

Review article

Coastal archaeologies: settlement on the changing North Sea littoral

Hans Peeters*

KAI NIEDERHÖFER. *Archäologische Fundstellen im ostfriesischen Wattenmeer. Siedlungsgeschichte einer untergegangenen Landschaft bis 1570*. 2016. 344 pages, numerous colour and b&w illustrations, 2 tables, CD-ROM. Rahden: Marie Leidorf; 978-3-89646-938-0 hardback €59.80.

CLIVE WADDINGTON & CLIVE BONSTALL. *Archaeology and environment on the North Sea littoral: a case study from Low Hauxley*. 2016. xxx+323 pages, numerous colour and b&w illustrations, tables. Bakewell: Archaeological Research Services; 978-0-9930789-1-0 paperback.



Over the past decade or so, the submerged prehistoric archaeology and landscapes in the area that is known to us today as the North Sea have received increasing attention

from both archaeologists and earth scientists. For too long, this body of water was perceived as a socio-cultural obstacle between the prehistoric Continent and the British Isles, the rising sea level a threat to coastal settlers, and the North Sea floor itself an inaccessible submerged landscape. Notwithstanding the many pertinent and pervasive problems that the archaeology of the North Sea still needs to overcome, recent research has made clear that these rather uninspiring beliefs are misplaced.

First, the North Sea can be approached from the perspective that it was integral to human interaction in this region, and played a full role in the emergence and dynamics of socio-cultural structures (cf. Van de Noort 2011). Second, rising sea levels during the Holocene were not an unmitigated threat to people

dwelling in the coastal zone; even when ancient land was lost, environmental developments in spatially shifting coastal zones provided new opportunities, and the submergence of land might have been perceived in varied ways. And finally, the North Sea floor may be difficult to access, but meaningful information can nonetheless be extracted by means of innovative techniques (e.g. 3D seismic modelling; sedimentary ancient DNA) and fresh approaches to research (see papers in Bailey *et al.* 2017). It is, however, not only important to focus on the North Sea itself. Indeed, understanding the North Sea and its complex interrelated geographic, environmental and marine developments is also important for a better understanding of the terrestrial record.

The two volumes under review here are concerned with research on the present-day North Sea littoral, at the interface of sea and land on the British and German coasts. Waddington and Bonsall provide a case study from Low Hauxley, Northumberland, where coastal erosion has exposed a myriad of archaeological remains dating from the Mesolithic to Roman times. The volume by Niederhöfer presents a regional study of long-term settlement history of the East-Frisian Wadden Sea district. The studies are very different in their approaches, respectively following the national research traditions of Britain and Germany.

Unsurprisingly, there are some similarities in the use of information, in particular with regard to the attention given to relative sea-level (RSL) rise. Importantly, both studies make efforts to analyse the effects of regional RSL on their environmental and archaeological reconstructions. Notwithstanding the value of 'averaged' RSL models for the North Sea to understand broad patterns of sea-level change, it is vital to consider regional variability in order to attend to patterns of prehistoric and early historic coastal

* University of Groningen, Groningen Institute of Archaeology, Poststraat 6, 9712 ER Groningen, The Netherlands (Email: j.h.m.peeters@rug.nl)

settlement and behaviours. This is particularly true for the north-west German (and Dutch) coast, for which long-used generalised transgression/regression models of coastal flux are no longer valid. Indeed, dynamics in these coastal zones should be seen as 'shifting panels' (cf. Vos 2015), where the impact of tidal activity is continuously changing. Niederhöfer wishes to use RSL models not so much as an overarching explanatory framework for observed settlement dynamics, but as a means to question and investigate the connection between sea-level change and individual sites. The British study, in contrast, considers sea-level data from a bird's-eye perspective, in order to understand the position of Low Hauxley in relation to the long-term regional to supra-regional developments in the British Isles.

Niederhöfer's work is strongly focused on late prehistoric and historic patterns of settlement, and typically proceeds by systematically presenting the various sources of information as building blocks for a synthetic analysis. The above-mentioned discussion of RSL models precedes an overview of historical sources with special attention to reported flooding (i.e. storm surges). This is followed by a detailed presentation of finds, ordered chronologically, which, together with 110 illustrative plates, provides the typo-chronological reference framework for the site inventory. The presentation of sites, supplemented by an extensive catalogue on the accompanying CD-ROM, is geographically organised according to the modern-day districts and islands of the Wadden Sea.

