

## The maritime cultural landscape

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### Introduction

During the maritime archaeological survey of the coast of Swedish Norrland 1975–80 (Westerdahl, 1978; 1980*a,b*; 1991*a*) the need arose for a scientific term for the unity of remnants of maritime culture on land as well as underwater. The term chosen was *the maritime cultural landscape*. Strictly speaking the land remains were not the concern of the survey proper, but underwater remains were the main point. Gradually, however, the analytical perspective was widened to include ancient monuments on land. In the local area, not only shipping, but also fishing and seal hunting produced those remains. Both these later economies were once typical of the Bothnian area and they have resulted in considerable ship remains. Both were far-ranging activities, expressing in historical times the ancient function of the Bothnian cultural landscape of an *ärjemark* (Finnish *erämaa*), a gigantic *maricultural exploitation area*. To explain the later term: *Mariculture* is simply the English or French (the latter with other Romance languages) translation of the Swedish or Scandinavian term *sjöbruk*, Finnish *merenkäyttö*. A straightforward translation into German would be *Seegebrauch*, into Dutch *zeegebruik*, but those terms do not convey the feeling of a juxtaposition with agriculture. Better words would be German *Seebau*, Dutch *zeebouw*, as contrasted with the corresponding terms *Ackerbau* and *landbouw*. The maritime cultural landscape signifies *human utilization (economy) of maritime space by boat: settlement, fishing, hunting, shipping and its attendant sub-cultures*, such as pilotage, lighthouse and sea-mark maintenance. The term *sjöbruk* was introduced by the prominent Swedish maritime ethnologist, Olof Hasslöf, in the 1950s. Hasslöf was also the scholar who enlightened the learned world on the now elementary facts of shell and

skeleton techniques in boat-building (Hasslöf, 1958). The present author would like to point out that the unlearned world of mariculture had known that distinction since time immemorial—a personal bias for genuine tradition, verbal, mental or manual, will be apparent in what follows.

### Cognitive landscapes

#### *The landscapes in man*

Discussion of the significance of Hasslöf's term has been kept alive and is at any rate closely related to the approach of this study. Recently in search of a particular Bothnian cultural identity, a 'human ice landscape' has been proposed as a specific development of the north. This was made by the Finnish ethnologist Nils Storå in 1988. In the anthology where his paper is published, a new cross-disciplinary project on the maritime cultural landscape in the Bothnian bay of the Baltic is presented (cf. the sealing ice landscape: Bonns, 1989; Gustafsson, 1989). The term accordingly refers to a cultural landscape in the proper sense, not a landscape studded with material remains, or with relict cultural layers. The ice disappears entirely and changes from year to year, although some features reappear constantly, such as the major open channels. However, utilization of it with necessary terms and adaptations remains basically the same. Such aspects also exist in the coastal summer landscape, so it is useful to follow ethnologists in their mapping of the mechanisms of cognitive maritime landscapes. The term *cognitive landscape* denotes *the mapping and imprinting of the functional aspects of the surroundings in the human mind. Man in landscape, landscape in man* (Löfgren, 1981). A natural way of discovering the maritime cultural landscape is by way of the cognitive perspective of local tradition. An

obvious approach to a personal maritime perspective is largely by way of interviews with a large number of local people<sup>[1]</sup>.

### A cultural perspective

#### *A holistic approach: immaterial and material aspects*

The abstraction of a maritime cultural landscape has now been accepted and its existence established in the waterways of the north. This is of interest in a European perspective, since north Scandinavia in particular is a *cross-cultural survival area*. In other words relict patterns of transportation, in more centrally situated areas, have been recorded in active use as recently as during the last century. This need not mean the adoption of a unilinear evolutionism. Survivals are rather the product of adaptation, possibly on several concurrent levels.

