

Abstract:

The idea of urbanisation was born in social science in the early 20th century, stirred by the rapid growth of American and European industrial cities from the 1870s onwards. The classic formulations by theorists such as Simmel, Durkheim, Weber, or Wirth were constructed to address industrial society, and its equally captivating and disturbing social consequences. Interest in the historical roots of urbanism surged after World War I, when western thinkers searched for new visions of modernity to offer as alternatives to (scattered) empires, and to bolshevism. Historians and pre-historians like Pirenne, Childe, or Sjoberg constructed visions of pre-industrial cities in the shadow of a fragile present, and with an aim to guide visions of the future. Their main evidential reference points were written sources on classical and medieval European cities. Since the 1920s their statements have been used to frame archaeological explorations of pre-modern societies and agglomerations worldwide. While the empirical results of this research have trans-

formed our contemporary knowledge of past urbanism beyond recognition, a scholarly reverence for the founding fathers has made researchers reluctant to recognise the inadequacy of the obsolete early conjectures. Since the 1990s, scholars have begun to question the reality of pre-industrial urbanism as a consistent social phenomenon and to acknowledge that patterns of settlement, economy, and political institutions have combined in a spectacularly varied range of configurations in the past. In the wake of this realisation, urban theory has been used to challenge perceptions of many societies that were previously deemed non-urban (e.g., Neolithic Ukraine, early Iron Age Central Europe, Late Iron Age Scandinavia, pre-contact Polynesia, pre-Columbian Mississippian culture). Meanwhile, a new theory is being proposed issuing from the independent aspects previously subsumed under the general category of urbanism: settlement systems, political evolution, and networks.

Past, present and future approaches to research in the earliest urbanisation

Søren M. Sindbæk,
Aarhus University



Figure 1 Title.

Urbanisation in Denmark - in modern times

- Stubbekøbing, Ringkøbing and Lemvig in Resens Atlas, 1677
- Church, school, market, ship landing, perhaps hospital or town hall
- Villages had manors, churches, crafts
- Very small, very simple, very rural
- Medieval towns were often smaller

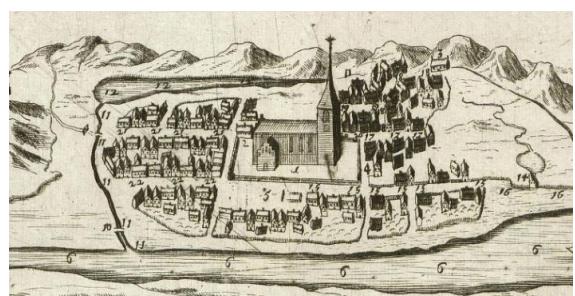
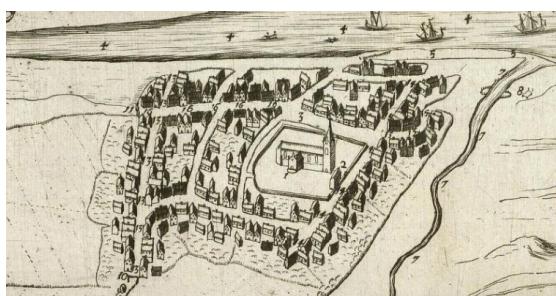


Figure 2 The representation of three urban places in the early modern perception. The small numbers highlight what were considered important landmarks of the towns.

The Industrial City

- Between 1870 and 1900 American and European cities grew beyond recognition.
- Industrialism and metropoli changed human societies profoundly.
- Cities epitomised economic and cultural progress
- Meanwhile, they threatened poverty, and the erosion of sociality



Chicago c. 1850 vs. 1937

Figure 3 The industrial urbanisation sparked the interest in urbanism as a sociological phenomenon.

Urbanisation, sociology, and social history

- Urbanisation inspired the growth of the discipline of sociology
- Simmel, Tönnies, Durkheim etc. analysed the new urban mass society
- European collapse in World War I sparked revisionism
- American reformers introduced urban ethnography: The Chicago School
- European liberals sought a new historical vision: Weber and Pirenne, the Annales school
- Criticism of urbanism - or capitalism?

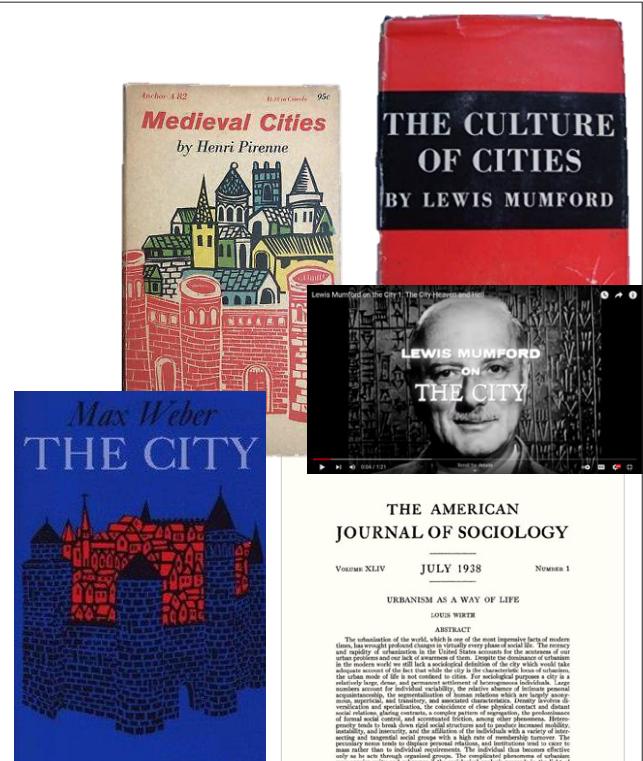


Figure 4 Most urban studies in the early 20th century were concerned with the consequences of contemporary urbanism and the breakdown of society after World War I.

The 'Pre-industrial City' - reverse engineering urbanism in history

- V.G. Childe's 1950: Urban revolution
- Ennen's 1953: the middle class, and bundle criteria
- Sjoberg 1960: A universal model
- Adams 1966: Urban evolution and states

Alternative views

- Jacobs 1969: individuals, accidental "spillovers" and diversification
- Weatley 1971: Ancient urbanism as radically different culture

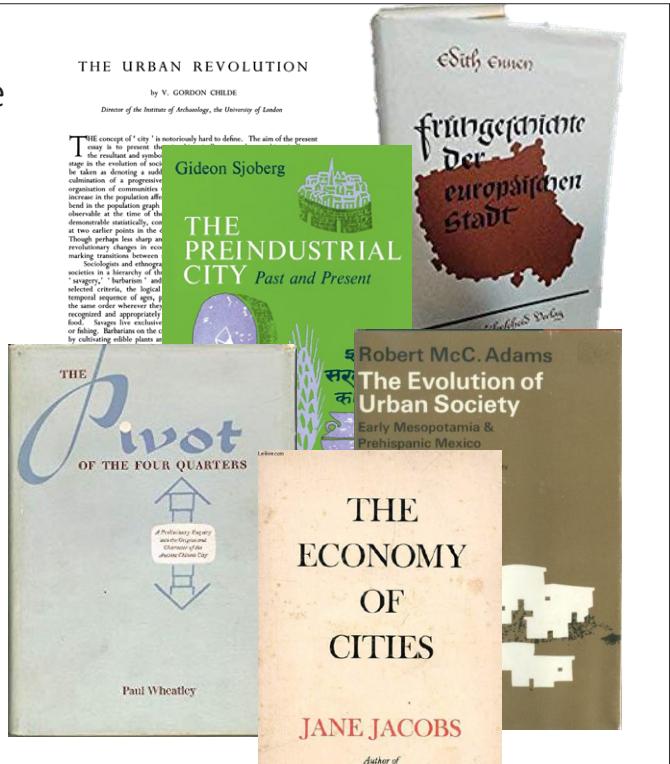


Figure 5 The next generation of scholars were reflecting on the work of the pioneering scholars, that had turned into classics. Most were occupied by the unity between city and state. Only a few criticised previous models and argued for alternative views.

Post-industrial critique

- beyond the state-city-market model
- Early cities do not coincide with states
- Urban evolution is a punctuated and non-linear process
- Research has neglected urban traits as anomalies in contexts where they were not expected



Figure 6 Around the year 2000 the city-state model is criticised, and works were based on the idea that cities can exist without states.

Separating a centaur

- The idea of 'cities' as a meaningful universal category for the ancient world is challenged.
- Call for a study of the constituent parts of the equation, and for different constellations between them.

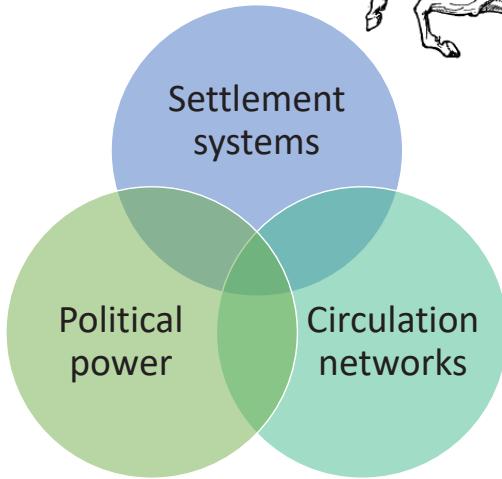


Figure 7 The city as the mythical centaur composed of constituent parts. These parts need to be separated and studied in different constellations and separately.

Settlement systems: Limits of growth

- Roland Fletcher's "Interaction-Communication Matrix"
- Trajectories and transitions
- Low-density Urbanism

Fletcher, R. (2020). Urban Labels and Settlement Trajectories. *Journal of Urban Archaeology*, 1, 31-48.

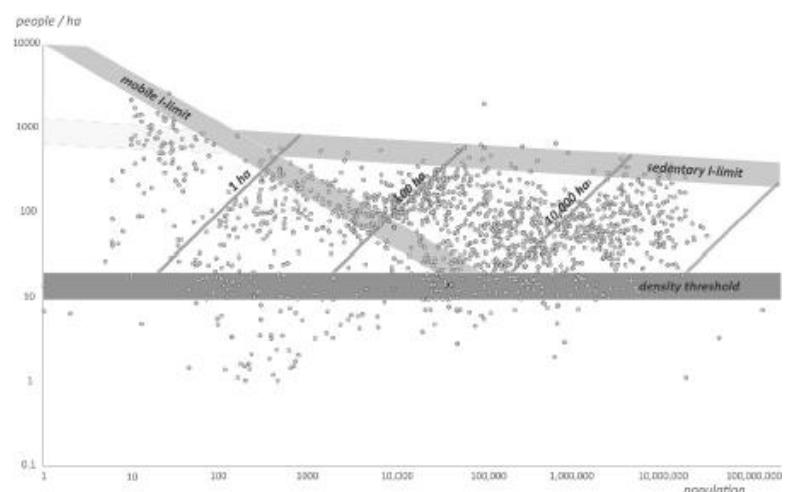


Figure 8 An example of how to study the constituent parts of urbanism.

Demographics, interactions and urban functions

- Justin Jennings and Timothy Earle: Cooperation
- Ben Jervis: Assemblages
- Axel Christophersen: Performance
- Michael E. Smith: Energised crowding – the social effects of large numbers of interactions

'By decoupling urbanization from state formation, we can better understand the interactions that created the world's first cities.'

Jennings & Earle 2016

Figure 9 Recent research on urbanism has focused on the social relations and interactions in the urban environment.

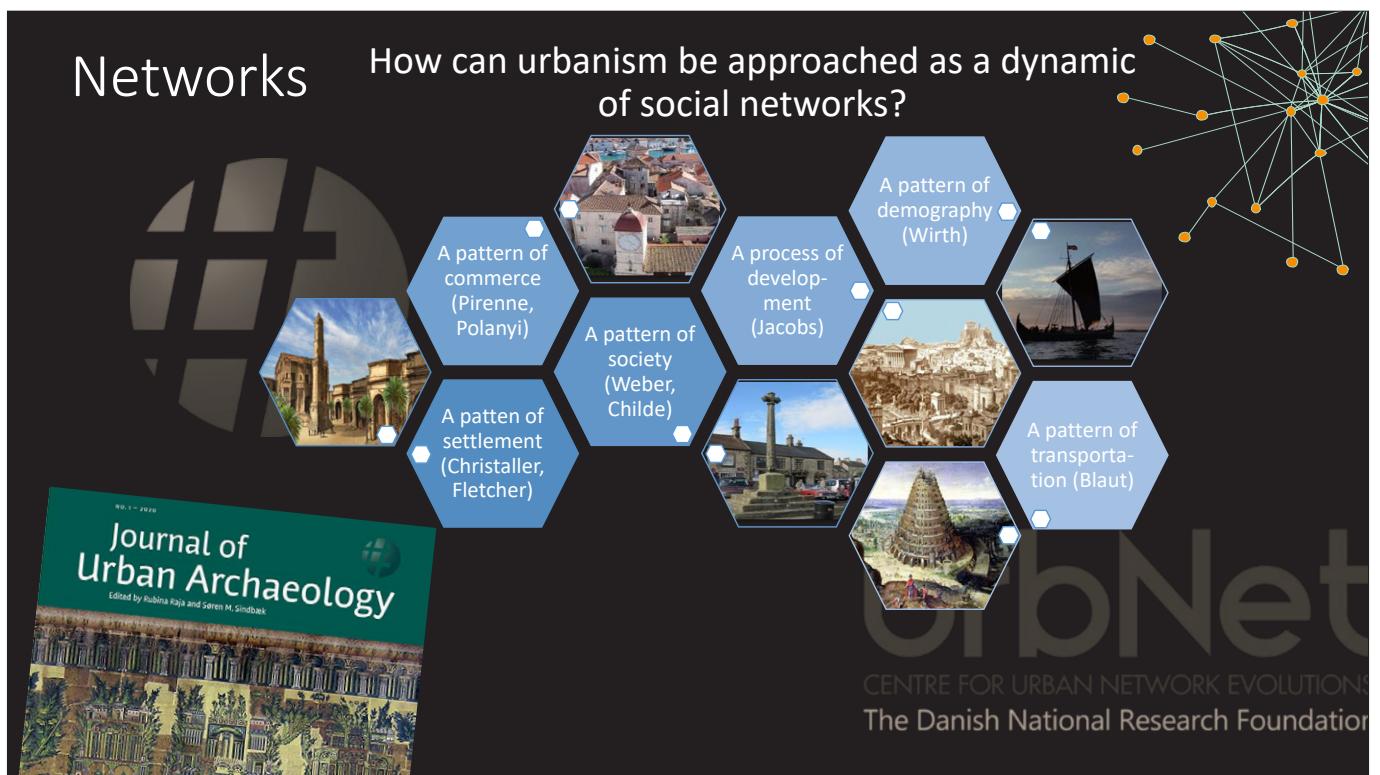


Figure 10 At Centre for Urban Network Evolutions (UrbNet), urbanism is studied as a network dynamics.

Anomalocivitas: learning from 'odd' urban sites and societies

- Zooming in on the mismatches between 'large', 'dense' and 'heterogeneous' settlements.
- Low-density, low-heterogeneity and low-size urbanism

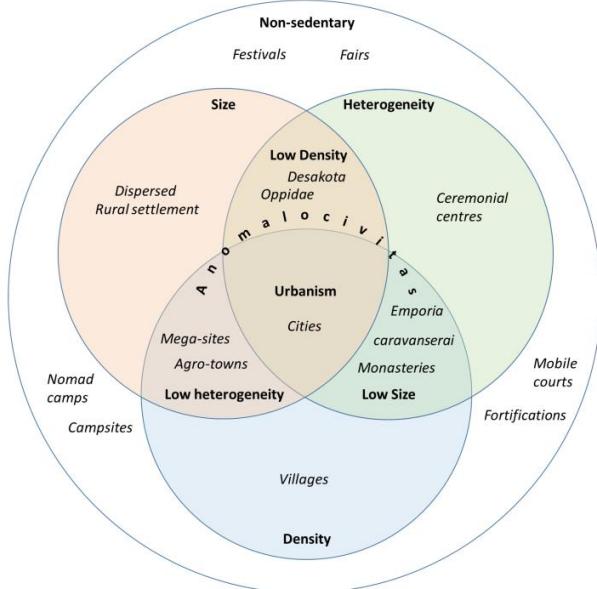


Figure 11 In the figure to the right Louis Wirth's urban criteria are spread out.

"Weak ties" and urbanism

- Mark Granovetter's problem: the spread of information in social networks: "Strong ties" (close, clustered, long-term social relations) social vs. "weak ties" (distant, random, occasional social relations) (Granovetter 1973)
- Urbanism: the principal matrix of 'weak tie' connectivity?
- **An urban centre is a settlement, which act as a hub of weak ties in a social network**

Sindbæk, S.M. 2022: *Anomalocivitas, Weak ties and strange attractors. A framework for the archaeology urban origins*. Journal of Urban Archaeology 5.

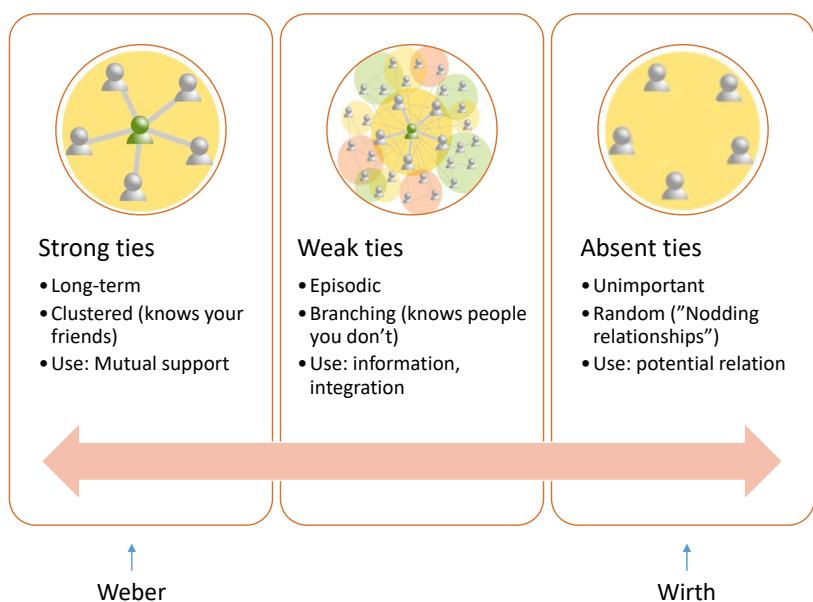
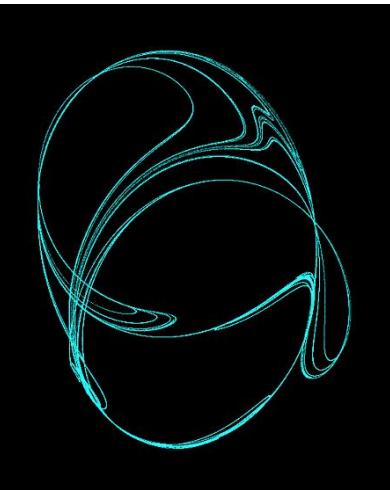


Figure 12 This and the next slide were only mentioned briefly in the presentation but touches upon a framework for the archaeology of urban origins presented in a forthcoming article in Urban Archaeology.

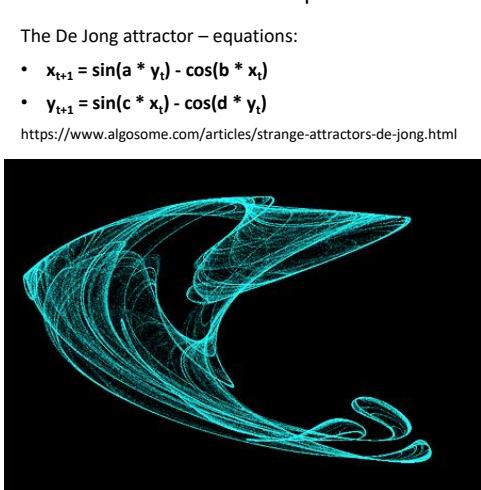
Strange attractors

An attractor is a set of numerical values toward which a dynamic system tends to evolve, for a wide variety of starting conditions of the system. System values that get close enough to the attractor values remain close even if slightly disturbed. An attractor is called **strange** if it has a fractal structure.

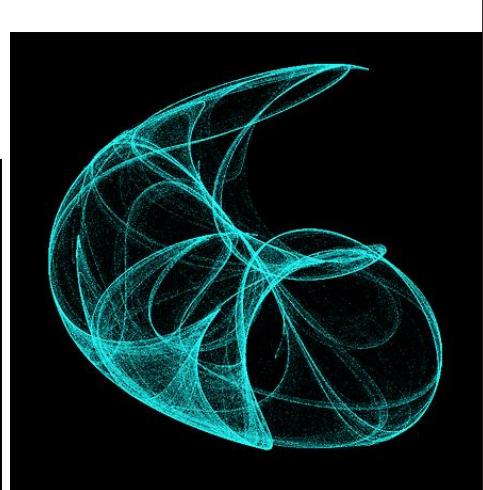
A dynamic system with a chaotic attractor is locally unstable yet globally stable: once some sequences have entered the attractor, nearby points diverge from one another but never depart from the attractor.



$a = -2.24, b = 0.43, c = -0.65, d = -2.43$



$a = 2.01, b = -2.53, c = 1.61, d = -0.33$



$a = -2, b = -2, c = -1.2, d = 2$

Figure 13 This and the next figure were only mentioned briefly in the presentation but touches upon a framework for the archaeology of urban origins presented in a forthcoming article in Urban Archaeology.

Urban 'attractors'

Chaotic attractors vs. determinism

- Convergent developments from different points of departure through 'sticky' patterns
- Easy way in – hard way out
- Entangled dynamics

Hubs of weak ties as a cultural attractor

Urbanism: an emergent historical dynamic, converging upon – but not fully determined by – a set of cultural practices and routines.



Figure 14 This figure was not mentioned in the presentation but touches upon a framework for the archaeology of urban origins presented in a forthcoming article in Journal of Urban Archaeology.

Summary

Introduction

This paper introduces past, present, and future approaches to research in the earliest urbanisation as the title says. However, it is a complex subject to encompass in a short presentation, and therefore the aim is to bring up interesting points in the context of the present seminar.

Presentation

Early modern perception of urban places in Denmark is seen in maps or drawings. The highlighted features of some of these towns are churches, schools, town halls, and harbours. The cities are places with a differentiated economy and are densely built. However, they are tiny places. Villages from the same period are sometimes equally differentiated, a nearby manor house may have an administrative function, and various crafts are performed in the village. Even on self-sufficiency, there might not be a big difference between the town and the village. The most significant difference is that the towns were chartered, which meant that they were legally different, and trade was a crucial activity in the towns. Why do we single out the towns today when studying urbanisation? Were they special? It is essential to understand why and when we started singling out towns as an object of research.

The urban became an object of research in the early 20th century because of contemporary developments. In the late 19th-century, European and American cities developed to a degree that had not been seen before due to industrialisation. The cities changed beyond recognition, and societies went through a change of similar size, and cities became a symbol of this new society.

Some of the negative consequences of urbanisation were a rise in crime and alienation, which were topics of great concern to scholars and gave rise to sociological studies of contemporary towns as social and physical phenomenon.

In the wake of World War I, many new theories about societies and history came forth. The Chicago School analysed the urban societies as ethnographers would do. One example is L. Wirth's seminal paper "Urbanism as a way of life" from 1938, which presents one of the earliest definitions of towns that scholars often return to – even now. L. Mumford was a reformer within urban studies. He

was a critic of urbanism and wanted to improve urban societies. In Europe, scholars such as W. Christaller were also taking part in urban planning based on his central place theory. Both Christaller and Mumford regarded urbanism and solutions to the challenges of urbanism as top-down mechanisms.

Another movement studied urban societies in the past to try and understand and rebuild European societies after the breakdown caused by World War I. An extremely influential work was M. Weber's "The City" from 1921. He identified what was distinctly European and unifying of the European countries. He looked back in history to find common qualities and a common starting point, which, in his view, was a democratic, bourgeois society. Thus, Weber's studies probably say more about the 20th century than they do about the past. H. Pirenne wrote up his knowledge of the European cities aimed for the American sociologists and historians in the book "Medieval Cities". Scholars of the early 20th century were united in their criticism and investigation of urbanism, but they were probably even more concerned with and critiquing contemporary industrialism and capitalism.

The next generation of scholars reflected on the work of the pioneering scholars that had turned into classics. In 1950, G.V. Childe published his view on the emergence of urbanism as a parallel to the industrial revolution and looked for evidence in the ancient cities such as Mayan cities and Ur. In his view, a change of society was rooted in introducing a specific set of technologies, such as writing. German scholar Edith Ennen laid the ground for the so-called bundle criteria that scholars have elaborated on since. Common to all scholars of this period is the unity between cities and states. The original town expressed order, states, and government. Although this was the general view, there were a few alternative views by scholars such as J. Jacobs and P. Wheatley. Wheatley argues that towns are mental constructs, and Jacobs criticises contemporary urban planning as disregarding the essence of cities. Cities are not just practical machines, and she emphasises the importance of people brought together in surprising ways that make new things happen and develop, both culturally and economically.

In archaeology, it was mainly scholars like Childe that was followed. It was not until around the year 2000 that a strong critique arose against

the idea that cities and states are equated. If cities can exist without states, new potentials for studying past societies emerge. Consequently, new research on societies that have been neglected as urban has developed, for instance, African towns, Iron Age settlements, and Neolithic societies. By breaking down such boundaries, it is possible to see the past in a new light.

Researchers are working on separating the “mythical centaur” – the city constructed by various parts (Figure 7) put together in a specific way. These parts need to be studied in various constellations and separately, which challenges the idea of cities as a meaningful and universal category.

One example of this separation is R. Fletcher's studies on Low-Density Urbanism illustrated by his Interaction-Communication Matrix (Figure 8). The matrix shows the relationship between total population and population density pr. hectare. There is a general boundary that settlements do not cross because they become too crowded and complex (Sedentary I-limit) - one exception is mobile units with less than 100 people pr. unit (mobile I-limit). Less than ten people pr. hectare will not sustain a coherent settlement, creating a lower settlement limit. Fletcher points out a series of transitions. One is the transition to sedentism around 1 ha, and another is the transition to urbanism around 100 ha (with more than ten people pr. hectare). Fletcher argues that these transitions are challenging and require specific changes in infrastructure, communication, supplies, etc., to function and survive. The lines then seem to represent Childe's urban revolution and the industrial revolution. Currently, society is moving into the next transition. What is interesting are the settlements beneath the density threshold. These are large settlements with a low population density, a concept currently being explored around the world. This includes Iron Age central places.

The second example of new research, that looks at the component parts of urbanism separate from states, is research concerned with the social relations (Figure 9). A final example is urbanism as network dynamics studied in all aspects at the Centre of Urban Network Evolutions (UrbNet). Some of these studies and other related studies are being published in the new Journal of Urban Archaeology. At a recent UrbNet conference, the focus was on settlements that do not confine to a standard urban definition (“Anomalocivitas”).

These odd urban sites and societies hold the potential to teach us more about urbanism in the past.

Conclusion

The idea that cities are a meaningful universal category for the ancient world is challenged. By separating the city from states and studying the constituent parts of urbanism, it is possible to make discoveries and come to new understandings related to past societies.

Questions

How will future researchers look at the present methods – especially those applied in Denmark?

Neo-liberalism is dominating the research. Past urbanism is seen in a positive light and driven by bottom-up forces. Future research will probably focus on resilience and fragility in urban societies—a more pessimistic view on urbanism.

There will probably be attention to uncertainty – that, we do not know what the future will bring.

People have been looking for general models. There has not been much room for differentiation. H. Mathiesen suggested a classification of different town categories. We should probably do more of that. The incentives for urbanism have been very different. We need to understand what “job” the town did in different settings/geographical locations. If the initiator is a bishop, the outcome is something other than a trading town.

Regarding Fletcher's model – what do the points represent?

The data points are individual settlements where data on size and population has been collected. It is composite data. You could try the same for early modern Denmark based on the 1801 census and see what pattern emerged.

How do we apply Fletcher's idea to our prehistoric settlements when there are problems with generating precise data?

It is interesting to see how far Fletcher's model will bring us. Maybe it will just confirm what we already see. It began as a method for studying modern and contemporary settlements. However, it is an exciting way to look at a problem in a new way – a vehicle to try to think differently about things. Our model for urbanism needs new perspectives, and it would be interesting to see the Iron Age through Fletcher's lens. What we have

constructed as urbanism in the present may not help us understand the past. Maybe the interesting things are happening at the fringes of what is expected/average.

Gudme may be a candidate for the concept of low-density urbanism.

How do we overcome choosing methods that reflect our present to an extent where it affects the research outcome?

This is a difficult task, but it is essential to try and think out of the box.

What new methods are there in the future?

A general discussion on whether new methods such as non-destructive analysis are the way forward or a new perspective is needed. There has been a consistent change in what archaeologists look for over the years. Today we focus much more on activities than on monuments which changes the methods we apply. We aim at high-resolution chronologies to study the pace of change, not just the fact of change.

It is argued that we do not need new methods but to collect large-scale data from town excavations. In Roskilde (Denmark), all available data is collected. Micromorphology may be applied to establish changes in the town.

In the current (Central Space to Urban Place) project, the cities as followers of areas with central functions are studied. Maybe a change in perspective where the areas with central functions that did not develop into town/city structures are studied would hold potential for new insights.

Further reading

Fletcher, R. 2020: Urban Labels and Settlement Trajectories. *Journal of Urban Archaeology* 1, pp. 31-48.

Jennings, J. 2016: Killing Civilization: *A Reassessment of Early Urbanism and Its Consequences*. Alburquerque.

Raja, R., & S.M. Sindbæk 2020. Urban Networks and High-Definition Narratives: Rethinking the Archaeology of Urbanism. *Journal of Urban Archaeology* 2, pp. 173-186.

Sindbæk, S.M. 2022: Anomalocivitas, Weak ties and strange attractors. A framework for the archaeology urban origins. *Journal of Urban Archaeology* 5.

Woolf, G. 2020: *The Life and Death of Ancient Cities: A Natural History*. New York.

Field methods in Danish urban archaeology: innovations, developments, and movements

Johan Sandvang Larsen (Aarhus University)

Abstract:

Urban archaeology has changed along multiple axes during the last century, including;

1. which overall goals are set for campaigns,
2. which questions are asked of the material, and
3. how it is performed in the field.

Each of these is intertwined, as they impact and interact also with the wider field of archaeology and the society surrounding them.

The changes in the first axis could, for example, be the shifts in focus; from the focus on roads in cities in the late 1800s to the focus on standing buildings in the 1910s, the desire to properly excavate in towns emerging in the 1950s, the focus on excavating small plots in the 1980s, and the inclusion of the natural sciences in the 2000s.

The changes in the second axis could, for example, be the more societally driven questions asked; from the desire to connect the present with 'ancientness' in the late 1800s to the curiosity of where the cities were and how they functioned in the 1900s, and the current desire of understanding,

not just the towns themselves, but also the people in them.

The changes in the third axis could, for example, be how strata have been approached; from simply removing soil in the late 1800s, to excavating in arbitrary layers in the 1950s, to the emergence of stratigraphic excavation practices in the 1980s, and to the 'single context' approach, which emerged in the 2000s.

This talk will primarily focus on the latter axis, including how and why these field practices have changed over time. It is necessary to understand these factors that prompt and/or hinder the developments in field methods, e.g., the financial and legal frameworks surrounding the praxis. Once accounted for, the scope can then be broadened to the innovations, developments, and movements occurring in Danish urban archaeology.

In the following some of the illustrations from the original presentation are omitted. They are planned to be published in the future. For further information please contact the author (see below).

FIELD METHODS IN DANISH URBAN ARCHAEOLOGY INNOVATIONS, DEVELOPMENTS, AND MOVEMENTS

PHD JOHAN SANDVANG LARSEN



1. DECEMBER 2021 | JOHAN SANDVANG LARSEN, PHD
RESEARCH ASSISTANT

Figure 1 Title.



Figure 2 The title and cover of the PhD dissertation.

STRUCTURE

- ▶ Background
- ▶ Innovations
 - From experiment to standard
- ▶ Developments
 - Promoting factors
 - Limiting factors
 - Specific developments
- ▶ Movement of methods
 - How one learns
- ▶ Concluding remarks



Figure 3 The structure of the presentation. Photo: S.M. Sindbæk.

STUDIED MATERIAL

- ▶ Publications
 - Methods
 - Results
- ▶ Excavation reports
 - Mixing types
 - 176 reports

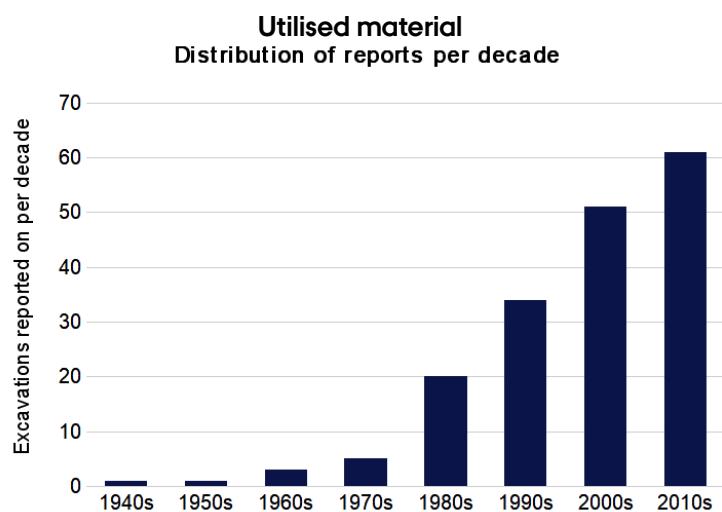


Figure 4 The background material of the dissertation, including 176 excavation reports and a number of publications on various excavations, both rescue and research archaeology. Graph: J.S. Larsen 2021.

INNOVATIONS

- ▶ New tool is introduced
- ▶ Experiments occur
- ▶ Wider use
- ▶ Standard

Figure 5 An illustration of how innovations become standard.

WHAT IS DEVELOPMENT

- ▶ Development
 - › Temporal progression
 - › Not necessarily quality progression
 - › Tracing use

Figure 6 Development happens over time but is not necessarily a quality progression.

PROMOTING FACTORS

- ▶ Legal framework
 - › Protection of the past
- ▶ Budgetary increases
 - › Allows for experimenting with the practices that one knows of, but aren't able to try
- ▶ Open-mindedness
 - › Accepting the input of others
- ▶ Diverse workforce
 - › Age, education, experience, specialisation
- ▶ Manuals
 - › Arkæologisk Felthåndbog
 - › National Strategies



Figure 7 Developments are enabled through various promoting factors. Photo: J.S. Larsen.

LIMITING FACTORS

- ▶ Time
 - › Planning
 - › Excavating
- ▶ Resources
 - › Funding
 - › Specialisations among the workforce
 - › Specialists
- ▶ Environmental conditions
 - › Subsoil
 - › Weather

Figure 8 Developments may be inhibited by limiting factors.

DEVELOPMENTS

1960s

Objects in focus

1970s

Experimenting with new dating practices

1990s

Applying for ^{14}C AMS dates

Figure 9 Developments in dating.

DEVELOPMENTS

1960s

Dividing the tasks

1970s

Increased experiments

1990s

NatMus visiting with equipment

2000s

GPS signal unlocked

2010s

A number of experiments

Figure 10 Developments in graphic recording/field drawing.

DEVELOPMENTS

1960s

Early sampling of soil new interest in soil => new law

1980s

Increased focus on what the soil contains, i.e. sieving and metal detecting

Figure 11 Developments in soil treatment as an example.

DEVELOPMENTS

1950s

Arbitrary layers

1980s

Stratigraphic excavations

2000s

'Single context' practices

Figure 12 Development in perception of stratigraphy as an example.

MOVEMENTS

- ▶ *Knowing* methods
 - > Literature
 - > Lectures
 - > Seeing
- ▶ *Using* methods
 - > First 'proper' excavation
 - > Master/apprentice
 - > Chains of practice
 - > Goes both ways

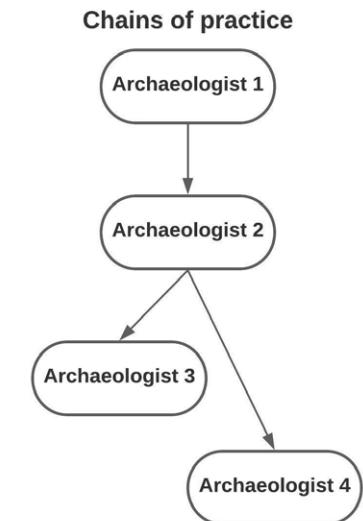


Figure 13 Knowing of a method does not lead to the adoption of new archaeological practices. However, learning methods in a master/apprentice relationship allows for the adoption of new practices. Illustration: J.S. Larsen 2021.

CONCLUDING REMARKS

- ▶ Innovation spreads through practice
- ▶ It is possible to map development
- ▶ Factors that promote and limit change
- ▶ Master/apprentice relations are key to understanding movement

Figure 14 Conclusions.

Summary

Introduction

This paper is based on a newly defended PhD dissertation. How do innovations occur, what promotes or hinders development? This is presented with a specific focus on selected developments that have been mapped out in the dissertation. Finally, it is addressed how methods move around and become an integrated part of archaeological practice.

Presentation

The empirical background for the investigation was a series of excavation reports and publications, both from rescue archaeology and research excavations. The publications were not only on methods but also on results from excavations to study what the consequences were of choosing specific excavation methods. Another goal was to identify when and how specific methods were introduced in Danish archaeology.

Innovation is defined as new tools (both literally and figuratively speaking) that are used experimentally until they obtain wider use and become standard. The experimental stage is the crucial stage because the success of the experiment is defined for the continued use and spread of the tool. This is not a linear development but seems to be random.

Development can be mapped as phylogenetic trees where each new branch represents a new method or tool introduced. One practice seems to derive from another. They do not necessarily illustrate a qualitative progression.

Essential factors promote development. Some of the most important factors identified are the legal and economic framework changes. Moreover, it takes open-mindedness from the parties involved, and a diversified workforce seems to impact the development significantly. People from different backgrounds and ages bring a wide range of experience and knowledge to the table. Manuals such as field handbooks and national strategies from within the archaeological community seem to have more impact than theoretical works on methods.

Among the limiting factors are resources. Time is crucial because experimenting usually takes more time. Also, resources in terms of both workforce and funding are limiting. With a less experienced staff, there is more likely not enough time to conduct experiments.

The concrete development is illustrated by dating practices that develop from resting solely on typology to introducing natural scientific dating methods when funding and legislation make it possible to experiment with these new technologies in archaeology. Another example is graphic recording, where there are a series of developments. In the 1960s, graphic recording moved from notebooks to separate pieces of paper – possibly because of more extensive excavations with several archaeologists. In the 1960s, experiments with a pantograph were conducted to make the drawings more objective, probably due to the influence of processual archaeology. In the 1990s, the total station was introduced. It was costly equipment that demanded specialist skills to operate, which was also the case when GPS technology became available in the 2000s. As these tools and technologies become cheaper, they also become standard in archaeology.

Soil sampling is another example of a practice that develops from the 1960s when the first sampling takes place, and water sieving becomes increasingly popular in the 1980s due to excavations such as the marketplace in Ribe, where small finds are abundant. These would not have been retrieved if the soil had not been sieved.

The attitude towards stratigraphy is a final example of a development taking place. Early on, the soil is removed to reveal structures. In the 1950s, excavations were conducted as arbitrary layers, and in the 1980s, stratigraphic excavation methods were introduced. In the 2000s, single context recording was introduced promoted by research excavations investigating the method's potential.

How do we go from knowing about a method to actually doing it? It is easy to read or hear about new methods, but it is not until you experience or use the method that they become part of your archaeological practices. The first proper excavation that an archaeologist participates in defines future practices. This could be described as a master/apprentice relationship.

Conclusion

Innovations do not spread through knowledge but through practice, which is vital to understanding development and how innovation move, as it allows for practitioners to invest time in new colleagues, ensuring that their preferred methods are continued by the next generation. Knowing the

promoting and limiting factors makes it possible to create favourable situations for introducing new technologies and tools, where experimentation can take place.

Questions

Is there a stronger focus on the scientific part in the reports now than before? Meaning that they are more useful concerning research?

The standardization of reports means that it is clearer what people have done and what their methods were.

Does the way we conduct archaeology provide the material and the results we need? Do we have the proper focus?

Increased standardization of practice, as seen in England now, is dangerous because it limits experiments with new technology. New research feeds back into methods, which are essential processes. The approach mentioned in Croix' presentation on Ribe is how you get closer to people in the past.

Further reading

Larsen, J.S. 2021: *The Ghosts of Archaeologies Past* (Unpubl. PhD-dissertation). Aarhus. (Please contact jslarsen@cas.au.dk for more info).

Lucas, G. 2017: The paradigm concept in archaeology. *World Archaeology* 49:2, pp. 260-270.

Madsen, L.S. 2015: The professionalization of medieval archaeology in Denmark – from the enthusiastic amateur to a medieval archaeologist at every museum. In: M.S. Kristiansen & E. Roesdahl (eds.): *Medieval Archaeology in Scandinavia and Beyond*. Aarhus, pp. 127-139.

Part 2:

*Organisation and networks
of the emporia*

Were the emporia "islands" in an agrarian hinterland?

Morten Søvsø (Museum of Southwest Jutland)

Abstract:

Emporia and their role within early medieval economic systems were one of the main questions in Richard Hodges' famous *Dark Age Economics* (1982, 2nd ed. 1989). In his view emporia were controlled by early kings in the North Sea region and their primary purpose was to supply the elite echelons in society with luxury goods. This took place in a widespread but rather closed network of merchants travelling between emporia without much contact with the surrounding agrarian society.

The early medieval or *Dark Age* economy was discussed within the formalist-substantivist debate. The formalist/neoclassical position argues that the *market* and supply and demand mechanisms have universal validity across time and space. The substantivist position argues that economic transactions in pre-modern societies are embedded in social relations following principles

like gift-giving, reciprocity and redistribution. Hodges was much in favour of the substantivist position when aiming to analyse the role of emporia in the trade and exchange systems of the 8th and 9th centuries.

Since the 1980s the archaeological material from Denmark has increased exponentially. Objects that used to be called luxury items are found with metal detectors everywhere we look for it. Settlements are much more widespread than anyone had previously thought. What happens if we test Hodges' ideas against the data set of today?

Using Ribe and surroundings as a case the paper will examine the connections between the emporium and its hinterland, the flow of raw materials, and finished products to and from the market site, and the economic system behind the transactions.

Were the emporia isolated islands in an agrarian hinterland? Or "It's the economy, stupid"

Spaces, places, and the earliest urbanisation of South Scandinavia, Lindholm Høje Museum, Nov. 30th 2021

Morten Søvsø, Head of Archaeology & Collections, Museum of Southwest Jutland



Figure 1 Title. Illustration after an original in The National Library of Denmark.



Figure 2 Emporia in north-western Europe.

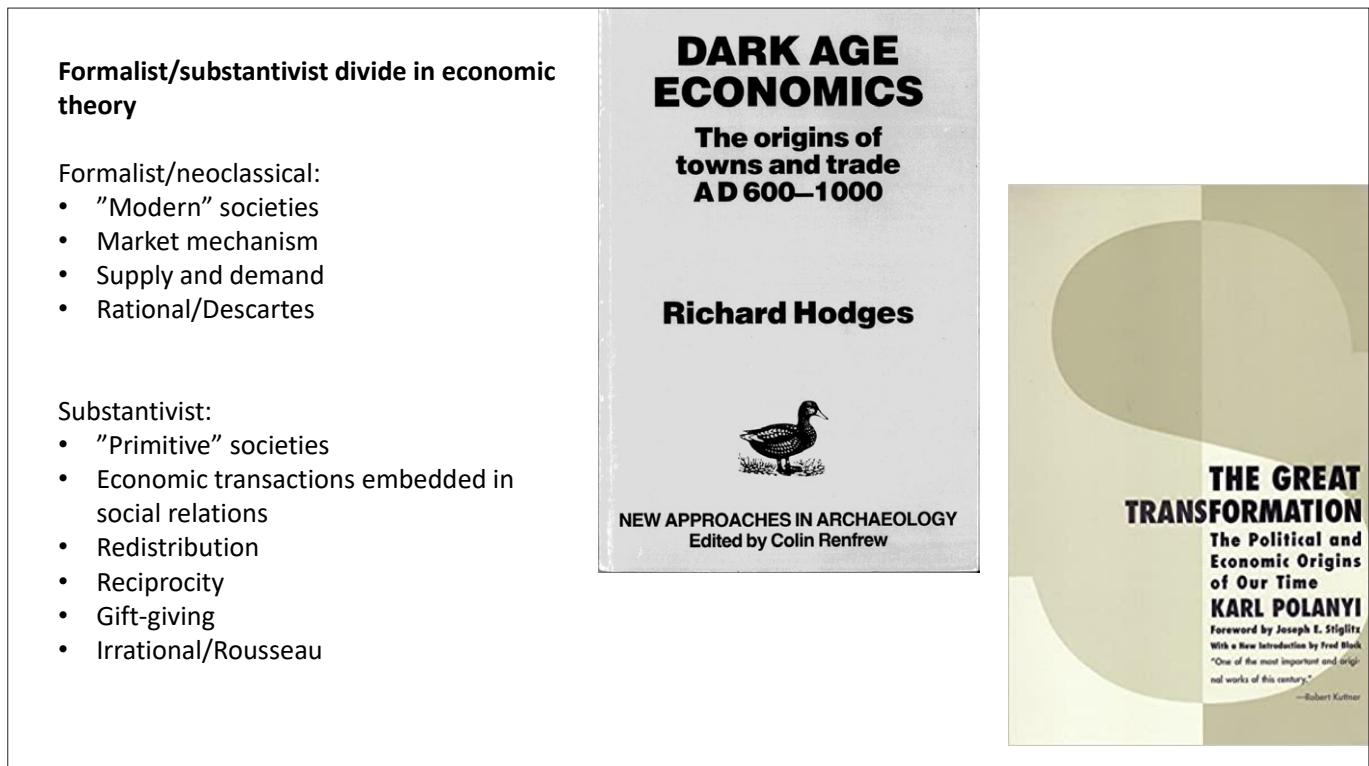


Figure 3 Key elements of formalist and substantivist economic theories.



Figure 4 Supply and demand are also influenced by social discourse, exemplified here by the almost identical pool side sandals selling at very different prices.

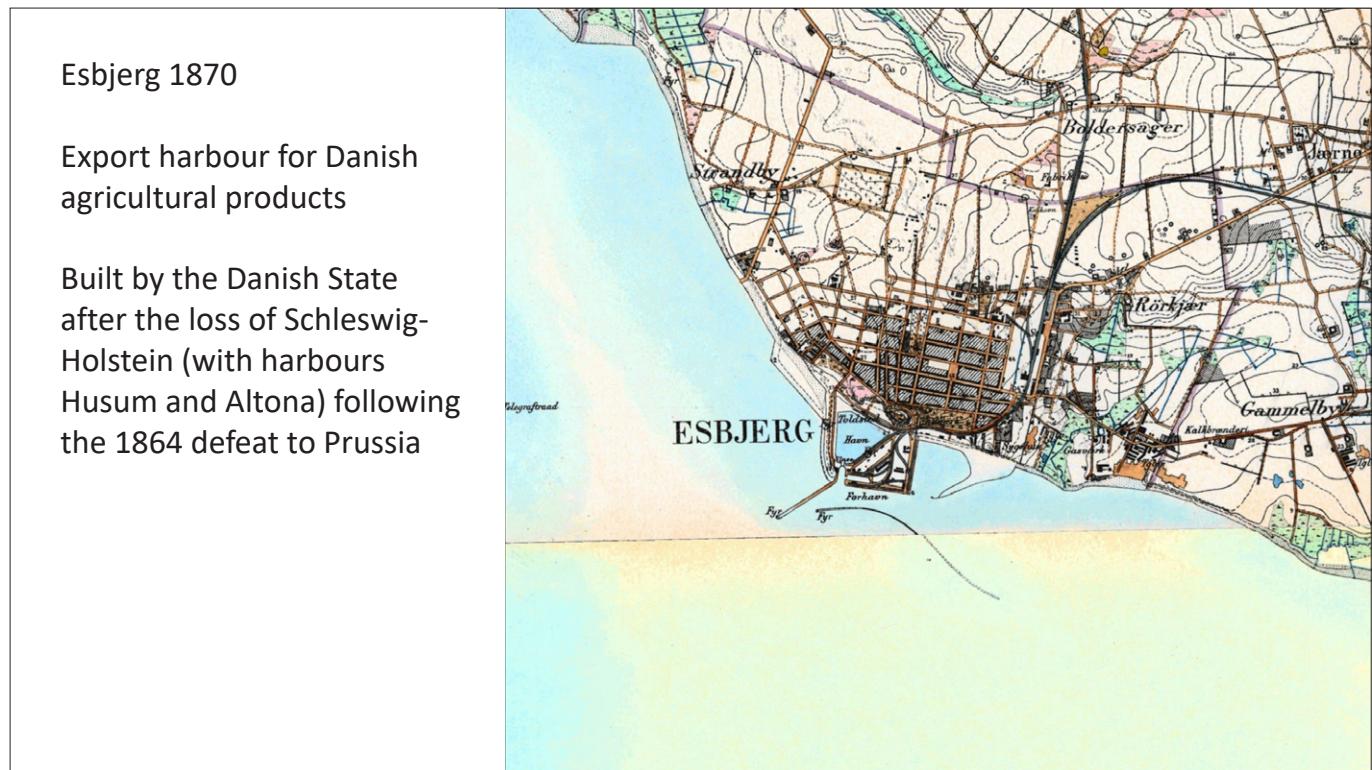


Figure 5 In 1866, the Danish government decided to construct a new export harbour on the west coast of Jutland.



Figure 6 Ribe experienced a heyday in 1500-1650 AD primarily based on oxen trade, which also meant that the town had much contact with the agrarian hinterland. Illustration after an original in The National Library of Denmark.



Figure 7 Imported pottery from medieval Ribe.



Figure 8 Many churches in south-western Jutland are built of imported tufa stone quarried at Andernach near Cologne.

Ribe's hinterland in the 12th-13th century?

Red: Ribe diocese

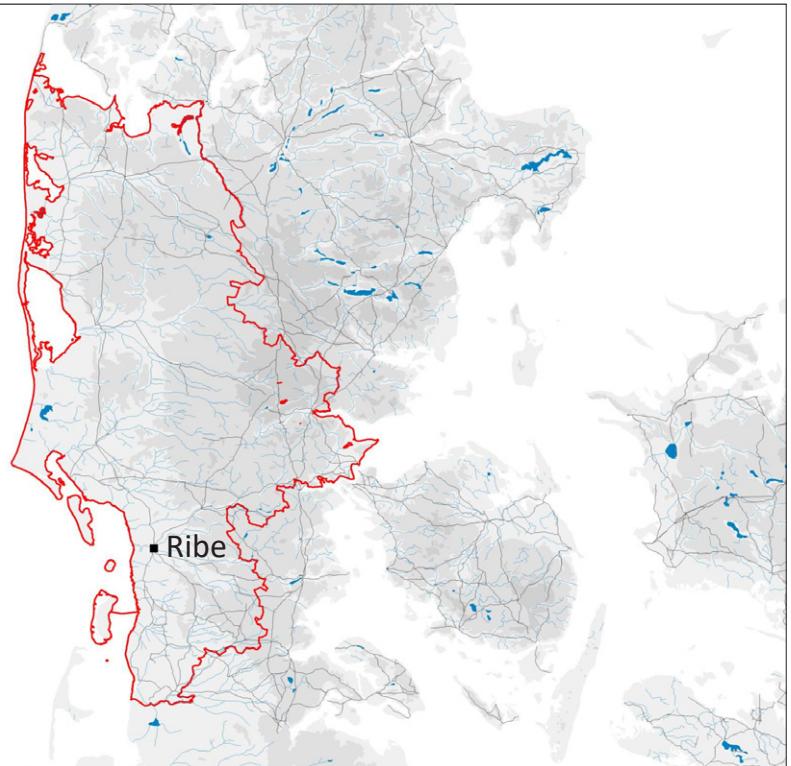


Figure 9 Ribe's possible hinterland in the 12th and 13th centuries. This figure was not mentioned in the presentation.

The Hærvej and the Drivvej

- Ribe connects a navigable North Sea harbour with the road networks in Jutland

Matthiessen 1930, edited by the author

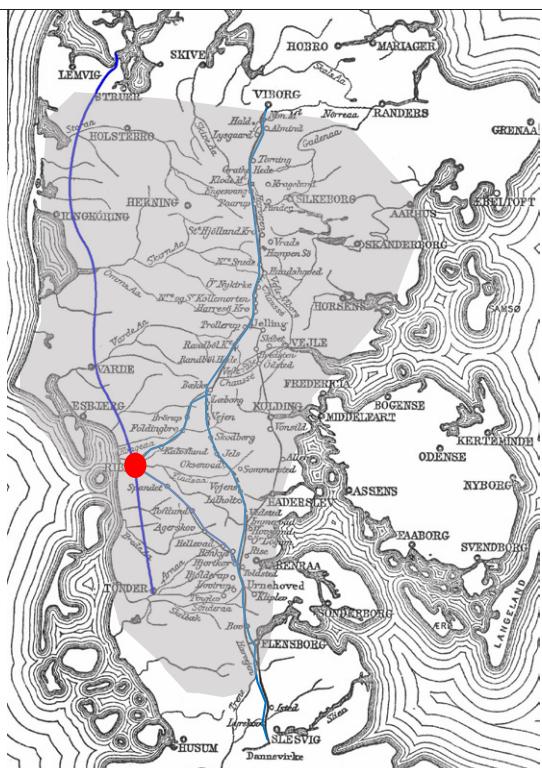


Figure 10 Ribe's position connects seaborne and land traffic.

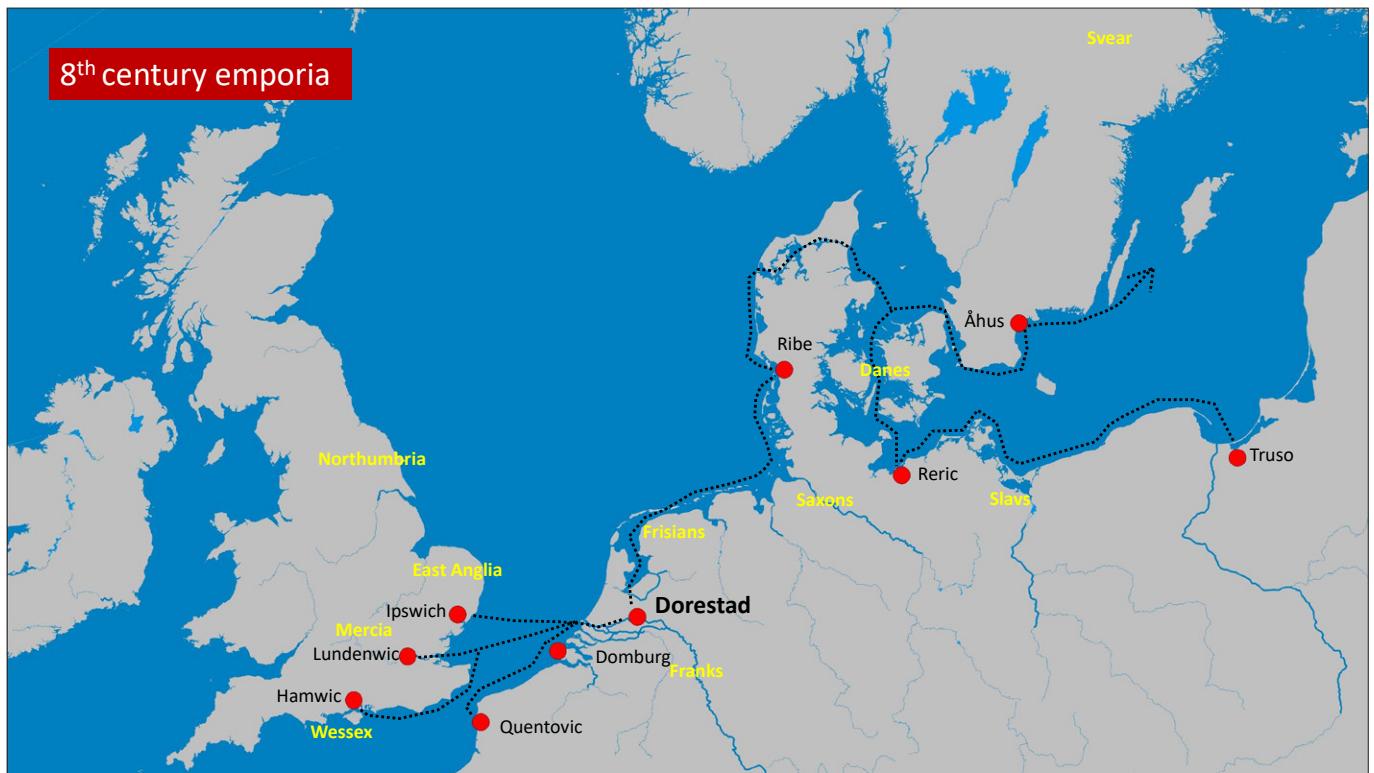


Figure 11 Emporia in 8th century north-western Europe were few and far between.

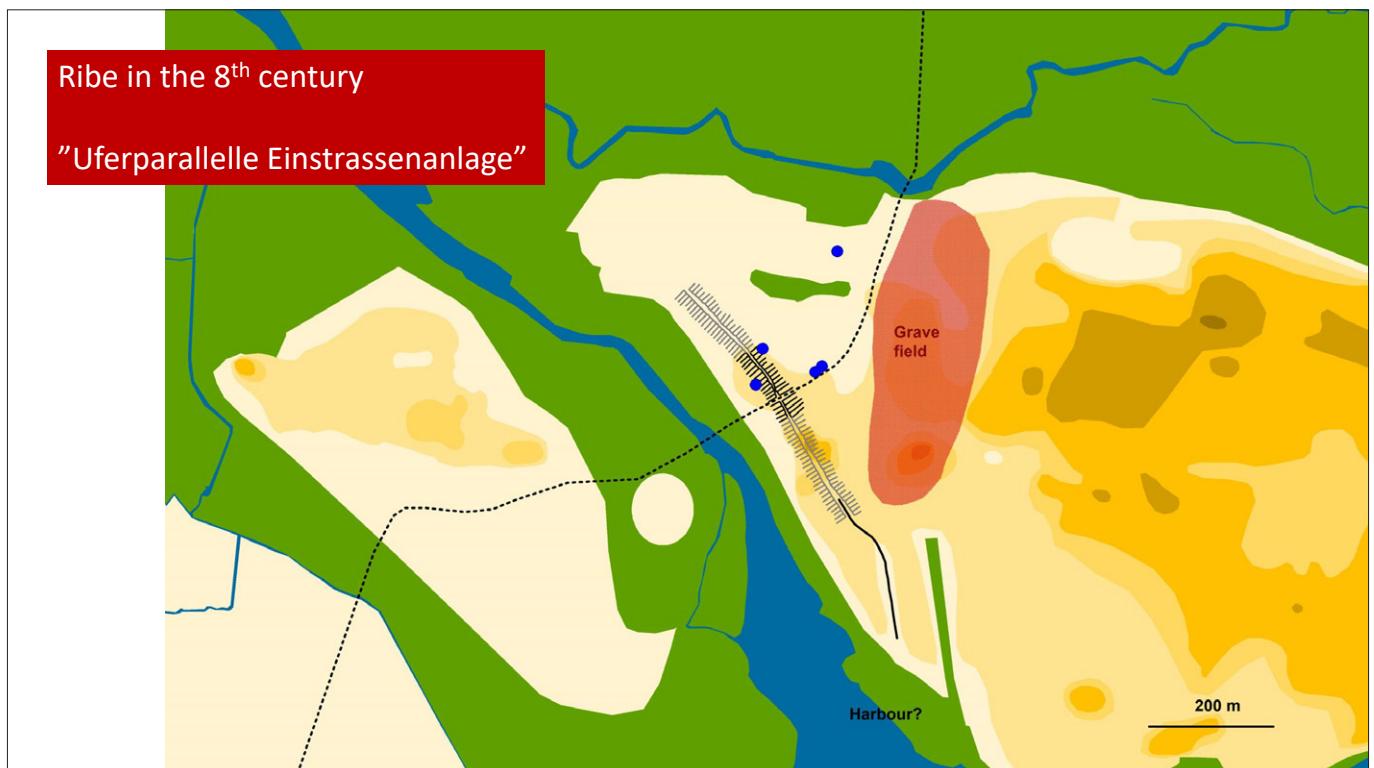


Figure 12 Ribe in the 8th century was a one-street town along the riverbank with adjacent plots on each site and a nearby pagan burial ground.

Best urban stratigraphy of the 8th century in Northern Europa

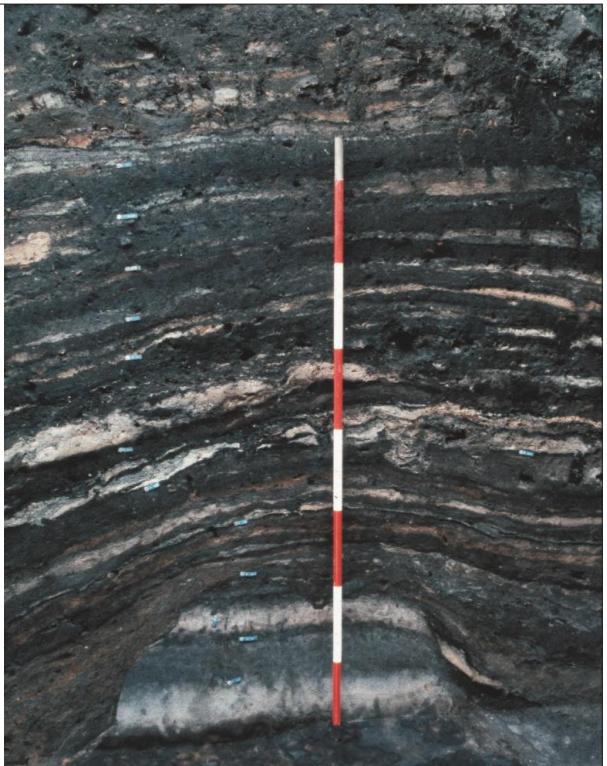


Figure 13 Examples of imports found in Ribe.



Figure 14 Ribe seems to have had a controlled economy based on the presence of monopoly coins c. 725-820 AD.

Coin economy in Ribe

From c. 725 managed currency/monopoly coin

Wodan/monster sceatta

Used in trade transactions on the plots

ROYAL POWER



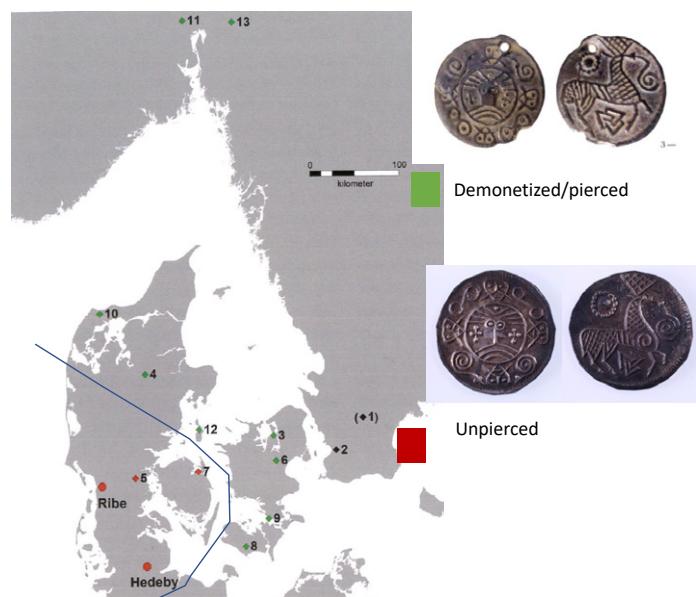
Sceatta finds concentrated on the plots



Figure 15 The monopoly implied by the Wodan-Monster sceatta suggests a royal power in charge.



Basalt quern stone finds. Feveile 2010



KG 4 coins, c. 825-50. Moesgaard 2018

Figure 16 Left: the distribution of basalt quern stones cluster around Ribe. Right: Distribution of KG 4 coins show a division in demonetised and unpierced finds. Please note that the Damhus hoard found in 2018 is not included in this map.

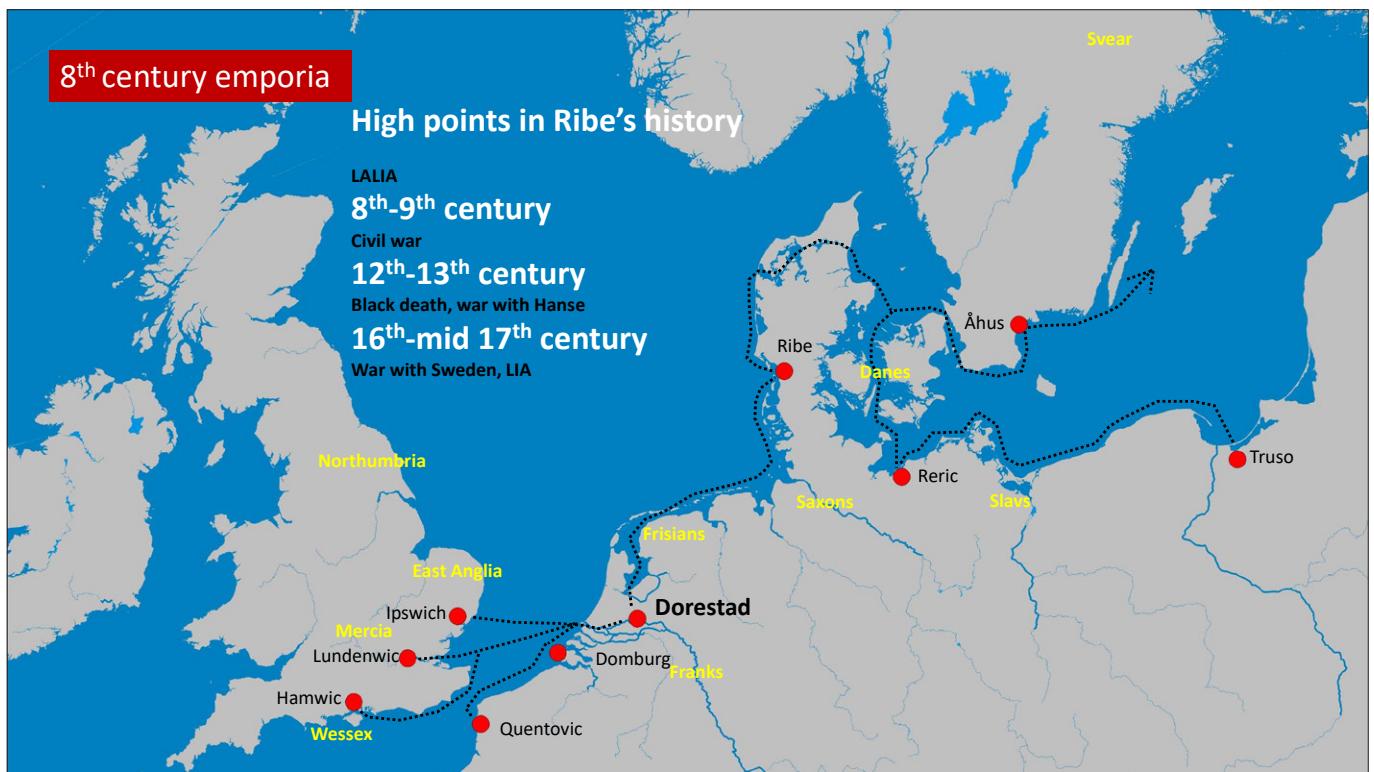


Figure 17 The highlights in Ribe's economic history were interrupted by declines caused by war, pandemics etc.

Summary

Introduction

Using Ribe as an example, this presentation deals with emporia and their contact with the immediate hinterland and non-urban surroundings. Which kind of contact did the emporia have with these areas? Did they have contact with the hinterland like the medieval towns, or were they “islands” that did not interact? The presentation will focus on the flow of raw materials to and from the Ribe markets site and the economic system behind these transactions in a *longue durée* perspective.

Presentation

Richard Hodges (“Dark Age Economics – the origins of towns and trade AD 600-1000”, published 1982) was much in favour of the substantivist position in his analyses of the role of the North Sea emporia in the trade and exchange systems of the 8th-9th centuries. Hodges argues that early kings controlled these emporia and the main aim of these sites was to supply the elite with luxury goods. Thus, the emporia did not have much contact with the surrounding agrarian society. The formalist versus substantivist discussion still plays a salient role in current research of medieval trade.

The archaeological material from Denmark has increased exponentially since the release of Hodges book in the 1980s. Objects that were once considered luxury goods are now found everywhere through metal detecting, and settlements are much more widespread than we previously imagined. So, what happens if we apply Hodges’ theories to the archaeological dataset of today?

Theoretical background

In the formalist or neoclassical approach, economy is seen as utility maximisation under the condition of scarcity. In this very western and rational understanding of human agency to the economy, the market mechanisms (supply and demand) shape the conditions for trade and economy. Born out of the Age of Enlightenment in the 18th century, this school of economics was dominant until the middle or the 20th century.

In the wake of WW1 and the breakdown of the idea of the Western World and with the anthropological studies of non-western societies, a new

theoretical approach emerged. The non-western societies seemed to contradict the formalist economic model, as the exchange of goods in these societies often followed the lines of gift-giving and the principle of reciprocity. Also, the principle of redistribution was observed in which goods and services were delivered to a central leader who would then redistribute them among his subjects. In some societies, there was no market in the traditional western understanding of the word. In 1944 the substantivist economic historian Karl Polanyi in his book “The Great Transformation”, sees the Industrial Revolution as the starting point of the disasters of Europe culminating in WW2. In his view, the modern market economies emerged with the Industrial Revolution and did not exist prior to this or in other societies. He argues that the modern market society is unsustainable because it is fatally destructive to human nature and the environment. He states that prior to the Industrial Revolution, the economy in Europe worked along the same lines as in the non-western societies, embedded in social relations like kinship, ethnic and cultural identity, or religion.

In current studies of central places and urbanisation in Southern Scandinavia, the formalist economic theories still play a central role. This approach, which is dominant in cultural-historical archaeology, emphasises a sameness between the societies of the past and today, whereas the substantivist view of processual archaeology emphasises the underlying otherness between the past and the present. Both approaches have met much criticism that will not be unfolded here, but in conclusion, it can be said that no economy can be understood in either completely formalist or completely substantivist terms.

Was Viking-Age Ribe a formalist or substantivist society?

To answer this question, we will start at a more recent time and then look further back into the past. In 1870 a thriving new export harbour was established at Esbjerg north of Ribe. A large town grew around the new harbour, and the mechanism can easily be explained within the framework of the formalist economic school.

Moving further back in time to 1500-1650 AD, Ribe experienced a heyday driven primarily by the oxen trade. From written sources from the mer-

chants of that time, many details of the society can be reconstructed. The merchants operated with credits and interest rates, and the prices were indeed controlled by market mechanisms. This was also a market economy with substantial contact to the hinterland where the goods were produced.

Looking back to the 12th and 13th centuries, Ribe experienced another heyday. From this period, fewer written sources are preserved (although note the town charter of 1269), meaning that research will have to rely more on archaeological findings, which are plentifully preserved in the rich stratigraphy of Ribe. Imported pottery from Germany, the Low Countries and northern France reveal the origin of foreign merchants in Ribe. Tufa stones were imported in large quantities from the Cologne area to the Ribe area as building materials for churches.

Foreign merchants came to Ribe for horses, wool, and hides. Thus, supply and demand mechanisms explain why they chose Ribe over other places. Until the 13th century, Ribe and Schleswig seem to have been Jutland's two primary trading towns, both drawing on a vast agrarian hinterland. I.e., Ribe's trade followed the formalist economic model and was aimed at the North Sea market.

In the 8th century, the emporia were few and far between, allowing each of them a vast hinterland. Research into these settlements must primarily focus on the preserved archaeological record. Ribe, at that point, was a one-street town laid out along the riverbank with small plots along both sides of the street with an attached pagan burial ground. The town was a centre for specialised crafts such as glass-bead making, copper-alloy casting, comb-making, and iron smithing, all of which demanded raw materials – often imports. Wine barrels and quern stones from the Rhine area are other examples of imports.

Ribe appears to be the first Scandinavian example of a controlled economy based on a monopoly coin – the so-called Wodan-Monster sceatta c. 725-820 AD.

To investigate the size of Ribe's hinterland in the 8th century, one can explore the spread of various finds groups, for instance, basalt quern stones finds which cluster around Ribe (fig. 16). The Wodan-Monster coins are almost exclusively found in Ribe, and not in the rest of Denmark. However, later Ribe coins such as the KG 4 types

are found in other locations in south-western Denmark. Outside of south-western Denmark, KG 4 coins are found as jewellery, i.e., pierced and demonetised, meaning that they were not considered a currency here (fig. 16).

Conclusion

When applying a longue durée perspective on Ribe and its hinterland connections, it seems that identical trading mechanism guided the connections since the 8th century. Times of economic growth coincide clearly with highlights in Ribe's history. After society's crisis around AD 536, a slow rebound started, of which 8th century Ribe was a part. The civil wars and Viking attacks in the North Sea area meant a decline in Ribe's importance in trade in the late 8th into the 9th century. In the 12-13th centuries, agriculture flourished and drew foreign merchants to Ribe. This was again followed by a decline caused by The Black Death and wars with the Hanse. The heyday of c. 1500-1650 AD was followed by another decline linked to the wars with the Swedes. Subsequently, Esbjerg's growth in the 19th century coincided with a general economic growth in society. It can be concluded that formalist economic mechanisms such as supply and demand actually do explain much of Ribe's history.

Furthermore, the town seems to have been firmly rooted in its agrarian hinterland as it channelled agricultural goods from the peninsula of Jutland to the markets of north-western Europe. There does not seem to be a radical shift from substantialism to formalism in the economy of Ribe. Basic market mechanisms seem to be in effect already in the 8th century.

Questions

How large is a hinterland? Within a day's reach or something else?

In late medieval times, Danish towns were spread evenly with 30 km between them, each with their hinterland.

The emporia had vaster hinterlands. At that time, most of Jutland could have been Ribe's hinterland

What would happen if, for instance, Carolingian castles were added to the map of emporia (fig. 17)?

The map only shows trading sites, and many other elements existed in society. Also, the map is probably not complete. There must have been a

trading site between Ribe and Dorestad. Furthermore, there were other trading sites than the emporia, and the emporia were only part of the trade networks.

Is there a potential in looking at the material from the hinterland. E.g., provenancing animal bones?

There is not a method available yet. Hinterland is defined differently from each function in the town. Another challenge is that there is almost nothing to compare with from the rural area.

Further reading

Søvsø, M. 2020: *Ribe 700-1050: From Emporium to Civitas in Southern Scandinavia*. Jysk Arkæologisk Selskabs skrifter 113. Højbjerg.

Søvsø, M. 2018: *Emporia, sceattas and kingship in 8th C. “Denmark”*. In: J. Hansen & M. Bruus: The Fortified Viking Age. 36th Interdisciplinary Viking Symposium in Odense, May 17th, 2017, pp. 75-86.

People, time, and place in Viking-Age Ribe

Sarah Croix (UrbNet, Aarhus University)

Abstract:

In likeness to other Viking-Age emporia, Ribe was bound to multiple networks with different spatial configurations – local, regional, and long-distance, as argued in previous research and by other speakers at this conference. Zooming in on the internal mechanics of a community like Ribe's, Søren M. Sindbæk, Michael Neiss and myself have previously suggested another form of network linked to craft production – a *réseau opératoire*. In a *réseau opératoire*, various craft specialists' skills, resources, and semi-finished products could be pulled together to manufacture complex goods. Following this line of thought, one could propose to define an urban household (or any household) as a form of *réseau opératoire*. More than the sum of individuals sharing the same living and working spaces, its members each played a specific part in running the shared social and economic endeavour that a household is.

Additionally, the question of temporality has long played a significant role in the definition of Viking-Age and medieval urbanism. The non-town, i.e., the seasonally occupied site, has been opposed to the permanently settled and occupied site, forming a binary set, which implies that a site can only be one or the other at a given time. This temporal quality has often been looked for in the type of structures identified at the sites and their architectural qualities and cycle, i.e., whether these could be suitable for year-round occupation or adequate only for seasonal occupation.

In 2017 and 2018, the Northern Emporium Project (PI: Søren M. Sindbæk) investigated most parts of one plot and parts of a second one at Ri-

be's Viking-Age emporium. By capturing a settlement unit in its full width and nearly full length, combined with good preservation conditions and an ambitious methodology, the excavation has revealed that a nearly continuous sequence of buildings stood on at least one of the plots over two centuries. Within these buildings, the location of features (ovens, hearths, furnaces) and finds distribution and concentration, together with stratigraphic details suggesting room partitions, allow identifying spaces for various activities (craft production, domestic life) and with this a detailed analysis of the functional use of space. Finding evidence for specific activities taking place in the same or conjoint spaces raises the question of their temporality: did these activities take place routinely, all year round, and more or less continuously, or were they more occasional, seasonal, and prompted by external factors? Did they coincide; for example, did pyrotechnical crafts occur in one room simultaneously as weaving did in another room of the same buildings? When did a house get to be maintained or demolished and rebuilt, and why?

In this paper, I will seek to provide some answers to these questions, using chiefly stratigraphic evidence, and outline their potential consequences for two more general questions about emporia urbanism: the nature of the relationships between the people who formed a community like Ribe's, and the role of temporalities of variable lengths (short-term, middle-term, long-term) in shaping an urban place.



Figure 1 Title.

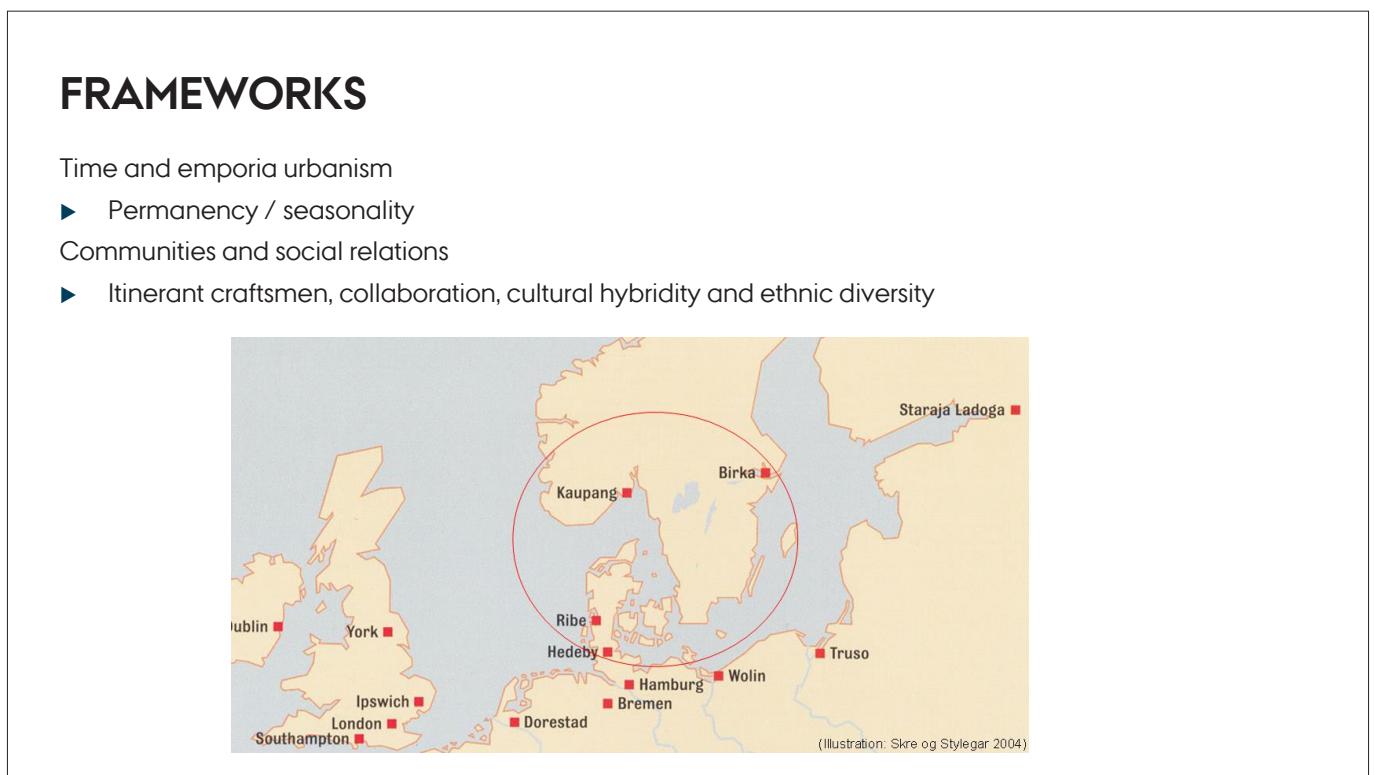


Figure 2 The overall questions and concepts of the presentation. The map shows the emporia of the Viking Age. Illustration after: Skre, D. & Stylegar, F. A. 2004: *Kaupang: the Viking town*.

Northern Emporium

Projects > Northern Emporium: The archaeology of network urbanism in Viking-age Ribe

Northern Emporium: The archaeology of network urbanism in Viking-age Ribe

- › About Northern Emporium
- › Five questions about early Ribe
- › People
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Figure 3 Participants and highlights from the Northern Emporium project.

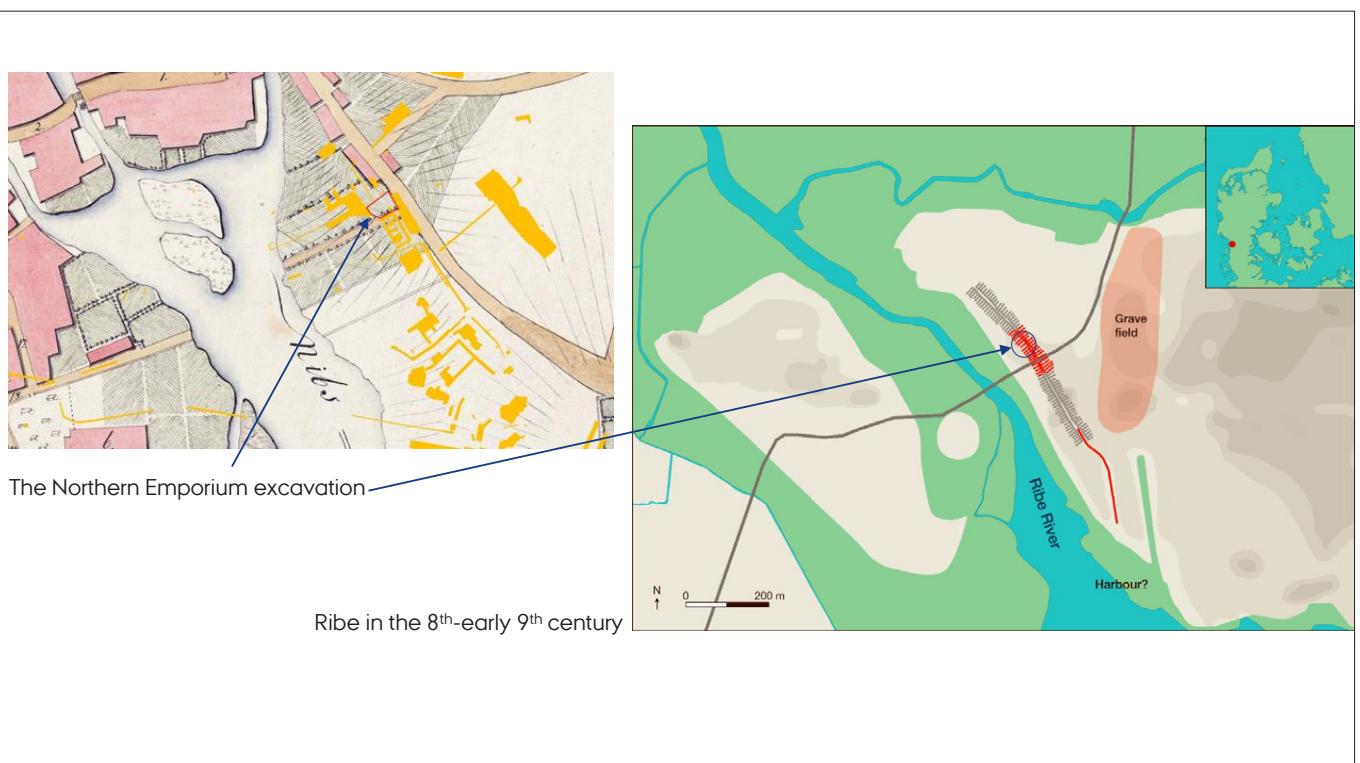


Figure 4 The location of the excavated site. The methodology of the excavation was informed by the previous excavations surrounding the site.



Figure 5 Top left. The excavated area covering one and a half house plots. Top right. In the N part of the site, the sections show approximately 2.5 m stratigraphy and good preservation for organic materials. Bottom. In the Southern part of the site, the stratigraphy was much more oxidized but retained a clear sequence.



Figure 6 3D model of floors associated to houses from the three phases, which were part of the sequence of buildings from the early 8th to the late 9th century. To the far right a Harris matrix of the phases. The red boxes are features grouped into constructions.

| Phase | House iD | Weaving | Baking | Bronze | Glass | Amber | Antler/bone | Leather | Iron | House duration (in years) |
|-------|----------|---------|--------|--------|-------|-------|-------------|---------|------|---------------------------|
| F14 | K27 | | | | | | | | | c. 5-10 |
| F13 | K26 | (X) | | (X) | | | | | | c. 10-20 |
| F12 | K25 | X | | X | | | | | | c. 10-20 |
| | K24 | (X) | | X | | | | | | c. 10-20 |
| F11 | K23 | X | | X | | | | | | c. 20 |
| F10 | K22 | X | X | | | | | | | c. 20-30 |
| | | (?) | X | | | | | | | |
| | | X | | | | | | | | |
| F9 | K21 | (X) | X | | | X | | | | c. 15-20 |
| | | | | (X) | (X) | | | | | |
| | | | | (X) | (X) | | | | | |
| F8 | K20 | (X) | | | (X) | | | | | c. 10 |
| F7 | K19 | | | | (X) | | | | | c. 5-10 |
| | K17 | X | | X | | | | | | c. 5-10 |
| F6 | K16 | | | | | | (X) | | | c. 5-10 |
| | K15 | | | | | X | | | | c. 5-10 |
| F5 | K12 | X | | X | | | | | | 10 - |
| | | (X) | | X | | | | | | |
| F3 | K2 | | | | (X) | | (X) | | X | 10 + |

Figure 7 An overview of the different craft activities in the houses. X indicates that the location of the activities could be established with some certainty, while (X) marks that the activities probably took place inside the house, but the exact place has not been found. The interpretation is based on finds distribution, the characteristics of the floor layers and the features that occurred. House K21 offers a particularly complex case (see F9, HouseID K21).

