3rd UrbNet agenda conference

High-Definition Narratives

15–17 November 2017

Organisers:
Professor Rubina Raja (Aarhus University)
Professor Søren M. Sindbæk (Aarhus University)

UrbNet
CENTRE FOR URBAN NETWORK EVOLUTIONS
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URBNET CONFERENCE: HIGH-DEFINITION NARRATIVES

A view of modern-day Jerash (Photo: Danish-German Jerash Northwest Quarter Project).

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Outline

Urban histories are still defined by the punctuations of assumed correlation with recorded political or military acts, or by natural or human destruction phases, which serve tacitly as chronological anchors for the archaeological record. Existing data is often inadequate to challenge established, historical paradigms. Emerging applications are now transforming archaeology's ability to read the scale and pace of events and processes. For accurately sequenced contexts it is now possible to construct high precision chronologies through increasingly sophisticated statistical modelling of radiocarbon dating and other fast-developing methods such as optically stimulated luminescence. Complex urban stratigraphies represent a prime target for developing tightly dated sequences based on Bayesian statistical modelling and a comparison of multiple materials.

These methods hold a potential to create a "high-definition" view of the past, exploring dynamics, which were previously beyond observational range for most archaeological data. For the full potential to be unleashed, refined methods of dating, characterizing contexts and provenancing materials need to be cross-fertilized by an understanding of existing records and a critical awareness of wider historical setting including social and institutional history, political agency and economic cycles. In refining the comparison of written history, archaeology, and scientific data, we may revisit historical grand narratives as "high-definition narratives".

This conference explores how the conceptual promise and challenges offered by high-definition approaches can change the practice and interpretations of urban archaeology. "High fefinition", in this context, does not imply "micro-scale"; rather, it expresses an approach which seeks to revise grand narratives by replacing approximate observations with more exact ones.

By multiplying the amount of data, i.e. by combining micro-scale sampling and multi-parameter analyses on the same samples, we may decisively improve the quality of the "grand picture" of comparative archaeological and historical models.

In historical periods even minor adjustments of the chronologies of archaeological evidence can change the order of assumed causes and effects, and fundamentally alter the understanding of political events and cultural developments. Did a process of abandonment follow or precede a historically known political rupture? Did investments in fortifications precede military events, demonstrating the concerns of and stresses upon a community, or postdate it, showing the resilience and regeneration. Were changing flows of materials a precursor and possible incentive for political approaches or confrontations, or did they follow from them?

By defining local developments and assessing the impact of global dynamics on particular societies in a high-definition perspective, we may enable a more qualified assessment of modes of adaptation and strategies of resilience and expansion. This in turn may show in a new way how far and on which time scale local crises and other events had percolating or knock-on impact on complex societies and their global interaction.

Programme

Wednesday 15 November

12:30–13:00	**Registration**
13:00–13:15	**Introduction** Rubina Raja and Søren M. Sindbæk
13:15–13:45	**What we can learn from ancient genomics** Eske Willerslev, Centre for Geogenetics, Natural History Museum of Denmark
13:45–14:10	Discussion
14:10–14:40	**Break**
14:40–15:10	**Towards Romanisation 2.0 HD: Objectscapes and intra-cultural connectivity in the Roman northwest** Martin Pitts, University of Exeter
15:10–15:35	Discussion
15:35–16:05	**Hunting high and low: In search of a 'horizontal archaeology'?** Axel Christophersen, Norwegian University of Sciences and Technology/NTNU
16:05–16:30	Discussion
16:30–17:00	**African urban landscapes over time: Icdiosyncrasies, expressions and contexts** Federica Sulas, Aarhus University
17:00–17:25	Discussion
19:00	**Speakers' dinner** Restaurant Dauphine, Frederiksgade 43, 8000 Aarhus C

Thursday 16 November

9:00–9:30	**Coffee and breadrolls**
9:30–10:00	**On intensity** Alex Bayliss, Historic England
10:00–10:25	Discussion
10:25–10:55	**Heirloom dairy cultures: The prehistoric origins and modern diversity of Eurasian dairying** Jessica Hendy, Max Planck Institute for the Science of Human History
10:55–11:20	Discussion
11:20–11:50	**More than meets the eye: New strategies for analyzing mortar and plaster** Kristine Thomsen, Aarhus University
11:50–12:15	Discussion
12:15–13:15	**Lunch**