The cultural landscape on the coast includes fishing on shoals as well as navigation, harbour constructions, fords, bridges, ferry sites and intentional sailing blockages. Accordingly, *a vision of the total topography of the waterfront area is applied*, features on nearby land being as important as depth curves underwater. Shipwrecks are of course included within this landscape, but in contrast to other remnants, they are included at first sight without any obvious relationship to their immediate surroundings. If not properly investigated, their position may, therefore, remain problematic, except possibly as dating instruments and as indicators of other source categories.

The definition of the term *maritime cultural landscape* was first introduced by the present author in 1978 and 1980 and further developed in *Norrlandsleden 1–11* (1987; 1989). It comprises *the whole network of sailing routes, old as well as new, with ports and harbours along the coast, and its related constructions and remains of human activity, underwater as well as terrestrial*. In this way it mirrors the entire range of maritime economies, that is, *mariculture*.

As can easily be understood, not all of this can strictly be included in maritime archaeology. Archaeology concentrates on material remains. However, an important part of the maritime cultural landscape is immaterial, cognitive or indicative. Its main component is the place-name landscape. That landscape is accordingly

of the utmost importance in the survey phase of maritime archaeology.

The maritime cultural landscape should be compared to its terrestrial counterpart, but not just as an extension of the latter. In the same way the maritime landscape displays a chronological stratification pattern, younger systems being superimposed on the older ones. Remains of the old systems often appear as relicts or ruins. In both cases parts of the landscape have been transformed by human activity. Cultural layers are concentrated on land as well as underwater. There also seems to be a fundamental correspondence in the continuity of basic economies.

On the other hand, there are also important differences, which make this new term meaningful. These differences make themselves felt, for instance, in the relative density and geographical distribution of human activities. Maritime space has simply been blessed with a greater radius of action than its counterpart on land. The human waterfront seems to display a unique openness to impulses and impressions from the outside.

#### **Inland aspects. Transit points**

*The connections with waterways inland and the points where vessel or transportation methods change*

Transport geography along the coasts has wider aspects inland. The inland routes of rivers and lakes have provided means of transport for goods, loaded or unloaded, at the coastal waterfront. These inland water routes, as well as the local road systems, must be taken into account if the maritime cultural landscape is to be understood properly. The inland seaways have mostly met the coastal landscape in estuaries, more particularly at the top of tidal reaches. In areas with no tide the term estuary refers to the very place immediately before sea-level is reached and the river current decreases rapidly and mingles with the waters of the sea. At such sites reloading and marketing areas came into existence, possibly as early as prehistoric times, often in combination with ferries and inland road networks. This is where inland men and boat types meet those of the coast, the first *transit point* at which a river-based cultural area meets the outer world. This new term *transit point*, mainly with the sense of transport geography, could easily be extended

to the zones of transport geography on sea routes.

Other transit points are situated at rapids and entrances to other fairways upstream. The current isostatic uplift of the investigated area provides unique opportunities for chronological stratification of these sites, as well as of the havens and routes off the coasts and archipelagoes outside these estuaries. However, it is not only natural topography which determines the development of transport geography, but also culture and tradition.

### Dating

#### *Methods based on isostatic uplift*

The peculiar dating possibilities derived from the greatest isostatic uplift in the world since the Ice Age are extremely important. These can amount to as much as 1 m a century and we have yet fully to realize their potential. Two new—as yet rather preliminary—methods of dating have been developed during the 1980s at the University of Umeå: the measurement of rock weathering and lichens (lichenometry; which formerly was exclusively a tool of quaternary geology). Stone constructions such as stone mazes and house foundations have been dated in this way, always with the land uplift as a factor of correction. The results agree surprisingly well with occasional radiocarbon datings which can be related to particular constructions. This means that even stone heaps which are the only remains of sailing marks (foundations of wooden crosses or poles), can be dated, (Broadbent, 1988; Broadbent & Sjöberg, 1989). Thus, this truly 'unilinear' dating enables a chronological development of maritime culture, since the last Ice Age, to be sketched.

