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Environmental Humanities

1. Definition

Environmental humanities is an umbrella term for sub-disciplines of the humanities, which deal with environmental questions. Regarding the pre-modern North, a main objective of inter- and transdisciplinary environmental humanities research (often involving social sciences and natural sciences) is to create a long-term perspective on human-environment interactions in the past, and thus contribute to a better understanding of environmental change and socio-ecological resilience. Central questions in this regard concern the development, function and transmission of long-time memories of human ecodynamics, and thus of what can be called *environmental memory*.

There is currently no generally accepted definition of environmental memory, and several related terms are in use, such as *social-ecological memory* or *traditional ecological knowledge*. It is clear, however, that an environmental memory is always derived from human perceptions of the environment. It is culturally constructed and strongly influenced by the social and cultural contexts in which it develops and is transmitted. Environmental memory therefore constitutes a specific form of cultural memory.

2. State of research

It has been claimed that Old Norse myths contain memories of detrimental environmental and climatic change in the past (e.g. Gräslund and Price 2012; Nordvig 2013). Most research on the importance of environmental memory for pre-modern Nordic societies, however, focuses on the Viking Age settlement of Iceland and the end of the Norse colonies in Greenland.

One hypothesis is that when settlers began to arrive in Iceland in huge numbers from the 870s onwards, their lack of experience-based ecological knowledge and thus of an environmental memory relating to the island's environment and climate led to initial adaptive difficulties and to a transgression of ecological boundaries. The Norse settlers established an agricultural system based on an 'imported' environmental memory, derived from their places of origin. Icelandic landscapes probably appeared to them to be similar to the landscapes of Norway and the northern British Isles, entailing a danger of wrong conclusions by analogy when the settlers did not recognize differences concerning the composition, ecological resilience and fertility of the soils. Land use practices that should be sustainable according to the settlers' traditional ecological knowledge, based on long-term, multi-generational experience elsewhere, could lead to unexpected outcomes in Iceland, such as vegetation damage and soil erosion (Dugmore et al. 2005).

Environmental memory as an impediment to successful adaptation in times of environmental and climatic change has been particularly intensively discussed in relation to the late medieval extinction of the Norse settlements in Greenland. A late medieval deterioration of the climate has long been viewed as a likely cause for the abandonment of the Norse settlements. It would have been impossible for the Norse settlers to anticipate this climatic change, since they, as relative newcomers to the region, did not possess a long-term memory of previous changes and fluctuation there. Even new ecological knowledge developed by the Norse during the first centuries of settlement and specifically adapted to the Greenlandic environment became useless when environmental risks and climatic variability of an extent by far exceeding the span of this environmental memory occurred.

In recent decades, however, cultural peculiarities of the Norse society in Greenland have been suggested as more likely causes for the settlements' end. It has been argued that the Norse continued to maintain cattle farming and other resource use practices originating from mainland Scandinavia or Iceland, while refusing to adopt Inuit technology and with it a lifestyle that demonstrably could ensure survival in Greenland even under a cooling climate. Conservatively clinging to an environmental memory derived from a different ecological and climatic context, it is argued, prevented the Norse from acquiring traditional ecological knowledge from another culture. This refusal radically increased their vulnerability to environmental and climatic change, and in the end, the Norse "starved in the midst of unexploited resources, with a working model for maritime-adapted northern survival camped on their doorsteps" (McGovern 1994, 148; see also Diamond 2005; Nykvist and Heland 2014).

This picture has, however, become more nuanced in recent research. It is now suggested that the Norse in Greenland showed a great willingness to adapt to changing environmental and climatic circumstances, in particular through specializing on hunting migratory seals. However, after 1425, when sea storminess increased in addition to a cooling climate and rising sea levels, this seal hunt was impeded and the absolute limits of Norse adaptation capacity were reached (Dugmore et al 2012).

3. Pre-modern Nordic material

Research on pre-modern Nordic environmental memory can draw upon a range of sources with different characteristics. Archaeological and paleoecological material, for example, can give indications of how land use models were transferred from one environmental context to another, yet such material allows only indirect conclusions concerning the role that a particular environmental memory, as part of a broader cultural context, may have played in such processes. Place names and written Old Norse sources (such as laws, charters, and annals) allow more direct insight into, among other things, the evolution of resource use practices in adaptation to specific ecological and climatic conditions, and in many cases they reflect the development and transmission of new forms of environmental memory.