13:15–13:45	**High-definition hearthside stories: Building narrative out of the intensive analysis of ceramics** Steve Ashby, University of York
13:45–14:10	Discussion
14:10–14:40	**Reconstructing ancient urban ecology using ancient DNA from the archaeological soil and sediment contexts** Mikkel Winther Pedersen, Centre for Geogenetics, Natural History Museum of Denmark
14:40–15:05	Discussion
15:05–15:30	**Break**
15:30–16:00	**High-definition narratives in grand-narrative regions: The case of the Decapolis city Gerasa** Rubina Raja, Aarhus University
16:00–16:25	Discussion
16:25–16:55	**Through a glass lens** Ian Freestone, UCL
16:55-17:20	Discussion
17:45	**Dinner at UrbNet**

Friday 17 November

8:30–9:00	**Coffee and breadrolls**
9:00–9:30	**Ribe: A northern emporium in high definition** Søren M. Sindbæk, Aarhus University
9:30–9:55	Discussion
9:55–10:25	**Towards the Roman standard: Modelling the silver economy in the Western Mediterranean 550–100 BCE** Thomas Birch, Aarhus University
10:25–10:50	Discussion
10:50–11:30	**Closing discussion**
11:30	**Lunch** **End of conference**
	After lunch, speakers can visit Moesgaard Museum

Abstracts

What we can learn from ancient genomics

Eske Willerslev
Centre for GeoGenetics, University of Copenhagen / Department of Zoology, University of Cambridge

In the past two decades, ancient DNA research has progressed from the retrieval of small fragments of mitochondrial DNA from a few specimens to large-scale genome studies of ancient human populations, the diseases they carried, and the environment surrounding them. Increasingly, ancient genetic information is providing a unique means to directly test theories in archaeology, anthropology, ecology, and evolutionary biology. Initial results have changed the way we look at long debated topics such as early peopling of the Europe, Asia, and the Americas.

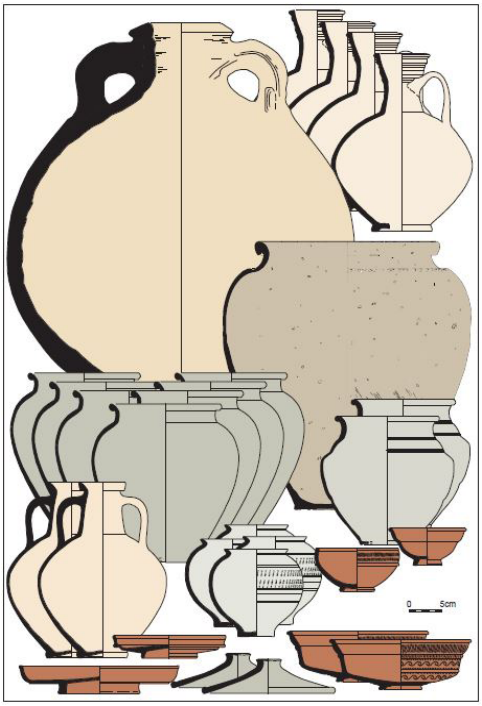
Eske Willerslev in the company of Australian Aborigines, many of whom are disabled by diabetes (Copyright: Eske Willerslev).

Towards Romanisation 2.0 HD: Objectscapes and intra-cultural connectivity in the Roman Northwest

Martin Pitts
University of Exeter

This paper explores the implications of studying Romanisation 2.0, a concept that entails putting connectivity and objects-in-motion at the centre of analyses of a connected Roman world (see Versluys 2014 in *Archaeological Dialogues*). While this perspective brings important pay-offs, namely de-centring Rome in historical narratives and moving beyond the methodological nationalism that has often dogged studies of the Roman provinces, it also presents archaeologists with certain methodological challenges. How can we analyse and visualise the big data of networks of multiple localities connected by flows of objects, commodities, styles, people and ideas?