### Centres of maritime culture

*The continuity of transit points and central places*  
Concentrations of many-sided indications observed during a survey make it possible to discover, group and characterize (classify) continuous *centres of maritime culture*, an expression of the intimate geographical relationship between the different branches of mariculture. Within the range of a few nautical miles it has often been possible to sketch a chronological sequence, as, for instance, the Bottenhamn model of port migration offered by the geographer, Ian Layton (1978; 1981: 166ff).

### Metrical aspects

#### *Equal distances between transit points*

There are interesting metrical aspects of the distances between these centres along the routes. The staging points sometimes seem to be situated at regular intervals, which are units of the old Nordic rowing measure, the *vika* or *vikusjö* (8–8.3 km or 4 nm). The common distance seems to be 4 *vikusjöar* or 16 nm or 32 km. In a different context, Harden (1971: 32f) points out the equal distances between the Phoenician maritime trade posts in the Mediterranean. It is possible that this reflects the desire for suitable night harbours at reasonable distances. However, the sites in the north always seem to be connected with facilities and installations of the coastal zone and not only with the needs of the sailors on the main route.

### Sea routes

#### *The network of the main waterways*

The sea routes appear to have comprised at least three principal systems, one hugging the coast (*inner route*, stage and ferry route, Iron Age and medieval), one (*middle route*, mainly Iron Age and medieval, but still partly used by local shipping during the last century) following the coastline at some distance and exploiting the havens of straits, promontories and islands, one (Norse: *utleid*; Viking Age, up to our own time) in the open sea, for shipping continuously by day and night.

### Categories of sources of the landscape

#### *Material and immaterial remnants of maritime human life<sup>12</sup>*

#### 1. Shipwrecks

##### *Indicators of use and dating instruments*

One of our most important material sources is shipwrecks, from carvel-built merchantmen to tiny logboats. Their status as time-capsules is often problematic. Sometimes only their construction and possibly their ballast can be considered a closed find. There is, however, a strong local connection inherent in most stripped wrecks, suggesting that they have been abandoned at their home port. The wrecks remain our main material for dating and for maritime aspects in general, owing to the fact that we

know more about them than we know about other remains and how to interpret the latter.

Most of the shipwrecks in the survey stage will appear as oral or archival source material. It is important to know the difference between the record of a ship foundering and the location of wreck remains. Wrecks tend to have drifted and in our experience are not found where expected. Fishermen's knowledge of places where nets get stuck is the most reliable and precise wreck indicator.

## 2. Land remains

*Ancient monuments preserved on the waterfront*  
Our second principal material source is maritime structures and ancient monuments on land. A very large number of remains are of potential interest. The official survey of ancient monuments in Sweden has registered thousands of remains of seasonal habitation sites with house or hut foundations, net-drying stands, grave cairns, churchyards, sailing marks, beacons, and stone mazes (an exclusively maritime type, which is very common along the Swedish and Finnish coasts). Among these ballast sites (where ballast was thrown out) and archaeological layers, mostly situated underwater in harbours, can be found especially neglected sources. By study of inland settlement, archaeology, and the distribution of imported goods, it is sometimes possible to delineate possible early harbour areas. Perhaps the ship archaeologist's unwillingness to grasp the essentials of land-based settlement archaeology is the reason for our negligible knowledge of some prehistoric ships and boats. A notable exception is provided by Crumlin Pedersen (1985; 1991). An area on the Danish island of Funen was pointed out by this eminent scholar and a Roman Iron Age harbour market with ship remains (mostly iron rivets) was discovered a little later. The site is called Lundeberg and supposedly has a direct relationship with the rich find area inland of Gudme, well-known to land archaeologists (Thomsen, 1991).