Even pre-modern Nordic texts of a more literary character contain a wealth of details concerning human-environment interactions, environmental and climatic conditions, and environmental change, with the earliest example being Ari Þorgilsson's brief remark in *Íslendingabók* that at the beginning of the settlement period, Iceland had been covered with woods from the mountains to the seashore (Ch. 1). In some cases, texts narratively represent processes of memory that relate to environmental aspects (for example, a description of how, after their return to Norway, three of Iceland's earliest explorers display greatly differing memories concerning the island's environmental qualities; *Landnámabók*, Ch. S5/H5). Literary genres such as the *Íslendingasögur* (sagas of Icelanders), the *Samtíðarsögur* (contemporary sagas) and the *Biskupa sögur* (sagas of bishops) are related to the real-world North Atlantic environment of the Viking Age and the Middle Ages. Yet their primary purpose, during both the time of writing and their later transmission, was not to transmit 'realistic' descriptions of past environments and of human-environment interactions.

The *Íslendingasögur* present particularly good examples of the complexities involved in assessing environmental memory in pre-modern Nordic literature. Most of these texts not only relate to Iceland's settlement period, but also to the non-human environment of that time. Some sagas contain relatively lengthy and detailed descriptions of the newly discovered land's outward appearance, of available natural resources, and of how these were taken into use by the first settlers. *Egils saga Skalla-Grímssonar*, for example, describes the initial presence of large woodlands and indicates a favourable climate with mild winters, stating that livestock brought to Iceland from Norway could graze in the open all year round. The saga also mentions abundant resources of driftwood, fish, marine mammals, birds' eggs, as well as farm land that could be used for grain cultivation (*Egils saga Skalla-Grímssonar*, Ch. 24).

Such literary descriptions raise questions concerning the origins of the environmental memory presented in them. In the case of *Egils saga*, more than 300 years lie between the time described and the time of writing. That some of the information contained within these texts has been confirmed

through scientific methods such as pollen analysis (for example, concerning the initial existence of extensive woodlands), may indicate that a reliable oral tradition of environmental memory existed, dating back to the settlement period.

However, as the *Íslendingasögur* frequently refer implicitly and explicitly to both other Icelandic and non-Icelandic written texts, intertextual relations can constitute another basis of literary descriptions of the environment. It is likely that narrative patterns, schemes, and motifs from the huge variety of religious and historiographic texts available in Iceland long before the writing of the first *Íslendingasögur* have influenced how past environments were described in the latter. This possible diachronic and transcultural dimension emerging from intertextuality and from genre-specific narrative conventions allows insights into how the experience of distinct Nordic environments became in creative ways connected to other available texts and to both religious and secular medieval ideas about nature.

Environmental memory in the *Íslendingasögur* can, however, also form part of the construction of collective identities. Euphemistic descriptions of the settlement period environment (such as in *Egils saga*) could function as a counter-discourse to the rather negative views of Icelandic environmental conditions and to the assumed scarcity of natural resources that are prevalent in non-Icelandic medieval texts about Iceland. Through literary representations of a highly favourable former environment, many of the *Íslendingasögur* try to create a different environmental memory that serves to establish the view that the original settlers were wealthy individuals who migrated into even better natural conditions than those of Norway – not into relative material poverty, as the archaeological evidence suggests. Literary environmental memory in this way functioned as a part of the Icelandic worldly elite's attempt at constructing a noble ancestry and a collective identity for itself.

4. Perspectives for future research

So far, research on environmental memory in relation to the pre-modern North is still at its beginnings, and many possibly relevant sources are not yet thoroughly explored. In particular, there is considerable potential for more extensive integration of the rich Old Norse literary material into inter- or transdisciplinary research on environmental memory, linking written texts to, for example, archaeological and paleoecological material.

As the above discussion of the complexity of environmental representations in the *Íslendingasögur* illustrates, new approaches incorporating literary texts need to go beyond an assessment of environmental memory in the categories of realism or fictionality. The environmental memory represented in such literary texts is linked to real world environments in various and creative ways, and neither factual nor fictional in a strict sense. If the narrative functions of environmental representations, possible intertextual relations, as well as the respective social and historical context of a particular literary text are taken into consideration, a fuller understanding can be achieved of the manifold and complex ways in which environmental memory functioned as a specific form of cultural memory in pre-modern Nordic societies. Such research can also create new insights into the role of narrativity for the development and transmission, both oral and written, of different forms of environmental memories. Other Old Icelandic and Old Norwegian literary genres than the ones mentioned above, for example the *fornaldarsögur* (legendary sagas) or the *riddarasögur* (chivalric sagas), but also Old Swedish and Old Danish texts have so far hardly ever been analysed with regard to environmental memory, although they, too, might yield relevant insights into pre-modern Nordic perceptions of human-environment interactions and of environmental change.

It is also noticeable that (in relation to Iceland's settlement and the Norse colonies in Greenland) environmental memory in the pre-modern North so far has mainly been discussed as an impediment to adaptation to changing environmental and climatic conditions. An aim for future research on pre-modern Nordic environmental memory could be to instead increasingly explore the function of environmental memory in creating the social preconditions for sustainable resource use and for socio-ecological resilience.

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