HOUSE K21

The role of circumstances of abandonment ("Little Pompei")

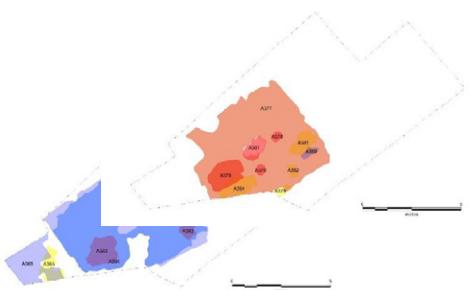


Figure 8 The example of House K21. After a first phase of occupation marked by extensive ash deposit, the floor layers had evidence of comb making, but the main workshop area was not identified.

HOUSE K21

The role of circumstances of abandonment ("Little Pompei")

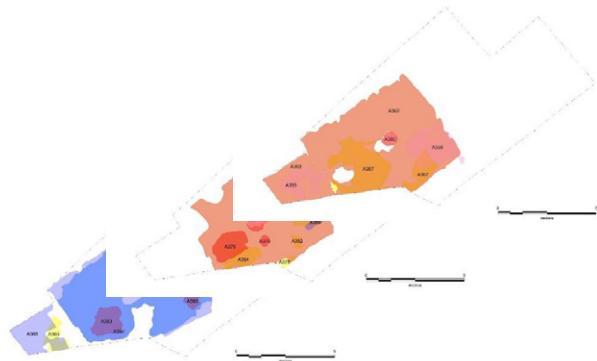


Figure 9 The example of House K21. In its third phase, the house showed evidence of comb making scattered across the floor layers, but as before the main workshop area was not identified.

HOUSE K21

The role of circumstances of abandonment ("Little Pompei")

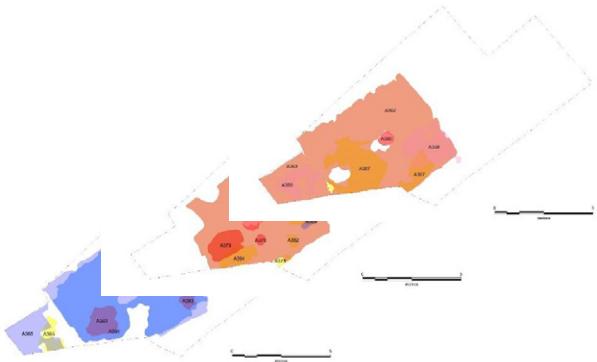


Figure 10 The example of House K21. In its last phase, a clay floor was laid out and a large amount of waste from comb making was preserved in situ, indicating the exact spot for the workshop.

HOUSE K21

The role of circumstances of abandonment ("Little Pompei")

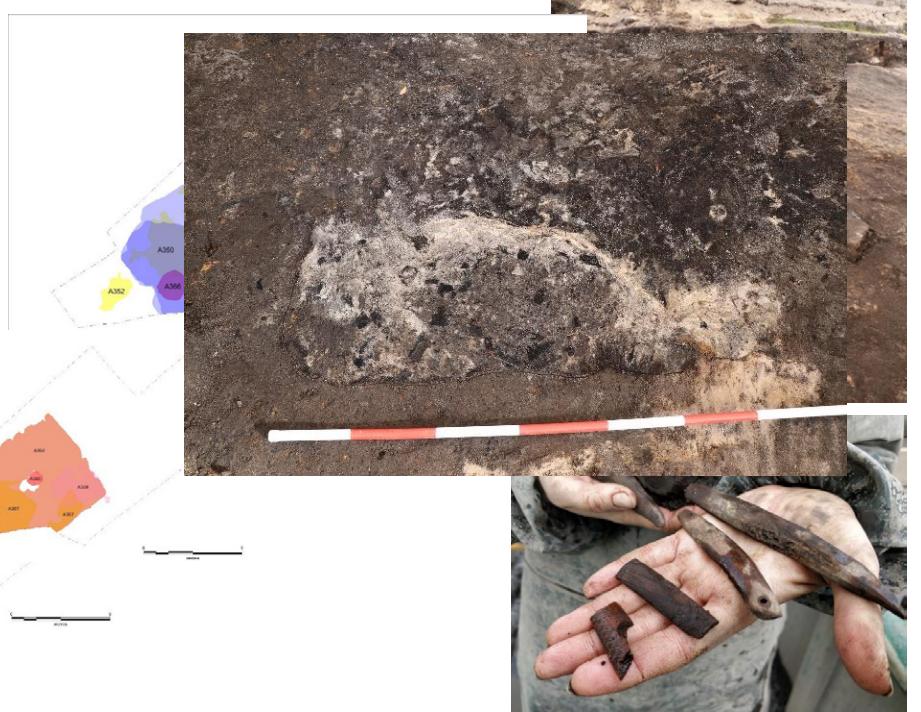


Figure 11 The example of House K21. An extensive ash layer covered the floors, suggesting that the house entirely succumbed in a fire.

NEW QUESTIONS

Domestic life / multiple crafts in the same houses

- Synchronicity of activities?
- Punctual / occasional, or repeated and routinized?
- Possible consequences for understanding social relations among the people who used those houses?

Figure 12 Based on the sequence of houses and the activities in them new questions arise.

APPROACH

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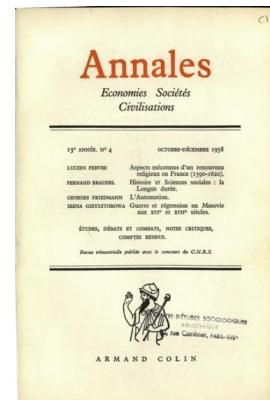
Papers

Place-Temporality and Urban Place-Rhythms in Urban Analysis and Design: An Aesthetic Akin to Music

Filipa Matos Wunderlich

Pages 383-408 | Published online: 01 May 2013

Download citation | <https://doi.org/10.1080/13574809.2013.772882>



Braudel's hierarchy of historical rhythms

► Thinking with soundwaves

Figure 13 To discuss questions related to temporality and rhythm new approaches are required.

THE ELUSIVE EVERYDAY



Continuous formation / accumulation

- A nearly flat soundwave with many small peaks

Ex. Floor maintenance: ash, clay, plant material as bedding (straw, reeves)



Figure 14 The activities of everyday life accumulate in small actions like maintenance and cleaning of house floors.

| Phase | House ID | House duration (in years) |
|-------|----------|---------------------------|
| F14 | K27 | c. 5-10 |
| F13 | K26 | c.10-20 |
| F12 | K25 | c. 10-20 |
| | K24 | c. 10-20 |
| F11 | K23 | c. 20 |
| F10 | K22 | c. 20-30 |
| | | |
| F9 | K21 | c. 15-20 |
| | | |
| F8 | K20 | c. 10 |
| F7 | K19 | c.5-10 |
| | K17 | c.5-10 |
| F6 | K16 | c.5-10 |
| | K15 | c.5-10 |
| F5 | K12 | 10 - |
| F3 | K2 | 10 + |

DURATION OF HOUSES: THE RHYTHMS OF PERMANENCY

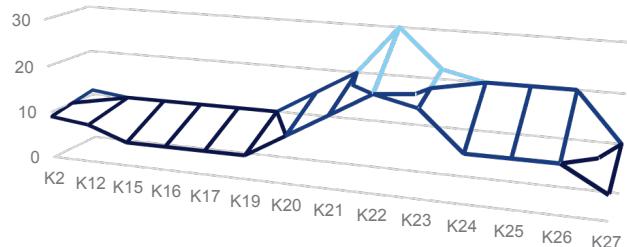


Figure 15 The durations of the house sequences are illustrated in this graph.

EPHEMERAL ARCHITECTURE: THE AGENCY OF BUILDING MATERIALS

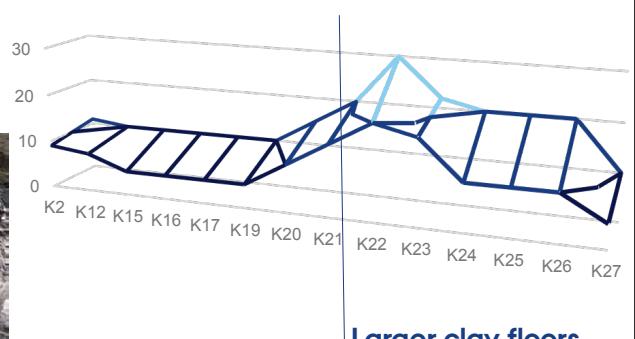


Figure 16 When clay floors are introduced the lifetime of the house becomes longer.

| Phase | House ID | Weaving | Baking | Bronze | Glass | Amber | Antler/bone | Leather | Iron | House duration (in years) |
|-------|----------|---------|--------|--------|-------|-------|-------------|---------|------|---------------------------|
| F14 | K27 | | | | | | | | | c. 5-10 |
| F13 | K26 | (X) | | (X) | | | | | | c.10-20 |
| F12 | K25 | X | | X | | | | | | c. 10-20 |
| | K24 | (X) | | X | | | | | | c. 10-20 |
| F11 | K23 | X | | X | | | | | | c. 20 |
| F10 | K22 | X | X | | | | | | | c. 20-30 |
| | | (?) | X | | | | | | | |
| | | X | | | | | | | | |
| F9 | K21 | (X) | X | | | | X | | | c. 15-20 |
| | | | | | (X) | (X) | | | | |
| | | | | | (X) | (X) | | | | |
| F8 | K20 | X | | | (X) | | | | | c. 10 |
| F7 | K19 | | | | (X) | | | | | c. 5-10 |
| | K17 | X | | X | | | | | | c. 5-10 |
| F6 | K16 | | | | | | (X) | | | c. 5-10 |
| | K15 | | | | | X | | | | c. 5-10 |
| F5 | K12 | X | | X | | | | | | 10 - |
| | | (X) | | X | | | | | | |
| F3 | K2 | | | | (X) | | (X) | | X | 10 + |

EPHEMERAL ARCHITECTURE AND SPECIALIZED ACTIVITIES – HOUSEHOLD SHIFTS?

Figure 17 An overview of the different craft activities in the houses. In the column to the right is the estimated duration of the houses. The chronology is based on radiocarbon dates, chrono-typology, and dendrochronological dates.



Figure 18 Photo of house K12 with coloured overlays showing room division. Reconstructed plan showing the layout of house K12, with the main glass-bead workshop with a series of furnaces indicated by the grey area. The type of house is well-known from other Viking-Age emporia, such as Dublin and Kaupang.

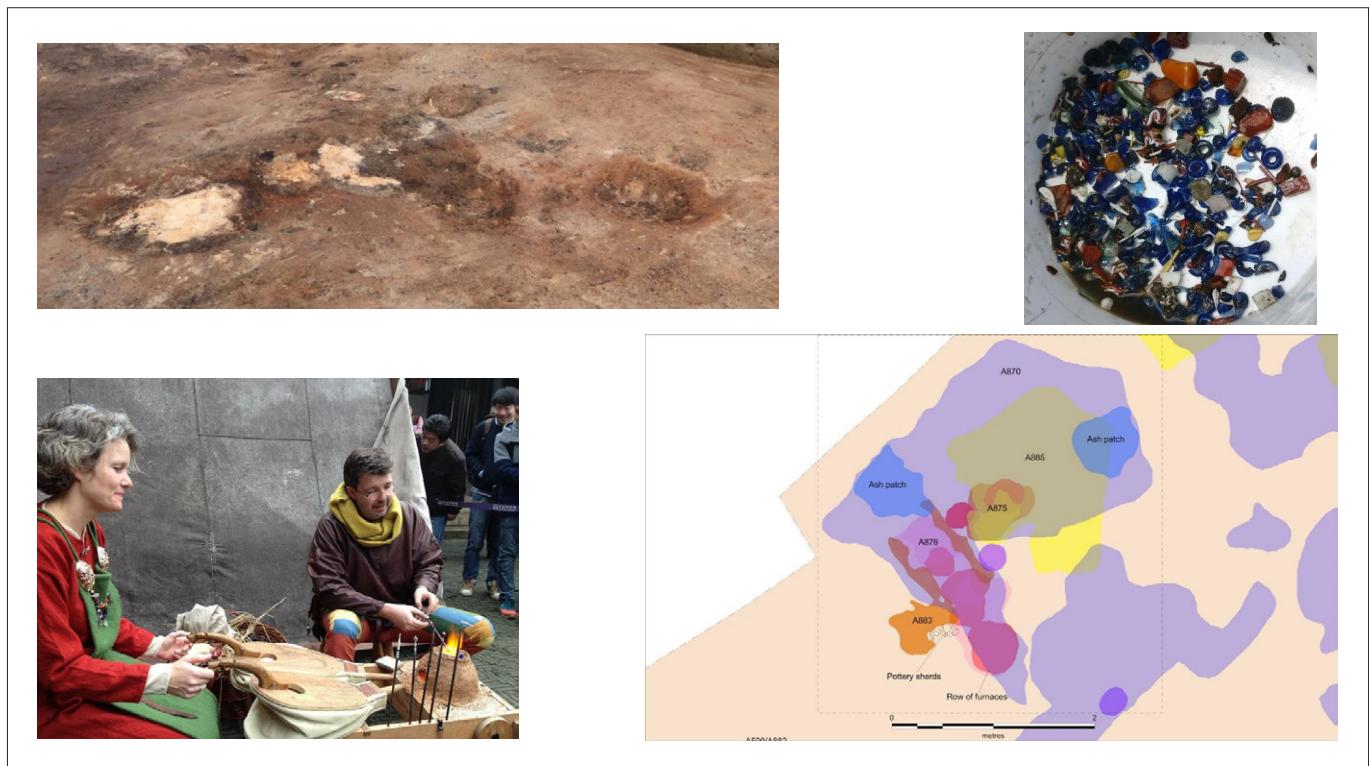


Figure 19 To the bottom left a reconstruction of glassmaking. Top left: The remains of the workshop area during excavation of the furnaces. Top right: glass-debris from watersieving the deposits. Bottom right: Plan of the sequence of furnaces and associated deposits.



Figure 20 The two main phases of house K23 with evidence of bronze-casting (yellow area). The bronze-casting workshop during excavation. Bottom right: a casting mould for a so-called "Valkyrie" pendant found in the workshop.

"SEASONAL" RHYTHMS OF CRAFT PRODUCTION?

The sequence of a bronze-casting workshop, house K23. Microscopically (micromorphological analysis by Barbora Wouters):

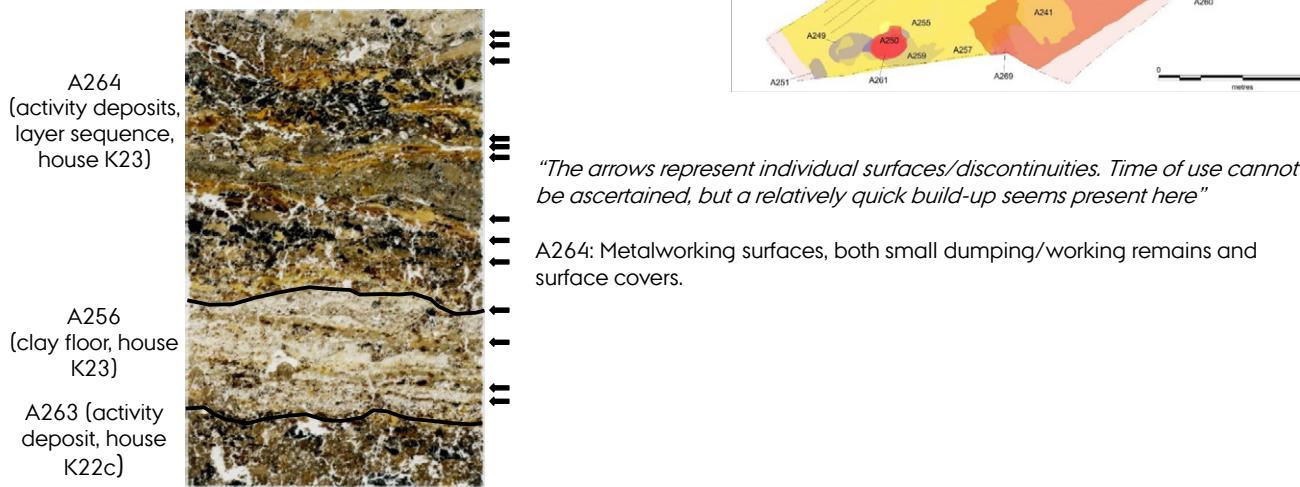


Figure 21 The archaeological observations documented two sequences of workshops activities. The micromorphology documented several (the black arrows).

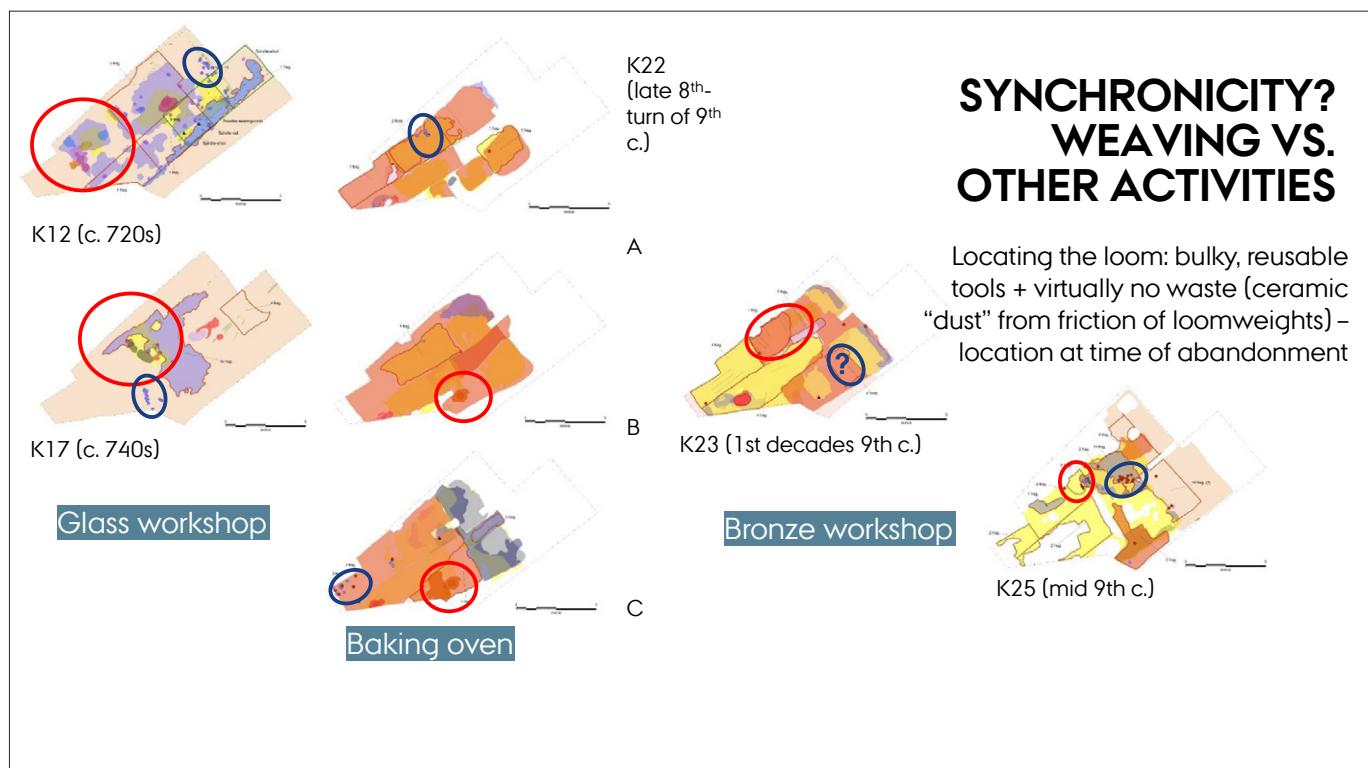


Figure 22 The blue circles show the location of the loom weights or traces of weaving. The red circles show other specialised activities that are contemporary.

CONCLUSION

Emporia urbanism:

- ▶ Specific temporality = multiple durations + synchronicity
- ▶ “Expressive bundles of rhythms”

Communities:

- ▶ Craft specialists as part of households – more than guests?

Recurrent engagement
with the place

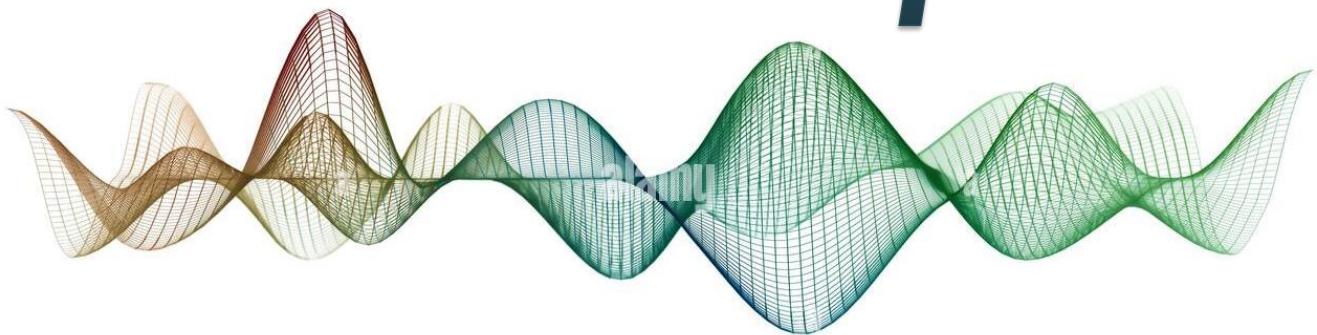


Figure 23 Conclusions.

Summary

Introduction

The Northern Emporium project evolving around Viking-Age Ribe is ending (December 2021). It is now possible to get an overview of the results and return to topics which have marked the historiography such as whether the emporia are to be understood as towns or not. Especially the entanglement between people, time, and place from an archaeological point of view, is an essential topic but very difficult to approach. The overall question of time and temporality becomes central in the debate when permanency of settlement is discussed, which is common when the so-called bundle criteria are applied. Therefore, time is at the core of the definition of urban places.

Another essential theme is social relations, craft collaborations, production networks, cultural hybridity, and ethnic diversity. Who lived in the emporia, and how did the social relations shape the settlement and life there?

In this presentation, it is argued that the particular temporality and social relations in Viking-Age Ribe make the emporium a specific kind of urbanism.

Presentation

The Northern Emporium project was a collaboration between the Museum of Southwest Jutland and Aarhus University. One and a half plot from the 8th and 9th centuries were excavated over fourteen months. The aim was to solve some of the still-standing questions regarding Viking-Age Ribe by employing a wide range of new methods. The methodology was informed by previous knowledge gained from excavations of the neighbouring plots. The site was small, and the preservation conditions varied greatly. There was 2.5 of m stratigraphy in the best-preserved part of the site. Its lower half had excellent preservation conditions for organic materials.

One of the most interesting results was the possibility to follow a continuous sequence of houses from the beginning of the 8th century to the second half of the 9th century. The focus has been on evidence for activities based on the more than 100,000 finds from the plots. While the majority of finds was retrieved by watersieving, in-situ finds could often be related to features for specialised activities such as furnaces and other craft activi-

ties. The analysis of in-situ finds, and their distribution, were supplemented by micromorphology to approach the functional use of space. The results of the analysis show that craft activities took place indoor in multifunctional houses.

When a new house was built, some specialised activities were sometimes repeated, and sometime the type of craft changed. The activitiers included weaving, baking, bronze casting, glass working, and iron smithing. There were short episodes of abandonment, making it possible to separate phases and the activities which dominated each of them.

One example is House K21, where there was evidence of comb making. The house burned down, and the waste from the craft activities was covered and preserved. However, the houses were workshops as well as residential houses with evidence of cooking etc. This raises further questions as to whether there was synchronicity in the activites taking place in these houses. If the activities were occasional or routinized, this has consequences for understanding the settlement and the social relations among the people who used the houses. To discuss these questions, an approach that addresses the temporality of a site is applied. Braudel's hierarchy of historical temporalities is a primary source of inspiration where the short, medium, and long term are all different dimensions of history. Moreover, Le Goff has argued that we must understand and consider all temporalities of history to understand history itself. Another source of inspiration is contemporary urban design studies that use "the rhythm of a place" as a musical metaphor for understanding urban places. Multiple temporalities make up an urban place and guide people's movement and encounters. The aspect of temporality ties nicely into current research on towns as social practice and towns as assemblage, adding the temporal dimension.

Continuous accumulation of deposits on-site may represent the rhythm of everyday life that consists mainly of routinized, uneventful actions. When floors get refurbished etc., these actions appear as little peaks in the otherwise flat "sound wave". The house's materiality forced people to rebuild the house often, and the lifetime of a house was between five and thirty years. The architecture itself and its materials can be qualified as ephemeral. When extensive clay floors were introduced in

the late 8th century, it seemed to give the house a longer life. Still, there is much change in the activities in the houses – one specialized craft replaces another. The place may remain, but activities and perhaps the people in it change.

An example of the temporality or rhythm of a house is House K12 from the 720s. Besides domestic activities, it also hosted a glass-bead workshop that was very well preserved. Here six furnaces replaced each other, and the house remained for about ten years. Another example is House K23, that held a bronze-casting workshop. Macroscopically during excavation, this appeared as two sequences of floors formed by continuous events. However, the micromorphological analysis showed several individual surfaces in those two sequences. The use time of each of these surfaces could not be ascertained, but it seemed a relatively quick build-up of workshop activities. The fast build-up also represents a rhythm – perhaps a seasonal activity or something else. The interesting question is what triggers these discontinuities of the workshops and what they represent—a question to be answered in future research.

There are also several examples of synchronicity in activities. Many houses showed activities of weaving contemporary with other activities of specialized crafts. Is weaving a routine household practice, or is it a specialized craft? That is a question still to be answered.

Conclusions

Temporality, multiple durations, and synchronicity are essential elements in understanding a place like Ribe and urbanism in general. It is also an important element in discussing and understanding the households. Are the artisans members of the households, or are they guests who return to a permanent household on a seasonal basis?

It was this recurring engagement of people that made Ribe an urban place.

Questions

Are there signs of itinerant craftsmen in Ribe?

They did exist according to written sources, but it is not necessarily a good model for understanding the settlement. People did travel because goods, skills, technologies and knowledge spread, but maybe Ribe was a permanent base – for at least part of the household.

Where would they travel to?

Based on archaeological evidence, they would travel between their network and the urban centres.

Is it at all necessary for us to see the craftsmen of Ribe as itinerant to understand and interpret the archaeological evidence?

In later periods, young apprentices would travel before settling down (journeymen). This may also be the case in the 8th and 9th centuries. The young men are household members but do not make up the whole household.

Further reading

Ashby, S. P. & S.M. Sindbæk (eds.) 2020: *Crafts and Social Networks in Viking Towns*. Oxford.

Croix, S. 2015: Permanency in Early Medieval Emporia: Reassessing Ribe. *European Journal of Archaeology*, 18(3), pp. 497-523.

Croix, S., M. Neiss & S.M. Sindbæk 2019: The réseau opératoire of Urbanization: Craft Collaborations and Organization in an Early Medieval Workshop in Ribe, Denmark. *Cambridge Archaeological Journal*, 29(2), pp. 345-364. <https://doi.org/10.1017/S0959774318000525>

Sindbæk, S. M. 2018: Northern Emporium: The archaeology of urban networks in Viking-Age Ribe. In: R. Raja. & S.M. Sindbæk (eds): *Urban Network Evolutions: Towards a high-definition archaeology*. Aarhus, pp. 161-166.

“Vicus famosus”: How urban was Dorestad?

Annemarieke Willemsen (National Museum of Antiquities, Leiden)

Abstract:

Dorestad, situated along the river Rhine near present-day *Wijk bij Duurstede*, was the largest town of the Netherlands in the Early Middle Ages and the only settlement called *vicus famosus* in the Frankish annals. It was the northernmost *emporium* in the Carolingian empire and a hub for traffic and trade between the Empire and British and Scandinavian territories. It flourished especially under the active protection of Charlemagne and his successors in the first half of the 9th century.

Dorestad was not a settlement around one nucleus, but a conglomerate with a number of nuclei and less densely populated areas between. It stretched out alongside the *Kromme Rijn* for over four miles, with a street running alongside the original riverbank. West of the riverbank, the town was laid out, at its widest up to 500 meters. Close to the river, 'business houses' with workshops and shop windows stood quite close together, while further back were larger 'town farms' with bigger yards. In between these quarters were at least three cemeteries. The river Rhine gradually receded eastwards and the resulting free space was reclaimed by the people of Dorestad by garbage suppletion and building a large complex of jetties and platforms. At its widest point, this 'parquet floor' was 200 meters wide. Dorestad became one large harbour: ships could moor over almost the full length of the town. This allowed it to grow into a large seasonal fair, that started in spring and lasted for the whole navigable season. It also made the town impossible to defend.

Whatever made Dorestad interesting for tradesmen (accessibility and wealth) also put pirates on its track. From AD 834 onwards, Dorestad was attacked tens of times by Vikings. The fact that raiders returned almost annually tells us about the town's resilience: obviously enough was to be found there time and time again.

The nuclei of Dorestad mirror the various functions of the *vicus*. Economic areas like markets, toll, and mint were alternated by religious sites like churches and cemeteries, and political strongholds. The combination of all these elements made it a town and determines how 'urban' we think of it in retrospect. There must have been a big difference between summer and winter in Dorestad, a bit like in a holiday resort nowadays. In winter, stock was created, and repairs were done until the first ships started arriving. They came from all over Europe, from Scandinavia to Spain, with products from all over the world. For the Dorestad market, this meant that lugging, calling, and bargaining was everywhere. The visitors not only brought their trade goods, but their own fashion, habits, and language too. More than objects were exchanged. It was a busy place full of colours and smells, with lots of noise, and money jingling everywhere.

Dorestad was a medieval metropolis. And there was nothing of that size, status, and atmosphere in the Netherlands in the five centuries before nor in the five centuries after it.

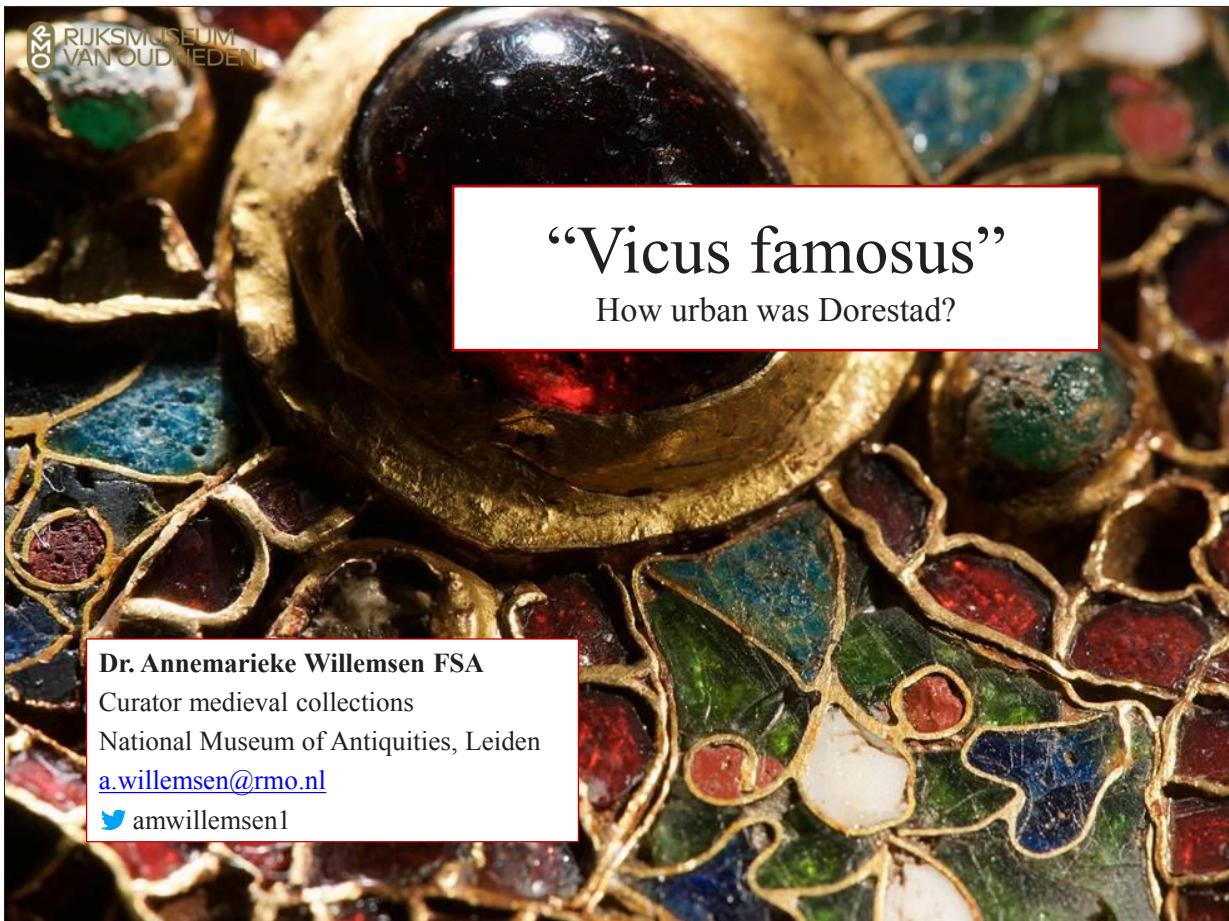


Fig. 1 Title.

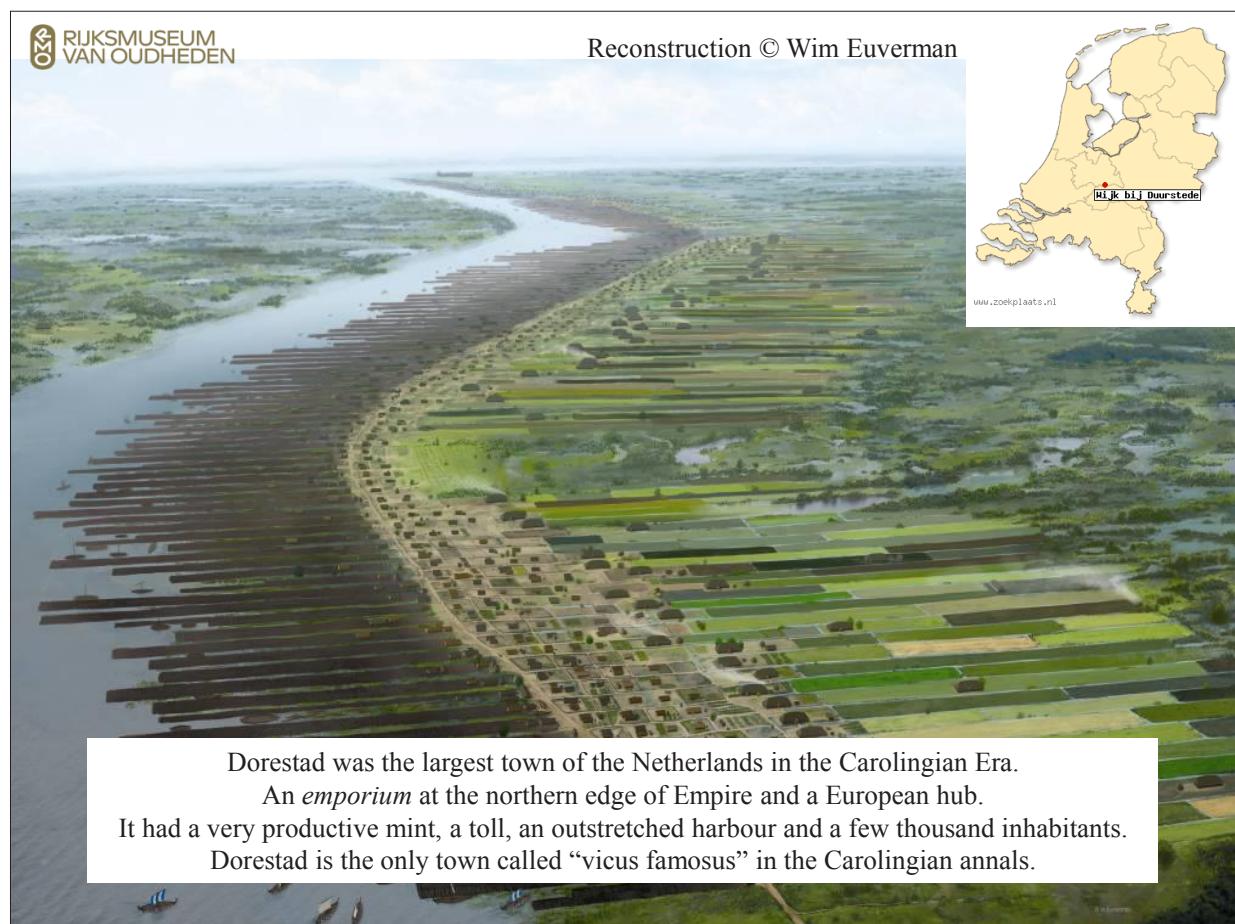


Fig. 2 Location and reconstruction of Dorestad.

Dorestad – key dates

< c.675 Minting gold coins ‘Dorestat fit’ by Madelinus, rich finds, pre-christian graves

695 Battle at ‘castrum Dorestat’, Pippin wins Dorestad over Radbod

800-830 Heyday Dorestad under Carolingian emperors

834 First Viking attack on Dorestad

850 > Dorestad under rule ‘Danish princes’

863 Last and fierce Viking attack on Dorestad

880-881 Heavy Viking campaigns in Netherlands/Germany but Dorestad not mentioned

948 “Villa non modica” at the site “where once was Dorestad but that is now called Wik”

1840s Discovery of Dorestad, bone diggings and first excavations

1967 Start of large-scale excavations at Dorestad

2009 Dorestad exhibition in Leiden

Fig. 3 Dorestad key dates from written sources and modern-day research.

*Hinc tua vela leva, fugiens Dorstada relinque.
Non tibi forte niger Hrotberct parat hospita tecta,
Nec amat ecce tuum carmen **mercator avarus**.*

Hoist your sails, flee and leave Dorstad behind.
You do not have the fortune of a hospitable roof offered by Black Hrotberct,
Nor does the **greedy merchant** love your poem.

Alcuin of York, 780/781 AD

*“Et quia hic minus pauperes inveniuntur, post obitum, inquit, emum, cum tibi primo
opportunitas evenerit, venditis omnibus quae hic dispensata non fuerint, sume tecum
argentum et vade ad Dorstadium. **Ibi sunt ecclesia plurimae** et sacerdotes ac clerici; **ibi**
indigentium multitudo. Illo adveniens, quaere, qui rite doceant, fideles, quomodo ea
dispenses, et pro animae meae remdio omnia in alemosiam distribue.”*

" And because there are here but few poor, at the first opportunity that occurs after my
death, sell all that has not been given away and go with the money to Dorstad. **There are**
there many churches, priests, and clergy, and a multitude
of poor people. On your arrival seek out faithful persons who may teach you how to
distribute this, and give away everything as alms for the benefit of my soul."

Story of Catla from Birka in Vita of Ansgar, before 852/853 AD

Fig. 4. The written sources display different concepts of the town of Dorestad.



Fig. 5 The accessibility is a key factor in the character of the town.

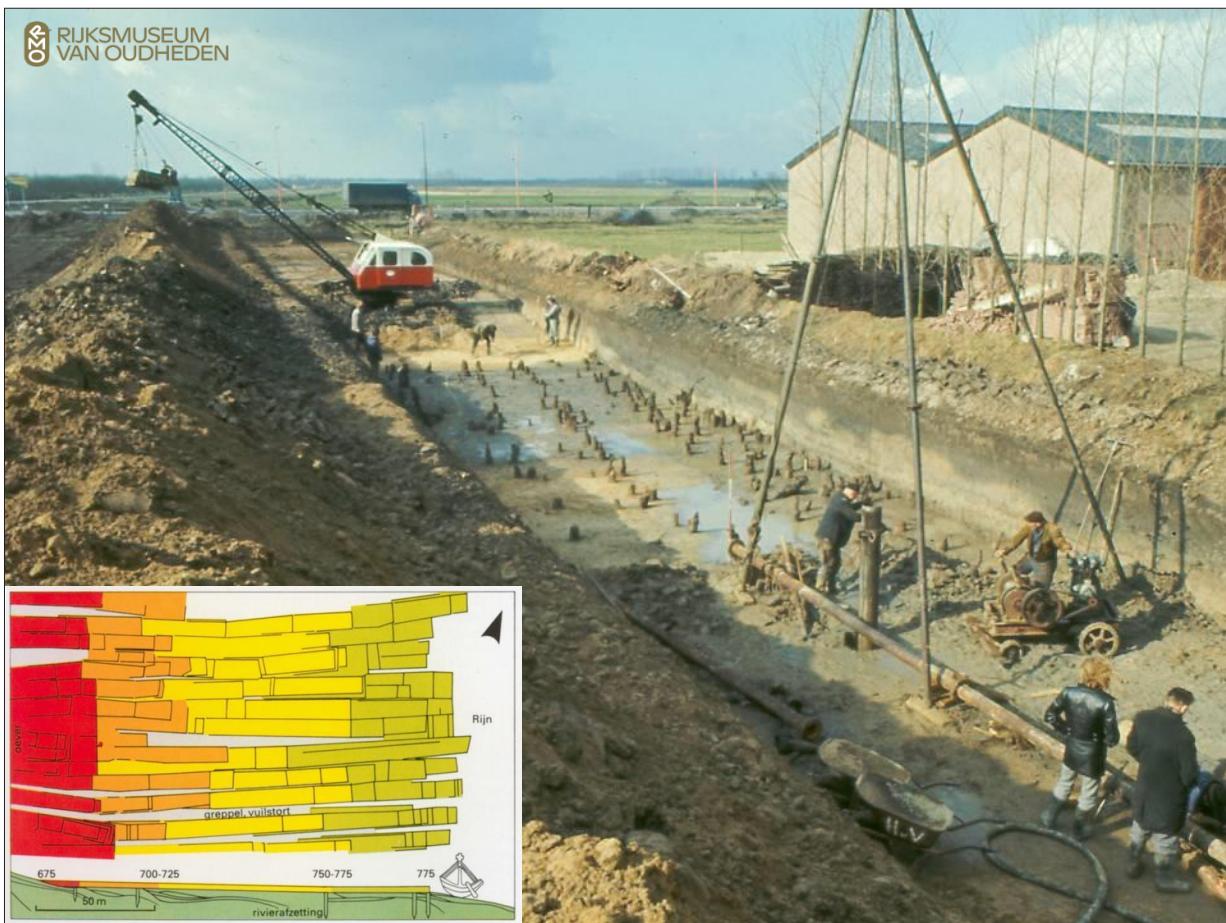


Fig. 6. Excavations have been carried out in the harbour area since the 1960s. The jetties that project gradually into the river follow centralized construction efforts as revealed by dendrochronological dating.



'Decks' Dorestad © Paul Maas, display 'Archaeology of the Netherlands' Leiden

Fig. 7 Land gained, and river moving away as the jetties project further into the river.



Fig. 8 Sherds from about 23,000 vessels of Bardorf and relief band amphora ware have been retrieved at Dorestad.

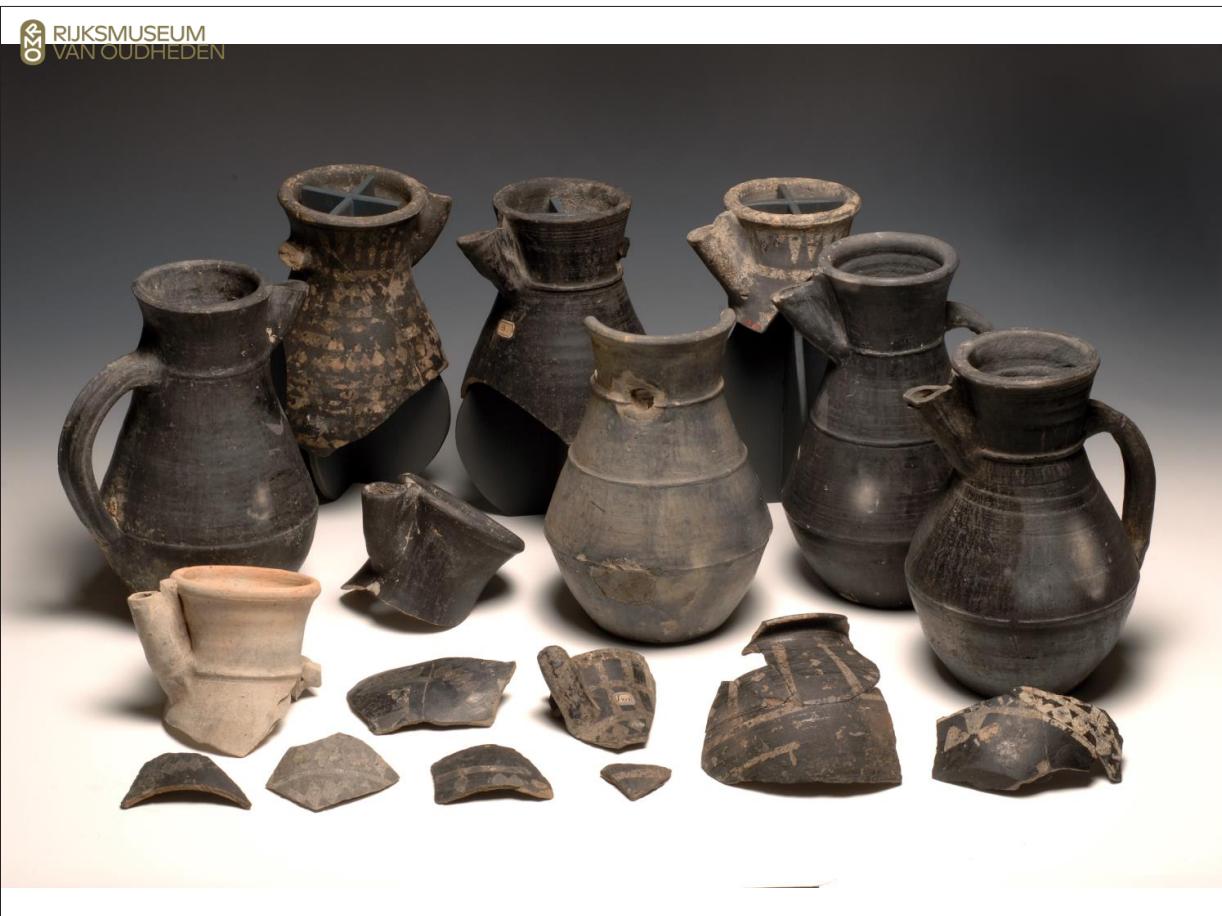


Fig. 9 Over sixty Tating jugs are found at Dorestad, including a half product (pale colour).



Fig. 10 More than 200 millstones from the Eifel region have been found at Dorestad, mostly unfinished.



Fig. 11 Over sixty kg of raw amber has been picked up without sieving at Dorestad.



Fig. 12. Over 1500 sherds of glass have been recovered at Dorestad, mostly by hand.



Fig. 13 Thirteen vessels of glass with gold foil decoration have been retrieved at Dorestad. Also found at Borg and in Ribe.



Fig. 14 Beads found at Dorestad reveal a network of contacts. Only a few Scandinavian beads.

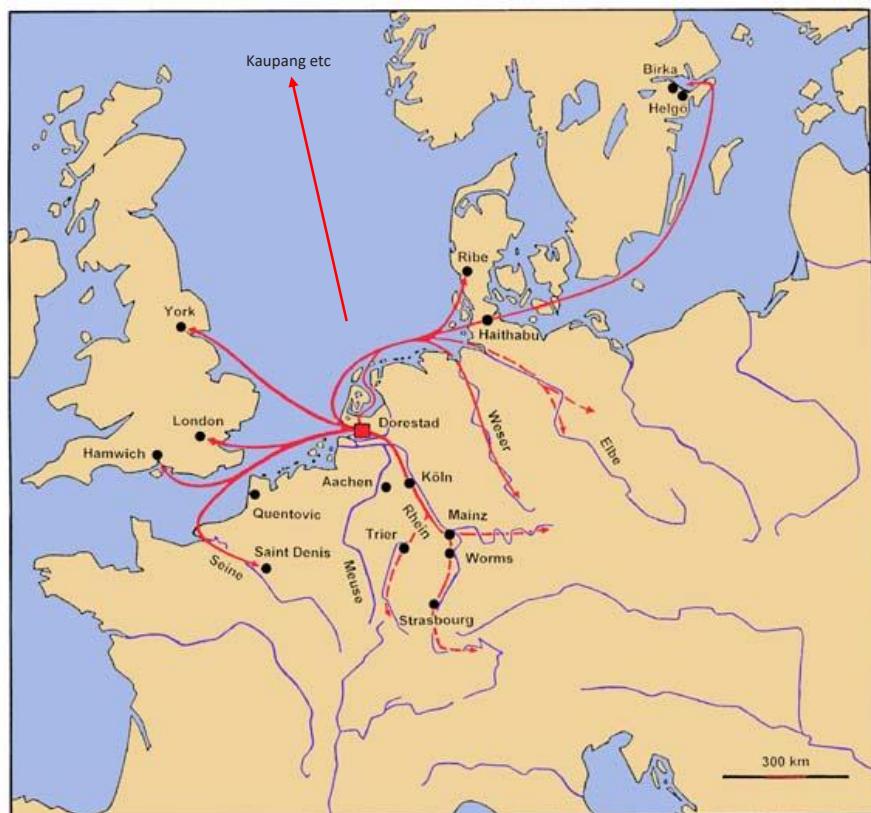


Fig. 15. The traditional interpretation of Dorestad as a center in a network should be modified.



Fig. 16. Dorestad should be seen more as a transit harbour that was part of a much larger trade network. It facilitated a flow of goods and foodstuffs from the southeast to the northwest.

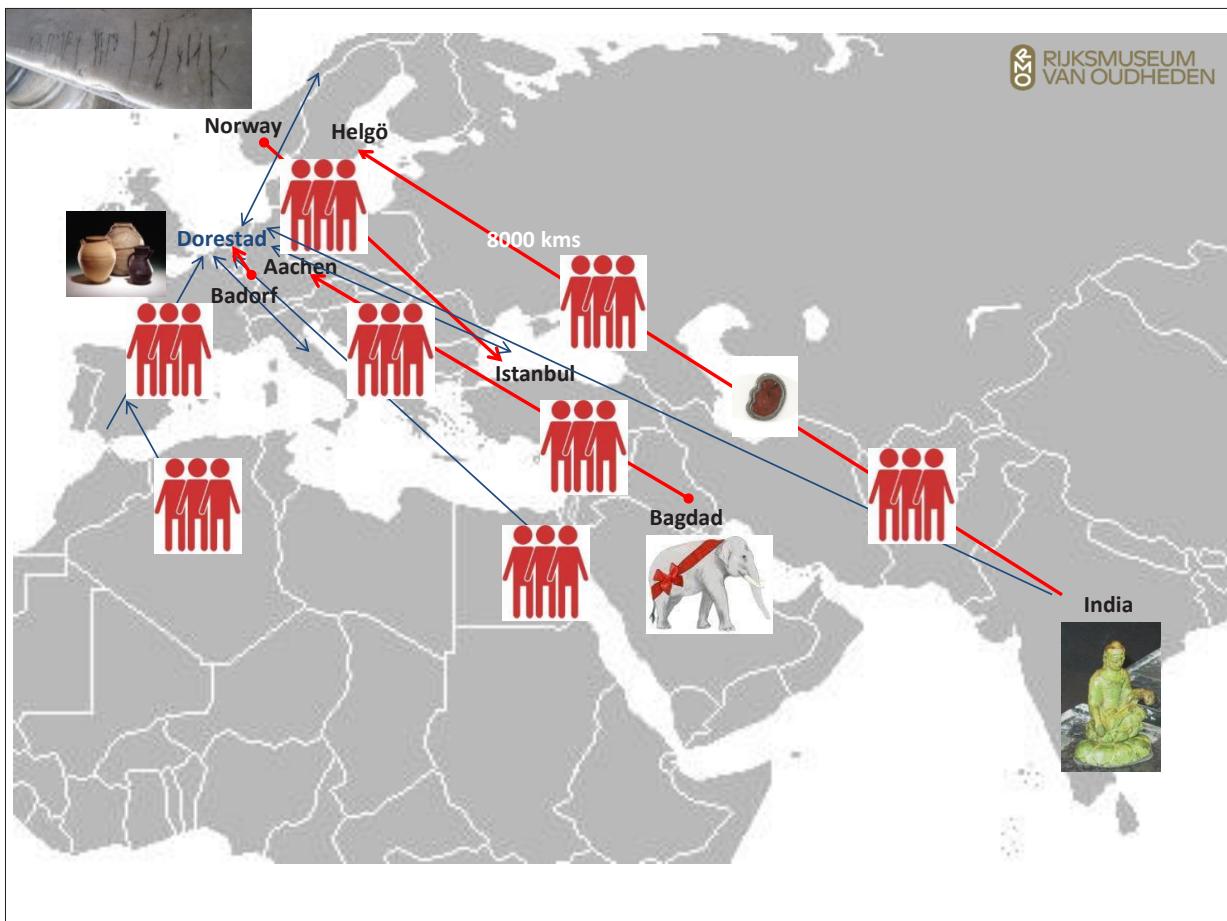


Fig. 17 Trade networks are made up of humans that also exchange non-material commodities.



Dorestad Brooch, c.800 AD

Fig. 18 The famous brooch was made in close connection with the Carolingian court. It was later transformed into a fitting on a book cover or a chest linking it to the religious sphere.



Fig 19 Sword with a gilded silver hilt found in Dorestad belonged to a person of *Königsnähe*.

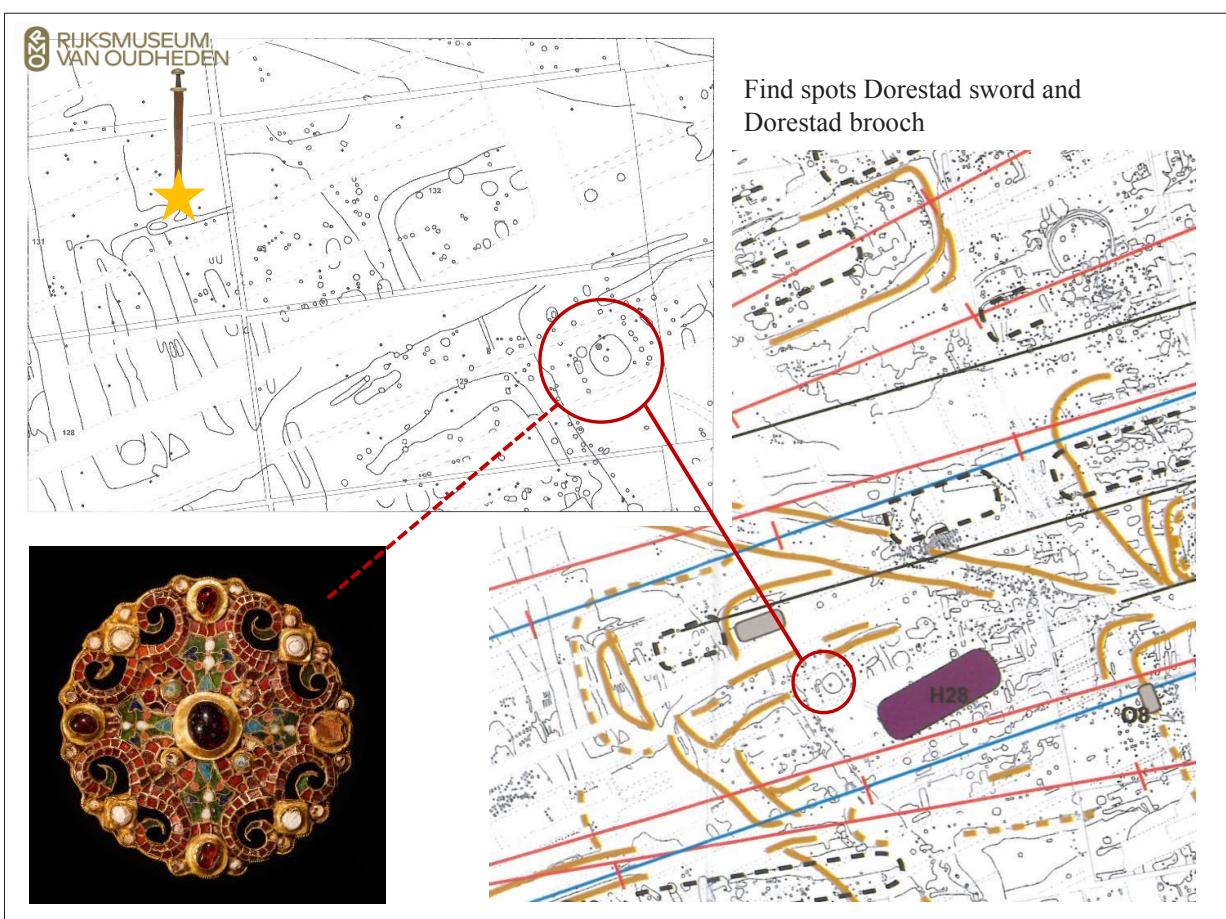


Fig. 20 The sword was found in a grave on a house plot close to the findspot of the brooch.



Fig. 21 Motifs on coins as propaganda. A change of focus even within a single ruler's reign can be detected - from trade (trade vessel) to politics/religion (a Christian or classical building and a cross).

RIJKSMUSEUM
VAN OUDHEDEN

Research into cemeteries by dr. Raphaël Panhuijsen, University of Amsterdam

Dorestad early medieval cemeteries

- 1) "De Heul" n=342
- 2) "De Engk" n=400
- 3) "Frankenhof" n=1100?
- 4) "De Geer 1" n=25
- 5) "Veilingterrein" n=12
- 6) "De Geer 2" n=546

Plus some small clusters of graves

Fig 22 Many Christian graves at Dorestad cluster around empty spaces that are believed to have held small wooden churches.



Fig. 23 A unique stone well found in an empty space among a cluster of graves. Possibly a baptismal well.

Reconstruction © Wim Euverman



Fig. 24 A reconstruction of Dorestad.



Fig. 25 The town should be seen as the result of its functions and people adapting the landscape on a large scale to accommodate what they each want from the place.

- * Exhibition Leiden winter 2023-24 > 'The Year 1000' > on 10th and 11th century AD
- * Fourth Dorestad Congress > "Dorestad and After" > Early 2024

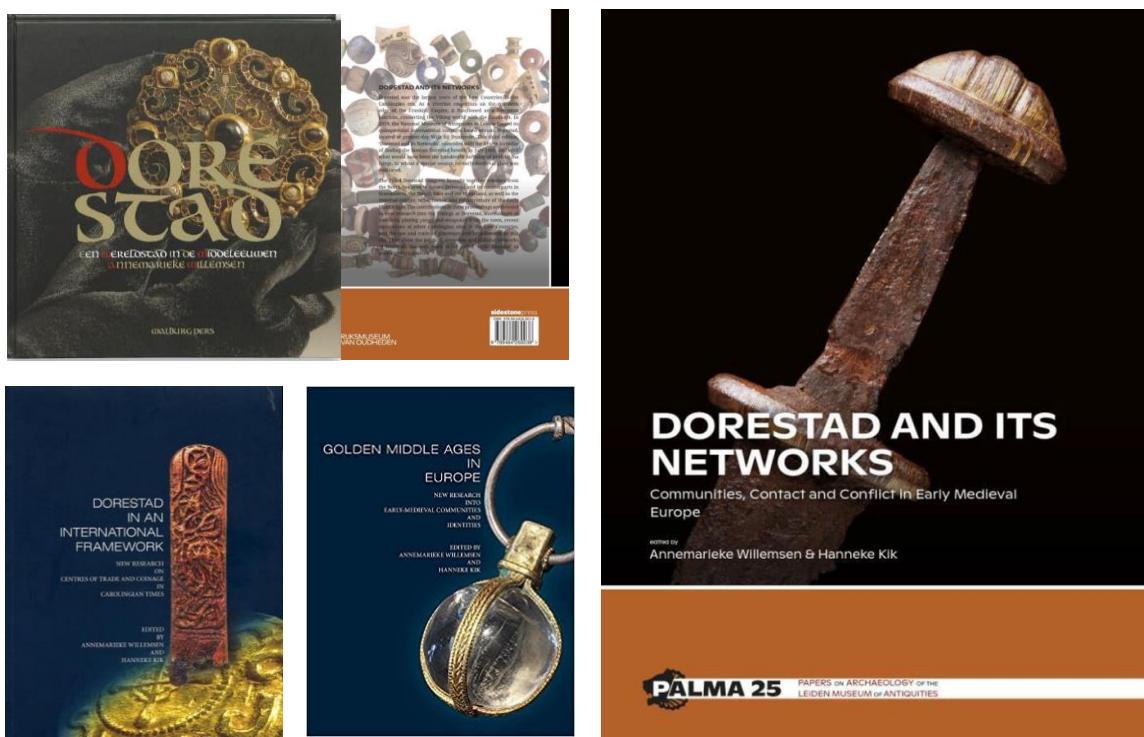


Fig. 26 Upcoming activities in (or including) Dorestad research.

Summary

Introduction

This paper deals with the complex nature of the town of Dorestad in the 8th and 9th centuries and how the concept of the town would vary and change in accordance with the interests of the recipient. It suggests a new concept of Dorestad, not as a one-dimensional trading hub in the centre of a network but as a part of a larger network for trade and immaterial goods, with Christianity now considered a major export.

Presentation

Dorestad was the largest town in the Netherlands in the Carolingian era with a few thousand inhabitants. It had its heyday in 800-830 AD. The town is mentioned in many contemporary written sources. It was located on the edge of the Carolingian empire and served as a hub for trade and communication between Europe and Scandinavia. It had a mint, a toll, and an outstretched 3-4 miles long river harbour. The river was a factor in the shaping of Dorestad's identity.

The first mentioning of Dorestad is on gold coins from around AD 675, but there was certainly a permanent Frisian settlement before that time. When Pippin won over the settlement in AD 695, it became a Frankish town. Between 834 and 863 AD, there are at least sixteen recorded Viking attacks on Dorestad, the one in AD 863 being the most fierce. The numerous attacks testament the town's resilience, as it was able to rebuild itself after each attack. Around AD 850, the town came under the rule of two Danish princes, and this was the starting point of the decline of Dorestad, with the AD 863 attack marking an end to Dorestad's important role. The town was no longer mentioned in the written sources, and there are no more recorded Viking attacks on the town.

The town was rediscovered in the 19th century, and since 1967 large-scale excavations have been undertaken, meaning that more than 50 ha have been excavated.

From the contemporary written sources, various interpretations of the nature of Dorestad can be extracted. For instance, Alcuin of York in AD 780/781 mentions Dorestad as a place for greedy merchants best passed by. However, Catla of Bir-

ka comes to Dorestad in AD 852/853 to give money to the poor and practice her Christian religion in a more fertile environment, as there are not many poor people or churches in her area. Dorestad is thus presented both as a merchant town and as a large town and religious centre with many churches – and poor people. The characteristics of Dorestad thus change over time and depend on the spectator.

In the present concept of the town, it is viewed as a town with very strong seasonality. Also, the accessibility from the river was a crucial factor in the town's character/properties. Winters and summers would have been very different in Dorestad, as winters were used for repair, filling up stock, and reconstructing. In contrast, summers (the navigable season) were characterized by a larger number of inhabitants – probably more foreign inhabitants as well – and a booming, buzzing trade activity.

From the harbour area, 150,000 wooden poles have been excavated – many of them from jetties that were projected into the river and gradually claimed land. Each plot of land seems to have overseen the jetty in front of it. The jetties ended up forming platforms, and dendrochronological dating reveals that it often happened as part of planning. The platforms would be the area for warehouses, while alongside the street near the river there were small houses with stalls that opened towards the river. Further back on the plots, the houses would be bigger and have dual functions, also as resident houses probably with agrarian elements. This means that Dorestad can be perceived as a trade centre or an agrarian living quarter, depending on the recipient.

So why is Dorestad almost exclusively seen as a trade hub?

It is a focus forced onto us by the archaeological material with its huge amount of trade goods among the finds. The huge amounts of sherds of, for instance, Badorf ceramics from the Rhineland compared to the few sherds normally found on other Dutch sites reveal that Dorestad was a place of consumption for this ceramic and that it did not travel much further onwards from there. On the other hand, millstones from the Eifel region are known to have been in transit through Dorestad. More than 200 are found, only semifinished for

trade. Raw amber and glass (i.e. northern Italian tesserae) were also traded through Dorestad, for instance, to Ribe. All in all, most of the goods at Dorestad seem to be in transit much more than originating from or terminating in Dorestad. This may be seen in connection with Dorestad's role as a vital toll station. Dorestad appears as a place of consumption rather than a place of production.

The traditional interpretation of Dorestad as a centre of a trade network should be modified. Moreover, Dorestad should be considered a place of transit for goods from the Carolingian empire and all over Europe toward the North Sea world, facilitating a flow of goods from the south-east to the north-west of Europe and using a monetary-based payment system. Dorestad is part of a larger network consisting of long chains of contacts. Because of preservation conditions, we are probably missing out on approximately eighty percent of the transported goods. Also, it is essential to remember that goods did not travel by themselves but were transported by people, and thus also languages, habits, cultures, fashions, and ideas were exchanged within these networks. Christianity is now considered a leading export from Dorestad.

Political and religious importance of Dorestad?

An unusual grave was found at Dorestad in a house plot. The grave contained a sword with a gilded silver hilt indicating that the deceased was of *Königsnahe*. This must indicate a power base – perhaps a very temporary one. When the Danish princes took over Dorestad in AD 850, it is argued convincingly by Christian Coomans, that they deliberately let the place decline. The princes had different interests in the place than the Carolingian emperors who saw Dorestad as the empire's outpost to the north-west. Seen from the North Sea, Dorestad was just an inland site, and a coastal site or even inland sites such as Aachen or Paris would be of greater interest. Again, the concept of Dorestad changes based on the interests of the ruler in charge of the town.

Many Christian graves at Dorestad cluster around empty spaces which are believed to have held small wooden churches. This proves that Dorestad was a conglomerate of more nuclei, each with its own church. It is clear that Dorestad played a role in the conversion of Scandinavians into Christian-

ity. But it was a place of baptism and mediation of Christianity rather than a place of commemoration.

Conclusion

The outstretched layout of Dorestad made the town undefendable. Accessibility was chosen over safety. The town is a conglomerate of nuclei but not based on, for instance, ethnicity. Instead, the town held various living quarters with open space for burials or maybe markets in between, lending the layout of the town a functional rhythm. Recent research by Marcel IJsselstijn challenges the idea that towns need to be either planned or organically grown. He considers towns as a result of their functions. The agents (people) who are applying these functions on the town built a special plan for the town, weaving an interspersed urban fabric. Thus, emporia should not be seen as one-dimensional trade hubs – they were probably as complex as any medieval or early modern town.

Questions

Who were the merchants bringing the goods from Dorestad to Ribe?

The goods were taxed in Dorestad which was a transit harbour from inland Europe to the North Sea region. The merchants were not local to Dorestad. There is no evidence of local shipbuilding. The ships continue from inland to the North-western area. The reuse of hundreds of barrels in Dorestad indicates that goods were reloaded there. You can't tell the origin of those who transported the goods from the archaeological material. Foreign merchants probably came to Ribe to exchange goods – probably many agricultural goods were exported from Ribe, but the organic material is often missing in the archaeological record. All the organic material is gone.

Have the bones of the many burials been analysed? Do you know their origin?

No large-scale isotopic analysis has been carried out yet. One would expect a very international population. It would also be interesting to analyse a number of carefully buried dogs.

Who had an interest in attacking Dorestad?

After AD 830 the Carolingian empire was not able to defend Dorestad to the same degree. There

were diverse groups of Vikings – they had many different interests. Around AD 800 the raiders were small groups looking for personal wealth. After a few generations, it was bigger groups. They changed target from monasteries and their treasures towards places like Dorestad and more immediate supplies. There is no archaeological evidence of these attacks – no fires and no people buried hastily. The raiders probably targeted the goods. The Danish princes were explicitly expected to keep other Vikings out.

What was the motivation behind the Dorestad attacks?

Suggestion from the audience: The result was that Hedeby became the largest and most important trading place instead. The attacks can be considered elements in a trade war.

How is the hinterland of Dorestad characterised? Are there neighbouring sites with prestige goods, coins, etc.?

There are some sites east of Dorestad with small amounts of Carolingian material. Utrecht, 30 km downstream from Dorestad existed at this point but was much smaller. But in general, the import goods are in large quantities in Dorestad and basically non-existing in other sites in the Netherlands. But this could partly be due to the archaeological records being exceptionally well preserved at Dorestad.

Further reading

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Coastal trading places in the transition area between the Continent and South Scandinavia – new perspectives

Sebastian Messal (German Archaeological Institute, Berlin)

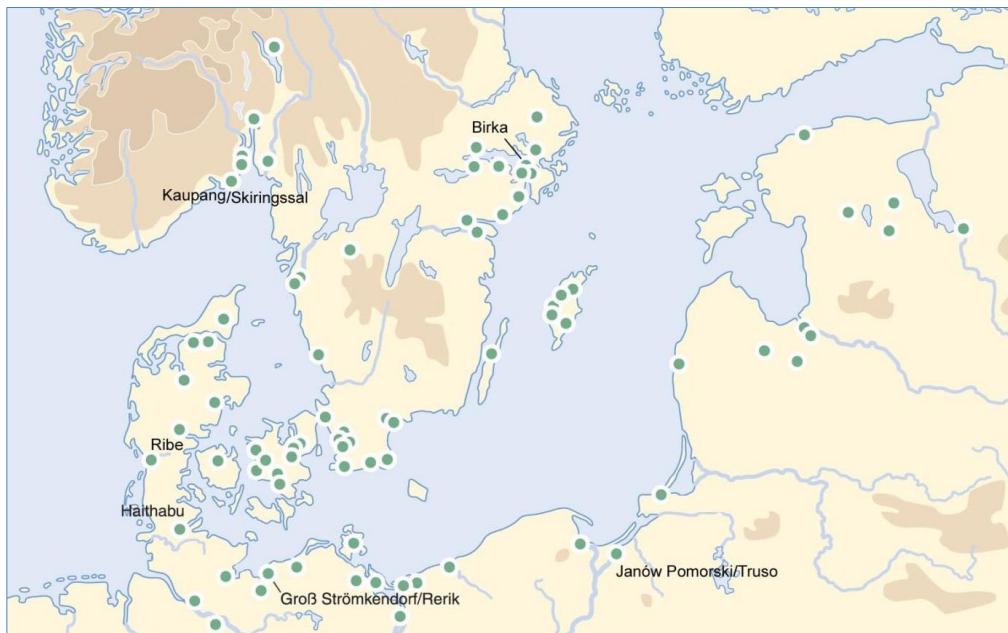
Abstract:

During the 8th and the 9th century, the coast along the Baltic Sea experienced the emergence of trading places as part of long-distance trade-, transport- and communication network. These *emporium* became central elements within the organisation of an early medieval seaborne exchange of goods and crafts production. Associated landing places and harbours were important interfaces between sea and land but also spots of departure and arrival for individuals and communities, both for temporary visits and migration. The most famous sites within the Baltic region are Hedeby (Germany) and Birka (Sweden), flourishing between the 9th and 11th centuries AD. However, considering the earliest phase of urbanisation, the trading sites of Groß Strömkendorf/Reric, Rostock-Dierkow, and Menzlin along the southern Baltic coast are of particular significance all of them established in the early 8th century.

For the 8th and early 9th century, an interaction or economic area can be assumed, characterised by the distribution of mainly Western European commodities – Eifel basalt, tesserae, raw glass – and extended from the North Sea region to west-

ern Mecklenburg. Ribe may have played a central intermediary role in the Baltic. Recent investigations in Groß Strömkendorf on archaeological features and on pottery, glass objects and coins surprisingly have proven a lot of similarities between Reric and Ribe, indicating very close connections between both emporia. It might be assumed that both sites, Ribe and Reric, were established by the Danish king in the 1st half of the 8th century as trading venues on the peripheries or borders of his empire. The emporium in Rostock-Dierkow was probably also integrated into this early economic area, as indicated by the comparable range of finds. On the contrary, the regions east of the river Warnow – East Mecklenburg, Pomerania – seemed not to be integrated or only intermediate stations within this western network. Eifel basalt or tesserae – only a few things have been found in Menzlin and further east – reached these eastern areas only in isolated cases.

The issue of the paper is to present the results of new investigations within the coastal trading site along the southern Baltic coast and to shed new light on their cultural and economic functions.

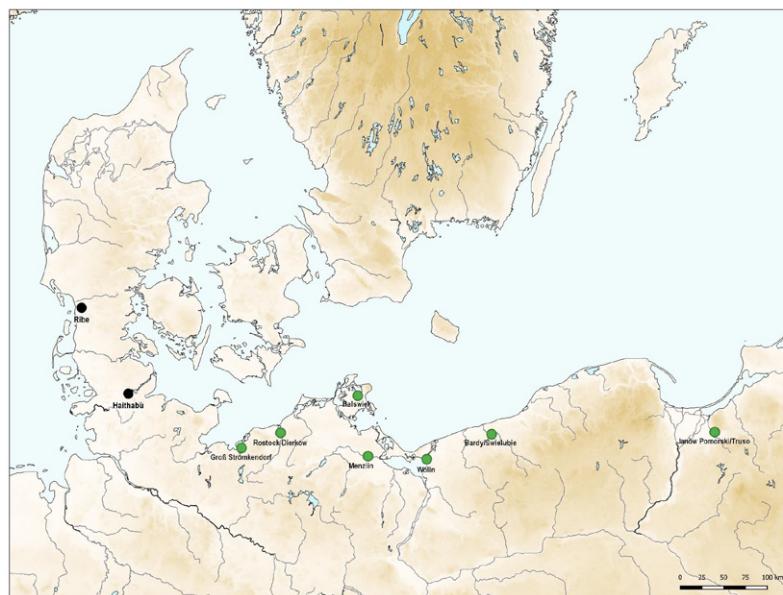


Baltic coastal trading places in the transition area between the Continent and South Scandinavia – new perspectives

Sebastian Messal

Figure 1 Emporia emerged in the 8th and 9th centuries along the Baltic Coast. The most famous are Hedeby and Birk.

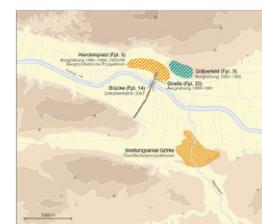
Emporia of the 8th and 9th cent. along the southern Baltic coast



Groß Strömkendorf



Rostock-Dierkow



Menzlin

Jöns 2005

Figure 2 Along the southern Baltic Sea Gross Strömkendorf/Reric, Rostock-Dierkow, and Menzlin were of special significance in the earliest phase of urbanisation.

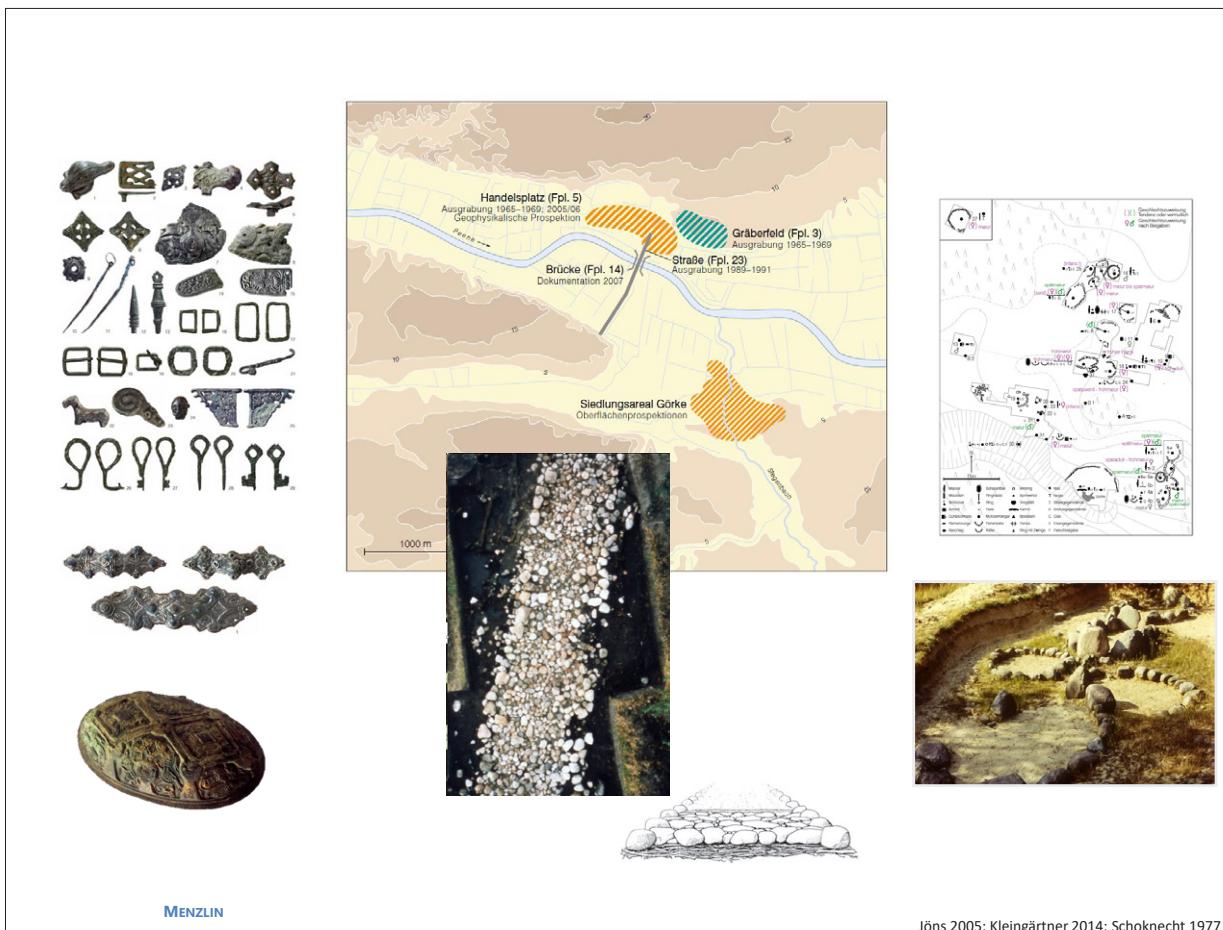


Figure 3 At Menzlin, archaeological investigations have been carried out at the trading site, the cemetery, and the “Viking street”, while a large finds material derives from metal detection.

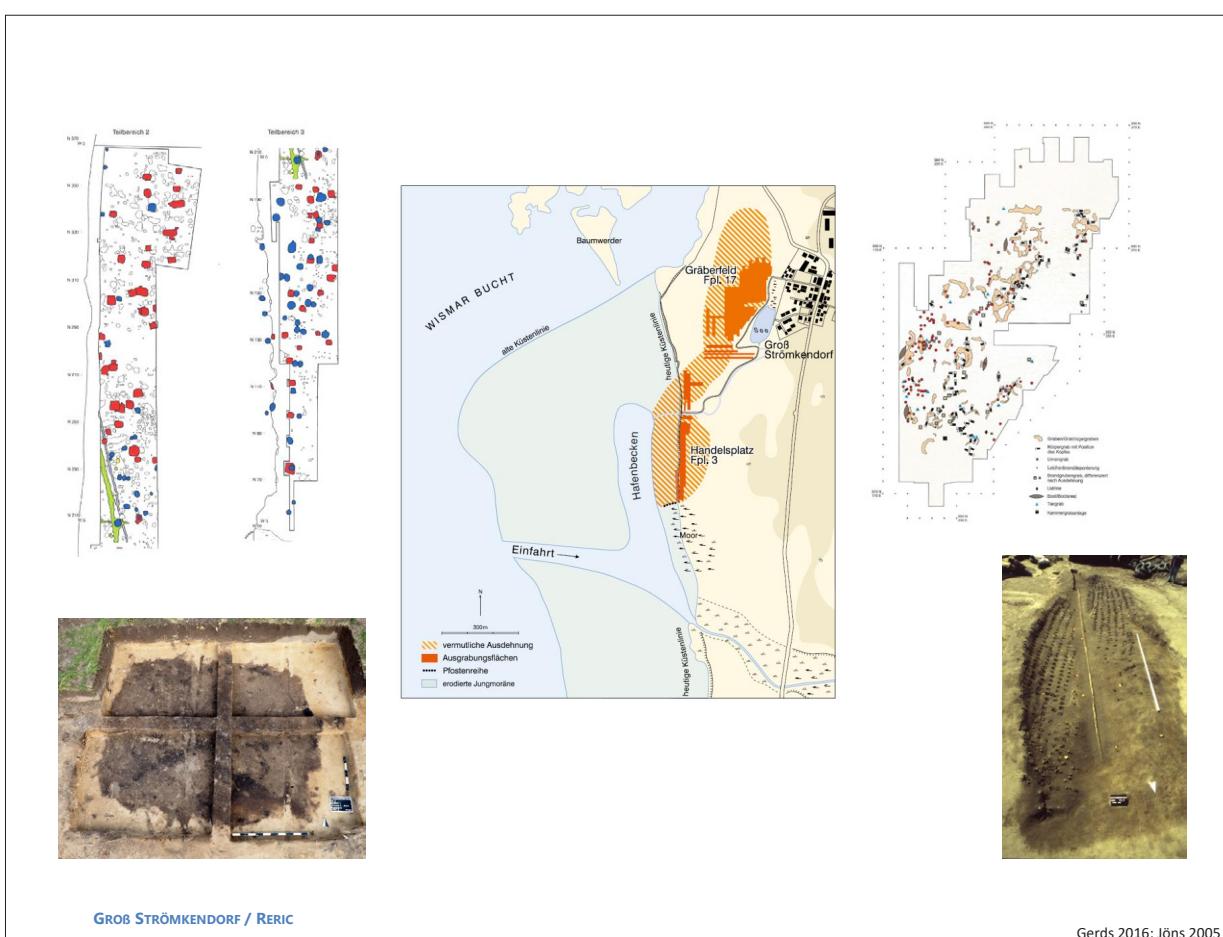


Figure 4 At Groß Strömkendorf large parts of the trading site were excavated between 1995-1999. However, small test excavations were conducted in 2017 to verify the results of recent geophysical investigations.

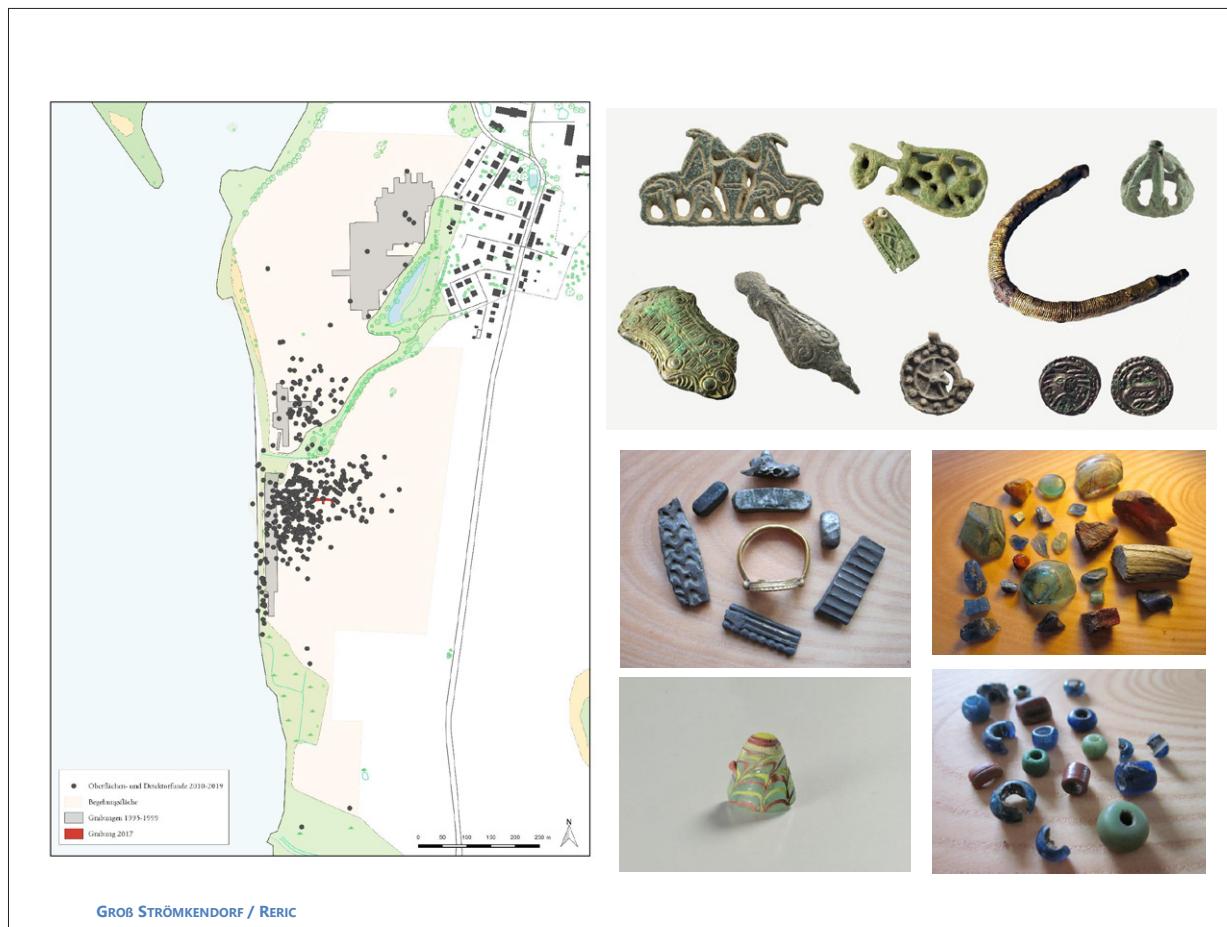


Figure 5 In the years after the excavations 600 new artefacts, in particular, metal finds, have been recovered by volunteers.



Figure 6 Ribe, Reric, and Åhus might be established by the Danish king in the 8th century.