## 3. Tradition of usage

*The advantages of local maritime experience and tradition*

Another important source of the maritime cultural landscape may be simply called *tradition of*

*usage*. To some extent it is reflected by the mental map of coastal people in general, based on the existence of well-used havens and routes, and on the influence of local winds and currents. But how could it be extended backwards through time? The demands of a strictly maritime world may also be reflected by ancient monuments on islands and important junctures. By means of a study of the route systems spots can be established where there has been a constant need for guidance or pilotage during the centuries. Apparently the only reasonable substitutes for pilots (Nordic *ledsagare*) before the establishment of a regular pilot system during the 17th and 18th centuries were fishermen-farmers, who settled on the islands and were dependent on the sea. Probably such people were even encouraged to settle through certain privileges, as in later times. Those seasonal fishing villages which are situated precisely at spots where a familiar coastline without shoals is succeeded by shallow and treacherous shores, may be the very first pilot sites. As a case in point there was certainly a need for maritime guidance when Upper Norrland was colonized during the Middle Ages<sup>[3]</sup>. Transport routes led along the shores of the Baltic Sea. The present author has covered the south part of the Baltic in a work on the first known maritime itinerary of the north (Westerdahl, 1990). According to this assessment, the structure of the text reveals the approximate sites for changes of pilots.

## 4. The study of natural topography. Natural havens.

*Contours on land, depth curves; the effects of silting and isostatic uplift*

The thorough study of features of natural topography is intended to lead by way of the tradition of usage to archaeologically established natural harbour basins. Such havens are areas now often on land, due to the land uplift and to continuous silting above the watersheds. A model case is the *lagoon harbour* model presented by Per Lundström in 1972. In Norrland we seem to discern other types as well, due to the nature of the sites, which is mostly naked bedrock. Nevertheless, a perfect lagoon model is offered in the Bothnian Gulf by the medieval (12th–15th centuries) Haven of St. Olav (S:t Olofs hamn) at Drakön island, Hälsingland (Huggert,

1978; Lundström, 1981, with divergent interpretations).

## 5. Place names

### *General considerations of applicability*

Since maritime place names is a field largely unknown by Scandinavian archaeologists, the present author has treated them systematically and in depth (Westerdahl, 1989: 89–204). In all research on cultural history the study of place names is of the utmost importance. The task of a maritime archaeologist can only be to register place names and to undertake a preliminary sifting, although a certain element of interpretation cannot be avoided. Particularly important is the study of the local place-name milieu, the name (toponym) landscape and comparisons with other parts of the coasts. Co-operation with professional place-name specialists is absolutely necessary. This need for co-operation, however, is mutual, since the linguist seldom possesses the maritime experience of the archaeologist-surveyor. Elementary rules in place-name research must always be followed, such as the hunt for the spelling of the oldest written occurrences and for the correct pronunciation in the local dialect. Most of the names would perhaps not appear on regular maps, but if they do they may be misunderstood, or misspelt.

Even if the linguistic world in this case is that of the north Germanic languages, the principles for maritime name-giving are universal. Every possible material remnant is indicated by place names, such as wrecks, stray finds from wrecks, harbours and their installations and ballast sites. Other features in the cultural landscape are shipyards, boat-building and repair sites and their resource (timber, tar) areas which are also indicated in the name landscape. Their distribution can help to delimit the maritime cultural landscape.

### **Blockages and place names**

A rather special case of place-name types indicates installations underwater. Ship-route blockages date in Scandinavian waters from the Pre-Roman Iron Age (1st century AD) up to the High Middle Ages, c. 1500 AD, particularly in Denmark (Crumlin Pedersen, 1986; Rieck 1991). Such sites are indicated by the *Stäk-*(*Steg-*) name element<sup>[4]</sup>.

The interest in such sites was greatly enhanced by the discovery of shipwreck blockages, such as the five Viking Age ships of Skuldelev in the Roskilde fiord in the 1950s and the Fotevik blockage on the other side of the Sound, discovered 30 years later and which possibly contains a greater number of vessels than Skuldelev. In the author's area of study, fortification measures of this kind seem to be medieval (12th–13th century), blocking the entrance to a stone tower or a small castle. They reach as far as the northern part of the province of Hälsingland. At one locality the ribs of a small vessel protrude from under the stone caissons and stone heaps of the blockage proper. However, not all are indicated by place names of the current type, nor do they all directly block the entrances to fortifications on land.

