Challenges and solutions

Northern Worlds – Report from workshop 2 at the National Museum, 1 November 2011

Edited by Hans Christian Gulløv, Peter Andreas Toft and Caroline Polke Hansgaard
Challenges and solutions

Report from workshop 2 at the National Museum, 1 November 2011

Copyright © The National Museum and the authors 2012

Edited by Hans Christian Gulløv, Peter Andreas Toft and Caroline Polke Hansgaard

Translated and revised by James Manley

Layout Anne Marie Brammer

Printed in Denmark by Rosendahls – Schultz Grafisk

ISBN: 978-87-7602-192-4

Published with financial support from the Augustinus Foundation and the National Museum

A digital version of the publication can be found on the home page of the National Museum: http://nordligeverdener.natmus.dk

Front cover illustration: Rødøy in Flatøy, Alstahaug area, Helgeland, South Nordland
Photo: Flemming Kaul
Northern Worlds – Challenges and solutions

Report from workshop 2 at the National Museum, 1 November 2011

Edited by Hans Christian Gulløv, Peter Andreas Toft and Caroline Polke Hansgaard
Copenhagen 2012
## Contents

- **Challenges and solutions – status of Northern Worlds**  
  *Hans Christian Gulløv*  
  6

- **A sense of snow? Archaeology, weather and the conception of northernness**  
  *Bjørnar Olsen*  
  9

### Research theme A  
**Climate changes and society: When climate boundaries move**  
24

- **The landscape and climate of the early Mesolithic hunters of Lundby Mose, southern Zealand – The end of the last glacial period and the Preboreal warming**  
  *Catherine Jessen*  
  26

- **‘Small trees’ from North East Greenland**  
  *Claudia Baittinger*  
  30

- **Kitchen middens and climate change – what happens if permafrozen archaeological remains thaw?**  
  *Henning Matthiesen, Jørgen Hollesen and Jan Bruun Jensen*  
  36

- **Conservation and drying methods for archaeological materials modified for use in northern areas**  
  *Martin Nordvig Mortensen, Inger Bojesen-Koefoed, Jan Bruun Jensen, Poul Jensen, Anne Le Boëdec Moesgaard, Natasa Pokubic, Kristiane Strætkvern, David Gregory, Lars Aasbjerg Jensen, Michelle Taube and Nanna Bjerregaard Pedersen*  
  42

- **The Weather War: The German operation ’Bassgeiger’ on Shannon Island 1943/44**  
  *Tilo Krause and Jens Fog Jensen*  
  46

- **Depopulation of the Cape Farewell region**  
  *Einar Lund Jensen*  
  55
Research theme B  
Farming on the edge: Cultural landscapes of the North

• The whaler and the ostrich egg – Introduction to a project on life on the North Frisian Islands and whaling in the Arctic Ocean  
  | Christina Folke Ax

• Agricultural landscapes of Arctic Norway  
  | Flemming Kaul

• Pioneering farmers cultivating new lands in the North – The expansion of agrarian societies during the Neolithic and Bronze Age in Scandinavia  
  | Lasse Sørensen

• Shetland – the Border of Farming 4000-3000 B.C.E.  
  | Ditlev L. Mahler

• Resources, mobility and cultural identity in Norse Greenland 2005-2010  
  | Jette Arneborg and Christian Koch Madsen

• Pastures Found… Farming in Greenland (re)introduced  
  | Christian Koch Madsen

• Churches, Christianity and magnate farmers in the Norse Eastern Settlement  
  | Jette Arneborg

• Greenland dietary economy  
  | Jette Arneborg

• Agriculture on the edge – the first finds of cereals in Norse Greenland  
  | Peter Steen Henriksen
## Contents

**Research theme C  Networks in the North:**

*Communication, trade and culture markers*  

- **A common sea – the Skagerrak and the Kattegat in the Viking Age** | Anne Pedersen  
- **Networks in the north – foreign artifacts in the hands of the Vikings** | Maria Panum Baastrup  
- **Nørremølle – the largest Viking silver hoard of Bornholm – Interactions in the Baltic Sea** | Gitte Tarnow Ingvardson  
- **Greenlandic runic inscriptions** | Lisbeth M. Imer  
- **Skin Clothing from the North** | Anne Lisbeth Schmidt

---

Close-up of a string of beads on an amaut, a woman’s jacket, combining large worn 18th-century glass beads with unworn seed beads produced in the 19th century. Photo: Peter Andreas Toft.
• Challenges of cultural and colonial encounters – European commodities in the Historical Thule Culture  
  Peter Andreas Toft

• Timber houses in Greenland – diffusion and innovation
  Niels Bonde, Thomas S. Bartholin, Claudia Baittinger and Helge Paulsen