Søvso 2017

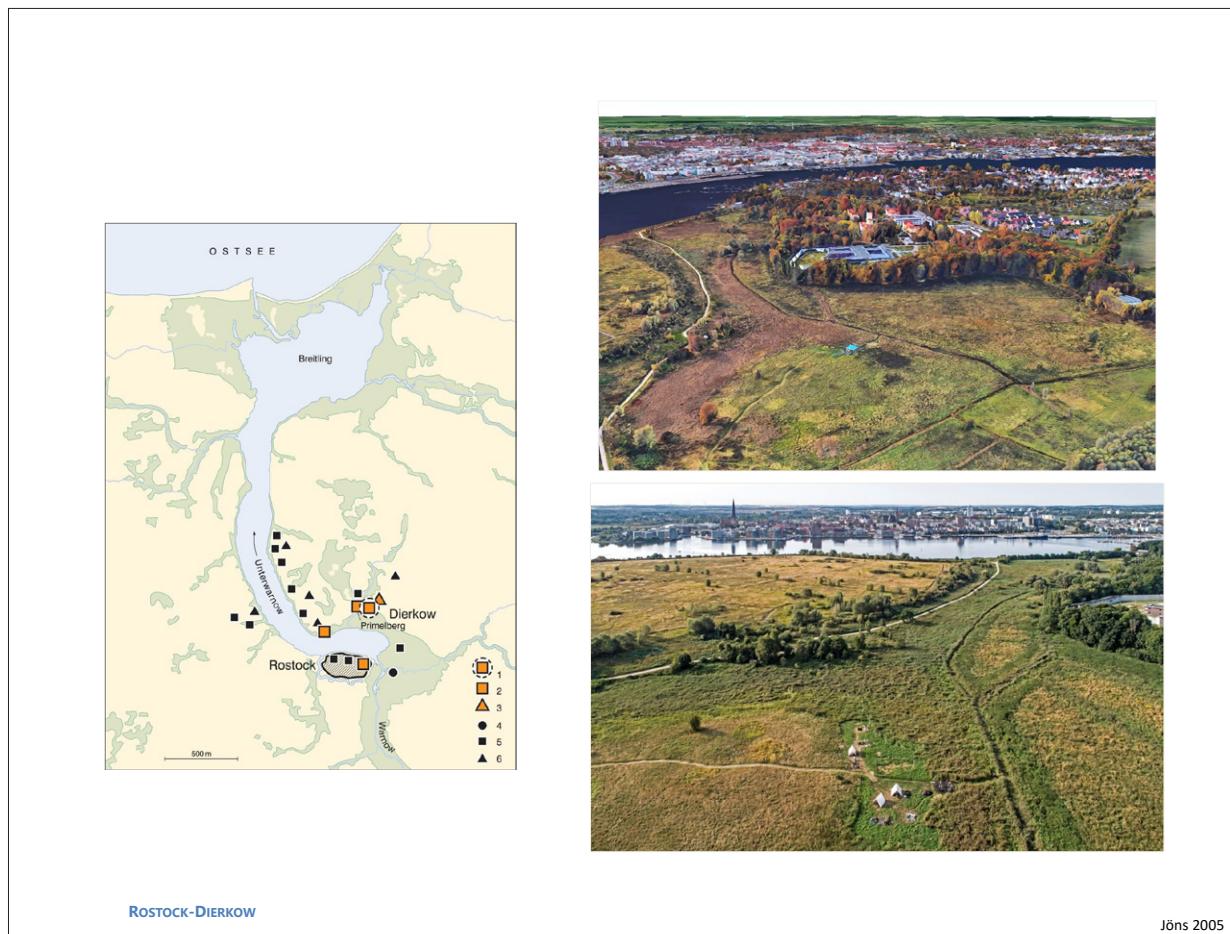


Figure 7 Rostock-Dierkow is part of the same trade network as Reric and has similar finds.



Figure 8 From its protected location at Primelberg the site had a direct connection to the Baltic Sea via a tributary.



Figure 9 Several pithouses were investigated at Primelberg (left) while only ground-level buildings were documented in the lowland areas to the west (right).

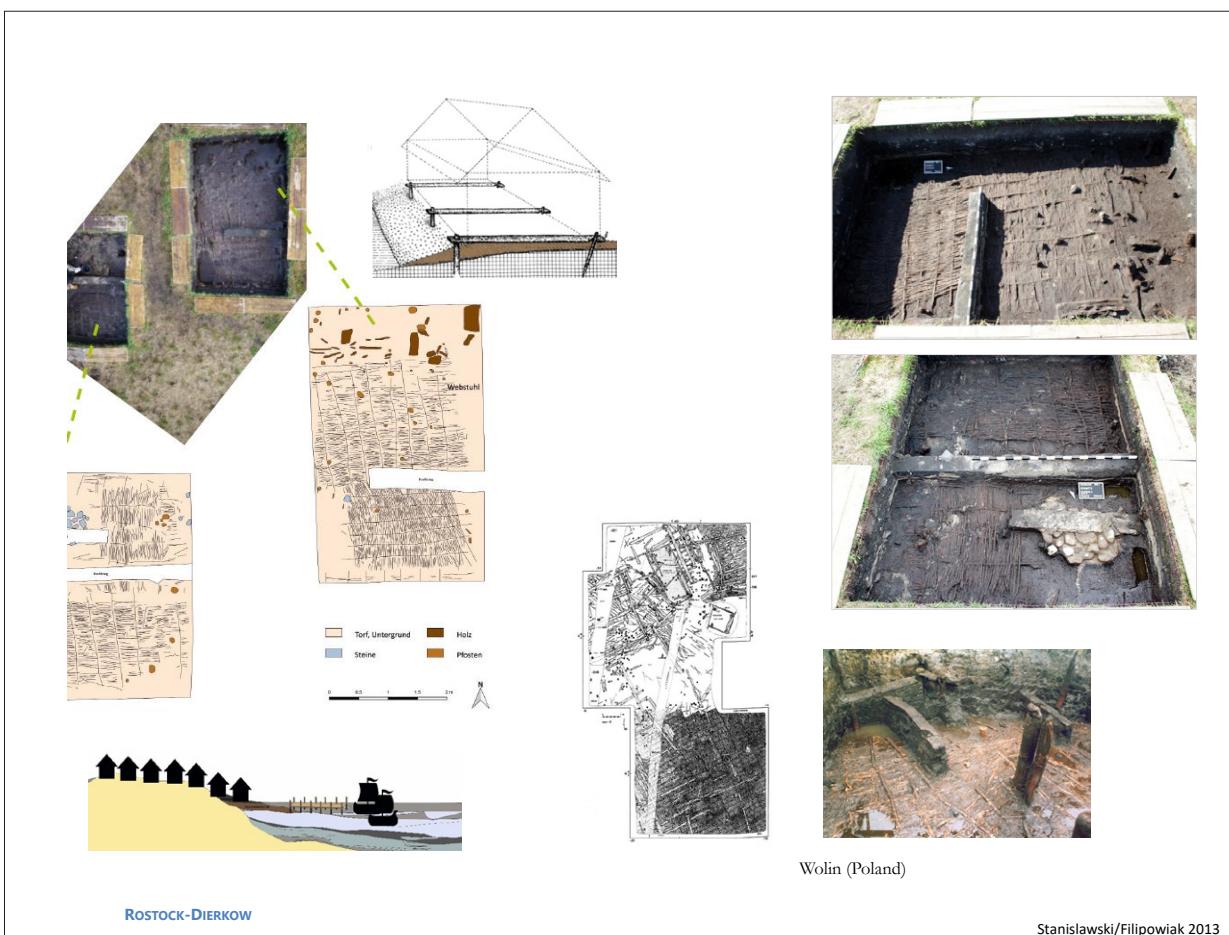


Figure 10 Ovens, hearths, looms, and a wooden track have been documented.

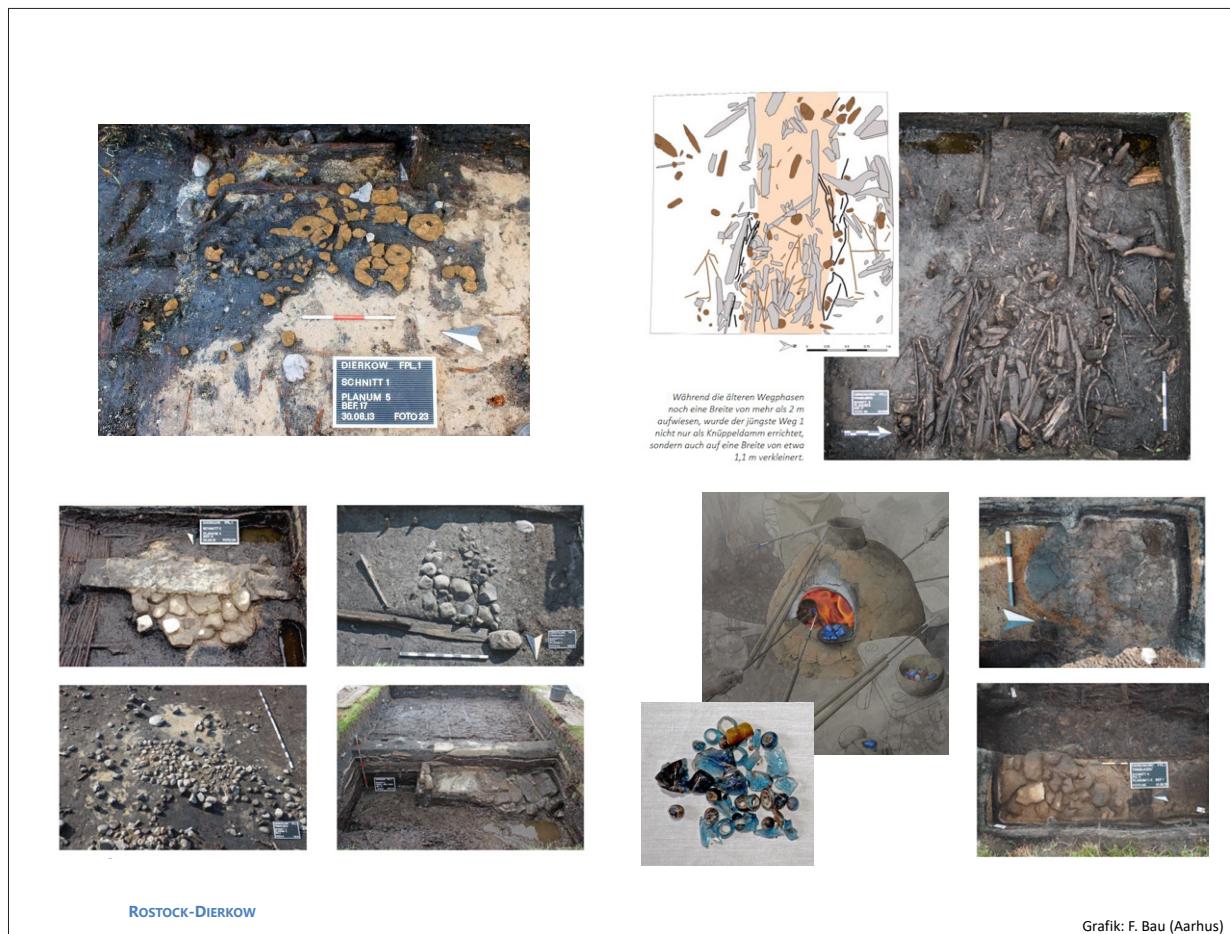


Figure 11 Wickerwork mats from the late 8th century served land development measures.



Figure 12 On a completely exposed plot a 3.2 m x 3.2 m temporary building was excavated.



Figure 13 The subdivision into plots indicates a settlement of controlled accommodation for traders and craftsmen like in Ribe. Reconstruction drawing by F. Bau (top).



Figure 14 Diving investigations in 2013 revealed remains of jetties and bridges dating to the 9th century. Reconstruction drawing by F. Bau (top right).



Figure 15 The location of various areas of the emporium in a present-day landscape.



Figure 16. Remains of a ship frame found in the settlement area, probably from a simple 8th to 9th-century ship type.



Figure 17 Numerous dress elements attest to the Scandinavian character of the settlement.

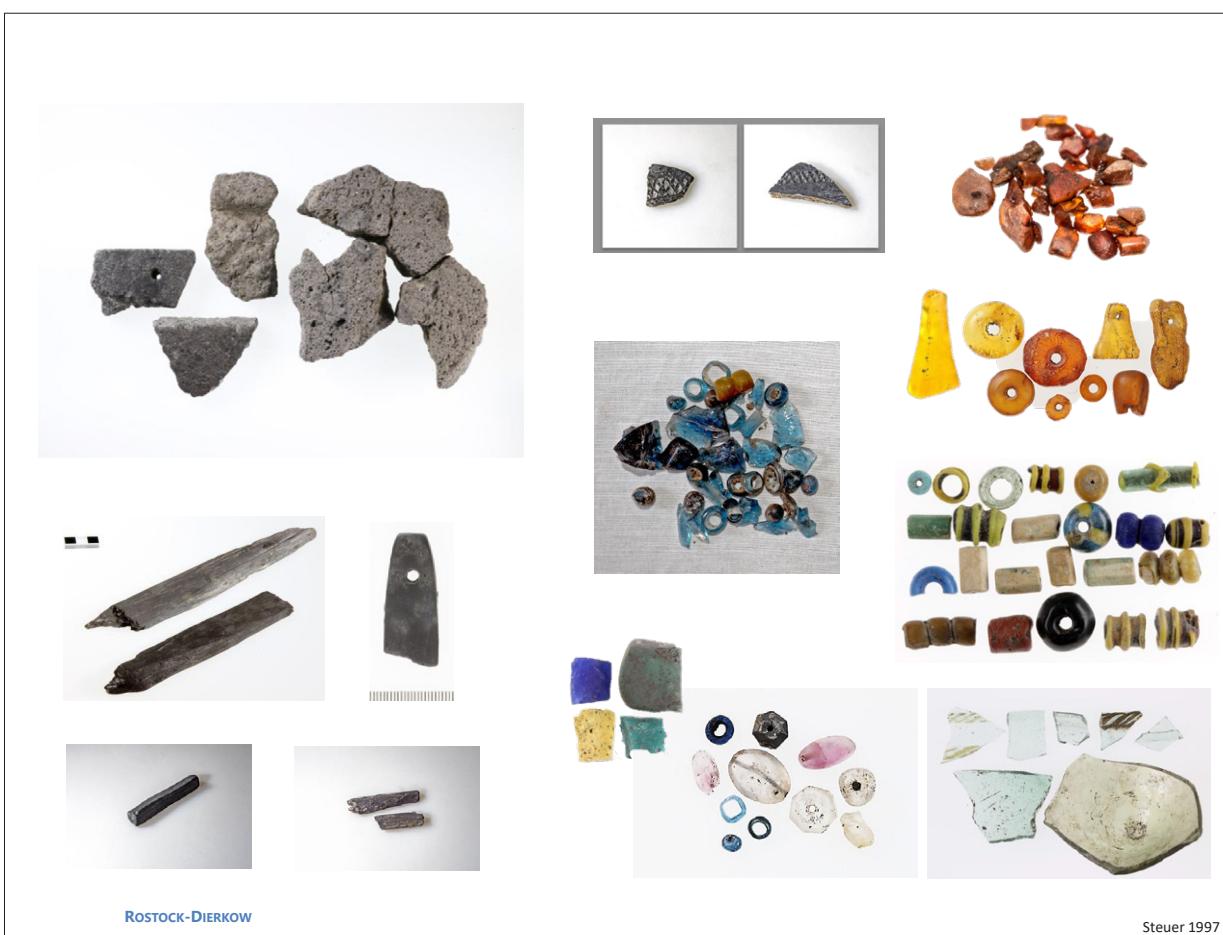


Figure 18 The finds pattern indicated contact to Scandinavia (whetstones, millstones, soapstone vessels), Western Europe (basalt, pottery, glass, tesserae), and the near East (silver, amethyst, carnelian, rock crystal, and glass beads).

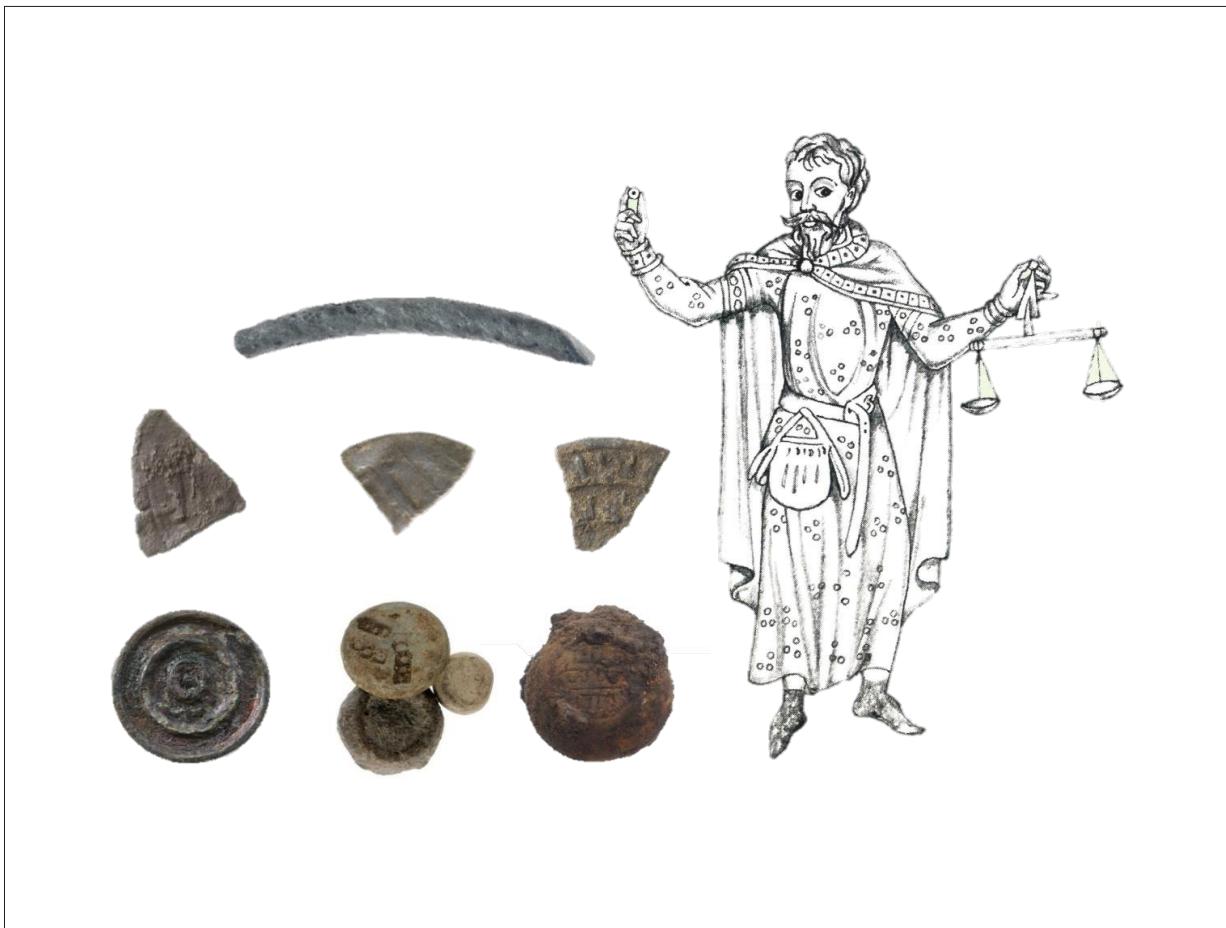


Figure 19. Weights, hack silver, and dirham fragments found at Rostock-Dierkow.

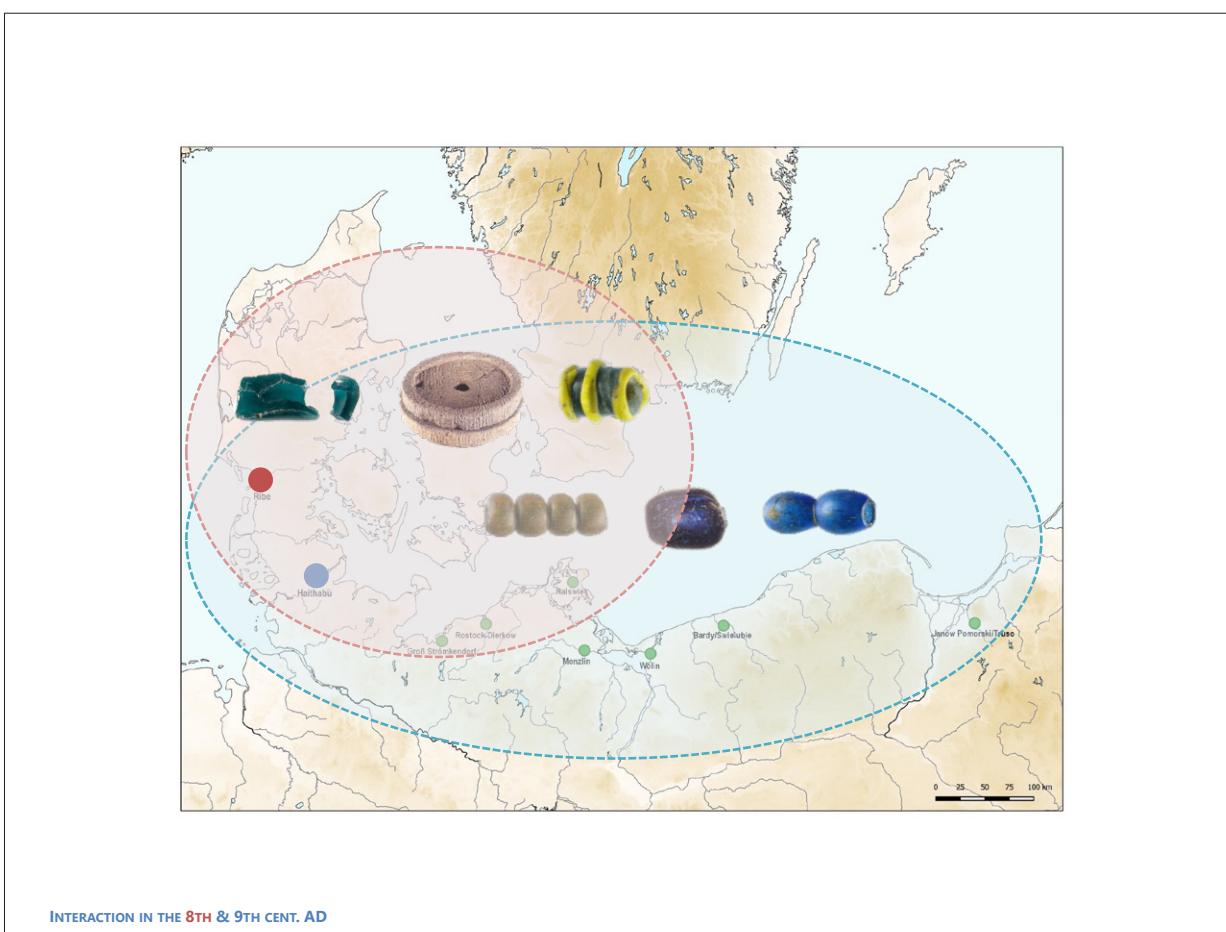


Figure 20 Red marks the distribution of wasp beads (produced in Ribe), Eifel basalt, and blue raw glass (distributed via Ribe). Blue marks the distribution of hollow glass beads presumably produced in Hedeby.

Summary

Introduction

This paper deals with a number of trading sites (emporium) that emerged along the southern coast of the Baltic Sea in the 8th and 9th centuries as the earliest phase of urbanisation. It presents results and new investigations, especially from the Baltic Sea Harbour Project 2013-2019 (funded by the DFG - Deutsche Forschungsgemeinschaft) and new perspectives concerning these sites' economic and cultural background. The focus is on Menzlin, Groß Strömkendorf/Reric, and Rostock-Dierkow, all established in the early and mid-8th centuries, and their role in long-distance trade-, transport- and communication networks. With their associated landing places and harbours, these emporia functioned as important interfaces between sea-borne and land-borne traffic and as spots of departure and arrival for individuals and communities, both for temporary visits and migration.

Presentation

Menzlin

Menzlin consists of a market site and a well-known cemetery with ship-shaped stone settings excavated in the 1970s. Additional small-scale excavations took place in the early 2000s on the cemetery and the paved so-called "Viking Street" that connected the emporium with the Slavic fortification and settlement in Görke south of the river Peene. Extensive metal detecting investigations have increased the find material and provided evidence for long-distance contact, especially with Scandinavia.

Groß Strömkendorf/Reric

Large parts of the trading site and cemetery were excavated between 1995 and 1999, and the results of these investigations have already been presented elsewhere. The paper focuses on the results from an increased metal detecting effort on the site in recent years which led to numerous new finds and new perspectives. By 2020, more than 600 new objects (metal and others) have emerged from volunteer investigations, a small selection of which is shown in this presentation. A large number of Scandinavian brooches indicate a clear connection to Scandinavia, Denmark, and especially Ribe. This is emphasised even more in the coins. In the emporia in the southern Baltic Region, sce-

attas are only known from Reric. Twenty-eight of the forty-one sceattas from Reric are of the Wodan-Monster type, presumably minted in Ribe. The distribution of sceattas, dirhams, and weights found in Reric indicates that two concurrent monetary systems may have existed: a weight money economy in the area of the trading site alongside a monetary system based on Danish sceattas. Other features and finds, such as the pithouses, pottery, and glass object, also point toward a close connection between Ribe and Reric. Contemporary written sources describe the engagement with the Danish king with both emporia. The restructuring of Reric from an ordinary settlement to a planned market site took place in the 760s. It can be suggested that the Danish king established Reric and Ribe along with Åhus in Scania in the 8th century on the periphery of his empire – an interpretation also strongly highlighted by Morten Søvsø.

Apart from the Scandinavian contact, influences from Western Central Europe and more far-reaching contacts can be detected in the find material. This includes brooches, pendants, belt buckles, etc. of Merovingian, Carolingian, and Saxon-Frisian origin. Other finds point towards Avar Khaganate and Byzantium.

A few coin-finds from the 8th and 10th centuries indicate that even after the destruction of Reric in AD 808, trading activities took place at Reric, perhaps now as a landing site on the way to Ilow, which became the main political and economic centre in the region until the 11th-12th centuries.

Rostock-Dierkow

The site displays a comparable finds inventory to that of Reric. The settlement existed from the 8th to the 10th century with its economic heyday in the 8th century. Excavations have taken place in the 1980s and recently since 2013 in both the settlement and harbour area. Several pithouses have been investigated. The settlement is interpreted as continuously occupied and probably as a planned development. Particularly noteworthy are the late 8th-century large-scale wickerwork mats laid out on the peaty subsoil west of the Primelberg as a planned land development. The settlement seems to have developed from perhaps a seasonal settlement of regulated plots with only semi-permanent small houses, which in the 9th century was covered by a layer of loamy sand and replaced by a more permanent settlement of log houses. The finds ma-

terial parallels that of Reric well and points toward contacts in Scandinavia, Western Europe, and the Near East. However, the absence of sceattas indicates that Rostock-Dierkow held a different role in the same trade network and that the Scandinavian influences here were not maintained under the same circumstances as in Reric.

Conclusion

Despite this difference, Reric and Dierkow were connected in one trade network. The closer evaluation of the differentiated distribution patterns of individual finds groups in the Southern Baltic region in the 8th and early 9th century is still in its early days. However, some general trends can be pretended. In the 8th century, Ribe seems to have played a central mediating role into the Baltic region – especially recognisable by the distribution of wasp beads (produced in Ribe) and Mayern Eifel basalt and blue glass. The eastward distribution of these artefacts rarely reached beyond Warnow. Therefore, it can be assumed that the sites east of Warnow did not participate in this early trade network to any great extent. In the 9th century, however, the mediating role into the southern Baltic region seems to have shifted from Ribe to Haithabu. The distribution of hollow glass beads and segmented row beads presumably produced in Haithabu indicates that the economic trade network now covered the entire southern Baltic region. Please note, that these are still preliminary ideas that will need to be investigated in-depth in the future.

Further Reading

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fen im 1. Millennium AD. Standortbedingungen, Entwicklungsmodelle und ökonomische Vernetzung. RGZM-Tagungen 31 = Interdisziplinäre Forschungen zu den Häfen von der Römischen Kaiserzeit bis zum Mittelalter in Europa 4. Mainz, pp. 127–136.

Part 3:

Networks of the earliest cities

Between the city and the rural hinterland - the metal-rich sites

Mogens Bo Henriksen (Odense City Museums)

Abstract:

The first part of the Velux project included the examination of c. 25,000 metal detector finds from the hinterlands of Odense and Aalborg. The purpose of the systematic analysis of this vast material was to investigate the character and significance of the metal-rich sites in the landscapes where Odense and Aalborg developed as urban communities during the late Viking Age. The timeframe of the study was 400-1100 AD. 2083 finds from Aalborg's and 2272 from Odense's hinterland are dated to this period. In the Limfjord-region, twenty concentrations of objects (called finds complexes) were recorded; the number is twenty-six from northeast Funen.

Analysing groups of objects expressing specialised functions (called markers), for example, trade, crafts, and military activities, it has been documented that Odense developed in a landscape with a dense contraction of rural settlements. Several of these, lying 1-3 km apart, had areas with specialised functions. These metal-rich sites were especially densely concentrated to the east and northeast of the medieval city. This landscape also contained other significant elements in the Viking period, with the Ladby ship burial and a barrage in Kerteminde Fjord as the most prominent examples. The landscape between present-day Odense and the eastern coast of Funen can be characterised as "a central landscape" or a "central space" with a cluster of sites with specialised functions from the 6th century onwards. There is no (apparent) central *place* among these finds complexes – but several sites with elements reflecting cen-

trality 300 years before specialised activities – especially metal crafts – are documented in the area covered by medieval Odense. Moreover, the metal-rich sites developed c. 400 years before Odense was mentioned in written sources (AD 988) and the construction of the ring fortress Nonnebakken around AD 980.

Odense was not founded as an "island" in a landscape of rural settlements. Odense is the westernmost and latest step in the emergence of specialised settlements around the southern part of Odense Fjord. It is an open question why Odense, as an urban site, developed precisely in the western outskirts of this central space and not as a development of one of the existing specialised settlements – for example, Åsum or Ejby Mølle. Like Odense, both sites were located close to natural passages over Odense River and connected to the main road from Nyborg to central and northern Funen.

Due to the different sampling techniques in the metal-rich sites (metal detecting) and the town (excavations and stray finds), it is challenging to describe the development of the specialised crafts from the late Iron Age into the early medieval period in detail. As some of the activities – for example, metal casting – may have taken place in both environments simultaneously, we cannot point out when the specialised activities moved from the spaces in the rural landscape into the towns. Moreover, we miss an answer to *why* this development took place.

The metal-rich sites – between the city and the agrarian hinterland

*Malene Refshauge Beck, Torben Trier
Christiansen & Mogens Bo Henriksen*

Figure 1 Title.



Figure 2 Metal detecting has become a trendy hobby in Denmark, generating many new finds.

Research areas – Aalborg and Odense

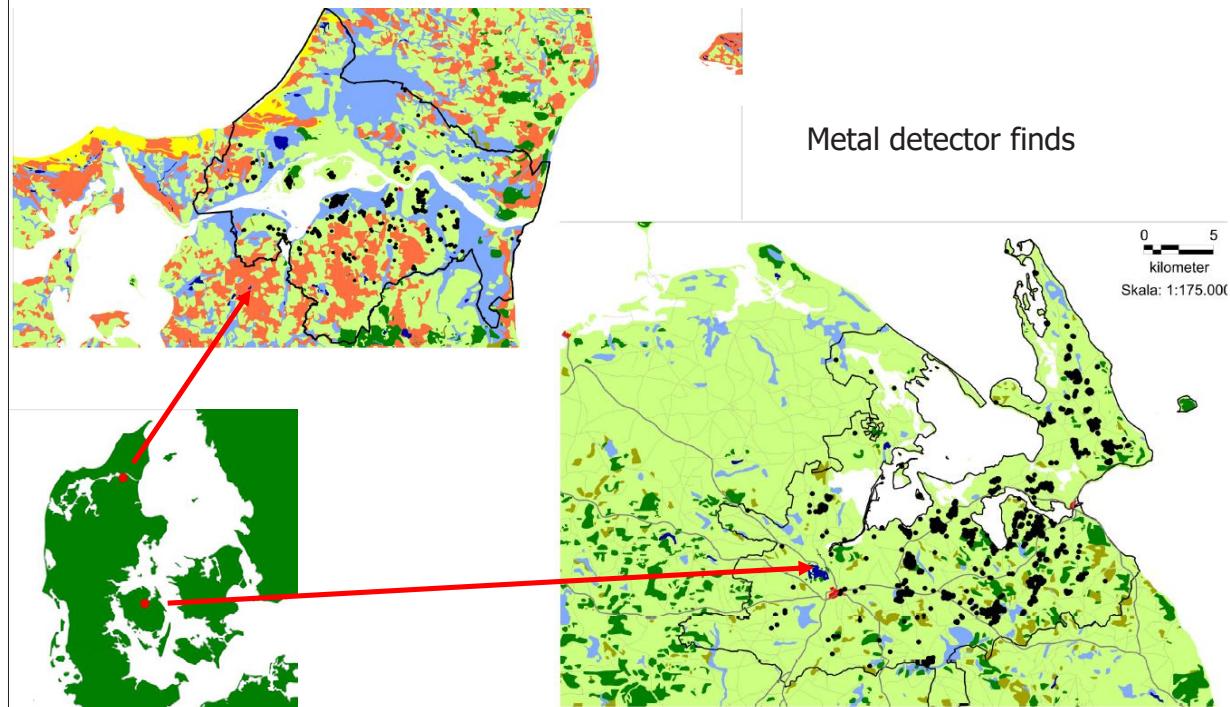


Figure 3 The two areas were included in the study, but this presentation will focus on north-eastern Funen.

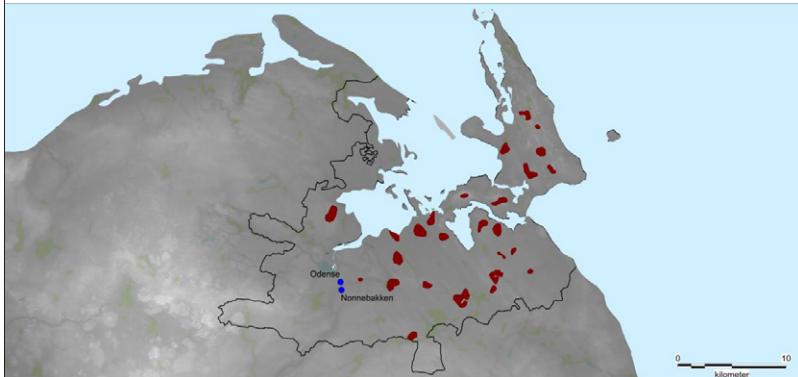
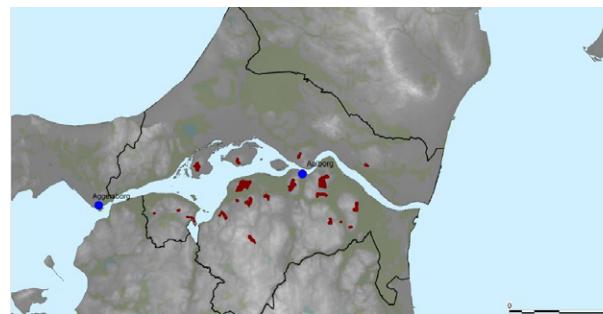


Figure 4 Metal detectorists received similar instructions, and data was collected and registered systematically.

Finds complexes

Defined area with more than 10 objects from 400-1100 AD

Research area c. 2112 km²
16996 objects
20 finds complexes



Research area c. 450 km²
8110 objects
26 finds complexes

Figure 5 Data is not evenly distributed in the two search areas.

Examples from Northeast Funen



Figure 6 The finds are very heterogeneous, ranging from lumps of lead to gold jewellery.

Research questions - *objects and activities*

When: Chronological distribution.

What: Activities – focus on specialized functions:



Figure 7 It was decided to focus on well-dated objects expressing significant or specialised functions – so-called markers.

Research questions - *structure*

Relation to urban Odense and Aalborg

Moreover....

Relation to landscape including the sea and streams.

Relation to infrastructure (roads/passages).

Relation between sites.

Figure 8 The research questions.

Chronological challenges

25-50% of the metal objects can not be dated accurately

Huge amount of Medieval coins

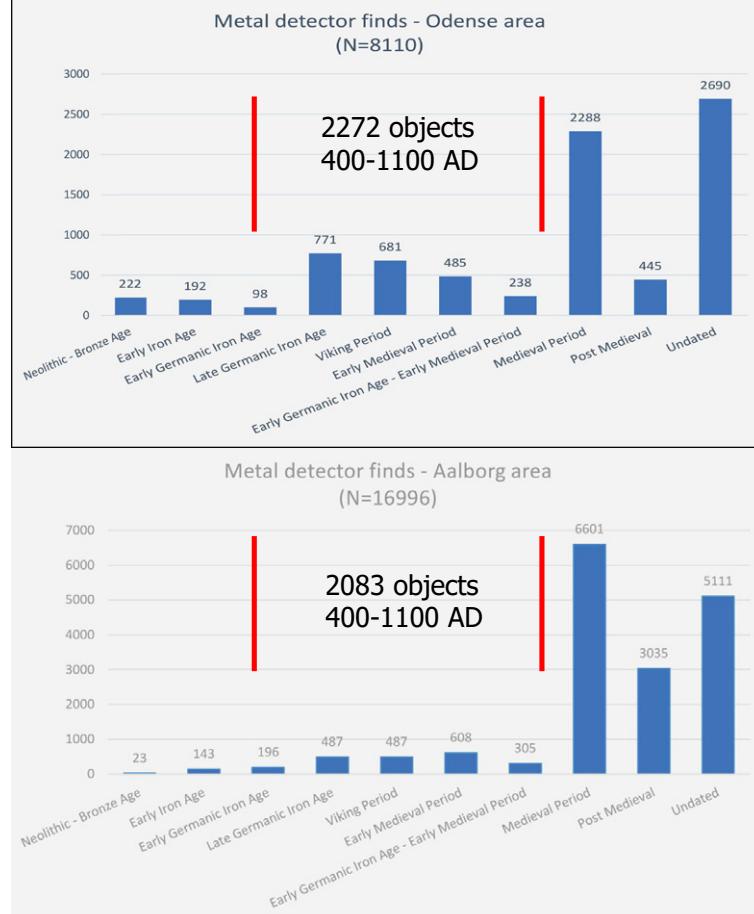


Figure 9 Many of the objects can not be dated. Up to 50% have a broad dating range. Medieval coins are not part of the study.

First and second generation metal rich sites

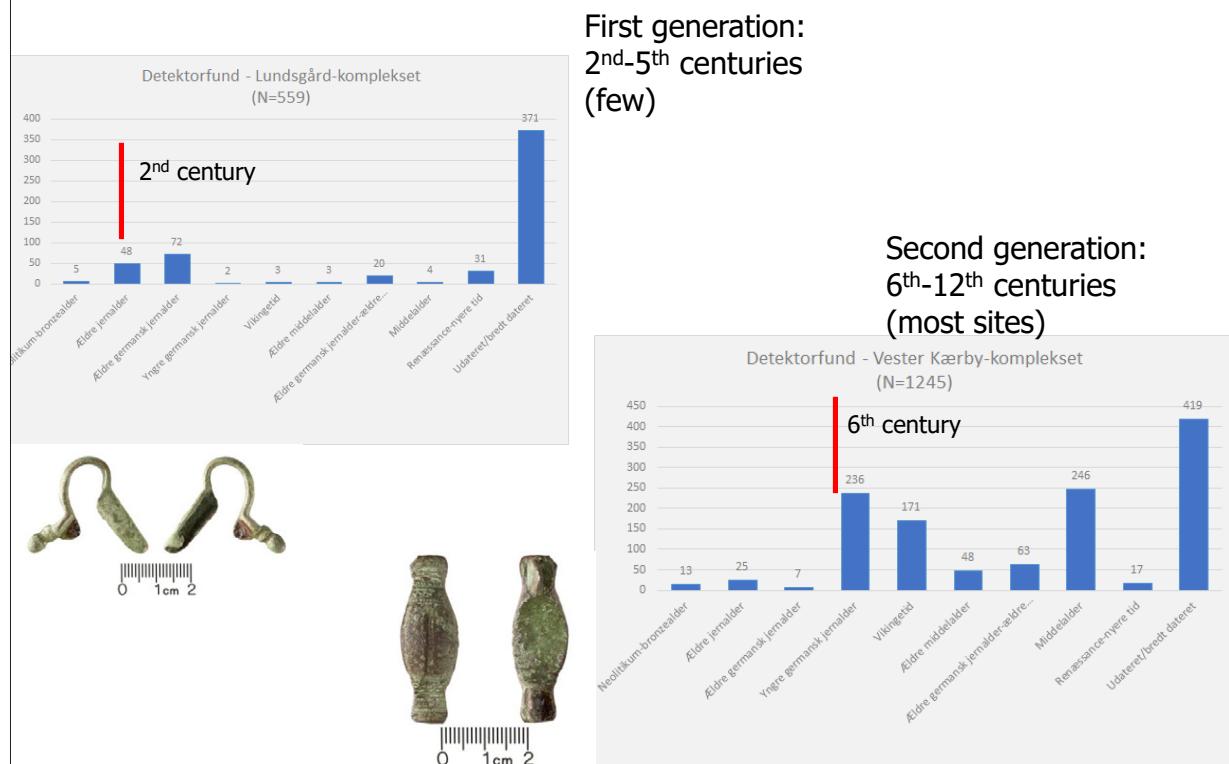


Figure 10 The finds complexes can be divided into two chronological groups.

Crafts – metal casting and textile production



Figure 11 Many objects related to crafts or production. It is unknown if they are contemporary.

Miscasts, models and source criticism



Figure 12 Difference in production technique is reflected in the finds material and may lead to wrong conclusions.

Coins and scales – trade?



Figure 13 Weights and coins may represent trade as well as crafts.

Continental and insular objects – trade?



Figure 14 It is challenging to conclude whether imports result from trade or raids.

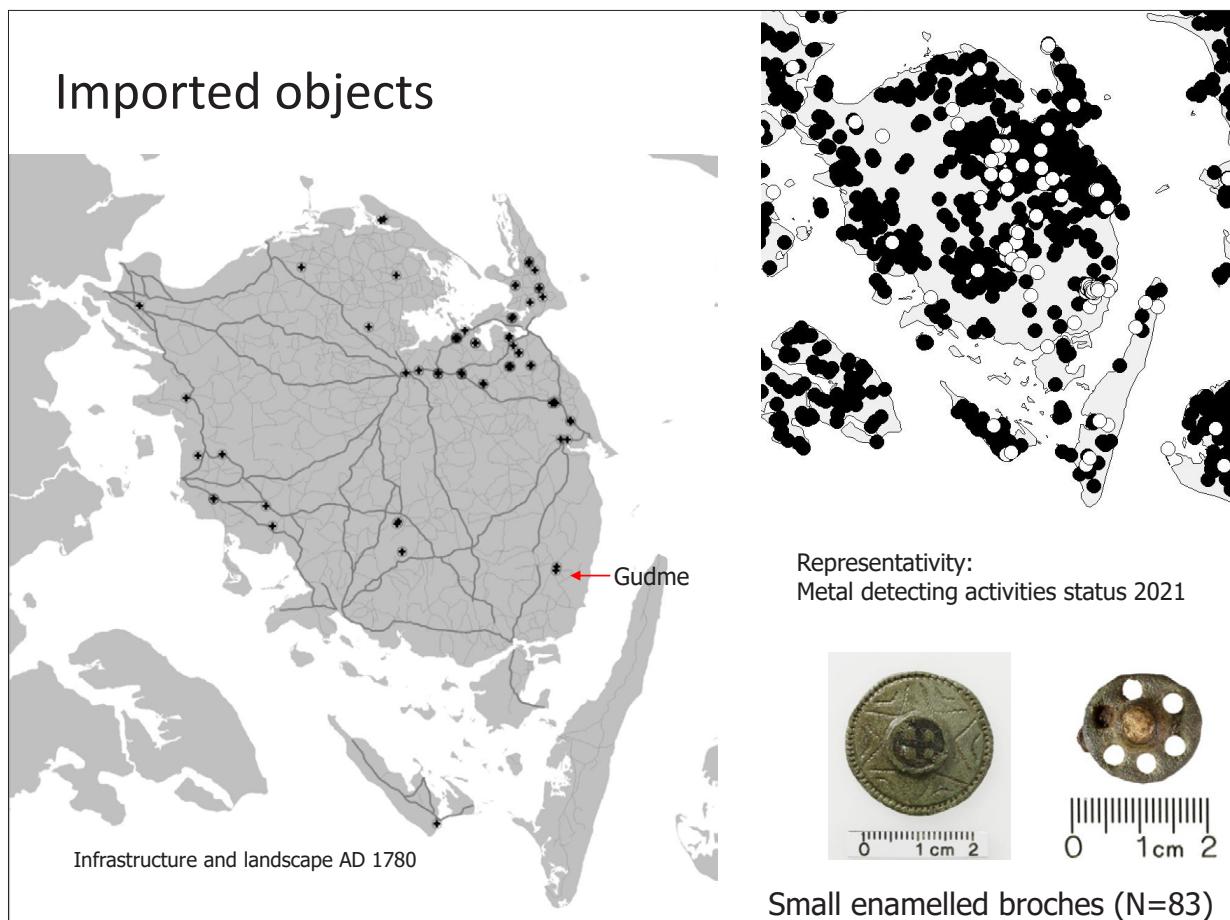


Figure 15 There is a concentration of imported objects on north-eastern Funen.

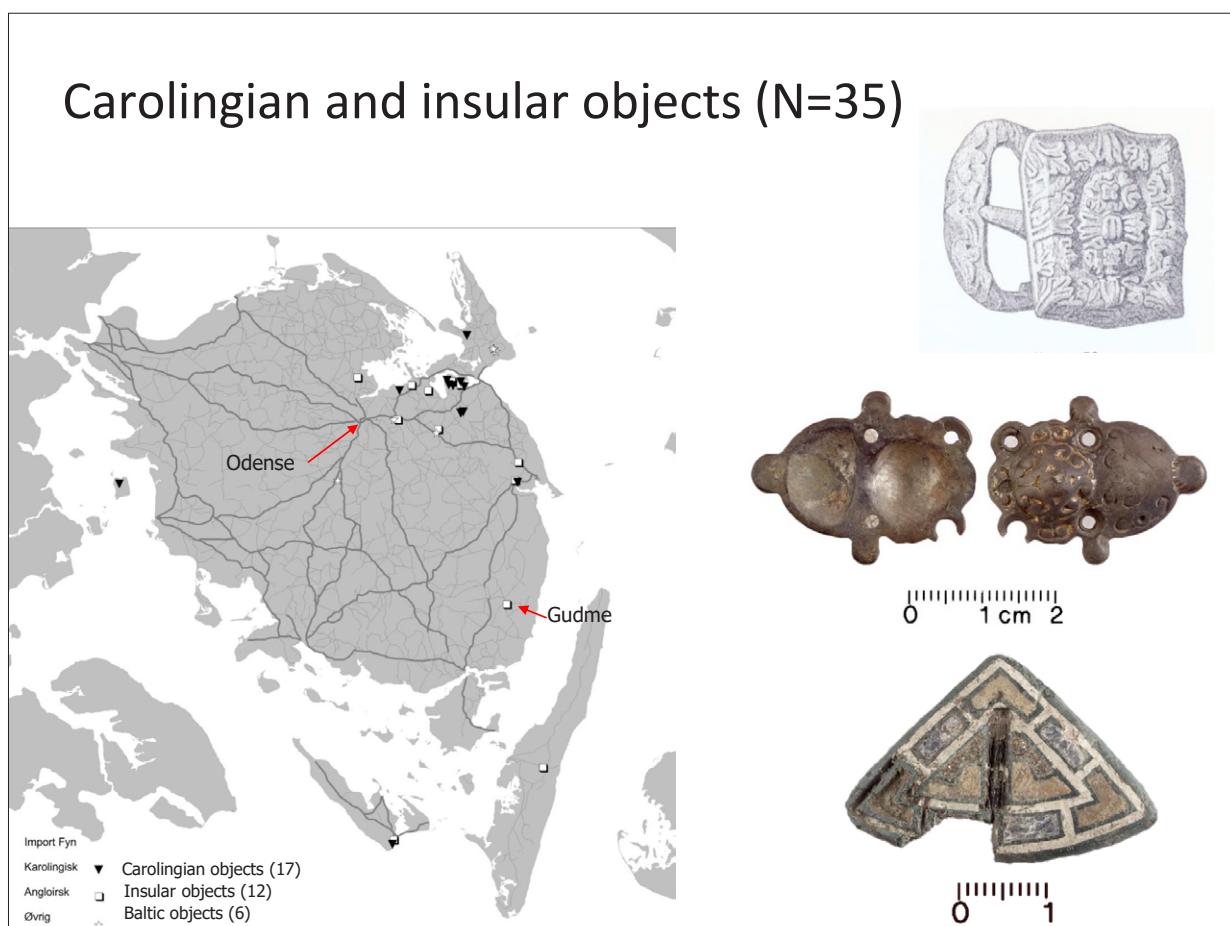


Figure 16 The distribution of prestigious objects of Carolingian, Insular or Baltic origin.

Common elements

In general, the finds complexes represent multi period accumulations of objects.

Most complexes begin in the 6th century AD and continue into the Middle Ages- in the Limfjord region perhaps a little bit earlier.

The metal objects from most complexes represent several types of activities (multi functional).

Metal casting, textile production and trade is represented at most sites.

Figure 17 Summary of the common elements.

Relation to villages and infrastructure

Most of the second generation metal rich sites are related to agrarian villages.

- Most of the sites are related to road systems and/or passages.
- First generation metal rich are *not*!
- None of the sites seem to have a maritime orientation.

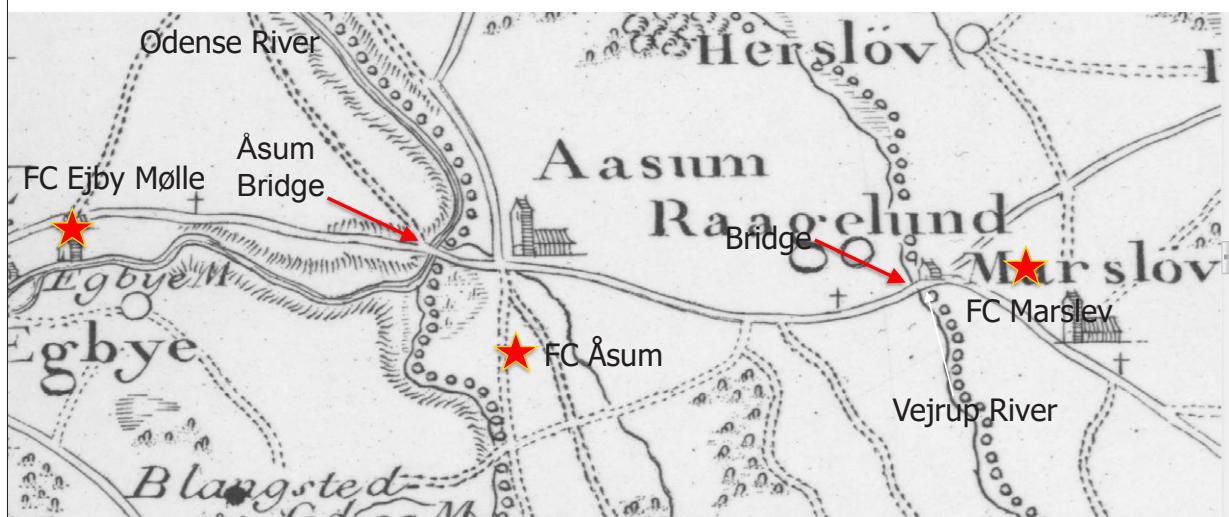


Figure 18 A discontinuity in the 6th century can be detected through the distribution of the material.

Chronological relation to Odense

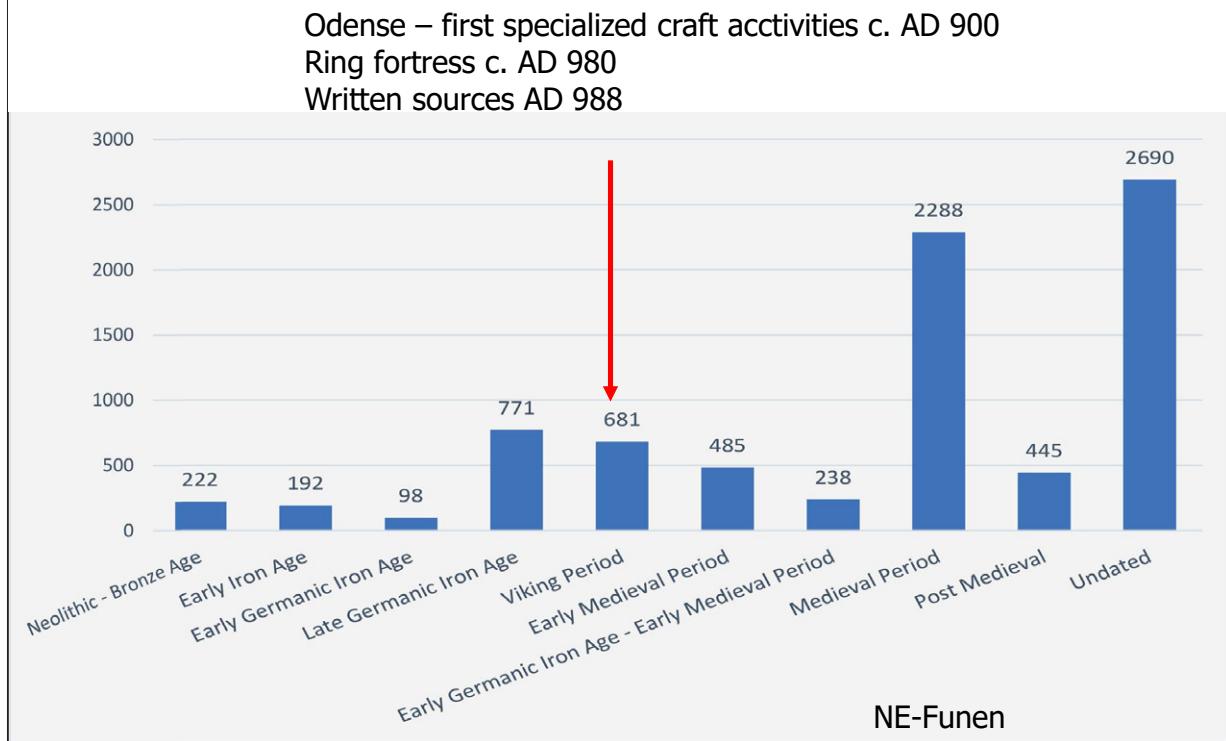


Figure 19 The pattern may be related to a restructuring of the rural settlement in the 6th century, c. 400 years before Odense is mentioned in written sources.

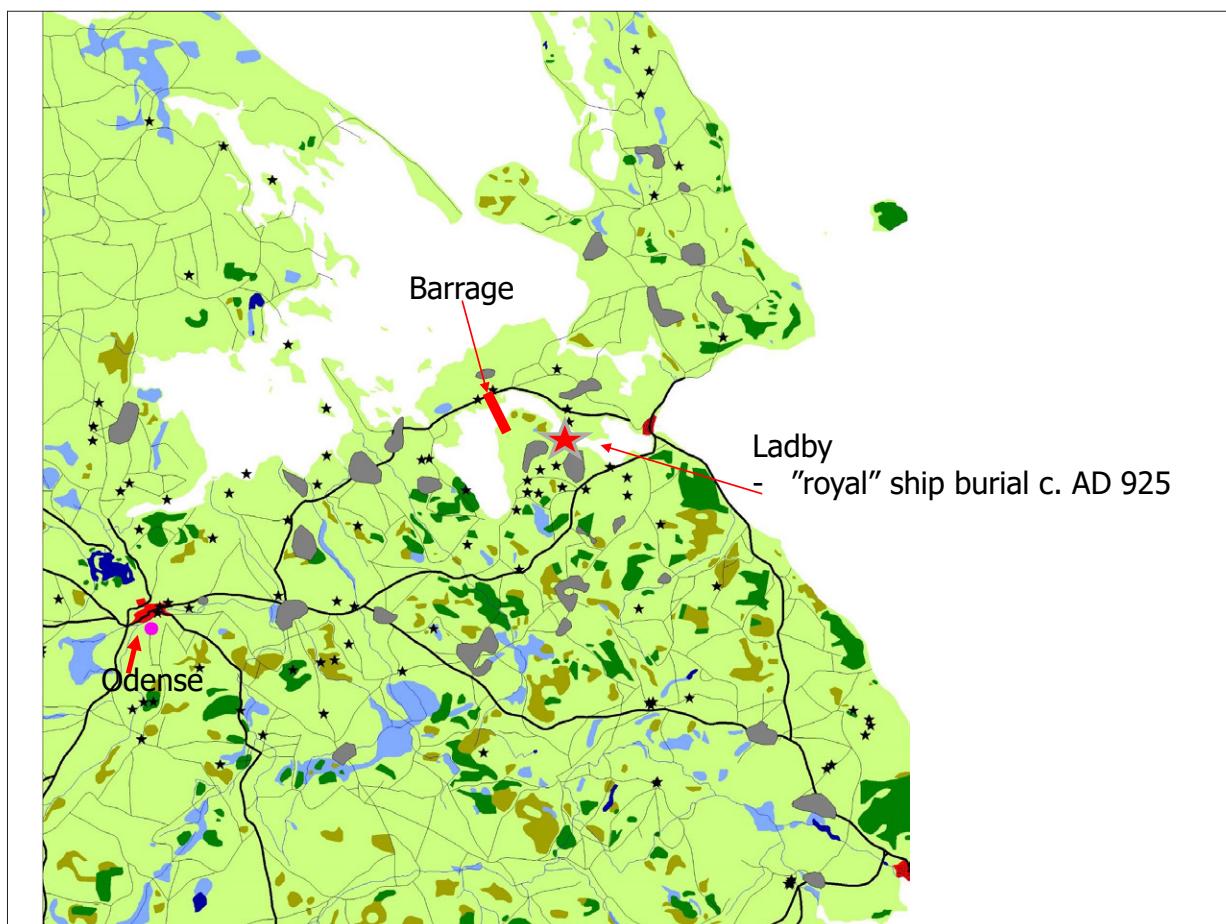


Figure 20 Other central elements in the landscape.

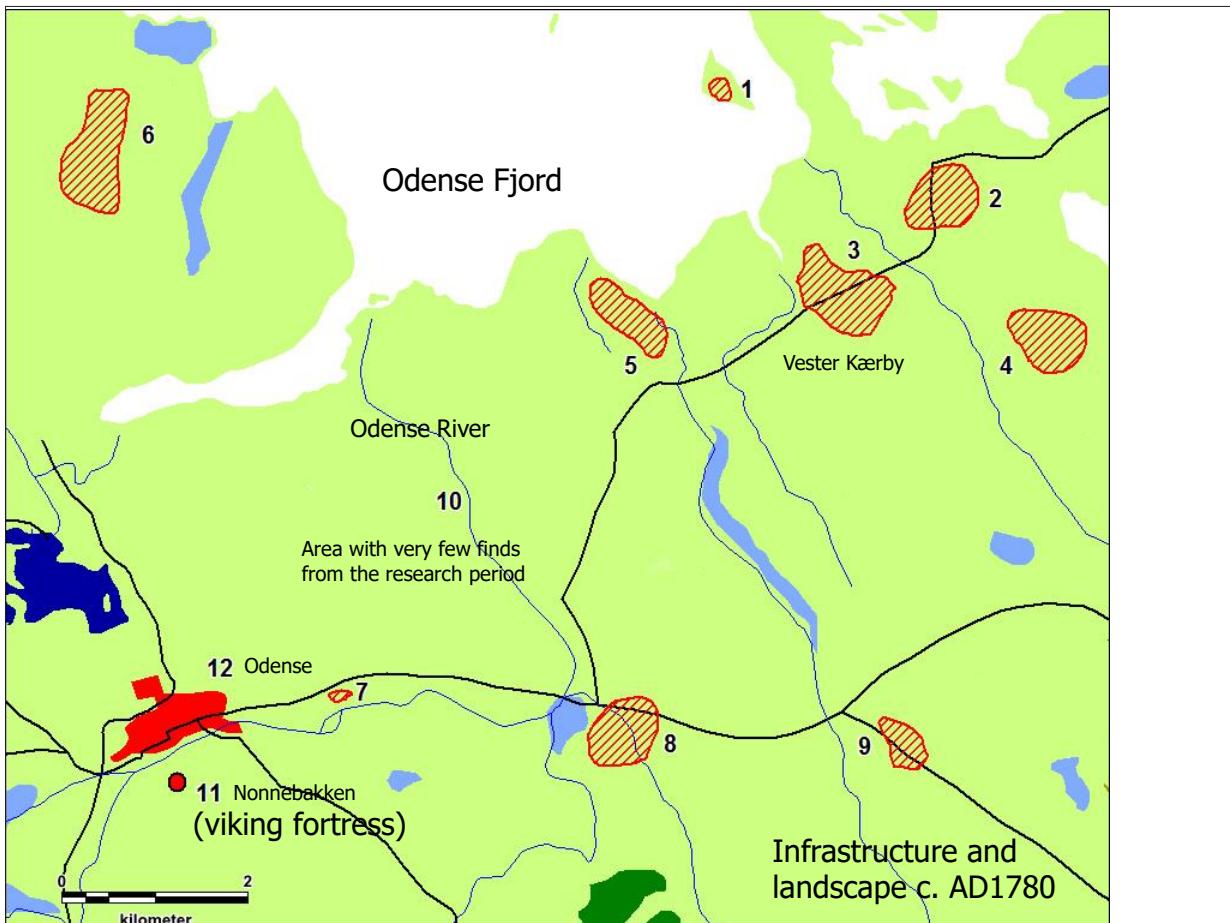


Figure 21 Odense is the westernmost and latest step in the emergence of specialised settlements around the southern part of Odense Fjord.

Hinterland – summing up

There is no (obvious) central PLACE – but several complexes with elements reflecting centrality.

Together the finds complexes form clusters of intensive craft and trade activities from the 6th century onwards.

This corresponds with Maria Panum Baastrups definition of a "*Gateway Community*" in the north-eastern part of Funen and around Aalborg.



Figure 22 Summary of the findings.

Different methods – different materials



Figure 23 Finds related to crafts in Late Viking-Age Odense.

Brooches – Odense and hinterland

| Status October 2018 | Hinterland | | Odense | |
|---------------------|----------------|-----------------|-----------------|-----------------|
| Period | Fibula, number | Fibula/25 years | Fibula, number | Fibula/25 years |
| E. Germanic I.A. | 53 | 9 | 0 | 0 |
| L. Germanic I.A. | 277 | 35 | 0 | 0 |
| Viking Period | 124 | 5 | 4 (Nonnebakken) | 0,3 |
| Early Med. Period | 64 | 11 | 16 | 2,5 |
| Total | 518 | | 20 | |

Figure 24 Preservations conditions in the town produce different finds material. Were they manufactured in the city or the hinterland?

From space to place

| | Phase 1, c. AD 700-900 | Phase 2, AD 900-1000 | Phase 3, AD 1000-1100 |
|---------|--|---|--|
| Odense | Fishery? Crafts Cult centre - late | Crafts Ecclesial centre (Royal power, Nonnebakken) Cult centre | Crafts Ecclesial centre Royal residence/administration Mint Dense settlement/infrastructure |
| Aalborg | Crafts | Crafts? Royal power (fortification)? | Fishery Trade Crafts Ecclesial life Royal residence/ administration? Milling Mint Dense settlement/infrastructure Weapons/military |

Specialized crafts



Unfinished Urnes-fibula and model



Figure 25 It is possible that specialised production moved from rural sites to towns in the late Viking Age. Why is this still the question?

Conclusions

- Aalborg and Odense were not "islands" in a landscape of rural settlements.
- They developed in regions, where trade and crafts had already been specialized and intensive activities for centuries.
- Both cities developed at sites with a central position in relation to land transportation – and Aalborg moreover in relation to land/sea-transportation.

Figure 26 Conclusions.

Moving centers?

- 1: Gudme
- 2: NE-Funen
- 3: Odense
- 4: Havsmarken
- 5: Strandby/Hårby

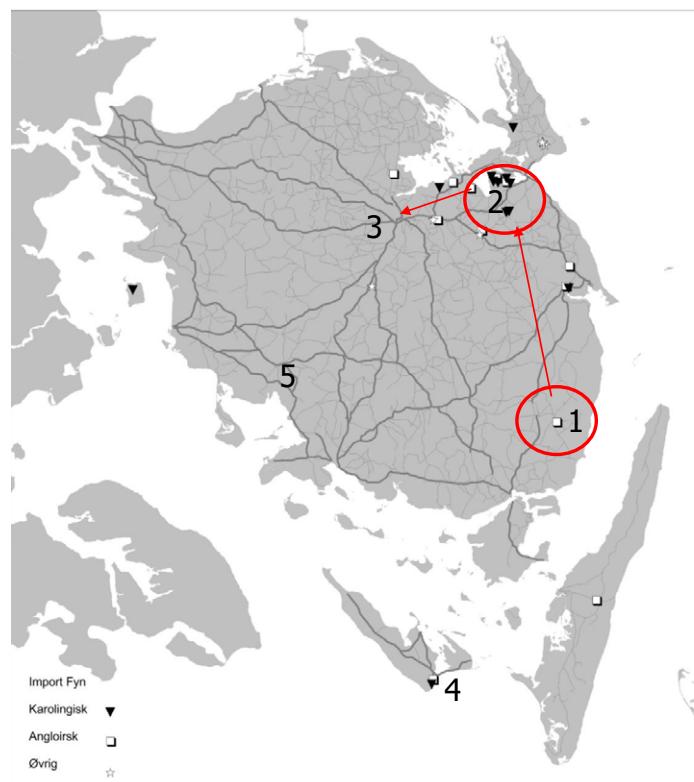


Figure 27 Odense as the last step in the development of moving centres (1,2, and 3). Highly specialised sites never developed into towns (4 and 5).

Summary

Introduction

Metal detecting has become very popular in Denmark during the last two decades. Several thousand people spend their spare time in the fields procuring tens of thousands of prehistoric and medieval finds every year.

The Velux project decided to include the metal detector finds from the hinterland of the two cities to investigate if the material could be used to analyse structures in the landscape where Aalborg and Odense developed as cities during the Viking Age.

Presentation

The historical circumstances of the detector surveys and documentation in the two research areas are not entirely alike. Therefore, this presentation focuses on north-eastern Funen, where the past fifteen years of practice have ensured a more comparable material. The hinterland of Aalborg is c. 2112 km², and from this area, 16,996 objects were included in the research project. The same numbers from the hinterland of Odense are c. 450 km² and 8110 objects. The metal finds are not evenly distributed over the two areas. In the hinterland of Aalborg, twenty concentrations of objects (so-called finds complexes, which means a defined area with more than ten objects from 400-1100 AD) were recorded. From the north-eastern Funen, the number of finds complexes is twenty-six.

As Figure 6 illustrates, the metal finds are very heterogeneous, ranging from lumps of lead to gold jewellery.

It is essential to approach such a large and heterogeneous material with a well-defined set of research questions. Therefore, it was decided to focus on well-dated objects expressing significant or specialised functions. These find types were labelled as markers.

The study also had a structural dimension to fit the research project's overall goals. It was analysed how the finds complexes are related to the prehistoric landscape and supposed infrastructure and the two medieval towns, Odense and Aalborg. When analysing a sample of metal detector finds, it is a great challenge that a large share of the objects cannot be dated precisely. Typically, 25-50% of a finds sample will have a very broad dating

frame. Moreover, medieval coins make up a large share of the finds. In the Limfjord area, more than 14,900 objects were left out for that reason. From north-eastern Funen, the number is 5838 out of 8110.

The finds complexes can be divided into two chronological groups—the first-generation group dates from the 2nd-5th centuries and the second-generation group to the 6th-12th centuries. First-generation complexes are rare and are only found in north-eastern Funen. In many complexes, increased activities can be documented from the late Germanic Iron Age (c. AD 550). If we count the number of datable finds, it is often followed by a decrease in the Viking period. Is this an expression of the level of activities or a source critical challenge?

The find material contains a chronological paradox. Often it consists of large amounts of ingots, weights, melted bronze and other signs of bronze and lead casting, but unfortunately, these finds have a broad or even very broad dating frame. Therefore, we cannot equate this material with an abundance of well-dated fibulae, mountings, models, etc., from the same sites.

Although miscasts and unfinished products can date a casting process, these markers do not necessarily inform us about the production location. It reveals another challenge when analysing a material of stray finds: Without excavations, we cannot document the formation processes that formed the metal-rich sites. Moreover, most models are from the Viking period, although the material from the previous centuries typically dominates a find material. This does not necessarily indicate an intensive production in the 9th-10th centuries but is simply a question of production technique. The models were used for serial casts, especially disc brooches and disc-shaped pendants – but other types of brooches (for example, plate fibulae from the late Germanic Iron Age) did not include the use of such models.

Weights and coins are present at most sites, including Carolingian, Cufic, and West European coins. Many are cut or transformed into pendants – and there are only a few presumed or well-documented hoards in the material. The material may represent craft as well as trade or even other activities. It is also challenging to interpret imported objects, expressing trade and plunder. From a small-scale perspective, we can conclude that they

represent foreign contacts of unknown characters. In a larger view, concentrations of these markers can provide interesting information.

Related to the hinterland of Odense, the distribution of enamelled brooches was analysed from a regional perspective. When comparing with the mapping of metal detector surveys, we can conclude that the north-eastern Funen area stands out with its huge concentration of this find type. As is the case in this area, the enamelled brooches are also connected to metal-rich sites in connection with larger roads and intersections (as mapped c. AD 1800) in other parts of the region.

When analysing the distribution of even more prestigious objects of Carolingian, Insular and Baltic origin in a regional perspective, it is evident that these markers also cluster in north-eastern Funen, especially in the area close to the north-east of present-day Odense around Kerteminde Fjord. Except for a marked concentration on the south-eastern tip of the island of Ærø to the south of Funen, this concentration of finds also indicates that the north-eastern Funen area had a special status in the Viking period. The distribution of the two groups of imported objects is assumed to reflect over-regional elite networks. It is worth mentioning that the south-eastern Funen landscape around the Iron Age centre of Gudme is represented by only a very few finds from these markers; this area was no longer a part of the over-regional elite networks at that time.

In general, the finds complexes represent multi-period accumulations of objects. Most complexes begin in the 6th century AD and continue into the medieval period. The metal objects from most complexes represent several activities such as metal casting, textile production, and trade.

The finds complexes are located 1-3 km apart, especially along the medieval main road from Odense to Nyborg. Around Kerteminde Fjord, a lot of second-generation complexes evolved. Most of these sites are related to villages with presumed roots in the pre-Viking period. On the contrary, the first generation finds complexes are isolated from this infrastructure and the villages. Therefore, we can observe a discontinuity in the middle of the 6th century. It is also essential to stress that none of the complexes has a maritime orientation.

The simultaneous beginning of the metal-rich complexes in north-eastern Funen in the 6th century

might be related to restructuring the rural settlements around AD 600. This took place c. 300 years before specialised activities – especially metal crafts – were documented in the area now covered by the city of Odense. Moreover, it took place c. 400 years before Odense was mentioned in written sources (AD 988) and the construction of the ring fortress Nonnebakken around AD 980.

In the Viking period, north-eastern Funen also contained other central elements of significance, with the Ladby ship burial and a barrage in Kerteminde Fjord as the most prominent examples. The landscape between present-day Odense and the eastern coast of Funen might be labelled "a central landscape" or a "central space" with a cluster of places with specialised functions from the late Germanic Iron Age onwards. In the southwestern periphery of this central space, a place of central significance - a town – developed in the late Viking period.

Odense is the westernmost and latest step in the emergence of specialised settlements around the southern part of Odense Fjord. There is no (apparent) central place among these finds complexes, but several with elements reflecting centrality. Together the finds complexes form clusters of intensive craft and trade activities from the 6th century onwards. It is still an open question why Odense emerged precisely in the western outskirts of this central landscape and not as a development of one of the existing specialised settlements – for example, Åsum or Ejby Mølle? Like Odense, both sites were located close to natural passages over Odense River and connected to the main road from Nyborg to central and northern Funen.

Due to the different techniques used to sample material from the metal-rich sites (metal detecting) and the Viking Age towns (excavations and stray finds), it is rather difficult to describe the development of the specialised activities from the late Iron Age into the early medieval period. As some of the activities – for example, metal casting – may have taken place in both environments simultaneously, we cannot point out when the specialised activities moved from the spaces in the rural landscape into the towns. An example of the material differences from two contemporary contexts is the production of brooches in the earliest part of the medieval period (11th-12th centuries).

Less than twenty brooches have been found in early medieval Odense. We have recorded more than three times as many from the metal-rich sites in the hinterland. Due to preservation factors, some of the types of brooches found in the towns are seldom or never seen in the harsh environment of the ploughed soil at the metal-rich sites, so that fibulae might have been even more common here. Therefore, it is an open question if the early medieval brooches were produced in Odense like Aalborg and Ribe and "exported" to the rural sites. Or does this find pattern reflect different use of brooches expressing different identities in the rural and the urban communities?

Without large-scale excavations in the metal-rich sites and investigations of production sites or workshops in Odense and Aalborg, it is difficult to say precisely when the activities moved from the rural environment and into the urban scene. Late Viking Age might be a qualified guess. However, we are still missing an answer to *why* the development took place.

Conclusions

To sum up and conclude:

- Aalborg and Odense were not "islands" in a landscape of rural settlements.
- They developed in regions where trade and crafts had already been specialised and intensive activities for centuries.
- Both cities developed at sites with a central position concerning land transportation – and Aalborg, concerning land/sea transportation.

From a regional perspective, the development of Odense in the late Viking Age was the last step in development, starting with the early Iron Age centre at Gudme-Lundeborg – transforming into the late Iron Age cluster of specialised settlements in north-eastern Funen. Other clusters of metal-rich sites or even highly specialised production and trade sites, such as Hårby/Strandby at south-eastern Funen or Havsmarken on the island of Ærø, never developed into towns or even settlements of urban character. Not all central spaces evolved into urban places might be an interesting topic for another research project.

Questions

Surprisingly, first and second-generation complexes do not overlap. There is a different picture in the Ribe area where there is an overlap because of continuity in the rural landscape throughout the iron Age. Is it an actual pattern you see?

Often there is a minimal overlap – so small that it does not appear in the graphs. These few older finds might represent different activities, such as burials. The general picture is that first-generation finds are found only in small numbers on second-generation sites – and vice versa.

Further reading

Beck, M.R., T.T. Christiansen & M.B. Henriksen

2021: Metal-rich sites in the hinterlands of Odense and Aalborg. In: M. Runge, M.R. Beck, M.M. Bjerregaard & T.B. Sarauw (eds.): *From Central Space to Urban Place. Urbanisation processes in Viking Age and Medieval Odense and Aalborg, Denmark*. University Press of Southern Denmark, pp. 69-128. Odense.

Christiansen, T.T. 2017: *The Productive Limfjord Region in perspective: A Study of Metal Detecting Sites and Socioeconomic Development in Denmark, AD 400-1150*. Unpublished PhD thesis. Aarhus University.

Trade, import and urban development – the case of Odense c. 1000-1500 AD

Kirstine Haase (Odense City Museums)

Abstract:

Quantitative analysis of imported artefacts and ecofacts is often applied to study the characteristics and significance of trade networks and cultural contacts. Even though such studies may be indicative, they fail to reveal the societal impact of such networks. In this presentation, it is suggested to expand the quantitative analysis with a contextual analysis using the concept of object biographies inspired by Igor Kopytoff and his seminal paper from 1986, *The cultural biography of things: commoditization as process* as well as a classic *chaîne opératoire* approach. This contextual approach allows an assessment to what degree cultural contacts influenced and changed the everyday lives of city dwellers.

The argument is explored through a case study based on the archaeological record of Odense in Denmark covering c. 1000 to 1500. Specifically,

the material from the excavations conducted in the centre of Odense, at I. Vilhelm Wernes Plads from 2013-2016 constitutes the empirical dataset. The dataset comprises more than 20,000 individual finds.

The presentation will be twofold. First, a quantitative and diachronic overview of the type of objects found and what kind of network they represent will be given. Second, a qualitative analysis of the stave-built vessels and their biography will be presented. The study shows that the increase in imports in Odense in the fourteenth century expresses increased connectivity, mobility, and cultural exchange with the northwest European and Baltic regions. It also shows that it was influential enough to change the social practices related to table culture and hygiene measures.



Figure 1 Title. Illustration by Sune Elskær 2017.

1. What are the import patterns of medieval Odense and what cultural influences might there be?
2. Can we see a change in the practices of everyday life?

Figure 2 The overall questions of the presentation.

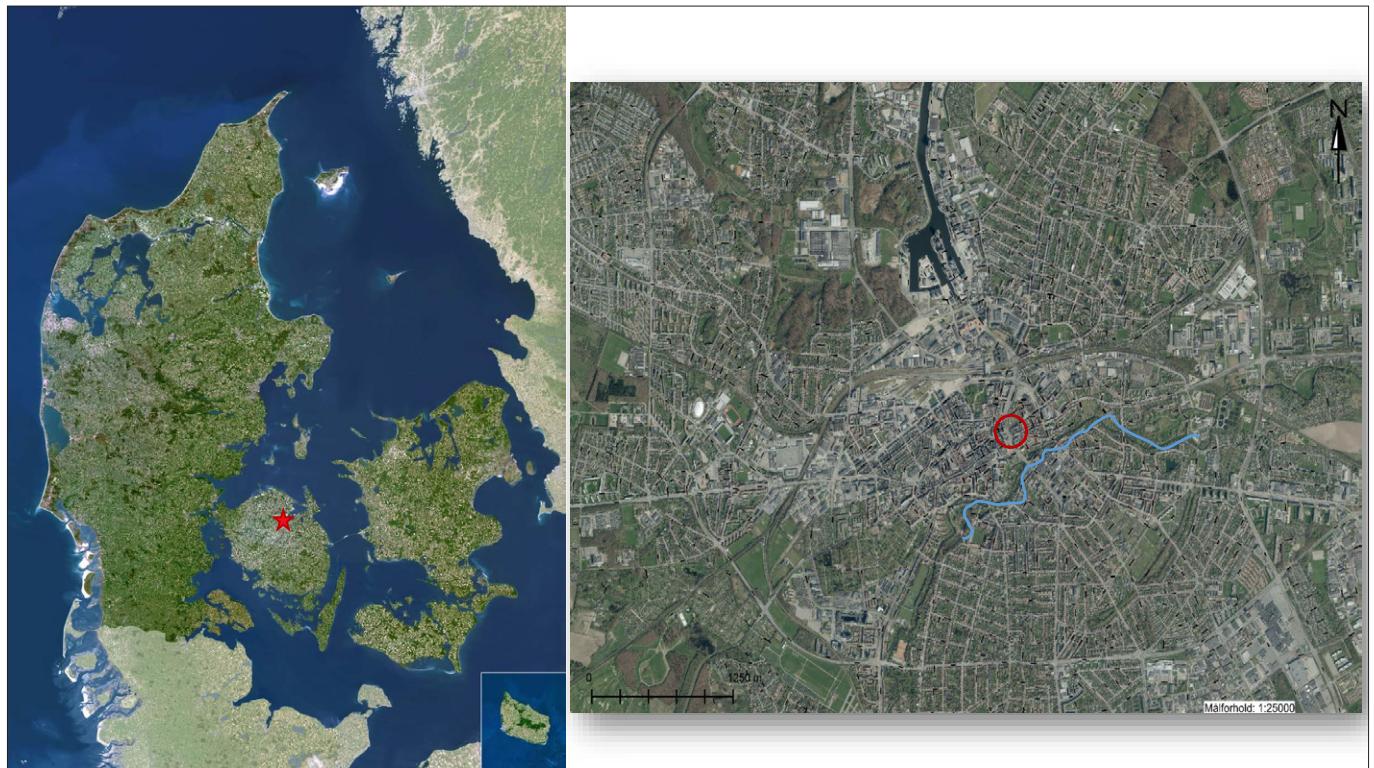


Figure 3 Maps showing the location of Odense in Denmark (left) and the excavations (right) that constitute the case story.

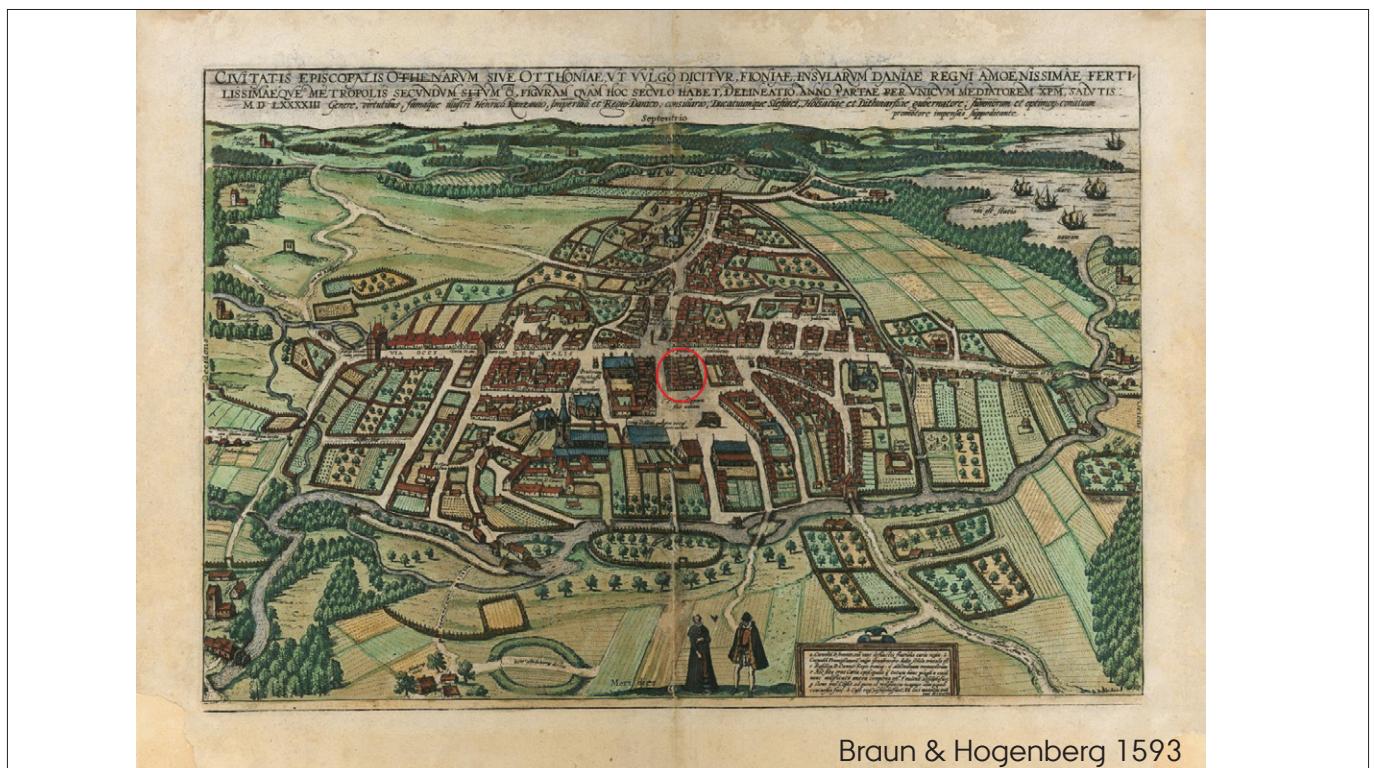


Figure 4 Map by Braun and Hogenberg. Cities of the World c. 1593. The red circle marks the location of the excavations.



Figure 5 A part of the excavated area in the city centre of Odense. Seen from the north. Photo Odense City Museums.

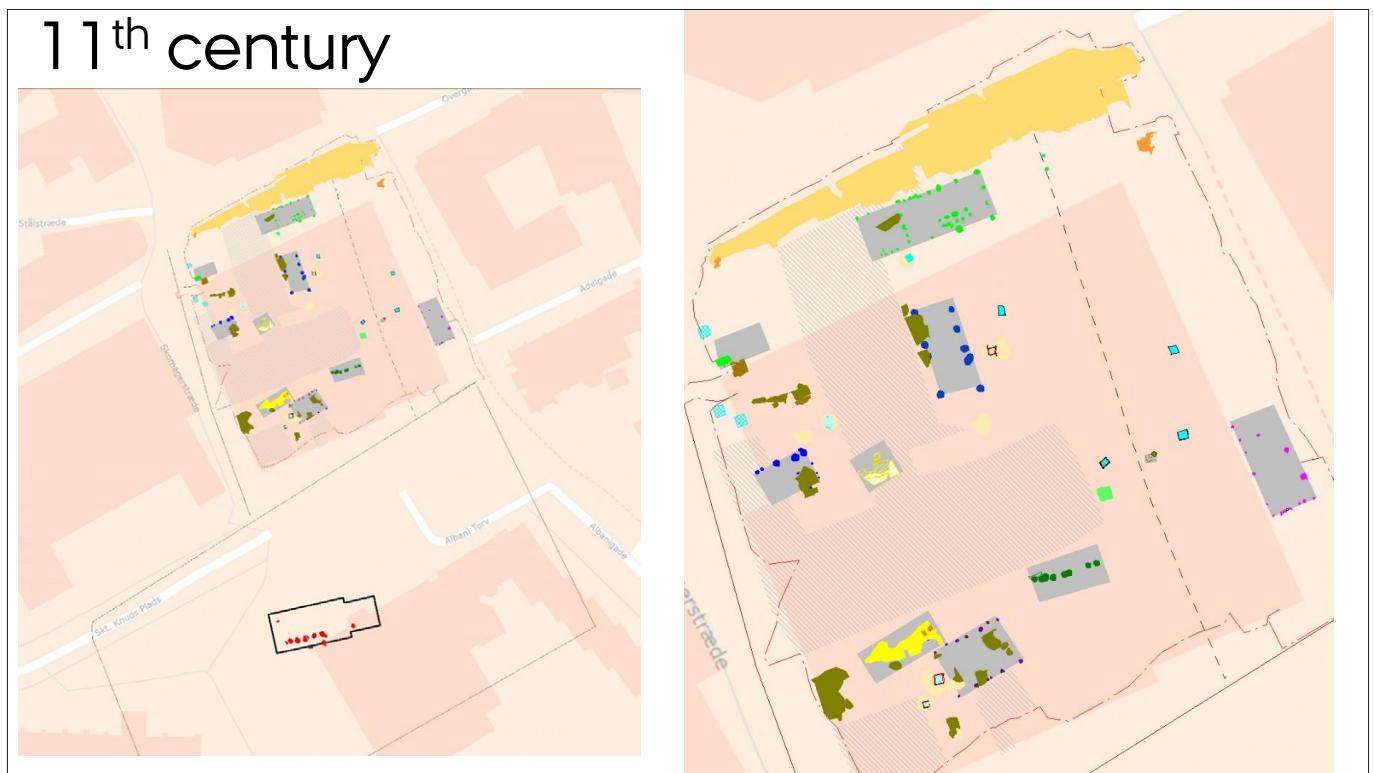


Figure 6 The layout of the area in the 11th and 12th centuries. The grey squares are houses. South of the houses the cemetery and church of St. Alban. To the north (in yellow) the street "Overgade". The main and market street of Odense.