To attempt to answer this question, I will present some of the results from an ongoing project on the selections of standardised objects in funerary contexts, and their impacts on local communities in Belgica, Britannia and Germania, *c.* 100 BCE–100 CE, drawing on the analysis of over 3000 grave assemblages from the period (as well as settlement contexts). In particular, I will focus on emerging patterns that hint at the co-existence of pan-regional cultural networks both connected to and independent from the Roman state, as well examining the changing role of urbanism in these developments.



A typical urban pottery assemblage from late first century Colchester, composed of vessels with local, regional and pan-regional circulations (Courtesy: Archaeology South-East).

Hunting high and low: In search of a 'horizontal archaeology'?

Axel Christophersen
Norwegian University of Sciences and Technology/NTNU

The past is History, but history is representations of the past in present narratives. Thus, history is nothing but what we do and say (to quote Ted Schatzki). A paramount question, following this, is what we want to do and say in our efforts to construct narratives representing urban past. Archaeologists create narratives by help of stratigraphy. Stratigraphy is 'sequenced time' based on a conception of history created by events vertically stacked upon each other in logical and continuous sequences. From this, it is timely to ask how high-definition dating methods is a step in the right direction for the archaeologist's ability to contribute to a reassessment of our "*understanding of political events and cultural developments*".

The ultimate challenge is: Do high-definition dating methods fundamentally enhance our potential in creating different narratives which defy and challenge the discursive historiographical space? Rooted in a traditional concept of history, it obviously will. This contribution takes, however, a different stand: Dividing history in increasingly thinner slices of time events does not necessarily create new narratives representing past urban life. On the contrary, it could contribute to a cementation of the traditional perception of (urban) past life as events stacked on top of each other, which is not necessarily the full truth. Alternatively, different narratives representing past urban life can take their beginning in horizontal arrangements of happenings, which is to turn from a diachronic to a synchronic approach to past (urban) life. I will discuss this alternative stance and its epistemological and methodological consequences, with a particular focus on the use of stratigraphy as an important tool for the archaeologist's efforts to create logical time sequences out of a chaotic present in the past. The presentation encircles the pivotal question: Do we need an 'archaeology of horizons' in order to create narratives of the past's present? And do high-definition dating methods afford new possibilities in establishing connection between horizontal events?

Archaeological excavation in Trondheim, 1971 (Photo: Axel Christophersen).

African urban landscapes over time: Icdiosyncrasies, expressions and contexts

Federica Sulas
Aarhus University

As new urban histories emerge from marginal regions, archetypal city models became increasingly untenable to capture the sheer variety of past urban expressions. A shift of focus from origin and (re-) evolution to forms, dynamics and properties is now challenging archaeological approaches to urbanism. Africa offers ample expressions of the intrinsic diversity of ancient urban phenomena with 'unconventional' urban forms found alongside model-like cities. Yet, past urban footprints are hard to trace on African ground due to visibility and recovery constraints: even prolonged urban sequences are often condensed into shallow stratigraphies. The risks of missing key information or simplifying urban trajectories are thus particularly acute.

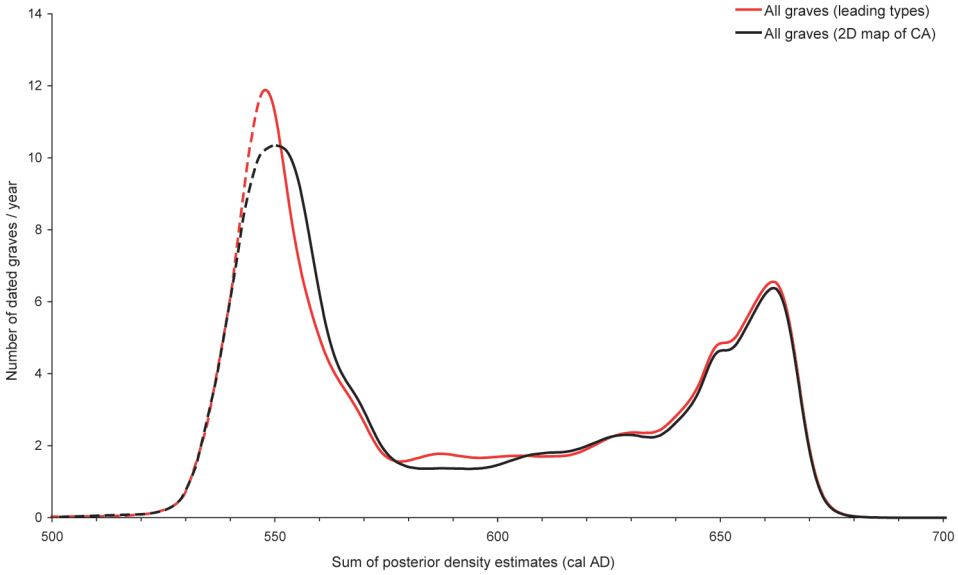
To illustrate the point, this paper develops a contextual and integrative approach to examine two very different urban landscapes (1st mill. AD). First, Aksum in the Ethiopian highlands represents a 'conventional' urban expression (built environment, literacy, state-formation) unfolding within a rise-and-demise narrative. However, integrated analysis of environmental, archaeological and historical records now redefine a long-lived, textured urban landscape trajectory. Second, coastal settlement in East Africa first appears as almost physically intangible but remarkably rich in goods and connectivity – whereby coastal towns emerged as an outgrowth of trade. However, tangible footprints are now emerging from the first contextual analyses of domestic deposits and landscape sequences. Rather than new narratives, what emerges from these examples is the potential of developing contextual approaches, integrating different methods and working at multiple scales, to move from a conservative, idiosyncratic model to refined, dynamic, and culturally relevant understandings of past urban expressions.

