

Tielaitos

Jaakko Masonen

Tracks, Paths and Roads

Infrastructure and Transport in Finland and the Baltic Sea Area
from the Viking Age to Medieval Times (800-1500 AD)



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ABSTRACT

The study of early road history in Finland is a synthesis based on indirect archeological evidence, retrospective interpretation of historical data, topography, and the general economic and transport history of the entire Baltic Sea.

The economic importance of the Baltic Sea area increased in the early 9th century with the opening of the eastern and western navigation routes of the Vikings. Regular trade began, and uninhabited trading and market places, as well as transport routes became established. For Finland, this meant the establishment of land routes between the inland and the regions inhabited by the coastal tribes. Rights of way were defined, and the upkeep of these routes was organized by the tribal parish system. The Viking Age land routes can be outlined on the basis of the links between the centers of production and the analysis of human geography.

The trade links of the Baltic changed in the beginning of the 11th century. In the east, Novgorod was interested in expanding its sphere of influence at the cost of the eastern Finnish tribes. The cultural area of the Western Finns had by then gained a more western orientation. In the 12th century, the affinity between the east and the west was turning into a conflict of interests involving trade policy and political ambitions, which was made all the more acute by the struggle for power between the churches. This new stage of development also involved the introduction of the concept of 'ancient towns' or merely trading villages with permanent and regularly used routes between those towns and their spheres of influence.

The ancient Finnish towns did not form centers of politics or worship. Although connections were still very rudimentary, what most clearly distinguishes the 'ancient towns' from the rural villages of the time is their position with regard to commerce and transport. Their infrastructure was shaped by tradition, existing connections and market places, as well as the customary law of the ancient parishes and other, utilitarian considerations.

The establishment of Swedish government and the Catholic church, which coincided with the Hanseatic league of the Germans taking over Baltic trade, changed the previously self-governing infrastructure into a system which was clearly controlled from above. Towards the end of the 13th century, the town institution evolved into a medieval system that was modeled on its German counterpart and attempted to combine the interests of the state, the church and the Hanseatic league. However, the roads network remained stable as late as the early 20th century.

Foreword

This paper examines the infrastructure and transport in Finland and the Baltic Sea area from the Viking Age to Medieval Times (800-1500 AD). The study also deals with certain methodological questions involved in the field of transport history.

I am grateful to my colleagues *Mr. Kimmo Antila, M.A., Mr. Mauno Hänninen, M.A.* and *Mr. Tapio Salminen, M.A.* for the valuable advice that they gave me in the writing of this paper. I would also like to thank *Mrs. Sari Hänninen, M.A.* for the English translation of the text. Any errors or misconceptions are my own.

Tampere, April 1995

Jaakko Masonen

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1 TRACKS, PATHS AND ROADS

To travel along an established route, in other words, a road, is a biological phenomenon. Animals, for example, deer, have their own 'paths' which they regularly use. The most primitive means used by humans to find nutrition - hunting, fishing and gathering - have involved traveling between good, safe places of dwelling and profitable hunting grounds. The shift towards a more advanced form of economy was linked to the development of transport. The acquisition, distribution and exchange of raw materials called for established routes of travel, places where distribution and exchange could take place, and efficient means of transport. Road communications have always been necessary, not only to fulfill basic human and economic needs, but also to ensure the exchange of information, and allow people to meet each other and travel to places which were thought to be closest to the hereafter. In the light of modern research, roads are among the oldest social structures that remain to this day.¹ What makes this point remarkable is the fact that among other such structures are, for example, certain rites and family ties.

Economic geography defines a road as a line, ideally, a straight one, that connects two operational points. In practise, the horizontal alignment of roads is determined by factors of economic as well as physical geography. Actual roads detour around the optimum alignment and, avoiding natural obstacles, connect a number of built-up areas between the two points. While the development of road construction techniques has tackled the technical and economical restrictions posed by those natural obstacles, their significance in environmental policy has grown in inverse proportion. The growth of traffic has in its turn necessitated a distinction between local and long-distance transport, which has led to a decrease in the importance of the interjacent built-up areas.² In a certain manner, the history of roads is in fact the history of the management of objectives and deviations.

The oldest Finnish roads follow the natural contours of the earth, as well as existing routes, watercourses and ridges. The changing of the seasons has also played a major role in the use of old roads. In winter, when the lakes and rivers froze over, they were used for overland transport. Even in the present century, during freeze-up, travel has sometimes been rendered altogether impossible.³

¹ Masonen, Jaakko, 1989a, Hämeen Härkätie. Synty ja varhaisvaiheet. Summary: The Häme Oxen Road from the End of the Iron Age to Early Medieval Times. *Tiemuseon julkaisu* 4.

² Vuoristo, Kai-Veikko, 1977, Tieverkko talousmaantieteellisenä elementtinä. *Suomen teiden historia II*, p. 527-584.

³ The town of Jyväskylä in Central Finland, for example, then the ninth largest town in Finland, was inaccessible by road for two weeks in 1957 because of

The building of a traffic route in its earliest stages involves the making and marking out of a trail, as well as laying out stepping stones and duckboards across wet ground or water. The oldest routes were in practise little more than tracks kept open and worn by traffic itself, by a kind of erosion caused by the passage of vehicles and travellers. The marking out of the route was determined by topography, which means that passage took place wherever it was easiest. In the same way, the structure of the road depended on the vehicles that it had to carry; the lighter the vehicle, the less there was need for actual road-making. It would be more accurate to refer to this type of primitive road as a 'path' or 'trail' because generally speaking, an actual road or traffic route should fulfill one or more of the following conditions:

- 1 A road is a permanent, regularly used route between two definable points, which is used by more than one community.
- 2 A road is either completely or partly constructed using steps, duckboards, bridges, substructures etc.
- 3 The legal status of the road (namely rules concerning maintenance and right of way) has been determined.

What is essential in these definitions, as trivial as it may seem, is the fact that a road has to lead somewhere. Therefore, one should ask why, how, and where did people travel, and what were the regional, cultural, social and environmental effects of traffic.⁴

Finding answers to these questions has often been problematic because waterways and, more recently, railroads have dominated in the field of historical research. Brushing aside topographical and geological factors, the clear routes that lakes and rivers trace on a map have readily been regarded as practicable routes of navigation - especially in Finland, where natural bodies of water are abundant - and the isthmuses between them easy to cross. The potential of road traffic has been underestimated or completely ignored. A good example of this is the supposed pulling of Viking ships from the North Sea across the peninsula of Jutland to Hedeby, which, according to Danish archaeological literature, is mere speculation and without any basis whatsoever in any factual source material.⁵

freeze-up (Antila, Kimmo, 1992, Nelostie 1992, Nelostie Keski-Suomessa. Talvitiestä eurooppatieksi. Summary: Highway Number 4 in Central Finland - from Winter Road to Trans-European Road. *Tiemuseon julkaisu* 6, 68-73.

⁴ Masonen 1989a; Salminen, Tapio, 1993, Suuri Rantatie. Stora Strandvägen. Summary: The Great Coastal Road from Turku to Vyborg. *Tiemuseon julkaisu* 7.