Figure 7 The 11th century street surface north of the settlement. Small stones and wood chippings laid out on the sandy subsoil. The street was up to 8.5 m wide. Photo Odense City Museums.

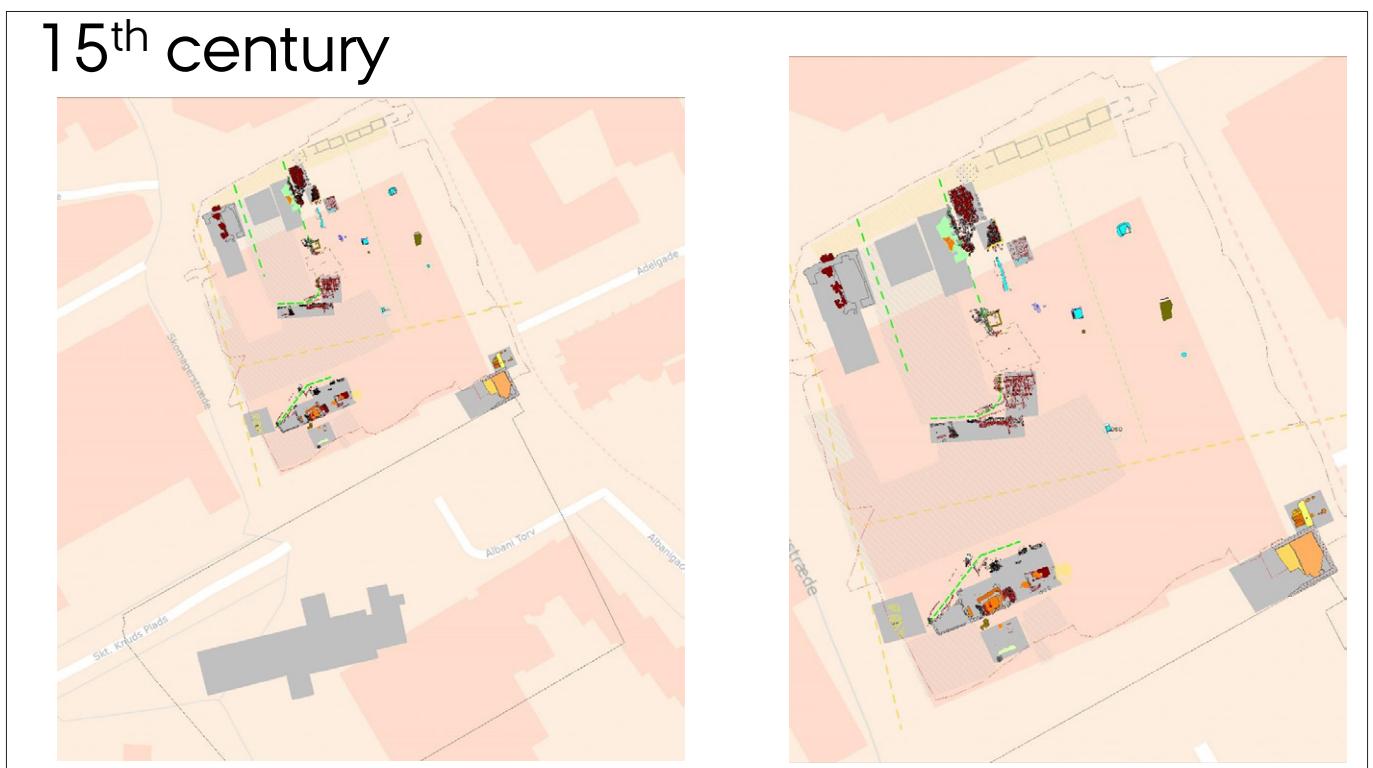


Figure 8 The layout of the area in the 15th century. The grey areas are houses and the orange and green dotted lines are suggested plot boundaries. To the south is the cemetery and church of St. Alban.

Defining import

Local or Regional

Glazed and unglazed local earthenware
 "Baltic ware"
 Antler
 Leather*
 Amber
 Textile*
 Mussels*
 Timber
 Wooden objects*
 Bone objects*
 Animal and fishbone*
 Bog-myrtle
 Appel/pear*
 Plum/cherry*
 Nuts*
 Strawberry*
 Raspberry*
 Spindle whorls (clay)
 Travertine (building material)

Non-local and non-regional

Lead/tin
 Copper alloy objects
 Gold
 Glass objects
 Belgian redware
 Andenne ware
 Proto stoneware
 Paffrath ware
 Pingsdorf ware
 Rouen ware
 Baltic burnished ware
 Lübecker ware
 Stoneware
 Grimstone ware
 Crucibles from Hessen
 Clay Pipe
 Whalebone
 Rock crystal
 Quernstone
 Whetstone
 Stave built vessels
 Barrels
 Walrus tusk
 Scallop shell (pilgrim badge)
 Hops
 Bread wheat
 Grape seeds
 Fig seeds
 Spices
 Iron objects/ Iron slag

Figure 9 The finds categories are divided into local/regional and imported objects. * marks the objects that might also be imported, but are most likely to be local/regional.

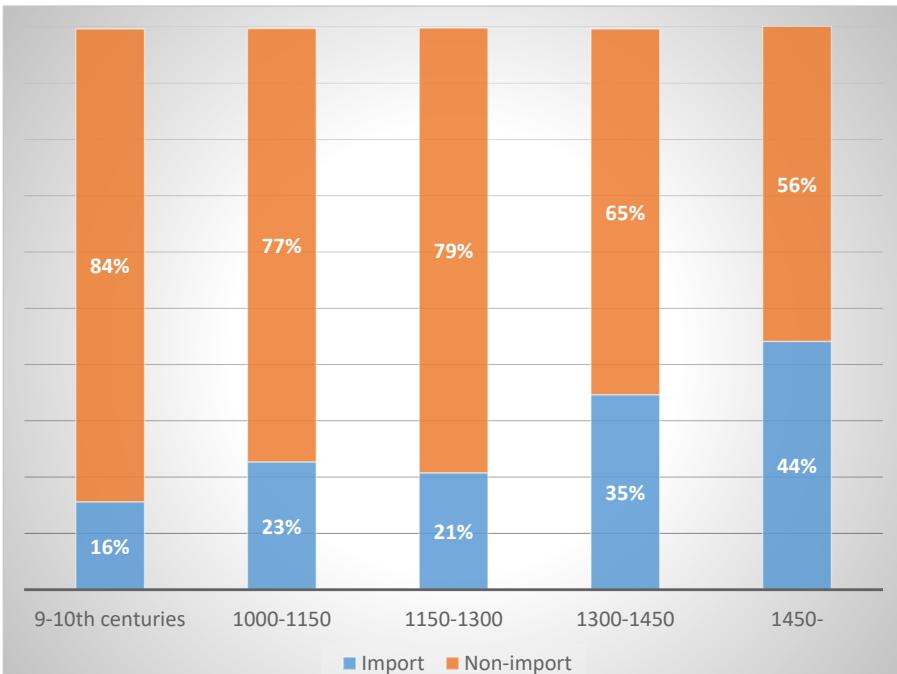


Figure 10 The quantification show an increase in imported goods throughout the medieval period.



Figure 11 The increase in import is related to the establishment of the Hanseatic trade routes and the introduction of cargo ships.



Figure 12 Imports in Odense resemble important nodes in the Hanseatic trade network.

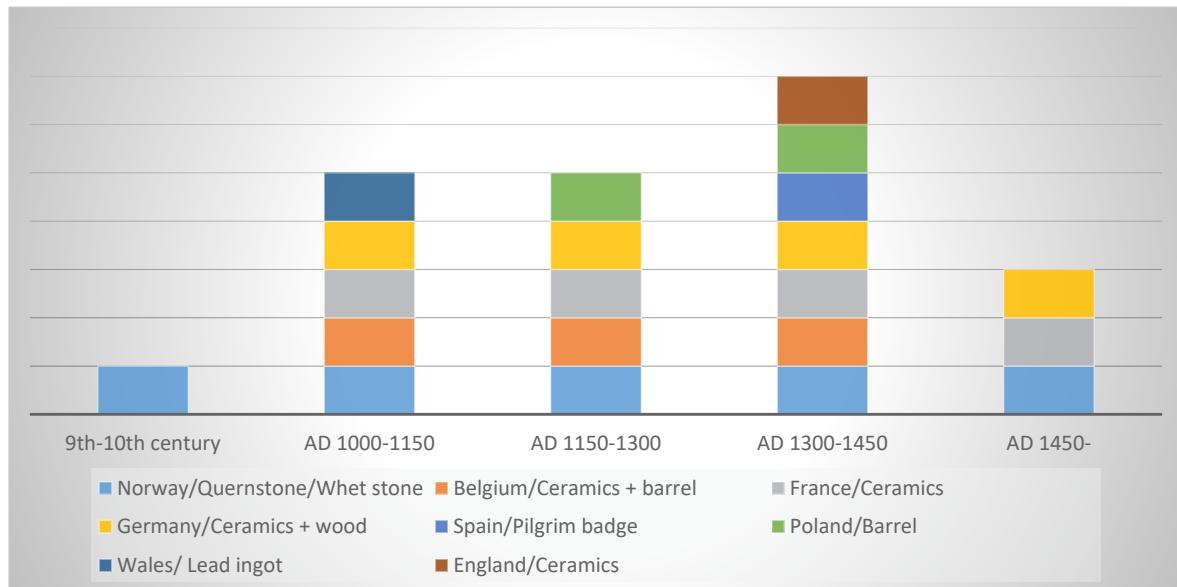


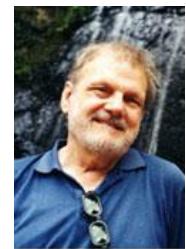
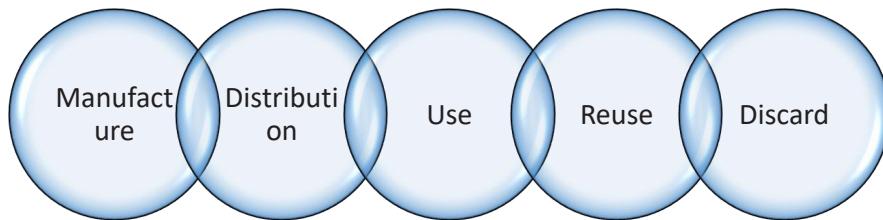
Figure 13 The illustration show what areas are represented when, not the quantity. The diversity in place of origin of the imported goods increase. This is seen as a sign of a higher degree of connectivity. Some areas, such as Norway, are represented throughout the medieval period. Germany dominates in absolute numbers.



Artefact biographies - a contextual approach

Figure 14 Artefact biographies represent the contextual approach to trade, import and urban development.

The cultural biography of things



Igor Kopytoff

Figure 15 Steps in the biography of things as suggested by the author, based on the works of Igor Kopytoff.



Figure 16 A wooden vessel from the early 15th century in Odense. Photo Jens G. Aagaard, Odense City Museums.

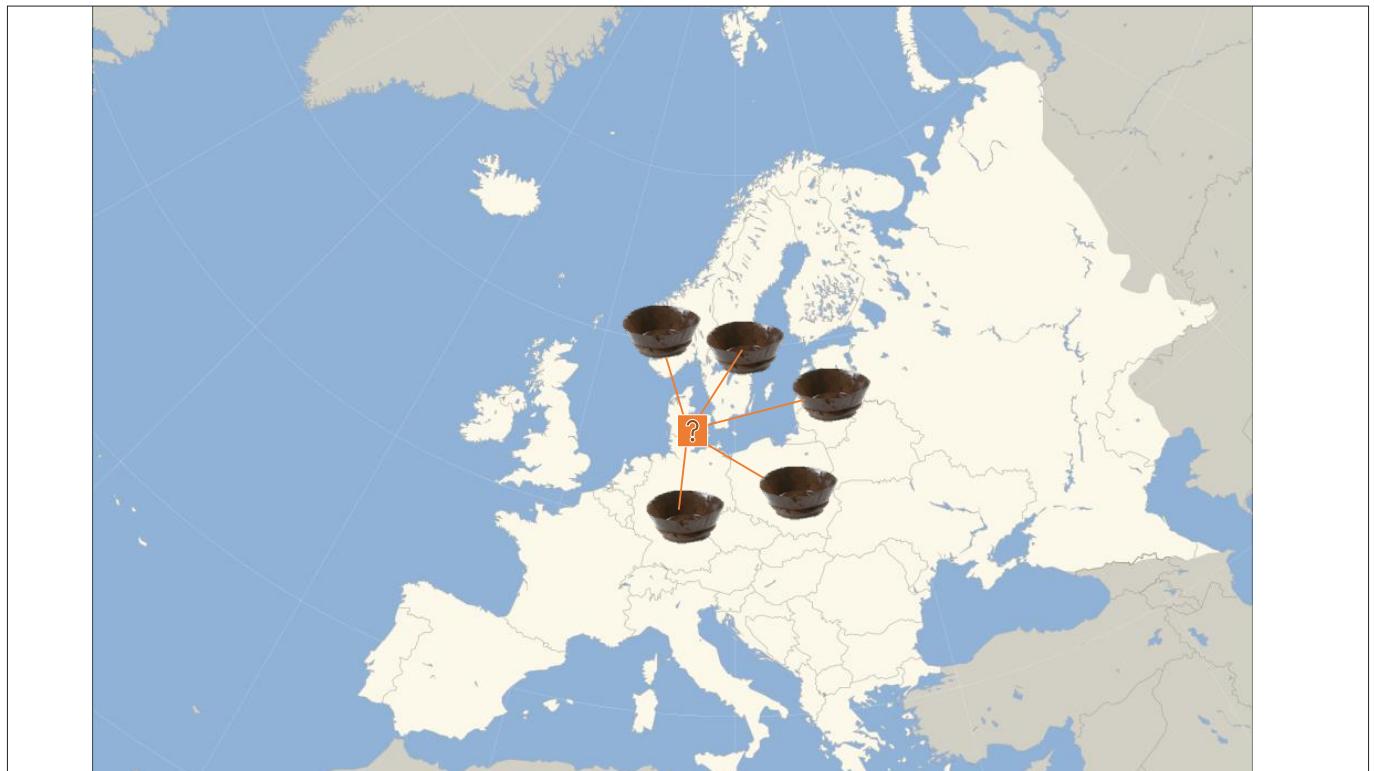


Figure 17 The vessel was made from spruce, which is not native to Denmark. It may come from a wide range of areas.



Figure 18 Depictions of how the wooden vessel was used. It is mainly for drinking.

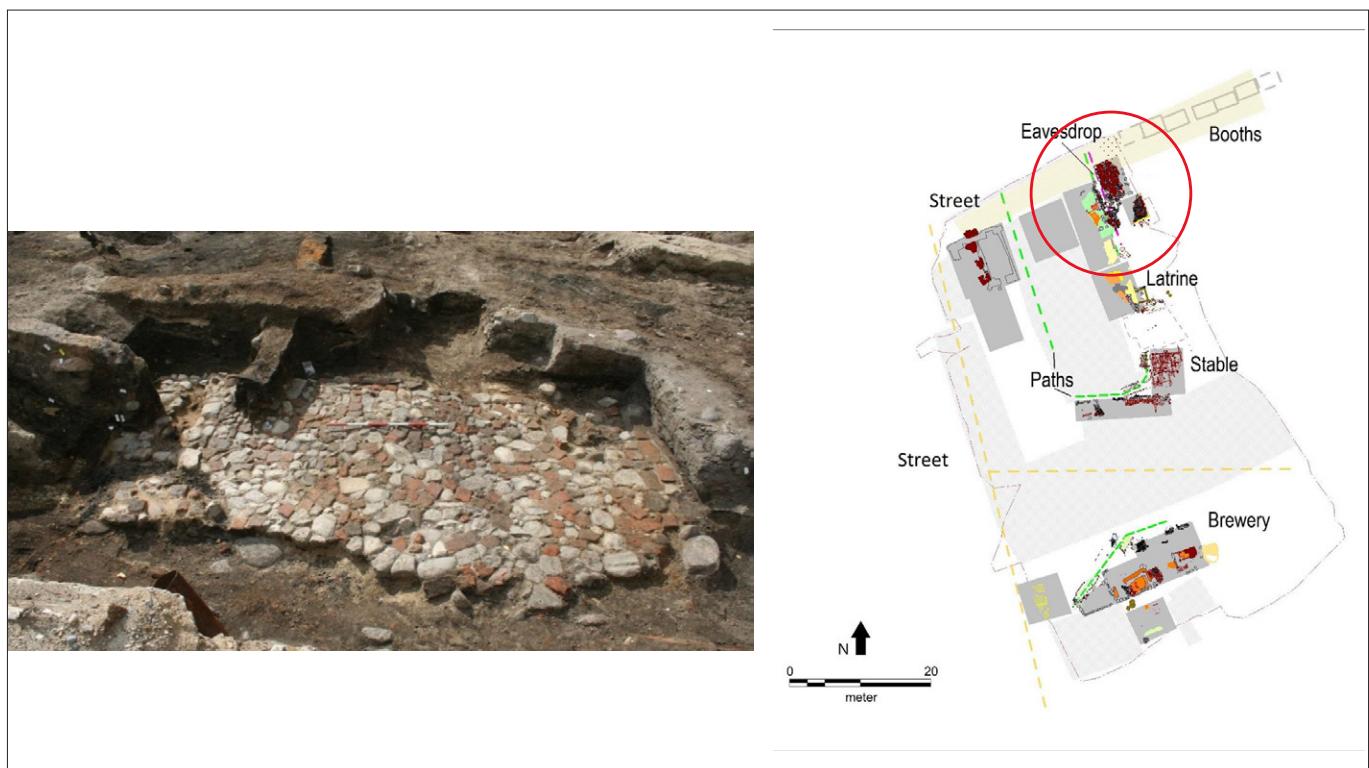


Figure 19 On the right is the floor of the basement in the house that burned in the early 15th century. On the right is a map showing the location of the house and the location of the latrine in which the wooden vessels were found. Photo Odense City Museums.

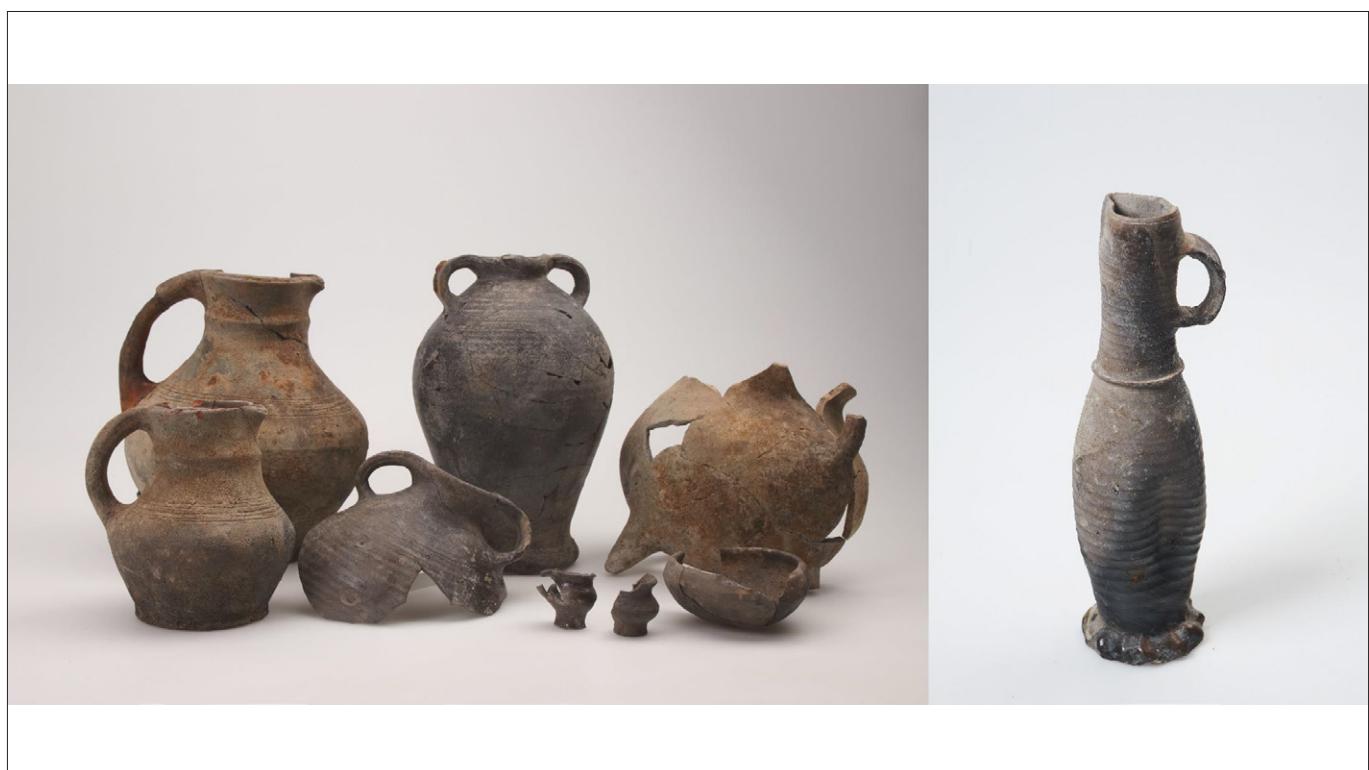


Figure 20 A selection of the table ware found in the ruins of the house that burned down. German stoneware vessels and locally produced jugs. Photo Odense City Museums.

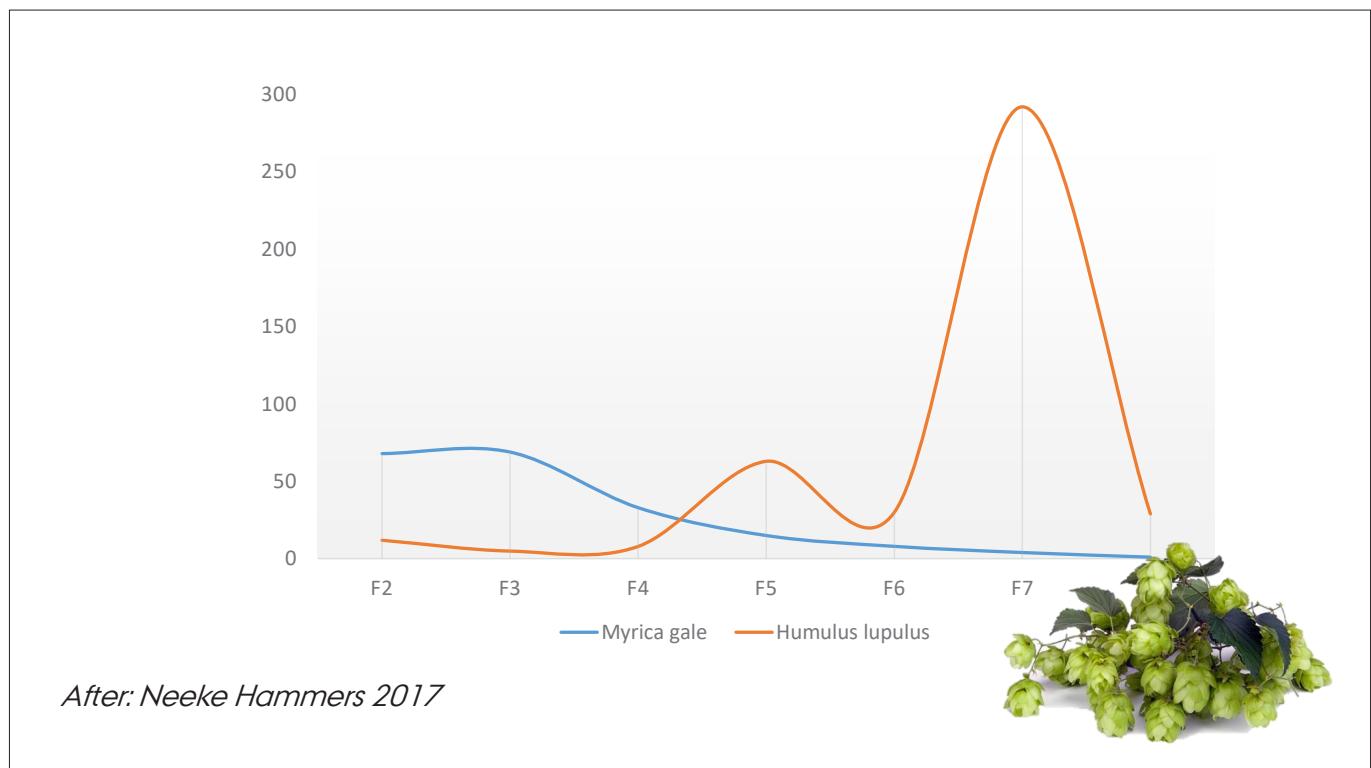


Figure 21 A taste for German hopped beer is illustrated by the increase in presence of hops in the archaeobotanical material. At the same time the presence of sweet gale is decreasing. This was an additive to traditional Danish beer.



Figure 22 The wooden vessel were found in the latrines. The latrines became permanent features - replacing “cat holes”. The vessels were probably water containers. Drawing by Sune Elskær 2017. Photo Odense City Museums.



Figure 23 South of the street and the houses was St. Alban's church - a wooden church. And the new stone church dedicated to St. Canute. Drawing by Sune Elskær.

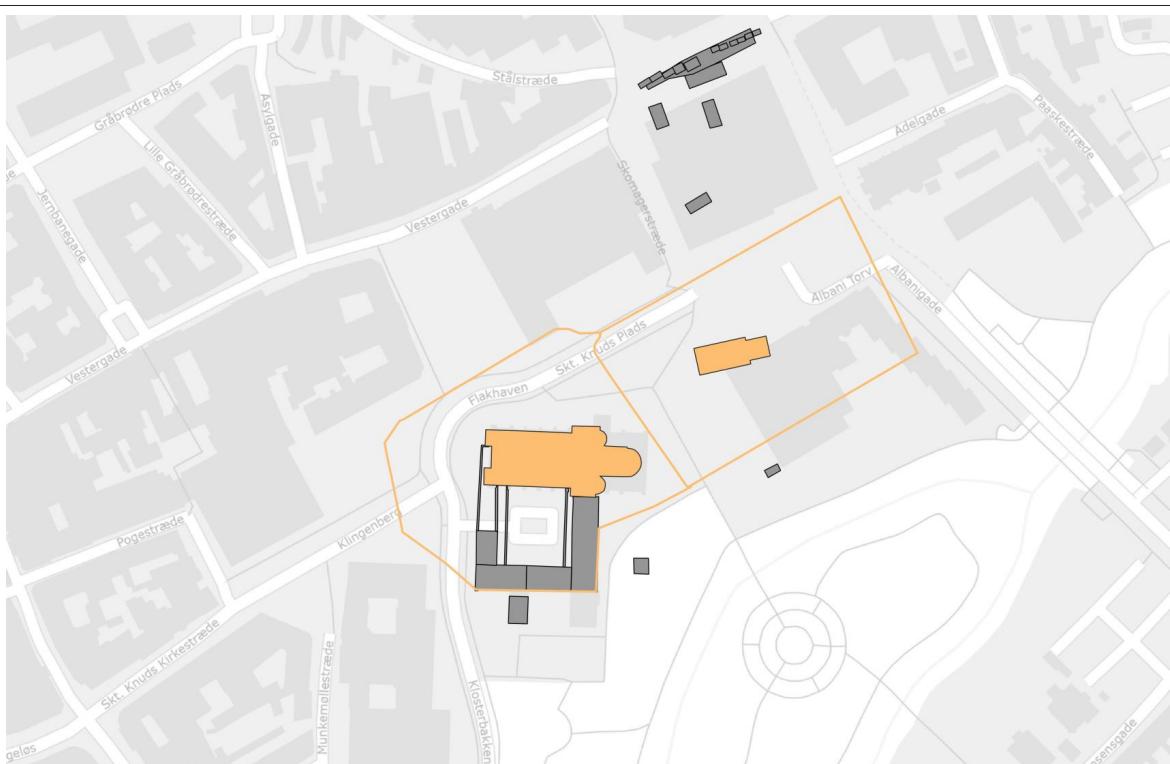


Figure 24 The location of St. Alban's church (north-east) and St. Canute's Cathedral (south-west) around AD 1100. The distance between the churches is around 40 m. North is up. Background map is modern-day Odense.

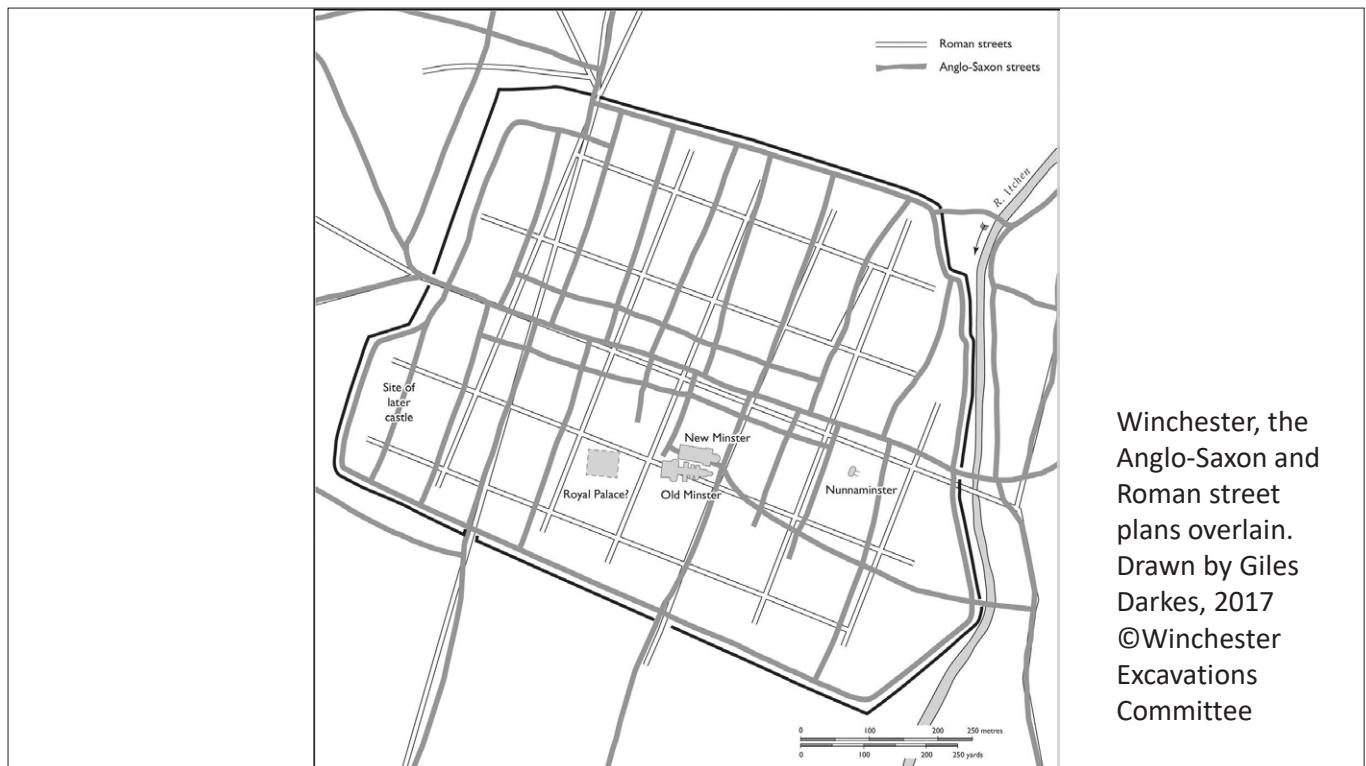


Figure 25 Map showing Old and New Minster in Winchester. Perhaps a role model for Odense?



Figure 26 Artefacts from Odense of possible British origin. Photos Nermin Hasic, Odense City Museums.



Figure 27 Only one object among the 20.000 artefacts has been securely determined to be from the British Isles. The lead ingot was provenanced through isotope analysis to Wales. The lead ingot is from a street deposit dated to the 12th century. Photos Odense City Museums.

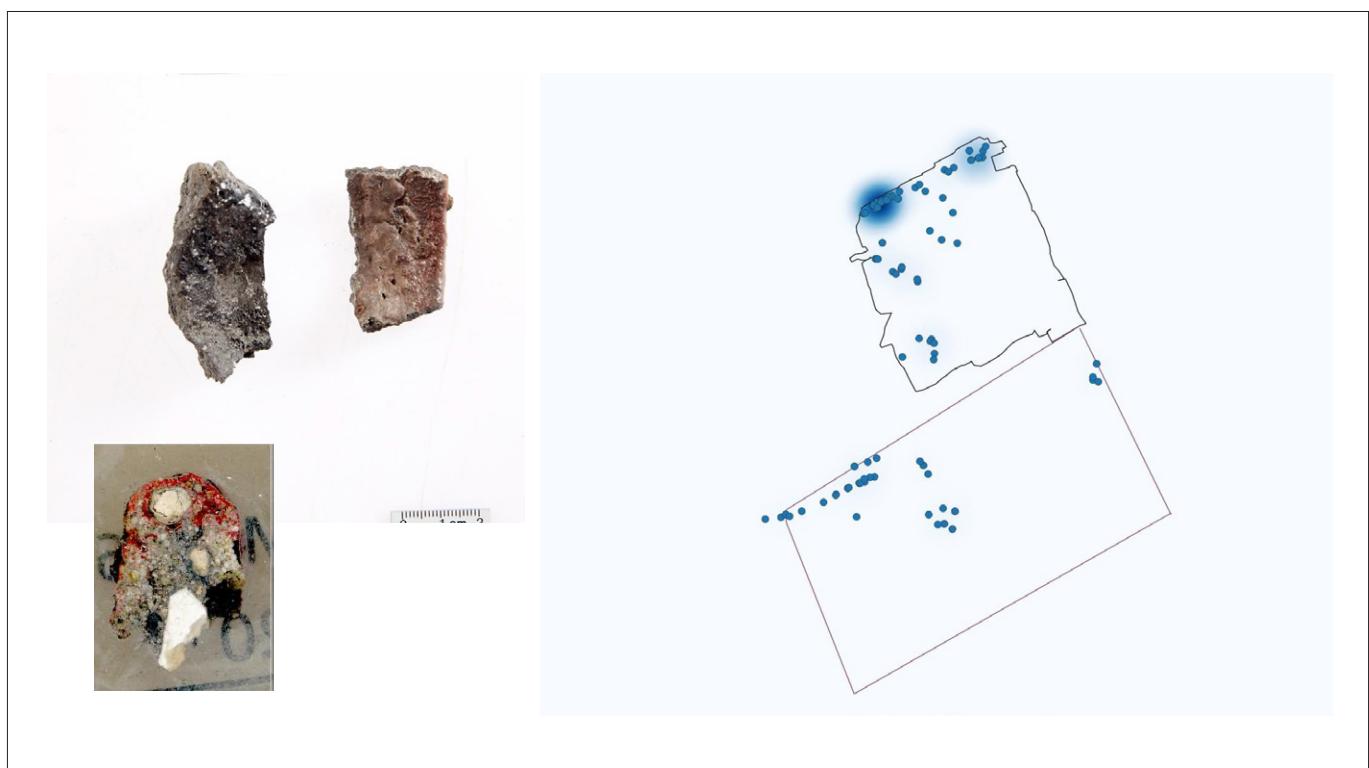


Figure 28 To the left are sherds from crucibles made from local clay with traces of non-ferrous metal work. On the right is a heat map showing the concentration of artefacts related to non-ferrous metalwork. The highest concentration is in the street area. Photos Nermin Hasic and Heimdal Archaeometry.



- Circular animal brooch
- Lead model
- ASR13x4255
- 2,1cm in diameter
- sol.sydvestjyskemuseer.dk

Workshop production of brooches with religious symbolism around the year 1100 in Denmark

Mette Højmark Søvsø & Christian Vrængmose Jensen

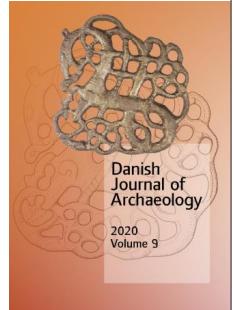


Figure 29 A circular animal brooch lead model from Ribe related to workshop production of religious brooches in Ribe, Denmark.



- ASR 13 x410
- Lead cross
- sol.sydvestjyskemuseer.dk

Figure 30 A lead cross found in Ribe. There are no similar objects from Odense.



Figure 31 Religious tokens or brooches from Odense. Made from copper alloy. The circular animal brooch and the so-called Urnes brooch dates to 1050-1100 AD. Photos Nermin Hasic, Odense City Museums.



Figure 32 Possible religious tokens or badges made from sheet metal found in the 12th century street deposits in Odense. Photos Nermin Hasic, Odense City Museums.



Figure 33 Possible amulets. Alsengem (above) and a rock crystal. If they have belonged to liturgical objects, they may have maintained their religious powers. Photos Odense City Museums and Peter Helles Eriksen (right).

Summary

Introduction

In this presentation, the idea that import patterns indicate changes in cultural influence is followed. The question is if this change of influences also reflects a shift in behaviour – a change in the practices of everyday lives.

Presentation

The study is based on an extensive excavation in Odense from 2013 to 2016. The oldest traces on site are from the 8th or 9th century, but it is not until the 10th and 11th centuries that a clearer image of the settlement emerges. There is a high degree of mobility and lots of space between the houses. One significant feature is the main street to the north. There are traces of trade and craft activities in the deposits related to the street, and it is interpreted as a market street. In the medieval period, the settlement grows denser, and the plot area decreases. The houses align the street. The site seems to be inhabited by the "well off" throughout the medieval period.

A quantitative analysis of more than 20,000 artefacts collected from the area – covering the 9th to 15th century – was performed. The objects were separated by their raw material or appearance into local/regional objects and non-local/imported objects. The pattern is that most everyday essentials are local/regional, while imported things are metals, ceramics, specific types of wood, stone, and exotic foodstuffs. The imported goods seem to be preferred for their distinct shapes, looks, or material properties.

On the individual object level, the quantification is problematic, but it has its merits as an overall indication of the importance of imports.

Until the 14th century, imported objects are dominated by metals. Later, finished goods and foodstuff appear. The conclusion is that Odense is on the periphery of the trade networks. One example is the presence of proto-stoneware and stoneware among the ceramics from the 12th century and onwards. It comprises 3-4 per cent stoneware.

In towns described as more well connected in the written sources such as *Næstved* (Denmark), the amount of stoneware is around 13 per cent.

The development towards more imported goods reflects the general increase in trade and

connectivity when the purpose-built cargo ships were introduced in the late 12th century, and commerce became more organized, with the Hanseatic league dominating the trade in north-western Europe. The provenience of goods found in Odense agrees with the important nodes in the Hanseatic trade network.

If we look at it chronologically, there is an import increase and the diversity in place of origin increases.

We cannot equal place of origin with the place of cultural influence since it may have passed through many hands before ending up in Odense. Examples of shipwrecks (e.g., *Egelskär* in Finland) show an assemblage of goods making the ship resemble "floating supermarkets".

To understand whether these cultural contacts affected people's everyday lives, we need to apply a method that will enable a contextual analysis. This method is inspired by Igor Kopytoff and his "*Cultural biography of things*". The example from Odense is based on the biography of the wooden beakers from the 15th century. It is "a tool to think with", highlighting the relation between people and things.

The vessels are made from spruce (*pinus abies*). Spruce is not native to Denmark but may come from Norway, Sweden, Germany or somewhere in the eastern Baltic area. They have been known in these areas since the beginning of the 12th century – there are examples in Lübeck and Tallin (13th century). They were manufactured by local craftsmen – the cooper. When the vessels are depicted in pictorial sources in Denmark – such as these late medieval frescos from churches – they are often shown as drinking vessels. In this relation, it is worth noticing that the increase in the stave-built vessels coincides with an increase in the import of stoneware at the beginning of the 14th century and onwards. The stoneware vessels are mainly jugs and pitchers. They are all linked to beverages. Even though the vessels are a mass product, nothing indicates that they are simple tableware. It is most likely appreciated for its practical function. Other types of drinking vessels used at the same time are from a house that burned down at the beginning of the 15th century. A high number of more or less intact jugs or pitchers of stoneware from Germany and local ceramics was found in the rubble. There seems to be a drinking vessel or a jug for every purpose – perhaps for

specific beverages – the wooden vessels are part of this particular tableware collection.

When discarded, the wooden vessels were found in the latrines in large quantities. The interpretation is that they were used as water containers and represent a new attitude towards hygiene. At this point, the latrines are permanent and have replaced the so-called “cat-holes” that would be abandoned when full.

Another example of cultural influence is from the 12th century. When it comes to the early networks of Odense, the British connection has been discussed and established by several scholars. The British connection seems to be well established in the 10th and 11th centuries but is mainly known through written sources. English bishops, monks, and monyers were brought from England to Odense, but these connections might be isolated to the higher ranks in society. There is no evidence of it having a broader impact on the lives of the citizens in general – as it was seen with the wooden vessel example. A concrete example of the English influence is the first church in Odense - dedicated to St. Alban – the English proto-martyr and possibly St. Oswald (first martyr king). Whether the church itself had British architectural traits are unknown. Also, the building of the Cathedral in the late 11th century may be related to British influence. At least the monks forming a Cathedral Chapter were English. They were part of establishing the cult concerning the canonization of King Canute the Holy. The Cathedral was built very close to St. Alban and became the royal burial church for Canute the Holy. This pattern may be inspired by the Old and New Minster in Winchester, where Canute the Great was buried. Canute the Great was an ancestor to Canute the Holy.

Only a few artefacts are found in Odense suggesting English or British influence. If we return to the objects and the presence of British goods among the 20,000 artefacts from the recent excavations – there are only two. One is a ceramic sherd, and the other is a lead ingot, dated to the 12th century. We do not know how it came to Odense, but it is likely through trade. We do not know what it was used for – but there is evidence of non-ferrous metalwork in the area, specifically in the street layers. There is no workshop but lots of crucibles and metal waste.

There are two workshops from *Ribe* and *Aalborg* (Denmark) where lead models for brooches are used. Also, finished objects made from lead are found in Ribe – although that was not the case in Odense. We haven’t found models in Odense – but the finished products (made from a copper alloy) are similar to those found in Ribe and Aalborg, which could signify a local production of brooches with a religious motif. Other religious badges have been found in the 12th-century street layers. These badges signal mass production or fast production through their lower quality. Following the line of thought by Søvsø and Vrængmose with a point of departure in Ribe and Aalborg, these tokens are expressions of devotion and religious belonging. Still, the tokens are also in possession of power as amulets. They may be religious souvenirs or tokens worn at religious celebrations. Perhaps with the commemoration of St. Canute the Holy.

Conclusions

The example with the wooden vessels shows that the increase in imports, diversity seems to reflect a change in consumption or table culture and practices related to hygiene. However, this is not brought on by increased trade but rather by increased connectivity. Not only goods but also people were “exchanged” – and with that practices and habits. The trade networks facilitated these practices by supplying the things needed.

This way, Denmark or Odense became even more integrated into a north-western European cultural sphere.

The contextual analysis and the object biographies have enabled this analysis.

We do not know if the British connection equals a cultural influence on people’s everyday lives in Odense or if it triggered a specific practice of producing and wearing badges as religious tokens. The use of small amuletic brooches with animal designs are rooted in religious ideas that go back in time. They are an old and well-known amulet brooch-type, but they are adopting Christian motifs and symbols in a new dress. The British supply network facilitated these religious expressions and practices - making the inhabitants of Odense part of a European Christian cultural sphere in the 11th and 12th centuries. This presentation illustrates the potential in combining the

quantitative approach with a contextual analysis of objects and their biographies.

Questions

The presence of lead in towns might be related to the construction of lead roofs on churches. There was an explosion of lead in the Viking Age and medieval periods in the rural sites.

The categorizing of copper alloy as an imported good can be discussed – since it may be remelted and reused many times before being discarded. This illustrates the problems of quantification where it is not possible to consider the biography of things. It also demonstrates that there is not necessarily a connection between the origin of raw material and a place of cultural influence.

It was pointed out that many words in Danish related to hunting and the church come from English. It is underlining that the British connection is associated with the upper part of society.

In Aalborg, there are brooches related to the British Isles. It has taken a long time to recognize imported materials and separate, e.g. Dutch from German imports.

Further reading

Haase, K., & Hammers, N. 2021: Tracing the Trigger of Social Change in the Medieval Town through Imported Food, Objects, and their Biographies. *Journal of Urban Archaeology* 2021 3, pp. 13-28.

Kopytoff, I. 1986: The cultural biography of things: Commoditization as process. in: A. Appadurai (eds.): *The Social Life of Things: Commodities in Cultural Perspective*. Cambridge, pp. 64-92. doi:10.1017/CBO9780511819582.004

Large-scale production? Pithouses and the formation of the earliest cities

Torben Sarauw (Historical Museum of Northern Jutland)

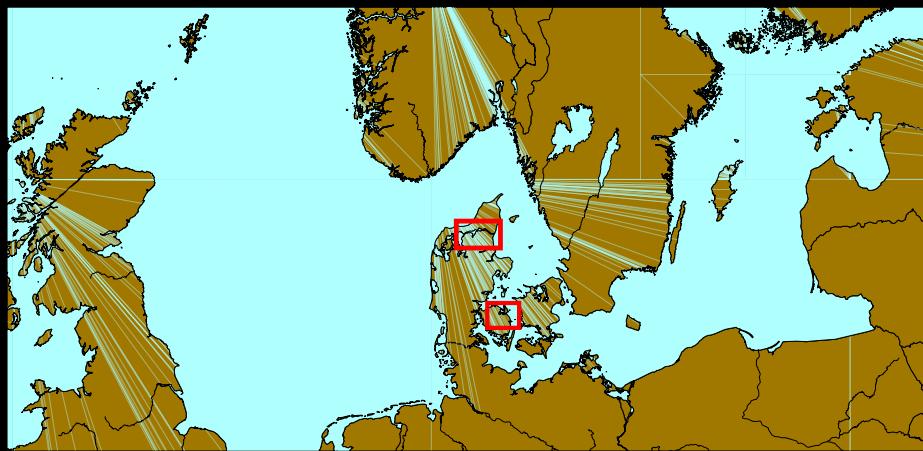
Abstract:

Pithouses (or *sunken featured buildings*) represent one of prehistory's most fundamental building types. Thus, they are found across large parts of north-western Europe and the Slavic area. Parts of Denmark, especially the Limfjord area of northern Jutland, are characterized by numerous and large metal-rich sites dating from c. 400-1000 AD. Only a few have been excavated. However, when the topsoil is removed and the archaeological traces revealed, a pattern often occurs, revealing that in the 7th and 8th centuries, there was an explosive increase in the number of pithouses.

In contrast, we often only find a smaller number of typical longhouses. Furthermore, such sites are often found close to the coastline or possible

prehistoric land routes. Of course, concentrations of pithouses at a site are not necessarily coeval. It is easy or tempting to understand numerous pithouses in major concentrations as reflecting both specialisation and large-scale production. Furthermore, there may be a link between sites of this type and the early towns characterized by specialized and non-agrarian production. This lecture will investigate the nature of large-scale production based on the evidence of pithouses found in northern Jutland, but also compare to Funen where the situation is different, thus aiming to understand why an accumulation of this type of structure occurred in specific areas during the 7th and 8th centuries AD.

Largescale production? Pithouses and the formation of the earliest cities



NM Nordjyske
Museer
Vi giver historien liv

Torben Sarauw

THE VELUX FOUNDATIONS
VILLUM FONDEN  VELUX FONDEN

Figure 1 The Limfjord/Aalborg area and the north-eastern Funen/Odense area marked with red squares.

| | Pithouses in total | Pithouses excavated |
|-----------------------|--------------------|---------------------|
| Limfjord/Aalborg area | 1379 | 824 |
| Funen/Odense area | 47 | 44 |

Figure 2 The distribution of pithouses between the two sites. Pithouses seem to play a secondary role in the Odense area.

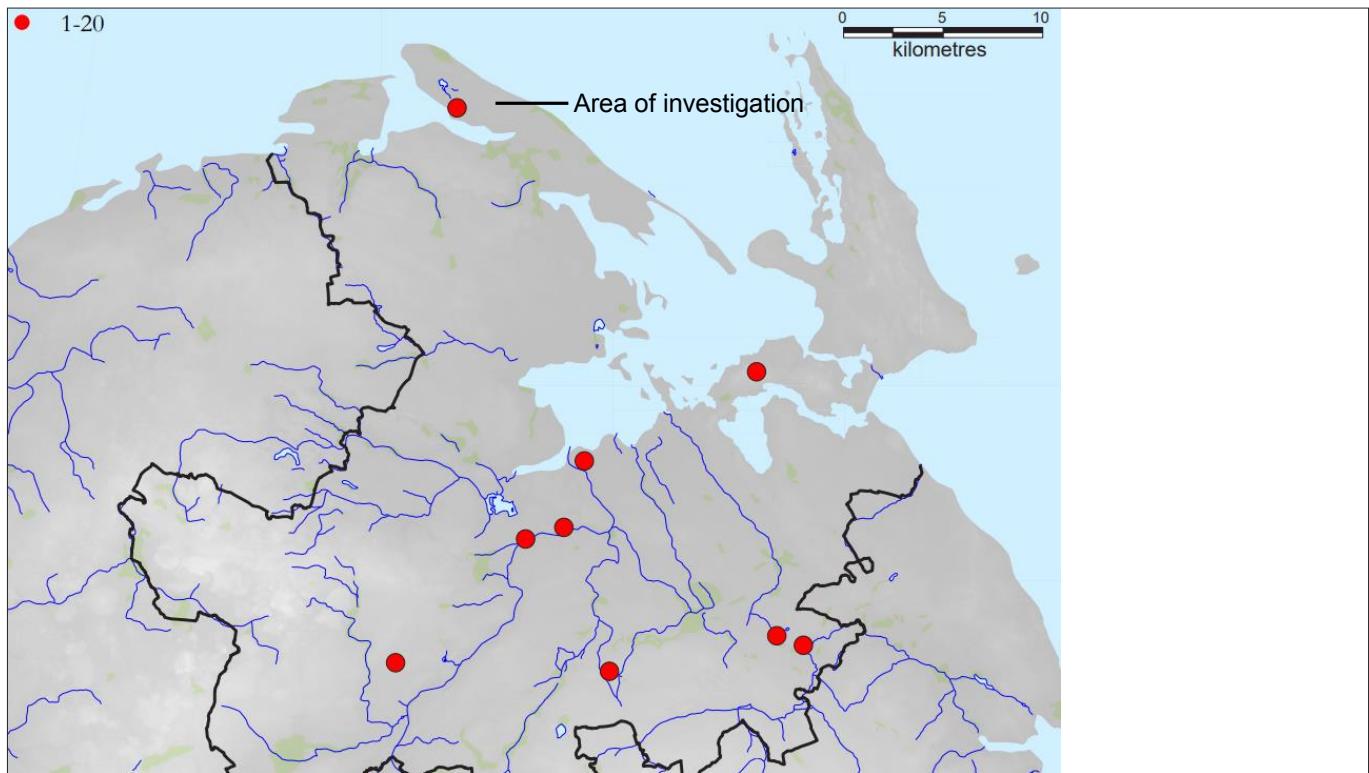


Figure 3 The pithouses in the studied area on Funen are concentrated to the inland area south of Odense Fjord.

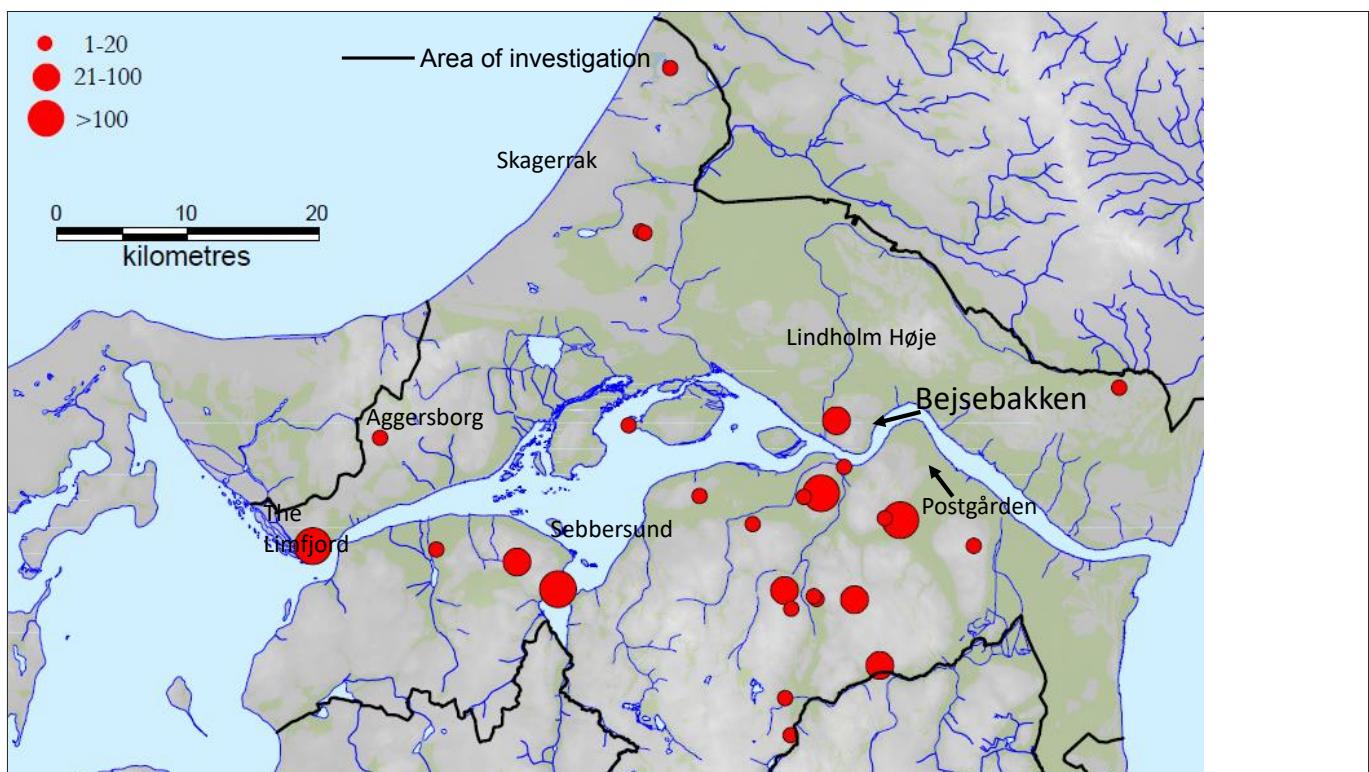
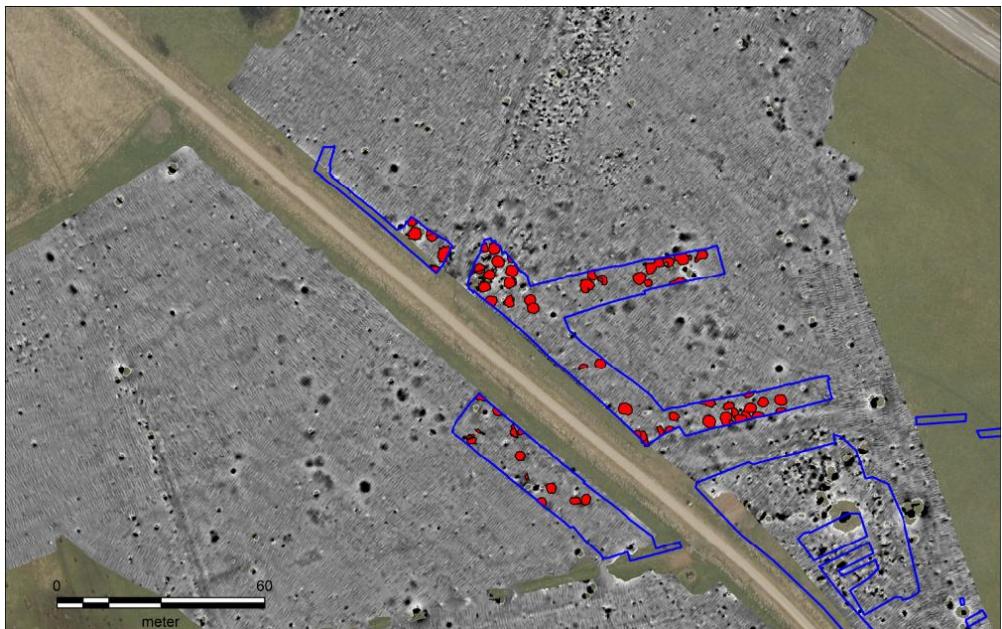


Figure 4 The pithouse sites around the Limfjord. The size of the red dots indicates the number of pithouses recorded.



The geomagnetic survey and data processing were carried out by Mikkel Fuglsang, Museum Midtjylland.

Figure 5 Geomagnetic survey at Sebbersund indicating the presence of around 180 pithouses (black features). Excavation trenches from the 1990s marked in blue and documented pithouses marked in red.

Pithouses - Bejsebakken



Internal platform



Figure 6 The pithouses at Bejsebakken. Some show evidence of heat sources or internal platforms interpreted as steps or benches.

Pits in pithouses

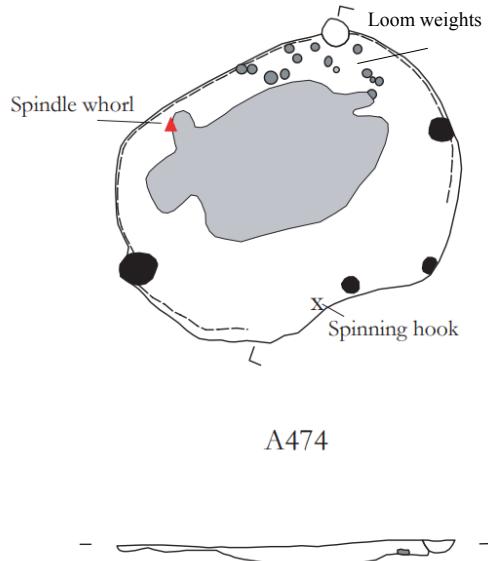


Figure 7 At the base of the pithouses evidence for textile production is found.

Chronology

Distribution of forty ^{14}C dates among twenty-two pithouses. Three in the Odense study area and nineteen in the Aalborg study area

Odense area – late in the 6th century
AD - 9th century AD

Aalborg area – late 4th century AD -
8th - 9th century AD

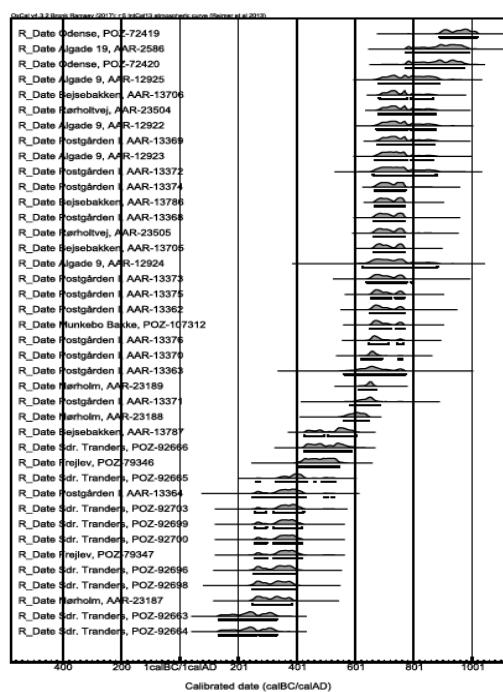


Figure 8 The chronological distribution of twenty-two pits houses from the Odense and Aalborg area. To the right, the probability distribution (95.4%) of the individual radiocarbon dates are shown.

Function of the pithouses – written sources



Pliny the Elder. Photo: Wolfgang Sauber.



The provincial law of Jutland.
Codex Holmiensis, 13th century.
Photo: Toxophilus.



Reconstruction of a pithouse at Fyrkat, Denmark.
Photo: Västgöten

Figure 9 Written sources such as Pliny the Elder (1st century AD), Danish provincial laws (13th century AD), and Icelandic sagas (13th-14th century AD) describe the use of buildings similar in description to pithouses. All photos Wikimedia Commons. CC BY-SA 3.0.

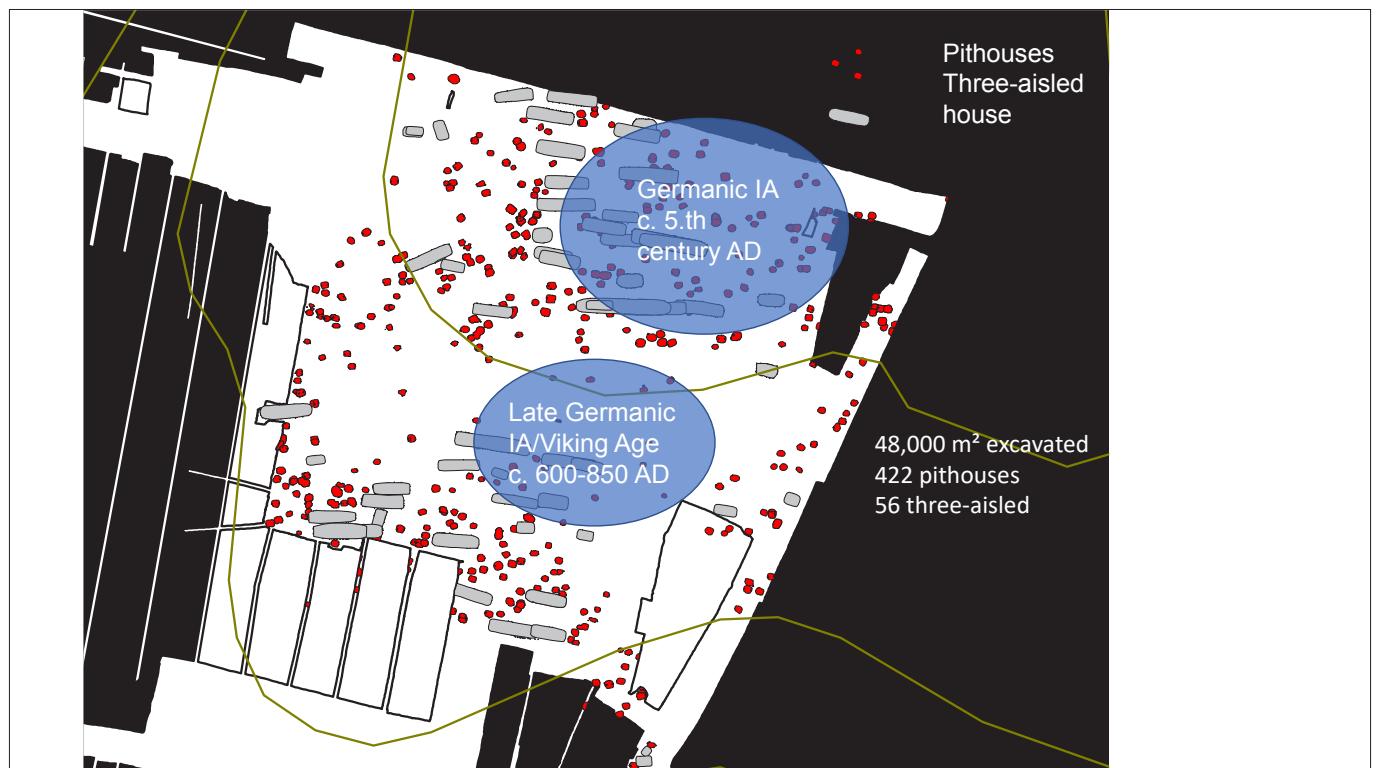


Figure 10 Examples from Bejsebakken show the distribution of pithouses. There are two phases of settlement in the area illustrated by the concentration of three-aisled houses.

Number of whole and fragmented loom weights in 122 pithouses at Bejsebakken

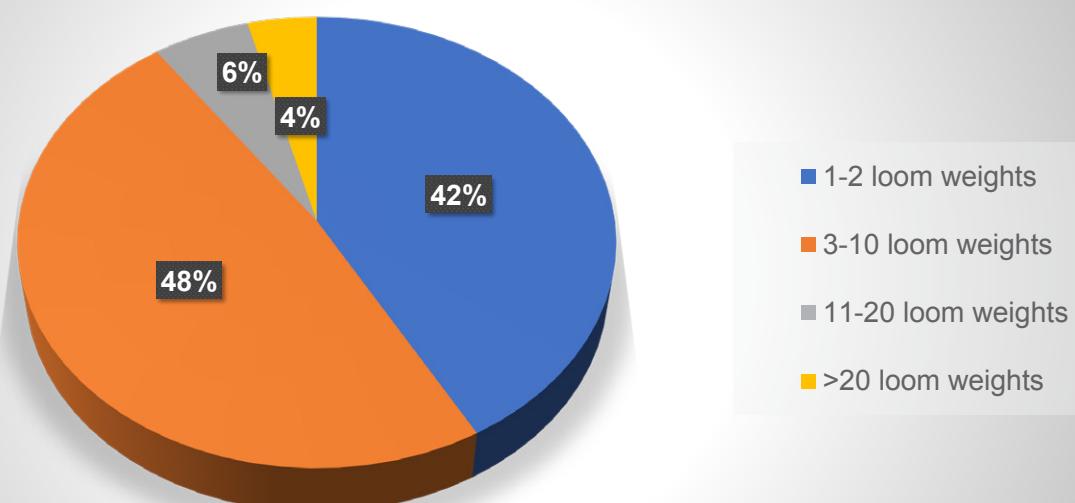


Figure 11 In 122 cases loom weights were found in situ. They were badly preserved and indicate that even a low number of loom weights are evidence of textile production. (Sarauw 2019: 85).

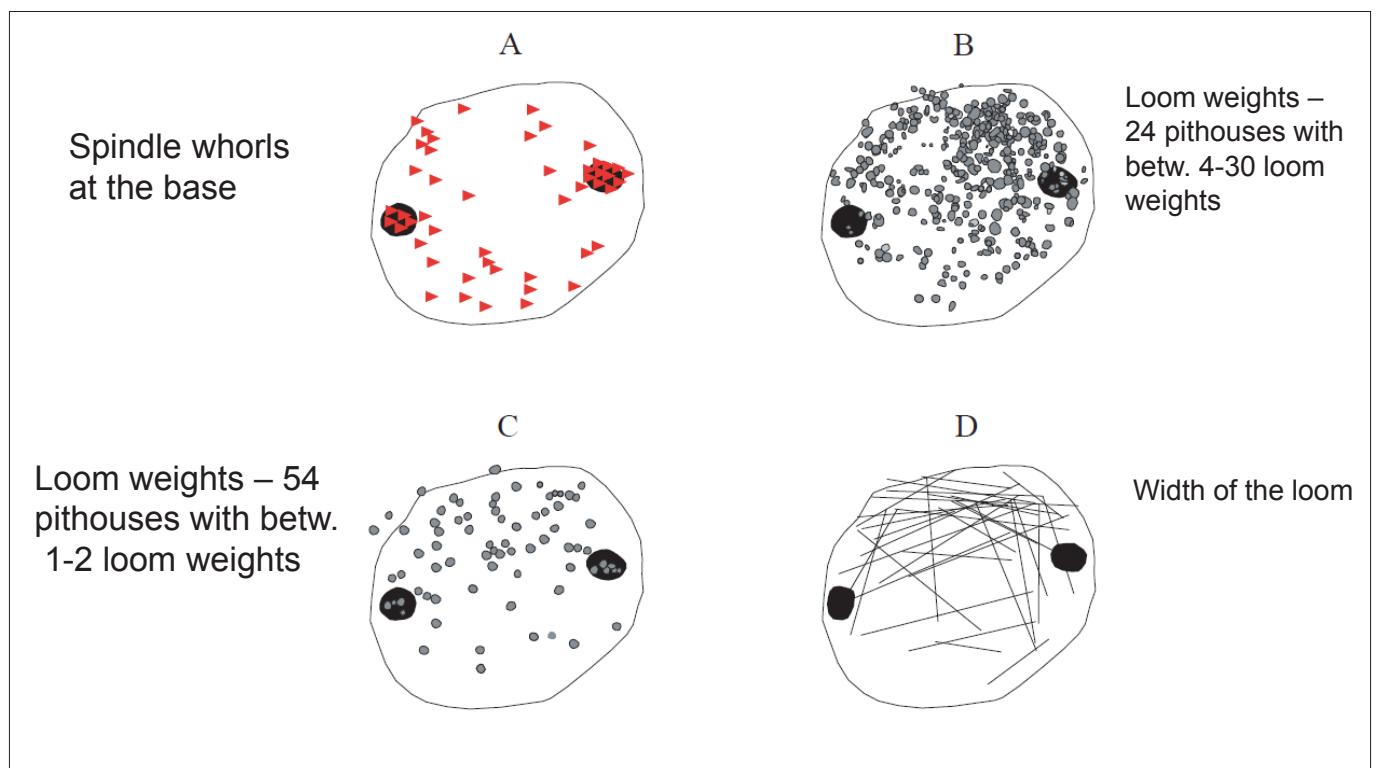
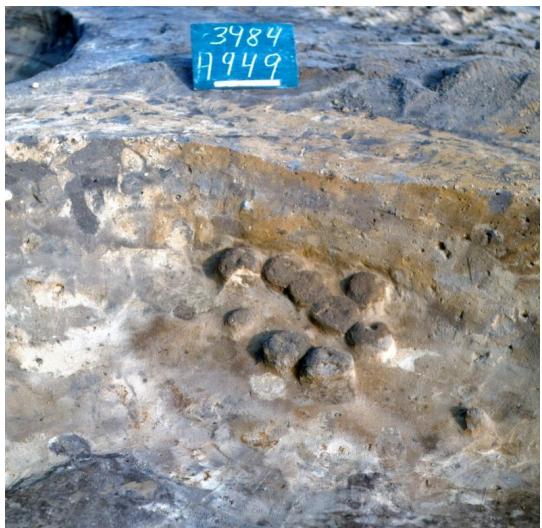


Figure 12 The distribution of spindle whorls (A) and loom weights in-situ (B >4 loom weights, C <3 loom weights) when all loom weights and spindle whorls are shown in the same illustration. The position of the loom weights indicates the location and width of the looms (D). (Sarauw 2019, 83).

Loom weights in pithouses



| Structure | Weight (gram) |
|--|-----------------------|
| A304 W – tre-aisled house (magnate farm) | 60, 64, 67 and 72 |
| A304 E – tre-aisled house (magnate farm) | 161, 204 and 235 |
| A384 - pithouse | 145 and 295 |
| A387 - pithouse | 425 and 469 |
| A474 - pithouse | 256 and 270 |
| A527 - pit | 255, 268, 314 and 320 |
| A653 - pithouse | 245 and 286 |
| A800 - pithouse | 355, 360 and 402 |
| A903 - pithouse | 75 and 97 |
| A1107 - pithouse | 265, 368, 394 and 463 |

Figure 13 Loom weights found in the same pithouse are of similar weight indicating that they belonged to the same loom (Saraauw 2019: 145).

Weight of loom weights

Birka 400-800 gram
Hedeby 300-600 gram
Aggersborg 200-300

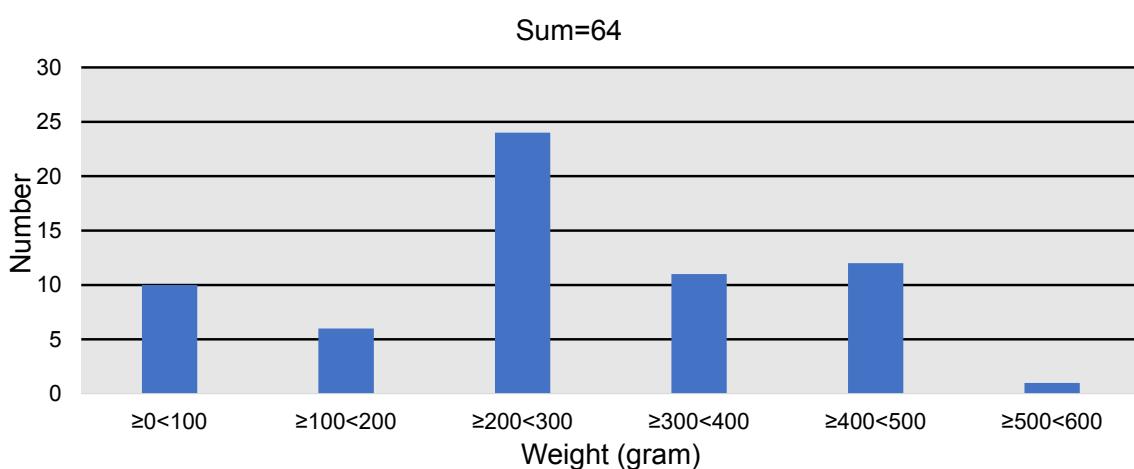


Figure 14 The weight of the loom weights show that high-density thread and thus high-quality textile was produced.

Spindle whorls from pithouses



- 146 spindle whorls from Bejsebakken
- 98,6 % is made of clay
- 14,3 % is ornamented
- The weight varies between 4 and 78 gram.
However, most concentrate between 5 and 35



Figure 15 The weight of the spindle whorls shows that a wide range of yarn was produced.

Distribution of weight – 241 spindle whorls from Bejsebakken, Sebbersund and Aggersborg

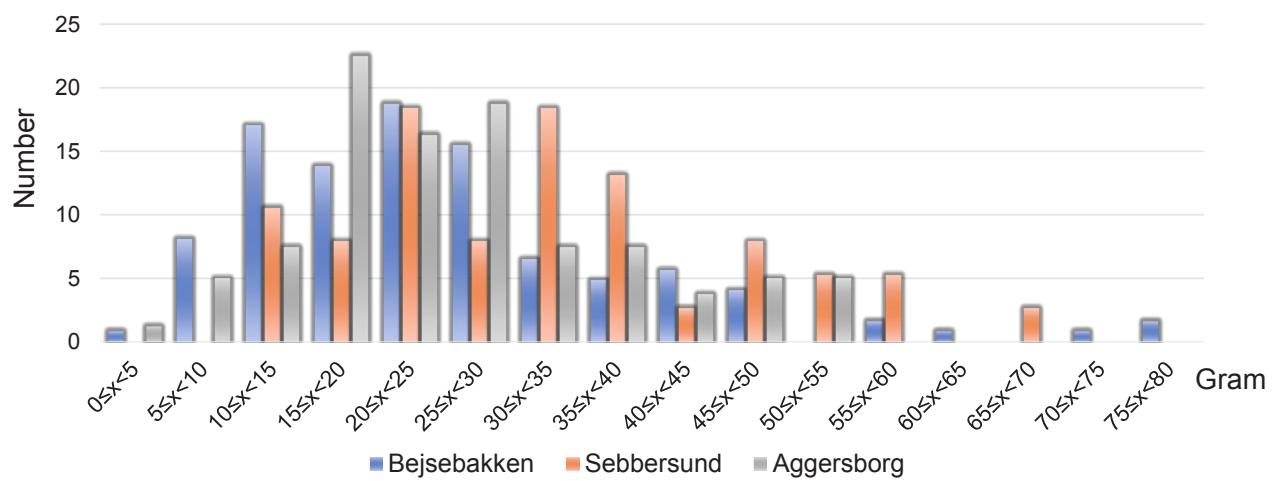


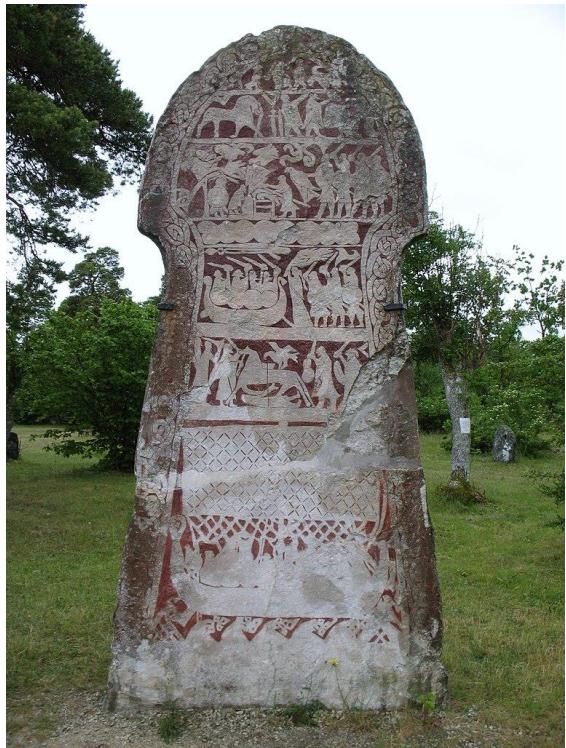
Figure 16 The distribution of spindle whorls according to weight between the sites suggests that different production strategies were at play.

Conclusions

- From c. AD 400 a more standardised and professionalised production associated with pithouses and the warp weighted loom
- Some kind of advanced household production – part time or periodically full time.
- Regional specialisation and large-scale textile production?
- In the late 8th century, the first Viking raids are documented – the need for sailcloth must have been great.



Figure 17 Conclusions.



Lindisfarne Priory. Photo: John Armagh.

The Stora Hammars I stone. Photo: Berig.

Figure 18 The British Isles were the target of Viking raids. Sail production was essential for trade and raid activities in the 8th to 10th centuries. *Wikimedia Commons. CC-BY-SA-3.0 & CC-BY-SA-4.0.*

Summary

Introduction

Pithouses represent a fundamental building type in prehistory. In the Limfjord area, they are often found in dense concentrations close to the water and are, in those cases, interpreted as representing large-scale or specialised production. The presentation investigates the link between early towns and pithouse sites based on data from the Limfjord area and north-eastern Funen.

Presentation

A total of 1426 pithouses have been recorded in the two areas. However, there is a striking difference in the characteristics and distribution of the pithouses between the two areas. In Funen, there are typically only a few pithouses at each site, and they seem to be associated with the agrarian hinterland of Odense. In the Aalborg area, twenty-seven sites with 1379 pithouses are recorded. They lie close to the coastline but mostly in higher terrain. Several of the sites have more than one hundred pithouses, and regarding the coastal site Sebbersund geomagnetic surveys indicate that there are more pithouses than previously recognised (Figure 5).

The absence of heat sources indicates that the pithouses were not permanent dwellings. Many of them showed evidence of textile production.

The Danish pithouses have a wide dating range. They occur from around 400 to 1000 AD. It has not been possible to establish a high-resolution chronology because there is no clear typological evidence, and artefacts are often found redeposited in the fill. The youngest pithouses date to the 9th century in the areas in question – perhaps a bit younger in Odense.

Because of the evidence in written sources, pithouses are often described as multi-functional buildings. However, the functions of the pithouses cannot be based solely on the written evidence since there is often a significant time difference between the two. In this respect, archaeological evidence is crucial. At Bejsebakken, the in-situ finds related to pithouses from c. 600-750 AD show that textile production was the primary activity. This is also seen in other sites such as Postgården, Sebbersund, Aggersborg, and to some extent in

the examples from Funen. The loom weights are often found in a position that indicates the loom's location. The uniformity of the weight of the loom weights shows that they belonged to the same loom. In general, the loom weights from Bejsebakken are light which suggests that high-density thread and thus high-quality textile was produced. The weight distribution of more than 241 spindle whorls related to the pithouse settlements shows that yarns of varied thickness were produced. Spindles whorls weighing more than 30 g are suitable for making yarn for, e.g., sailcloth, whereas the lighter spindle whorls may be used for more delicate garments. The distribution of spindle whorls according to weight are signs of different production strategies between the sites.

Conclusions

The finds of textile tools from AD 400 and onwards indicate that the production is gradually standardised and professionalised. The pithouses seem to be perfect workshops in this regard. The many pithouses in the Limfjord area might result from regional specialisation and large-scale textile production due to good circumstances for sheep farming and perhaps a maritime tradition associated with the fjord. This is emphasized with the founding of Sebbersund and Aalborg in the 8th century. Textile production in the Odense area seems to have had less importance or be produced in workshops of a different character.

The peak of the pithouses coincides with the frequent Viking attacks in western Europe and on the British Isles in the 9th century. The raids and the seagoing trade activities in this and the following centuries demanded a large sailcloth production.

Over time, some pithouse settlements transformed into towns such as Aalborg and Odense, while others disappeared, such as Sebbersund. The towns did not take over the textile production, but the pithouse settlements may have constituted a growth factor and a developmental stage in the process that led to the emergence of towns.

Questions

Is it possible to distinguish between large pithouse settlements and occasional pithouses?

On sites that are interpreted as production sites, there is a clustering and a high number of pithouses which is different to the number and location of pithouses in regular settlements. One

example is Vorbasse, where each farm has one or two pithouses. At Bejsebakken, it may be that the pithouses belong to twenty farms, with each twenty pithouses.

How firmly can we date the sites with many pithouses?

There are only a few cases where it is possible to date the pithouses narrowly. Surprisingly many of them are from the Late Roman Iron Age. The chronology is an ongoing task.

Are there no 10th-century pithouses?

Again, that is probably a dating question since the pithouses do not disappear. In general, pithouses from the 10th century are larger and seem to be made for different purposes.

Since sail production is highly specialised, it needs to be systematised, and it takes time to refine a production into a high-quality product. Are there any signs of such production patterns?

Some of the pithouses are placed in clusters. Those clusters have communal features (depth, orientation, etc.). Such clusters may indicate a group of weavers.

Clusters may also be evidence of one pithouse replacing the other.

None of the sites shows a stratigraphic relation between the pithouses, suggesting that they were deliberately placed in vacant areas and probably also contemporary.

Further reading

Saraauw, T. 2021: Large-scale production? Pithouses and urbanisation. In: M. Runge, M.R. Beck, M. M. Bjerregaard & T. Saraauw (eds.): *From Central Space to Urban Place Urbanisation processes in Odense and Aalborg, Denmark*. Odense, pp. 148-156.

Saraauw, T. 2019: *Bejsebakken – en nordjysk byggelse fra yngre jernalder*. Det Kongelige Nordiske Oldskriftselskab/Syddansk Universitetsforlag.

Odense and Nonnebakken. City, fortress, and the military system of the hinterland

Mads Runge (Odense City Museums)

Abstract:

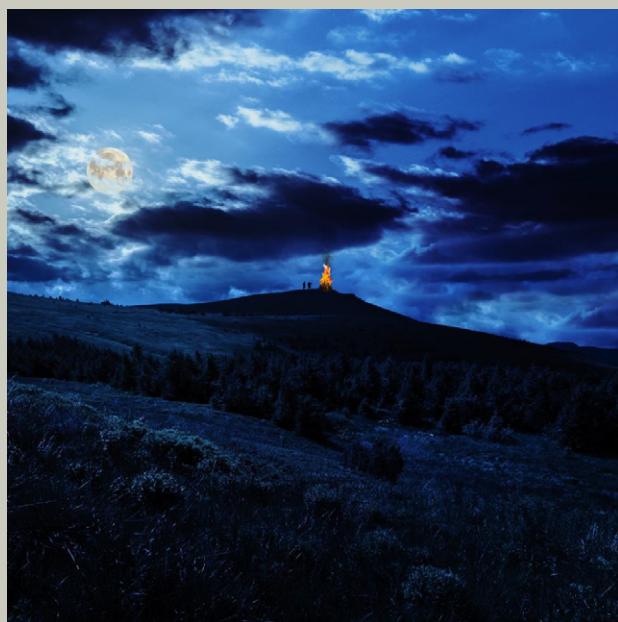
This paper presents the development within north-east Funen's military system in 400-1100 AD, emphasising the last part of the period. An explanation is given for the background to this development related to the *Form Central Space to Urban Place* project's thesis on the transition from space to place structuring of power and the importance of the development of the military elements concerning the formation of Odense.

During the period 400-1100 AD, increasing complexity and centralisation is seen within the military sphere in the north-eastern Funen area. Thus, military elements are rare in 400-600 AD and predominantly comprised of a few weapon graves, house offerings etc. Apart from a couple of possible refuges, there are no known military structures. In 600-900 AD, a clustering of military elements is evident around the centres of *Glavendrup*, *Roselund/Rønninge*, and *Ladby*, located equidistant from Odense. Refuges are supplemented by actual military structures such as *Munkebo Bakke*. Finally, in 900-1100 AD, an extensive collective military system is evident, with Harald Blutooths' ring fortress Nonnebakken centrally placed in the hinterland, barrages in Kerteminde Fjord, potential naval harbours, and possible beacon warning systems along Odense Fjord. A hypothetical fortification of Viking-Age Odense can also be mentioned.

The developments reflect the central power's desire to dominate larger areas, partly to unite the realm, partly to protect against now more evident external threats. The development also may reflect a self-reinforcing, cumulative effect, whereby increased centralised power in one place may have led to centralisation in others.

The development of the military system reflects a clear development from space to place. Power, thus, is concentrated in fewer but larger units. However, the military's role as a growth factor fluctuated through time in response to variations in the perceived level of threat and their position concerning shifting conflict zones and the local topography. In this way, warfare was a general developmental factor in the technological sphere, and many military inventions subsequently had a knock-on effect on technological developments elsewhere in society. Similarly, conflicts would channel resources towards the military sphere. The military elements finally had significance in uniting major entities towards a common goal and against a common enemy. A common concept of the enemy threat can reinforce a cohesive force on a structural level and pave the way mentally for movements towards centralisation.

ODENSE AND NONNEBAKKEN. CITY, FORTRESS AND THE MILITARY SYSTEM OF THE HINTERLAND.



THE VELUX FOUNDATIONS
VILLUM FONDEN  VELUX FONDEN

Mads Runge

Figure 1 Title.