Aksum urban landscape, Ethiopia (Photo: Federica Sulas).

On intensity

Alex Bayliss
Historic England

On the heels of timing and tempo comes intensity. Ordering the beads on the string, and measuring the gaps between them, goes some way towards framing our narratives, but to really configure the plot, we also need to understand the scale of past activities, and how these changed through time and space. Using examples ranging from Anglo-Saxon England to Neolithic Hungary, I consider how measuring changes in the scale of past activity at a generational or even decadal timescale can help us to distil causality from happenstance and reveal the choices of people in the past.



Estimated frequency of Anglo-Saxon furnished burial in England, c. AD 570–680 (Copyright: Alex Bayliss).

Heirloom dairy cultures: The prehistoric origins and modern diversity of Eurasian dairying

Jessica Hendy
Max Planck Institute for the Science of Human History

co-authored with Shevan Wilkin, Björn Reichhardt, Soninkhishig Tsolmon, Eva Rosenstock and Christina Warinner

Within and beyond the human body, human cultures enable microbial ecosystems to grow and thrive. In our cuisine, this process is clear in the creation of dairy products, which have enormous global complexity in taste, aroma and texture. In prehistory, with the invention of products such as yoghurts and cheeses, people were domesticating and manipulating microbes before they even knew of their existence.

This talk presents two palaeoproteomic studies from two contrasting centres of prehistoric dairying, one urban and one rural; respectively the early Chalcolithic West Mound of Çatalhöyük, and the Bronze Age Mongolian steppes. Through the analysis of ceramic residues at Çatalhöyük prehistoric culinary practices can be identified, whilst the analysis of ancient dental calculus (tooth tartar) from prehistoric Mongolia reveals a long antiquity of dairying stretching into the present day. Moreover, in exploring modern day pastoral practices in Central Asia and their microbial landscapes, this talk will also discuss the impact of urbanisation and industrialization on the unique relationships between humans, food and microbes.