⁵ Roesdahl, Else, 1982, *Viking Age Denmark*. London, 30-39.

British research considers this kind of thinking to have its roots in the early period of industrialization, when the building of canals and, later, of railroads, brought about clearly discernible structural changes and involved actual construction work. As to road traffic, problems concerning sources alone make it much harder to form a clear picture of similar phenomena.⁶ However, more recent research in both Finland and Europe has sought to pay more attention to the role of road communications. Highways and road transport have often constituted a significant, if not in fact the optimum form of transport, from the Middle Ages to the 19th century. Water and railroad traffic have both relied heavily on road communications for the transport of goods and for shuttle services.⁷

The history of roads and road transport⁸ is part of cultural and social history, and the history of administration and technology. The history of transport is interdisciplinary, the disciplines involved depending on the era and the approach.⁹ The earlier the period investigated, the more the research relies

⁶ Barker, Theo & Gerhold, Dorian, 1993, *The Rise and Rise of Road Transport, 1700-1990*. Studies in Economic and Social History, 11. Edwards, James Frederick & Hindle, Brian Paul, 1991, The transportation system of medieval England and Wales. *Journal of Historical Geography* 17, 1991, 123-134; Langdon, John, 1993. Inland water transport in medieval England. *Journal of Historical Geography* 19, 1993, 1-11.

⁷ On Finland, see Masonen, Jaakko [with appendices by Tuovi Kankainen and Pentti Zetterberg], 1988, Ancient Land Communications Research in Finland. *Fennoscandia archaeologica* V., 79-104, 1989a; Masonen Jaakko & Hakkarainen, Mika & Lehtonen, Anita & Salminen, Tapio, 1990, *Suuri Postitie Varsinais-Suomessa*. Turku. Masonen, Jaakko & Hänninen, Mauno, 1991, *Hämeen Titiepiirin historia. Kärryteistä tiepolitiikkaan*. Summary: The History of the Häme Road District 1860-1990 - From Track Roads to Road Policy. Hämeenlinna; Salminen 1993. On Northern Russia, see Makarov, Nikolai A., 1994, Portages of the Russian North: Historical Geography and Archaeology. *Fennoscandia archaeologica* XI, pp.13-28. On Skandinavia, see, for example, Roesdahl, 1982, 47-48; Schovsbo, Per-Ole, 1978, *Oldtidens vogne i Norden*. Arkaeologiska undersøgelser af mose- og jordfundne vagndelev af træ fra neolitikum til ældre middelalder. Zusammenfassung: [Die Wagen des Altertums] Frederikshavn 1987; Smedstad, Ingrid, 1988, Etablering av et organisert veihold i Midt-Norge i tidlig historisk tid. *Varia* 16 [Oslo] Universitets oldsaksamling; On Central Europe, see Denecke, Dietrich, 1979, Methoden und Ergebnisse der historisch-geographischen und archäologischen Untersuchung mittelalterlicher Verkehrswege. *Gesichtswissenschaft und Archäologie. Vorträge und Forschungen* 22, 433-483, Strasse und Weg im Mittelalter als Lebensraum und Vermittler zwischen entfernten Orten. *Mensch und Umwelt im Mittelalter*. 3. Aufl. Stuttgart 1987, 207-223; On Great Britain, see Barker & Gerhold 1993; Langdon 1993.

⁸ On the trends in research and museum activities, see *Transport Museums*. Yearbook of the International Association of Transport Museums (1974-), and *The Journal of Transport History* (1953-).

⁹ Schovsbo (1987, 129) defines two approaches to the study of prehistoric and medieval roads: [1] The archeological research of road ruins and their archeological or biological dating; [2] Human geography, i.e. the connections between prehistoric settlements, for example, on the basis of the locations of the

on archeology, and the more recent the period, the more there is need to approach the subject from the viewpoint of geography, as well as the administrative and social sciences. In interdisciplinary research, there is, however, the danger of leaving what seemed in the beginning to be a clearly marked route and losing one's way in a methodological maze.¹⁰ For this reason, it should be emphasized that the main focus in transport history is not on perpetual movement but on the destination and on how to reach it.

ruins, the region's topography and water routes. The latter approach can be combined with theories concerning the history of settlement or with reconstructions. Schovsbo himself concentrated mainly on the study of transport, namely the technology used in prehistoric and medieval carts, rather than on traffic routes. The approach has been applied first and foremost by Björn Ambrosiani (1961, *Långhundraleden. Årsboken Uppland 1961*, 7-33; 1987, *Vattendelar eller Attundalandsvägen. Runor och Runinskrifter. Kungliga Vitterhets Historie och Aktivitetsakademien. Konferenser 15*, 9-16) in his studies of the manmade landscape of Uppland in the Iron Age. According to Denecken (1979, 439-440), there are five methodological points of departure in the study of traffic routes: [1] reconstruction of the routes by drawing links between stops; [2] outlining of a theoretical transport system on the basis of geographical sources, in other words, topographical routes such as ridges of hills, valleys, bodies of water, or settlements; [3] retrospective interpretation of maps from the 17th and 18th centuries; [4] reconstruction of road networks based on existing road ruins; and [5] a combination of all of the above source groups.

¹⁰ One example is K.G. Måhl's (1979, *Vägsystemets framväxt på Gotland. Ett rekonstruktionsförslag. Zusammenfassung: Die Entwicklung des Wegnetzes auf Gotland. Ein Vorschlag zur Rekonstruktion. Gotländskt Arkiv 51*, 67-74) theory of the birth and expansion of the prehistoric road network in Gotland, which is based on the connection between known remains of a fixed nature, mainly graves and cemeteries on the one hand, and a road network, on the other, which was determined on the basis of maps from the 17th and 18th centuries. He stated that 48 per cent of all known remains in the test area selected by him were situated less than 50 meters from the road. This would seem to indicate a connection between Iron Age graves and cemeteries, and roads built in historic times. The model has clear defects, however, as pointed out by Malin Lindquist (1984, *Lokalisering av förhistoriska gravar inom Rute och Fleringe socknar - ett försök till analys. Zusammenfassung: Die Lokalisierung vorgeschichtlicher Gräber in den Kirchspielen Rute und Fleringe - Versuch einer Analyse. Gotländskt Arkiv 56*, 65-71). The remains that Måhl referred to are mainly ones that have not been excavated, only inventoried, and their exact function is therefore not known; neither have they been dated. According to Lindquist, Måhl is therefore not able to indicate clear causality between Iron Age graves and burial grounds on the one hand, and roads made in historic times, on the other. The graves may have been dug later than the road, or the road may have been built near the cemeteries later purely by coincidence. Only when the road leads directly through the cemetery with graves on either side of it, can a connection be made between the road and the graves, as this would mean that the road is from the same period as the graves, or from an even earlier time. We know of only one such case in Gotland, the road through the Sälla cemetery in Fröjel, which was not included in Måhl's scope of study. One such case is known in Finland, namely the road which runs through the cemetery of Vilusenharju, in Messukylä, Tampere. The graves, which are from the 11th and 12th centuries, are situated on either side of the road, and they had not been damaged by the road (Masonen 1989a, 24, 107).