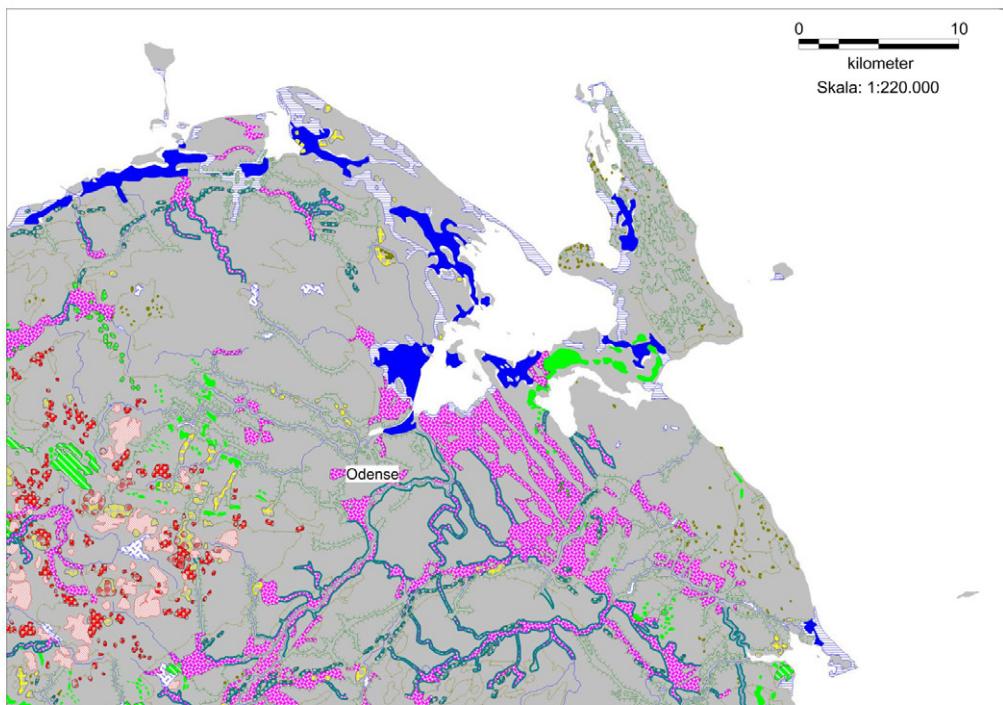
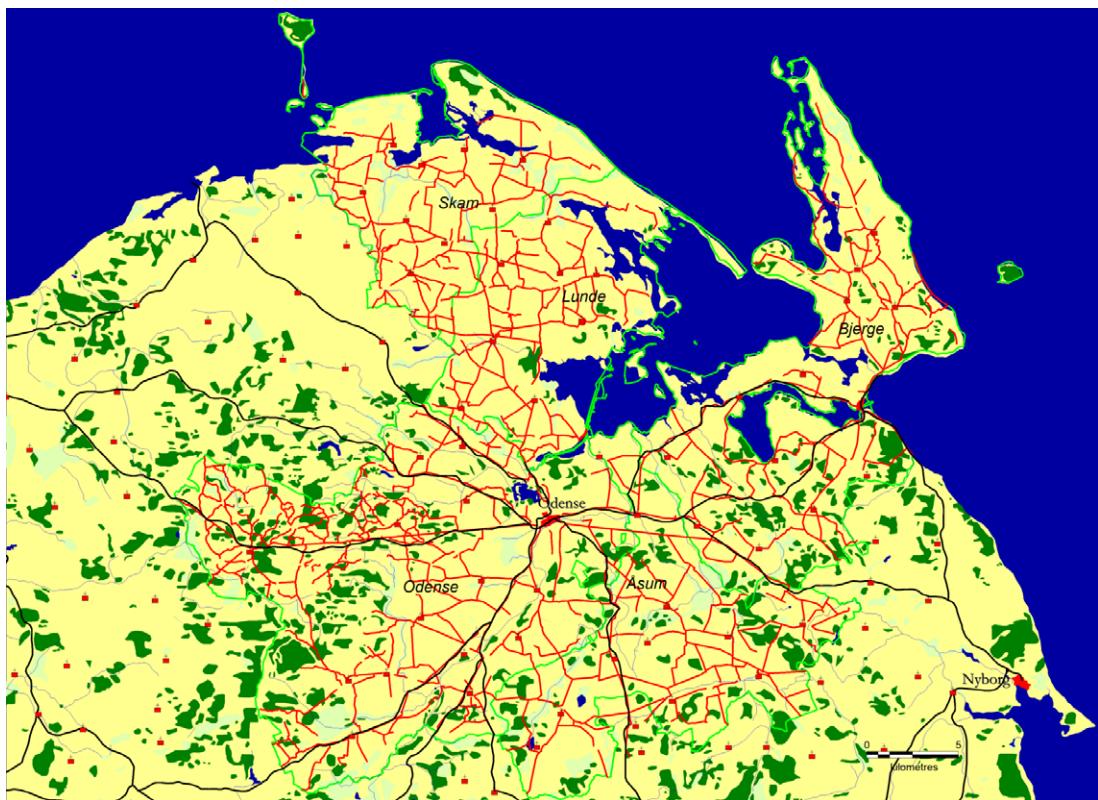
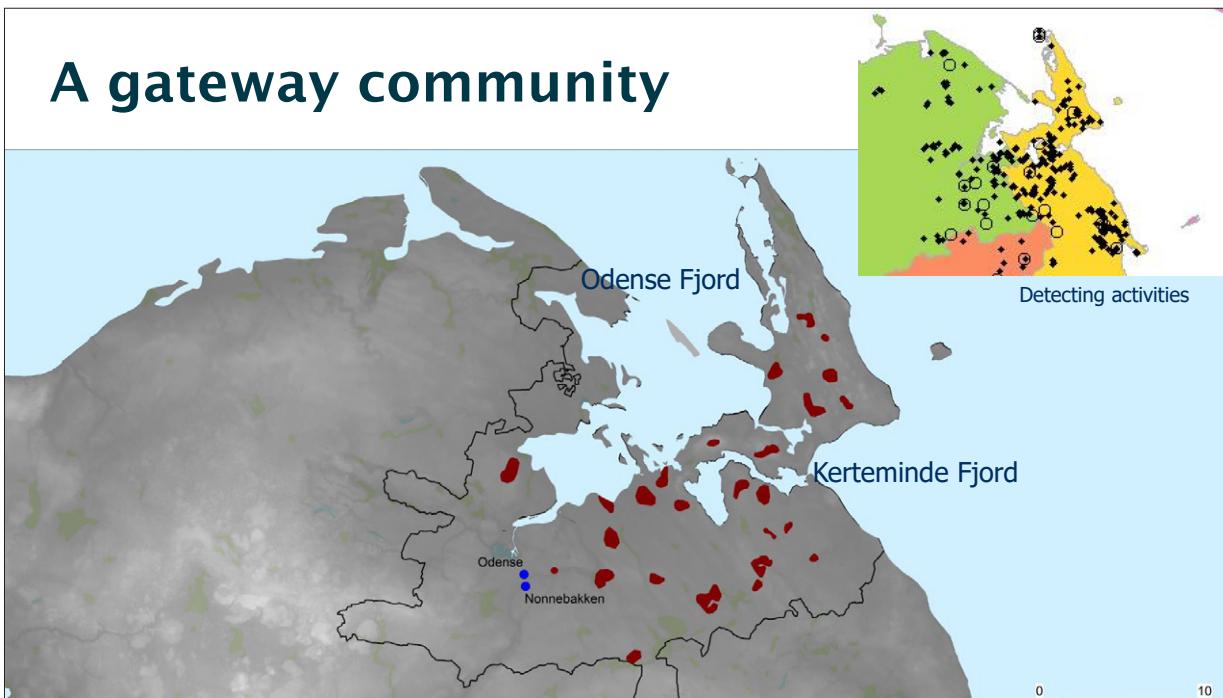


Figure 2 The map shows the geological conditions of north-eastern Funen. It is dominated by flat agrarian land. To the north-east the landscape is elevated.



Grau Møller & Haue

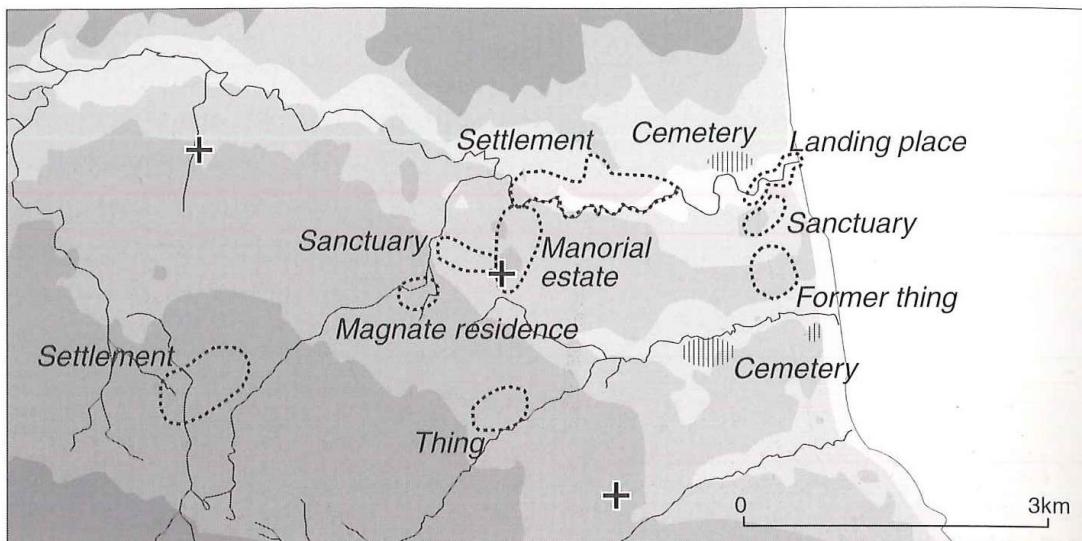
Figure 3 The traffic routes in north-eastern Funen. The roads are marked in black (primary roads) and red (secondary roads). Note that several roads meet at Odense.



M.B. Henriksen 2018

Figure 4 The research area is marked by the black line. The red areas are metal rich sites. The blue dots mark Odense and the ring fortress Nonnebakken.

Central space organisation

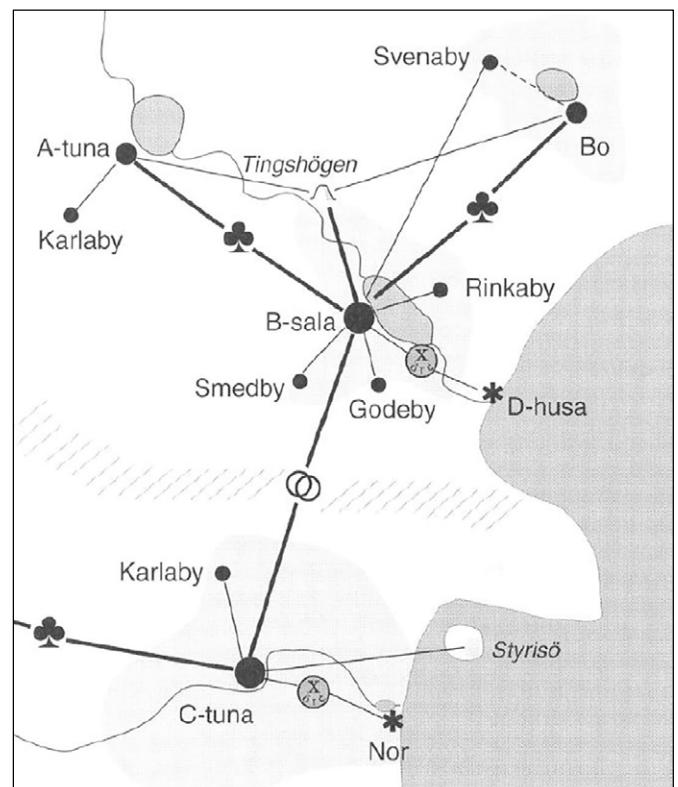


Central Space, Fabech 1999:466

Figure 5 Illustration by Charlotte Fabech showing an idealised version of the Iron Age with central functions spread out in the landscape.

Connecting the pre-urban centres (*spaces*) of the Iron Age with the towns (*places*) of the Viking and Middle Ages.

How and on what basis does urban structures replace an older system of centrality?



Brink 1999

Figure 6 The illustration to the right shows an idealised place name model by Stefan Brink.

Bjerge Hundred as a central space

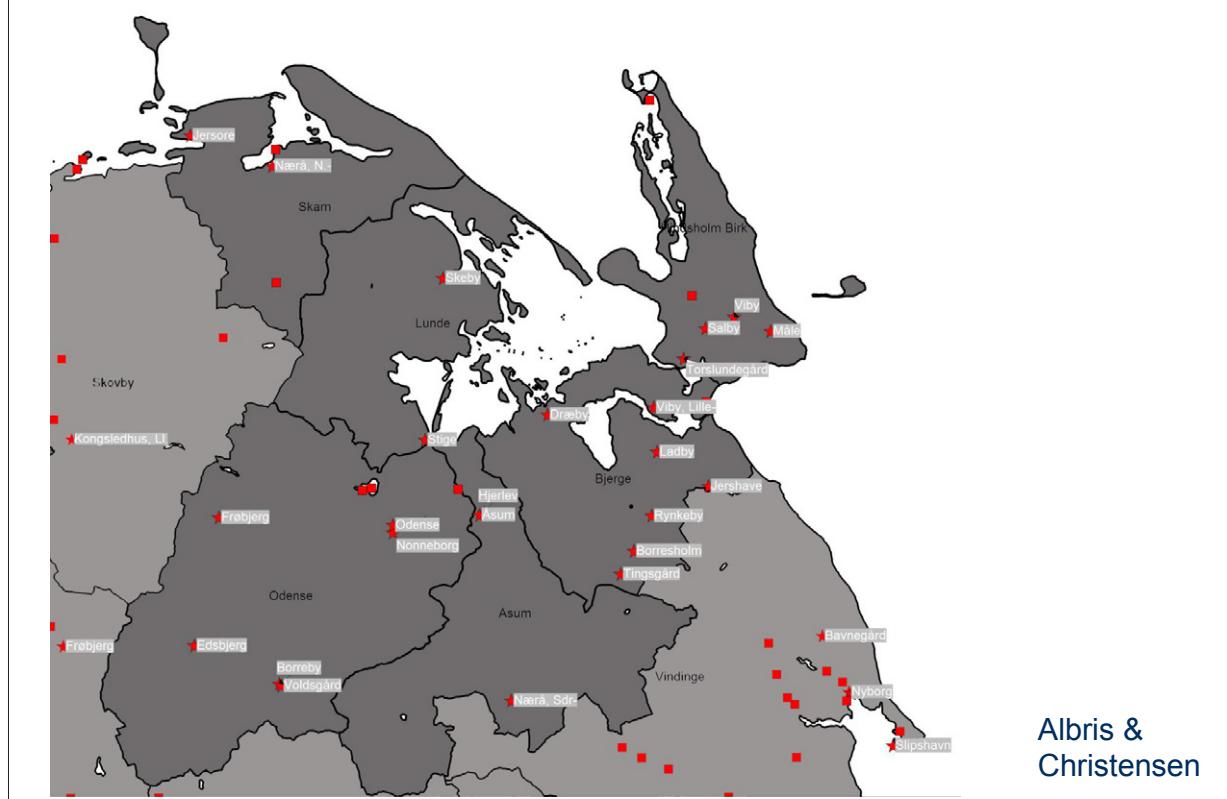


Figure 7 The best example of a central space system is seen in Bjerge Herred east of Odense.

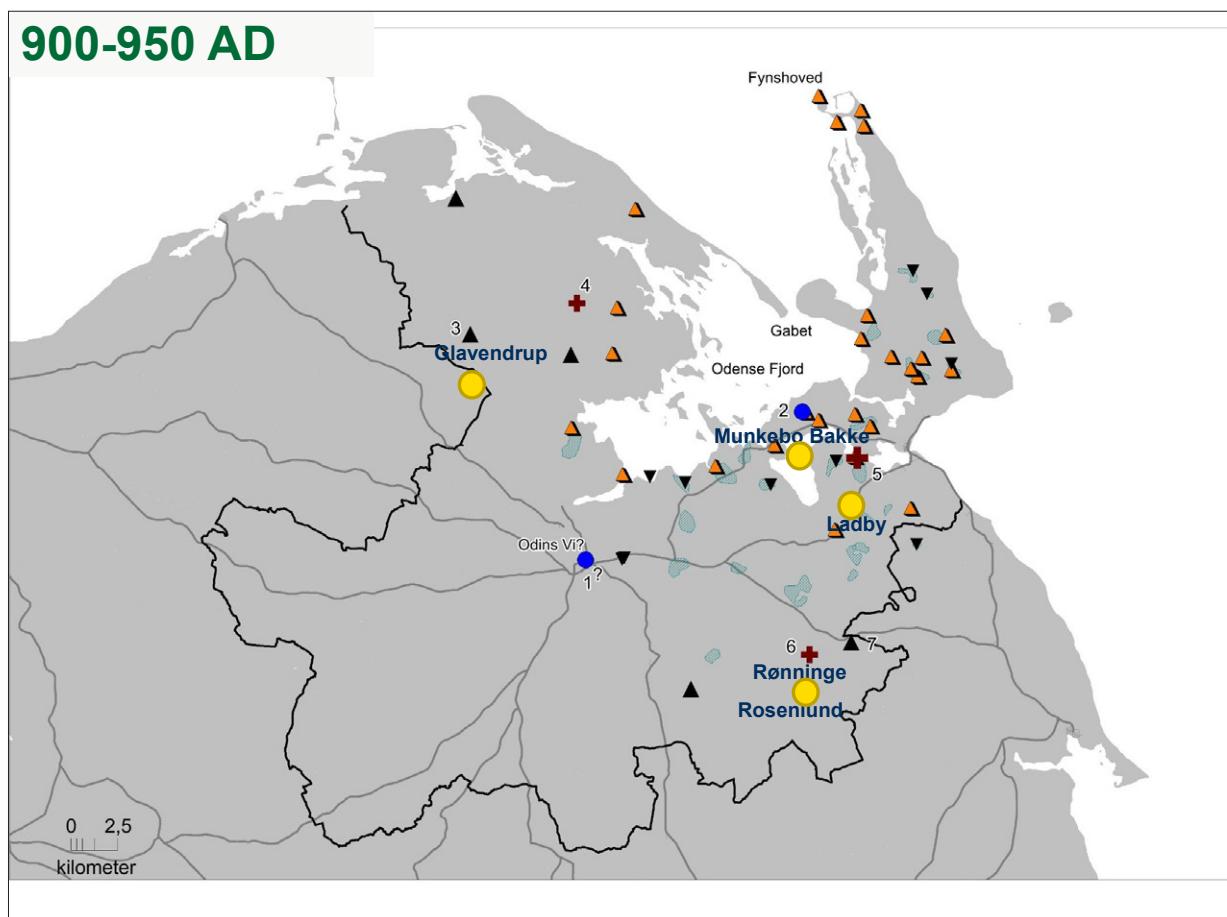


Figure 8 Minor centres with military elements or indicators in the hinterland of Odense. They are mainly weapon graves and rune stones.



Figure 9 The rich boat grave in Ladby. Illustration by Flemming Bau and Vikingeskibsmuseet. Photos: Vikingemuseet Ladby.

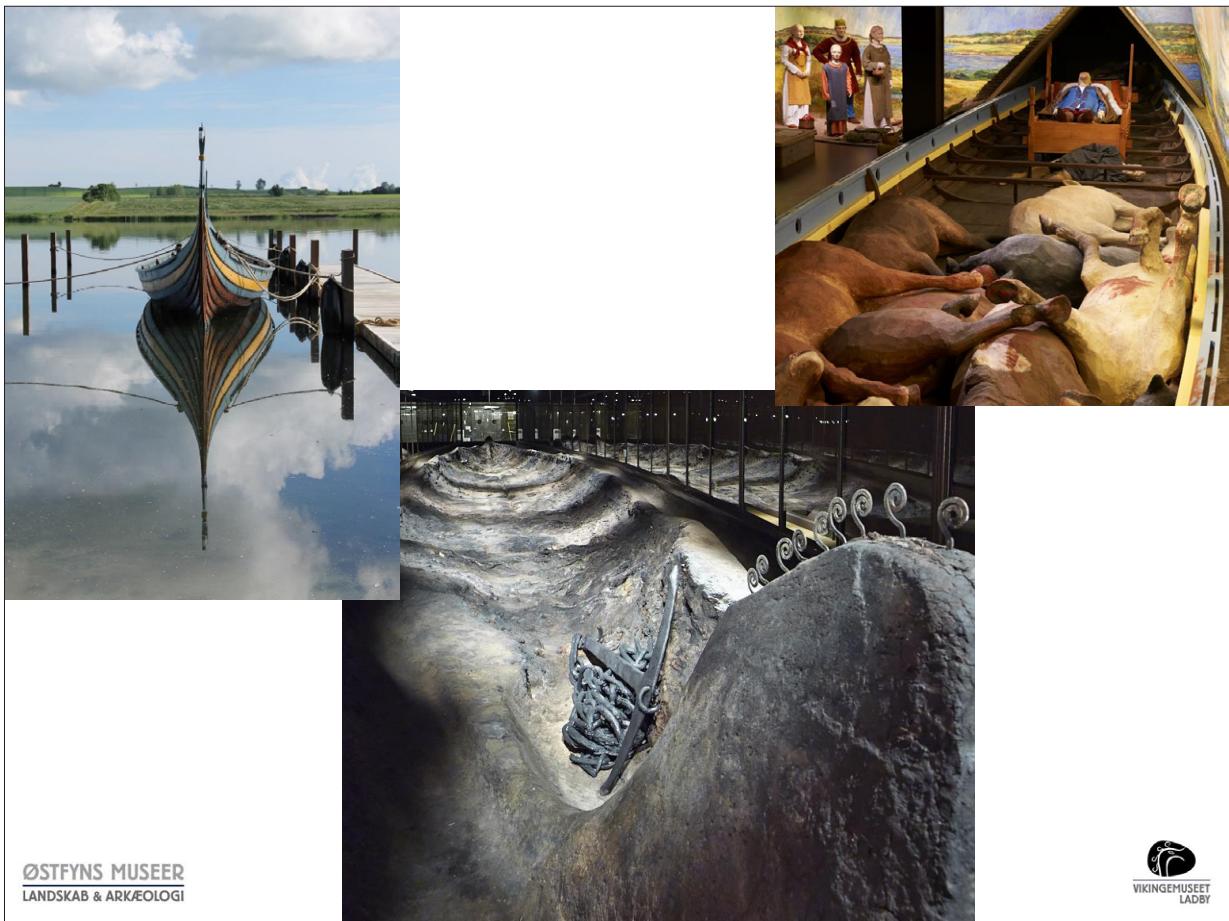


Figure 10 Reconstruction of the boat in the Ladby boat grave (left and right). The boat is left as an imprint in the ground with only iron rivets, anchor and decorative elements preserved (centre).



Figure 11 The landscape around Ladby and Munkebo Bakke strategically located around Kerting Nor.

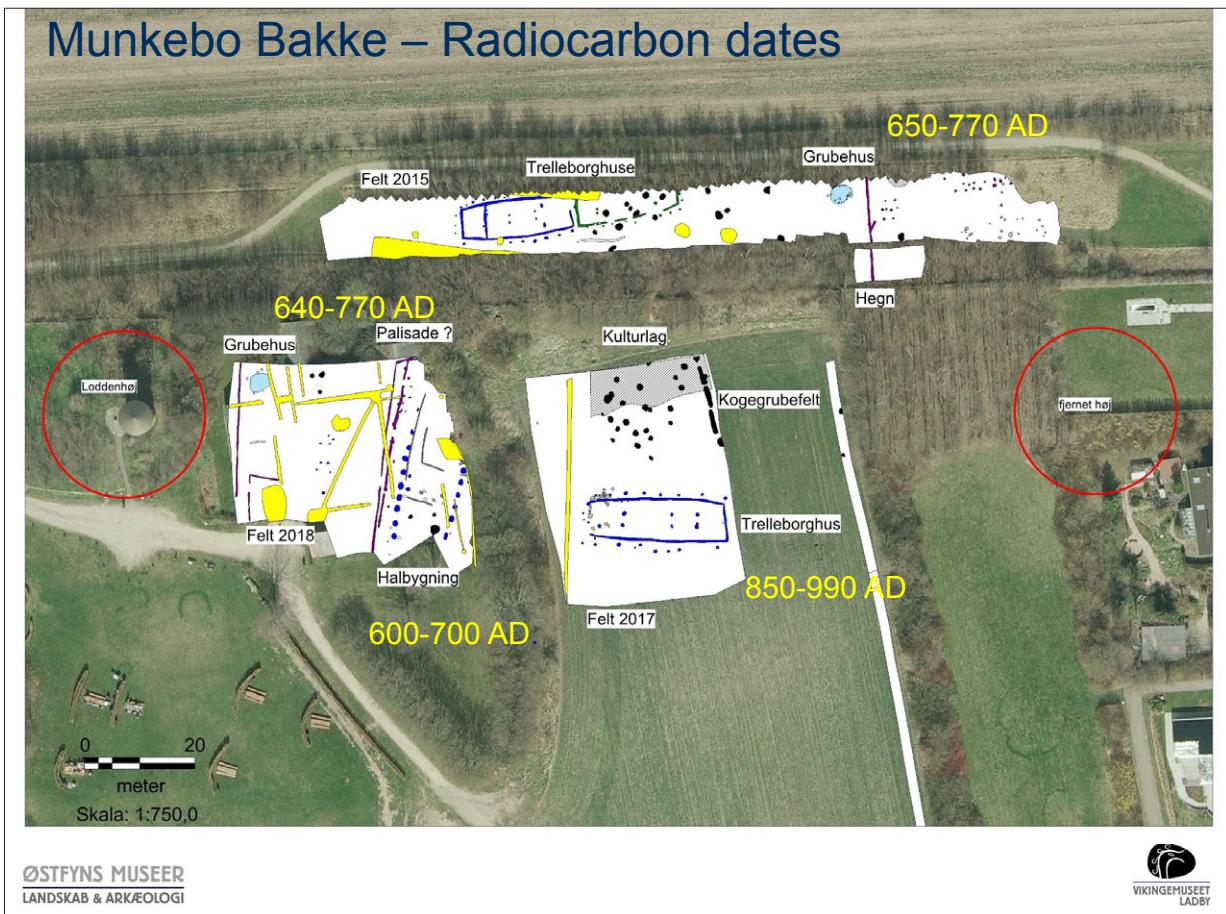


Figure 12 Munkebo Bakke excavated by Malene R. Beck and Museums of Eastern Funen. The site is radiocarbon dated to 600-800 AD.

950-1100 AD

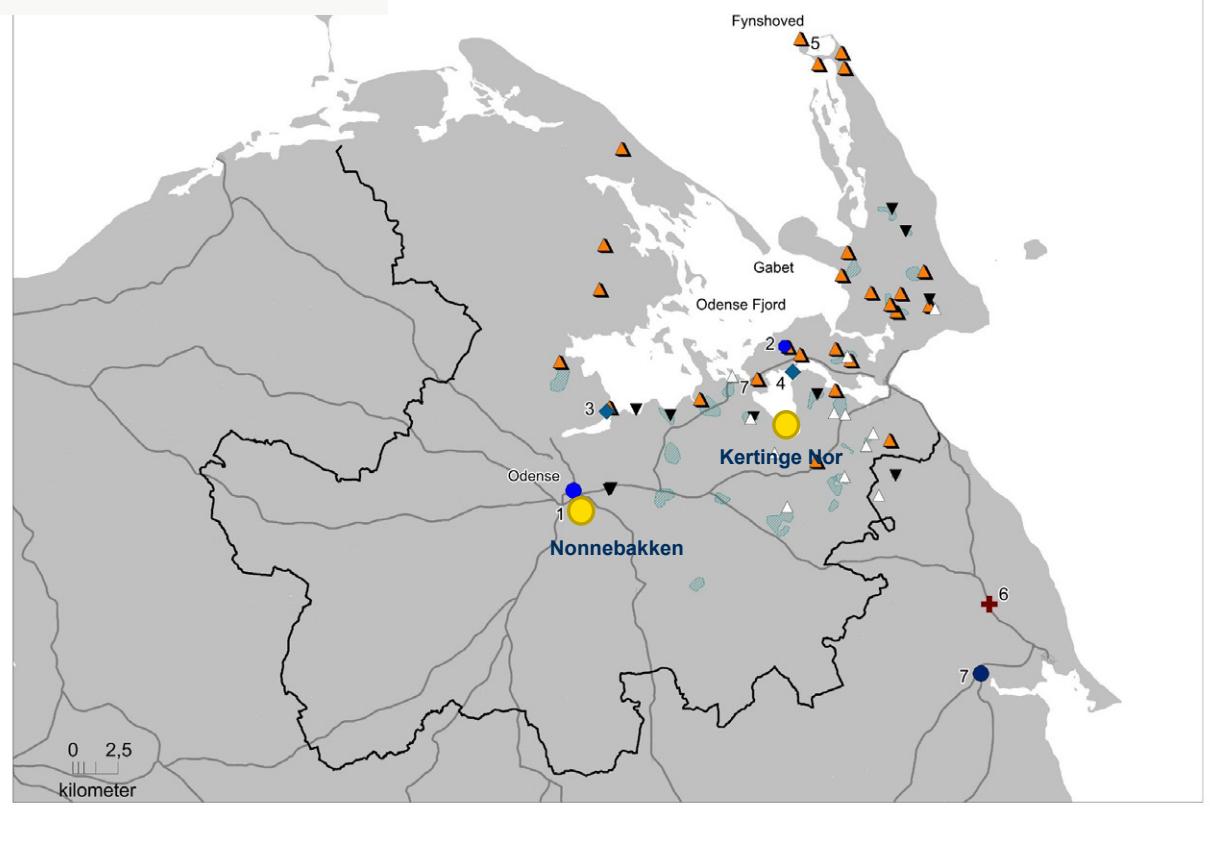
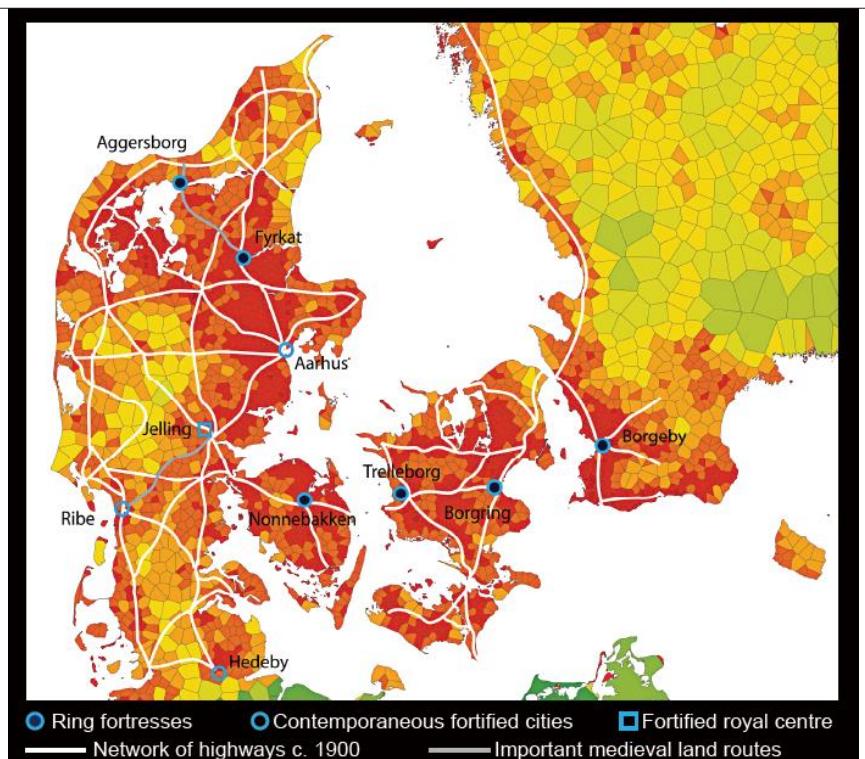


Figure 13 Military structures of the Late Viking Age and Early Middle Ages.

Fortress system
Late 10th century



Sindbæk, Pedersen & Roesdahl 2014

Figure 14 The maps show the fortresses, fortified cities and royal centres forming a network of power during the reign of Harold Bluetooth.

Nonnebakken, Odense



7Reasons

Figure 15 Reconstruction of Nonnebakken in its original landscape.



Figure 16 The ringfortress Nonnebakken is only visible in the modern town today to the trained eye as an elevated point in the landscape.

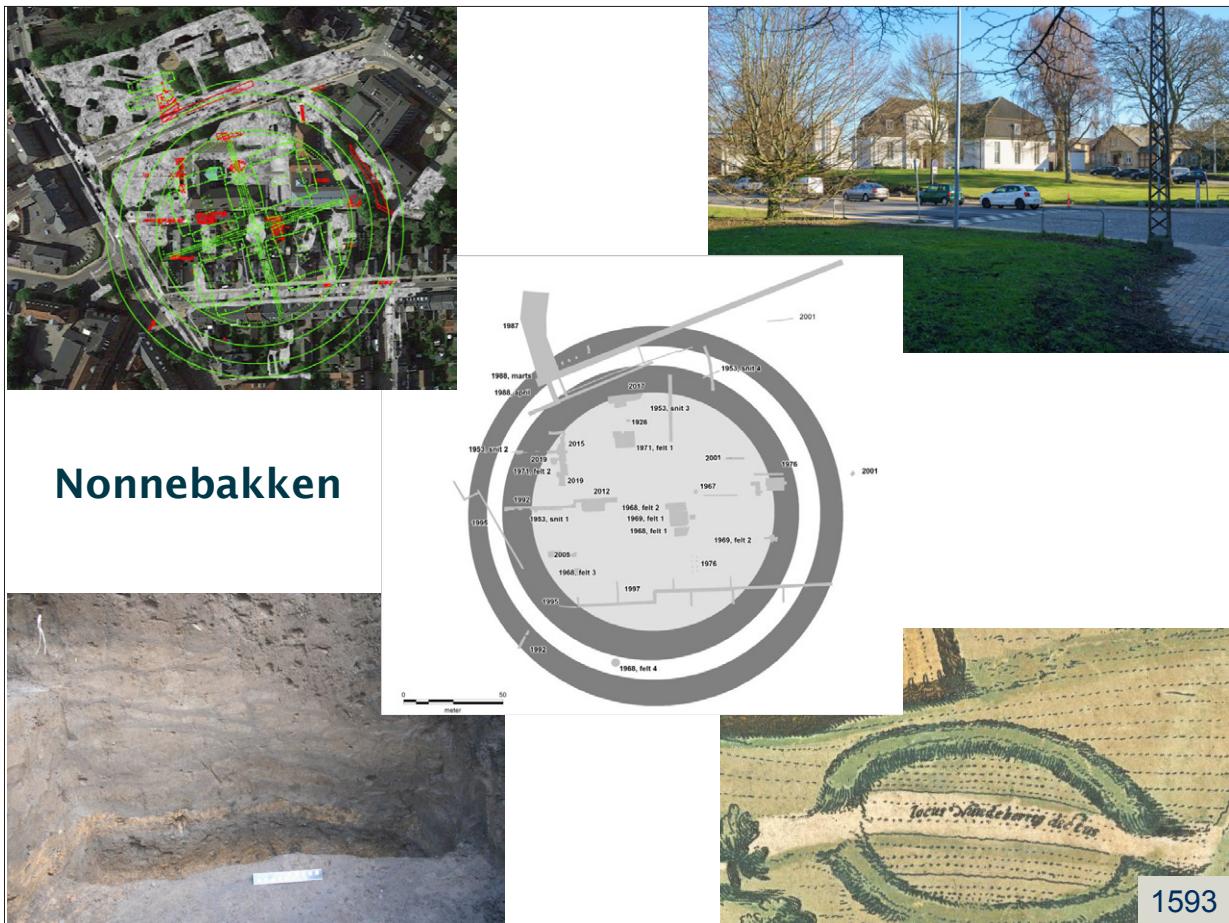


Figure 17 Recent excavations reveal that essential parts of the Viking Age fortress is preserved. Top left: Map showing the interpreted plan of georadar surveys and the plan of Fyrkat ring fortress (green). Top right: Nonnebakken today, seen from the north-west. Centre: In light grey the excavated areas of Nonnebakken. Bottom left: A section through the preserved rampart. Bottom right: A map from 1593 showing the rampart around Nonnebakken (section from Braun and Hogenberg, Cities of the World).



Figure 18 Geotechnical drillings executed by the National Museum of Denmark in the area around and at the ring fortress enabled a reconstruction of the original landscape.

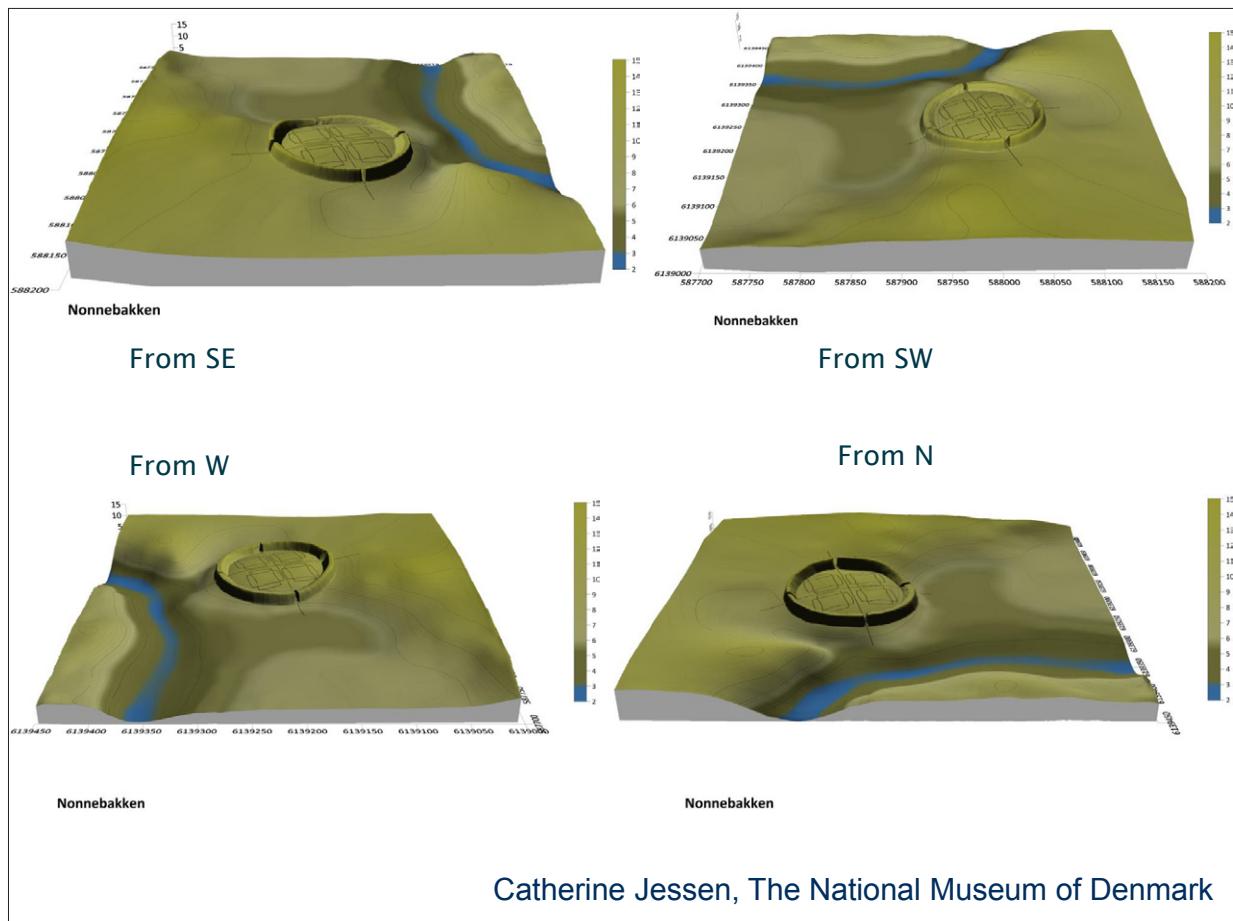


Figure 19 Reconstruction of the original landscape around Nonnebakken.

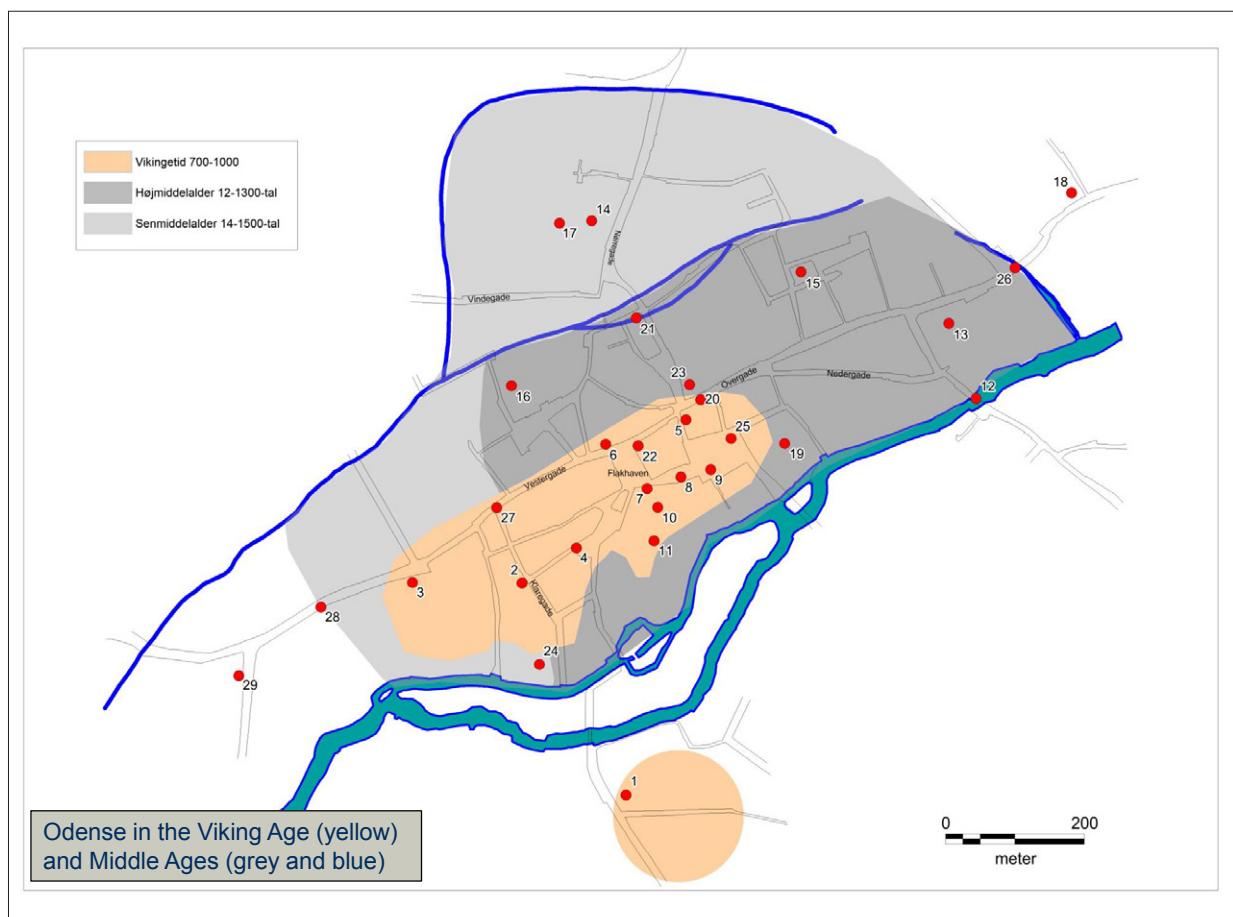


Figure 20 On the northern side of the Odense River there was a settlement from the 8th century and onwards.

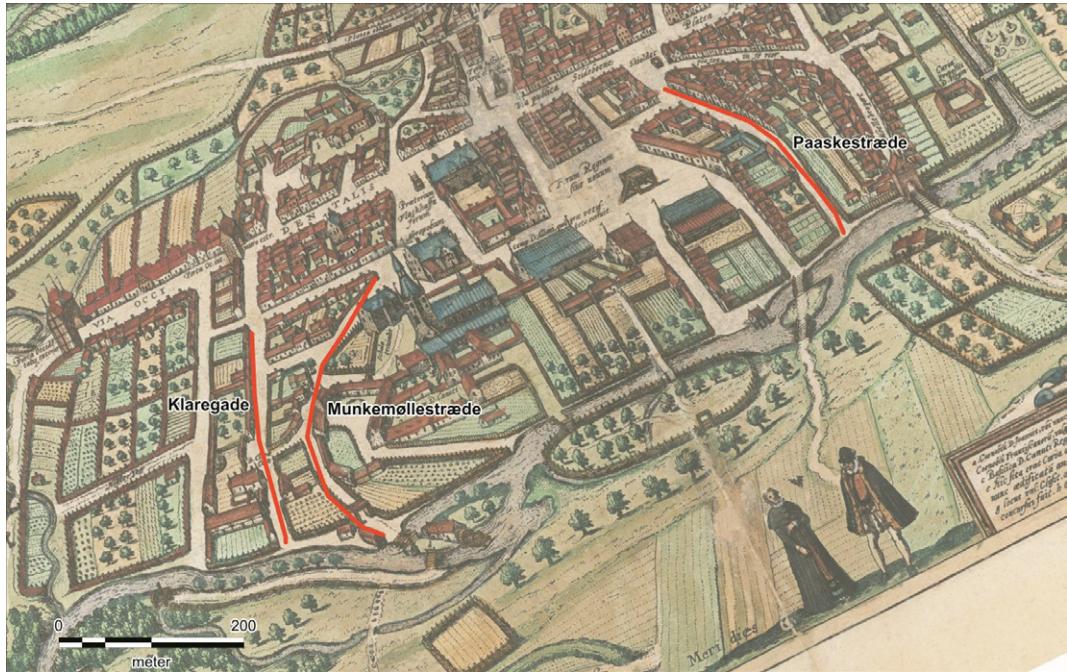


Figure 21 The medieval streets of Odense might indicate the presence of a bank and ditch. The age of such a fortification is unknown.

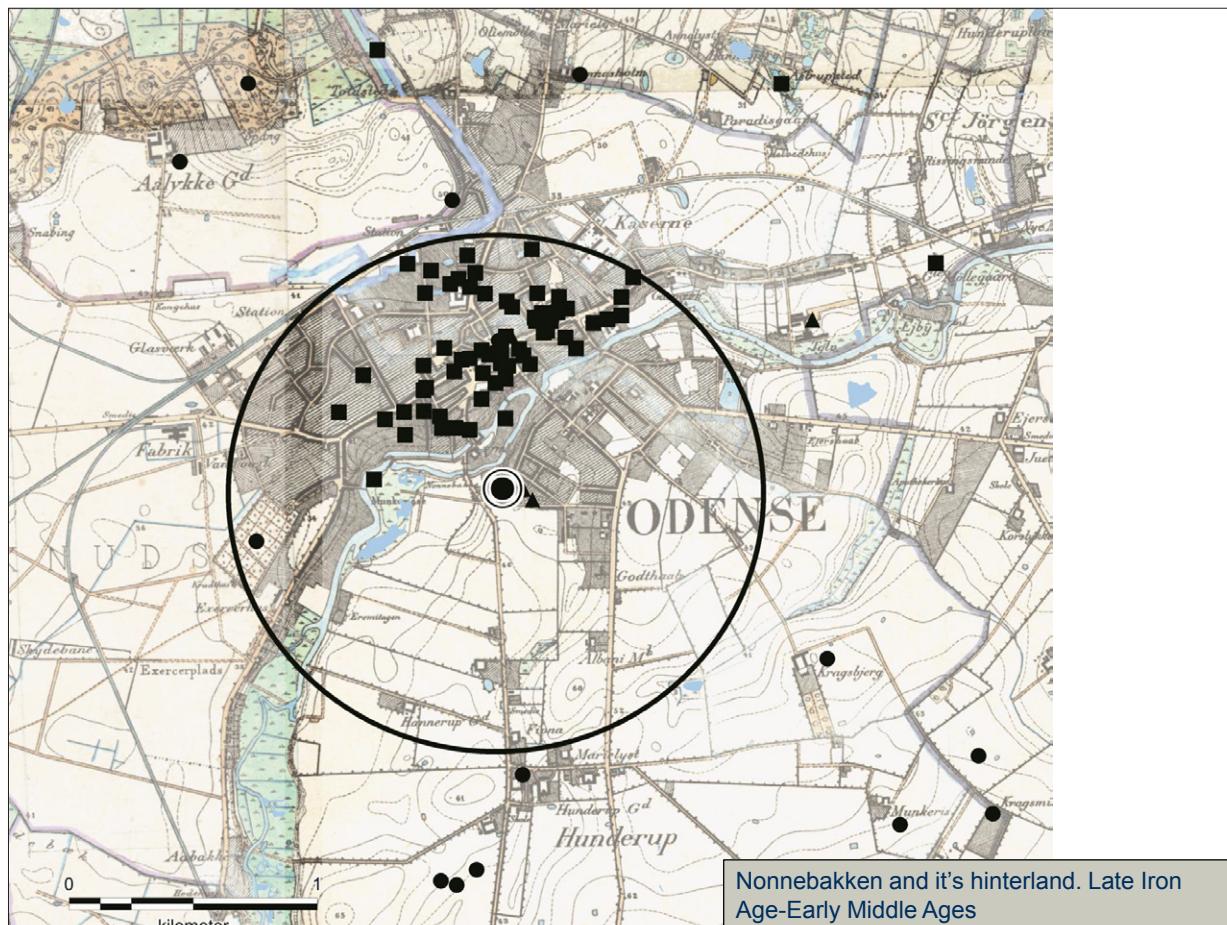


Figure 22 South of the Odense River an area of approximately 500 m distance from the ring fortress was kept clear from settlement.

A MILITARY LANDSCAPE

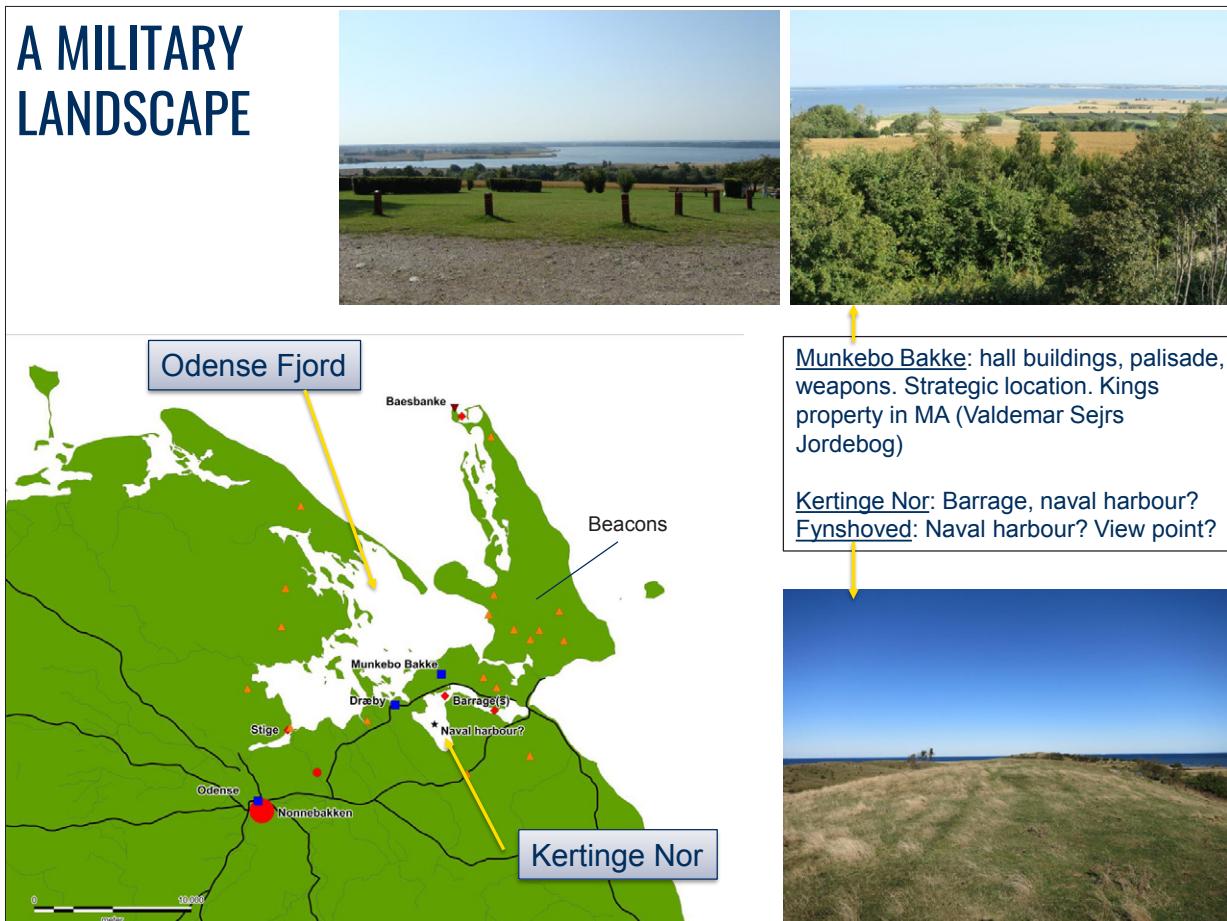


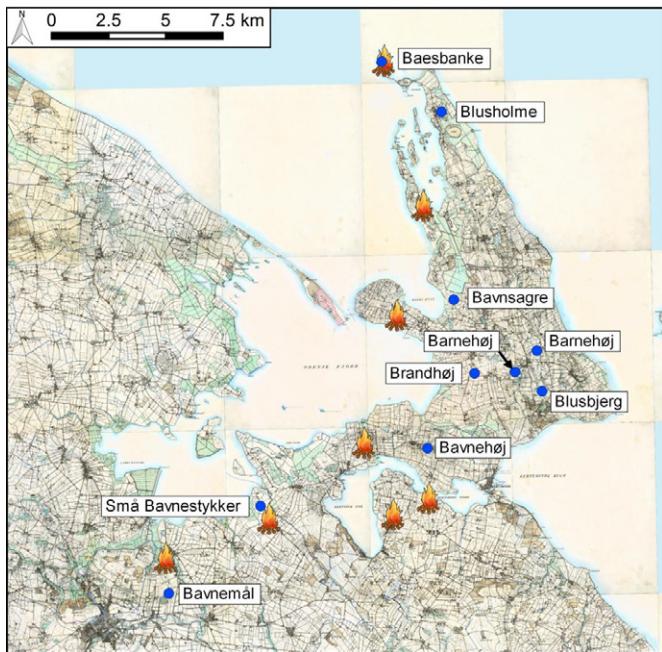
Figure 23 Nonnebakken and its strategic position in the landscape.

“The enemy is coming - Light the beacons”



Figure 24 From a large dissemination project, where a reconstruction of the warning system consisting of beacons in the Odense Fjord area was established.

Finding the beacon sites



- Cartographic studies
- Toponomy
- Archeological finds

Figure 25 The beacon sites are found through place name studies and archaeological finds.

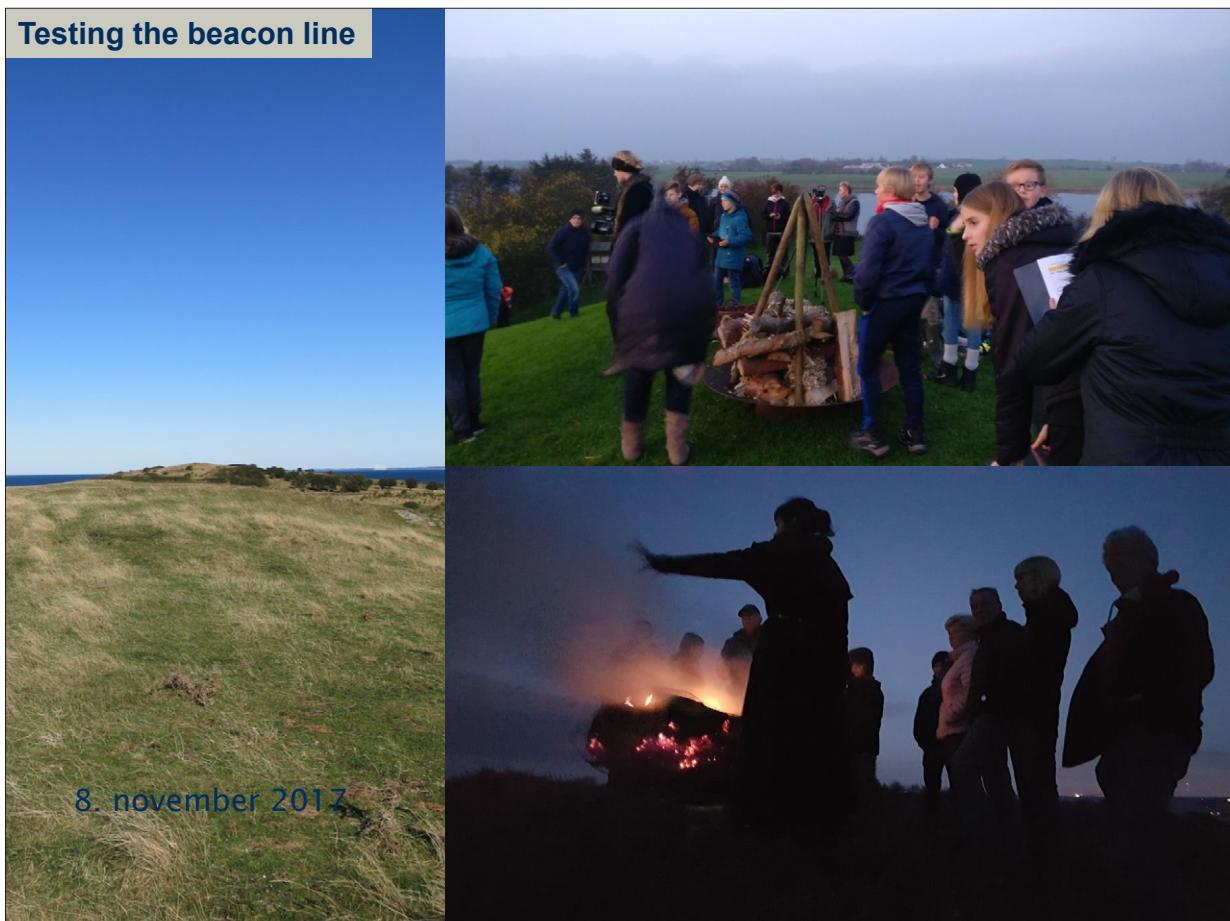
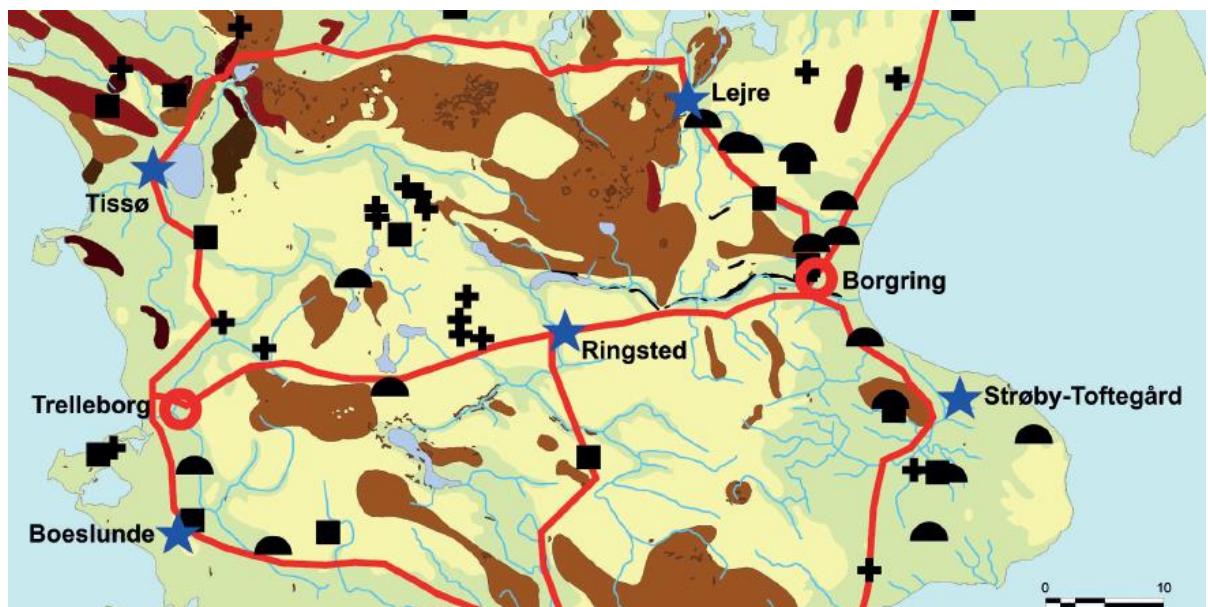


Figure 26 Photos from the reconstruction of the beacon line.

Changing power structures



Jens Ulriksen

Figure 27 The changing power structures in Zealand from Late Iron Age to Early Viking Age.

Funen 900-950

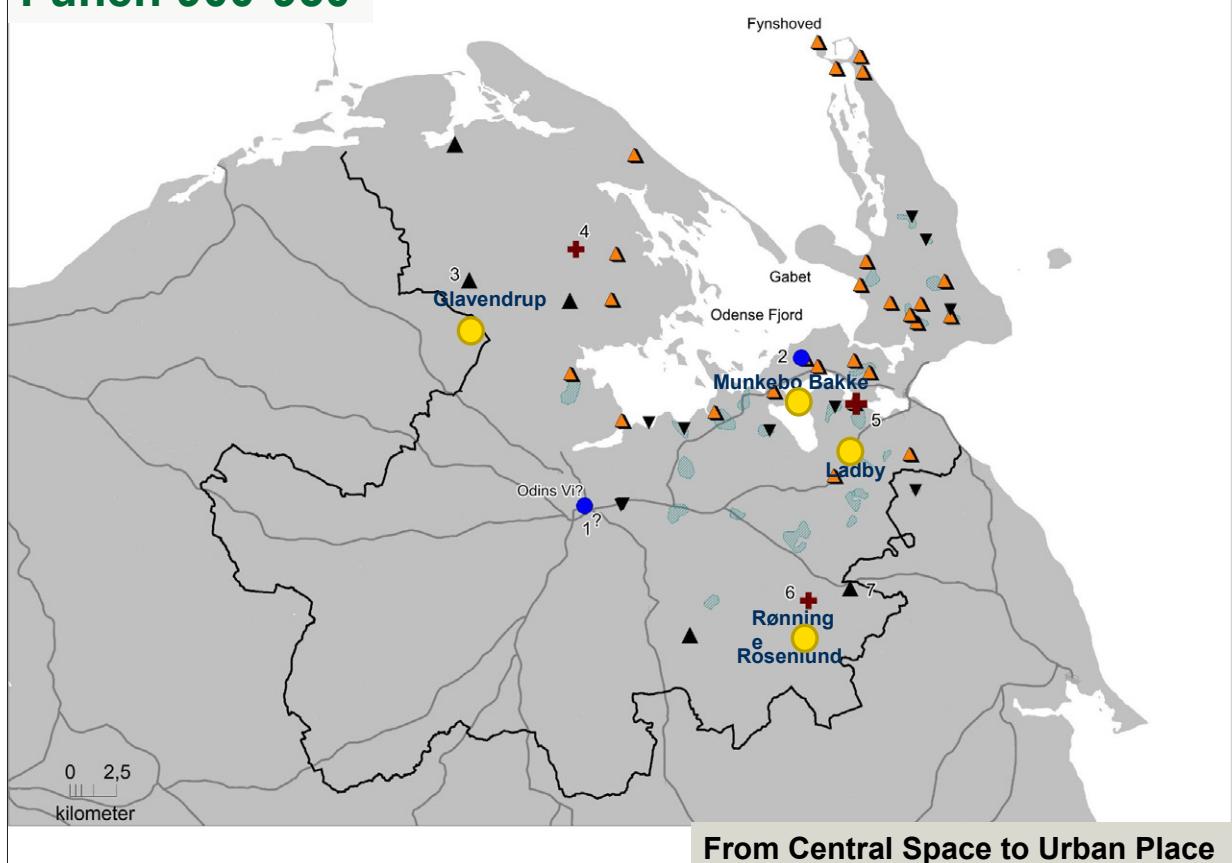


Figure 28 A similar situation of changing power structures is seen in north-eastern Funen. Power structures of the 900-950 AD.

Funen 950-1100

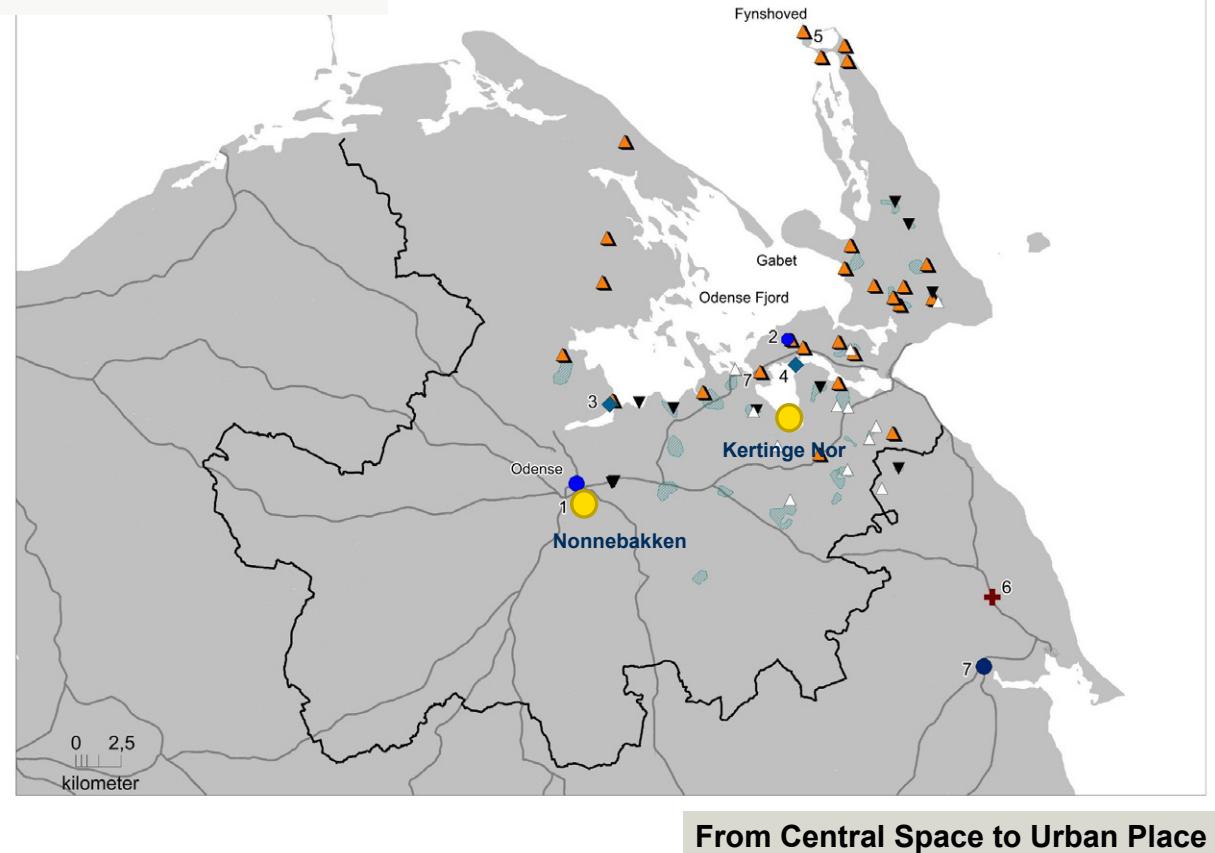


Figure 29 Power structures in north-eastern Funen in the 950-1100 AD.

Why?

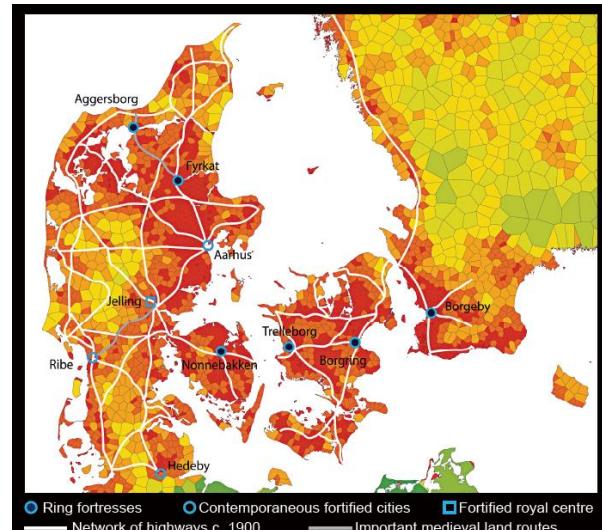


Figure 30 Conclusions. Harold Bluetooth's landscape of power (left). Illustration after Goodchild et al. 2017. Locally illustrated by local pagan sites replaced by overarching Christian structures. A vertical cut through a "Hørg" at the possible cult site of Odin's Vi (right).

Summary

Introduction

The landscape conditions of the Odense Fjord (inlet) area are flat and dominated by agrarian land. A few exceptions are the elevated areas northeast of Odense that seem well suited as lookouts. From here, the sea could be overlooked, just as it was possible to control large parts of the inland from Munkebo Bakke. Several natural harbours characterise the area. Odense had a marked position concerning the land traffic routes. Especially the east-west route across Funen was important for the town's location. Moreover, roads leading south and north had a natural crossing point in Odense. In the *From Central Space to Urban Place*-project, the north-eastern Funen area is studied in the period 400-1100 AD.

It was a relatively wealthy area with several major metal-rich areas, and specific import types were delimited.

During 400-1100 AD, increasing complexity and centralisation is seen within the military sphere in the north-eastern Funen area. Military elements are rare in 400-600 AD and predominantly comprised of a few weapon graves, house offerings etc. Apart from a couple of possible refuges, there are no known military structures. In 600-900/950 AD, a clustering of military elements is evident in many centres around Odense. Actual military structures supplement refuges. Finally, in 900/950-1100 AD, an extensive collective military system covered most of the area.

In the following, the focus is on the period 900-1100 AD, which is when the military elements take up the most space and where the transition from space to place emerges most clearly.

Presentation

The overall research topic of the project is the connection between pre-urban centres (*spaces*) of the Iron Age and the towns (*places*) of the Viking and Middle Ages. Following C. Fabeck and S. Brink, pre-urban centres are defined as centres with central functions spread out in the landscape.

The best example of a central space system in the research areas is in Bjerge Herred, east of Odense. Here several place names and, to some degree,

archaeological finds and sites indicate different aspects of centrality in a larger landscape. In 600-1100 AD, such a space organisation is also seen in the military sphere with several minor centres with military elements or indicators in the hinterland of Odense. These are Glavendrup northwest of Odense, Ladby-Munkebo Bakke and Rosenlund-Rønninge with weapon graves and a rune stone. Of these, Ladby appears to represent a higher social level. Weapon finds decline in number and is associated almost exclusively with the graves of the elite, while defensive structures appear progressively. The defensive structures comprise possible refuge strongholds, such as during the later phases at Gammelborg in eastern Funen. The refuge strongholds were established to protect the local population and, consequently, presumably on a local initiative without the involvement of central power. Therefore, these strongholds should not be considered part of a military organisation. Additionally, structures of actual military character appear in the same period. This is reflected in the strategically positioned Munkebo Bakke locality from the 7th-8th centuries AD with its possible palisade. The radiocarbon dates suggest that the locality of Nonnebakken, where Harald Bluetooth later erects a ring fortress, could also have an early phase, but this is still poorly defined. Military structures from the period are also known in other parts of Funen, e.g., the stronghold at St. Albert's at Ærø and the barrage at Henninge Nor on Langeland. Across Denmark, impressive defensive structures are evident at the Kanhave Canal (Samsø) and the earliest phase of the Danevirke. The nature of the period's minor centres can be discussed. One possibility is that they each represent an independent magnate. Another – as perhaps shown by the personal designations employed in the runic inscriptions, including the mention of the rune-carver Sóti on the Glavendrup and Rønninge stones – is that they constitute residences for the king's representatives.

In 925/950-1100 AD, other large military structures appear. An essential part of this system is Harald Bluetooth's ring fortresses. Nonnebakken in Odense is one of five Danish Viking Age ring fortresses erected around AD 980 by king Harald Bluetooth. The fortresses are very similar in construction with an outer ditch, a flat area and a rampart. A gate is placed in each corner of the world

and connected by two axial roads. In each quadrant, there are blocks of buildings. The fortresses are all presumed to be very short-lived, with a period of use of only ten to fifteen years and are spread evenly across Denmark – especially when the royal power centre Jelling is considered. They are part of Harald's unification of Denmark as one realm. Today, the Viking Age ring fortress Nonnebakken is only visible to the trained eye. The fortress is known from historical maps and excavations, and recent investigations have proven that its state of preservation is surprisingly excellent. The new research results have been the starting point for a revitalisation of Nonnebakken in research and dissemination. Initially, the fortress was set on a promontory with surrounding wetland areas – just like most other fortresses. Nonnebakken was located on the south side of the Odense River, close to the natural crossing. On the northern side of the river, the town of Odense was gradually formed from the late 8th century onwards. It can be characterised as a town at the latest in AD 900. The location close to an existing town is unique among the ring fortresses.

The location was designed to control the inland traffic and dominate the important pagan cultic centre, Odin's Vi, which gave name to Odense. The cult site was probably located just north of Nonnebakken on the southern bank of the Odense River.

Based on the shape of streets *Munkemøllestræde* and *Påskestræde*, it has been suggested that a bank and ditch surrounded the town. This has not been established archaeologically, and the dating of this hypothetical ditch and bank is unknown.

There is no evidence of other activities than Nonnebakken on the south side of the river in the Late Iron Age and Early Middle Ages. It seems the area within approximately 500 m from the fortress was kept free or cleared from other settlement activities. The purpose was to overlook the area or let the fortress stand out as an impressive feature, which should remind people of who was in charge.

Looking at Nonnebakken from a regional perspective in the late Viking Age to the Early Middle Ages, the strategic position concerning the historical road system is noteworthy. It is also noteworthy that Nonnebakken is located far from the coast. The assumption that it was possible to sail a

larger Viking ship up the Odense River to Nonnebakken has recently been rejected by Mogens Bo Henriksen. The river is too curved and the water level too low. In the Middle Ages, Kertinge Nor was the harbour area for Odense. Perhaps this was also the case in the Viking Age.

A common defensive system on north-eastern Funen can be described. Besides Nonnebakken, this system might, among others, consist of the barrages in Kertinge Nor and the suggested connected naval harbour. Moreover, the place name Stige north of Odense might indicate a barrage. Munkebo Bakke, where recent excavations revealed a rich settlement with weapons, hall buildings and a palisade, might be part of the system. Munkebo Bakke has, as mentioned, an extremely strategic position with an overview of large areas of Odense Fjord and Kertinge Nor. Finally, an unusually dense concentration of beacon place names is characteristic of the area. The names are known from maps and written sources from the 17th century AD but might be older. Warning systems in the form of *bavne* (i.e. beacon) and *warth* (i.e. watch) localities are evident at the Odense Fjord area, forming a pattern representing a coherent structure extending from the areas' extremities towards their centres. These localities' dating and internal relations are uncertain, but it cannot be excluded that these structures functioned during the preceding period.

Conclusions

With the presented evidence in mind, it is then possible to talk about an organisation of the military sphere in a "Space to Place" structure? For the Zealand area, Jens Ulriksen has suggested a development from many centres in the Late Iron Age-Early Viking Age to fewer centres. Harold Bluetooth's two ring fortresses in Zealand are seen as a sign of this new structure. Once more, with an impact on the land-based fortification.

The same is probably seen on Funen in the second half of the 10th century. However, why does this shift in the military structure take place? Some changes, such as Harold Bluetooth's ambition of the Christianisation of Denmark, should be seen from a local perspective. Here the location of the Christian ring fortress succeeding Odin's cult site is a clear example. Other reasons can be traced from a national and international perspective, as

seen in Harold Bluetooth's strategies at home and abroad (especially towards Germany and Norway). The development may also reflect a self-reinforcing, cumulative effect, whereby increased centralised power in one place may also have led to centralisation in others.

Questions

Could you say a bit more about the vertical section that might be a pagan cult site (Figure 30)?

It is from an excavation in the late 1980s north of Nonnebakken. It was a large pit filled with animal bones and burnt stone. There were no artefacts - as in Lejre. As for now, it is the best suggestion for the location of Odin's Vi.

What is the dating of the city north of the river?

There are a few pithouses and maybe a regular settlement going back to the 8th century. Odense is a town around AD 900. Even though we do not have many archaeological features to support this. At the time of the Nonnebakken, the settlement stretches around 400 m along the north side of the river.

Are the old heathen places catalyst for which localities became towns?

This could be the case for Odense. It was both a religious and administrative centre. At the same time, a place like Aalborg seems to develop from a specialised craft and trade settlement.

You need to expand the focus beyond trade to include centrality/administration in Aalborg. The fortification in 10th century Aalborg must represent some kind of administration.

Correct. There are other elements than trade and specialised craft that are important for the shaping of Aalborg. Relatively, though, trade and crafts are more important urbanisation factors in Aalborg compared to Odense.

Towns are not islands. There is something leading up to the administrative/church towns. The towns emerge in a "fixed" landscape. The organization of society goes further back than cities. The shift can be traced to around AD 600 – and it turned out to be a stable system.

Would people in the 11th century point out specific sites as different from others? And can we trace an earlier system of classification of towns

(13th century we have chartered towns, 10th century they are bishop's seats).

We must look at the people (and not just structures) and ask why they would come to towns? The town has to have something that the village cannot offer.

- Towns were probably more open to newcomers than villages.
- The pull factors of towns are essential. In Dorestad, there were many poor people. It was a chance to live a new life. Towns were not just a place you would move to when you were rich. Even modern towns pull poor people to them.
- How could you move to a town in 11th century Denmark regarding land owning and buying? We do not know the rules
- Who owned the house in the 8th century Ribe marketplace? We do not know.

Part 4:

Spaces and places of the earliest citites

Urbanisation in a challenged landscape. Manipulation or adaption to the natural conditions

Jens Ulriksen (Museum Southeast Denmark)

Abstract:

Roskilde was founded around AD 1000 with the intention to mark and strengthen the position of church and king as the imperative ideological, religious and power factor in the waning Viking-Age society. Initially it was not a commercial hub, and therefore it was hardly considered that the inhabitants 50 or 100 years later had to work hard to make the terrain smoother, drier and thus usable, as the place had assumed urban character and expanded rapidly. Urban settlements of the same type as Roskilde were Lund and Viborg and - we assume - Odense. The names of Viborg and Odense point to a continuation of pagan shrines,

while in the case of Roskilde and Lund it can only be postulated. The four cities contain some common topographical and archaeological-historical characteristics indicating that around the year 1000 they were part of an overall plan. The aim was to establish bridgeheads that - mentally and physically - marked the connection between the ancestors' customs and the young Christian kingdom, which unconditionally contained the seeds of massive societal change. It is hardly a coincidence that the four specially selected localities are in their respective "countries".

Urbanisation in a challenging landscape

MS
D



Conference on
Spaces, places and the earliest urbanisation of South Scandinavia
Lindholm Høje Museum, Nov. 30th 2021

Jens Ulriksen
Museum Southeast Denmark

Figure 1 Roskilde and the dominating Cathedral seen from the North in the second half of the 16th century. Unknown Dutch artist. Illustration: Roskilde Museum.

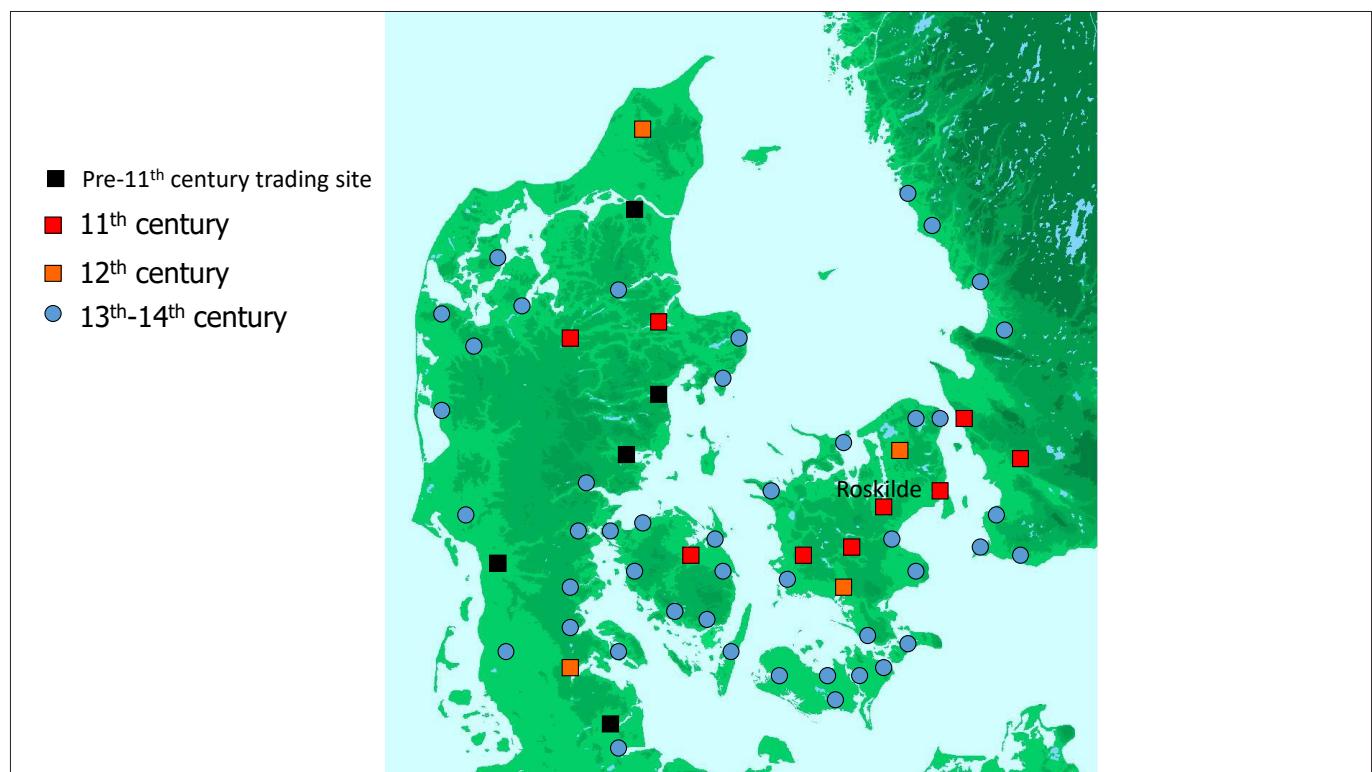


Figure 2 The location of towns was often economically motivated and therefore their position in the landscape varies. The towns founded in the 11th century do not seem to rely on access to the sea.

Lidar-map of Roskilde and its surroundings

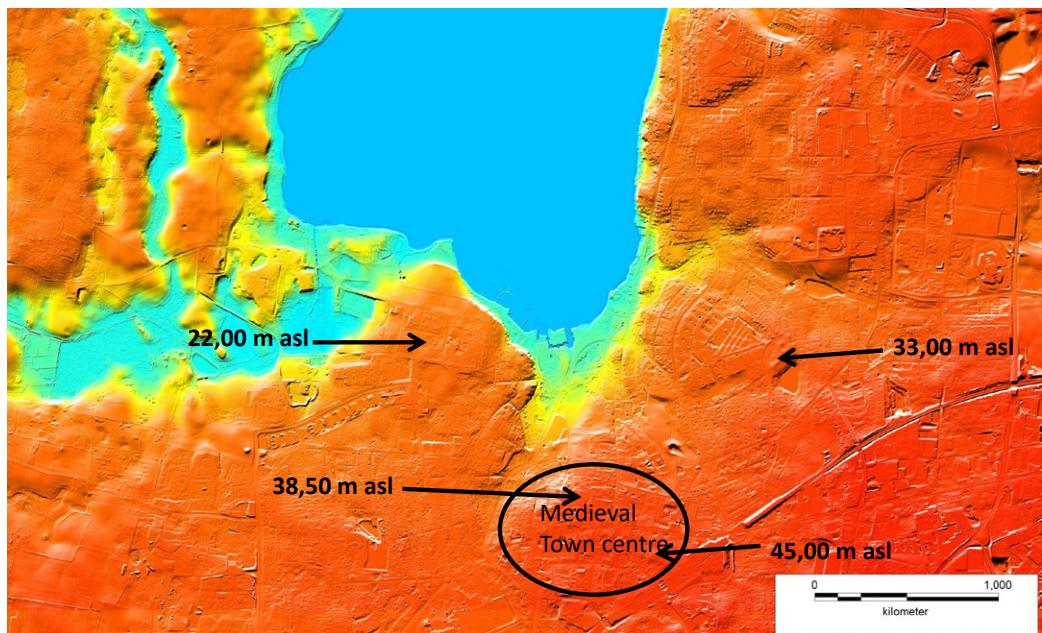


Figure 3 The landscape around Roskilde suggest that the location was chosen for other reasons than closeness to the sea and sea trade. Roskilde was a religious and royal centre located high above the fjord.

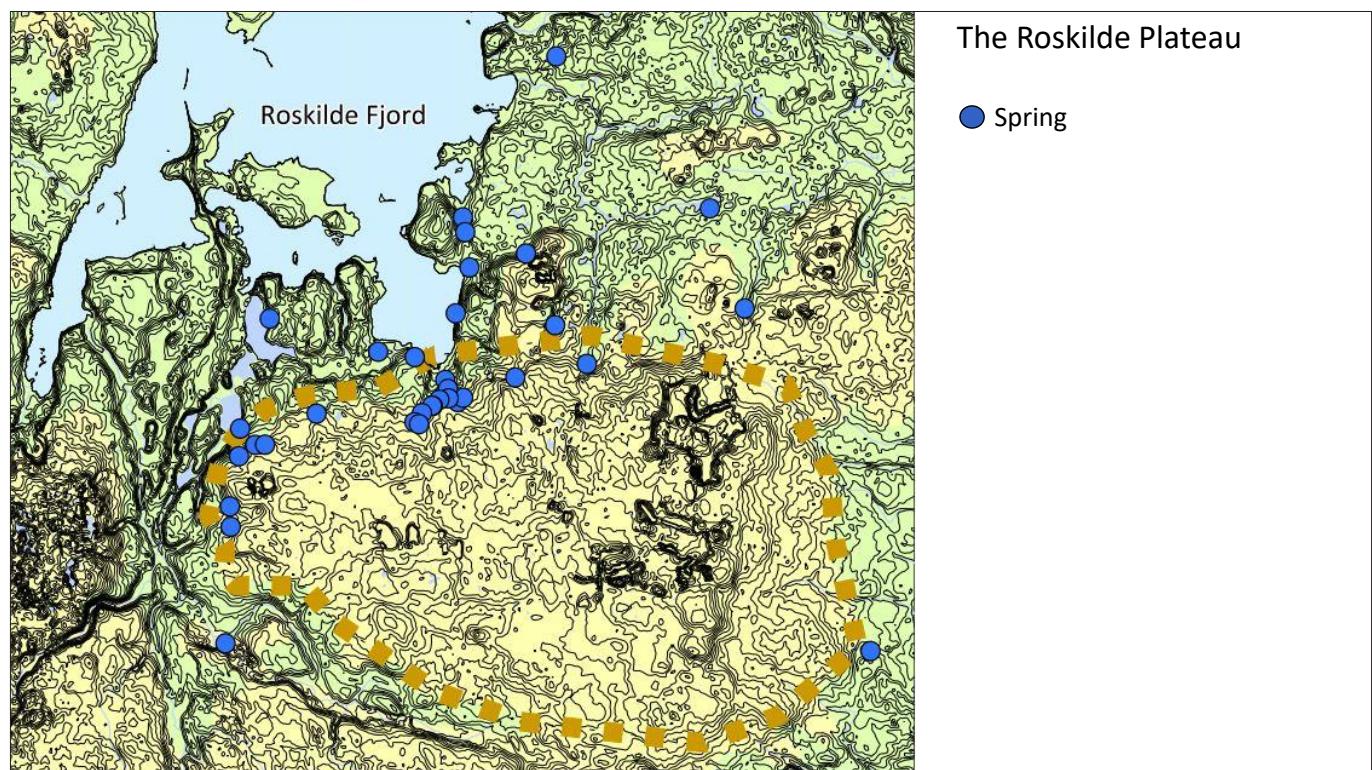


Figure 4 The approximate limits of the Roskilde plateau of glacial clay are shown with a broken line. Springs are marked in blue. The springs lead rainwater to the fjord. Contour interval 2.5 m.