### **The sailing-route place names**

*A chain of various indicators along the waterways* Sailing-route names<sup>[5]</sup> include harbour, wreck and foundering indicators, such as:

*Names of individual ships* (e.g. *Loee Reef, Göteborg, Paulapallarna*);

*Names of ship types*. The first elements *Kogg-, Kugg-, Snäck-* are a highly relevant group for the evaluation of transport zones and discussions of boat functions);

*Nationality names* (names of origin: *Spanish Harbour, Tyska botten* or 'German ground', *Holländarrevet* or 'Dutch shoals');

*Names of a person or profession/title* (*De la Gardies både, Captain's Rock*);

*Harbour names*: indicating the harbour itself (*Hamn; Lahelle*, 'loading rock') or installations in it, above water, and underwater (*kar* or 'stone caisson for a pier').

The other name types in fairways, with only partly the same function, are:

*Names of beacons* (often only with a faint, indirect, relationship to the sailing routes: *Vårdkallsberget, Bavn, Böte*).

*Names of sailing marks* (at a dangerous spot, later sometimes marked by a modern seamark or a lighthouse; examples are the *Kors-* ('Cross') names, probably all from the Catholic Middle Ages).

*Names of warning* (*danger names*): the oldest may be *Skånör* below, among the most expressive are *Döden* ('Death') of the strait of Kalmarsund and

Russian names in the once Dnjepr rapids such as *Teklo* ('Hell').

*Names denoting the sailing route itself or navigation in it* (*Led-* ('Route'; *Med-* or (approx.) 'crossing of directional lines'), the latter pointing to the determination of reference points on land); *Names at ferry routes or fords* (*Ropar-* or 'speaking trumpet, yelling person') for the site where you called for a boat from the opposite side, *Vad-* or 'Ford').

*Authority names.* This is a very complicated, but extremely interesting name group, indicating the presence, jurisdiction or ownership of pagan, ecclesiastical or temporal authorities: for instance, a god, a bishop, the Virgin Mary, the king). The symbolical connotations of this toponym group are obvious.

*Migrant names,* showing maritime cultural, particularly commercial contacts. One of the most striking instances is *Pampus*, a well-known islet east of Amsterdam and a customary ballast-dumping site. It has given its name to at least ten *Pampus* shoals at the entrances to Scandinavian ports (Modéer, 1936: 109ff). Others refer to contemporary trading places, supposedly the destination or the origin of traffic at a particular site. A special case is the *Björkö-* (*Birca*) names, some of which may also refer to trading rights or special jurisdiction.

### Ledung names and boat houses

#### *Aspects of defence in the maritime cultural landscape*

Almost all of these name types can be demonstrated to reach back at least as far as the Iron Age. The most interesting complex concerns place names, possibly indicating the presence or organization of the levy fleet, the so-called *leding* (*leidang*, *leding*) of the Scandinavian realms during the Viking and Early Middle Ages. The implied name elements are those of *Snäck-* *Ske(d)-*, *Buss-*, possibly *Knarr-*, of which the latter normally denotes a cargo ship. However, according to contemporary poetry even the *knarr* was used in the levy fleet (Malmros, 1986). The *Snäck-* names are found all along the Scandinavian coast, profusely on the Island of Gotland (Olsson, 1972) and on the Swedish east coast (Westerdahl, 1989: 139ff). They peter out to the north of the Baltic. Analyses of their local topography give the impression that most occurrences indicate harbours for this typical Viking

Age ship-type which was intended for combined sailing and rowing, and was easily hauled ashore. They are especially important for eastern Scandinavia, since no material remains above ground show the location of, for instance, boat houses, in contrast to western Norway, where there are hundreds of house (*naust*) foundations on the shore for ships of considerable size. Some have been excavated and dated between the Roman Iron Age (3rd century) and the Middle Ages (Rolfsen, 1974; Myhre, 1985). Details of this research are of fundamental importance to the maritime history of the North. The organization of the levy fleet once permeated the whole of Scandinavian society, down to the individual farm or small village, which supplied one oarsman in each galley. A *naust* location provides a link with local maritime cultural centres during the Iron Age, although there were certainly also harbours of another character.