2 THE BIRTH OF THE FINNISH LAND COMMUNICATIONS NETWORK

The economic importance of the Baltic Sea area increased considerably in the early 9th century with the opening of the eastern and western navigation routes of the Vikings [Fig. 1]. Regular trade began, and trading and market places, as well as transport routes became established. Cultural exchange increased in step with the growing economic activity. For Finland, this meant the laying of the cornerstone of a real infrastructure. The era saw the establishment of routes between the inland and the coast, including constructed parts wherever stretches of water or wet ground needed to be crossed. Rights of way were defined, and the upkeep of these routes was organized. The routes can be outlined on the basis of the links between the centers of production and the analysis of human geography.

Permanent settlement on the Finnish mainland during the late Iron Age (800-1250/1300 A.D.)¹¹ concentrated mainly on three small regions, which also formed the nuclei of the three Finnish tribes [Fig. 2-3]. The oldest settlement was situated on the coastal area of the Southwest, which was inhabited by the Finns proper, and on the shores of the waterways of Kokemäenjoki and lake Päijänne, which were inhabited by the Häme people. In the 9th and 10th centuries, migration towards the east started, mostly from the area settled by the Häme people, and marked the beginning of the Karelian settlement on the northwest shores of Lake Ladoga and along the lower course of the river Vuoksi.¹² In the oldest

¹¹ Drawing the line between prehistoric and historic times, or the Iron Age and the Middle Ages in the history of Finland is problematic. The description of medieval Finland previously began at the time of the so-called 'First Crusade', supposedly made by the Swedish to Finland at some point in the 1150s. As a result of this crusade, it was thought that at least the southwestern part of Finland was converted to Christianity and annexed by Sweden. More recent archeological and historical research has shown that Christianity and Swedish rule became established only after a long, slow process. Roughly speaking, the Middle Ages began in Finland in the 1220s or thereabouts in the Southwest, approximately 1240-1250 in Häme, and roughly 1300 in Karelia. The oldest known document that was dated in Finland is from 1234 only (see Sarvas, Pekka, 1971, *Ristiretkiajan ajoituskysymyksiä, Zusammenfassung: Datierungsfragen zur Kreuzzugszeit. Suomen Museo* 1971, 51-63; Sarvas, Pekka, 1977, *Om historisk arkeologi. Historisk Tidskrift för Finland* 4/1971, 353-376; Suvanto, Seppo, 1987, *Ensimmäinen ristiretki - tarua vai totta? Muinaisrunot ja todellisuus. Historiallinen Arkisto* XX, 149-160. Masonen, Jaakko, 1989b, *Finnland im Mittelalter. Zur Einführung. Medium Aevum Quotidianum* 19, 5-12; Taavitsainen, Jussi-Pekka, 1989, *Finnish Limousines. Fundamental Questions about the Organizing Process of the Early Church in Finland. Medium Aevum Quotidianum* 19, 75-88.)

¹² Pölla, Matti, 1992, *Laatokan länsirannikon asujaimiston etnisen koostumuksen muutokset rautakaudella ja Karjalan synty. Summary: Changes in the ethnic composition of settlement to the west of Lake Ladoga and the emergence of Karelia. Studia historica septentrionalia* 21, 416-447. Saksa, A. I., 1992, *Karjala*

written sources these areas are referred to as 'Suomi', 'Häme' and 'Karjala', respectively.¹³ It was probably in the early 11th century that migration from Häme toward Northern Finland began, producing the settlement known as 'ancient Kainuu' ('Kvenland' in the Scandinavian languages) in the river valleys of Torniojoki and Kemijoki.¹⁴ The Finnish population of the mainland did not take part in armed trade or plundering expeditions like the Vikings, but parts of it did probably join the eastbound expeditions of the Swedes. The heads of the eastern river routes of the Vikings were at the time still settled by the Baltic Sea Finns and the Balts.¹⁵ The fact that their languages were related, together with other common factors, probably proved useful for the Finns in defining rights of way and in setting up trade relations. In addition to the mainland, there was fixed habitation on the Åland Islands whose culture, however, was firmly rooted in Swedish civilization. Artefact finds prove that the inhabitants of Åland took part in more Viking expeditions than the Finns on the mainland.

Settlement in Iron Age Finland became concentrated into areas where fertile, easily workable soil was predominant in the plough layer. This explains why Iron Age settlement in western Finland traces a horseshoe pattern on the map [Fig. 2]. Settlement avoided the places where the soil was firm and clayey, and opted instead for regions that had the best arable land.¹⁶ Outside the areas of permanent Finnish settlement, there were

ennen kolmatta ristiretkää. Summary: Karelia before the Third Crusade. *Studia historica septentrionalia* 21, 468-479.

¹³ Gallén, Jarl, 1964, Finland och Österland. *Historisk Tidskrift för Finland* 4/1964, 121-140; 1965, Mera om Österland. *Historisk Tidskrift för Finland* 1/1965, 1-9. To the end of the Middle Ages, Finland was known as 'Itämaa' [in Swedish, Österland, and in Latin, Partes Orientales], or as the diocese of Turku because it was the episcopal see. The first mentions of the word 'Finland' date back to the latter half of the 14th century, when it began to be used, at first sporadically, in sources originating from Denmark and Tallinn. Here the name 'Finland' refers to the area of the Finnish state as it was defined in the Treaty of Dorpat in 1920. Prehistoric Finland, i.e. what was later to become the province of Finland Proper [in Swedish, Egentliga Finland], as opposed to 'Häme' [Sw. Tavastland] and 'Karelia' [Sw. Karelen], is referred to as 'southwest Finland'. Karelia was divided between Sweden and Novgorod in the Treaty of Pähkinäsaari in 1323 [Fig. 3]. The entire area of Karelia was incorporated into Sweden in the Treaty of Stolbov in 1617.

¹⁴ Vahtola, Jouko, 1980, Tornionjoki- ja Kemijokilaakson asutuksen synty. Nimistötieteellinen ja historiallinen tutkimus. Summary: The Origins of Settlement in the Tornio and Kemi River Valleys. An Onomastic and Historical Study. *Studia historica septentrionalia* 3; Julku, Kyösti, 1986, Kvenland - Kainuunmaa. summary: The Ancient Territory of Kainuu. *Studia historica septentrionalia* 11.

¹⁵ Selirand, Jüri, 1992, Itämerensuomalaiset ja itäslaavilaiset. Zusammenfassung: Ostseefinnen und Ostseeslaven. *Studia historica septentrionalia* 21, 530-539.