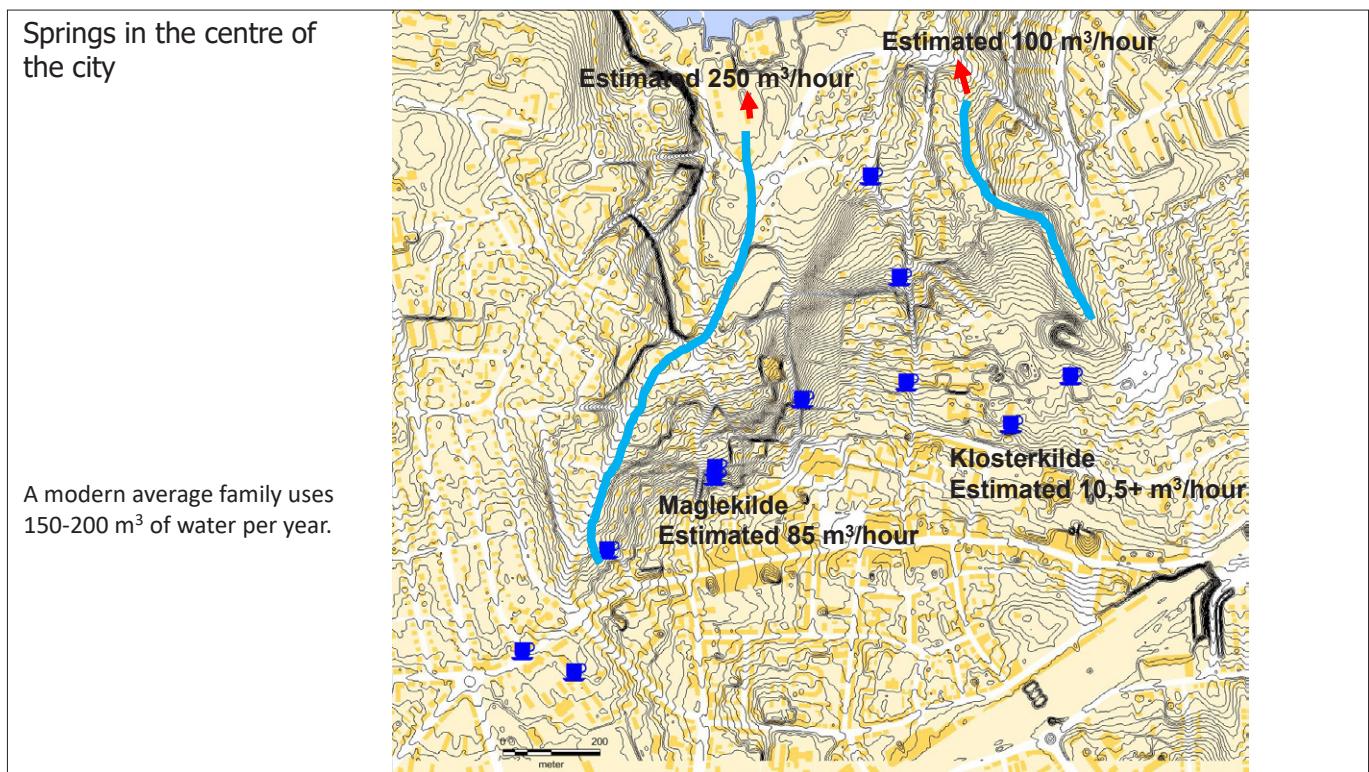


Figure 5 Erosion channels arising from springs around the town centre are shown with bold lines. Contour interval 0.5 m. “Maglekilde” means “Great spring” and “Klosterkilde” means “Monastery spring”. Contour interval 0.5 m.

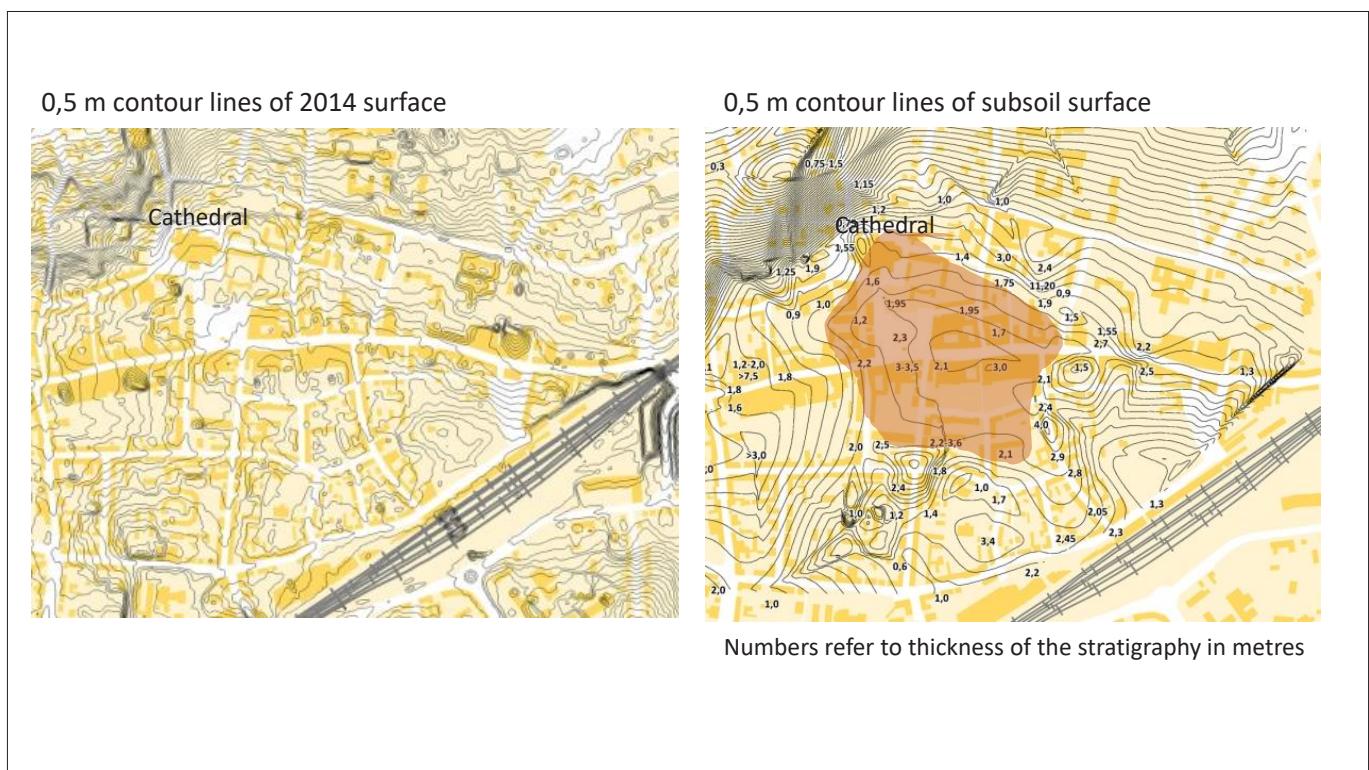


Figure 6 The thickness of the cultural deposits below the modern ground surface is given in metres drawing the outline of the original landscape. The surface of the subsoil is shown with contours. Contour interval 0.5 m.



Figure 7 A peculiar phenomenon: Deep, shaft-like muddy holes (marked with red dots). Photos: Roskilde Museum.

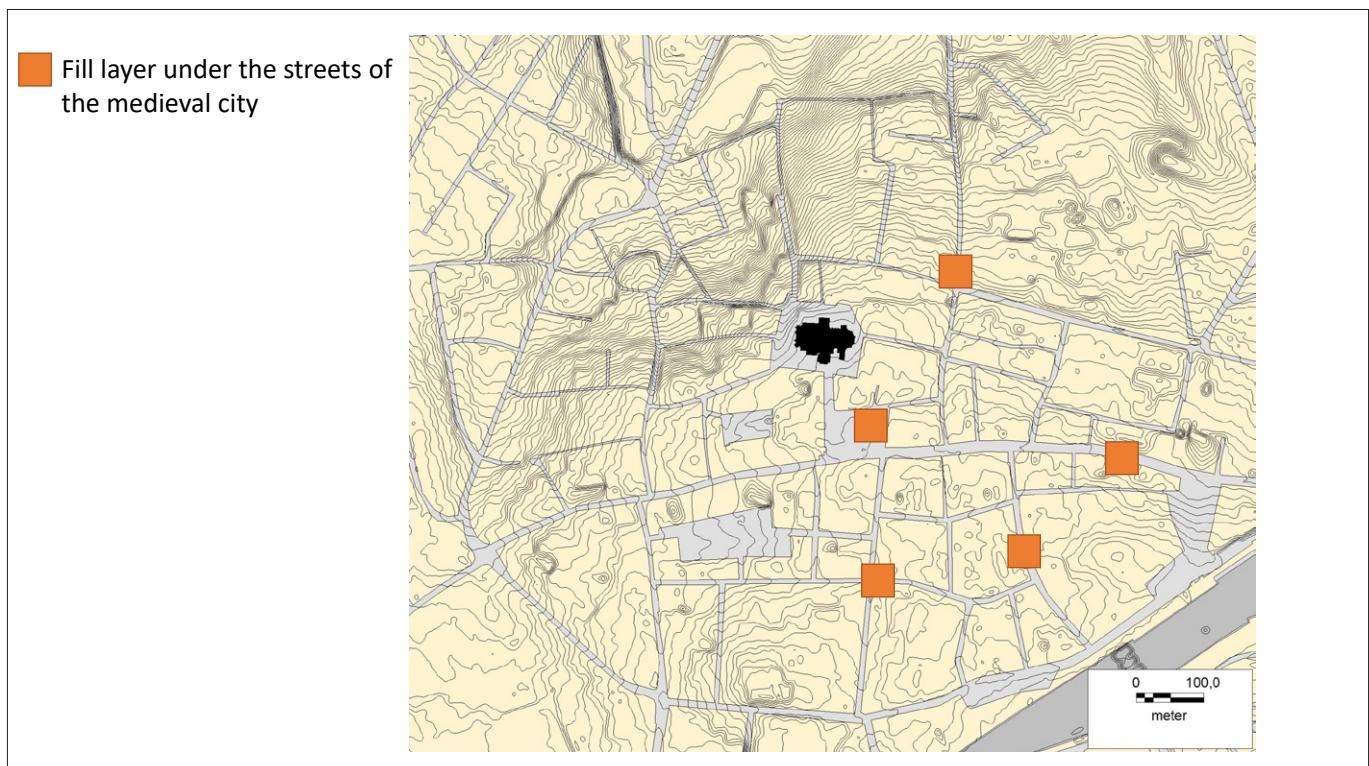


Figure 8 Fill layers beneath streets are marked with a rectangle. The terrain has been levelled and prepared for the expanding town. Contour interval 0.5 m.

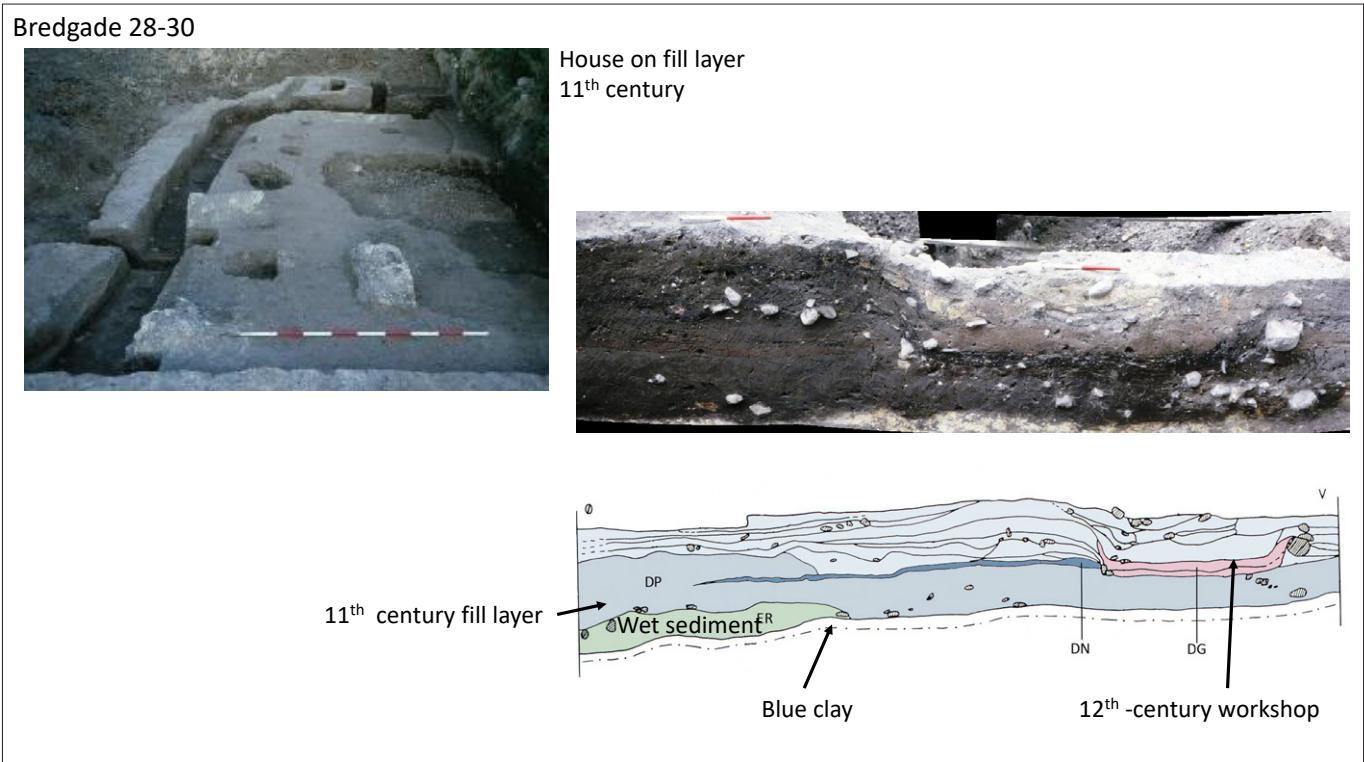


Figure 9 Bredgade 28-30. Section through a bronze-caster's workshop from the 12th century (bottom right). Layer ER is a wet, water-lain deposit overlying blue-clay subsoil. Layers DP and DN are soil backfill. The bronze-caster's workshop is represented by layer DG. Photos and section drawing: Roskilde Museum.

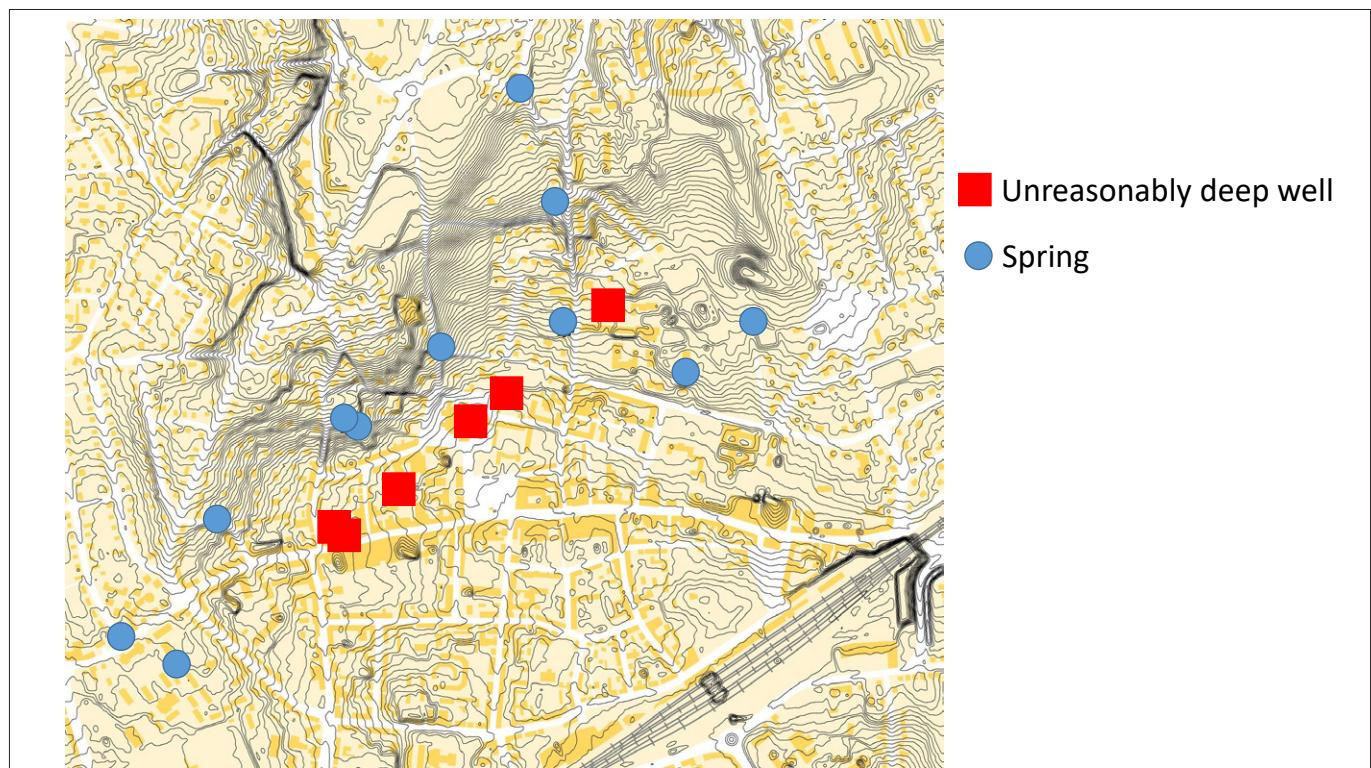


Figure 10 Primary springs (blue dots) and deep wells up to 8 m deep (red squares). These wells were probably made for drainage. Contour interval 0.5 m.

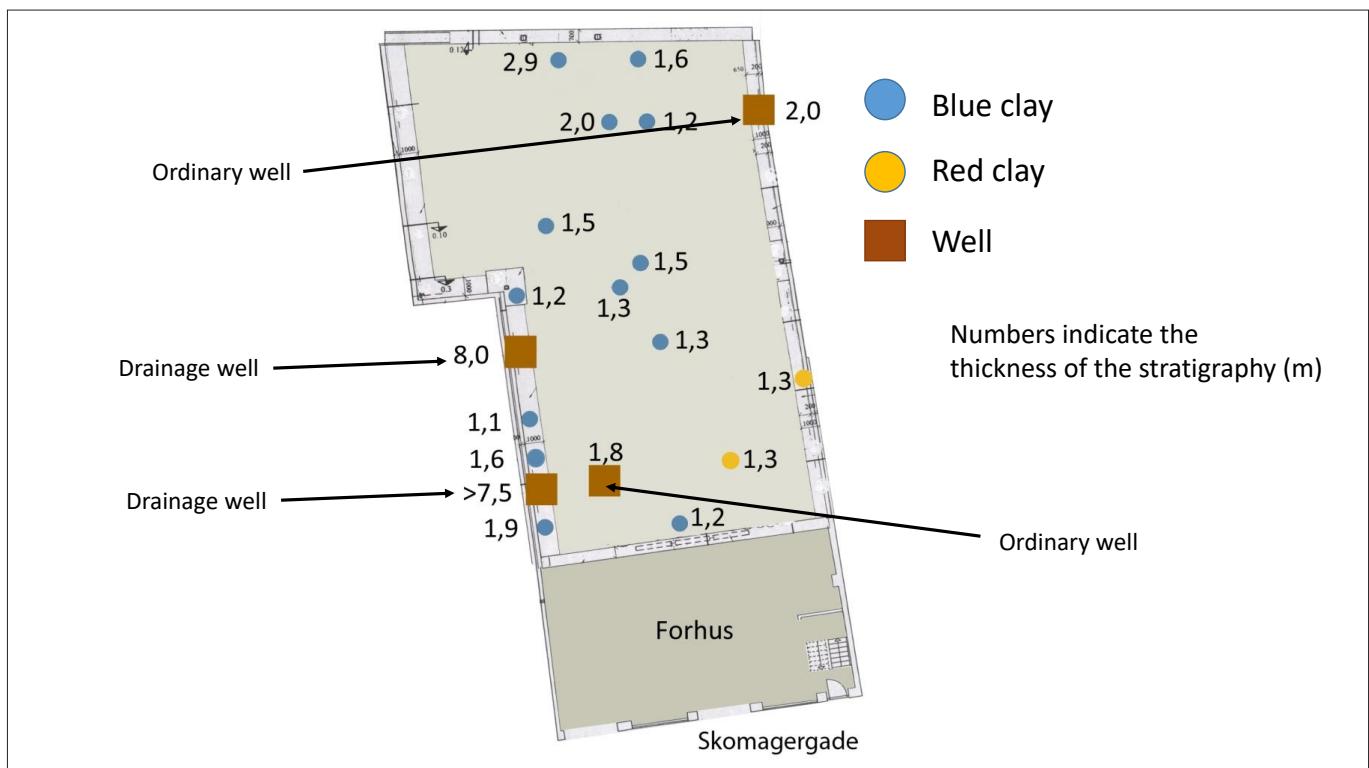


Figure 11 The groundwater was accessible around 2 m below surface. The extraordinary deep wells are therefore interpreted as drainage wells. Illustration: Roskilde Museum.

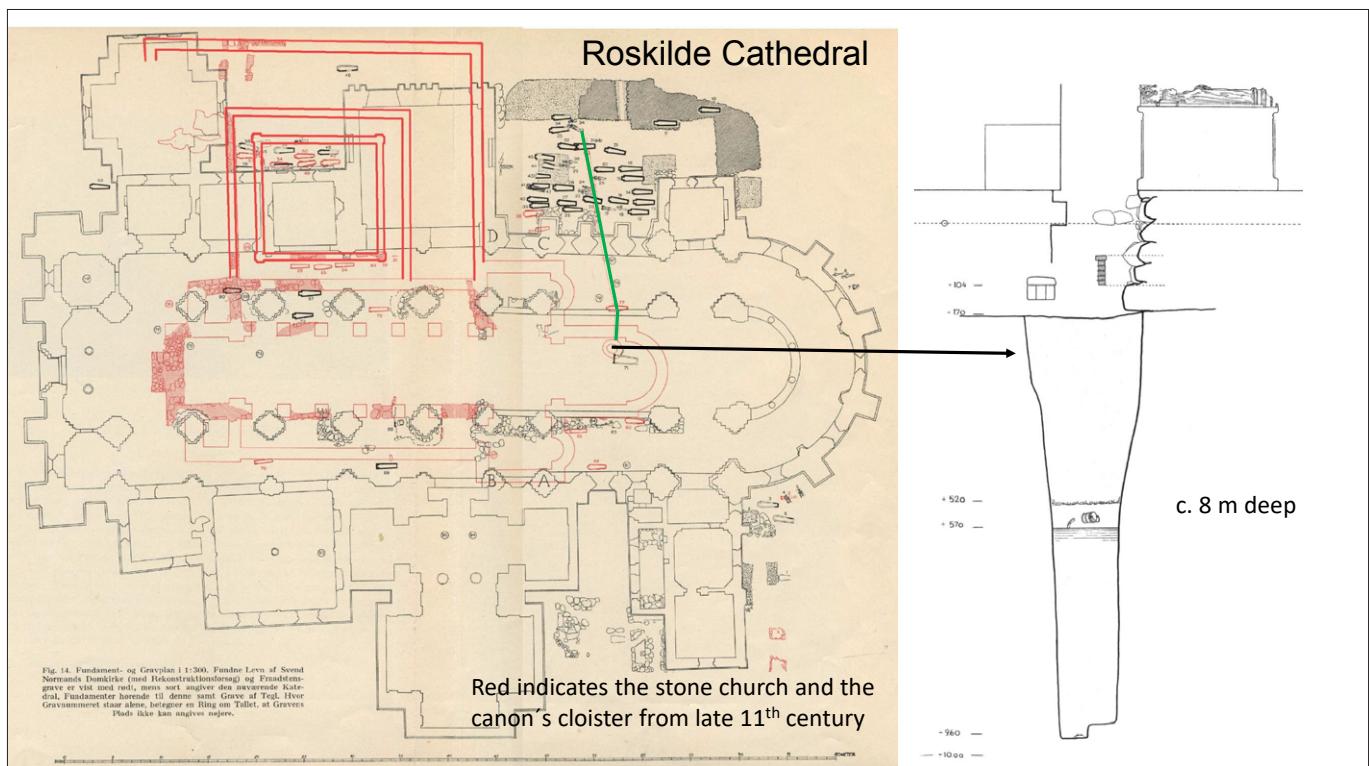


Figure 12 Section through an 11th century well beneath Roskilde Cathedral (Right). The well is likely to be a drainage well but may also have a religious purpose. Plan and drawing from 'Danmarks Kirker' modified by author.

Myth of Foundation #1



The town of Høgekøbing was poorly located for the merchants in central Zealand. King Ro moved the town to the harbour site by the Isefjord, where there was a lovely spring.

Lejre Chronicle c. AD 1150

Figure 13 Roskilde has two foundation myths.

Myth of Foundation #2

Harald Bluetooth built the church in Roskilde where he later was buried



Adam of Bremen c. AD 1070

Figure 14 The second myth is related to King Harald Bluetooth. Both myths have been refuted.

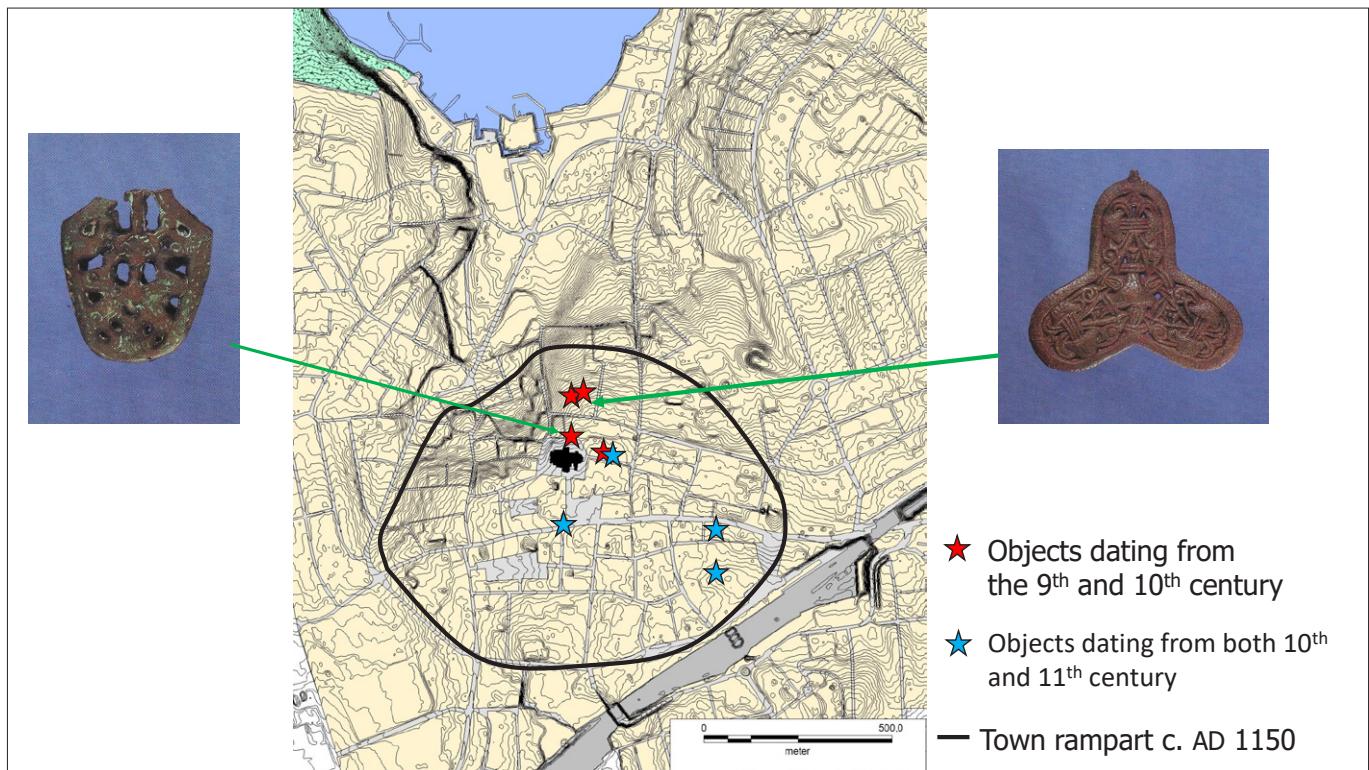


Figure 15 Even though there are metal objects from the 9th and 10th centuries, there are no evidence of a contemporary settlement (e.g., pithouses, post holes from buildings or rubbish pits) within the perimeter of the town rampart from the 12th century. Photos: Roskilde Museum.

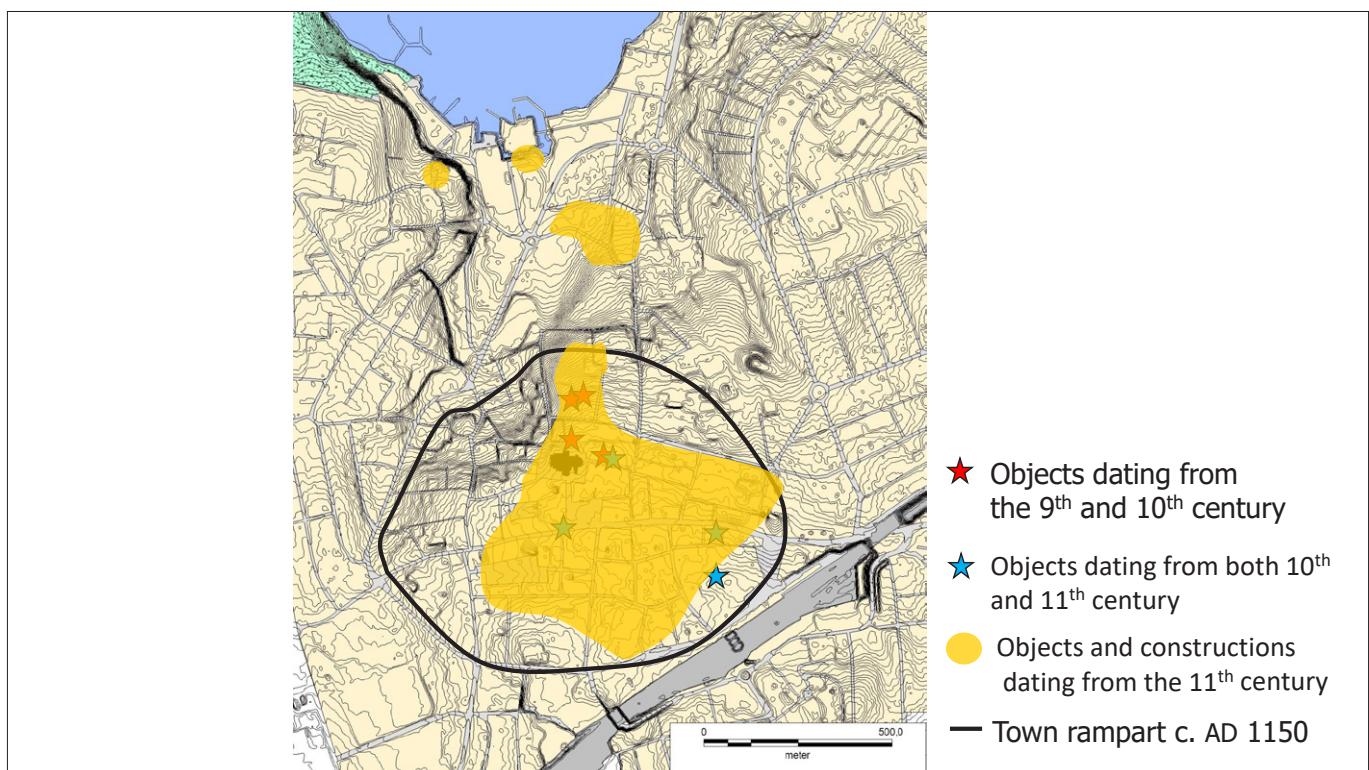


Figure 16 From the early 11th century there are clear evidence of a settlement. By the end of the 11th century, it covered an area of c. 34 ha.

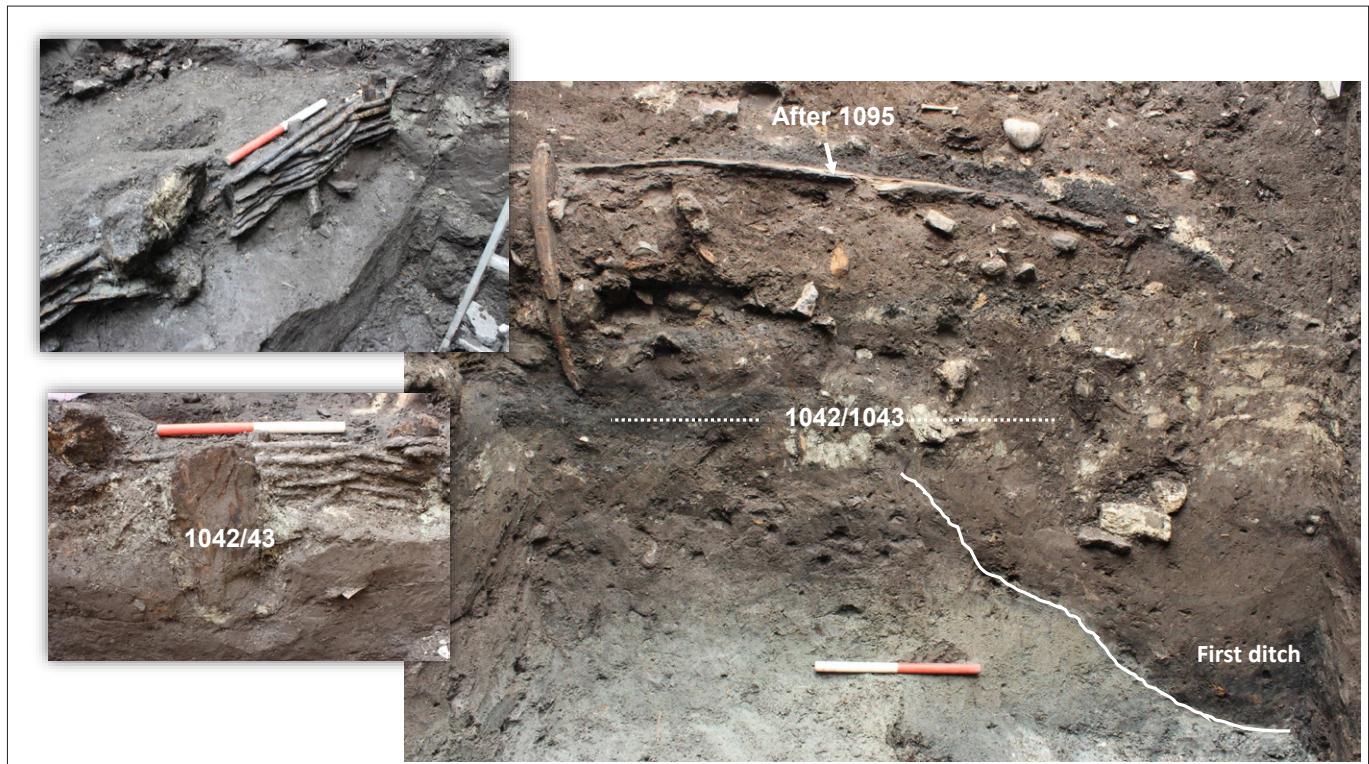


Figure 17 The archaeological evidence from the 11th century. Ditches and fences separating streets and plots. Photos: Roskilde Museum.

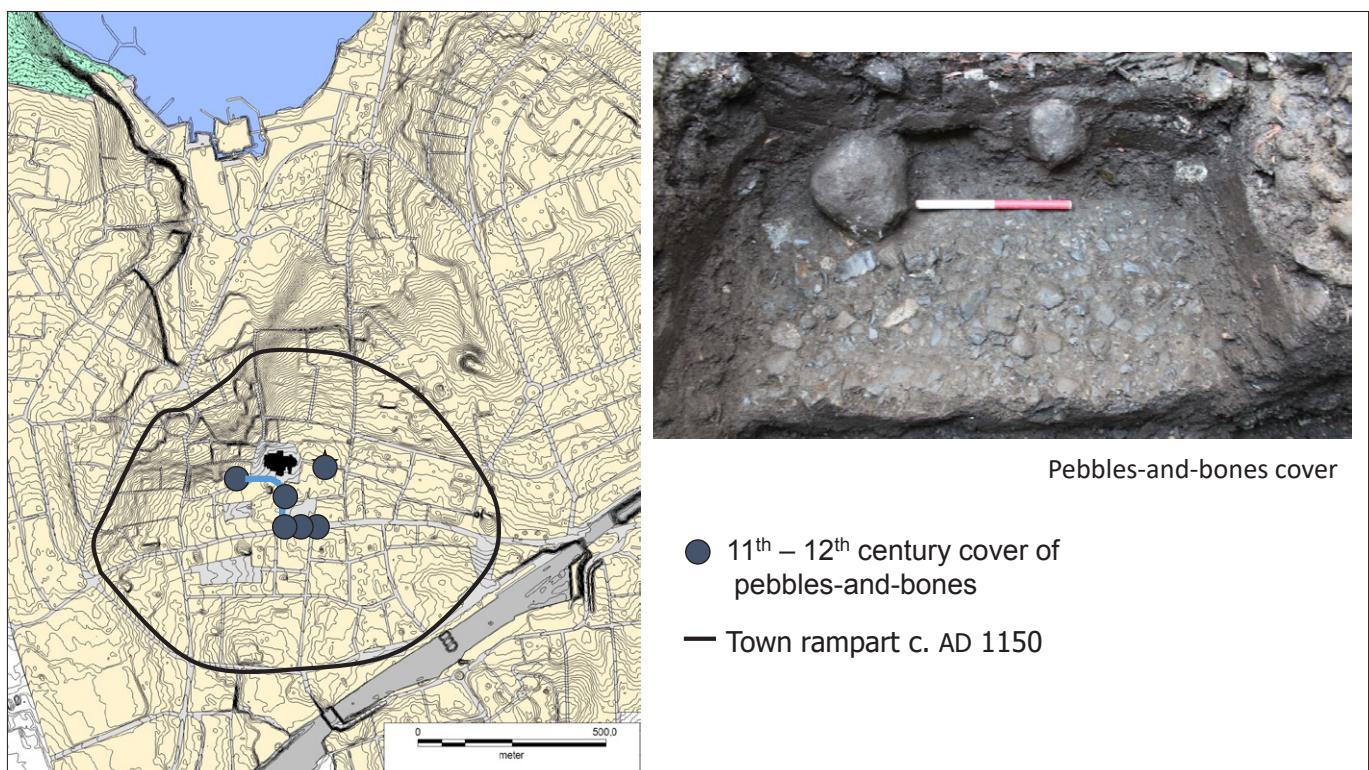


Figure 18 Streets covered with pebbles and bones have been found several places in the town (grey dots). Photo: Roskilde Museum.



Figure 19 The king's residence is known from written sources as located close to the Cathedral. However, it has been difficult to find archaeologically. Background photo: Danish Geodata Agency.

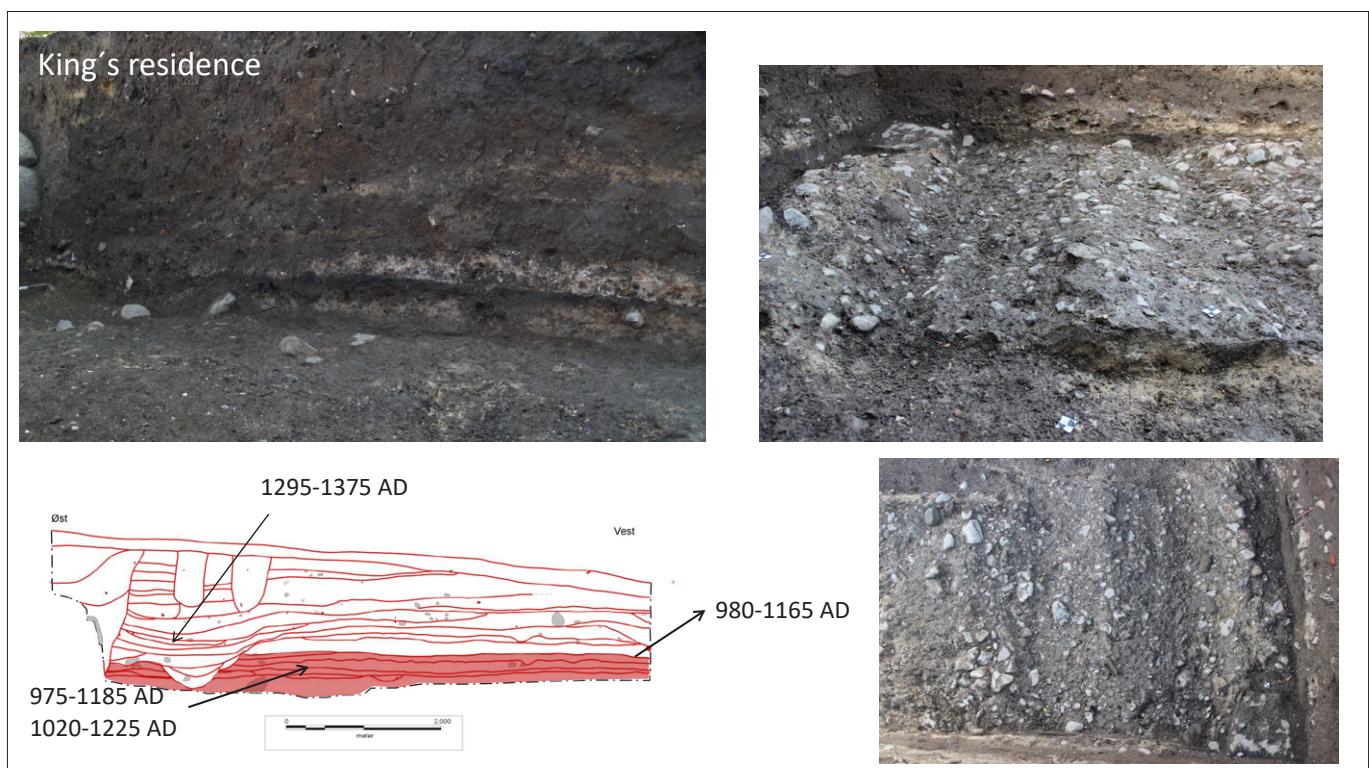


Figure 20. A pebble and stone covered road surface was found by the king's residence. The wheel ruts were preserved, and the surface was radiocarbon dated to the 11th to 12th century. Illustration: Roskilde Museum.

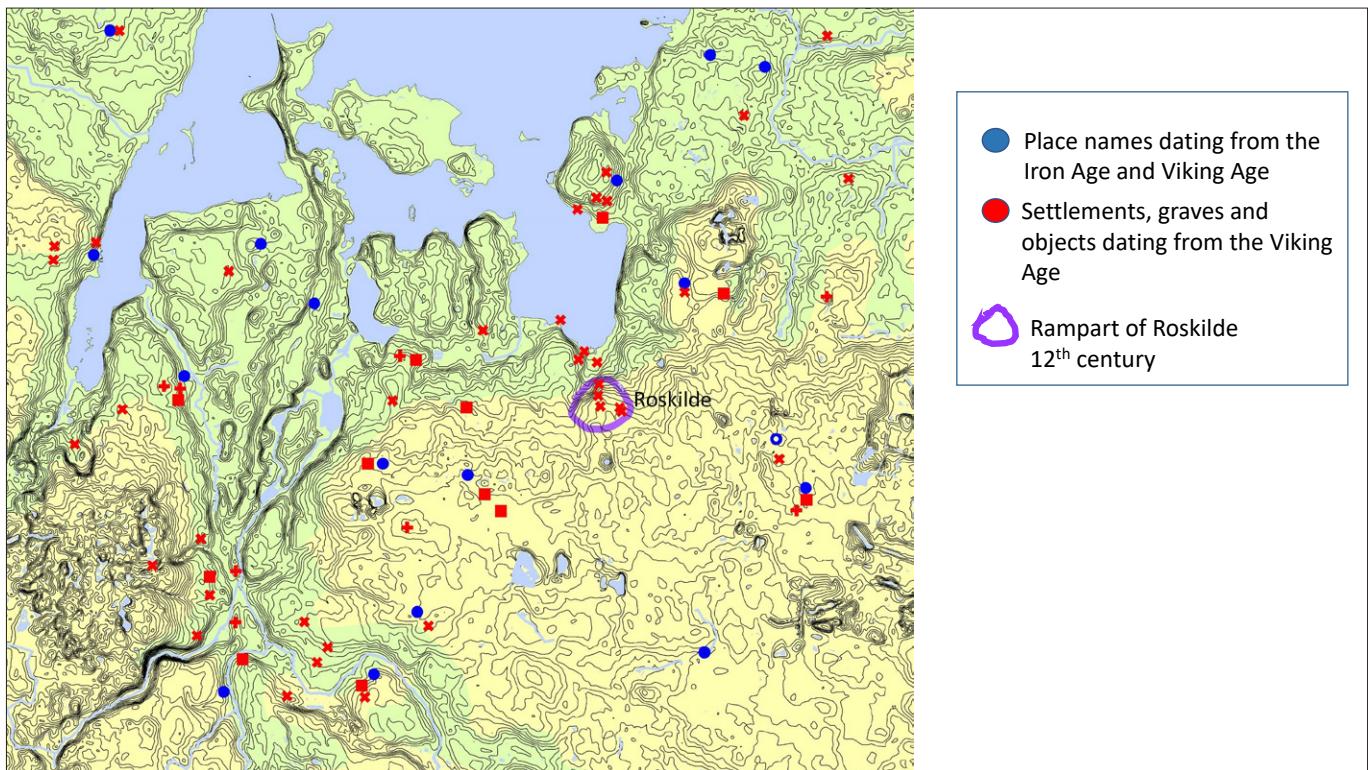


Figure 21 A bird's eye view of the Roskilde area showing the settlement pattern in the Iron Age and Viking Age.

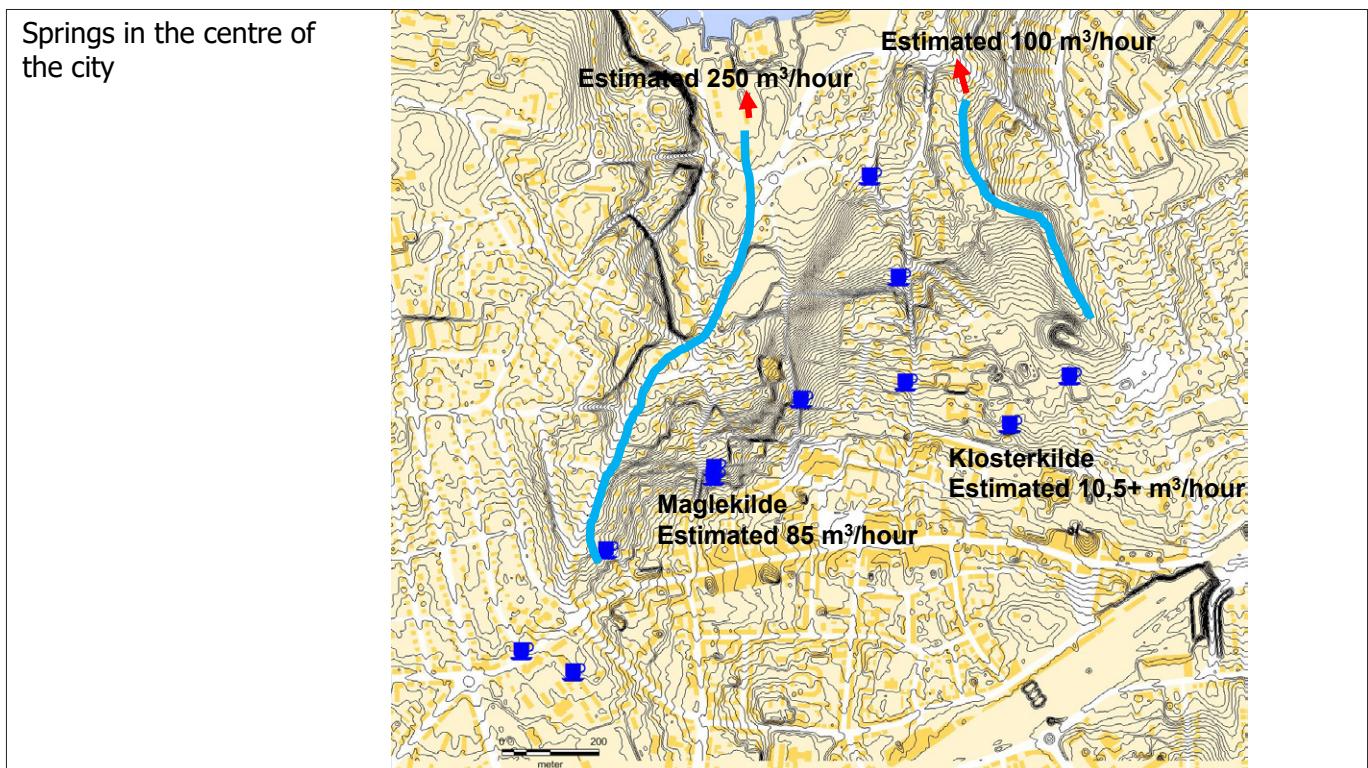


Figure 22 The location of the town may be explained by a more protected location in-land. However, there may also be religious or mythological reasons relating to the springs.

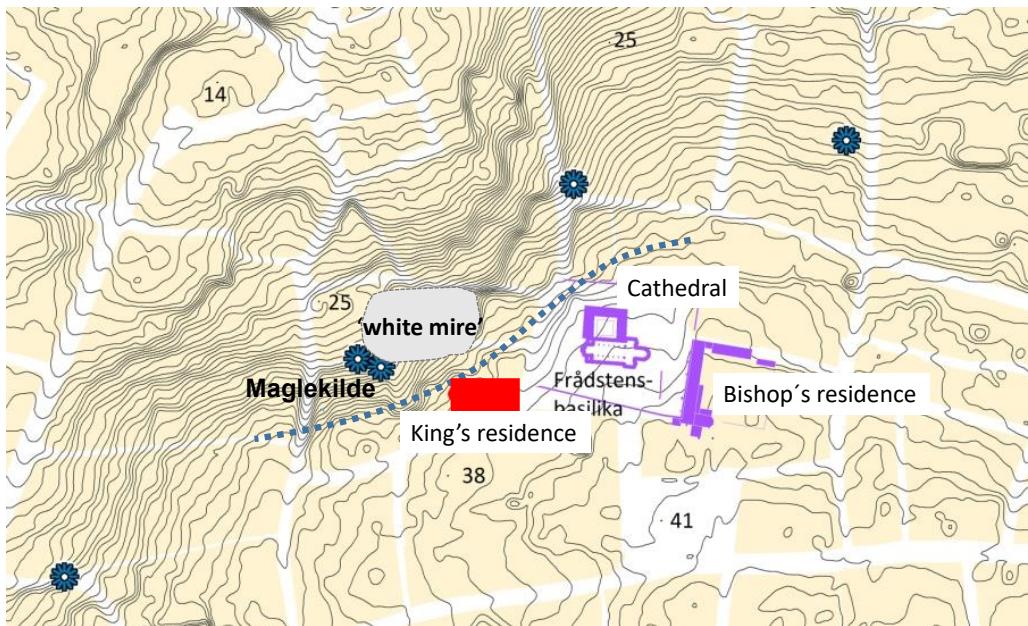


Figure 23 In Norse mythology the legend related to the sacred tree Yggdrasil also involves springs and “white mire” protecting the tree. The local travertine found in the springs of Roskilde may have been perceived as “white mire”. The King’s residence and the Cathedral could not have been located closer to ‘Maglekilde’ the most potent spring in Roskilde, thus suggesting a connection between the pagan past and the new Christian order where sacred springs played an important role too.

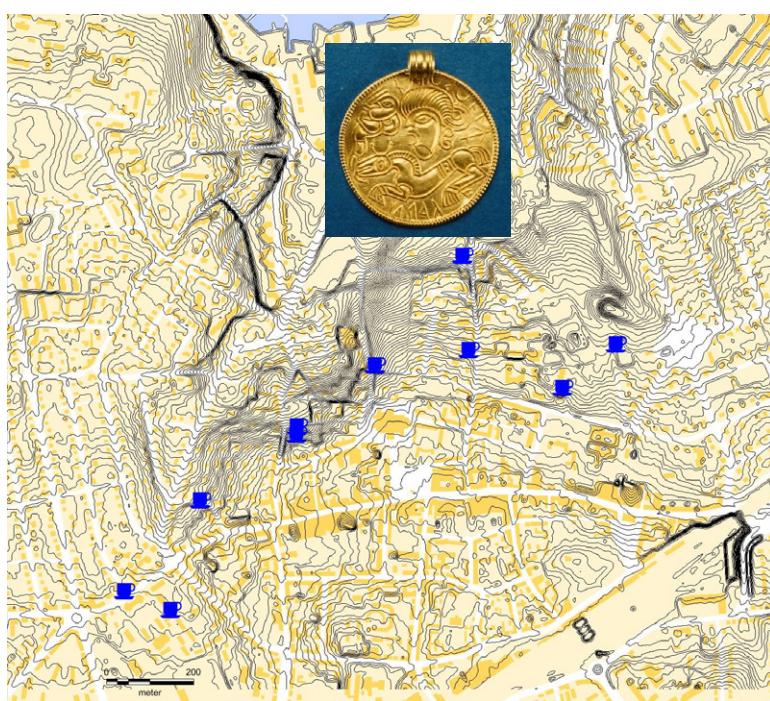


Figure 24 There is no direct evidence of a sacred or cultic site preceding Roskilde – only a gold bracteate has been found. Given the springs, it is still possible that Roskilde was a pagan sacred site before the town was established.

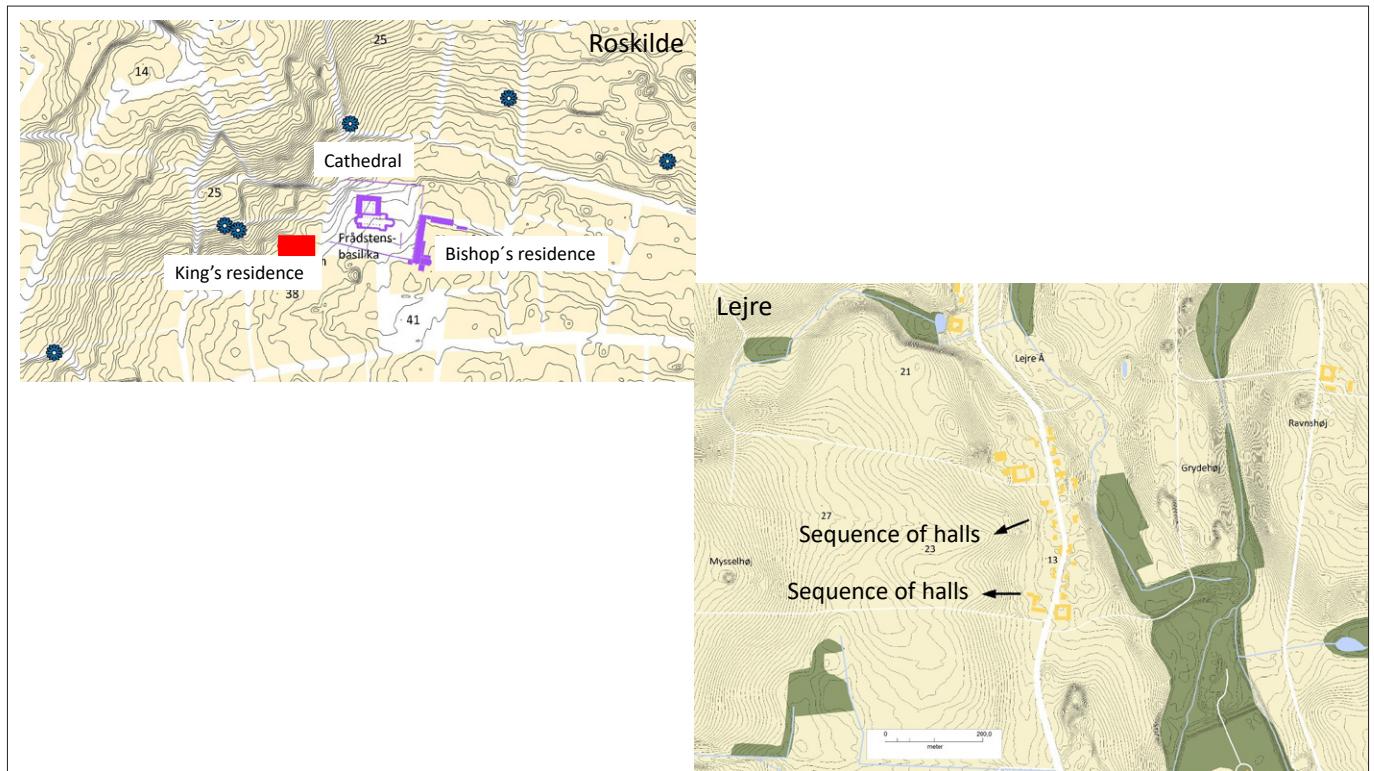


Figure 25 A hypothesis is that Roskilde was founded by the king on a pagan cult site to claim legitimacy. The king was making a statement of the union between king and church by building church and royal residence close together. The church and the king's residence were located on the break of a slope – as is seen with the halls in Lejre – to create an impressing effect.

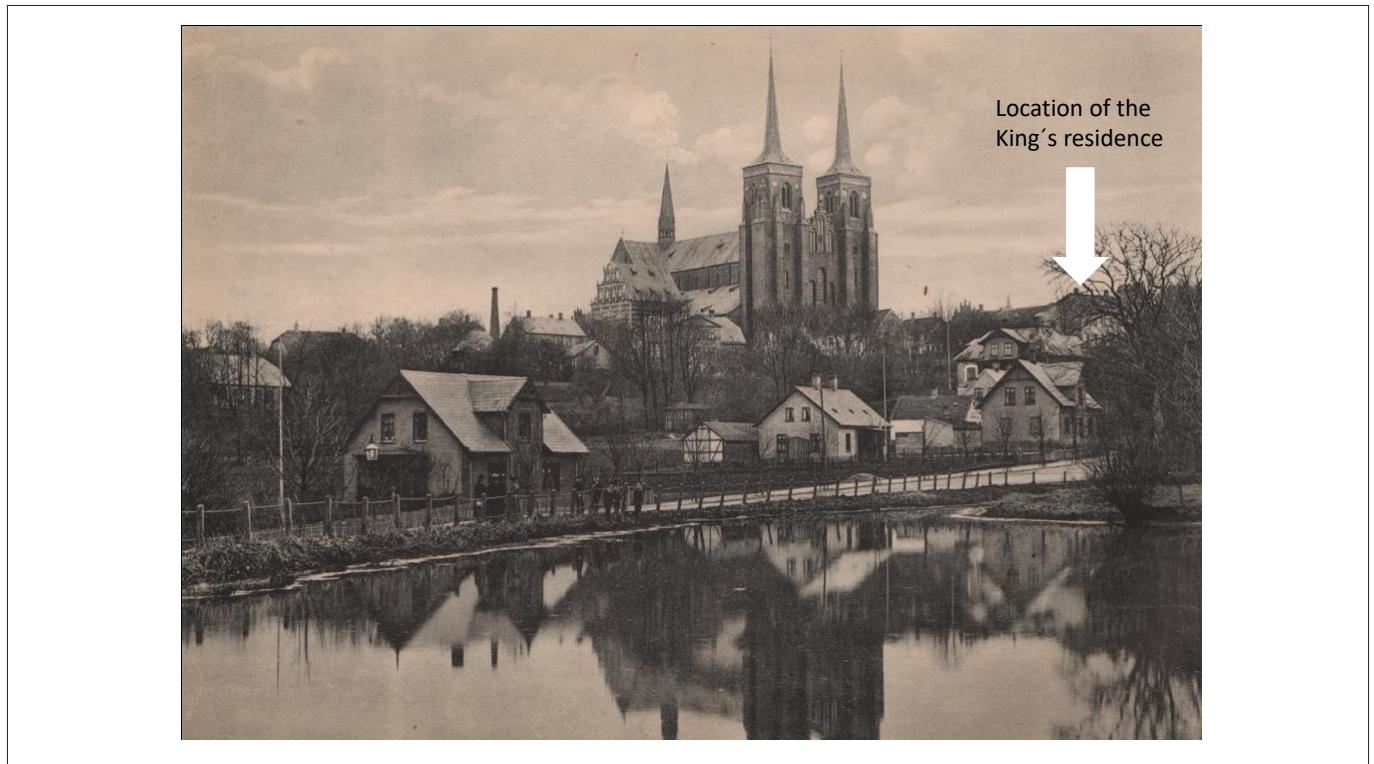


Figure 26 The old photo illustrates the location of the Cathedral and the location of the Kings residence on the break of the slope.

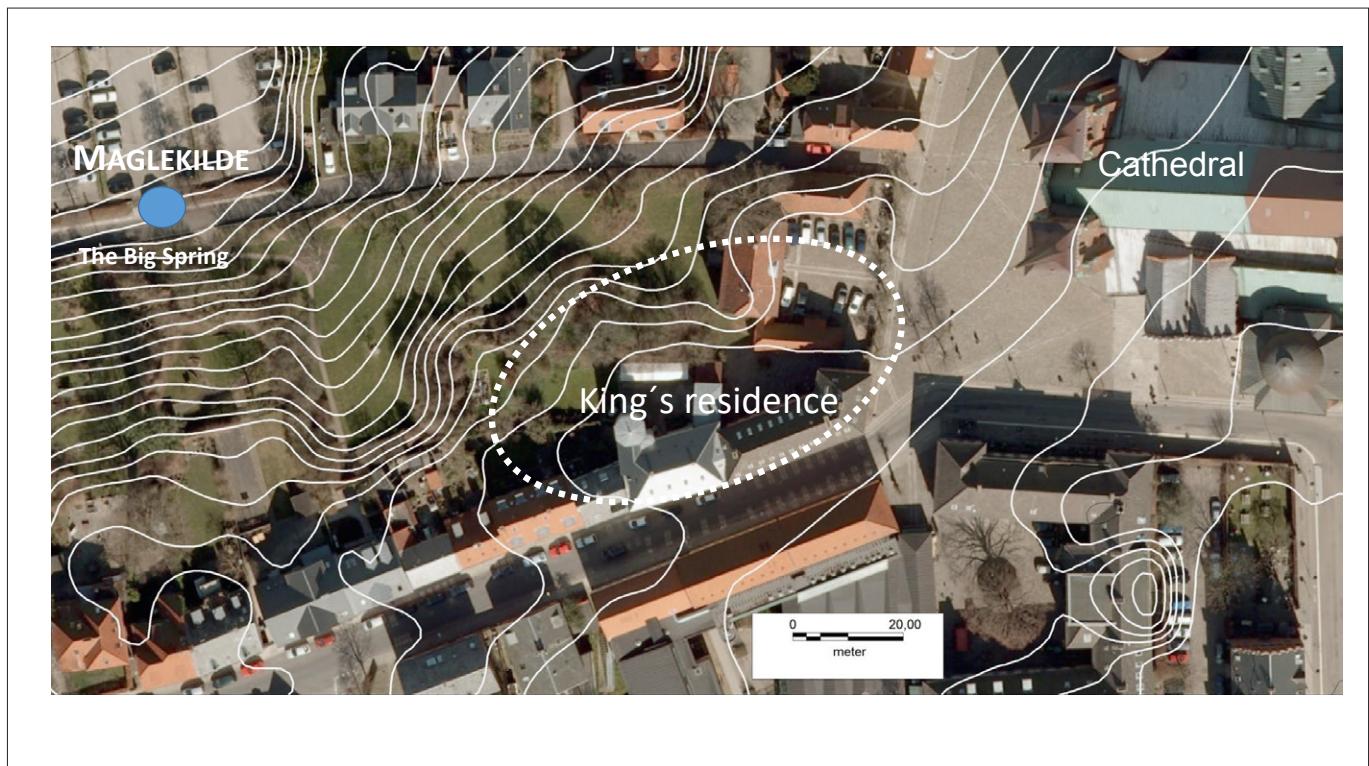


Figure 27 The springs were part of the staging. Water plays an important role in Christian belief e.g., in baptism. Contour interval 0.5.

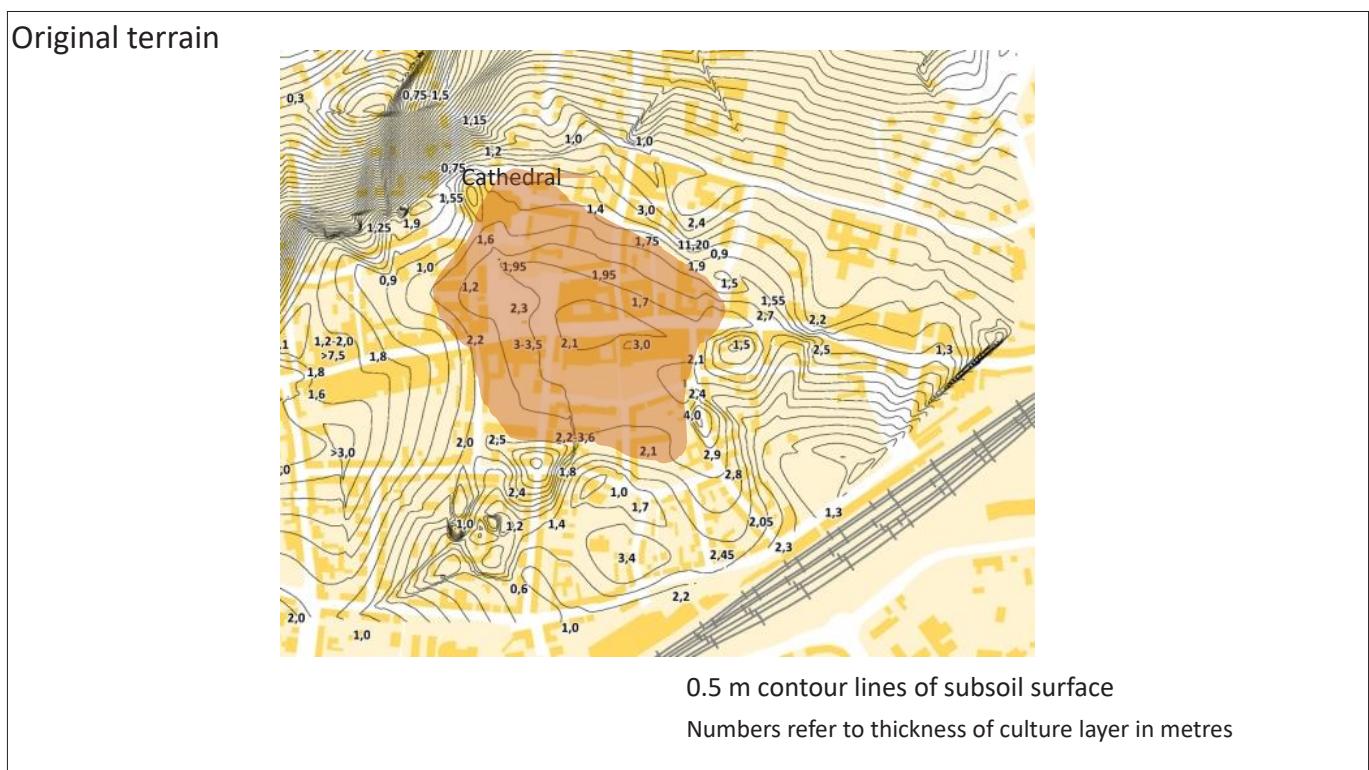


Figure 28 The church and Royal residence attracted people. The even area (orange) south of the church became the area of the first settlement.

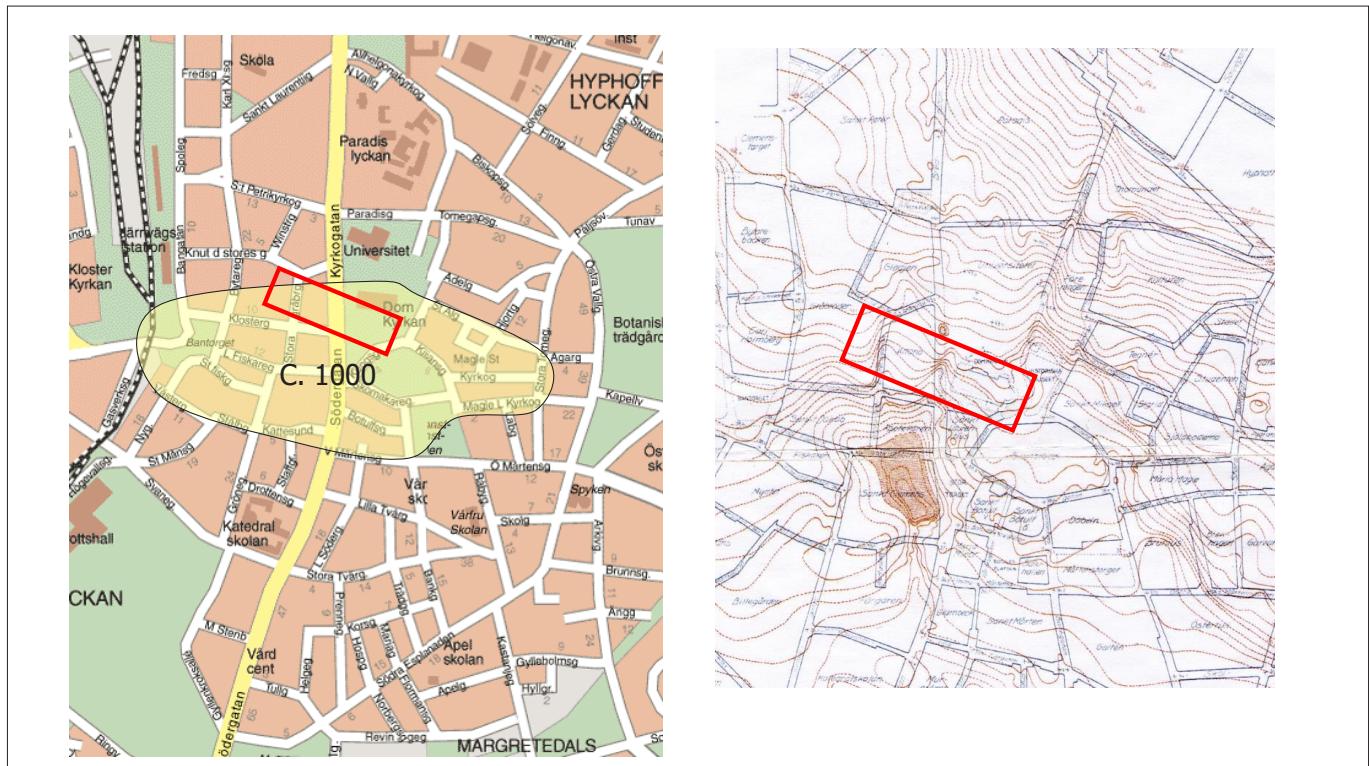
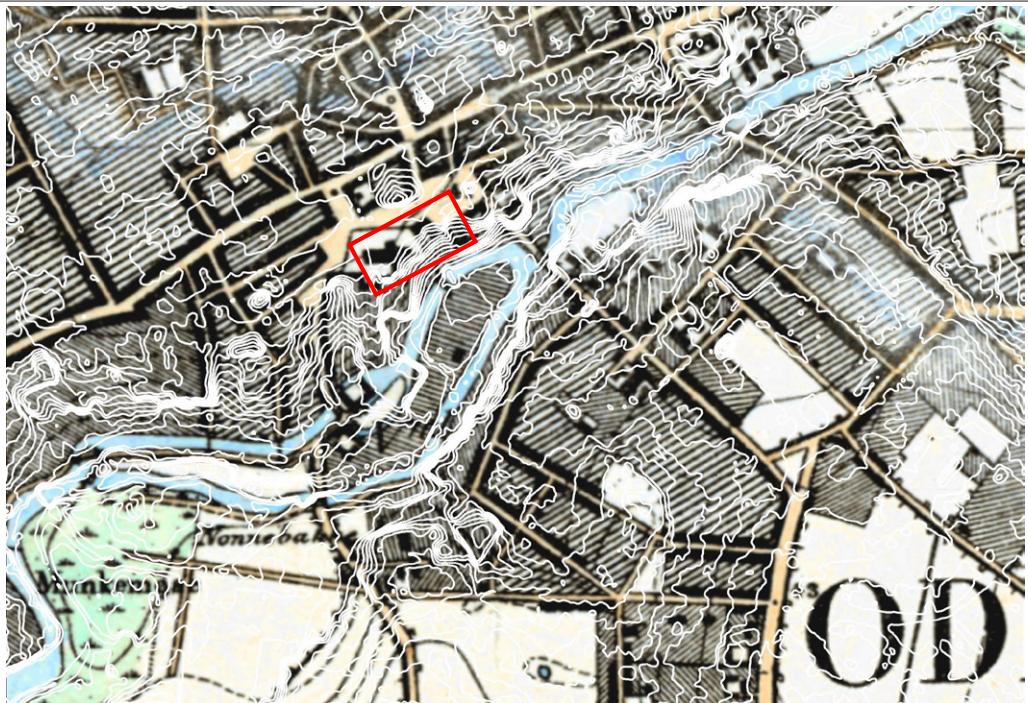


Figure 29 Similar developments took place in Lund and Viborg. The Cathedral and Royal residence were located on a slope. It is not known if there was a pagan site predating the town of Lund.



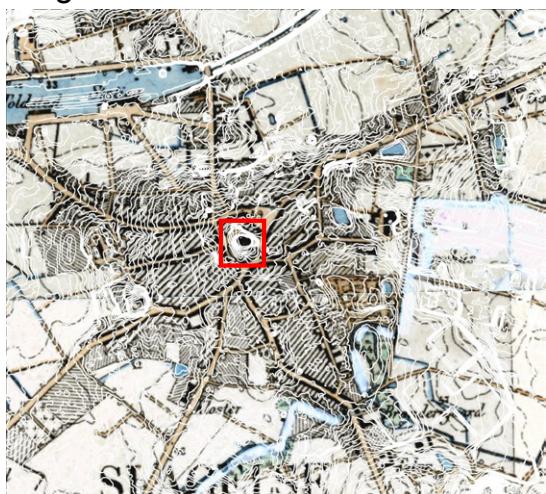
Figure 30 In Viborg, the Cathedral was also built on a slope characterised by springs. In Viborg, a possible “hørg” – a pagan shrine – has been located (bottom left and yellow circle). Viborg means “sacred hill”. Background map: The Geodata Agency. Photos: Roskilde Museum.



Odense

Figure 31 A similar situation can be observed in Odense. The name Odense means “the sacred place of Odin”. According to the written sources, Odense was a Bishop’s See in AD 988. Background map: The Geodata Agency.

Slagelse



Royal mint between 1020s and 1090s

Stone church built by the bishop of Roskilde c. 1080

Ringsted



Royal mint between 1020s and 1090s

Stone church built by the bishop of Roskilde c. 1080

Place of the *Ting* of Zealand

Figure 32 Other medieval towns founded in the 11th century do not present a similar duality between king and church. Slagelse and Ringsted are examples, and they are not as significant as Roskilde, Lund and Viborg. Background maps: The Geodata Agency.

Around AD 1000 a plan for the new Christian Kingdom was devised:

*New **bridgeheads** or bases of power of the Realm and Christianity were established **in the four 'lands'** of Denmark.*

*The power axis of the **King and the Church** overtook **positions of the traditional pagan sacred places**. In this way, King and Church made a reference to the ancestral way of life and belief and the common knowledge of the history of society.*

The duality of power and mythology continued but aiming at the Christian order of the World.

*Roskilde, Lund, Viborg and Odense hold a number of mutual and special characteristics regarding topography, history and archaeology suggesting that they are **part of the same plan**.*

Figure 33 Conclusions.

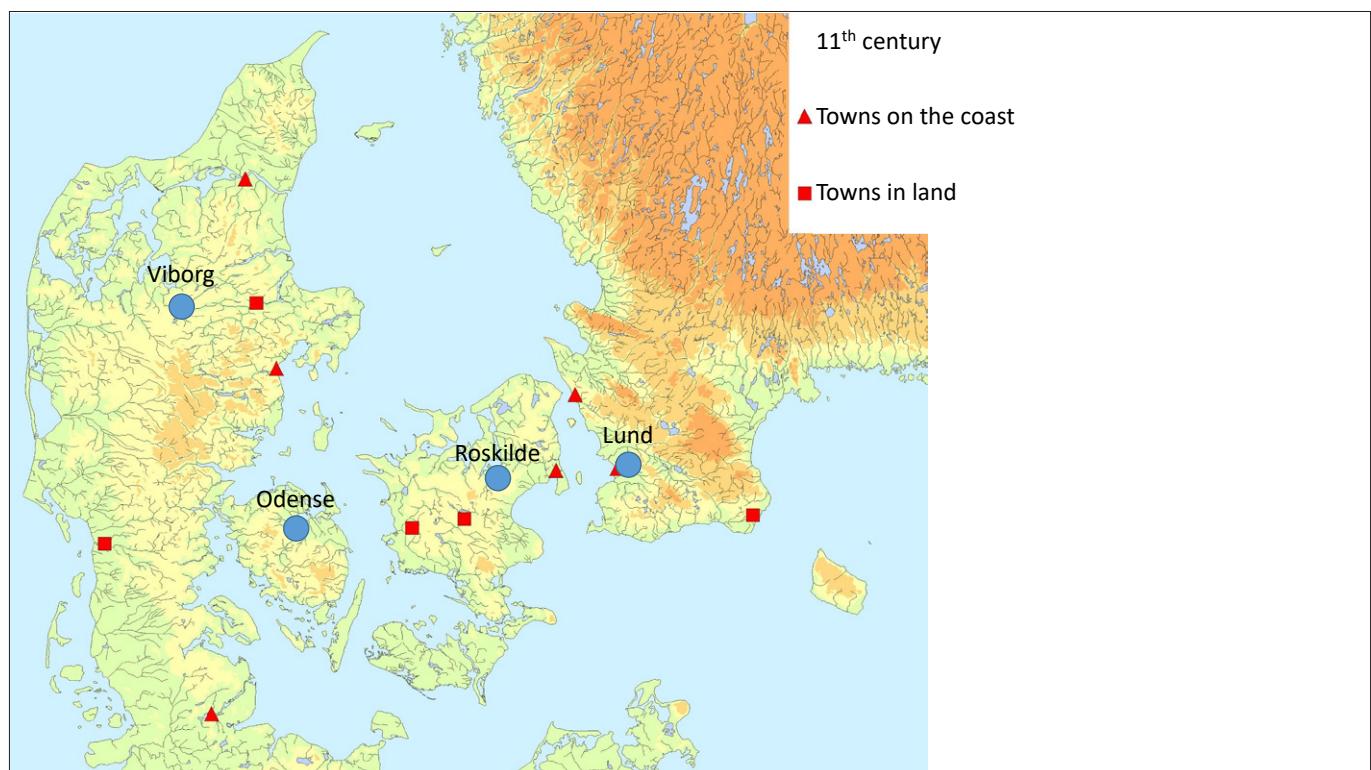


Figure 34 Viborg, Odense, Roskilde, and Lund are distributed evenly across the Kingdom.

Summary

Introduction

The presentation is an extract of an article published in 2014 (Ulriksen, J., Krause, C., & Jensen, N. 2014: Roskilde - En bygrundslæggelse i vanskligt terræn. *Kuml* 63, pp. 145-185.)

There may have been various reasons for picking a location for founding a medieval town. During the 13th and 14th centuries, commercial sea trade combined with an agrarian hinterland was the focus. However, the situation appears to be more faceted among urban sites dating from the 11th and 12th centuries. The towns are not necessarily located at a harbour site, indicating that seaborne trade was not essential to all. Maybe it was not trading that initiated the establishment of some of these sites after all, and – consequently – there must have been another focus dictating the location.

Roskilde's origins do not lie in urban development or trade networks centred on the fjord and harbour. Intentions back in the late 10th and early 11th century were more along the lines of a royal seat as a tradition-based locus for the power axis between king and church. The area where the town nevertheless emerged over the next century was characterised by damp scrub, tracts of wet, boggy land, muddy areas and a generally high ground water table. It was not uninhabitable, but before houses and roads could be built, it was necessary, first of all, to consolidate these wet areas. It was not the most obvious place to found a town, and the question is: Why did Roskilde, despite all that come to be located precisely there?

Presentation

Based on the archaeological data gathered during many years of excavation in the town centre, it is clear that finds predating AD 1000 are exclusively without context and also extremely rare. No remains of post-built houses or pithouses from the 8th-10th centuries have been demonstrated within the urban area. Neither are there any records of the flat-bottomed settlement pottery that is so common at the Viking Age settlements of the hinterland. On this basis, it can be concluded that Roskilde's first traces date, at the earliest, from the decades around AD 1000.

One hypothesis is that the first church, together with the royal residence, was built in a place where there had been a cult site in preceding centuries, in which case this sacred place must have been associated with Roskilde's many springs. The possible connection can be explained in terms of the significance of springs in Nordic mythology, where three springs are said to flow beneath the ash tree Yggdrasil, the axis of the world. Finding support in the archaeological record for this hypothesis of a holy place is not straightforward. A few traditions handed down suggest that there could have been an extensive catchment area for open-air ceremonies in which trees, groves and springs were the focus of attention. Given Roskilde's striking springs and flushes, it is possible such events and activities took place there in the Late Iron Age.

If we follow this line of argument, there could have been a continuation of the site's sacred function into Christian times. The church building was the shrine, and the numerous springs that characterised Roskilde would readily have found a place in Christian consciousness. Water plays an essential role in Christian belief, for example, in the sacrament of baptism and the cleansing holy water. Springs with a fortifying or curative effect similarly form a vital part of Christian conviction, and several of Roskilde's springs are dedicated to saints. There is much to suggest that these springs were essential to the Christian king. The church and the royal residence's location appear to suggest this – they could hardly have been established closer to the area's most potent and productive spring.

Roskilde's first church was probably built on the site later occupied by the cathedral, and the royal residence was located to the west of this. The cathedral was constructed on the most notable feature in the terrain, on the edge of a hill with a steep 10-14 % downward slope. From this hillside, copious springs emerge, sending powerful streams racing down towards the fjord. The royal residence was built on terrain that is more or less level in an east-west direction but on the absolute edge of the slope leading down towards the spring Maglekilde with its impressive travertine deposits. This location could have been prompted by a tradition associated with the construction of royal halls, as seen at Lejre, Gamla Uppsala

in Sweden and Huseby near the trading place of Kaupang in Norway. Suppose the location of the Lejre halls is compared with that of the church and royal residence at Roskilde. In that case, it is striking how these buildings were positioned to be as conspicuous as possible. However, this was not on the highest point in the landscape but a break of slope, creating an extraordinary visual effect.

Conclusion

Roskilde was founded around AD 1000 to mark and reinforce the monarchy and the church as the incontrovertible ideological, religious and ruling factor in the waning Viking Age society. The role as a trading centre was not envisaged from the outset. Therefore, it is unlikely that the initial considerations included the fact that, 50-100 years later, inhabitants would have to invest substantial efforts in levelling and drying out the terrain because the place had acquired an urban character and was expanding rapidly.

Developments similar to those leading to the foundation of Roskilde also took place in Lund and Viborg and – we presume – in Odense. The names of Viborg and Odense indicate the continuation of heathen sacred places, while in the cases of Roskilde and Lund, this can only be postulated. As stated above, these four towns possess some common topographic and archaeologically-historically demonstrated characteristics, concluding that around AD 1000, they formed part of a larger plan. This exercise involved the establishment of bridgeheads that – mentally and physically – marked the connection between the traditions, practices and customs of ancestors and the young Christian kingdom that undoubtedly contained the seeds of massive social change. Each of these four specially selected places is in its own ‘country’ is hardly coincidental.

Questions

Are the bottomless wells natural or artificial?

They were natural and could be dried out springs, but geologists are unsure.

The model for Roskilde is interesting, and there are many similarities to Odense. However, in Odense, there is evidence of a settlement earlier than the 11th century, and elements defining the

11th century (such as the market street) go further back in time. The same goes for Viborg. Are those traits pre-requisites for Viborg? This evidence has not been identified as urban, but it would be wrong to rule it out.

There is possibly an older settlement in Odense and Viborg, but substantial archaeological evidence is lacking.

Further reading

Ulriksen, J., C. Krause, C. & N. Jensen, 2014: Roskilde – En bygrundslæggelse i vanskeligt terræn. *Kuml*, 63(63), pp. 145–185.

Ulriksen, J. & J. Nielsen, 2021: En by bliver til. Stenlagsbelægninger og skel i 1000-tallets Roskilde. *Gefjon 6 – arkæologiske studier og rapporter*, pp. 176-208.