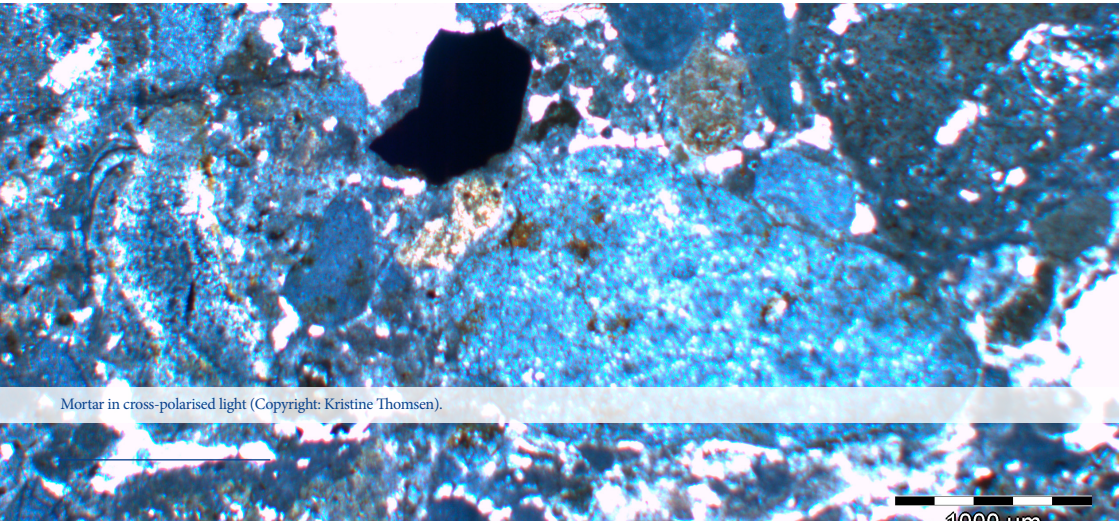
This project studies the long antiquity of dairying, and how these traditions have impacted dairying microbiota (Jessica Hendy/Niklas Hausmann).

More than meets the eye: New strategies for analysing mortar and plaster

Kristine Thomsen
Aarhus University

Ancient mortars and plasters were for a long time treated as a secondary product of the excavated monuments and buildings, and are still a rather unexplored subject when studying the ancient urban environments. However, mortars and plasters are carriers of archaeological and environmental records, and by studying these, we can gain insight into the production and 'recipe', i.e. the provenience of the raw materials and the chemical composition, in a diachronic perspective.

This paper takes its point of departure in one of the biggest constructions of the Northwest Quarter and aims to offer insight into the simple-looking building materials – that were all but simple. Through the integration of new methodologies based on thin section micromorphology, Scanning Electron Microscopy (SEM), energy dispersive X-Ray (EDX) analyses, and the study of wall paintings, I will try to narrate a story from a microscopic and fragmented point of view.



Mortar in cross-polarised light (Copyright: Kristine Thomsen).

High-definition hearthside stories: Building narrative out of the intensive analysis of ceramics

Steve Ashby
University of York

This paper will introduce an ongoing project that uses bioarchaeological and artefactual analyses to investigate patterning in food production/preparation in the Viking Age. In order to explore the relationships between food, culture-contact, trade, urbanisation, and technological development, it is insufficient to focus on faunal and botanical remains alone; there is a need to investigate the articulation between food and material culture. Biomolecular research holds particular potential here, as it facilitates the collection of high-definition data; rather than considering diet over poorly resolved periods of time, we are able to reveal the foodstuffs that were stored or prepared in particular vessels and analyse chronological and spatial patterning.

Through analyses of ceramics from urban and rural sites in Viking-age England and Denmark, we are investigating whether particular vessel forms may be related to particular functions, foodstuffs, or styles of cooking. Vessel function will be characterised via use-alteration analysis, microscopic analyses of carbonised food crusts, and chemical analysis of absorbed lipid residues, in order to determine if particular forms of pottery were being used selectively in order to store, transport, process, present, or consume particular foodstuffs. Ultimately, our aim is to establish the degree to which culinary practice was subject to innovation and regional variation, and to identify the ways in which patterning might relate to the impact of migration, politics, urbanisation and commercial expansion.

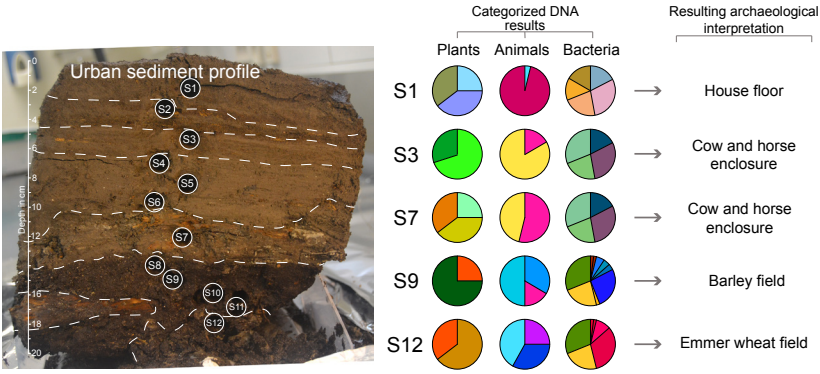
MELTING POT

Food and Identity in the Age of Vikings

Reconstructing ancient urban ecology using ancient DNA from the archaeological soil and sediment contexts