¹⁶ Orrman, Eljas, 1991, Geographical Factors in the Spread of Permanent Settlement in Parts of Finland and Sweden from the End of the Iron Age to the Beginning of the Modern Times. *Fennoscandia archaeologica* VIII, 3-22.

nomadic Lapps who depended on hunting and gathering for their livelihood, and whose economic, political and social dependence on the peasant community grew significantly towards the end of the late Iron Age.¹⁷

The peasant community in ancient Finland was extremely homogenous, both culturally and socially, from the 9th century onward. The Finnish peasant was an independent farmer and hunter, and as such identifiable even in medieval sources. Below the free peasants in hierarchy were the unprivileged slaves. Society had become loosely organized into parishes, or villages, which were combined into larger units somewhat resembling counties. The assizes of the ancient parishes convened to make decisions on questions of customary law, such as usufruct, larger co-operative projects, defensive collaboration, communications, and rights of way. The ancient parishes were established for practical purposes only, while cult ceremonies belonged to the private domain of the family and kin. There was no permanent or territorial concentration of power. For economic purposes, the people formed among themselves work communities that were each led by a 'king'. Thus, fishing activities were led by a 'seine king' and slash-and-burn, or swidden cultivation, by a 'huhuhta king' (the huhuhta method of slash-and-burn cultivation was used in conifer-dominated forests). Although archeological finds show that wealth was unevenly distributed, it has not been possible to point out a particular group of powerful leaders or chieftains. Another difference between Finland and the rest of the Baltic Sea area, besides this absence of a ruling class, was a certain regional independence. Unlike Russia or the Western Baltic, Finland had no strongholds or colonies controlled by foreign invaders, for example, the Vikings. Finnish civilization was by no means isolated, however; there was an influx of objects and influences from Scandinavia, the Baltic and Slavic areas to Finland. Objects of Finnish origin were also introduced into the Baltic Sea area.¹⁸

¹⁷ Carpelan, Christian, 1984, Katsaus Saamelaisten esihistoriaan. Summary: On the Prehistory of the Lapps. *Bidrag till kännedom av Finlands natur och folk* 131, 97-108.

¹⁸ Litzen, Veikko, 1977, Om socknen. *Historisk Tidskrift för Finland* 4/1977, 324-335; Meinander, C.F., 1980, The Finnish Society during the 8th-12th Centuries. *The University of Helsinki Department of Archeology. Stencil* 23, 7-13; Meinander, C.F., 1983, Om svenskarnes inflyttningar till Finland. *Historisk Tidskrift för Finland* 4/1983, 230-251; Klami, Hannu Tapani, 1981, Jus finnicum. Ruotsalaisen maakuntaoikeuden omaksumisesta Suomessa. Zusammenfassung: Jus finnicum. Über die Rezeption des schwedischen Landschaftsrechts in Finnland. *Suomalaisen lakimiesyhdistyksen julkaisuja A:154*; Salo, Unto, 1992, Rautakauden kärjälaitoksesta Suomessa. Zusammenfassung: Über das eisenzeitliche Thingsystem Finnlands. *Studia historica septentrionalia* 21, 480-494; Masonen, Jaakko, 1994, Den finska infrastrukturens rötter. *Nordiska byggforskningsorganens samarbetsgrupp T14:1994*, 27-34.

The income from the cultivation of arable land was supplemented by the exploitation of the wilderness, namely hunting, fishing and sealing, especially by the Häme people. Naturally, these activities provided some goods for use by the community itself, but their primary purpose was to secure the sole instruments of exchange that were available to the community. Only large farms were able to spare parts of their workforce to go on hunting expeditions the wilderness. Hunting for furs took place in the winter, but the hunters often had to remain on the hunting grounds all the year round. It seems that the exploitation of the wilderness was well planned, and many different methods were employed. Towards the end of the late Iron Age, the Lapps supplied the Häme people with game meat and furs, with certain families serving certain farms. In exchange for their services, the Lapps were given provisions, goods and protection by their masters.

On a map depicting Iron Age settlement in Finland, the Häme population of the inland seems to line the coastal region that was settled by the Finns [Fig. 2]. There are understandably no documents from the late Iron Age describing the ownership of the wilderness tracts, but it is probable that the forest hunting grounds were divided among different landowners at an early stage. This claim is based on the etymology of the word '*erämaa*', meaning 'wilderness'. The first part of the word, *erä* stood for a part or piece of something, and thus, *erämaa* meant a piece of land, rather than an uninhabited and remote forest area. According to 16th century sources, the wilderness regions were owned mostly by landowners in Häme. Recorded history does not know of any wilderness tracts owned by the southwest population. The old place names, which were strongly influenced by the Häme dialect, speak of the dominant role of the Häme people in the harvesting of the northern hunting grounds. The fact that weapons used in hunting became more common up-country than on the coast from the latter part of the Iron Age onwards indicates that hunting and fishing were pursued vigorously by the inland population.¹⁹

The area exploited by the population of southwest Finland during the Iron Age was very limited. On the other hand, the diversity of the artefacts found in these cemeteries of this population is extremely rich in comparison with the cemeteries inland. It is evident that the exportable commodities produced by the coastal population cannot constitute the sole explanation for the affluence visible in cemeteries on the coast. The fact that the forests of the wilderness were mostly owned by the inland population did not by

¹⁹ On the subject of *eränkäynti* hunting, see Vahtola 1980; Masonen 1989a; Masonen 1989b; Taavitsainen, J.-P., 1987, Wide-Ranging Hunting and Swidden Cultivation as Prerequisites of Iron Age Colonization in Finland. *Suomen Antropologi* 4/1987, 213-233.

any means lead to a conflict of interests with the population of the Southwest, but instead to a division of labor that supplemented the basic livelihood, the cultivation of arable land, with trade and wilderness hunting. It was only natural that the southwest population should specialize in trade rather than the exploitation of the wilderness, in view of the fact that its cultural and trade links with the overseas dated from as early as the Bronze Age.²⁰ The inland population in turn specialized in the exploitation of the wilderness, which in practice provided the only Finnish export articles before the Middle Ages. Wilderness hunting provided valuable furs, such as sable, ermine and otter, as well as castor, a balmy substance obtained from glands of the beaver, which was used for medicinal purposes. These products were used as payment for imported salt, metals, textiles, weapons, jewellery and luxury goods.

The role of southwest Finland as an intermediary for trade was facilitated by topographical factors. There were no continuous or navigable waterways from the populated inland areas to the coast during the Iron Age. The arch-shaped lateral formations of the continental glaciers known as the Salpausselkä ridges [Fig. 4] separated the Finnish lake district from the Gulf of Finland.²¹ It should also be noted that the rivers that flow into the Gulf

²⁰ Salo 1982; Salo, Unto, 1984, *Esihistoriallisen asutuksen jatkuvuudesta Suomen rannikoilla*. Zusammenfassung: Über die Kontinuität vorgeschichtlicher Siedlungen an der finnischen Küste. *Bidrag till kännedom av Finlands nature och folk* 131, 175-190. One of the central issues in archeology in Finland is the continuity of settlement in Finland. It was previously thought that there had been, between the Bronze and the Iron Age (circa 500 B.C.-0/50 A.D), a vacuum in the settlement of Finland, during which time Finland was practically uninhabited. The forefathers of the present Finns had supposedly come here in small groups from the Eastern Baltic region, around the beginning of the Christian era. It was thought that this population first settled the southwestern parts of Finland, from where settlement later gradually spread towards the inland. This theory of migration has more recently been abandoned and replaced by an interdisciplinary theory of continuity, according to which Finland was settled by a Finnic population by the year 3000 B.C. Immigrants came to Finland throughout the prehistoric times, however, and became integrated into the main population. Not all linguistic and cultural changes were produced by immigration, however; some of them are quite evidently adopted from neighboring populations.