The Making of Memorial Landscapes in the Medieval City

Jakob Tue Christensen (Odense City Museums)

Abstract:

The paper focuses on the use of memory as a vehicle of legitimising power as coined by Olaf Rader in “Grab und Herschaft”. The point of departure is a discussion of the monuments in Jelling as means of establishing and preserving memory over time through proliferation, repetition, or renewal of the myth as suggested by Rader. With that result in mind, the discussion will focus on the period of c. 1000 to 1200 AD and the use of older monuments in generating myth. This will be exemplified by the suggested reuse of the Viking fortress *Nonnebakken* in the cult of Cnut the Holy in Odense as well as the incorporation of the Lundagård runic monument into the All-Saints Abbey of Lund as a possible way of maintaining a position of power for the descendants and their lineage. In both cases, monastic institutions within a town played an important part in maintaining the memory of persons and their power for later generations. This use of monastic institutions for securing a contin-

ued memory of status and power was not a unique strategy as can be exemplified by similar institutions within the magnate social strata such as the convents of Our Lady of Roskilde and Aalborg. The location of these monastic institutions on the periphery of the town can be described as pragmatic in that they were very visible upon entering and leaving the town as well as the possible reuse of existing churches or the lack of room in the early town centres for institutions this size. It is worth noticing, however, that the location in the case of Odense and Lund was more or less forced on the institutions by the existing, older monuments which were a part of their memorial strategy, and indeed the location on the periphery of town allowed the institutions at one time to be seen from the open land with its roots back in time and at the same time to be part of a new social and urban fabric that was part of a Western European urbanity.



Figure 1 Title. Photo: Jakob Tue Christensen.

Olaf Rader: Grab und Herschaft:
Elements of a myth understood as the
memory of person or an event which is
utilized to maintain legitimacy or status
quo of the successors.

- Narrative
- Iconography
- Ritual

Figure 2 Rader's main elements utilised in the memory of a person or an event.

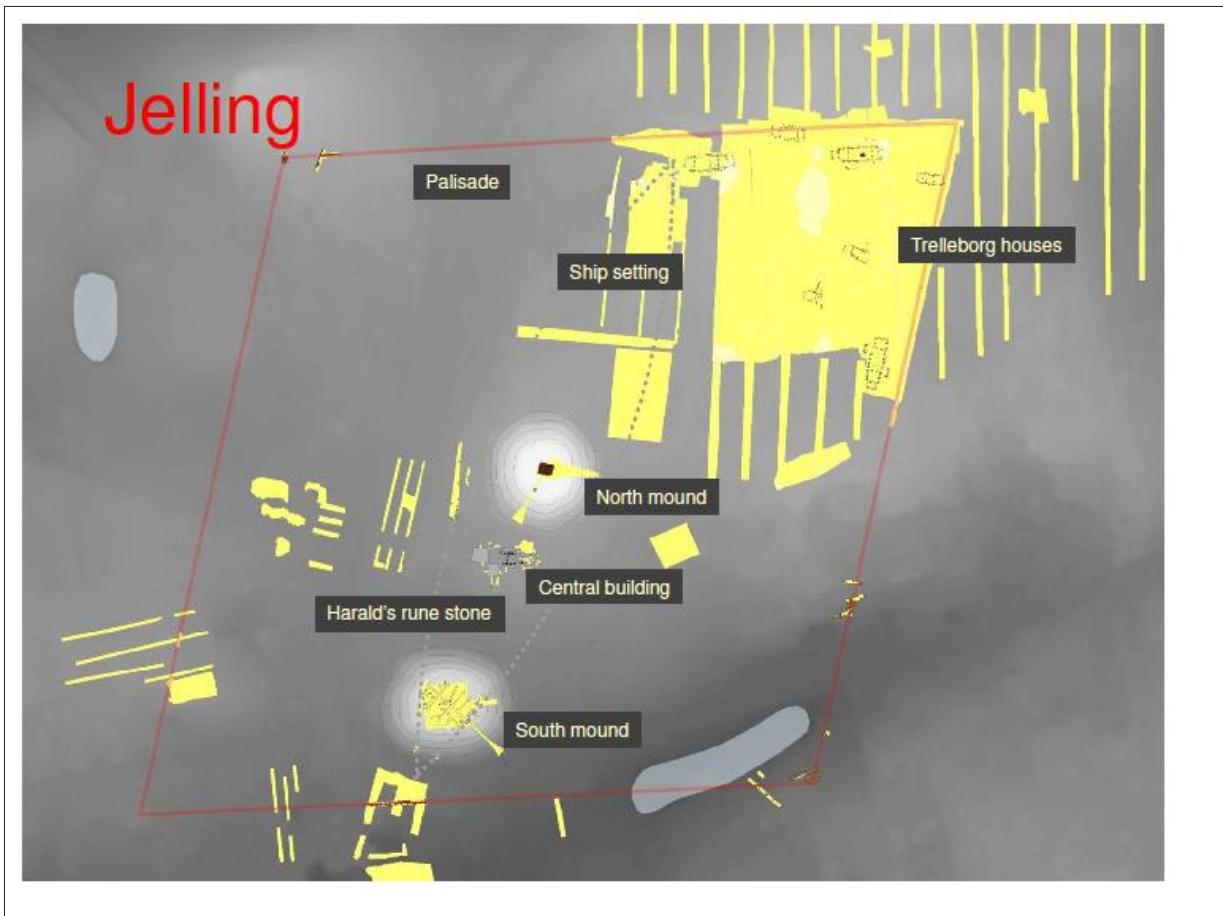


Figure 3 The monuments of Jelling include a royal grave and references to the myth of the interred and his dynasty. Graphics: The Jelling Project / Arkæologisk IT, Aarhus University.



Figure 4 Parts of the Jelling monuments with the two mounts and the church. The white squares represent the enormous ship-shaped stone setting. Photo: Jakob Tue Christensen.

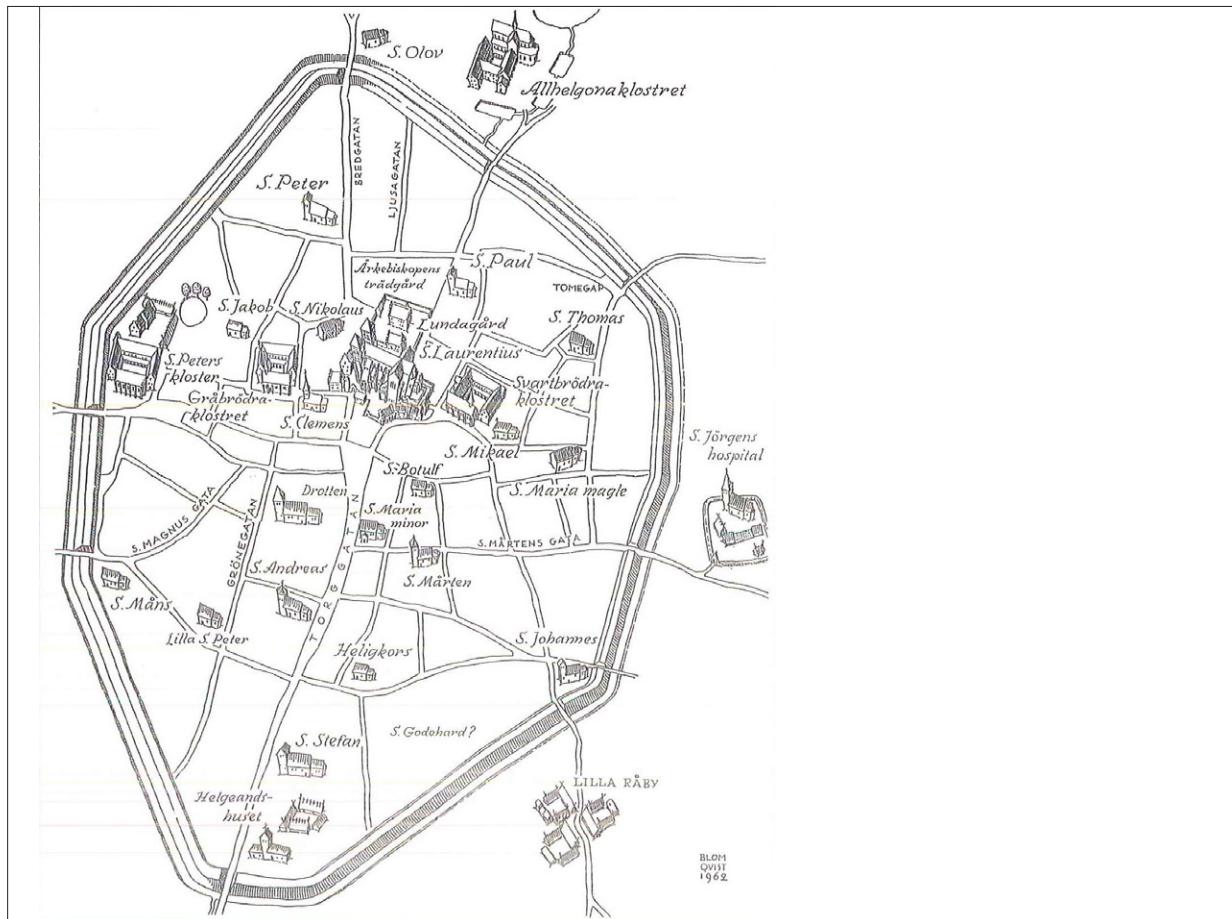


Figure 5 This map of early medieval Lund shows to the location of the All-Saint Abbey (Allhelgona klostret) just outside the town to the north. After Kulturens Årsbok 1990:60.

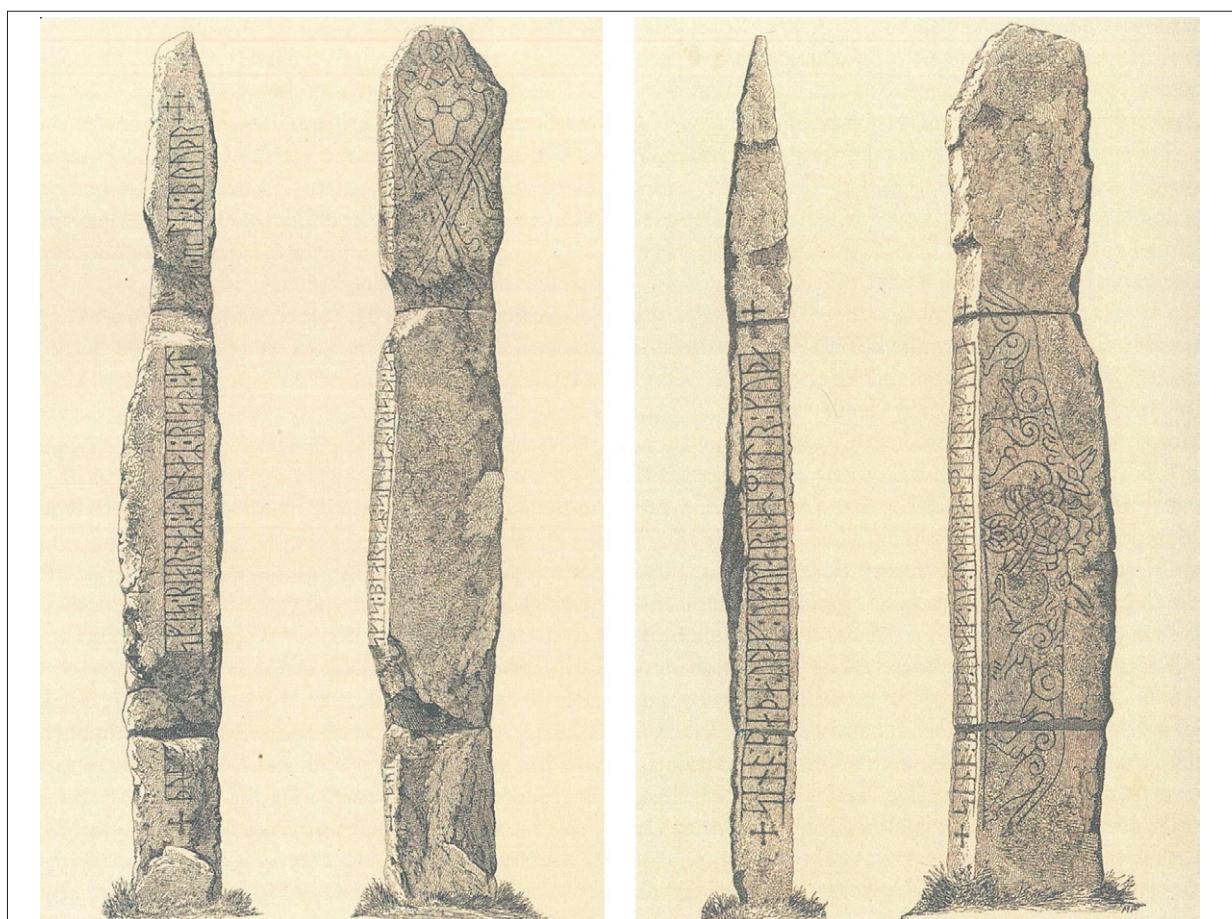


Figure 6 Runestone found near the All-Saints Abbey's church during the demolition around 1680. The stone was erected by Torgisl, son of Esge Björnsson after his brothers Olaf and Ottar.



Figure 7 The Abbey of St Cnut and the adjacent Church of St Cnut is seen in the south-western part of Odense on this prospect from 1593.

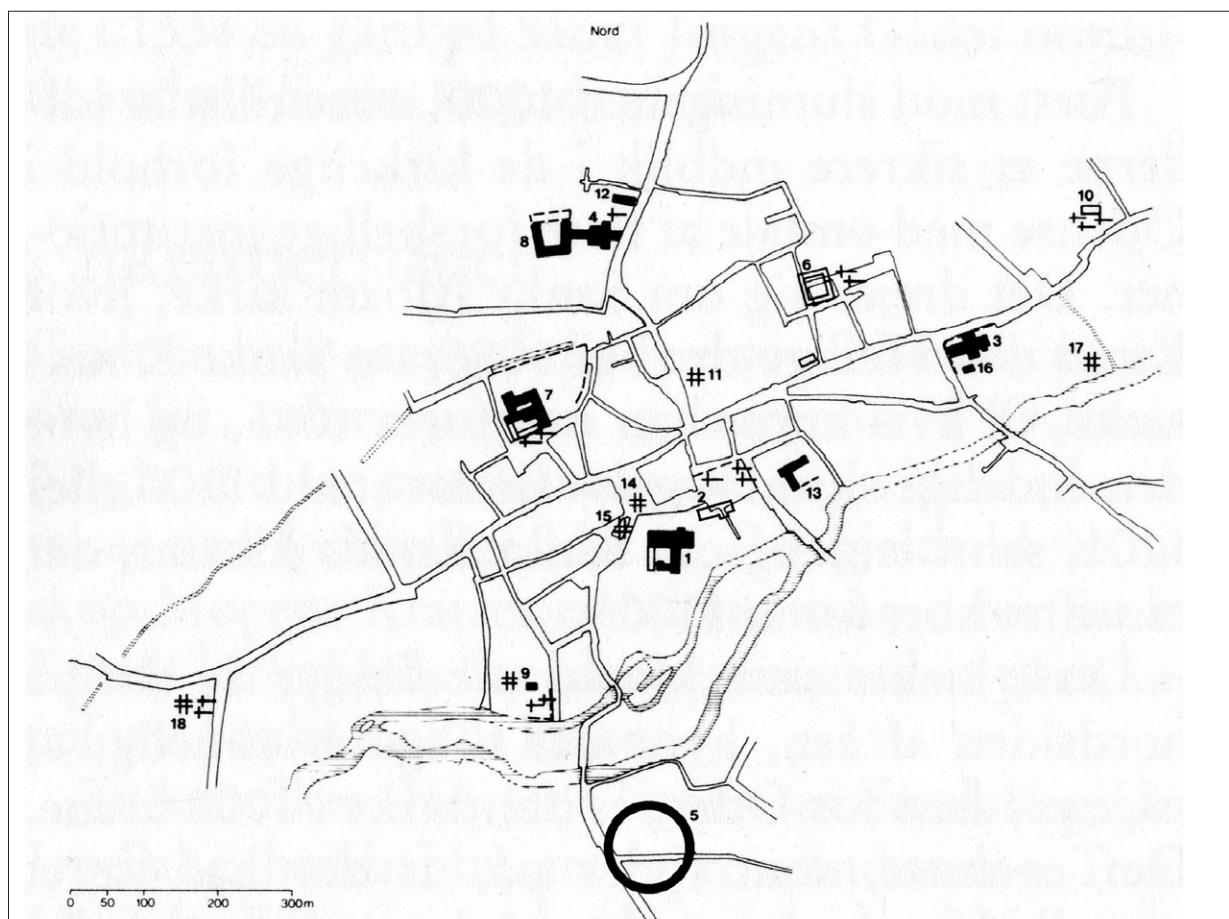
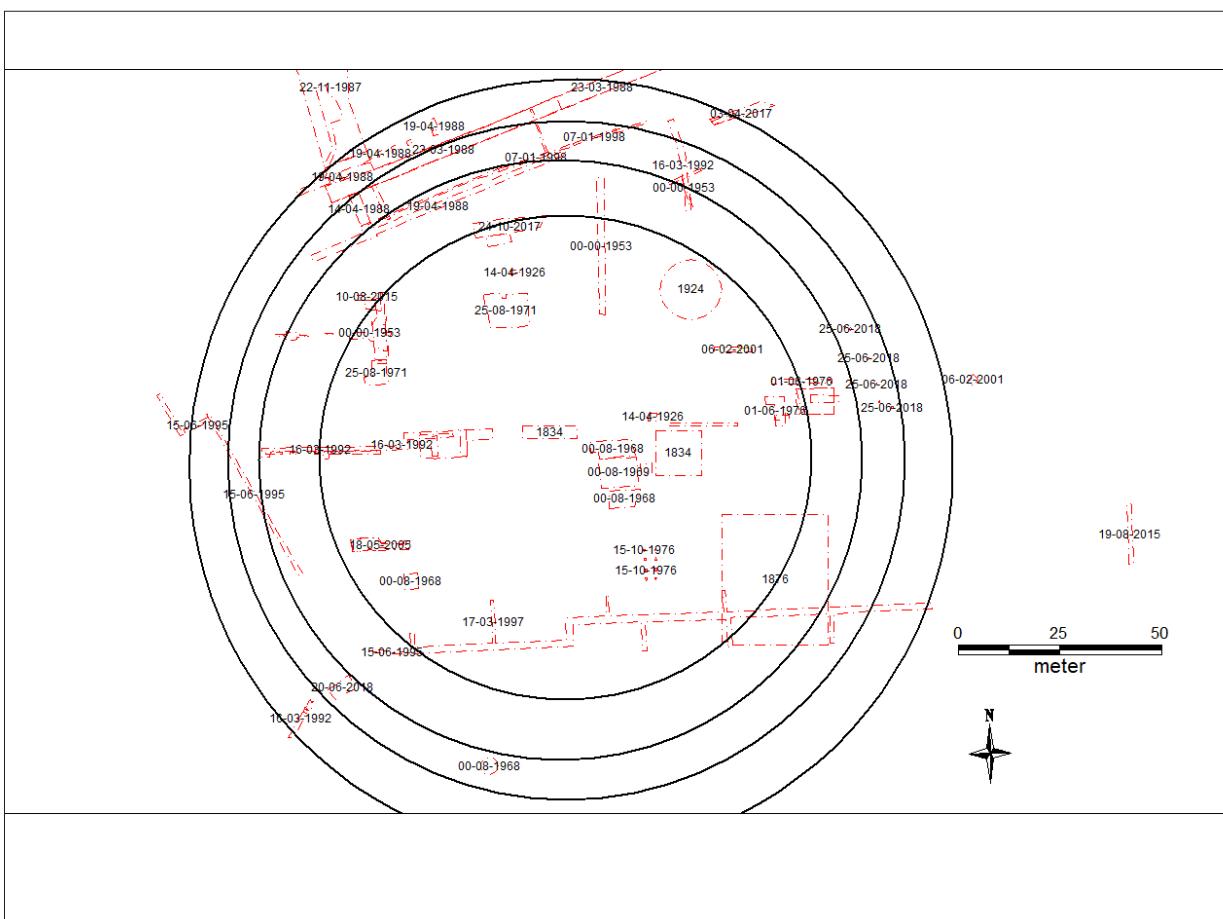


Figure 8 The location of the ring fortress and later nunnery Nonnebakken to the south of the town is marked with a circle. Graphics: After A.S. Christensen, A.S. 1988: Middelalderbyen Odense. With additions by Peder Dam.



Figure 9 St. Cnut's church seen from Nonnebakken, early 20th century. The curve of the rampart can be perceived in the shape of the hedges in the centre of the photo. Photo: Odense City Museums.



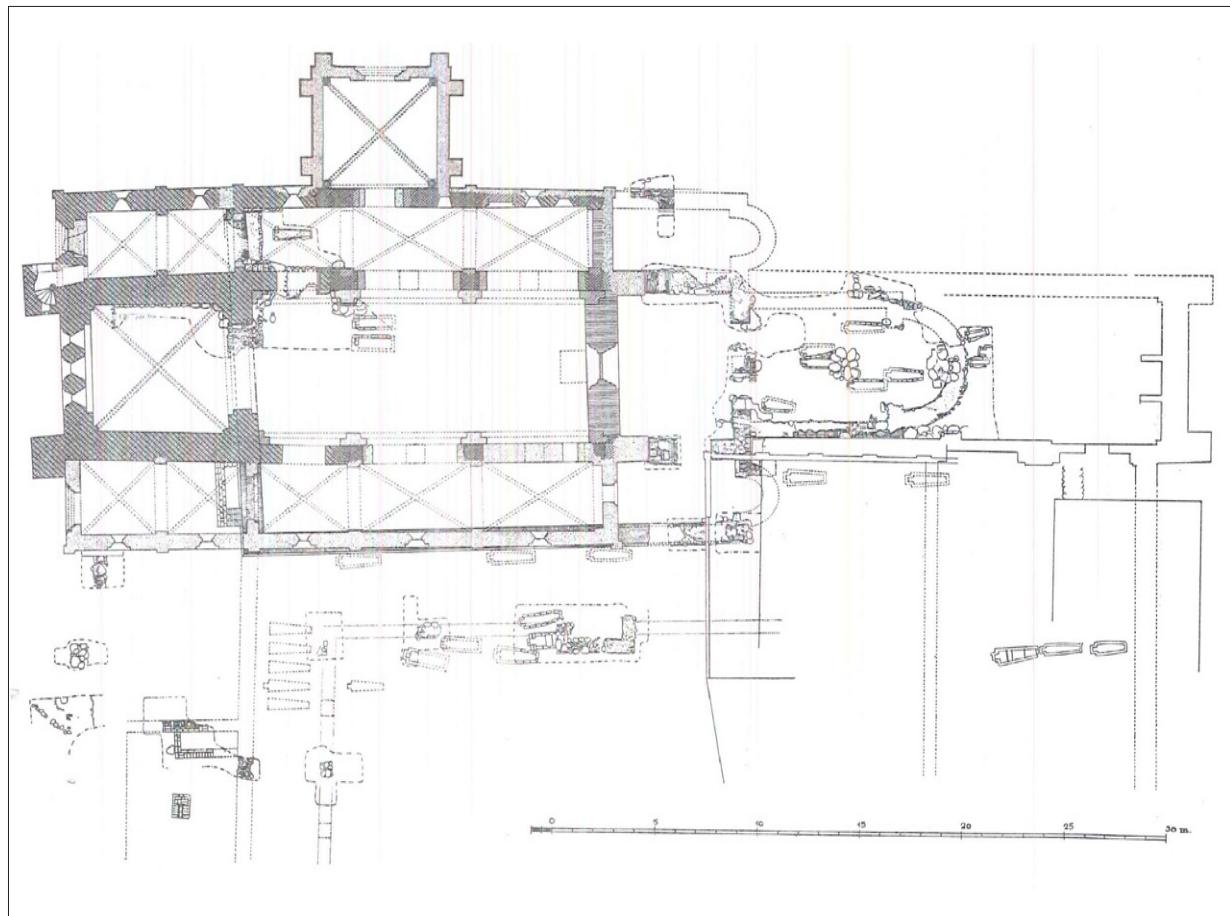


Figure 11 Church of Our Lady in Roskilde. Excavation plan from 1935. After Danmarks Kirker.



Figure 12 Church of Our Lady in Aalborg before the reconstruction. Illustration after Trap Danmark 1875: 220.

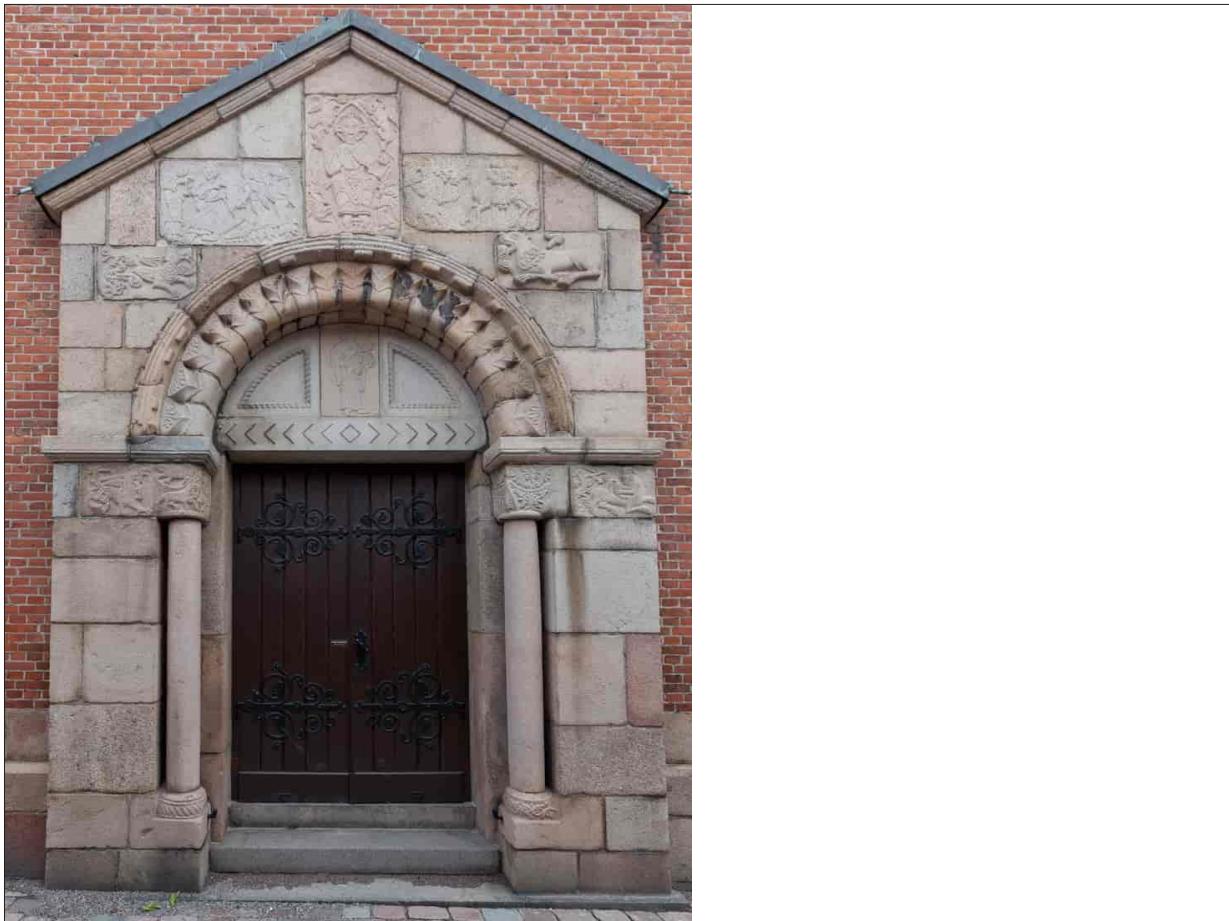


Figure 13 The reconstructed Romanesque portal at Church of Our Lady in Aalborg. Photo: Jakob Tue Christensen.

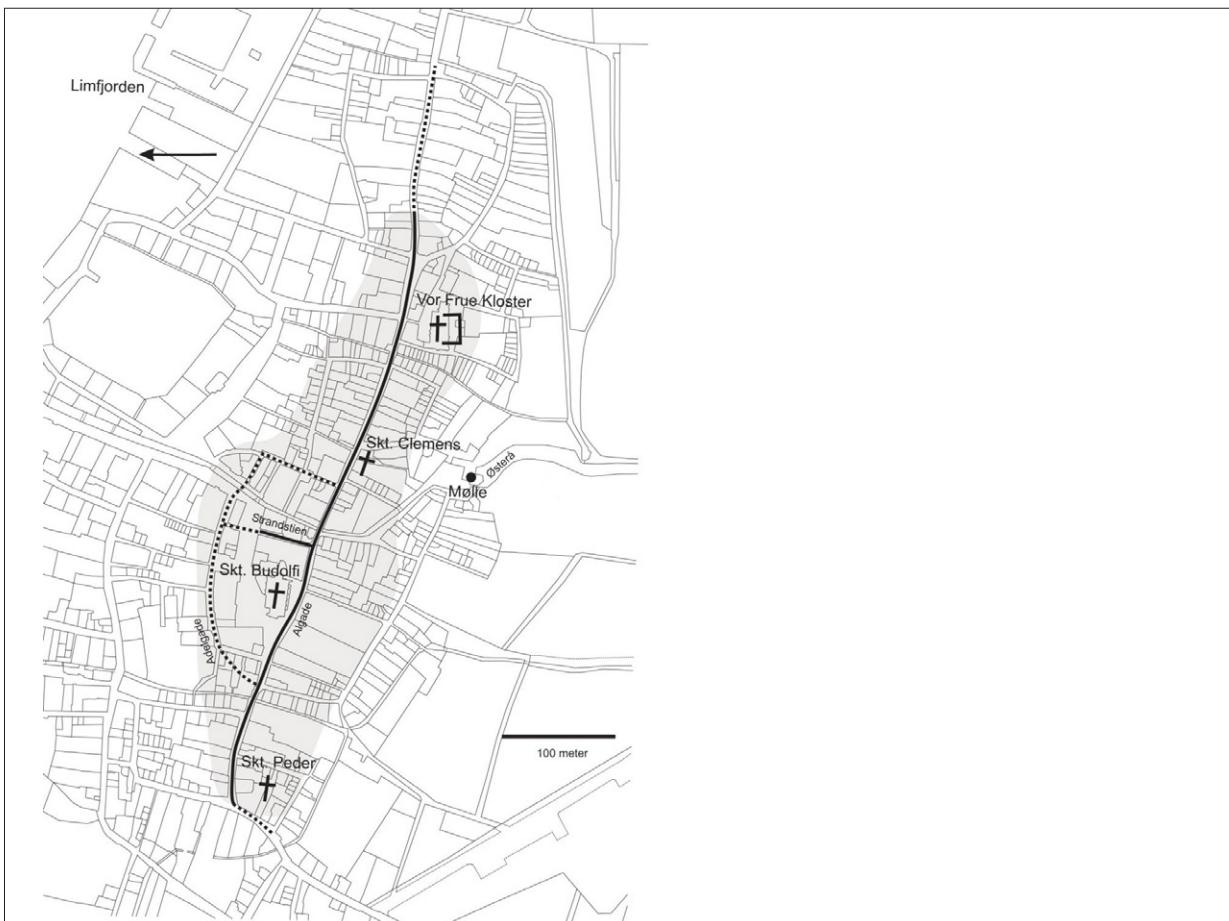


Figure 14 The location of the Nunnery of Our Lady to the north on the periphery of medieval Aalborg. Graphics: Christian Vrængmose Jensen, Historical Museum of Northern Jutland.

Locating institutions at the periphery of the city allowed them at the same time to relate to open space with its structures rooted in the past as well as to a newly established place shaped by an urbanity inspired by European role models and ultimately by the perception of the holy city of Jerusalem.

Figure 15 Meaning implemented into the institutions that were placed on the periphery of the emerging medieval towns.



Figure 16 Remains of the Church of St Clement in Trondheim. Photo: Jakob Tue Christensen.

Summary

Introduction

This paper is based on a forthcoming article, focusing on the paradox that most early monasteries in Denmark (1100-1200 AD) are placed within or adjacent to urban environments and not in isolated rural surroundings as dictated by the Benedictine directions. It investigates the monastic institutions as representatives of a memorial culture aimed at a broader audience. At the same time, the paper does not deny the other roles these institutions played in the early medieval town.

Presentation

In his book “Grab und Herrschaft”, Olaf B. Rader (2003) operates with three elements necessary to secure a continued myth or memory of a person or an event: the narrative, the iconography, and the ritual. The narrative could be a text or an oral tradition. The iconography could be a physical monument. Rituals are recurring acts, for instance, imbedded in ecclesiastical liturgy or events like religious feasts or processions aimed at reinstating the myth. According to Rader, the rituals are necessary to keep the memory alive because monuments alone do not secure a memorial continuity for longer periods.

The Jelling Monuments

As an early medieval Scandinavian example, the Jelling monuments are seen as a physical expression of memorial culture aimed at a wider public. They include elements like a royal grave, references to ancestors, and the interred individual's myth and dynasty. Older structures are reused to enforce the legitimacy of an individual and his descendants. The burial chamber of the northern mound in Jelling is the absolute centre of the 12.5 ha that the complex encompassed. Harald Bluetooth expanded the monuments made by his father, Gorm, and intentionally added archaic features such as the empty south mound. Other elements pointed forward in time, such as the church and the runestone that was in part inspired from Christian manuscripts. It can be difficult to incorporate all the elements of the Jelling monuments into one single myth, but the sheer size would have overwhelmed the visitors. We do not know of recurring acts taking place at the monuments, and Jelling was thus perhaps unsuccessful in securing the continuity of

the message that the monuments were intended to convey. On the other hand, the monastic institutions were well suited for this purpose.

All Saint Abbey of Lund

Two examples of early urban monasteries located by older monuments will be given in the following. The All-Saints Abbey in Lund was founded in the 1080s by bishop Ricwal – probably aided by local magnates or the king. It was located on a slight hill just north of the town. A runestone 4.6 m of height (970-1020 AD) found near the church was likely placed at or built intentionally into the church wall. The abbey was probably located close to the original monument, which might have consisted of a ship-shaped stone setting. It has been suggested that the men mentioned on the stone as “worthy estate owners” were royal officers ruling Lund on behalf of the king. They might even be part of a local magnate family who wanted to mark their importance and power at a time when Lund was changing the landscape. Incorporating the old stone into the abbey can either represent an old family reinforcing their claim to power in the area, or it could be incorporated into the royal foundation as a reference to the previous magnate family.

The Church and monastery of St Cnut and the Nonnebakken Nunnery in Odense

The St Cnut Monastery in Odense was founded in the mid-1090s adjacent to the newly built cathedral. The complex was positioned between the Viking-Age centre of Odense and the crossing over the river to the west and St. Alban's church to the east. The wooden church of St. Alban just east of the cathedral was the scene for the murder of King Cnut.

Among the Romanesque cathedrals, St Cnut's Church was only surpassed in size by the archbishop's cathedral in Lund. Thus, it can be argued that the church had extraordinary significance, and it was in all probability planned from the outset as the shrine of the saintly king. The cathedral status was transferred from St Alban's to St Cnut's Church which may by way of its line of sight to Nonnebakken across the river suggest a memorial strategy on par with Jelling by linking Harald Bluetooth's older ring fortress Nonnebakken with the cult of S. Cnut. This could be to extend the myth to include the first Christian king into the

myth of the first royal martyr. Harald Bluetooth is not mentioned in contemporary texts about Cnut the Holy, but the comprehensive description in Ælnoth's manuscript of Poppo's ordeal by fire at Harald's court works as a precursor to the ordeal by fire suffered by Cnut the Holy's bones in 1095. A connection between Harald and Cnut can be claimed on this basis. By connecting the myth of St Cnut to the ring fortress in Odense, it would also indirectly be linked to the other ring fortresses throughout the kingdom.

The nunnery at Nonnebakken was located inside Harald Bluetooth's ring fortress. A concentration of brick-lined graves suggests that the church would have stood in the western part of the compound. This would have placed the altar approximately in the centre of the ring fortress, as was the case with the north mound within the compound of Jelling. Written documents show that the nunnery got its rule and holy vessels from St Cnut's monastery and other sources suggest that the two institutions might have had a joint landed estate. Thus, they were somehow related, but this relationship must be investigated further.

The Churches of Our Lady in Roskilde and Aalborg
The Church of Our Lady in Roskilde is an example of an institution to which elements have been added over time. The church was built in the 1070s by bishop Svend Normann. Around 1160, a Benedictine nunnery was founded, but it was soon converted into a Cistercian institution by bishop Absalon who had his relative Margrethe buried there. Unsuccessful efforts were made to make her a saint for the Hvide family, but the new chancel shows that she was revered locally.

The Church of Our Lady in Aalborg had a very elaborate architecture as suggested by the reconstructed Romanesque portal – the only surviving part of the original church. The monastic church possibly constituted the frame for a local cult focused on two pretenders to the Norwegian throne, one of whom suffered a martyr-like death in Norway but was buried in or by Church of Our Lady in 1139/40 by good friends. The iconography around the portal portraying the Flight to Egypt is very fitting for an exiled pretender.

Conclusion

The location of these monastic institutions on the periphery of town could be defined as pragmatic

as they would have been clearly visible upon entering and leaving the town. The locations could also be dictated by the lack of space for institutions of this size inside the early town centres.

However, the location of All Saints and Nonnebakken could be forced on them by the use of older monuments and their memorial strategy. Indeed, their locations on the periphery of the town rendered them visible from the open land, the layout of which had roots back in time, and at the same time made them part of a new social and urban fabric, that in turn was part of a common Western European urbanity.

One could claim that the early medieval town, with its dynamically evolving cityscape, would be the last place to establish a visual link with the past. However, within the period 1000-1200 AD, ancient structures would emerge within the town to which memory would be linked. An example of this is the Church of St. Clement in Trondheim, where Olaf the Holy was interred shortly after his death in 1030. The repeated rebuilding of the church in wood well into the 14th century has been suggested as a way to link the rebuilt church with the original wooden church of Olaf the Holy as part of an intended memorial strategy. Maybe there is a parallel to the wooden St. Alban's Church in Odense that was owned by the St. Cnut cathedral and maintained as a wooden structure around AD 1140. UPDATE: Recent research by Axel Christophersen, professor at NTNU, Trondheim has thrown serious doubt as to the identification of the church ruin. It's more likely to be a hitherto unknown private church and my reference above may therefore be incorrect.

Questions

Is it fair to say that the king mentally shaped these early towns, as was also suggested by Jens Ulrikssen in his paper?

Yes, the king or at least his allies. In the case of Odense, it may very well be the Cathedral chapter who had the decisive voice in structuring the memory of Cnut the Holy. The king could connect to local magnates through shared projects such as monasteries.

Is it an amazing coincidence that Cnut gets killed in the church dedicated to the protomartyr of England and possibly also the first royal martyr

of England? Could the contemporary sources be untruthful to create this connection?

It is definitely a big coincidence.

There are other Scandinavian examples of local saints being connected to more important saints to legitimise the former's sainthood.

Does the fact that the Benedictine monasteries were built inside towns and not in rural areas indicate that people at the time did not consider it as an urban environment at all?

Probably not the case since most early monasteries were located in urban environments.

Further reading

Christensen, J.T. 2021: The urban monastery in the Early Middle Ages – actor or sleeping partner? A discussion of the urban monastic institutions based on the monasteries in Odense, Randers, and Aalborg. In: Runge et al. (eds): *From Central Space to Urban Place*.

Pedersen, A. 2017: Monumenterne i Jelling. Fornyet tradition på tærsklen til en ny tid. In: M. M. Bjerregaard & M. Runge (eds.): *At være i centrum. Magt og minde – højstatusbegravelser i udvalgte centre 950-1450*. Kulturhistoriske studier i centralitet 1, p. 44-61.

Rader, O.B 2003: *Grab und Herrschaft. Politischer Totenkult von Alexander dem Grossen bis Lenin*. München.

Urban fortifications and urbanisation processes in the case of Aalborg and beyond

Christian Vrængmose (Historical Museum of Northern Jutland)

Abstract:

The discovery of the Viking fortifications in Aalborg has been a long process, beginning in the early 1960s when amateur archaeologists noted that an earth-built rampart was found at a building site just north the main street Algade. No recordings were made of the find and the matter only became a question again much later in 2008 and 2016 when excavations were carried out in Algade 9 and 16. A ditch/moat with a width of 4 m was found in Algade 9, while remains of an adjacent turf-built bank/rampart was found in Algade 16. The structures are presumably part of a defensive enclosure incorporating the Østerå (East River) c. 120 m to the west.

Radiocarbon datings from Algade 9 suggest that the moat, which was at least partly recut, was initially dug sometime in the period c. 875-975 AD. The turf-built ramparts in Algade 16 seem to have been built no earlier than during the period c. 894-1018 AD. There are no overwhelming archaeological observations to prove that the moat and ramparts are contemporaneous structures. This can only be assumed, but also strongly implied by the rather similar dating results from the two structures. Combined they suggest that Aalborg was fortified during the period c. 894-975 AD.

The archaeological record in Aalborg suggests an early urbanisation process that can be divided into three phases. The older phase in the 8th – 9th centuries is almost exclusively constituted by finds of pithouses, and it should maybe not be distin-

guished from other known pithouse sites along the eastern part of the Limfjord. The younger phase in the 11th c. clearly has an urban character with a royal mint, at least two churches, trade, different crafts, and densely built plots with Trelleborg-type houses, wattle fences, and pathways. The middle phase in the 10th c. is more difficult to assess with relatively fewer finds almost exclusively from Algade 19 within the fortified area. Recent excavations in the westernmost part of the settlement have also yielded postholes and even a pithouse from the period – but with these finds being outside the fortifications in question.

The Viking fortifications in Aalborg most likely belong in the 10th c. They are generally later than the pithouse phase but earlier than the urban settlement with Trelleborg-type houses in the 11th century. It is a feature that sets Aalborg apart from the many other pithouse sites along the eastern part of the Limfjord, and it must in this respect be regarded as the earliest “urban” traits in the settlement. Of course, the question remains what exact role it played in the early urbanisation of Aalborg. Rather similar structures are also known in a 10th-century context at sites such as Århus, Horsens, and the emporia Ribe and Hedeby. And like in these places we can only presume a royal initiative in Aalborg. In either case, the newly found fortifications were clearly not a part of urban 11th-century Aalborg.

Urban fortifications and urbanisation processes in the case of Aalborg and beyond



Christian Vrængmose Jensen

Figure 1 Title.

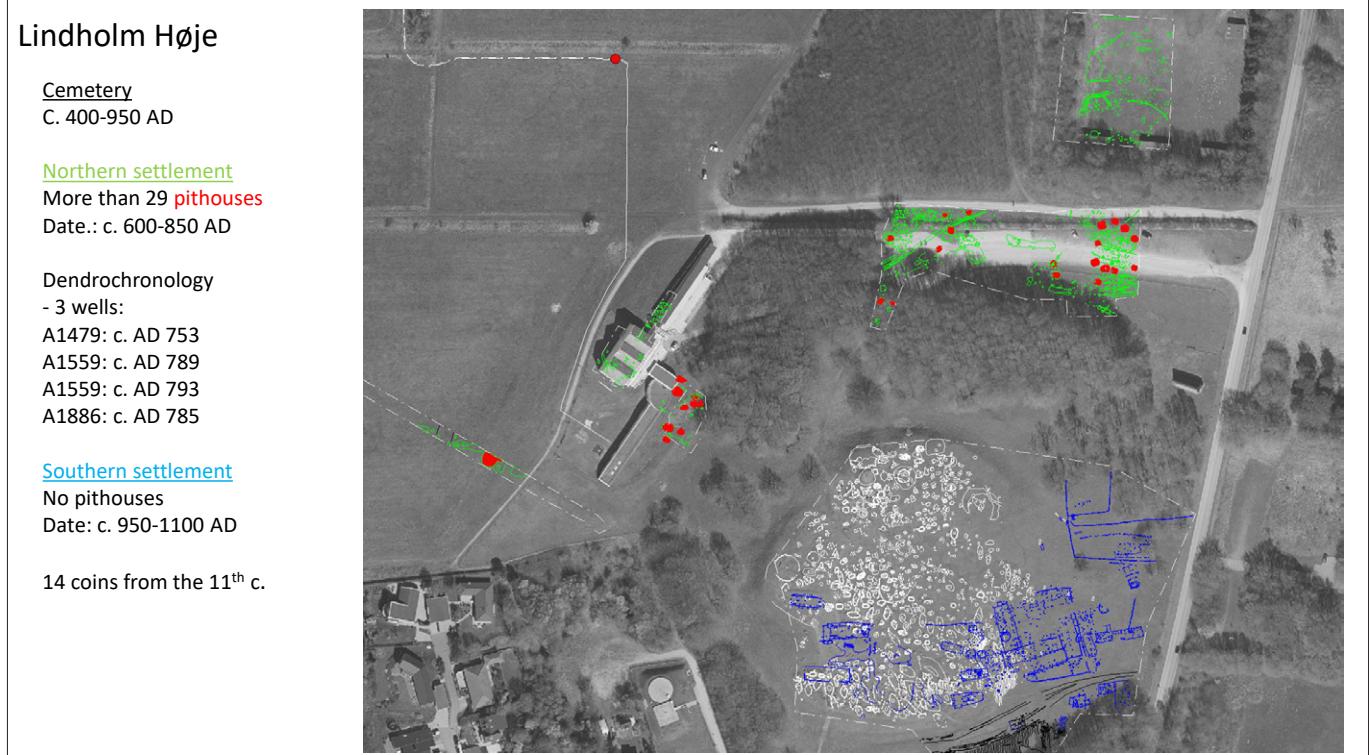


Figure 2 Lindholm Høje. A Viking-Age site in the vicinity of Aalborg. The site seems to undergo a significant change from the 9th to the 11th century - like Aalborg. Photo: © Styrelsen for Dataforsyning og Effektivisering.

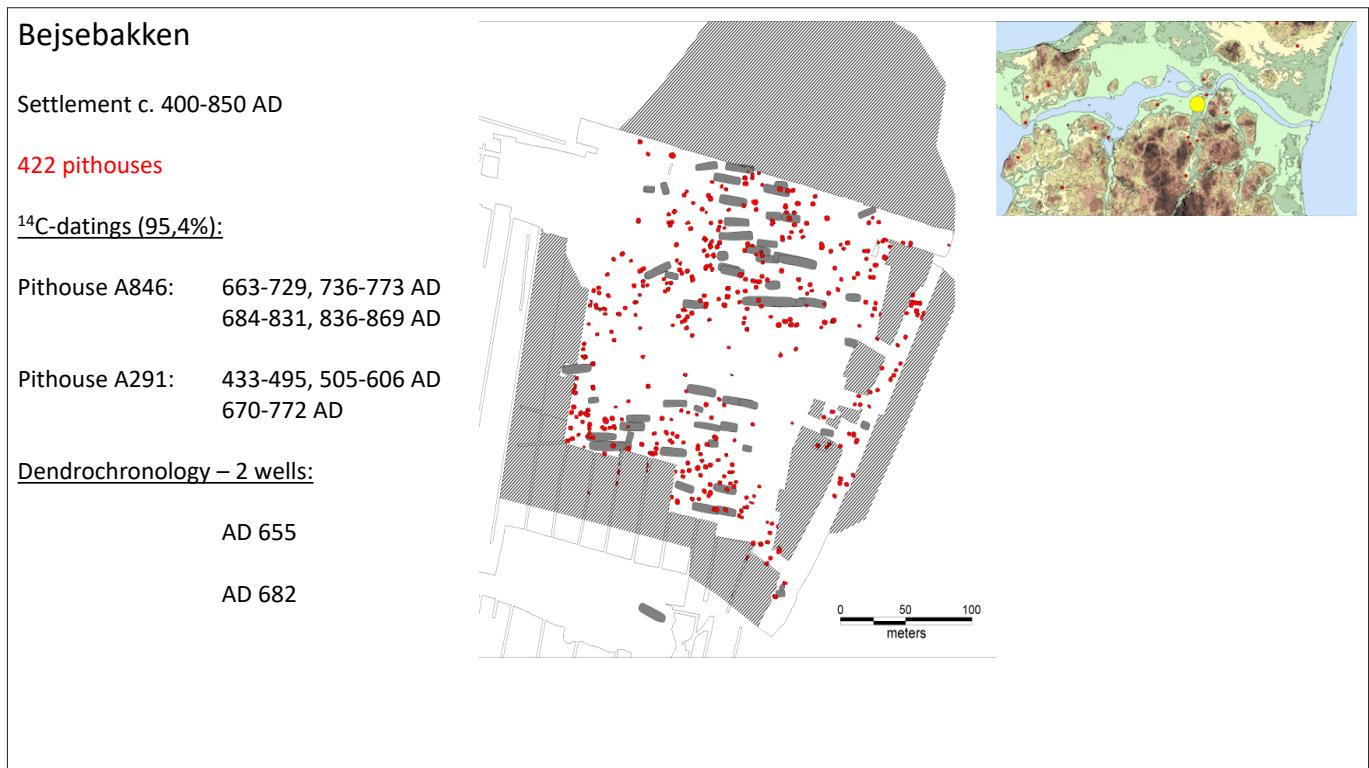


Figure 3 Bejsebakken (the yellow dot in the map top right). A site comparable to Lindholm Høje with a similar transformation in the 9th century where it is abandoned. A large village was established to the south in the medieval period.



Figure 4 Sebbersund, a settlement 25 km west of Aalborg (yellow dot in the top right map. Red dot in the bottom right map). It is the most comparable site to Aalborg. Consists of two settlements – pithouses from 700-1000 AD and a wooden church and cemetery in the 11th century. Also here it is questionable whether the pithouses made it into the 10th century. Map © Styrelsen for Dataforsyning og Effektivisering.

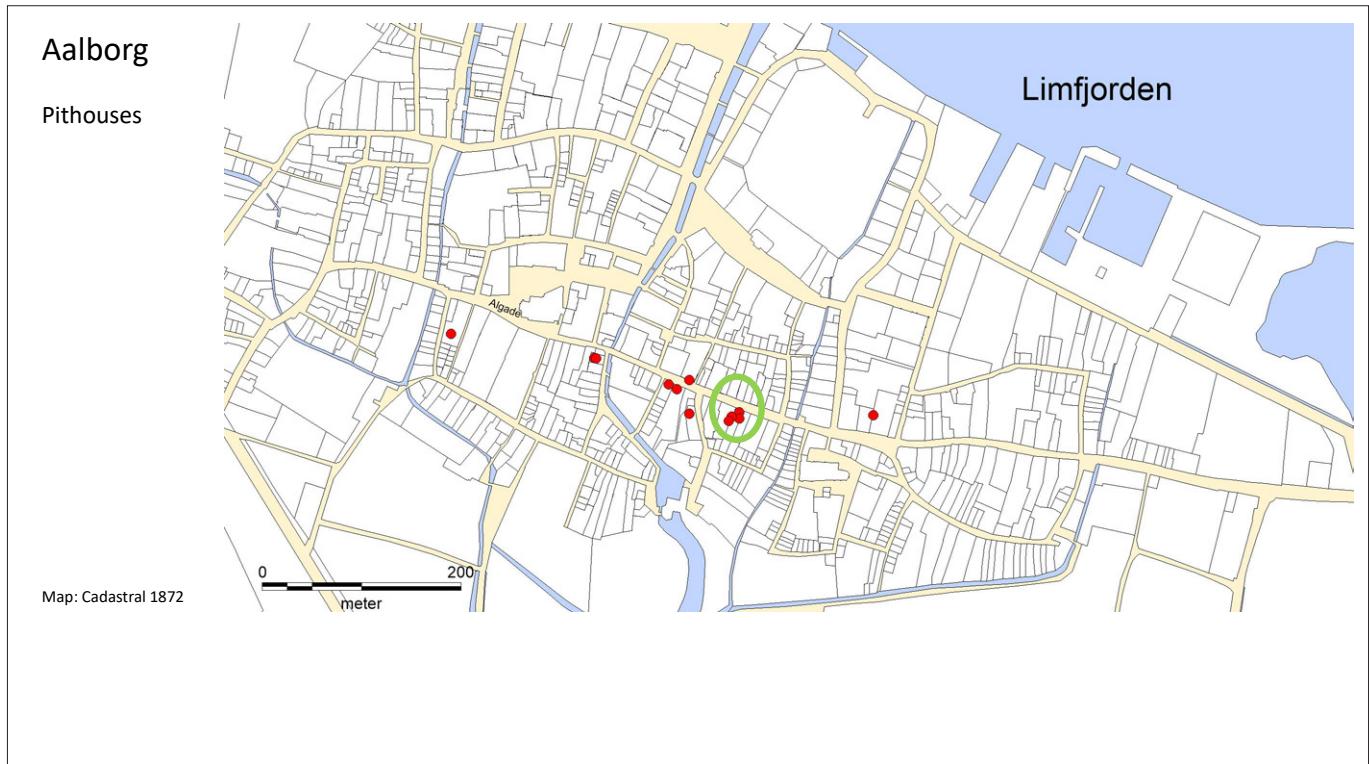


Figure 5 In Aalborg the 8th and 9th-century settlements are dominated by pithouses – they largely seem to disappear in the 10th century. However, an estimate is that only 3 percent of the Viking-Age settlement has been excavated.

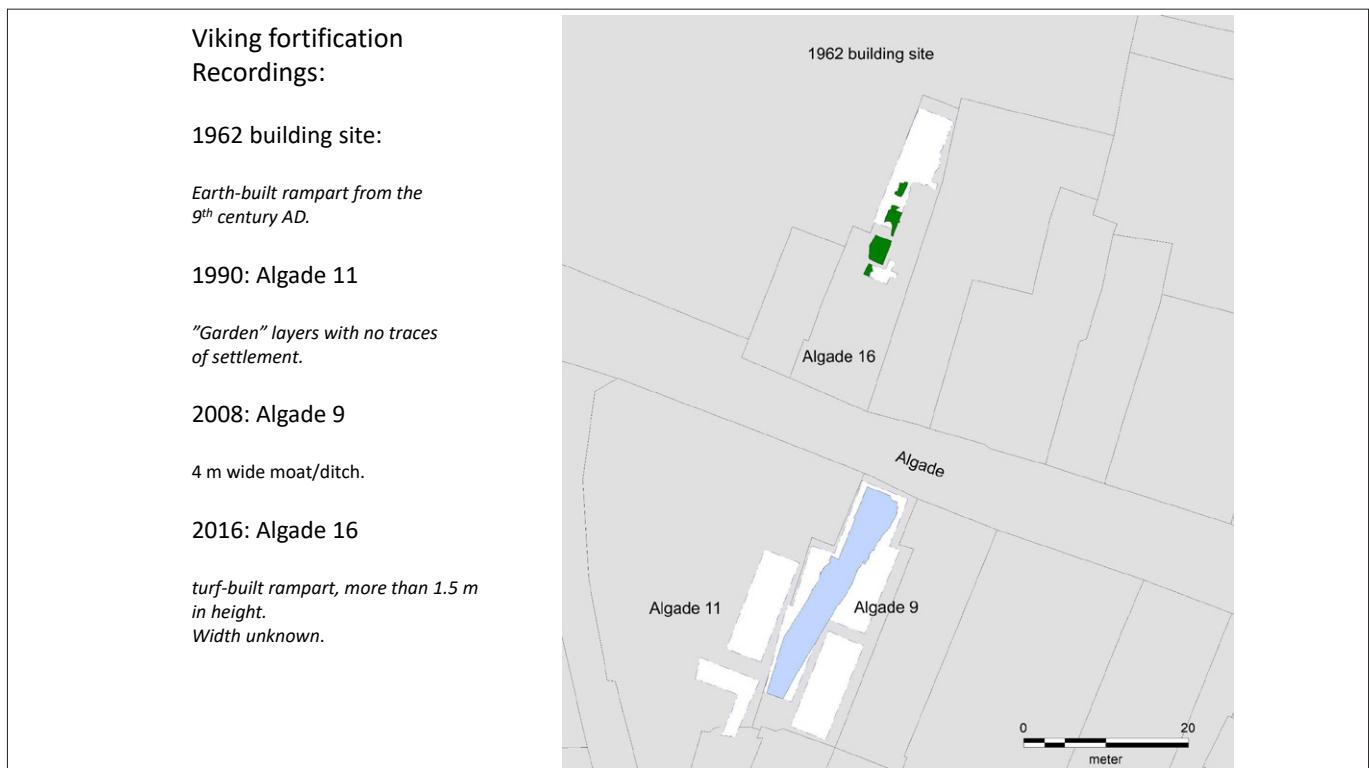


Figure 6 Algade 9, 11, and 16. Over the years the Viking-Age fortification has been observed in the area.

Algade 9 – the moat



Figure 7 In 2008 an excavation in Algade 9 uncovered a large moat or ditch. The rampart was not observed. The moat was 3-4 m wide and 1.5 m deep.

Algade 16 – the rampart



Figure 8 To the north of Algade 9 and 11 a rampart was discovered in 2016 and solved the mystery of the missing rampart. The rampart was built from turf and preserved to a height of 1.5 m.

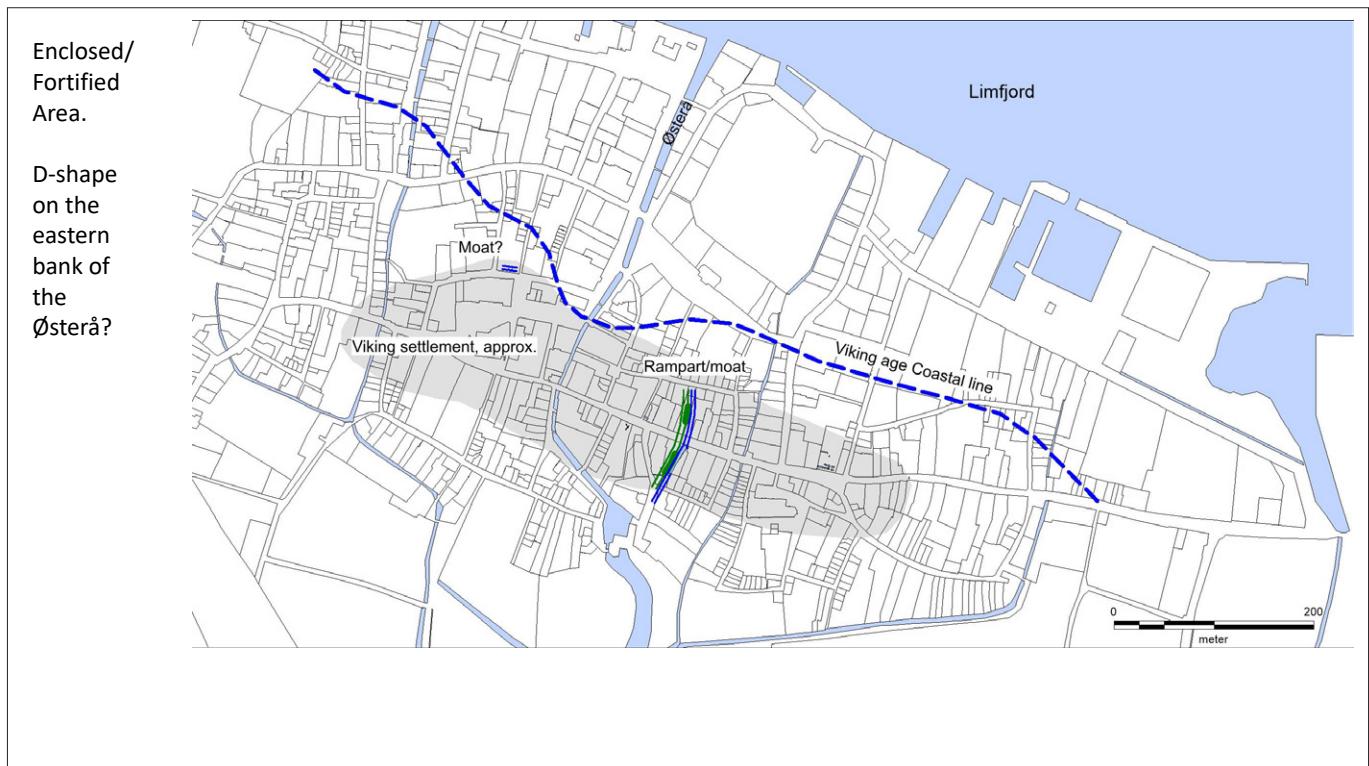


Figure 9 The rampart and moat might be the remains of an enclosure on the eastern side of the river “Østerå”. The fortification would enclose an area of approximately 1.5 ha. A similar moat was found on the western side of the Østerå in 1982 but with no solid datings.

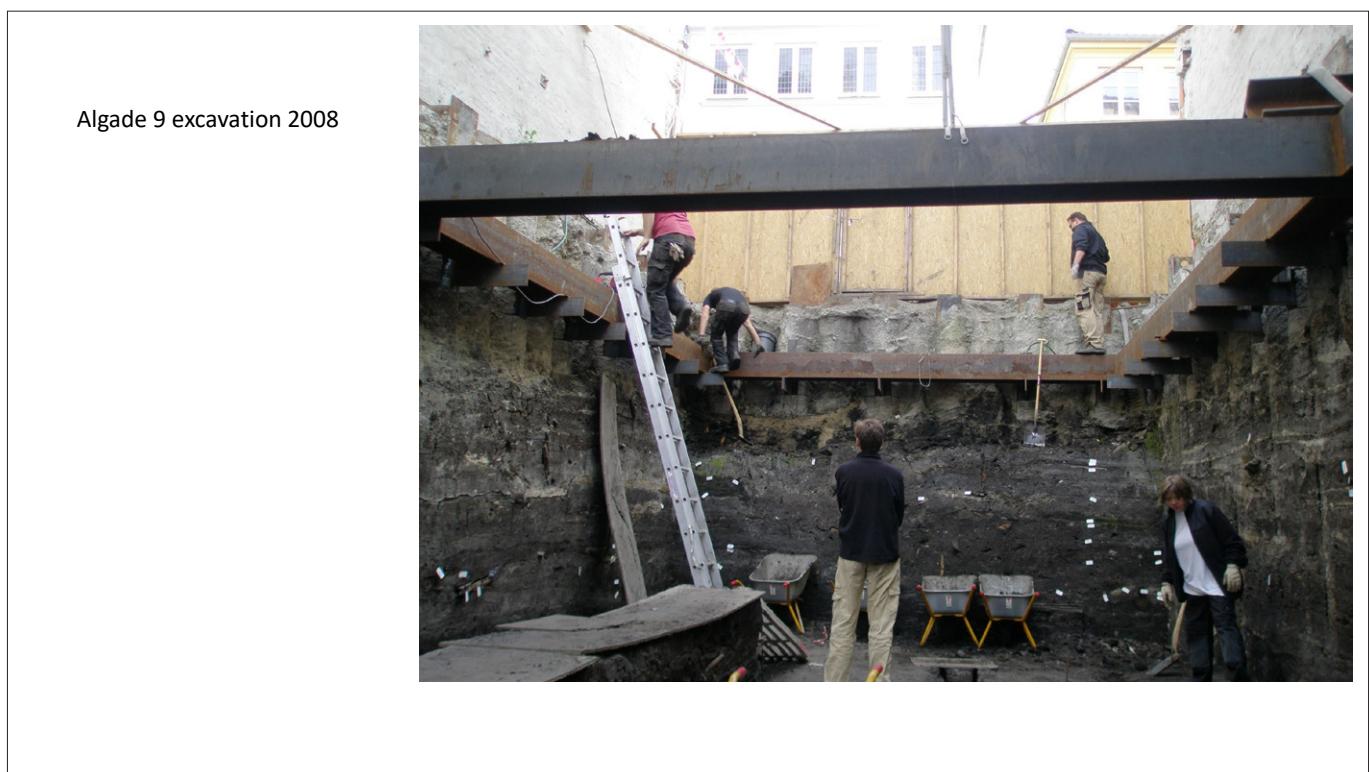


Figure 10 The moat was covered with approximately 4 m deposits.



Figure 11 The moat was younger than the pithouses in Algade 9. This is chronologically the lower boundary of the moat.



Figure 12 After the moat was filled, several houses were built in the area. This creates an upper chronological boundary. In this slide, the youngest houses in the area are presented.

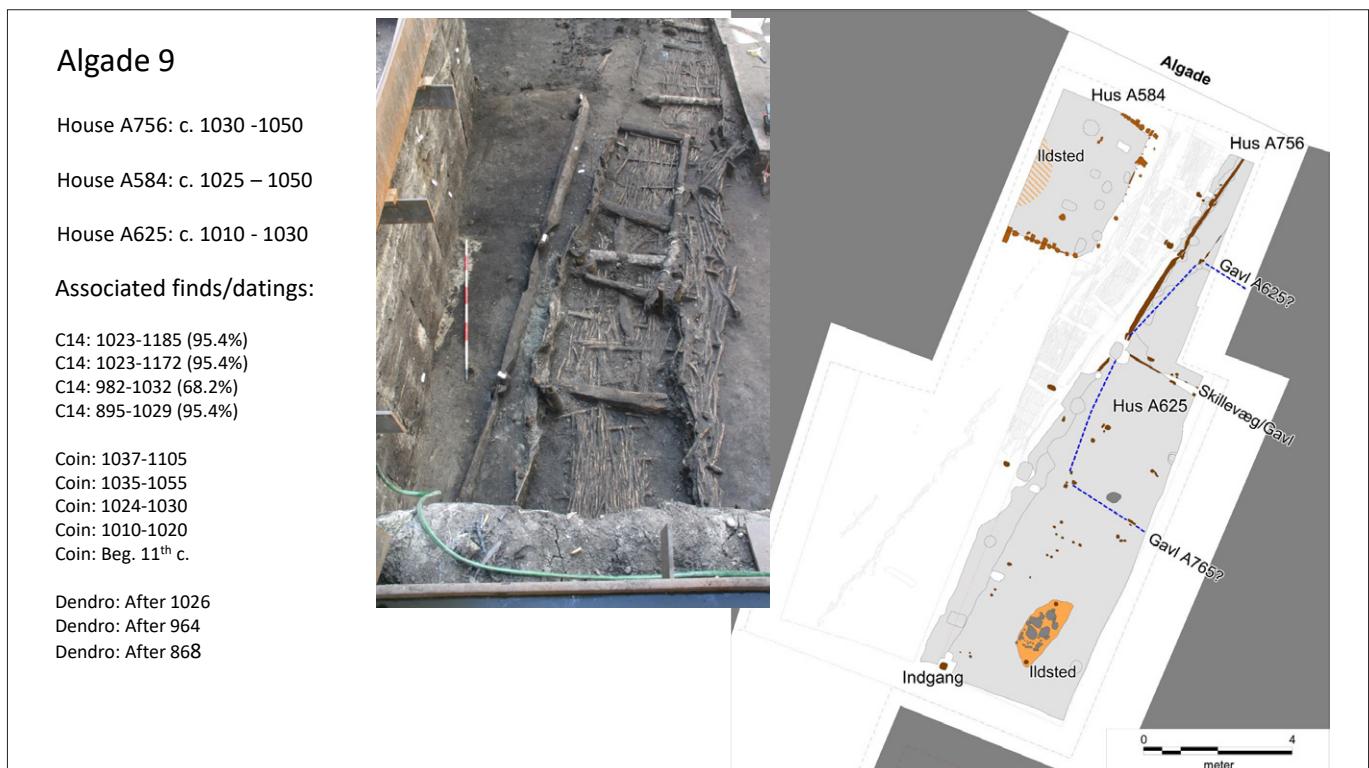


Figure 13 The youngest houses followed the houses presented in this slide. The grey area in the illustration to the right is the infill of the moat.



Figure 14 The house presented in this slide is the house following immediately after the abandonment of the moat.

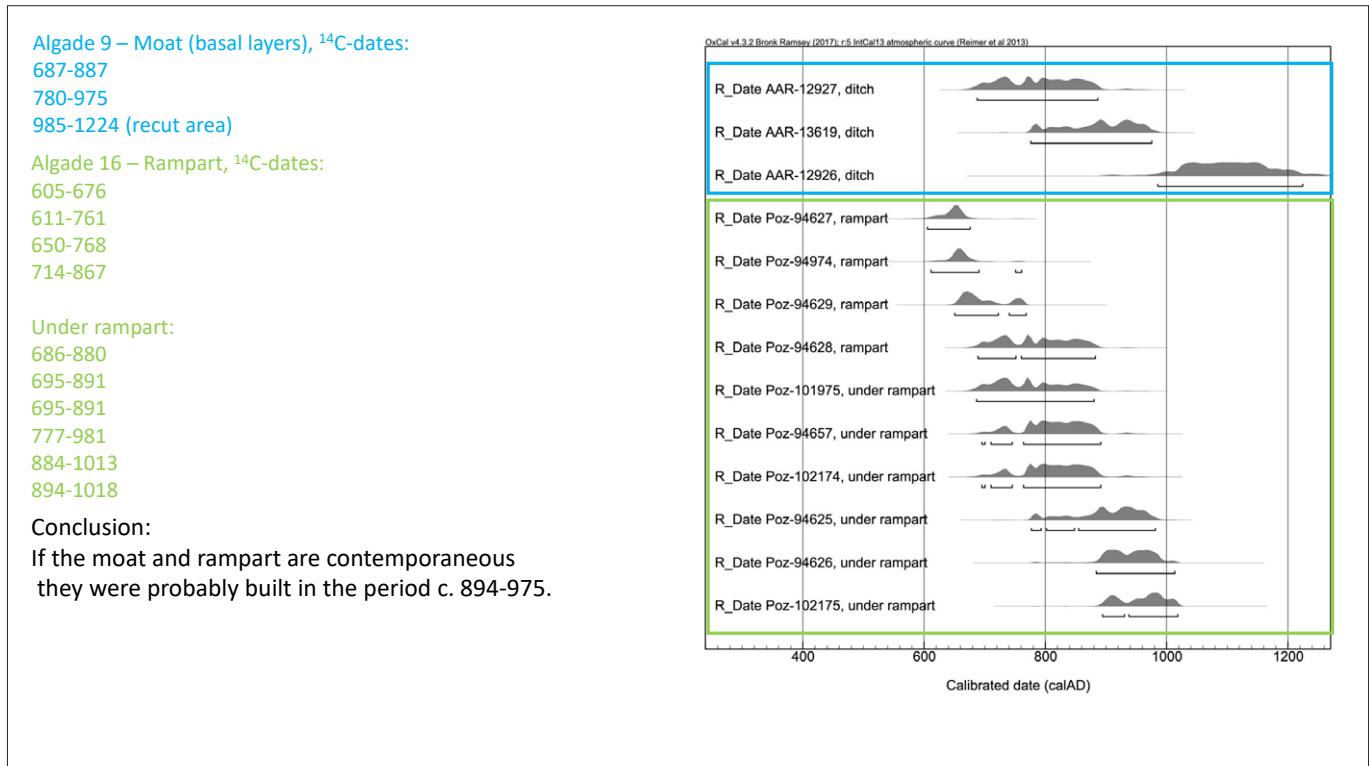


Figure 15 The houses that are younger than the moat and the pithouses establish a chronological frame to the period 888 to 985 AD. Three additional radiocarbon dates (blue) from the moat confirm this date.

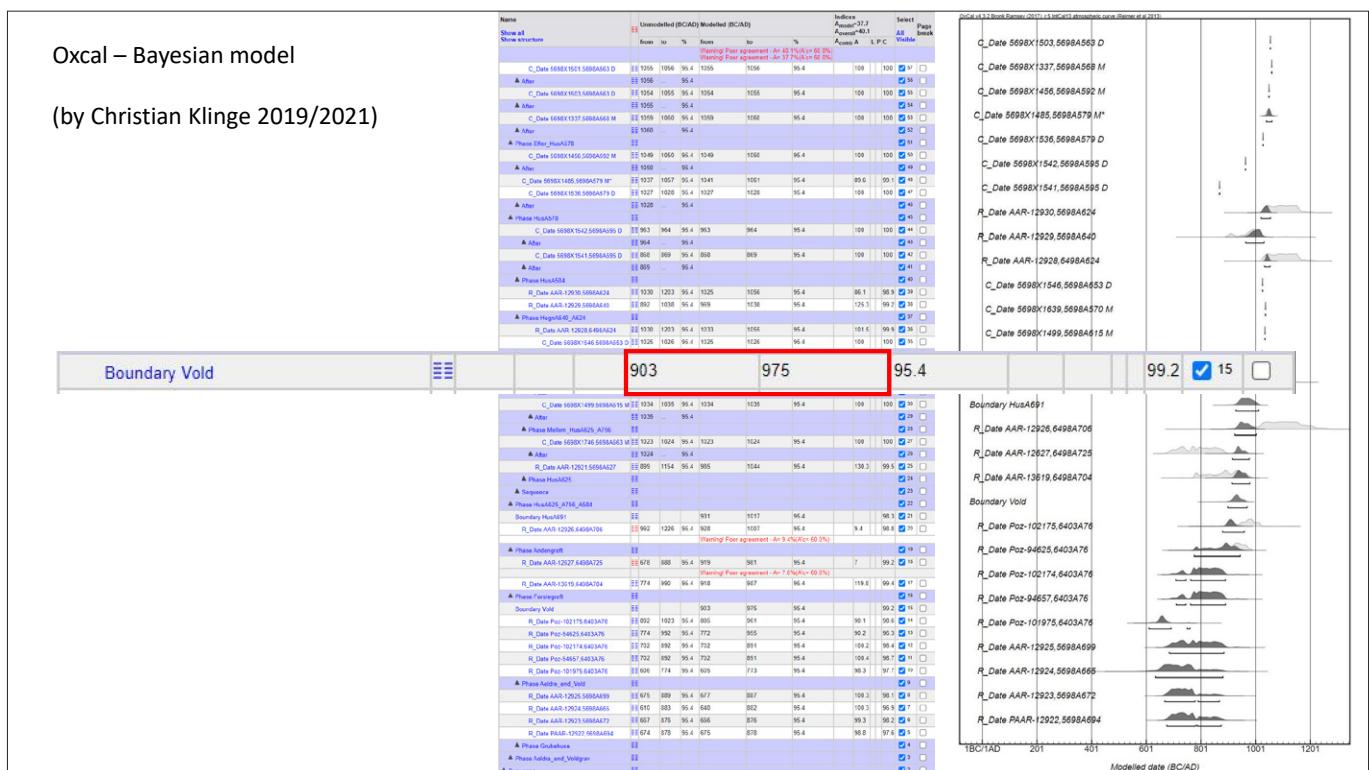


Figure 16 The archaeological and stratigraphical information can be used as priors in a Bayesian model to narrow the dating of the construction of the moat and rampart. It is assumed that the moat and rampart are contemporaneous. In this scenario, the construction of the moat and rampart (“Boundary Vold”) is dated to the period 903-975 AD.

Conclusion

- Aalborg was fortified in the 10th century (c. 894-975 AD) – probably no later than during the reign of Harald Bluetooth.
- Its defensive role outplayed by the end of the 10th century.
- The work of the king – most likely.
- Earliest indicator of centrality of what was to become the ‘Urban Space’ of Aalborg.

Figure 17 Conclusions.

Summary

Introduction

In recent years, it has become clear that Aalborg was fortified in the Viking Age. At the same time, other Viking-Age sites, in the vicinity of Aalborg undergo a significant change. These sites are important to better understand the development seen in Aalborg.

Presentation

Lindholm Høje is one of these sites. It consists of three main elements. A circular cemetery with around 700 graves, both inhumation and cremation graves are dating to the 5th and 10th centuries. To the north is a contemporary settlement. More than four longhouses and twenty-nine pithouses (sunken featured buildings) have been documented. The settlement was abandoned in the 9th century. To the south, a settlement is partly overlying the cemetery. This settlement is dated to the 10th and 11th century. There does not seem to be continuity between the two settlements. The southern settlement consisted only of longhouses and was abandoned in the 12th century. Key conclusions regarding *Lindholm Høje* are that the settlement was relocated during the Viking Age and that pithouses do not exist after c. AD 900.

On the southern side of the Limfjord is *Bejsebakken*. A settlement with more than 400 pithouses was abandoned during the 9th century. *Sebbersund* is another Viking-Age settlement c. 25 km west of Aalborg with many pithouses from the 8th to 10th century. The pithouses are followed by a church and cemetery dating to the 11th century. Perhaps the pithouse settlement that predates the ring fortress at *Aggersborg* should also be seen in this context.

Generally, we seem to find two distinct phases at either end of the Viking Age. In the 7th- 9th century, there is a phase with several settlements dominated by pithouses – and in the 11th century, there is a phase without pithouses.

Instead, there is a wooden church in *Sebbersund*, the southern settlement at *Lindholm Høje* and even the *Aggersborg* ring fortress may be considered part of the development in the late phase of the Viking Age. In between, there is a third and less clear phase in the 10th century.

In the 8th and 9th centuries, Aalborg also seemed to be a settlement dominated by pithouses – although recent finds in the westernmost part of the town suggest that pithouses were also built here in the 10th century. The Viking-Age fortifications have primarily been found in *Algade* 9, 11, and 16.

The first observation of the rampart was in 1962. However, it was not until 1990 that it was observed during an archaeological excavation but not recognised as a rampart. In 2008 a large moat was uncovered with an earth-built bank on the west side. The moat was preserved as a 3-4 m wide and 1 m deep feature. The rampart was finally recorded in 2016, where it was preserved up to a height of 1.5 m. The width could not be established, and there were no remains of wooden structures.

It is difficult to reconstruct the full scale of the fortifications. However, there seems to be an enclosure on the east side of the watercourse *Østerå* of c. 1.7 ha. A somewhat similar moat-like ditch was found in 1982 on the western side of *Østerå*. Only a couple of meters were uncovered, and no precise dating was obtained. The relationship between the two is unknown.

The moat and ditch on the eastern side of *Østerå* are preceded and succeeded by features dated through radiocarbon dates, dendrochronological dating, and coin finds.

It is unknown how long time went by between the infill of the moat and the erection of the first house. Circumstances indicate that there was a phase of abandonment. Based on the archaeological and chronological evidence, the moat seems to have been dug sometime after ca. AD 894 and before AD 975. Bayesian processing of these dates narrows the period to 903-975 AD.

Conclusions

Aalborg was fortified on the eastern side of the *Østerå* already in the 10th century. The defences only played a role in the 10th c. By the end of the century, the filled-in moat was built upon.

The fortification sets Aalborg apart from the other contemporaneous sites in the research area – apart from *Aggersborg*, it is an early indicator of centrality in what was to become the town. The fortification must reflect control over human and material resources at the time of construction

and the military workforce needed to defend the fortified area subsequently. In these respects, the fortifications must have contributed to the site's growth. Moreover, this is also relevant with regards to what was going on inside the presumed enclosure.

Was it simply an urban area set out for trade and crafts, and in this sense may be comparable to the almost contemporaneous enclosures *in Hedeby, Ribe, and Århus?* Or was it more of a royal estate, a military base, or a local magnate's residence?

Sadly, the archaeology still tells us little about the enclosed area, with only a few excavations in and around Algade 19.

The town eventually belonged to the king, and in this respect, it is noteworthy that the presumed earliest church in Aalborg, S. Clements Church, from the beginning of the 11th century, was placed in the centre of the area in question. The patron saint of S. Clement has been associated with the royal institution in the time of Canute the Great. On this ground, it can be assumed that the site belonged to the king already in the 10th century.

Several local magnates are known from runestone inscriptions in the area. These magnates seem to be identified by their titles as subordinates in a royal hierarchy, which must have been present in 10th century Aalborg and its surroundings. Of course, the dating of the runestones is not very precise, but they make it more plausible that the 10th-century fortifications in Aalborg were the work of a king, but we still do not know which one.

Questions

What is going on inside the enclosure in the 9th and 10th centuries?

We have the same challenge with several settlements in this period.

There is a similar moat from the 10th century in Horsens and a younger one from the 11th or 12th century. It is unknown if they overlap in time. These moats enclose an area of around 2 ha, but there are pithouses outside the enclosed area simultaneously. Was there a marketplace inside the enclosed area?

In Aalborg, the 10th-century fortification is short-lived.

There is a similar structure in Copenhagen, although it is one hundred years younger. There is a settlement with churches (one dedicated to S. Clements) outside the enclosed area in Copenhagen. There is an absence of evidence of the activities inside the enclosure.

In Aalborg, it might be the king's area inside the enclosure.

Is it the king who takes control of an important site?

It must be the king since the Limfjord area is vital regarding trade and power organisation - a model that resembles the situation in Copenhagen.

The fortification of Aalborg is a small (1.7 ha) - it is a modest site resembling Århus that is also a coastal site that is excavated to a greater extent. Perhaps it would be relevant to compare those two sites?

Further reading:

Beck, M.R., C. V. Jensen & M.T. Runge 2021: The military expression and organisation of power. In: M. Runge, M.R. Beck, M. M. Bjerregaard & T. Sarauw (eds.): *From Central Space to Urban Place Urbanisation processes in Odense and Aalborg, Denmark*. Odense, pp. 199-240.

Jensen, C.V. 2009: *Vikingetid og middelalder I Algade 9 – den arkæologiske undersøgelse. Årsberetning 2008. Nordjyllands Historiske Museum*, pp. 19-30.

Jensen, C.V. & C. Klinge 2016: Algade 9 i Aalborg. *KUML 2016. Årbog for Jysk Arkæologisk Selskab*, pp. 195-254.

Jensen, C.V. & S.B. Møller 2010: Algade 9 gör Aalborg ældre. In: L.C. Nørbach (ed.): *Årsberetning 2009. Nordjyllands Historiske Museum*, pp. 99-106.

Jensen, C.V. 2021: Settlement in Aalborg and Odense. In: M. Runge, M.R. Beck, M. M. Bjerregaard & T. Sarauw (eds.): *From Central Space to Urban Place Urbanisation processes in Odense and Aalborg, Denmark*. Odense, pp. 133-148.

Part 5:

*On-site dissemination of spaces and places;
new methods and strategies*

The From Central Space to Urban Place project: Strategy and results in dissemination and learning

*Line Borre Lundø (Odense City Museums) &
Nicolai Knudsen (Museums of Eastern Funen)*

Abstract:

Part of the aim of the *From Central Space to Urban Place* project was to rethink and test new ways of disseminating historical sites, cultural landscapes, and important events of the past. This aim resulted in several projects such as art installations and dramatised city walks. Different ways of involving the local population were explored, and educational material aimed at school children has been developed.

The key purpose of these endeavours was to disseminate non-visible cultural sites. Without the visual or physical traces of the past, we took alternative steps to establish a framework for engaging, historical experiences. Hoping that this would familiarise the local population with the history of their past.

At the cultural landscape of Kertinge Nor, an art installation made of water and light was installed and a Viking-Age Ghost Ship appeared. By building this non-invasive artwork on the location, it was possible to show and tell the forgotten history. School children made the Viking-Age communication lines visible in the landscape as they lit bonfires along the fjords and thus highlighted the cultural landscape. And in the centre of Odense hordes of reenactors brought the early-medieval city to life in a Viking Horror Walk.

Together these events, projects, and educational materials have resulted in a “toolbox” of gained experiences, from which recommendations for future, similar activities can be obtained.

The From Central Space to Urban Place project

- Strategy and results in dissemination and learning



ODENSE BYS MUSEER
ODENSE CITY MUSEUMS

Figure 1 Title. Art installation at the city center of Aalborg. © The Historical Museum of Northern Jutland.

- Direct link to the archaeological landscapes and sites in space as well as in place.
- On site dissemination.
- A variation of artistic events to illustrate the past.
- The educational materials were to explore combining art and archeology



Figure 2 The four goals set for the dissemination and education aspects of the research project. Photo © The Museums of Eastern Funen.

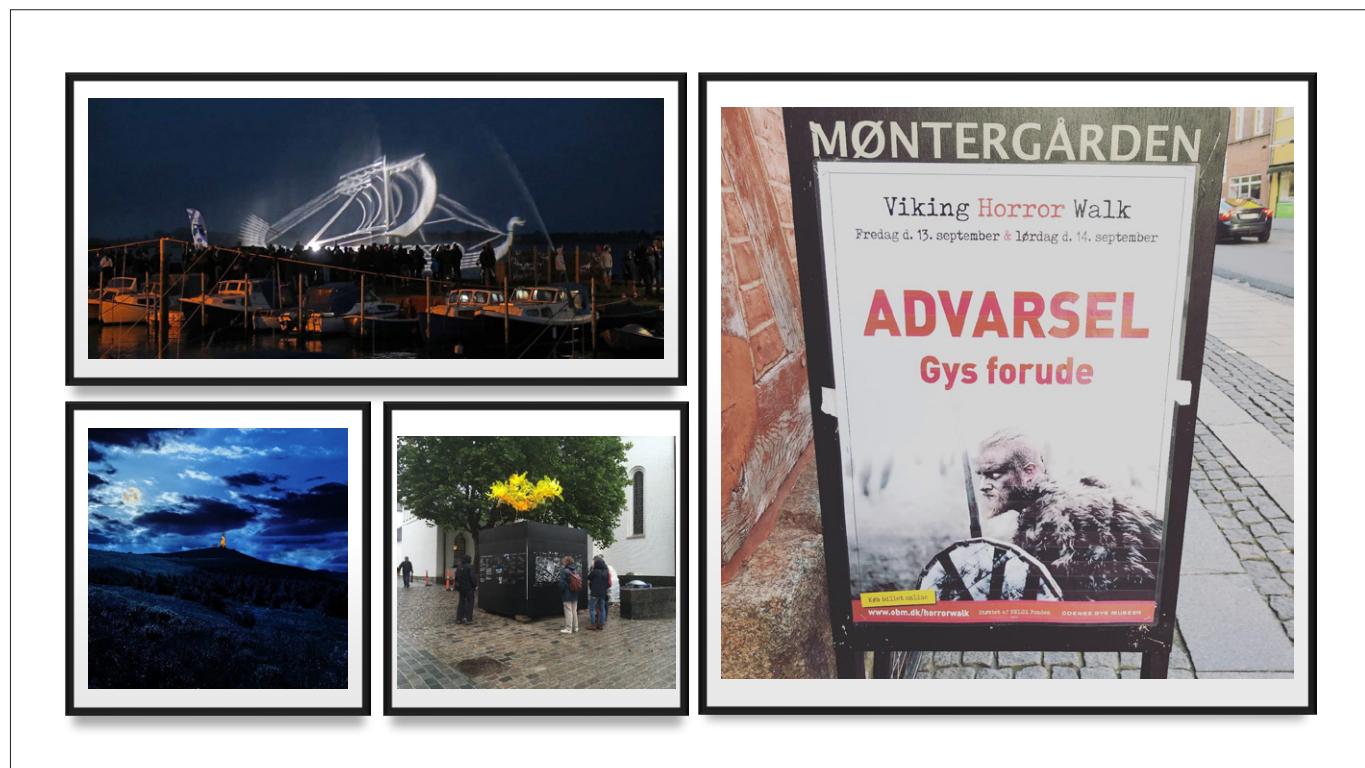


Figure 3 The four dissemination projects, two in the urban environments of Aalborg and Odense. The Ghostship at Kertinge Nor on Funen and the lightning of the beacons took place in the rural areas of both Funen and northern Jutland. Photo Top left: The Museums of Eastern Funen. Photo bottom left and right: Odense City Museums. Photo bottom centre: The Historical Museum of Northern Jutland.

