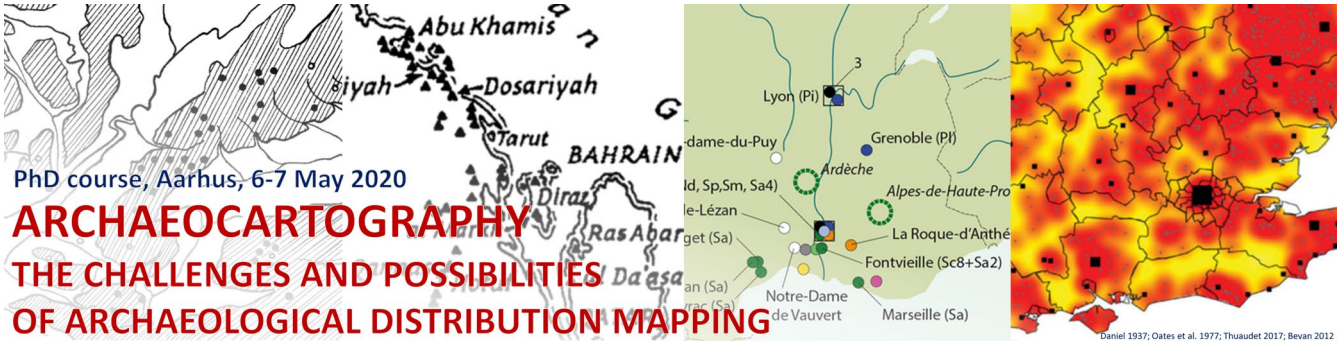

PhD course, Aarhus, 6-7 May 2020

ARCHAEOCARTOGRAPHY

THE CHALLENGES AND POSSIBILITIES OF ARCHAEOLOGICAL DISTRIBUTION MAPPING

Organizers: Dr Pieterjan Deckers & Prof Dr Søren Sindbæk (Northern Emporium project, Aarhus University)

A PhD course at Aarhus University (Denmark), funded by the Graduate School - Faculty of Arts and Centre for Urban Network Evolutions (UrbNet)

1. **Synopsis**
2. **Provisional programme**
3. **Lecturers**
4. **Registration and practical details**

Synopsis

Distribution maps have been part of the archaeological toolbox since the dawn of the discipline. They serve as heuristic and analytical tools in research and as a visual form of data presentation in publication, shedding light on settlement structures, cultural territories and patterns of economic exchange and social interaction in the past. Today, mapping has become easier than ever, thanks to accessible GIS applications, widely available digitized spatial data, and decreasing technical limitations for publication. However, while there is ample scholarly attention for more sophisticated techniques of spatial analysis, there is surprisingly little recent debate about the creation, use and reception of the most common form of archaeological distribution maps - a relatively simple map representation of structured, spatial data concerning a limited set of archaeological phenomena.

This PhD course is organized around three basic but underexplored challenges in the creation of such humble, but ubiquitous distribution maps: classification, normalisation and visualisation.

Classification is a necessary first step in the conception of every archaeological map. Questions may arise whether established typologies and taxonomies should be adopted as they are, or critically revised to take into account new finds and expanded areas of study? How to deal with competing classifications – a problem that is increasingly hampering archaeological synthesis at larger geographic scales? Can we, to an extent, break through the rigidity of archaeological classification to integrate current understandings of artefacts and types as relational and emergent? And – reverting the question – what roles can mapping play in the classification process?

Normalisation is perhaps the most important challenge of the three. All archaeological data is inherently a sample, subject to diverse forms of bias. Consequently, an understanding of these biases is a crucial precondition to interpreting the spatial patterns and for further, more sophisticated steps in the analysis. The process of normalisation boils down to the selection of appropriate baselines: either universal (e.g.

(proxies for) population density, research intensity, transport cost), or particular. The latter concern limited datasets that have a close relationship to the phenomenon studied, under the assumption that both have been subjected to the same bias(es) – for instance comparing the distribution of one type of pottery to another to assess differences in economic or social practices.

Finally, the *communicative aspect* of a map needs to be considered. This includes very practical elements of map design, but the issue is more fundamental than this. Maps, as media of visual communication, attract the eye, convey a lot of information at a glance, and may come to lead a life on their own. How can one make sure that they can be interpreted correctly by the audience, be they scholars or the wider public? This challenge extends to the integration of maps in broader argumentation. What makes the visualisation of a particular spatial dataset pertinent to a research question? In which ways can spatial datasets be combined to provide arguments in an archaeological line of reasoning? Taking into account the need for normalization, how should spatial patterns be examined? How can approaches that have more recently come to the fore in archaeology, notably networks, add to the interpretation and visualisation of spatial patterns?