²¹ The so called 'Central Finnish ice margin formation', the Salpausselkä ridges, is formed by two parallel formations that align with the edge of the continental glacier, leading across the South of Finland from the southwest to the northeast. Between the two main ranges there lies a third, more fragmented ridge. The formation was named 'Salpausselkä' (the Finnish word 'salpa' means 'bolt', or 'latch') because the waters of the lake district are landlocked by the formation, the only exceptions being the rivers Kymijoki and Vuoksi, which flow to the eastern parts of the Gulf of Finland. Although the ice margin formation varies greatly in form, it is many places marked by steep and narrow ridges. Some of those ridges are as long as 200-300 km long, and their relative elevation is usually 5 to 20 meters. The Salpausselkä ice margin formation has greatly influenced transportation policy. One example of this is the restricted traffic area of the city of Helsinki, which was founded in 1550 and made capital of Finland in

of Finland are shallow and there was no permanent riverside settlement there that is known of from the 9th to the 13th century. Even if these rivers, which ran through primeval forests, had been dredged in some way, as traffic routes they could only have been used as far as the isthmuses of the Salpausselkä watershed area, which would have been technically impossible to cross by the merchant ships of the 9th century. There is neither archeological nor historical evidence of cargo ships being pulled across the isthmuses. Moreover, merchant ships usually had a very small crew which would have been completely incapable of defending the ship's cargo against plunderers on the inland isthmuses. Although inland settlement during the Iron Age was largely concentrated into the area surrounding the Kokemäenjoki river, which runs into the Gulf of Bothnia, the river, because of its many rapids, was not passable all the way from the sea into the interior of the country or vice versa. Naturally, on the Kokemäenjoki river as well as on the large lakes of up-country, local traffic could be quite heavy in places.²²

Because of the lack of practicable waterways, the trails leading from the inhabited coastal regions of the Southwest to the uninhabited up-country were adopted as natural routes of travel. By the 9th century, these trails had met the paths that reached the southwest corners of the territories of the inland Häme population. These routes formed a link between the southwest population and the trading places that became established during the Viking Age in the 9th century.

One of the leading centers of trade from the 9th century onwards was the town of Birka, which was situated on an island in Lake Mälaren, and its dominance was to last roughly until the year 975 A.D. It was due to the influence of Birka that several permanent trading posts, which were uninhabited but situated near areas of permanent settlement, were set up along routes of travel on the Finnish coast. The fact that these trading posts were uninhabited and separate from settlement was in the interest of all parties, as trade expeditions in those times often had the tendency of turning into raids of either the places of trading or of the Viking merchants. In the trading posts, the trade practises of the Birka merchants were observed and soon became accepted as the norm. Because of the fact that

1821. The difficult carriage of cargoes made inland transport to Helsinki unprofitable, and it was not until a railroad across Salpausselkä was built in 1862 that the traffic area of Helsinki expanded somewhat (Ajo, Reino, 1947, *Liikennealueiden kehittyminen Suomessa. Résumé: Développement des espaces de circulation en Finlande. Fennia 69:3*).

²² Säntti, Auvo, 1951, *Die Häfen an der Kokemäenjoki Mündung. Fennia 74:3*, Crumlin-Pedersen, Ole, 1981, *Viking Shipbuilding and Seamanship. Proceedings of the Eighth Viking Congress Århus 24-31 August 1977*. Odense; Roesdahl 1982, 30-39; Masonen 1989a, 80-86.

the norms in these trading posts differed from those of ancient Finnish customary law, they were named either 'Birka' (its equivalent in modern Swedish, *Björkö*) or its Finnish form, 'Koivisto'. Seven such trading posts have been identified in southwest Finland and one at the head of the Gulf of Finland. The Finnish population of the river valley of Aurajokilaakso had other trade partners besides Birka, namely Gotland and the Baltic, and, consequently, there is no place named Björkö or Koivisto at the mouth of the river.²³

There were seven economic and traffic areas in Finland [Fig. 5]. The inland, i.e. Häme, was divided into three traffic areas: *Päijät-Häme*, *Vanaja Häme*, and *Pirkanmaa*. The routes from these three areas led to the wilderness tracts of the north, east and south of Finland on the one hand, and to the markets of southwest Finland, on the other. In the same way, four traffic areas can be identified in the Southwest: *Lower or Southern Satakunta/Kalanti*, *the Aurajoki river valley*, *the Uskelanjoki river valley*, and *Karjaa*. The area of Southern Satakunta/Kalanti acted as an intermediary for trade from Pirkanmaa, while the Aurajoki river valley and Uskelanjoki river valley were the channels used to market goods from Vanaja Häme. In addition to Karelia, Päijät-Häme had connections with Vanaja Häme, which was at the intersection of western and eastern influences. The axis of the areas was the road known as *Hämeen Härkätie* (the Häme Oxen Road), leading from the present location of the town of Hämeenlinna to the mouth of the Aurajokilaakso river valley in the city of Turku, and roads branching from it, such as the *Hiidentie* from Somero to the Uskelanjoki river valley, and the road from Hämeenlinna to Päijät-Häme, later known as *Ylinen Viipurin tie* (the Upper Vyborg Road), and the road from Hämeenlinna via the present city of Tampere and along the Kokemäenjoki river, by way of the village of Eura all the way to the coast [Fig. 6].²⁴

²³ The seven Björköes within the area of southwest settlement were the trading posts of Pori, Uusikaupunki, Mietoinen, Taivassalo, Parainen, Tvärminne and Foglö. At the bottom of the Gulf of Finland, there was one trading post by the name of Koivisto, near Vyborg (Salo, Unto, 1982, Suomen kaupunkilaitoksen syntyjuuria ja varhaisvaiheita. Summary: The Birth and Early Stages of the Finnish City. *Historiallinen Arkisto* 78, 7-98; Masonen 1989a; Masonen 1994).

²⁴ Masonen 1989a; Masonen 1994. The small number of finds dating from the Viking Age suggest depopulation of the smallest of these traffic areas, Karjaa. However, pollen analysis shows that slash-and-burn cultivation continued in Karjaa without interruption from the Viking Age to the Middle Ages. No definitive explanation has been found for this kind of depopulation process. It has been shown, however, that there had been more widespread depopulation in the coastal regions of the Gulf of Bothnia and the Gulf of Finland by the beginning of the 9th century, with the exception of the southwestern part of the country, which was sheltered by the archipelago. A number of explanations have been offered, such as a plague epidemic together with/or, alternatively to, a decline in certain trade links of earlier origin and the increased mobility of the Vikings.