• Tunit and the birds – echoes of another world
  Martin Appelt and Mari Hardenberg

• Memory of a myth – a unique Late Dorset ritual structure
  Ulla Odgaard

• Pre-Christian Cult Sites – archaeological investigations
  Josefine Franck Bican, Anna Severine Beck and Susanne Klingenberg

• Contributors

Pinhoulland seen from the north west down towards Voe of Browland. Photo: D. Mahler.
Pre-Christian Cult Sites – archaeological investigations

Josefine Franck Bican, Anna Severine Beck and Susanne Klingenberg

Danish Prehistory

The research project Pre-Christian Cult Sites, led by Lars Jørgensen, has as its main objectives to research and investigate the background, identity and practices of the pre-Christian religion. This is illustrated by four prehistoric sites with magnates’ residences, which all have potential for research into the pre-Christian religion: Tissø and Toftegård on Zealand, Gudme on Funen and Hoby on Lolland. Together the sites cover the whole period of the first millennium after Christ (Jørgensen and Drotner 2011). As part of the project archaeological excavations have been carried out at three of the sites in 2011. These have been funded respectively by the Heritage Agency of Denmark, the foundation Aage og Johanne Louis-Hansens Fond and the cooperating museums: the National Museum, the Museum Lolland-Falster, Vordingborg Museums and Køge Museum, together with Kalundborg Museum.

The archaeological excavations at Hoby, Lolland

Susanne Klingenberg, The National Museum

The 2011 excavations of the settlement area at Hoby took place between 10 June and 8 July and were undertaken by the Museum Lolland-Falster and the National Museum. The investigations were carried out as a student excavation, with the excavators coming from the Saxo Institute of the University of Copenhagen. The work was financed by the Museum Lolland-Falster, the National Museum and the Heritage Agency of Denmark.
In 2001 four house sites and a dump layer/culture layer were investigated. One of the house sites has not yet been dated, whilst the others can be placed in the Late Pre-Roman Iron Age and the Early Roman Iron Age, making them contemporary with the two richly-furnished graves from the location. Three of the house sites were identified in the subsoil; two of these were three-aisled longhouses (fig. 1), whilst an undated house site featured two sets of roof-bearing posts. This building may, however, continue outside the area of the 2011 investigation. The best preserved house site, however, was located in an up to 60 cm thick culture layer. Traces of this building consisted of large preserved areas of clay floor and fills containing patches of clay. The house site is a three-aisled longhouse orientated west/north west – east/south east, which has two different phases, respectively with five and four sets of roof-bearing posts. In both phases a clay floor extended over the entire area of the house. Two large pits were revealed in the middle of the house, which displayed traces of severe burning. In the eastern part of the building an oven structure was uncovered. Outside

Fig. 1: The southwestern part of the well-preserved house site area after removal of the culture layer. Traces of another house site appeared in the subsoil. This house site’s roof-bearing posts are marked with poles. Photo: Katrine Kølle Hansen, Museum Lolland-Falster.
the north east of the house site a dump layer containing large quantities of ceramics and animal bones was excavated (fig. 2). The layer is contemporary with the house site. The substantial quantities of zoological material from the investigation have been taken to the Centre for Baltic and Scandinavian Archaeology at Schloss Gottorp. A provisional examination of the material has been carried out by Ulrich Schmölcke. This shows that it will be possible to analyse c. 3000 pieces of animal bone and samples can be taken for DNA analysis. The ceramic material from the excavations is being worked upon at present by Anders Nielsen of the University of Copenhagen for his dissertation project. The soil samples from the post-holes of the roof-bearing posts have been processed in the flotation apparatus. However, an examination of this material is still required to identify the environmental remains. In addition, AMS dating of the material from the undated house site is yet to be carried out.
The excavation took place between 3 October and 12 October, 2011 and was carried out by Vordingborg Museums and Køge Museum. The work was funded by the Heritage Agency of Denmark, Vordingborg Museums and Køge Museum.

In October 2011 the excavation of the Viking Age settlement of Toftegård in the district of Stevns began again after a break of more than ten years (fig. 3).

The aim of the investigation was to establish the western boundary of the high-status Viking Age settlement and thus gain better insight into the size of the original settlement.

In the opened-up area, evidence of settlement was seen in the subsoil. Traces of
at least three houses were found, two of which probably date to the Viking period. In addition, what may be the remains of two ploughed-out pit houses were found. A number of pits containing ceramics and bones were also excavated. Soil samples were taken for environmental analysis from a number of selected pits to establish, amongst other things, their function. The analysis is being carried out by agronomics graduate Peter Steen Henriksen of the National Museum’s Natural Sciences Research Unit. A large depression was also identified in the two easternmost trenches. It is likely that there was a series of dug-out areas resulting from the excavation of clay for house construction, measuring over 40 metres in length and 15 metres in width, which subsequently filled up with cultural material.

