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## A landscape biography of the 'Land of Drumlins': Vooremaa, East Estonia

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## Summary

In the contemporary myriad of definitions and approaches of landscape, the starting points and limits of the concept of landscape biography are being explored, but also tested in this thesis. What exactly is a landscape biography? What does it constitute of? Is landscape biography just a narration of a specific defined place on the face of the Earth in a defined period of time or does it have a practical output? Is it possible to help design the future of landscapes by narrating the past? These questions are explicitly addressed for a specific region in Eastern Estonia, Vooremaa (in translation: the land of drumlins). The source base for this landscape biography compiles of archaeological, cartographical, environmental, and folkloristic data.

In addition, the scope of the study concentrates on historic land use around archaeological sites in Vooremaa and it aims to create a system for assessing the archaeological heritage value of certain micro-regions. One of the goals of the thesis is therefore to develop a practical methodology for detecting archaeological heritage in the landscape as well that may contribute to the (thinking about) sustainable landscape development through create concepts of heritage preservation.

Chapter 2 presents an overview of the study region, Vooremaa, with specific geomorphological emphasis on the so-called “drumlins”. Vooremaa is considered to be one of the best preserved post-glacial drumlin formations of the East European Plain. The research area covers approximately 980 km<sup>2</sup>, with the maximum span from south to north of around 55 km, and from east to west around 25 km.

Chapter 3 provides a brief historic overview of landscape studies in Estonia, focusing on geography, archaeology, and place-related folklore. The establishment and development of academic archaeology and geography in Estonia have very similar headsprings and histories. Both disciplines were blown to life by Finnish professors in the 1920s and have always been strongly influenced by the Finnish and Swedish schools of research. Even during the 50 years of Soviet occupation (1944 – 1991) the connections with Scandinavia were maintained as much as the ruling political regime enabled.

Chapter 4 is dedicated to the evolution of the theoretical framework of landscape biography and the key concepts essential for applying the biographical approach to the practicalities of landscape and heritage management. In order to understand the basics of landscape biography, the origins of the concepts of land, landscape, biography but also heritage and identity in the context of landscape archaeology and cultural geography are analysed. The

term landscape biography is here defined as a multi-disciplinary approach of the landscape in specific region, which is analysed from a long- term perspective on landscapes from prehistory up to the present-day, and as a continuous and complex process of interplay between people and their economies, political institutions, mentalities, and memory cultures (including their heritage practices), and between human-induced environmental transformations and ecological dynamics.

Chapter 5 introduces methods and data sources for the current study, using “historical GIS”. Besides historical GIS, the chapter also introduces a method for analysing historic landscape change based on cartographic data. Historical GIS combines various historical spatial data (mostly archival maps and location-specified folklore records), which can be efficiently compared against archaeological data and contemporary landscape situation. For Estonia it is possible to track down historic land-use retrospectively using maps and written sources until the mid-17th century. This provides us with a coherent and detailed sequence of about 350 years of land-use, pointing out which parts of the area were used for agriculture, pastureland and meadows, and which were covered by forests, swamps and bogs. Much of the wetland in Estonia was not drained until the beginning of the 20th century, so historical maps are a good source for detecting suitable arable land cultivated before the mechanisation of agriculture. When integrating archaeological sites with different layers of land-use from different centuries, it is possible to make inferences about the position and function of sites in historic land use system and to detect continuities and discontinuities in settlement patterns through time.

Chapter 6 focuses on the long-term history of settlement and land use in Vooremaa. This history is a narrative of human-environment relationships combined with an analysis of land use change. Although the settlement sites are spatially correlated with suitable arable land, they are seldomly located in the middle of large cultivated areas. Instead, they tend to be situated in gradient-rich zones connecting different land use units. From the dwelling perspective of the villagers the distance to meadows and pastures was equally important as the distance to the fields. At the same time, we can observe that forested areas were located further away.

Chapters 7 presents biographical case studies on Iron Age stone graves, Medieval rural cemeteries and natural sacred sites as places of collective memory. The creation of the folklore of the sacred sites most probably results from contemporary interpretations of (fragmented) bones from the stone graves and Medieval cemeteries. Stories about offerings or chapels related to the stone graves more likely derive from the quadrangular appearance of the

tarand-type graves, which resemble a stone foundation. Some of the stones with a flat surface might also have looked like a possible altar for sacrifice. Again, the imagination of pre-Christian sacrificial practices is projected to the past through a Lutheran prism.

Chapter 8 takes a closer look at Iron Age hillforts of Vooremaa as places of power and communication within the wider landscape. At the beginning of the Pre-Viking Age (600 – 800 AD) we can see shifts in settlement patterns towards erecting small-scale local hillforts, which became dominant features in the landscape during the Viking Age (800 – 1050) and the Final Iron Age (1050 – 1225). Erection of hillforts suggests accumulation of food surplus, which was then in turn directed towards trade and handicraft. The shift in the settlement pattern might directly be connected with grain cultivation, more specifically rye (*Secale cereale*). Even though throughout the Iron Age barley (*Hordeum*) was one of the main cultivated crops, rye yielded significant importance during colder periods. The Viking Age hillforts and their position in the landscape demonstrate an obvious connection between 10th – 11th century coin deposits and communication networks of both, land and water routes. Chapter 9 is an example of combining historical GIS, archaeological data, and a 13th century chronicle in the study of roads, movement and communication in a comparative region of South Estonia (Veldi 2014). Therefore, this chapter does not concentrate specifically on the Vooremaa region, but presents an addition demonstrating a GIS-based study on Early Medieval communication in a neighbouring South Estonian region.

Chapter 10 is an example of a comparative approach of Vooremaa in Estonia and Drenthe in the Netherlands as elaborated in a joint research article by Veldi, Kolen, Karro & Palang (in press). The article demonstrates the potential of comparative landscape biography applied in different regions of Europe, and therefore is relevant addition to the current study.

Chapter 11 presents a new perspective on heritage and landscape management, based on Vooremaa's landscape biography. The idea of archaeological landscape evaluation is introduced, applying historic landscape change extracted from historical maps combined with numeric values for archaeological sites. The information on historic land use and the values of archaeological sites are then calculated to create archaeological micro-regions. The micro-regions indicate the potential archaeological/historical value of certain landscape areas, which then can be effectively used in managing landscape related processes in the region.

Chapter 12 summarizes the main conclusions of the study.