Beginning of the project, creation & collaboration

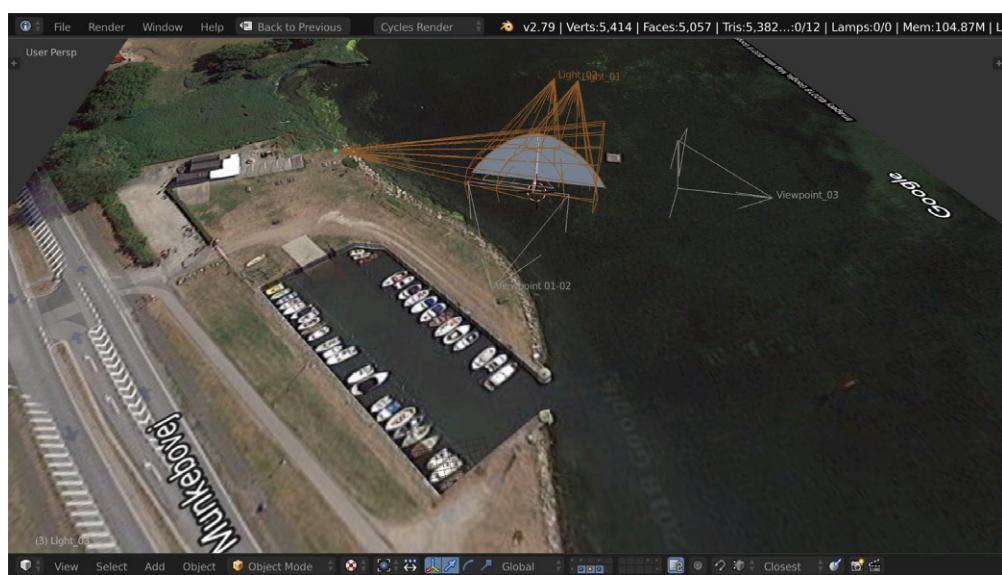


Figure 4 Sketch for construction of the Viking Ship art installation. © The Museums of Eastern Funen.

Exposure 08/09/18



Figure 5 On the opening night of the art installation, the local community arranged a Viking Festival. © The Museums of Eastern Funen.

Results, press and response

- How many saw the work?
- Facebook
- Bridge between research and storytelling
- The press

Figure 6 The Viking Ship installation had a big local impact on many platforms.

Local interest

- Festival
- Local identity



Figure 7 The Viking history is now part of the local identity as seen in the newly erected playground that is inspired by a Viking ship and by informative signs about local finds that have been set up in the landscape. © The Museums of Eastern Funen.

Problems

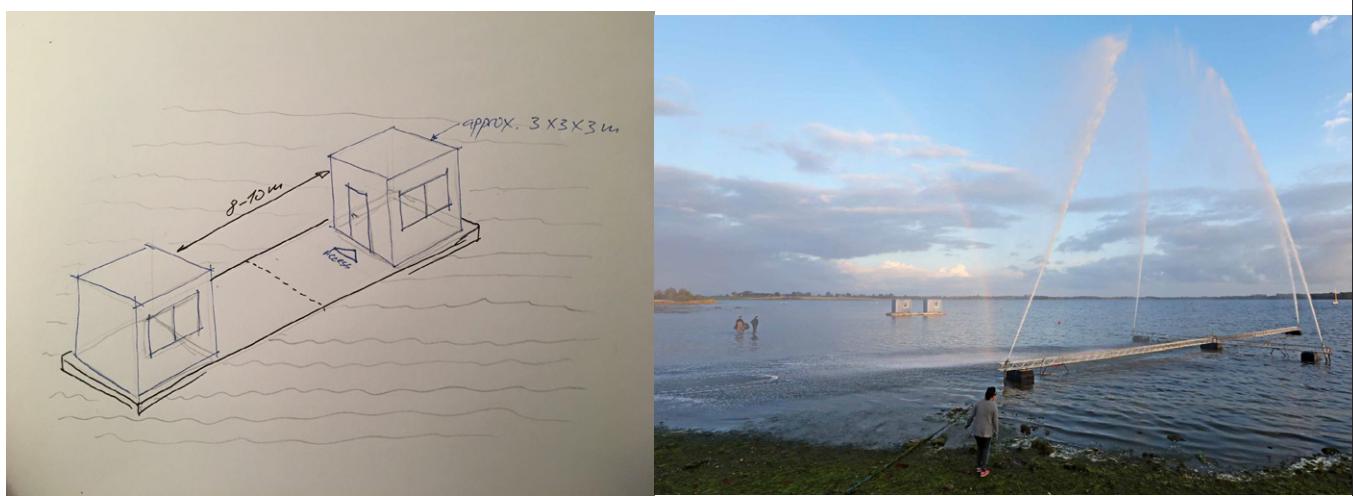


Figure 8 The tide pulled the installation so hard that it had to be adjusted almost weekly. Also, even the slightest sunlight rendered the visualisation of the ship impossible. © The Museums of Eastern Funen.

The Beacons

- Funen and Aalborg
- The selection of the locations
- Visits at the local schools
- Helping research

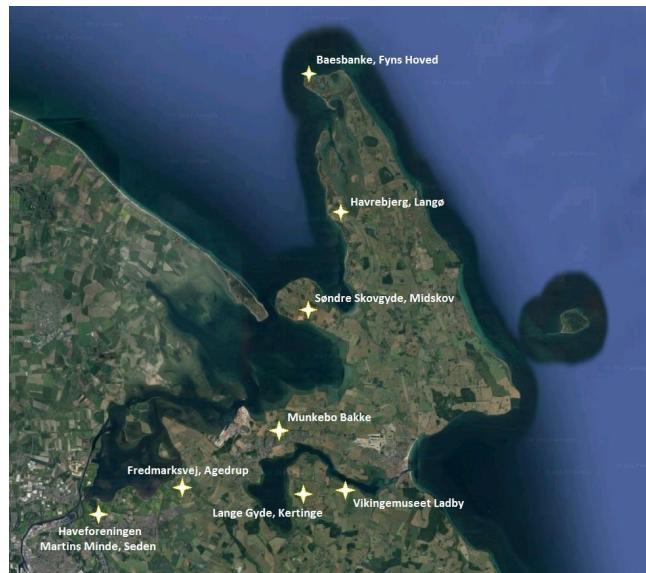


Figure 9 Aspects of the combined research and dissemination project “Light the beacons - the enemy is coming”. Ill. Illustration: Bjørn Koch, Odense City Museums.

Results

- Hidden History
- Press
- The Schools
- Problems?



Figure 10 The outcome of the beacon project was manifold. Ill. Illustration: Bjørn Koch, Odense City Museums.

Education Materials

- Apply the results of the research project
- Involve local school
- Ensure accessibility so that it can be used by all schools in the country.

**VIKINGERNES DRAGTSMYKKER
- EN KILDE TIL RIGDOM OG TRO**

Et undervisningsmateriale for 3.-6. klasse om vikingetidens symboler og tro med vikingernes dragtmykker, fibler, som kilde.



Klassestrin: 3.-6. klasse
Fag: historie og billedkunst
Lektioner: 4-12 lektioner

Figure 11 The themes of the educational materials were derived from the research project.

PUST DIGITAL VIND I SEJLET PÅ LADBYSKIBET!
ET UNDREVNINGSSFORLØB FOR 3-6. KLASSE - ØPLEVELSER MED ARKEOLOGIEN I FAGENE HISTORIE, DANSK OG BILLEDKUNST



VIKINGEMUSEET LADBY

SIDE 1 AF 18

FJENDEN KOMMER! LAD BÅLENE BLUSSE!

Undervisningsforløb: Kommunikation i Vikingetiden

INDHOLD

Viden om kommunikation og bavne i vikingetiden
Hvordan kommunikerede vikingene
Hvorfor flyttede menneskene fra bypladser til byer?
Hvad betyder det at have en bavne?
Hvad fandt vi ud af ved store bavne-øver?
Ideer til undervisningsaktiviteter om kommunikation i vikingetiden
Undervisningsaktivitet 1: Hrad ved 17
Undervisningsaktivitet 2: Bæltebåndet fra Ladbyskibet i jeres lokalområde
Undervisningsaktivitet 3: Fjenden kommer! Lav jeres egen bavne
Undervisningsaktivitet 4: Modemøde bavne
Opræsentationsaktivitet: Hvordan kommunikerede vikingene?



DKM - Det Kongelige Museum for Historie og Arkeologi

Figure 12 The Viking Ghost Ship and The Beacon events have been processed into educational materials independent of the events that can be downloaded and used by schools all over the country.

The fibula as a museum object

The fibula as a symbolic object

The fibula as an expression of Nordic mythology



Figure 13 The fibulas, which constitute an important and extensive source in the research project, formed the base of an education program combining history and visual art.

Game of Power

- 1) The society**
- 2) The resources**
- 3) The construction**



Figure 14 The Viking Age ring fortresses inspired an educational material – The Game of Power.



Figure 15 A board game centred around the ring fortresses was developed to educate school children about what these massive structures convey in terms of the past society, resources, and the manifestation of power that was implemented in the construction of these strongholds.



Children roleplaying



Figure 16 Inspired by the Viking Horror Walk, a concept for Viking-Age City Walks for children was developed. Photos: Odense City Museums.

Alternate between

- 1) learning through experience **in the role**
- 2) learning from the role



Figure 17 On city walks, children visit the historic sites and roleplay as warriors, kings, tradesmen, peasants, and priests. The children alternate between learning through experiences **in character** and reflections derived **from the character**. Photos: Odense City Museums.



Figure 18 The educational materials based on the research projects and the live events are a lasting outcome of the project that will help to generate a better understanding of the past and the cultural landscapes. Photos: Odense City Museums.

Summary

Introduction

This paper focuses on the dissemination and education aspects of the research project From Central Place to Urban Spaces. The project studied Odense and Aalborg's early urban development. For the dissemination part of the project, the aim was to explore new ways of disseminating archaeological key sites and cultural landscapes as well as the results of the research.

Four ambitious goals were set:

- Any dissemination and learning had to be linked directly to the archaeological landscapes, sites, or artefacts. And they should take place in both open country (space) and within the town (place).
- We were to address the challenge of disseminating archaeological landscapes and sites on location after the completion of the excavation - when there are no visible traces of the archaeological remains.
- Dissemination and learning had to be user-engaging and provide new ways of illustrating the prehistory through creative or artistic methods.
- The educational dimension was to be targeted at middle school and revolve around the themes of art and archaeology.

Presentation

The dissemination of cultural landscapes

The result was four very different events. Two took place within the historical cities of Odense and Aalborg, and two took place in the cultural landscapes related to the developments of the early towns. In Aalborg, three exhibition cubes with an urban theme (the king, the fortification, and the early Christianity) were placed on archaeological hotspots along the old street through town. Artist Vivi Linnemann designed colourful works of art for the roof of each cube, interpreting the archaeological theme. The content in one cube was decided and manufactured by a 7th-grade class.

In Odense, a Viking Horror Walk was made in collaboration with the theatre group, Dystopia. The group was given relatively free hands in the preparation, but the story was based on historically correct events, and the walk included the actual

historic locations. The Viking Walk was based on archaeological finds and spiced up with dire stories from Norse mythology. Afterward, the guests could visit a café to see the authentic artefacts and learn more about the sites. This was considered essential to make the guests aware that the dramatised walk was based on actual historical events.

At Kertinge Nord (fjord), the task was to disseminate a cultural landscape to the locals and to raise awareness of the fact that the fjord had been an important waterway in the Viking Age. This awareness was achieved by installing a non-invasive work of art in the shape of a Viking Ghost Ship. The ship was created as a projection of light onto fountained seawater (fig. 4-8). It was created by the Romanian company, Visual Skins. The town of Munkebo, on its own initiative, held a Viking festival on the opening night, and a festival is now an annual event. Within three months, 12,000 visitors saw the ship, and as a result of the event, a Viking Age narrative has been added to the history of Munkebo.

The final event, "The enemy is coming – light the beacons", was a combined research and dissemination project. The aim was to highlight the cultural landscape both on north-eastern Funen and in the Limfjord area, and at the same time test whether the beacons could, in fact, have functioned as a warning system in the Viking Age. A group of scholars pointed out the most likely locations for the beacons using cartography, placename research, lidar scans, and examining the local history. To include the local population, school classes and scouting groups were invited to partake in lighting the bonfires.

It was made clear to the students that this was not only the museum's event - but very much their own. The students were responsible for the bonfires and for making observations to aid in the research project. Their thoughts and observations were valuable alongside those of the professionals. This had a major impact on the students' commitment to the project and made them feel a sense of purpose and ownership. They recognised that the landscape they inhabit has a history, and they helped to illuminate and convey this landscape. On the night the event engaged a lot of locals, and the story reached national news who broadcasted live from the event, and it sparked a new interest in the cultural landscapes in both children and adults.

As for the research part of the event, we learned that it took just thirty minutes from the first beacon was lit to alert the town of Odense. The warning system would have worked!

The four events disseminated the archaeological stories in new and ground-breaking ways. Even though they might be a one-off event, their value has been enormous. They have inspired new ways of conveying stories and succeeded in enlightening the local populations about the history of the areas they inhabit.

Educational materials

Another outcome of the research project was the development of educational material. Odense City Museum embarked in a collaboration with the University College Lillebælt, where three teams of future teachers were presented with the different results, sites, and artefacts of the research project. They helped transform an academic program into educational materials based on their didactic and professional experiences.

For example, one starting point was the iron age brooches, the fibulas. This resulted in an innovative and creative educational material combining history and visual art to make chronology and technological developments easy to understand for the school children. Furthermore, the symbolism and iconography of the fibulas helped give a better understanding of prehistoric people's thoughts and ideas.

The archaeological key site of Nonnebakken became the inspiration for an educational board game, which highlights the manifestation of power that the ring fortresses represent. Hopefully, by embracing role-playing elements, school children will find the game engaging and sensory. By playing the game, the student will gain the understanding that kings, warriors, peasants, women, and slaves all played important roles in the Viking Age society and that they were interdependent, even though their circumstances were very different. The game allows the students to reflect on and live out the social conditions of the Viking Age. This educational material is available as open-source on Odense City Museums' website: www.odense-bysmuseer.dk/undervisning

City Walks for children

Based on the Viking Horror Walks, aimed at an adult audience, an educational city walk for schoolchildren has been developed. In this version, the children themselves act out the events of the past as they walk – cloaked and armed – through the old town. Through role-playing, the non-visible cultural heritage becomes visible in the children's consciousness.

Questions

The dissemination techniques and educational programs presented here attempt to tackle the challenge of how to do on-site dissemination of invisible archaeological monuments and historical events and how to create an awareness with the local population that their surroundings contain fascinating tales. By employing the local people, collaborating with teachers and the university college students, and developing creative, educational materials that engage and excite students, we have succeeded in ensuring measures that will long outlive the research program.

Further reading

Mogensen, M.S, L.B. Lundø, N. Knudsen, C. Vrængmose & M. Runge 2021: Vikingegys, spøgelsesskib og bål i lange baner. *Odense Bys Museer* 2021, pp. 125-136.

On-site dissemination of research results: Experiences from a mobile museum

Hanna Dahlström (Museum of Copenhagen)

Abstract:

At a time when an ever-increasing part of the world's population lives in cities, a renewed interest is seen in the historical processes preceding and leading up to the modern city. The project Urban Encounters (2015-2019) examined the establishment and development of towns and cities in the period 1000-1700 using the extensive archaeological material, brought to light through three major urban archaeological projects in Odense, Copenhagen, and Nya Lödöse (predecessor to Gothenburg in Sweden). The excavations allowed for contextualized analyses of the medieval and early modern urbanisation process. The project Urban Encounters focused on the connections between urbanization, networks, social interaction, and the shaping of urban identities, as expressed through material culture. The project consisted partly of extensive research into the materiality of urbanisation processes, and partly of the development of a mobile museum - *The Past Exposed* - which served as a mobile platform for site-specific dissemination, founded in the research questions of the Urban Encoun-

ters project. This paper will give an outline of the ideas behind the mobile museum, present and evaluate how it was used.

The purpose of the mobile museum was to disseminate results from the project's research in a simple, playful way, to create curiosity about the past and about archaeology, and invite the visitors to learn more about the history of the concrete places where the mobile museum travelled to at different times. The contents focused on illustrating the complex, material networks which were important parts of creating and maintaining medieval towns, and specifically the towns investigated in the Urban Encounters project.

The concept of the mobile museum wanted to use the public's fascination of on-site dissemination, often undertaken at ongoing excavations, with the aim to spread it into the research phase. Both the concept and the contents of the mobile museum were developed in collaboration between the researchers in the project, public outreach specialists at the project's institutions, and exhibition architects.

On-site dissemination of research results: Experiences from a mobile museum

Hanna Dahlström
Jakob Parby
Museum of Copenhagen

THE VELUX FOUNDATIONS

VILLUM FONDEN ✕ VELUX FONDEN

Figure 1 Title.

Urban Encounters: a collaborative research- and dissemination project 2016-2019

Funded by the Velux Foundation's Museum grant in 2015

Research from three of the largest urban excavation projects in Scandinavia in recent years:

- The Metro Cityring excavations in Copenhagen 2009-2015
- The Nya Lödöse-project in Gothenburg, Sweden 2013-2018
- The Thomas B. Thriges Gades excavations in Odense, Denmark 2013-2016

Partners: Museum of Copenhagen, Odense City Museum, the institutions in the Nya Lödöse-project (Statens Historiska Museum/Arkeologerna, Bohusläns Museum, Göteborgs Stadsmuseum and Rio); and the Centre for Urban Networks Evolutions (Urbnet) at Aarhus University

Figure 2 The Mobile Museum was part of a large collaborative research project.

Urban Encounters

Common themes: Material and cultural networks, identity and urban development in medieval and Early Modern Scandinavia, 1000-1700 AD

Main deliveries:

- a) 2 Ph.D's – Urbnet (Hanna Dahlström and Kirstine Haase)
- b) 8 articles in peer-reviewed journals
- c) **Development of a mobile museum**

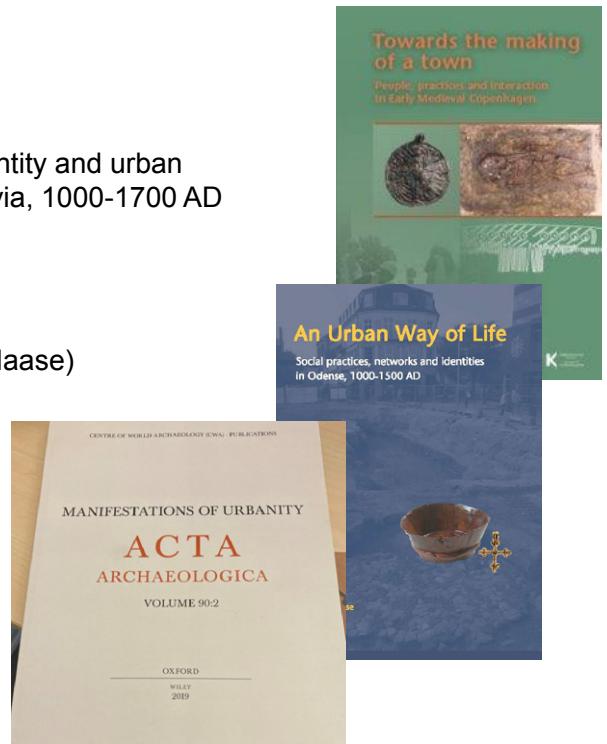


Figure 3 Besides the academic work the project also had a part that concerned dissemination of the research results.

The project's overall research questions, discussed in the public dissemination

- a) How can urbanisation processes be traced in the archeological material?
- b) Is it possible to detect the development of specific urban identities and life forms?
- c) How is the town as a meeting place – seen as a network-producing entity and hub of cultural and social encounters - visible in the material?

Figure 4 The overall research questions and their results were the starting point for the dissemination.

Why a mobile museum?

- a) Experience of the attraction and usefulness of open excavations, special tours and find's displays in connection with the excavations
- b) The appeal of the site-specific
- c) Wish to create a unique experience with the aim to "prolong" the site-specific dissemination
- d) Reach an audience outside the museum walls



Figure 5 The intention with a mobile museum was to recreate the on-site experience.

Conceptual development

- How mobile? Practical requirements
- Concept and contents: Created through workshops with researchers and designers (Fuzzy House)

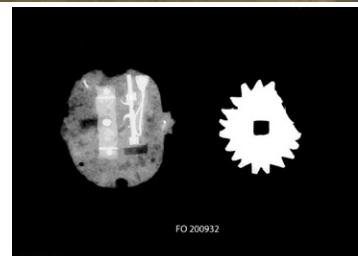
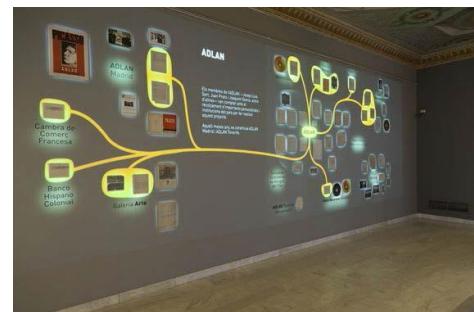


Figure 6 Different ideas regarding the physical and practical solution were touched upon during the conceptual development.

Conceptual development

Main ideas/concepts:

- Authenticity
- Object based
- Dissemination based on non-text experience
- Interactive
- Connection between past and present.
- Visually attractive and scientifically explorative experience - use the "magic" of archaeology



Practical criteria:

- Should work in the context of all three cities
- The displayed objects should sustain transport and display in changing climate
- Staffed and including contact and dialogue with authentic objects and archaeologists

Figure 7 The final result was based on a set of key concepts and practical criteria.

Research contents – object biographies

To illustrate different aspects of the urbanisation process and urban life:

- **Networks:** local, regional and long distance
- **People:** who were involved in the different *chaînes opératoires*; and in that way affected by/ contributing to urban development?
- **Activities** and functions related to the urban places

Figure 8 The overall concept of the dissemination was "Object Biographies" related to networks, people, and activities.

Selected objects

- Representing different time periods and the different towns
- Local, regional and long distance
- The authentic object could be displayed (with two exceptions)

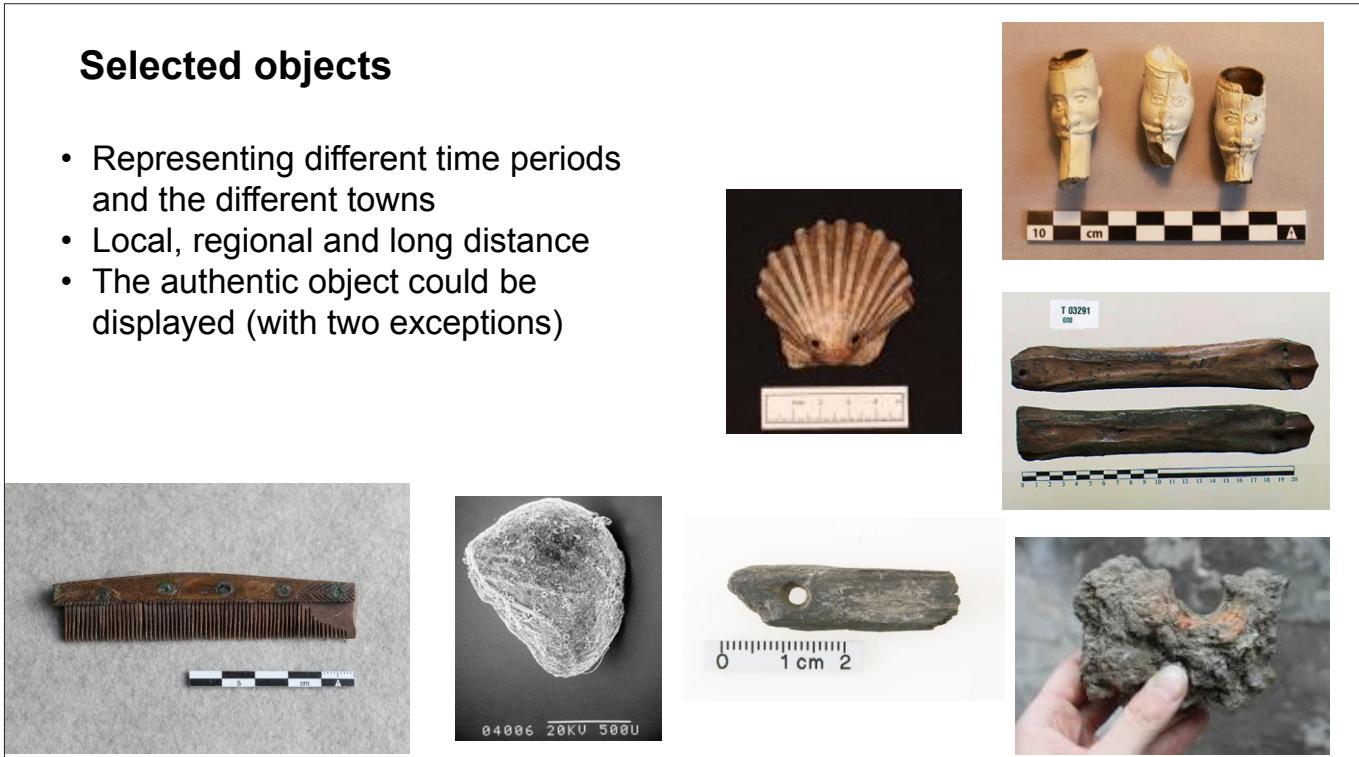


Figure 9 Seven objects were selected. The comb and the pilgrim badge (shell) had to be replaced by replicas because they were too fragile to be exhibited.

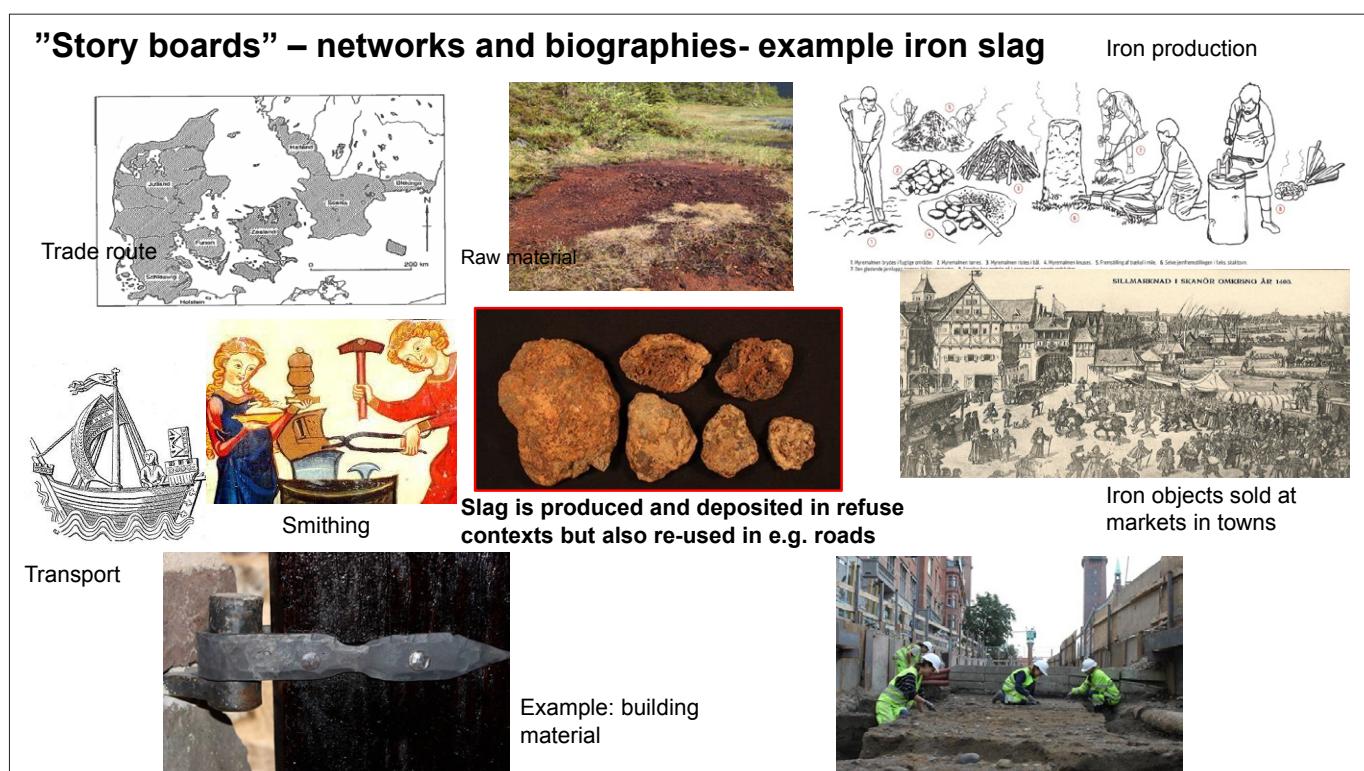


Figure 10 Example of the biography of iron slag as a visual story board.

Design – the "magic" of archaeology

- Discover what is hidden
- Ideas: X-ray, mirrors, buried in the earth, archaeology lab

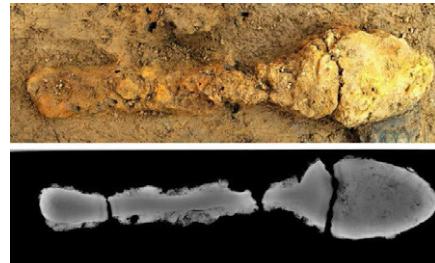
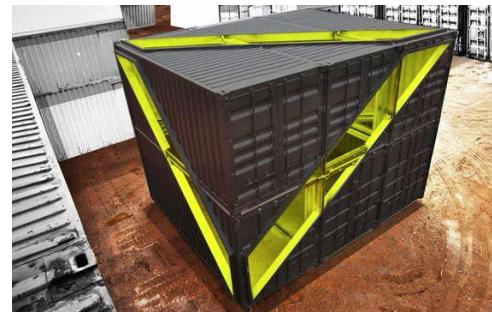


Figure 11 The design concept was based on exposing the hidden.

Conceptual development – visitor experience



Multi-sensory, playful, direct contact with authentic objects and experts

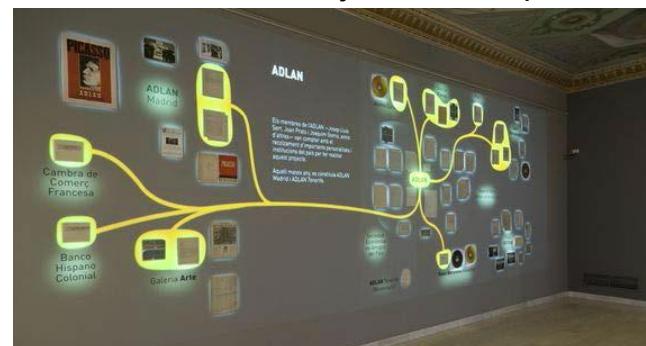


Figure 12 The aim was to make the visitor experience sensory, playful, and authentic.

Practical solutions

- Container
- Inside and outside
- An interactive wall inside – a sensory experience
- A flexible area outside – hands-on, meeting the archaeologists

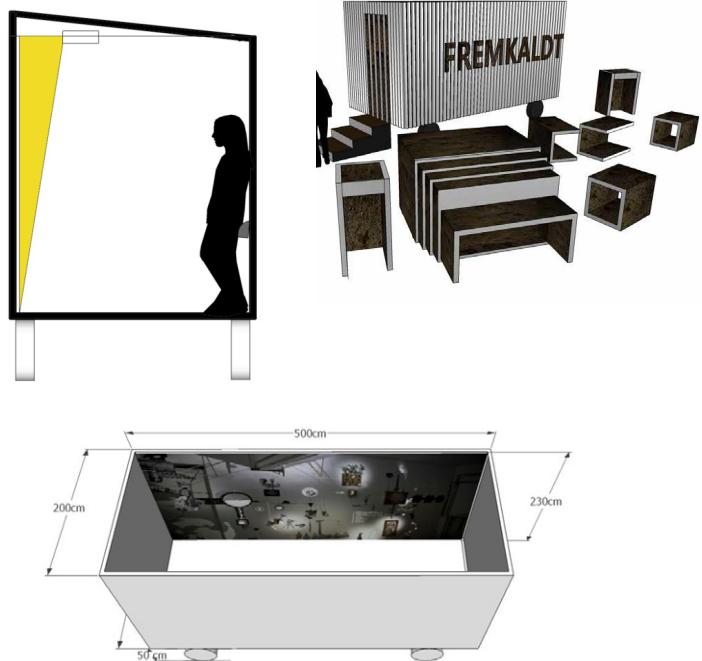


Figure 13 The solution was a container with an interactive exhibition and an outside landscape made from modules that could be adapted to the location.

Inspiration



- Playful animations
- Sound
- Non-text based

Mécaniques Discursives
by Fred Penelle,
Yannick Jacquet and
Matthieu Safatly.

<http://www.mecaniques-discursives.com>

Figure 14 The interactive animations were inspired by “Mécaniques Discursives” by F. Penelle Y. Jacquet and M. Safatly.

The finished result – "The Past Exposed"



Premiere at Kulturhavn festival, Islands Brygge, Copenhagen, Aug. 2017

Figure 15 In this photo you see the container from the outside and the mobile landscape elements in action. There were small drawers and showcases in the landscape elements in which objects could be discovered by the audience.

Inside: Object biographies



- Pilgrim badge
- Clay pipe
- Bone skate
- Strawberry seed
- Iron slag
- Comb
- Whetstone

Design: Fuzzyhouse Aps

Figure 16 The interactive object biographies. Each grey box is a showcase where the actual archaeological object was exhibited.

Atmospheric, interactive, playful



Figure 17 Visitors in the exhibition. By pulling a string (far right) the animation would activate.

The "landscape" – dialogue and hands on



Figure 18 The landscape elements facilitated dialogue and a hands-on experience.

The "landscape" – dialogue and hands on

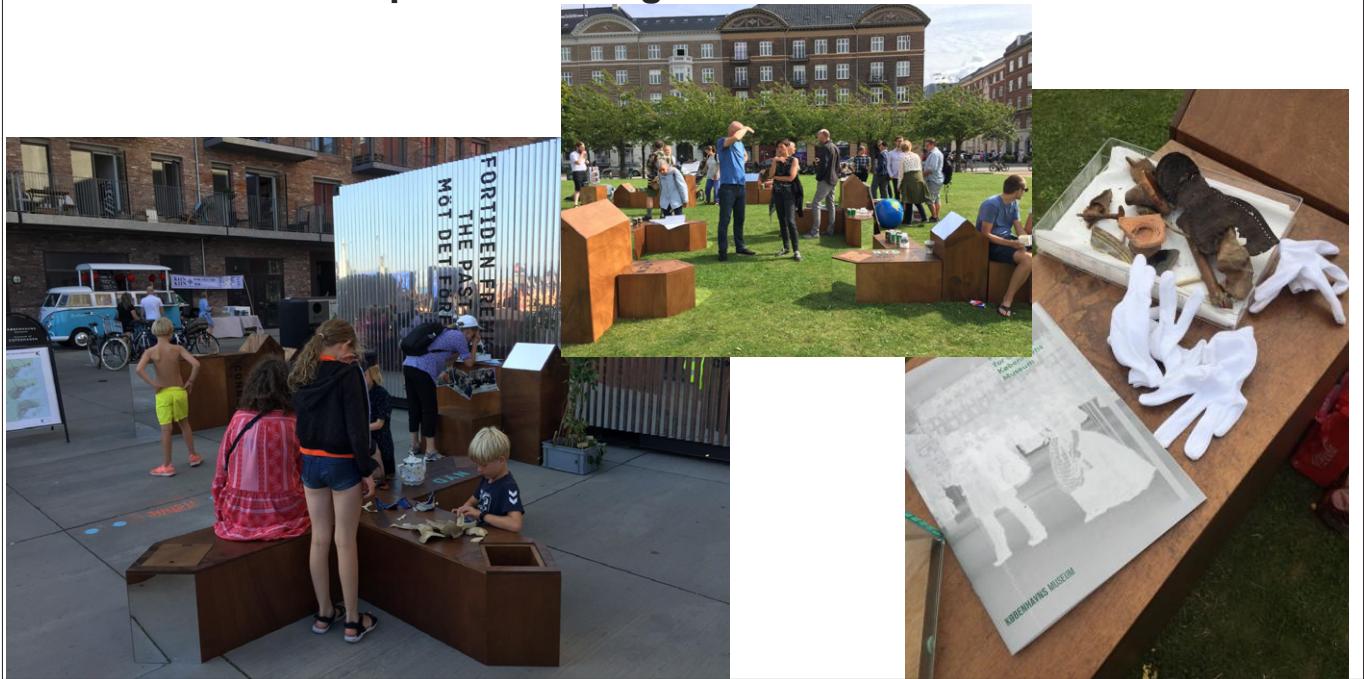


Figure 19 Photos from various events in Copenhagen.



Figure 20 The Mobile Museum went to Gothenburg and Odense as well.

List of venues – The Mobile Museum

2019:

30.-31. marts: Historiske Dage (Øksnehallen, København)
1. maj: Fælledparken (København)
23.-25. august: Kulturhavn (Göteborgs Plads, Nordhavn, København)
21. september: International Citizen Day (DGII-byen, København)

2018:

10.-11. marts: Historiske Dage (Øksnehallen, København)
9.-15. april: Bohusläns Museum, Uddevalla
17.-22. april: Vetenskapsfestivalen, Göteborg
2.-6. juli: Sommer på Stranden (Strandstation 3, Amager Strandpark)
25.-26. august: Kulturhavn 2018 (Arsenaløen, København)
7.-9. september: Nytorv i København
Hele oktober måned: Sortebrødre Torv, Odense. Åbent alle lørdage samt d. 14.-18. oktober i efterårsferien fra 10 til 14.

2017:

26.-27. august: Kulturhavn 2017 (Islands Brygge, København)
9.-10. september: Golden Days og Åben byggeplads (Kongens Nytorv, København)
28. september, kl. 15-18: Åbent Hus i det nye Københavns Museum (Stormgade 18-20, København)
13. oktober, kl. 18-22: Kulturnatten i Gadeplan (Stormgade 18-20, København)
15.-20. oktober, dagligt fra 10-13: Efterårsferien på det nye Københavns Museum (Stormgade 18-20, København)

Figure 21 During two years the Mobile Museum was placed in relation to different events.

Evaluation

- Successful as site-specific and authentic experience of urban archaeology
- The concept inside worked well, but introduction perhaps required before entering
- The landscape: useful for adapting to specific sites and events, and for focusing on specific topics
- Plus: Useful "outside" the Urban Encounters project, due to its broad theme and adaptive set up
- Minus: not so mobile as originally planned – expensive to move

Figure 22 Conclusions.

Summary

Introduction

The Urban Encounters project was initiated in 2015 as a collaborative research and dissemination project between the Museum of Copenhagen, Odense City Museum, the institutions in the Nya Lödöse-project, and the Centre for Urban Networks Evolutions (Urbnet) at Aarhus University. The Velux Foundation funded the project. The starting point was three large scale archaeological investigations that had taken place in Copenhagen, Odense, and Nya Lödöse in the years just prior to 2015. The research project had common themes investigating and discussing material and cultural networks, identity, and urban development in medieval and Early Modern Scandinavia in 1000-1700 AD. The main outputs of the project were two PhD dissertations, eight articles in peer review journals and last, but not least, the development of a mobile museum.

Presentation

The public dissemination aimed to present and discuss the overall research questions (Figure 4). The somewhat academic research questions were to be transformed into attractive, easy access outreach focusing on the material culture and the sites in the project.

A mobile museum was chosen since all institutions have much positive experience with on-site dissemination and wanted to use the public's interest in archaeological excavations. Moreover, the aim was to create a new and unique experience that would expand the on-site experience with the research questions as a starting point. It was possible to reach an audience outside the museum walls in the participating towns with a mobile museum.

The conceptual development took some time. A key question was how mobile the museum should be. Several ideas such as caravans and digital screens were suggested. It was essential to tie the concept and content of the dissemination close to the research in the project. This was ensured through a series of workshops.

Just as important was the wish to exhibit actual objects to create a sense of authenticity. The key concepts were that the museum should be non-text based, interactive, connect past and present, be visually attractive, and use the fascination the audience usually has with archaeological objects.

There was also a number of practical criteria since the museum should function in all three cities (Copenhagen, Odense and Nya Lödöse), and the objects had to sustain transport and challenging climate conditions. Moreover, the museum had to be staffed with people who could engage with the audience.

To illustrate different aspects of the urbanisation process and urban life, the relationship between networks, people, and activities, was used as a central theme (Figure 8). The concept of "Object biographies" was chosen to illustrate this theme. A range of objects were selected to represent the theme considering that they had to be representative of the projects' chronological framework and the different towns. The objects were also supposed to illustrate local, regional, or long-distance networks. With two exceptions, the authentic object could be displayed despite the challenging conditions of the mobile museum. Figure 10 shows an example of iron slag's "Object biography". A total of seven objects were selected based on the criteria mentioned above: pilgrim badge (shell), clay pipe, bone skate, whetstone, comb, strawberry seed, and iron slag.

The concept behind the exterior design of the container was "discover what is hidden", inspired by x-rays and archaeology and named "The Past Exposed". Inside was an interactive wall, exhibiting the objects, and showing their "object biographies" through animations. (Figure 16). The animation was triggered when a visitor pulled a string. This turned out to be a problem since pulling a string while another animation was running would interrupt this animation.

Outside was a flexible landscape created by movable wooden furniture. The audience could talk to museum staff and handle archaeological objects (objects found at excavations, but not taken into the collection) in the outside area.

The landscape attracted people of all ages. The portable boxes had lids where archaeological objects like bone, ceramics, or other surprises (such as licorice pipes) could be found.

The Mobile Museum visited a number of places and festivals in Copenhagen and went to Gothenburg and Odense. In Odense, a whole program

was created around the Mobile Museum. It was also an advertisement for things happening in the Museum in general.

Conclusions

The Mobile Museum was successful as a site-specific and authentic experience of urban archaeology. Maybe it was less obvious to people what the research project behind it was all about. The concept of “object biographies” with the animations worked well, but some visitors would perhaps have had a better experience if there had been some introduction before entering.

The landscape outside the Mobile Museum helped to explain the concept of the Mobile Museum, and to adapt it to specific sites and events and focus on specific topics. It was also a good basis for more informal interaction.

The Mobile Museum also works” outside” the Urban Encounters project due to its broad theme and adaptive set-up. However, it was not as mobile as initially planned because the concept chosen turned out to be more “heavy” and therefore expensive to move.

Questions

What happens now with the container?

It has been sitting in a parking lot for two years because of other projects and Covid19 restrictions, but plans are to take it on the road again in 2022.

How do you benchmark the impact? And how does this project compare to a previous project by the Museum of Copenhagen, “The Wall”?

The number of visitors was counted to 9.645. It is complicated to find a good way to measure the impact of this type of dissemination, but internal evaluations have been made.

“The Wall”, another mobile dissemination project from about ten years ago, was an entirely digital platform and with only digital interaction. The aim with the Mobile Museum was to create a more authentic experience through direct access to objects and archaeologists. And of course, based on concrete research.

A good thing about the dissemination concept was that it showed how it is possible to transform a rather complex research project into simple stories that were easily understood through animations.

Further reading

Dahlström, H. & K. Haase. 2015: Urbaniseringers Møder og Mennesker – introduktion til et forsknings- og formidlingsprojekt. In: *Arkæologisk Forum* 33, pp. 8-15.

https://www.epaper.dk/velux01/velux18_dk/, pp. 54-57

<https://urbnet.au.dk/news/nyhed/artikel/opening-of-the-mobile-museum-the-past-exposed-for-tiden-fremkaldt/>

<https://fortidenfremkaldt.dk/> (website in Danish).

<https://veluxfoundations.dk/en/content/excavations-urban-history-reveal-past-ways-life-networks-and-consumption>

Spatial planning and stakeholder involvement in cultural heritage management. The case of the Hedeby-Danevirke World Heritage Site

Matthias Maluck (State Archaeology Department of Schleswig-Holstein)

Abstract:

UNESCO inscribed the large defensive system of the Danevirke and the emporium of Hedeby on the World Heritage list in 2018. The monument ensemble stretches out over 33 km in the federal state of Schleswig-Holstein in northern Germany and runs mainly across agricultural land and a few villages. The World Heritage Convention demands giving “the cultural and natural heritage a function in the life of the community”.

The concept of planning includes a broad variety of instruments and methods connected to the management of cultural heritage. On the one hand, public or administrative procedures applied to the development of urban areas and rural landscapes. They help balancing various land-uses and sector interests to space and methods. However, this talk focuses on the use of municipal planning instruments in order to involve stakeholders in heritage management on the other hand.

Several planning projects have been conducted since the beginning of the long nomination process as part of the strategies for stakeholder involvement and for regional development in the case of Hedeby and the Danevirke. These projects have helped communicating with the communities and enhancing the perception of the monuments, and they have promoted the integration of the monuments in their social setting. At the same time, they have improved the state of conservation of the sites and their resilience to negative impacts. The talk explains the rationale behind the planning

processes and provides examples of the practical implementation.

To support the nomination process, an international idea contest for urban and landscape planners called for tenders in 2009. A concept for the interaction of monuments and the envisaged buffer zone was to be conceived, which considered the values of the cultural heritage as well as the claims of the surrounding population for development. As an offspring of the contest, one of the municipalities redesigned an area in the middle of the village. The project was able to enhance the visibility of embankments that were formerly hardly recognisable and turned them into integral parts of the community's life, as public gardens and parks. New durable stairs and pathways keep parts of the ramparts accessible for everyone and lessen the visitor impact at the same time considerably. As another result, a corporate design handbook provides guidelines for further projects in connection with the sites.

A recent project integrates the building of a new museum for the Danevirke and its facilities, conservation works at a 12th- century brick wall called Valdemar's Wall, visitor guidance and the improvement of several places along the ramparts as well as in their vicinity. Proposals try balancing the impact on the monuments by the measures themselves with an improved resilience against other encroachment, such as the increasing number of visitors.

Spatial Planning and Stakeholder Involvement

in Cultural Heritage Management.

The Case of the Hedeby-Danevirke World Heritage Site.



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 Welterbe
Haithabu-Danewerk

Figure 1 Title.

What are Hedeby and the Danevirke?

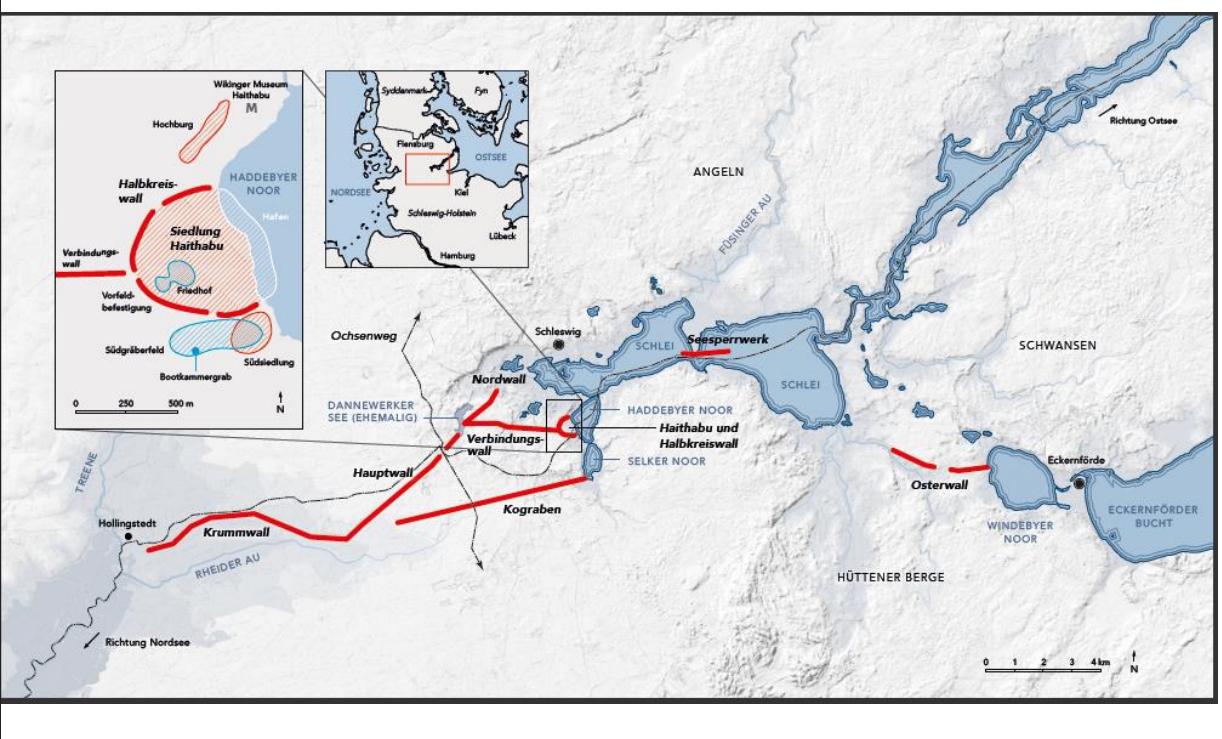


Figure 2 The location of the Danevirke ramparts and Hedeby.



Figure 3 Most of the ramparts are still visible in the landscape and span 33 km of agrarian land and villages.



Figure 4 Remains of the Valdemar's wall from the 12th century.



Figure 5 Reconstructed house in-situ at Hedeby.

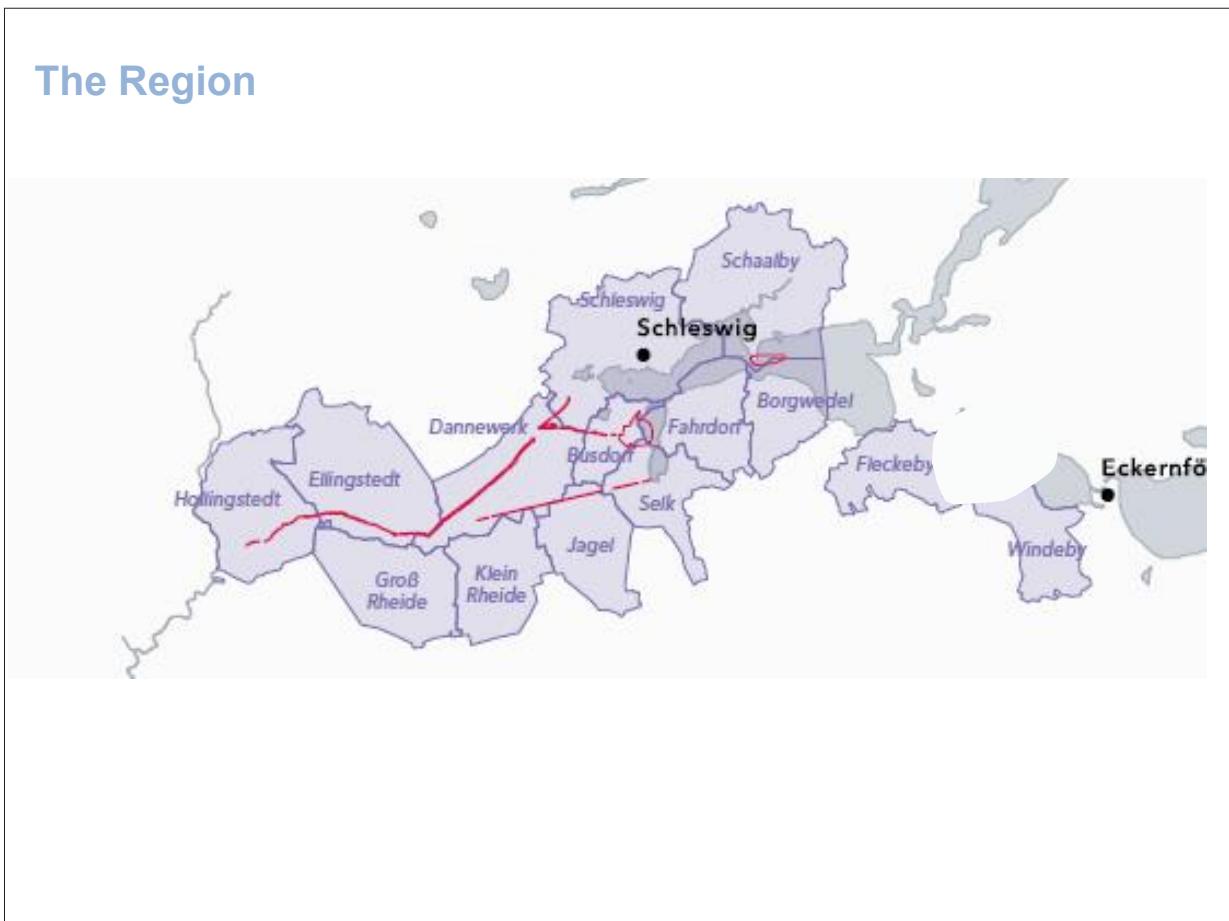


Figure 6 The Danevirke and Hedeby stretch over several municipalities.

The Challenges

Housing development

Raw material extraction

Renewable energy



Figure 7 In some areas the ramparts run right through the villages and get into conflict with other land uses in their immediate vicinity.

The Challenges

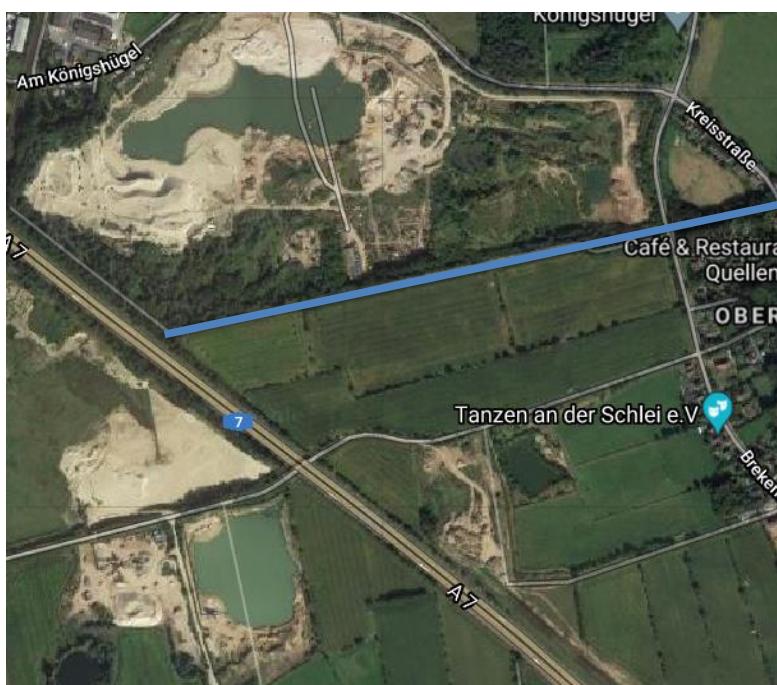


Figure 8 Gravel extraction (almost) all around the Kovirke rampart (in blue).

The Challenges

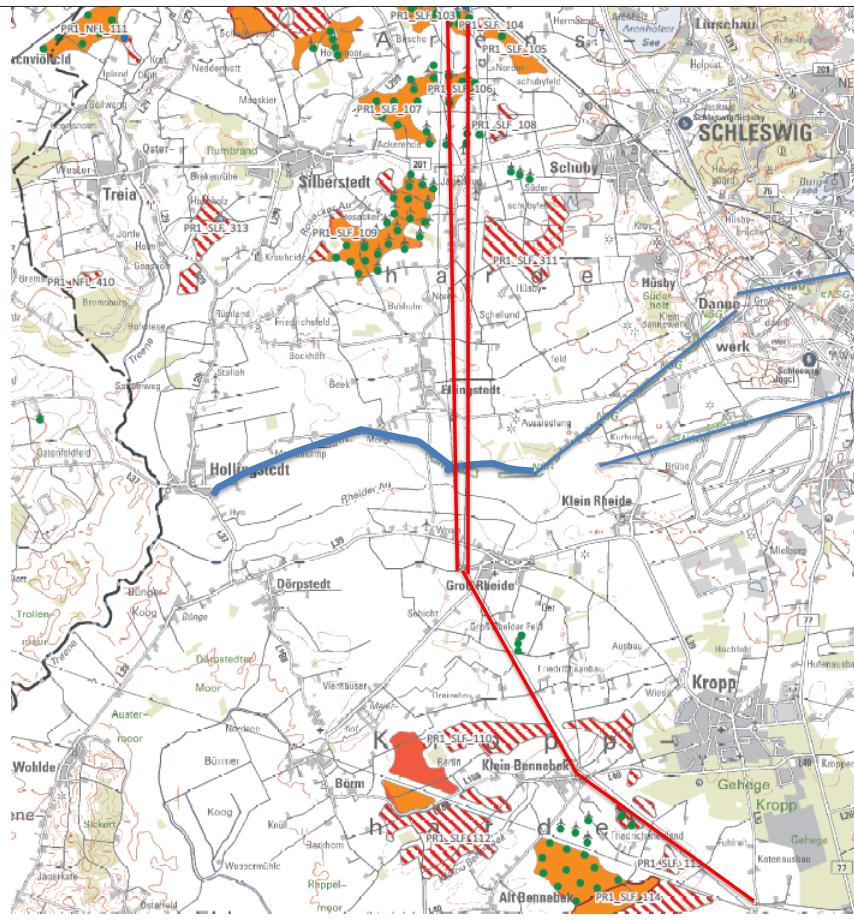


Figure 9 The Danevirke rampart shown in blue with wind parks (orange areas with green dots) and crossing powerlines (red lines). These structures are visible from afar and can impact on the visual integrity of the monuments and their landscape.

Spatial Planning: formal and informal

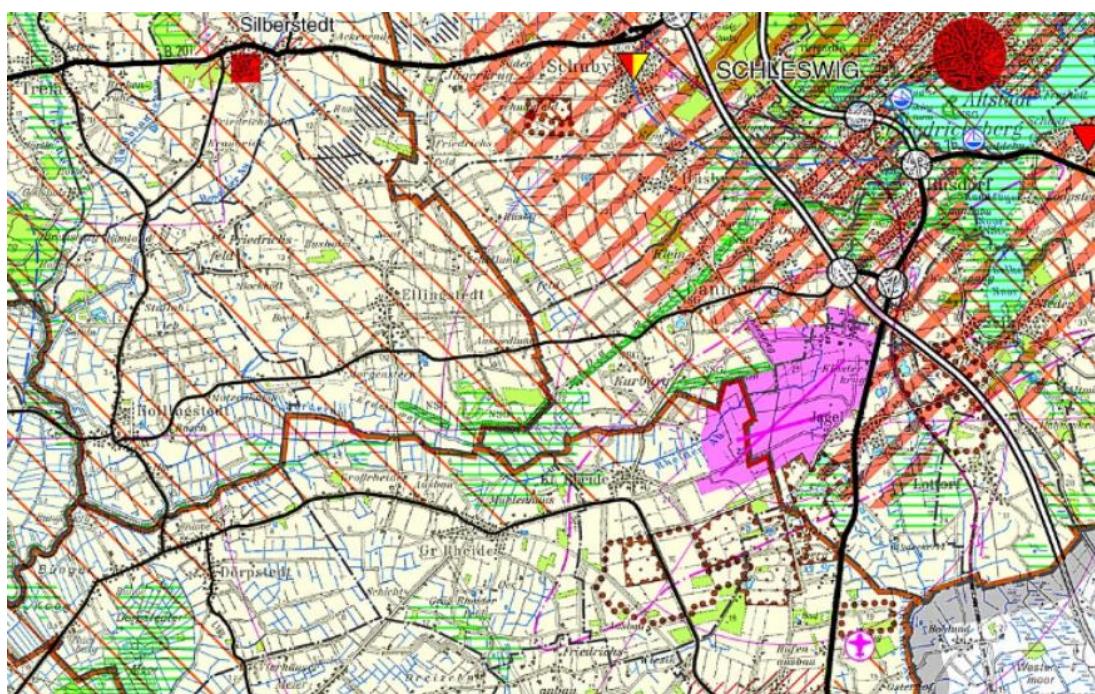


Figure 10 Example of map of formal special planning in the Danevirke area. Shown are the different designations for various land uses which are often used in formal i. e. legally required planning. They are often the result of long negotiation and arbitration processes between the stakeholders of the land uses.

Spatial Planning: formal and informal



Figure 11 Example of informal spatial planning. Here a sketch of a landscape park around the Danevirke which was proposed in a competition for landscape planners in 2010.

Spatial Planning: formal and informal



Figure 12 Informal local planning can come at a very local level. Here as an idea sketch for the northern rampart of the Danevirke.

Spatial Planning: formal and informal

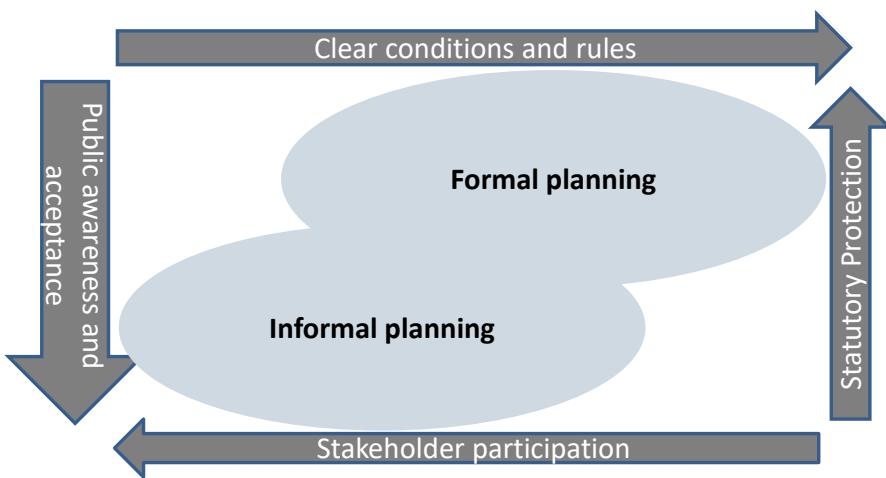


Figure 13 A combination of formal and informal planning can be the best way to handle the interests of the monument.

Spatial Planning in Heritage Management: Zoning



Figure 14 Zoning as an instrument in working with the monuments. Red: The actual monument with many restrictions- Blue: Buffer zone in which it is tried to control new development very closely. The larger zone: concerned with the visual integrity of the monument.

Planning as a tool for Stakeholder Participation



Figure 15 The local societies – the stakeholders – are involved in the work with monuments through talks and workshops.



Figure 16 The structure of the administration of the World Heritage site.

Idea Competition for Landscape Planners



Figure 17 Ten years ago a competition for landscape planners on how to deal with the area was issued. The concept has not yet been implemented in its full scale, but it provided ideas for local developments suggesting alternative land uses that could benefit the communities as well as the monuments. It was part of a project to involve the local communities into the World Heritage nomination process.

Local Development Concept Busdorf

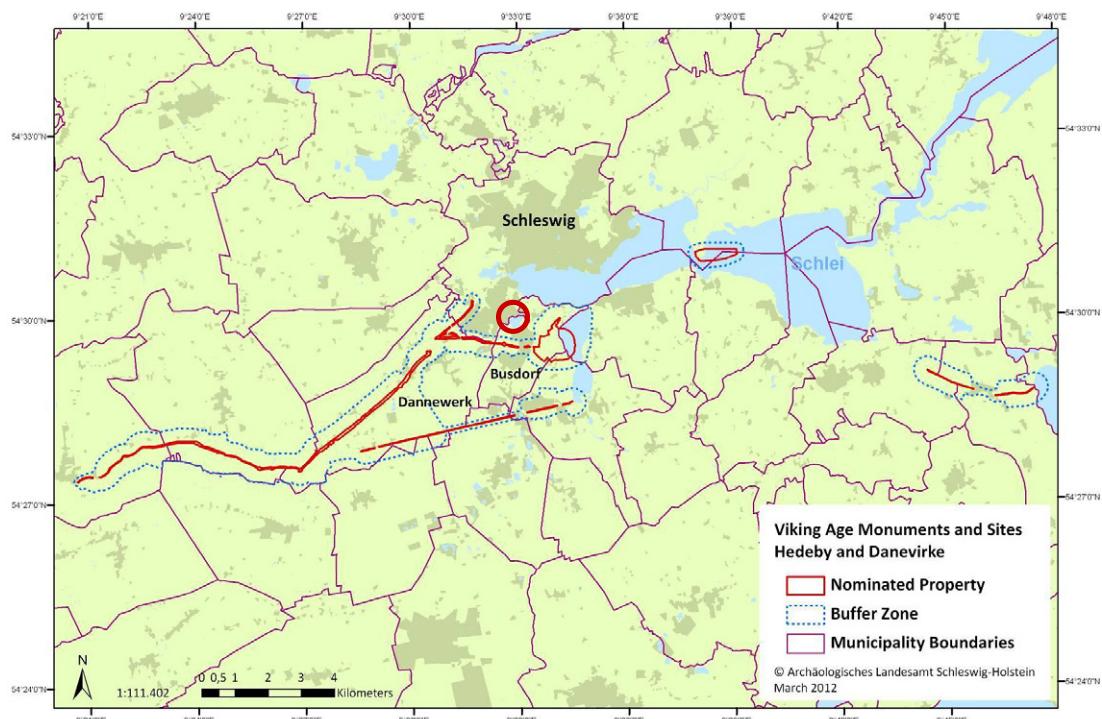


Figure 18 The municipality of Busdorf has implemented some of the ideas from the competition.

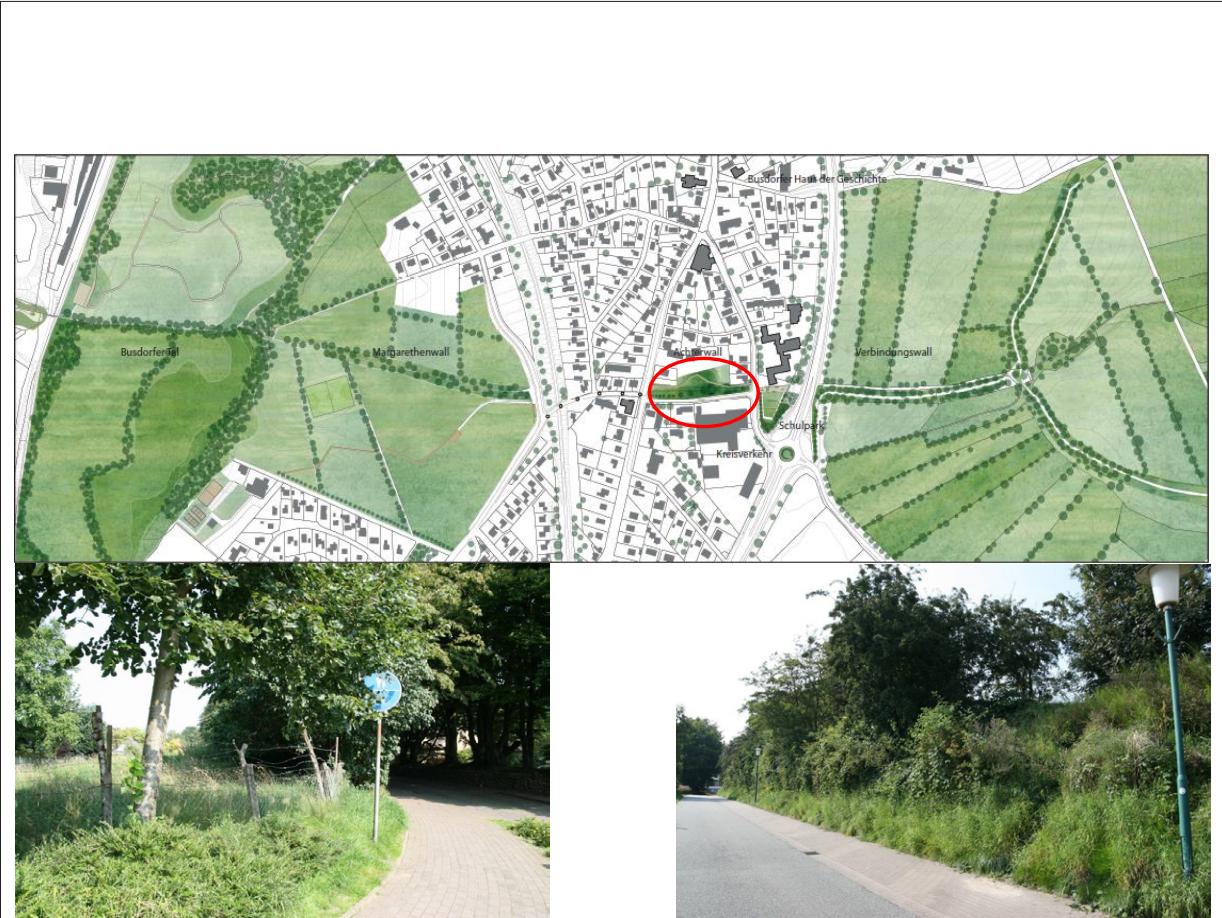


Figure 19 The implementation focused on an unattended stretch of the so-called connection rampart which connects the main rampart of the Danevirke and Hedeby and runs through a fully developed area in the village.



Figure 20 A first concept to integrate the monument in village life suggested a safe causeway for schoolchildren north of the rampart.

Local Development Concept Busdorf: final version



Figure 21 Finally, the monument was cleared of shrubbery and the road running along the southside of the monument was closed for traffic and now serves as a safe road to school for local children.

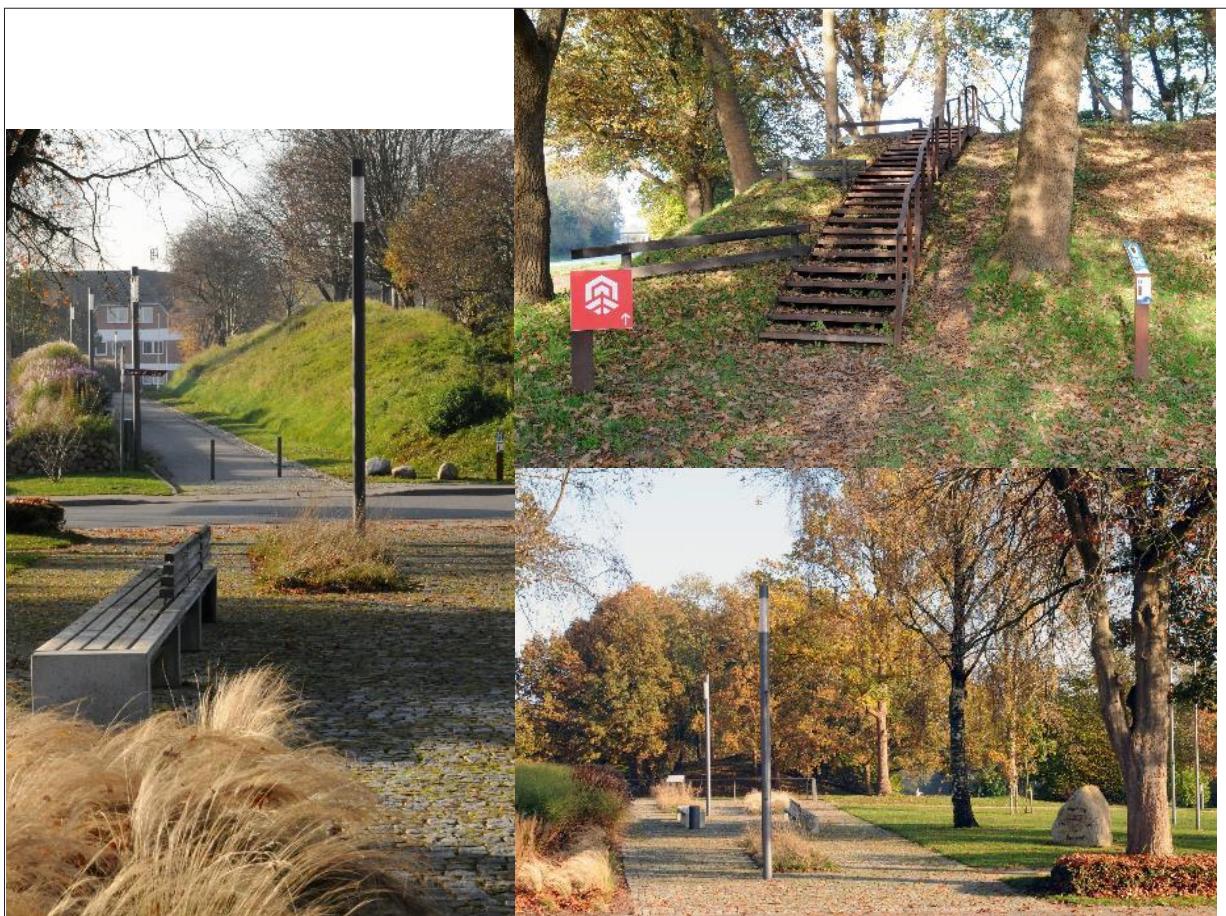


Figure 22 The view and the access to the monument was also improved as part of the project clearing views along the ramparts of shrubbery and substituting wooden staircases with steel constructions. The latter were fixed to the ramparts only in a few places and thus have much less impact than the previous staircases.

Regional Development: Corporate Design

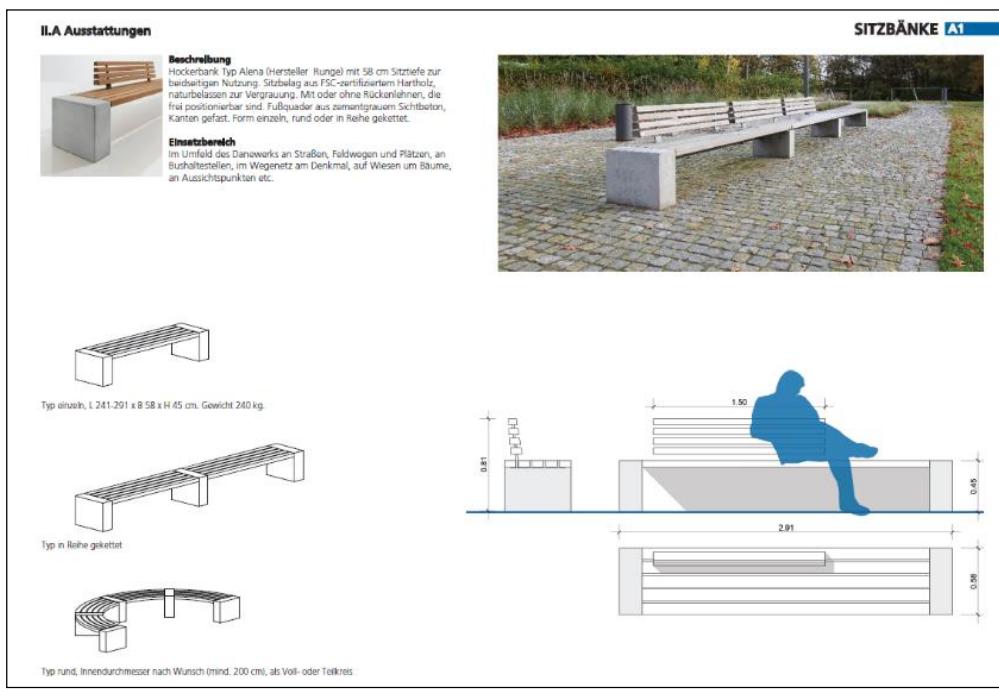


Figure 23 As a spin-off from the local development in Busdorf a design handbook was compiled in order to ensure equal visual recognition along the monument.

Local Concept: Northern Rampart Schleswig



Figure 24 A local concept still in the making takes places at the northern rampart in the town of Schleswig.

Local Concept: Northern Rampart Schleswig



Figure 25 Part of the rampart is in the open area with a view of Gottorp Castle.

Local Concept: Northern Rampart Schleswig



Figure 26 A concept to better integrate the part of the rampart shown above. It runs at the fringe of a built-up area near a school. The concept suggests improving the visibility of the rampart while providing information and leisure space for local people.

Local Concept: Northern Rampart Schleswig



Figure 27 Some of the ideas are a visualisation of the pallisade via iron posts and a swing that enables visitors to look over the rampart. After some adaptions, some of the suggestions will likely be materialised in 2022 or 2023.

Local Concept: Dannewerk



Figure 28 Project area for a local project around the Danevirke Museum in the municipality of Dannewerk.

Local Concept: Dannewerk Museum and Parking



Figure 29 A concept of the future Danevirke Museum that is going to be built from 2022-2025.

Local Concept: Dannewerk Museum and Parking



Figure 30 Concept for increased parking space including a fast-food stand.

Local Concept: Dannewerk Visitor Guidance around the Museum



Figure 31 A concept for allowing the visitors to enjoy the monument providing controlled access thereby minimizing wear and tear . Here Valdemar's wall. C.F. Møller Architects.

Local Concept: Dannewerk



Figure 32 Concept for a causeway near the Danevirke museum where a lake (now drained) formed part of the original fortification. C.F. Møller Architects.

Local Concept: Dannewerk



Figure 33 A concept for a Skanse (sconce) from the Schleswig Wars in 1864 as a viewing spot. C.F. Møller Architects.

Regional Development: Local Improvements

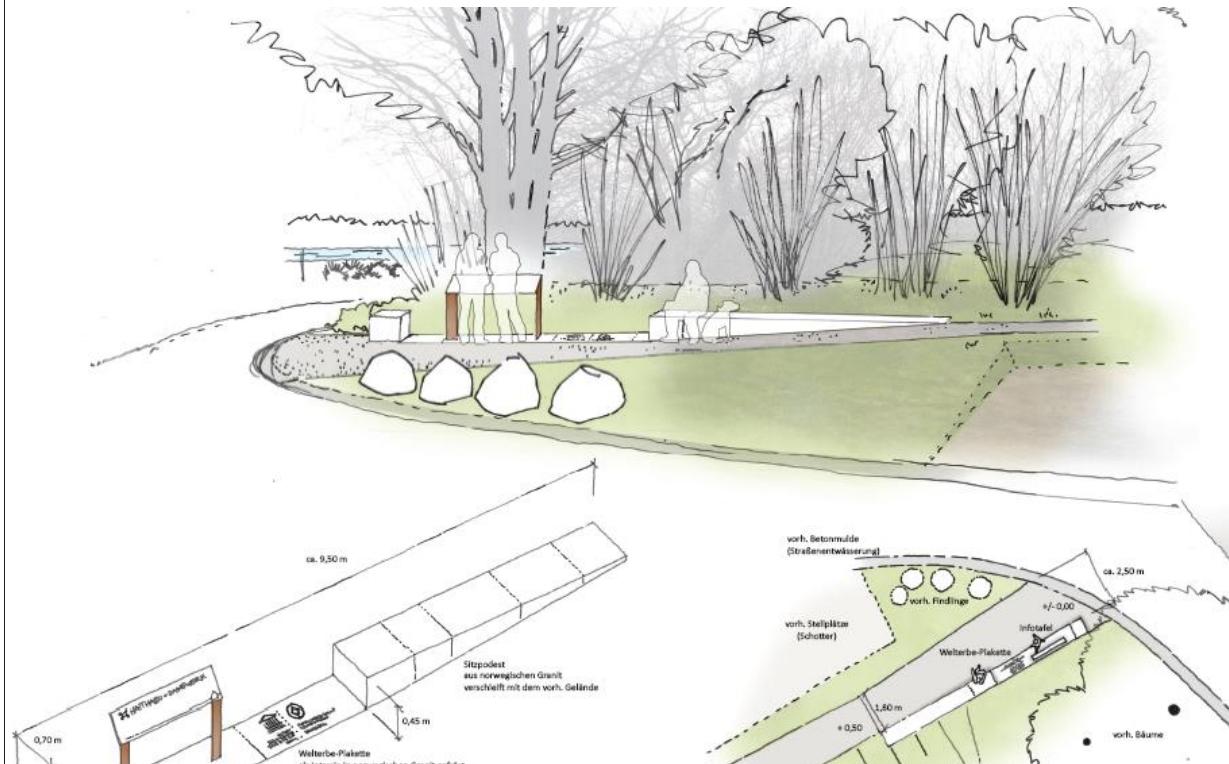


Figure 34 Concept for new information stands at the entrance to Hedeby.

Regional Development: Local Improvements



Figure 35 The new information stand at the entrance to Hedeby being revealed.

Regional Development: Local Improvements



Figure 36 Reconstruction of the sea barrier of the Danevirke.

Summary

Introduction

The Danevirke and Hedeby are still very visible and impressive monuments in the landscape. This presentation deals with aspects of how to disseminate these monuments, how to present and preserve them for the future and how to revitalise them by giving them a new function in the local societies. Methods used in spatial planning are presented and will be exemplified by projects that have already been carried out as well as by future projects that are still in the planning stage. The challenge is to preserve the monument and develop and balance its interests with the interests of modern society.

Presentation

The Danevirke rampart and Hedeby are located in Germany, around 40 km south of the border to Denmark. The fortification is located at a strategic bottleneck on the southern part of the Jutland peninsula between the fjord Schlei in the east and the impassable mudflat landscape to the west. It formed a fortification from the 5th century onwards and was repeatedly rebuilt until the 12th century, when it was abandoned for some time before it was reused in the 19th and 20th centuries. Hedeby was connected with the Danevirke as a trade site and settlement. It was active from the 8th to the 11th century when it was abandoned in favour of Schleswig. The total monument has been in use for more than 1500 years and stretches over 33 km. The outstretched character of the rampart does present some challenges in the modern administration of the monument.

The monument stretches over thirteen municipalities, each with its council, major, and interests. Some of these interests challenge the monuments. There is a strong wish for development for new housing in the areas near the monuments, while in a preservation and presentation perspective, some distance to the monuments for the new developments is preferred. While the monuments themselves might not be threatened, activities like gravel extraction near the monument change the surroundings and the presentation of the monument and can devoid the monuments of their original landscape context. Another challenge is renewable energy with large wind parks and powerlines

crossing the Danevirke and having a huge visual impact on the monument. To control these impacts, zoning of the monument is used (cf. fig. 14).

Handling this aspect is a case of both formal and informal planning. Instrumental spatial planning such as legislative, regional development plans is one way to control the modern impact on the monuments with strict and definite rules. Another way is informal planning down to a very local level through the engagement of communities and creating a sense of ownership of the monuments. A combination of the two methods can start by collecting and developing of local ideas that are formulated into a set of laws about how to preserve and present the monument in a specific area. Stakeholder participation through talks and events is a main element in integrating the local population and giving the monument a chance to play a new role in the municipalities. Thus, the structure of the administration of the World Heritage site involves the municipalities, the tourist organisations, the museums, and the authorities. Between these stakeholders, a development strategy running until 2030 has been developed.

A competition for landscape planners on how to deal with the area was issued ten years ago resulting in the concept of a huge landscape park. The concept has not yet been implemented fully, but it provided ideas for local developments – for instance, in the municipality of Busdorf (cf. fig. 18-23). The so-called *connection rampart* that connects the main rampart of the Danevirke with Hedeby runs through an almost fully developed area in the village. One part of the monument was hitherto completely unattended. A concept was developed to integrate this stretch into the life of the village. The monument was cleared of shrubbery for better visual impact and easier access. The road running along the south side of the monument was turned into a pedestrian street. The open area in front of the rampart can be used for festivities, recreational or leisure purposes. As a result, a design handbook for elements like benches was made to ensure equality and visual recognition along the outstretched World Heritage site.

Another local concept, that is still in the making, is being carried out along the northern rampart in the municipality of Schleswig (cf. fig. 24-27). While part of this rampart is in an open area, part of it also runs through a more built-up quarter near

a school. A concept to better integrate the monument into the surrounding suggests for example a visualisation of the palisade via iron post as well as a swing from which one can witness the height of the monument in an area where one is not allowed to walk on the actual rampart.

Another example of a future local project is in the municipality of Dannewerk, especially in the area around the Danevirke Museum (cf. fig. 28-33). The existing Danevirke Museum will be taken down in 2022 and replaced by a new museum following archaeological excavations. A concern for the local community is how the area around the new museum will be used and how the increased flow of visitors will be dealt with. The concept for the coming museum includes a larger parking space and a fast-food stand that will also benefit the local citizens. A concept has been developed to protect the monument from the wearing effects of uncontrolled access. Here, visitors view the monument from raised causeways. A platform could also potentially allow people to experience the original height of the 12th century brick wall. The concept can also include a raised causeway in another part of the so-called archaeological park, where there are plans of re-establishing a drained lake that was a part of the original fortification. One of the bastions (sconces) established during the Schleswig Wars in 1864 is conceptualised as a viewing spot for locals and visitors.

Finally, there are also examples of small-scale improvements being carried out locally, as exemplified at Hedeby. The former introduction at the entrance of Hedeby has been improved with more information to the visitor about the unique values of the World Heritage site (fig. 34-35). Also, on the municipality's initiative, parts of the so-called *sea barrier* that has been detected in the Schlei have now been reconstructed locally (fig. 36) and for the locals in order to visualise the otherwise submerged and therefore invisible barrier. Later, an augmented reality element will be added.

Conclusion

Not every element from the bigger projects presented here will eventually be implemented. Nevertheless, the process of creating these concepts and the ideas that they can instigate in the minds of people in the local municipality have an enormous impact. People need visualisation

of how the monument can be handled and presented. The concepts show how the monuments can be revitalised and used in new ways. By engaging the locals and integrating the monument into their everyday and leisurely life, a sense of ownership is created, which is important for the protection of the monument. In this way, the municipality can live with the monument not as a burden but as an asset.

Questions

Are the examples of local opposition against the monuments?

To begin with, there was some concern in mainly rural areas whether new regulation would be implemented following the status as a World Heritage site, but the opposition is now only marginal as people see the upsides of the monument. The inscription as a World Heritage site has not meant a lot of new regulations compared to those already placed on the listed monument beforehand. Important local projects, like, for instance, the wish to build a new school near the Danevirke, can still be a challenge in the future.

Will the construction of the new museum be a problem taking the buffer zone of the monument into consideration?

The new museum will be built at the site of the old museum and a bit further from the rampart and not on pristine ground. The new prospect will be in favour of the monument and its visibility.

Does the fact that the monument is trans-national German-Danish present a challenge or an asset?

It is an asset. Also, the fact that the project has been taken on from both sides of the border is part of the whole narrative. The Danevirke is now a place for meeting between different national groups and not a place for separating.

Does the UNESCO committee have reservations about, for instance, ramparts and crossways over the monument?

The existing pathways on the monument have not been an issue. The addition of new elements might be an issue in the future. However, the argument in favour of these new accesses to the monument is that they improve the resilience of the monuments. Visitors must be offered an organised way to experience the monument in order to best

protect the monuments from wear by otherwise uncontrolled and unguided access.

How does one disseminate to modern people what the monument was? Can they still understand that if a playground is placed right next to the monument?

Of course, we need to add some dissemination and interpretation to the construction of, for instance, a playground, which has already been done in some places. But transferring this information becomes easier when people can actually use the area for something and thereby appreciate the locality instead of being indifferent toward it.