The significant finds from the year’s excavations include two trefoil (three-lobed) and one equal-armed clothes brooch, together with part of a sword hilt. One of the three-lobed brooches has obviously been damaged by heating. These objects match the other finds from the site in terms of dating, and collectively they point to a date for the settlement in the late Iron Age and the earlier part of the Viking period.

The distribution of the finds and structures indicates that the high-status Viking settlement continues a significant distance west of the previously investigated parts of the settlement. The investigations have thus provided evidence that the settlement area was originally larger than previously thought.

The archaeological excavations at Tissø, West Zealand, autumn 2011
Josefine Franck Bican, the National Museum

The excavation at Tissø was carried out by the National Museum with support from Kalundborg Museum and with the help of Kalundborg Arkæologiforening (the Kalundborg Archaeological Society) between 5 October and 3 November. Fugledegård Formidlingscenter generously made their premises and facilities available for our use. The investigations were funded with the support of the foundation Aage og Johanne Louis-Hansens Fond.

The aim of the excavation was to investigate the supposed area of ritual activities or the so-called open cult site dating to the 8th-9th century. The activity area is located at the edge of a wet hollow on the highest hilltop of the settlement area, west of Tissø at Fugledegård. The excavations of 1995 showed that a dark soil containing deposits of animal bones and special objects was deposited here at some time in the course of the 8th-9th
century. Later a silver hoard was deposited at the same location, which has been dated to the end of the 9th-10th century. In 1995 these deposits were interpreted as waste dumping, but subsequently this interpretation changed, as it was not thought to be appropriate to place such material at the highest point of the area. Comparable deposits have been found at sites of this period in central Sweden. As is often the case on archaeological excavations, a surprising and exciting observation was also made when it was established that the wet hollow had been made by human activity.

The deposits of dark soil were preserved in a c. 4 m broad belt on the southern edge of the wet area (fig. 4). The finds from here have included fragmented animal bones, glass beads, sherds of pottery vessels and whetstones. The material from the dark fill is currently being

Figure 4 The dark layer was located on the southern edge of the wet hollow. The fill was investigated in squares and wet-sieved. Photo: Josefine Franck Bican, the National Museum.
worked upon and analysed. The animal bones are being

examined and investigated by Anne Birgitte Gotfredsen, ZM. The many soil samples will be analysed for environmental remains by agronomics graduate Peter Steen Henriksen of the National Museum’s Environmental Archaeology Unit. Two metal finds, which should be highlighted, came from the southern part of the wet hollow. One of these is a small piece of silver, which must originate from a silver hoard. The other is an unimpressive piece of bronze measuring 2-3 x 4 cm, which has had a small hole drilled into it. A horse has been scratched into this piece of bronze sheet (fig. 5).

The hollow itself proved upon closer investigation to have been created by human activity, just before the dark layers from the supposed ritual activities were deposited. The area had dimensions of c. 22 x 23 m and people dug here in the past in order to get access to good clay, which is found at a depth of 1 metre (fig. 6). The topsoil was first dug through in order to dig out the clay. Estimates indicate that around 1400 tons of topsoil was dug out in order to remove the same amount of clay. So, considerable quantities of clay must have been used to daub the walls of the great hall a few hundred metres to the east, near the lake. This is the first time that it has been possible to estimate the amount of clay used for such a purpose.
**Conclusion**

The archaeological investigations and scientific analyses will continue in the coming years at all three sites. Hoby is the earliest and least investigated of the sites. Here there is still much that needs to be excavated and to fall into place. The results so far are impressive and they provide new material for scholars. Toftegård is relatively well investigated, but its boundaries are yet to be properly identified, a problem that the coming excavations should be able to re-address. Tissø is probably the most thoroughly investigated magnate’s residence in Northern Europe. The excavations here will concentrate on selected locations, which will give us greater insight into the society, religion and ritual activities of the time.

**Figure 6** Here the wet hollow can be seen with Tissø in the background. The hollow has been created by human activity and consists of a large group of associated clay extraction pits. Photo: Josefine Franck Bican, the National Museum.

**References**

Challenges and solutions

Back cover illustration:
View of modern sheep farm and hayfields in the central Vatnahverfi region, South Greenland.
Photo: Christian Koch Madsen.

National Museum
Frederiksholms Kanal 12
DK-1220 Copenhagen
Denmark
Challenges and solutions

Report from workshop 2 at the National Museum,
1 November 2011