This extensive body of data is drawn together in a synthesis that broadly describes the region's long-term settlement history and several specific aspects of craft activities, such as food economy, peat cutting, salt- and iron-extraction and trade. The synthetic narrative, however, remains somewhat superficial, and requires the reader to look back to the preceding data chapters to provide more flesh on the bones. The concluding chapter reiterates that the spatial distributions of archaeological material cannot be understood by means of a simple juxtaposition with the RSL models; nor, for that matter, can archaeological distributions be used for the purpose of reconstructing sea-level fluctuation. The degree of openness of the coastline varied enormously, and even when closed due to coastal enforcements, this cannot account for the data—or lack thereof—at a local scale. Indeed, as it appears from this and adjacent regions, deliberate closing of the coastline through the construction of dikes triggered

negative feedback loops with consequences reaching far inland, leading to an increased vulnerability to storm surges for the coastal region.

The volume by Waddington and Bonsall starts from a different perspective. The research conducted at Low Hauxley for over 30 years is directly linked to erosion of the Northumberland coast. Fieldwork has revealed an extraordinary sequence of remains, notably Beaker to Early Bronze Age burial structures, but also Mesolithic features including a dwelling structure and human footprints. In addition, there are settlement remains dating to the Iron Age and Roman Iron Age, and even traces of local coal mining from recent historical times. The area investigated also produced valuable palaeoenvironmental data (chapter by Jim Innes and Richard Tipping), which permit the interpretation of the archaeological phenomena within a broader landscape framework. An outline of the history of the research allows the evaluation of the data from a methodological perspective. It makes very clear how closely the discovery of important archaeological phenomena is related to chance observations, often by members of the public and amateur archaeologists, and how difficult it is to rescue valuable remains from the unforgiving forces of climate- and sea-level change.

The discoveries are presented in a series of chapters focusing on various categories of archaeological and palaeoecological finds, for which the data are well presented and illustrated. This does, however, have the disadvantage that assemblages of different materials from a single context are torn apart, which makes it difficult for the reader to keep track of what has been found in which context. The same goes for radiocarbon dates, which are presented in a single chapter, but for which a diachronic perspective has been taken in the form of Bayesian modelling. Although a considerable number of radiocarbon dates are available (tab. 3.1 lists 70 measurements), I am unconvinced that a Bayesian approach really does provide insights into the chronological subtleties of this complex site, as the material has been collected over several decades under variable conditions. Bayesian modelling of radiocarbon dates can be helpful for the analysis of very specific chronological problems, but it requires independent control variables.

An extensive chapter on geoarchaeology and landscape reconstruction provides solid contextual information that greatly assists interpretation of the archaeological evidence. All this is followed by a

synthetic discussion of the broader significance of Low Hauxley. Palaeo-vegetational data are put in the wider geographical context of landscape dynamics, indicating evidence for human interference, possibly starting in the Mesolithic. The Mesolithic record itself adds to the understanding of the cultural developments in the British Isles with the submergence of Doggerland and the disappearance of dryland connections with the Continent. The Beaker to Early Bronze Age mortuary structures on Northumberland's coast fit into a world where seafaring had become an important avenue for the restructuring of ideological and socio-political relationships at a regional and supra-regional level. This raises the question of how the Beaker people buried at Low Hauxley related to the Beaker people along the coast on the other side of the North Sea, in the Netherlands and in northern Germany.

Judging from the reconstructions, Northumberland's coastline has been relatively stable over many millennia compared with the coastline of Niederhöfer's Wadden Sea. The latter has undergone far-reaching change since the beginning of the Holocene, and vast swathes of land have been submerged. To what extent ancient land surfaces have eroded is still difficult to say, but it may be substantial. Erosion along the British coast seems to be more manifest, as archaeological remains are literally falling out of the cliffs, and ancient land surfaces are frequently washed out. The Low Hauxley study explicitly addresses the problem and dedicates a chapter (by Michael

Lobb and Tony Brown) to the use of terrestrial laser scanning for monitoring coastal erosion. The results are alarming, indicating rapid cliff recession and a major loss of archaeological remains within the coming decades. With continued sea-level rise and increasingly extreme weather conditions, the process of erosion will lead to a mounting loss of valuable archaeological information along the North Sea littoral. This should concern archaeologists, heritage professionals and policymakers alike. The coastal archaeological record cannot be replaced by the onshore terrestrial record, as it represents different facets of the cultural landscape that also include the maritime. Both of these studies, no matter how different their approaches, provide excellent illustrations of how the archaeology of the coastal zone requires views to and from the sea.

References

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