### Kugg-names

#### *The toponym heritage of cogs*

It would be of interest to an international audience to know something of the distribution of *Kugg*-names, indicating the presence of medieval 'cogs'. The ship-type is commonly supposed to be of Frisian origin (Crumlin Pedersen, 1965; 1983). In fact the whole valley of the Rhine must be considered the cradle of this ship-type. However, the cog-indicating *Kugg*-names occur even as far as the innermost archipelago of the Bothnian Gulf.

At the spot where an old inner sailing-route today crosses the land at Storön, Kalix and Norrbotten, we find some outer islands where during the later Middle Ages, ships with a deep draught must have been rowed or sailed to avoid the shoals of the inner route. The names of two prominent hills, once islands, are *Stora* ('Great') and *Lilla* ('Little') *Kuggen*. Until recently it was thought that these names could not be safely attributed to the Middle Ages. However, the name exists as *Kuggegrund* in a fishing register of 1559. The linguistic form reveals that it is genuine.

Also the other (sparse) *Kugg*-names in Norrland seem to be recorded very early. In fact the earliest mention of the strait at *Kuggören* in Hälsingland is *Koggesund*, as written by Olaus Magnus on his *Carta marina* in 1539. At this juncture, vessels of lesser draught than cogs

could be hauled at the portage point of Arnösundet, which was a strait in the Iron Age, and is now about 8 m above sea-level. This situation exactly corresponds with the route system at Kalix.

By such observation it is possible to indicate the direction of sailing-routes since the Middle Ages. It is supposed, with good reason, that the cogs, as such, disappeared completely during the first part of the 16th century. As Crumlin Pedersen points out in his classic study of the Frisian ship-type (1965), there is reason to believe that there are very early occurrences of name-giving with the *Kugg* (*Kogg*)-element, possibly dating to the first time this ship-type appeared in the Baltic. There is in fact a *Kugghamn* (apparently 'Cog Harbour') at Birka, the Viking-age town, which existed from c. 800–c. 960. However, it is hard to prove that these southerly names denote a Frisian original rather than medieval successors, except possibly at Birka. Unfortunately, there are no early records of the names *Kugghamn*. There is also a slight possibility that a dialect 'kugg', possibly meaning small, rounded, skerry or a bumpy hill, is referred to.

**Inland names and living tradition**

*Amphibian routes in a roadless interior*

It is, as has been pointed out above, impossible to by-pass the inner routes and inland routes in any total picture of the maritime cultural landscape. Few other indicators of transport exist apart from place names. Their distribution often paints a complicated picture of portages to avoid rapids or the open sea, sometimes with traces of an *intermittent* way of travelling, with portages, or a stage (ferry) system. In a roadless country the waterways were of outstanding importance. The practicalities of inland boat culture could still be studied and understood until recently in the interior of north Scandinavia. Seen in this light, even to a diver like the present author, it appeared that it was of more lasting interest to interview living people than to find shipwrecks.

**Zones of transport geography**

*A new concept extended to a European perspective*

This analysis of the structure in the maritime cultural landscape concerns the Middle Ages but may be applied to other periods as well. Fundamental concepts are the economic zones;