3 THE TOWN INSTITUTION AND ESTABLISHMENT OF THE ROAD NETWORK

The destruction of Birka, which took place roughly 975 A.D., was part of a more far-reaching turning point in the trade links of the Baltic. In the east, Novgorod was interested in expanding its sphere of influence at the cost of the Finnish tribes. The cultural area of Karelia became independent and, in collaboration with Novgorod, vied for control of the wilderness tracts in the northern and eastern parts of the country that had traditionally been exploited by the Häme people. Although there is evidence of battles fought in the 11th century against the Scandinavians by the Finns and the Häme people, the cultural area of the Finns and the Häme people had by then gained a more western orientation. In the 12th century, the affinity between the east and the west was turning into a conflict of interests involving trade policy and political ambitions, which was made all the more acute by the struggle for power between the churches. From the viewpoint of southwest Finland, the most significant economic centers were, from the 11th century onward, Gotland and the town Sigtuna in Central Sweden. One of the consequences of the dramatically altered trade relations was the clear decline of the economy and civilization of the Åland Islands. Eight silver hoards have been unearthed in Åland dating from the Birka period, i.e. from 820/830 to 970/980 A.D., but none from the 11th century. Instead, silver was imported to the mainland in larger quantities than before, roughly from the year 1000 onward, a fact which is apparent from the silver hoards and silver burial ornaments dating from this period. The scales and weights found in graves and cemeteries point to the widespread use and importance of silver as a commodity. This new stage of development also involved the introduction of the concept of so-called 'ancient towns'. All of the above phenomena have been seen as signs of the increasing commercial activity of the Finns.²⁵

The ancient towns of Western Finland²⁶ were situated within the area of Iron Age settlement, separate from the Björkö/Koivisto trading posts of the Birka period, but they were not yet granted charters of liberties in the Middle Ages. The most important proof of the early and widespread adoption of the new system is the etymology of the Finnish word for 'town', *kaupunki*. It is derived from the old Swedish word *kaupang[e]r*, which became *köpunger*, *köping* in the 13th century. *Stad*, which is the word for 'town' or 'city' in modern Swedish, is of German origin and it was not used before the 14th

²⁵ Salo 1982, 52-54; Jokipii, Mauno, 1985, Suomen vanhimmista kaupungeista ja Itämeren piirin kaupunkijärjestelmästä keskiajalla. Suomen museo 1985, 37-84.

²⁶ As most of Karelia became politically and economically joined to Finland in 1617, this paper concentrates below on Western Finland, i.e. 'Finland' and 'Häme' (see footnote 17, above).

century. The new word did not replace the old word, *kaupunki*, in the Finnish language, and it has therefore been concluded that the 'ancient towns' were accessible to people throughout the Iron Age. This means that several such 'ancient towns' must have existed, and there must have been permanent and regularly used routes between those towns and their spheres of influence.²⁷

Morphologically, the earliest stages of the town institution were much more modest. The difference between a Finnish town and a rural village remained hardly noticeable well into Modern Times. It was not worthwhile to haul such indispensable but bulky goods as timber and grain over long distances, because their prices were low and the connections were difficult. It was for this reason that the townspeople kept cattle and even farmed land throughout the Middle Ages and even in later times. The differences brought about in the handicraft industry were small likewise: towns and villages were both 'technologically' self-sufficient, as it were.²⁸ In the 11th century, the differences were even smaller. It was only after Sweden extended its rule to Finland that Finnish society consolidated. As pointed out earlier, it has not been possible to single out a ruling class from the rest of Finnish society during that period. There was no merchant class either, and trading and wilderness hunting were controlled by wealthy landowners. The old social structures, which were traditionally flexible and based on cooperation that varied according to need, were maintained in the reorganization of the society. Thus, ancient Finnish towns did not form centers of politics or worship, and it is in fact only the etymology of the word 'town' that justifies the use of the word in this context. In most cases it would be more appropriate to use the expressions 'trading village' or 'market place', which in fact correspond much better to the meaning of the word *kaupang[e]r*.²⁹

Although connections were still very rudimentary, what most clearly distinguishes the 'ancient towns' and the trading villages from the rural villages of the time is their position with regard to commerce and transport. Trading villages³⁰ were established at the main intersections of the

²⁷ Salo 1982, 72-74.

²⁸ The slow start of the Finnish town institution is illustrated by the fact that there were only seven towns in the entire country at the end of the Middle Ages, halfway through the 16th century. Their total population was 6,000-7,000, in other words, no more than 2% of the entire population of Finland, or roughly the same as the population of Stockholm, the capital city of the kingdom. On medieval Finnish towns, see, for example, Kuujo, Erkki, 1977, *Finlands medeltida städer. Urbaniseringsprosessen i Norden 1. Det XVII nordiske historikermøte Trondheim 1977*, 147-160.

²⁹ Salo, 1982, 53-54, 71-72; Jokipii 1985; Masonen 1989a, 133-172; Taavitsainen 1989; Vahtola, Jouko, 1990, *Tvärvetenskaplig vägforskning [critical review of Masonen 1989a]. Historisk Tidskrift för Finland 1/1990*, 103-110.

economic and traffic areas that had emerged during the Birka period, where both Finnish and foreign merchants assembled for trading. Despite the absence of political control, the development of the traffic routes and trading villages was in now way irregular or random. Their infrastructure was shaped by tradition, existing connections and market places, as well as the customary law of the ancient parishes and other, utilitarian considerations. These factors enabled the mouth of the river Aurajoki to flourish as the country's most important hub of economic activity, a role that it was to enjoy until 1812.

The traditional, long-standing trade and cultural connections between southwest Finland and overseas countries contributed significantly to the establishment of the mouth of the Aurajoki river as a channel for trade from Häme. Another advantage, from a utilitarian point of view, was its proximity to important traffic routes. Products from Häme had from as early as the Viking period been carried along the Häme Oxen Road to the ports of

³⁰ The identification of market towns and market places is based on retrospective conclusions. Archeological findings do not in themselves indicate the location of a market place. Most of the material from the late Iron Age is from cemeteries, whereas places of settlement have been studied only cursorily. The reason for this has often been the fact that there was usually steady settlement throughout the Middle Ages, and thus the oldest traces tend to be found in the town cemeteries, as well as through paleobotanical observations. However, the weights and scales that were found in the grave do indicate that the deceased was engaged in commerce, but they do not reveal *where* this activity was pursued. The wealth betrayed by the artefacts found in cemeteries was brought about by trade, at least where imported articles are concerned, but it is only through knowledge of the economic and traffic areas of different communities that we can attempt to hierarchically define the different centers. With these reservations, we can point out at least the following trading villages that belonged to the period of 'ancient towns' (Masonen 1989a, 133-172; Masonen 1994): [1] the present Hollola area in Päijät-Häme (see Hirviluoto, Anna-Liisa, 1985, *Hollolan vaiheet ennen kristinuskon tuloa - kivikaudesta keskiaikaan. Hollolan kirkko. Asutuksen, kirkon ja seurakunnan historia*, 18-32; Lehtosalo-Hilander, Pirkko, 1985, *Pakanuuden viimeiset vuosisadat aarrelöytöjen valossa. Hollolan kirkko. Asutuksen, kirkon ja seurakunnan historia*, 37-48); [2] the present Hämeenlinna area (see Schultz, Hans-Peter, 1992, *Vanajan alueen myöhäisrautakautinen ja varhaiskeskiaikainen asutus uusien arkeologisten löytöjen valossa. Zusammenfassung: Die Besiedlung des Gebietes von Vanaja in der Späteisenzeit und Frühmittelalter im Lichte neuer archäologischer Funde. Studia historica septentrionalia* 21, 517-529); [3] the present Tampere area (see Nallinmaa-Luoto, Terhi, 1978, *Tampere-Vilusenharju. Nuoremman rautakauden kalmisto Pirkanmaalta. Summary: The Cemetery of Vilusenharju, Tampere. Karhunhammas* 3; Salo, Unto, 1988, *Tampereen esihistoria. Tampereen historia* 1, 83-126); and the present Kokemäki area in western Pirkanmaa, or medieval Satakunta (see Salo 1982); [4] Luistari, in the present area of Eura, in Southern Satakunta Kalanti (see Lehtosalo-Hilander, Pirkko-Liisa, 1982, *Luistari I-III. Suomen Muinaismuistoyhdistyksen Aikakauskirja* 82:1-3); [5] the present Turku area in the Aurajokilaakso river valley (see Salo 1982); and [6] the present Halikko area in the Uskelanjokilaakso river valley (see Taavitsainen 1989).