The course will consist of lectures as well as a seminar and workshop session in small groups, requiring active participation. We wish to particularly stimulate participants to think about the three challenges inherent in archaeological map-making in relation to their own work, and we hope to foster a lively discussion with the lecturers.

Programme

DAY 1

10.15-11.00: Welcome and introduction: Why discuss archaeocartography? *Pieterjan Deckers, Postdoctoral Researcher, Aarhus University*
11.00-12.30: Not just dots on maps: archaeological cartography in theory and practice *Chris Green, Postdoctoral Researcher, Oxford University*

13.30-14.30: Archaeological mapping and the Digital Humanities *Adéla Sobotkova, Associate Professor, Aarhus University*
15.00-16.30: Seminar – participants introduce their mapping experiences, with feedback from lecturers
16.30-17.00: General discussion (chair: *Søren Sindbæk, Professor MSO, Aarhus University*)

Evening: Informal dinner at UrbNet and opportunity to visit Moesgård Museum

DAY 2

9.15-12.30 (with break): Lectures (50 min + questions)

- Mapping and analyzing artefact distributions – the example of the PAS *Eljas Oksanen, Honorary Research Fellow, University College London*
- Archaeological distribution maps and network visualisations *Tom Brughmans, Associate Professor, Aarhus University*
- Effective design of archaeological maps (provisional title) *Peter Jensen and Louise Hilmar, Aarhus University/Moesgård Museum*

13.30-15.30: Practical workshop – bring your own data and maps, discussion in small groups, with lecturers' advice

15.30-16.00: Round-up and evaluation *Pieterjan Deckers, Aarhus University*

Evening: Dinner in Aarhus (own expense)

Lecturers

Tom Brughmans is an archaeologist interested in studying the Roman economy, visibility networks and publication behaviour. He performs most of his work by applying computational methods, in particular network science, agent-based modelling and GIS. He is currently an associate professor in Classical Archaeology and UrbNet at Aarhus University.

Chris Green first experimented with archaeological map making as an undergraduate archaeologist in the late 1990s, followed later by an MSc in GIS, and a PhD on handling temporal probabilities in archaeological GIS. For the past eight years he has worked on archaeological GIS as a postdoctoral researcher in the School of Archaeology at the University of Oxford, where he worked extensively on the EngLaId project, which dealt with the collation, collision, and cartographic visualisation of very large archaeological datasets spanning all of England from 1500 BC to AD 1086. As a result, he has grown experienced in the wrangling of complex archaeological datasets and in converting them into comprehensible graphical outputs.

Peter Jensen manages the Unit of Archaeological IT based at Aarhus University and Moesgård Museum, and has an academic background in Prehistoric Archaeology and Digital Heritage. Peter's current focus is archaeological data models, web- and app-design, working towards online frameworks of open data, which contribute to scientific collaboration and public dissemination of archaeological data – textual and spatial.

Eljas Oksanen received his PhD in history from the University of Cambridge, UK, in 2007, and first became interested in the use of Digital Humanities tools for investigating historical and archaeological datasets during his postdoctoral research on relationships between continental landholders in Domesday Book. He is currently involved in various inter-disciplinary GIS-led research projects using documentary and archaeological material to examine economic growth, social change and the development of travel networks during the Middle Ages. Recently this work has included a project at the Portable Antiquities Scheme (PAS), British Museum, on analysing relationships between medieval commercial sites and objects in the PAS database of small archaeological finds.

Adéla Sobotkova started as a landscape archaeologist who combines pedestrian field survey with digital methods to map past human activities in their environmental context. After years of data collection, she now co-develops digital tools for archaeologists, teaches reproducible research, and studies the long-term history of the Balkans and Black Sea region, with focus on the evolution of social complexity. She runs her own regional survey project in Bulgaria, and consults the spatial and digital aspects of other projects in Greece, New South Wales, and Queensland.

Registration and practical details
The registration deadline is Monday 6 April 2020. Please see for more details:
https://phdcourses.dk/Course/72669

Questions: contact Pieterjan Deckers, pdeckers@cas.au.dk