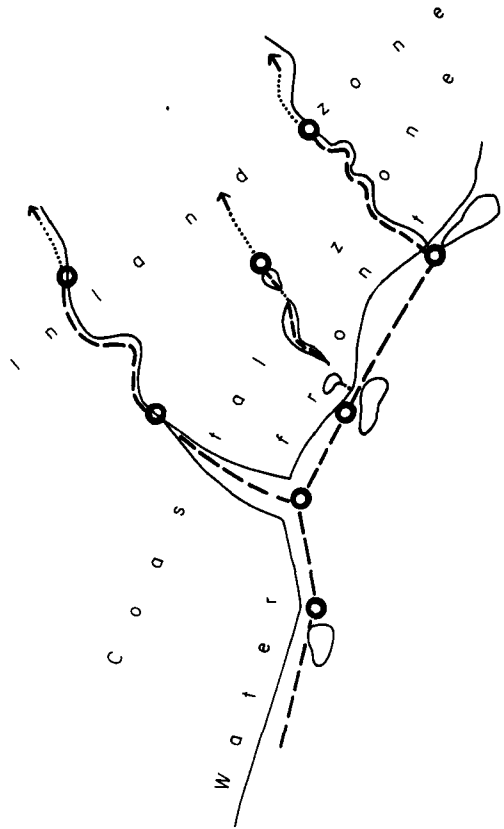


Figure 1. The principal pattern of zonal distribution in transport terms and settlement stages of Norrland. Another fundamental concept of transport geography appears to be the transit point, inland as well as along the coast. —, water transport; . . . , land transport; ●, transit point.

in Norrland the *waterfront*, the *coastal* and the *inland zone* (Fig. 1), which approximately correspond to the Iron Age, Medieval, and later colonization zones. Each of these are also zones of transport geography, symbolized by a functional boat-type, which is easy to identify. At the points of transit the change of boat-type or reloading process takes place. At the waterfront this point is the estuary or *the distal steep*<sup>[6]</sup>.

In another microtopographical perspective each river system may be a zone of transport geography. Every waterway of inland Poland has a boat-type, often with a name of its own, as is shown by the research of Jerzy Litwin. The same pattern is also indicated by field work in the Rhine area by the *Deutsches Schiffahrtsmuseum*

(not yet published) or in the rivers of France by F. Beaudouin (Beaudouin, 1985).

Across Swedish Norrland there are the fundamental zones north and south of northern Ångermanland. *South of the cultural limit in this area* (Westerdahl, 1991b) *almost all long-range transport to or from central Sweden was made by land during the winter. North of it transport was made by water during summer-time* and this difference prevails through our known history. It seems that this transport pattern is one of the decisive factors in the cultural limit of this transitional zone. The ship or boat symbols of these zones are the inland river *håp* (from Finnish *haapio*, 'aspen boat') or Saamish *vints*, the northern *fälbåt* (literally 'travel boat', later used for seal hunting), the southern *haxe* (from Finnish *haaksi*)<sup>[7]</sup>.

### The Zavoloshche zone

#### *The inland zone with Eurasian extension*

The inland boats were often sewn, making for a comparison with those in the immense Russian interior in the east. Their significance corresponds with the boats of the *Zavoloshche* zone (*regio trans jugum*), the area north of the watershed, literally 'on the other side of the portage' (Russian *volok*; cf. Kerner, 1946). Perhaps the river boats of Russia were originally sewn or rather lashed together, so that they could easily be broken up into their component parts and carried separately across the portages. This would account for their survival into modern times. A proposed name for the inland zone of Fennoscandia is the Russian term *Zavoloshche*, which serves as a reminder of the fundamental contact area during the winter, from the Ural mountains to the Fenno-Ugrian interior of Scandinavia, as is already apparent in the Neolithic Age<sup>[8]</sup>.

### Southerly transport zones

#### *The limitations of local and regional traffic in early historical times*

Interesting questions on the macrotopography of transportation in north-west Europe arise from this. The Norrland coast could constitute two major zones of transportation. A third zone is indicated by the oldest route description of the Baltic, from the Tax Register of King Valdemar

Sejr of Denmark (1202–1241; Westerdahl, 1990). This sailing-route goes from Scania in the south, follows the Swedish east coast, crosses the Sea of Åland to Finland and ends up in the Gulf of Finland at Reval (Tallinn). The common ship-type would be a vessel antedating the cog, possibly an original *skuta* (Olaus Magnus, 1555). Scania and the Danish lands would be the next transitional zone, to include land transport across the narrowest part of Scania or of Jutland (Hollingsted-Hedeby/Slesvig). It is possible that the original background of the ship term 'schooner' was ships that did not go further than Scania, Dutch *Schoonen*. Possibly it could refer to the great entrepôt site during the early Middle Ages of Skanör/Falsterbo. This is, together with the Skaw, the most dangerous spot in the area, which presumably was avoided very early, even at the expense of reloading and land transport in both cases. *Skanör*, Old Germanic 'skathan-auju' ('Damage Reef'), is probably the oldest known instance of a danger name (Svennung, 1963)<sup>[9]</sup>.