southwest Finland. When trading places moved to inhabited regions in the early 11th century, an uninhabited trading post by the name of *Turku* became established in the middle of the densely populated area of the Aurajokilaakso river valley. Turku was originally situated at the headland of Koroinen, which was the farthest point that merchant ships could reach on the Aurajoki river, prevented from advancing further by the rapids at Halinen. On the basis of what is known of medieval boundary agreements, it is possible that the spot was initially a neutral belt of no-man's-land between two ancient parishes. This would have made Koroinen an even more favorable trading place, because its profits would have benefited not just the town or village that it was governed by, but the whole community. In the vicinity of Koroinen there is another Iron Age cemetery, which is yet to be excavated, and it is therefore possible that the originally uninhabited market place gradually grew into an inhabited trading village. The overseas connections of the trading post are in any case clearly indicated by the coins found in the Aurajokilaakso river valley. Cultural influences are visible in the early Christian cemeteries near Koroinen, which were used at least in the 12th century. It was not rare for a landowner, or other man of wealth and influence, to favor Christianity by ordering the construction of small chapels. This was often undoubtedly motivated by genuine conversion to Christianity, but probably not always without some measure of self-interest. Dealings with a foreign merchant of Christian faith most certainly involved agreement upon certain norms, and this would have been facilitated by adoption of Christianity, even if in name only. A Christian was not required to keep his word to a pagan, a rule which probably also applied vice versa.³¹

The evolution of Koroinen from market place or trading village to ancient town in a morphological sense probably took place by the year 1229, when Koroinen replaced the less easily accessible Nousiainen as the episcopal see and center of the church of Finland. It hardly happened by coincidence that the very same year the pope confirmed the right of the Finnish church to the land that recent converts to Christianity had of their own free will donated to the Church. An embankment and a church were built in Koroinen, which heralded its becoming a religious, administrative and political, as well as commercial center. This can be seen as a veritable turning point, as it widened the scope of the Finnish infrastructure and because political control was involved.

The inland population reacted to the growing influence of the Catholic church in Aurajokilaakso. In the 12th century, this part of the country, conservative, still pagan and beyond the reach of the established Church, began to divert its trade routes toward Rikala, Halikko, along the so called

³¹ Masonen 1989a, 143-164; Taavitsainen 1989.

Hiidentie, a minor road branching off the Häme Oxen Road. This phase was short-lived, however, because all trade from the inland returned to Aurajokilaakso when Sweden extended its rule further inland at the turn of the 1240s.³²

The establishment of Swedish government and the Catholic church, which coincided with the Hanseatic league of the Germans taking over Baltic trade, changed the previously self-governing infrastructure into a system which was clearly controlled from above. Towards the end of the 13th century, the town institution evolved into a medieval system that was modeled on its German counterpart and attempted to combine the interests of the state, the church and the Hanseatic league. Koroinen had become too small and inconvenient for transportation purposes, with the bulkier cogs of the Hanseatic merchants unable to sail that far upstream on the river Aurajoki. At the end of the 13th century, the market place and cathedral were moved a few kilometres downstream, to the foot of a small hill named Unikankare, thus laying the foundation for the present city of Turku.

Although all Finnish medieval towns except Turku, i.e. Viipuri, Porvoo, Ulvila and Naantali, were set up away from the oldest trading posts and market towns, changes to the regional divisions were relatively small. The network of highways [Fig. 6], together with the main intersections, had remained stable from the 9th century, and would in fact largely remain so until as late as the early 20th century. The economic and political role of Aurajokilaakso would continue to be significant until the beginning of the 19th century, and its market area would extend further and further into the hinterland.³³ On the other hand, the ancient trading places and ports would remain in use well into the Middle Ages in the form of the unchartered maritime trading³⁴ carried on by peasants all around the Baltic Sea. Therefore, Finland did not form an economic entity even at the end of the Middle Ages, but was instead divided into parts of varying size, a fact which was to some degree determined by the existing connections. In consequence, not one inland town was established during the Middle Ages. We cannot therefore talk about the infrastructure of Finland, only about Finnish infrastructure, which

³² Masonen 1989a, 153-164.

³³ Ajo 1947.

³⁴ Unchartered maritime trading refers here to the import and export trade that peasants engaged in independently of the chartered towns. It is difficult to give any one estimate of the volume of this trade, but the total merchant marine of Finnish towns at the end of the Middle Ages was 100 ships at the most, while the number of vessels equipped by peasants was as high as 400. The tonnage of these vessels is unknown, but on the basis of the fact that there are reports of peasant shipmasters landing in Germany, their vessels must have been relatively large (Kerkkonen, Gunvor, 1959, *Bondesegel på Finska viken. Skrifter utgivna av Svenska Litteratursällskapet i Finland* 369).

has in a certain paradoxical way evolved autonomously with the help of external stimuli. One of its most noticeable characteristics is the fact that none of the medieval towns in Finland, with the exception of Vyborg on the east border, had town walls.³⁵

³⁵ Masonen 1994.

4 CRITICAL ANALYSIS OF THE SOURCES OF EARLY ROAD TRANSPORT IN FINLAND

The medieval source material that is known today represents only a small part of the material that was originally produced. Most of the material that has survived dates from the late Middle Ages and comprises different legal documents and correspondence, as well as copies of these from a later date.³⁶ From the point of view of transport history, the most important of these are judgement books relating to land ownership. A judgement book given in assizes was an attestation which could be used to indicate the boundaries of a certain piece of land and as document of title. Most of the references to individual roads and bridges that are known and identifiable are found in lists of boundaries, as bridges and roads were often used to mark boundary lines. References are also made to roads and bridges in letters of officials and members of the nobility. Documents describing the actual construction of roads have not been found in Finland. Among the documents dealing with traffic, there are also rules and regulations concerning road maintenance, lodging and travel. For the most part, roads and traffic are mentioned only after the beginning of the 15th century.³⁷

³⁶ There are many reasons for the scarcity of source material from the Middle Ages. The destruction of Turku in 1318 in an attack from Novgorod depleted sources from the early Middle Ages. Medieval sources were also lost in the Reformation started by king Gustaf Wasa in 1527 during which ecclesiastical documents were destroyed. The third large-scale destruction was caused by the fire of Turku in 1827 which destroyed, among others, the library of Turku Academy. Almost 95% of the surviving material, constituting approximately 7,000 documents, have been published in two main publications: *Finlands medeltidsurkunder* [=FMU] I-VIII. Samlade och i tryck utgifna af Finlands statsarkiv genom Reinhold Hausen. Helsingfors 1910-1935 and *Registrum Ecclesiae Aboensis* [=REA] eller Åbo Domkyrkans Svartbok i Tryck utgifen af Finlands Statsarkiv genom Reinhold Hausen. Helsingfors 1890. It is improbable that any more undiscovered medieval documents or their subsequent copies will be unearthed in Finland. However, there is a considerable amount of unknown or neglected material concerning Finland in foreign libraries, for example, in the city archives of Tallinn.