Mikkel Winther Pedersen
Centre for Geogenetics, Natural History Museum of Denmark

Ancient environmental DNA (*e*DNA) is a new and emerging tool that enables the detection of plant, animal, bacteria and even hominin presence from a few grams of soil or sediment sample, even in the absence of fossils. It has been used to reconstruct the composition of plants and animals as far back as 43.000 years BP and elucidated their changes over time. This makes ancient *e*DNA a potentially good tool for identifying cultural practices and uncovering urban ecology. This can be done by extracting and analysing DNA from archaeological soil and sediment layers, and identifying their composition of urban plants, animals and bacteria. However, until now the majority of ancient DNA studies have been conducted in cold and frozen environments, which are favourable for DNA survival, and only few studies have analysed samples from warm or temperate regions. Therefore, it remains important to investigate the potential of using ancient *e*DNA analysis in past urban contexts from non-frozen conditions. Furthermore, ancient *e*DNA also has limitations and is vulnerable to contamination both before, during and after excavation. I will present where ancient *e*DNA research is now and discuss its power, limitation and the challenges it is facing for uncovering past urban ecology from ancient soil and sediments in non-frozen environments.



Theoritical figure showing a soil and sediment layered context from an urban archaeological site and a theoritical taxonomic profile derived from the ancient environmental DNA results. The S1-12 corresponds to the samples obtained in the urban sediment profile, the pie charts are taxa or taxonomical groups obatined from DNA analysis which together with other archaeological evidence gives the resulting archaeological interpretation.

High-definition narratives in grand-narrative regions: The case of the Decapolis city Gerasa

Rubina Raja
Aarhus University

The region of the Middle East was in Antiquity well into the Islamic period a region of political unrest, of religious upheaval, and fluctuations and changes in cultural and societal patterns, according to the narratives often told in history books, based on written sources and overviews of archaeological material. This view has slowly been changing over the last decades through new archaeological findings and the refinement in general of our understanding of archaeological situations. Nonetheless, the grand narrative of the decline and fall of the Roman Empire and the sudden cultural shift with the coming of the Arabs and the Muslim take-over of the region still dominate the way in which the history of the region is written. The Decapolis city Gerasa is recognised as one of the most important classical cities of the Middle East, not least due to its state of preservation and impressive ruins. The city, a middle-sized one, located on the Golden River (the ancient Chryssorhoas), has fascinated travelers and researchers alike since its rediscovery in the early 19th century. For 110 years, archaeological research has been undertaken in the city – most of which has supported the narrative, which is the prevalent one about the region.

This paper will present new findings from the Decapolis city of Gerasa done within the framework of the Danish-German Jerash Northwest Quarter Project between 2011–2017. These will be presented in order to show in which ways the application of high-definition methods in stratigraphic situations in archaeological excavations might be one way of nuancing our views on historical developments in general. High-definition results producing exact observations relating to specific events in time or developments may often shed a different light on the grand narratives allowing us to substitute such narratives with high-definition narratives, which often tell quite different stories than the ones most often reproduced.

A view of modern-day Jerash
(Photo: Danish-German Jerash Northwest Quarter Project).

Trench profile from the Jerash excavation in 2016
(Photo: Danish-German Jerash Northwest Quarter Project).

Through a glass lens

Ian Freestone
UCL

Excavation evidence, advanced methods of chemical analysis and sample selection informed by typology have combined to transform our understanding of archaeological glass in recent years. There is a consensus that the first millennium CE presents ten major compositional groups of natron-based glass, each representing production in a particular location and for a specific time period. This recognition is beginning to allow the use of glass compositional data to discuss major issues, such as long distance trade, recycling, technological change, the organisation of production and market competition. This presentation illustrates some of these issues with recent case studies.

Raw glass stored in a Byzantine glass workshop at Beth Shean (Photo: Ian Freestone, of a display in the Israel Museum).