The main breakthrough took place first with the Limfiord cut through Jutland during the Viking Age, and around 1150–1200 at the Skaw. At that time the Limfiord passage was in the process of permanently silting up. The next zone was from Jutland to the Rhine deltas, The Netherlands, and in later medieval times to Brugge (or rather the Zwinstreek with Damme/Sluys). Here for a long and crucial time, transit to the Mediterranean traffic zone took place. No other ship-type would better symbolize this zone than the *cog* (Kogge; Crumlin Pedersen, 1965). When, as presumed by the author, it was finally connected up in the 14th century, the main ship was the *holk*<sup>[10]</sup>.

It will be evident that these zones of transportation have been changed and widened mainly as a result of human ingenuity in ship technology. The ship-types had probably already been in existence long before the main development occurred. The activity of the ship-types in each zone is reflected by elements in the maritime cultural landscape. Place names, such as *Hax-*, *Skut-Kugg-*, *Holk-*, are partly datable to their period of use. By means of shipwrecks of relevant types we gain an insight into their technology.

Thus, reflections of the distant experiences of a north Scandinavian coast will perhaps contribute to the understanding of a European



context. Maritime space is once more demonstrated to be radically different from land conditions, a necessary prerequisite for the new university subject of maritime archaeology. The present author would greatly appreciate a discussion on the concepts mentioned here.

### Notes

- [1] It should be remembered that the study of the cognitive landscape may open up channels to the *irrational aspects* of maritime culture, such as taboos to enter certain harbours, magic sanction for certain areas (often islands), which may reflect special jurisdiction as far back as the Middle Ages. Today a place name alone may superficially indicate the site. Compare Calissendorff (1964) on the *Helgö*-‘hallowed island’-names, Wenskus (1985) and the category called *authority names* in Westerdahl (1989: 179ff) with other references.
- [2] This subject forms the principal part of the present author’s work in Swedish, *Norrlandsleden 1*, on source material (Westerdahl, 1989). However, source material from, for instance, archives, maps etc, is not referred to in this summary.
- [3] The Swedish Crown and the Church then tried to take over the land to oppose the bid from the Karelian subjects of Greek Orthodox Novgorod in the inner Bothnian from the 12th century onward. Marketing of maritime products from the area was facilitated by the need for fish food (and seal meat since the seal was also supposed to be a fish) for Lent in Western Europe, the rules of Lent being stressed by the Lateran Council of 1215.
- [4] For a review of the Swedish material of toponyms, but with a divergent interpretation, see Modéer (1937), refuted by Franzén (1978).
- [5] This classification is the contribution of the present author, but the original impetus was made by the Swedish linguist, Ivan Modéer (Modéer, 1933; 1936; 1937; 1956).
- [6] A term of physical geography, Swedish *distalbrant*, means the sedimentation edge for coarse material at the estuary (Arnborg, 1958–59).
- [7] It is definitely not a primary aim of our subject to attribute these or other vessel-type names to archaeological boat finds (Ellmers, 1972: 12ff; Maarleveld, 1991), but their functional significance certainly is.
- [8] The effect of Slavonic boat terminology on Saamish and Finnish is treated in the fascinating work of Olavi Korhonen (1982).
- [9] The old form of the name is the basis of the concept *Scandinavia*, a misread rendering of an original *Scadinavia*.
- [10] *Hulc*; the latest contribution on the construction of this ship-type, possibly built in clinker fashion, seems to be from Reinders & Oosting (1989).

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