Ribe: A northern emporium in high definition

Søren M. Sindbæk
Aarhus University

The earliest Danish town, Ribe, was one of a small group of emporia, which emerged from the 600s CE as hubs for maritime networks around the North Sea and the Baltic Sea. Despite this potential, the remains have mostly been subject to small-scale or inadequately funded excavations. The most extensive and well-preserved remains are concentrated over a stretch of nearly 100m along the north side of Ribe Å. Here, traces of buildings and specialised activities are preserved in up to 2m-thick layers on each side of a market street, organised in a system of plots (or yards) laid out shortly after the beginning of activity at the site. This stratigraphy holds a unique potential as a source for a high-definition narrative of the development of North Sea exchange in the 8th–9th centuries.

Observed changes in the cultural layers (floors, workshops, fire and destruction layers, growth layers and backfill of manure) as well as the finds (varying frequency of trades; new patterns of import, e.g. the arrival of beads from the Islamic world immediately prior to 800 CE), can potentially be related to historical phenomena such as the Carolingian Saxon Wars or the raids of the Viking Age. This presumes the development of a fine-grained excavation and absolute dating. The Northern Emporium project, funded by the Carlsberg foundation, aims to explore the evolution and dynamics of the earliest urban network in Scandinavia based on a comprehensive, stratigraphic excavation of settlement and workshop layers in a central part of the earliest Ribe. The project seeks to develop a research design which is able to highlight network dynamics – a combination of consistent stratigraphic excavation and integration of high-definition methods from the natural sciences (e.g. geochemical element analysis, dirt DNA, proteomics, micromorphology), in order to yield new knowledge about culture-historical problems.

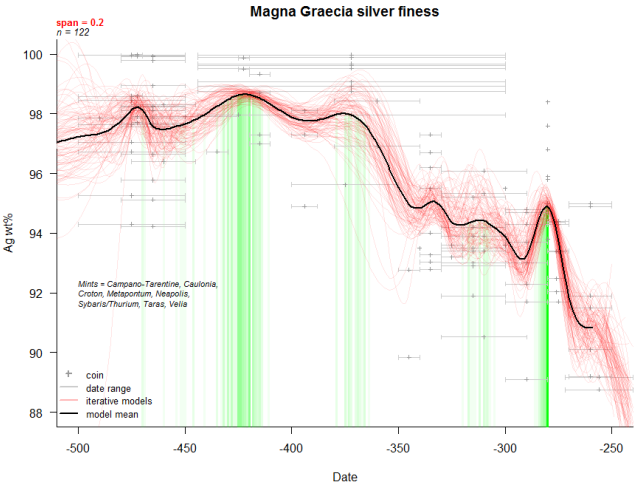
High-definition archaeology in action: Block sampling for micromorphology in the Northern Emporium excavation, Ribe, Denmark (Photo: Søren M. Sindbæk).

Towards the Roman standard: Modelling the silver economy in the Western Mediterranean 550–100 BCE

Thomas Birch
Aarhus University

co-authored with Katrin Westner and Fleur Kemmers

Not all silver is pure. Its fineness can be telling of tough time, as well as periods of stability, potentially reflecting periods of conflict or unstable access to silver. The fineness of coinage can range from high purity to being heavily debased with another metal, therefore providing a window into economic stability as well as an insight into geo-political events. The challenge this paper seeks to address, however, is how silver fineness can be modelled where coins are broadly dated. For Roman currency, where coin production can be dated narrowly to within a year or two of minting, the task is relatively straightforward. However, for earlier coinages in the Western Mediterranean from the Greek colonies, some coin series can only be dated roughly to within a few decades or even centuries. In order not to omit and lose valuable information provided by such coins, this paper outlines an method of iterative loess modelling and peak detection that provides a high-definition approach to understanding the chronological development of the silver economy in the Western Mediterranean, terminating with the arrival of the Roman standard.



Magnae Graecia silver fineness (Thomas Birch).

UrbNet excavation in Zanzibar (Photo: Federica Sulas).

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Caesar's Forum in Rome (Photo: Carlsberg Foundation).

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Front cover: Stratigraphy from the Hungate excavation in York (Photo: Søren M. Sindbæk).

Back cover: Trench profile from Jerash, 2015 (Photo: Danish-German Jerash Northwest Quarter Project).

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