³⁷ The reason for this is the jurisdictional reform that was implemented during the first decades of the 15th century, whereby jurisdictional districts were formed. In 1435, Finland was divided into two districts administered by a lagman, a high administrative officer. The reform seems to have increased the number of documents produced and improved their preservation. The preservation of documents has been dependent on the archiving facilities of landowners, i.e. the church and private individuals. While some official archives have been lost to destruction and fire, others have been preserved in family archives. In such cases, the geographical distribution of the sources gives a false picture of the road conditions of the late Middle Ages. The fact that there are few mentions in 14th century sources relating to identifiable road sites, does not prove that there were few roads; the explanation is in the lack of judgement books from this period. In 1993, Tapio Salminen collected and compiled the mentions of highways and road communications in medieval sources published in Finland into a relational database named VIATICUM, which is kept at the Finnish

The use of medieval source material is restricted mainly by the fact that the mentions of land communications are scattered and generally do not refer to clearly defined traffic routes between operational points. Neither is it possible to draw definite conclusions concerning the age of a road or bridge on the basis of the dating of a boundary judgement.

The oldest known source describing public roads in Finland is the following excerpt from a list of highways and public roads drawn up by *Jacob Teitt* in the petition of 1555-1556 : "Farms situated along public roads in Finland, in which the King intends to install bailiffs".³⁸ The farms listed in the petition were to provide accommodation for those traveling on Crown business. The description of these farms, as well the distances between them, forms a division into four roads, of which three are further divided into shorter sections. The following list is an outline presentation of those roads, as defined in the petition:

- 1 Vyborg- (Uusimaa, along the seacoast) -Turku, the so-called 'Great Coastal Road'
- 2 Vyborg-Hämeenlinna-Turku, the so-called 'Upper Vyborg Road' and the 'Häme Oxen Road'
- 3 Vyborg-Olavinlinna-Hämeenlinna, the so-called 'Great Savo Road'
- 4 Turku-Uvila-Korsholma- (through the wilderness region) -Hämeenlinna

The next homogeneous group of sources describing roads after Teitt's list consists of maps from the period of Swedish rule in Finland, i.e the years 1633-1808. Most of the maps that are usable date from the years 1748-1808. The majority of these maps are to the scale of 1:4000 and depict the Great Redistribution of Land, which in Finland began during the latter part of the 18th century. These maps have been found to be accurate in various different contexts. The maps are complemented by division documents based on land surveys, namely documents concerning the division of roads and bridges that have been produced since the 1770s.³⁹

National Road Administration.

³⁸ Jacob Teitts klagomålsregister emot adeln i Finland år 1555-1556. utg. av Kustavi Grotenfelt. *Todistuskappaleita Suomen historiaan V*, 1894, 84-89. The list is complemented and supported by several other, less extensive contemporary descriptions. Teitt's list and the supporting documents were described in the classic work of Finnish road history, the doctoral thesis defended in 1892 by Väinö Voionmaa [originally, Wallin](Wallin, Väinö, Suomen maantiet Ruotsin vallan aikana. Referat: Geschichte der finnländischen Landstrassen während der Schwedenzeit (bis zum Jahre 1808). *Fennia* 8:2, 1893).

³⁹ The maintenance of roads and bridges was carried out by the landed peasant

Ever since the 1980s, the study of early roads and land communications in Finland has been based mainly on the comparative study of the three above-mentioned source material groups: the medieval judgement books, Jacob Teitt's list, as well as old maps and land division documents. This material is complemented by onomastic and traffic data provided by cameral source material.⁴⁰ This generally involves the making of a field inventory, in other words, the verification and documentation, in the field, of a horizontal alignment that has been defined on the basis of historical sources and the remains of the road.⁴¹ This approach permits a more or less accurate definition of the horizontal alignment of a historical road from the 15th century onwards.

Archeological excavations have also been carried out on the inventoried roads. The excavations have generally been performed on the basis of place-names and/or maps on sites where there are constructions of some sort, such as bridges or steps. The constructions that have been dated dendrochronologically or by means of ¹⁴C-dating are mostly of 17th century origin. It should be noted, however, that underneath the datable constructions there are usually steps, or stepping stones, which cannot be accurately dated.⁴²

Therefore, the archeological research of roads does not confirm the hypothesis mentioned in the foregoing that the core of the Finnish road network took shape as early as the 9th century. There are several reasons for this. During the age of primitive vehicles that relied on the use of manpower, there was no real need to build roads, except where it was

population in the nature of taxes from the Middle Ages onwards. Very few documents pertaining to the division of land have survived from the period before the late 18th century. Some judgements concerning road maintenance etc. have survived from the late Middle Ages, but the horizontal alignment of a road cannot be defined on the basis of those sources alone. Later produced instruments of division, however, include a land survey map which presents a road alignment measured in cubits, as well as culverts, bridges and the most important buildings situated along the road. Although the route of the road has been drawn as a continuous line and the terrain is not described, it has been possible to sketch the route extremely accurately by virtue of present basic maps.

⁴⁰ The number of sources describing Finland and transport history increases considerably after the Middle Ages. The majority of 16th century sources are printed, perhaps 60-70%, which is not as high as the percentage of printed medieval sources. The amount of completely unknown or unused original material is much larger.

⁴¹ The objective of the inventorying of roads is to define the horizontal alignment, structure, maintenance and use of roads, as well as to determine the equipment used on the roads and the auxiliary roadside services, such as accommodation, postal services etc. Inventories are also of service in the planning of the present-day use and protection of historic roads (see, for example, Masonen 1989a, Salminen 1993).

⁴² Masonen 1988; Masonen 1989a, 25-37; Salminen 1993, 56-57.

necessary to cross wet ground or bodies of water. There was always a ready supply of wood available for construction purposes. On the other hand, organic matter does not remain intact for long in the sour Finnish soil.⁴³ Sites requiring more sturdy structures were propped up with stone constructions that are usually difficult to date. The kind of tracks that have been worn into the ground by traffic, for example, in Middle Europe, have not been found in Finland.⁴⁴ Due to climatic reasons, Finland has been covered in snow to a larger extent in winter than the rest of Scandinavia and Central Europe and, accordingly, winter transport and special winter roads across lakes and marshland have been proportionally more common and of a longer annual duration in comparison. Winter traffic, of course, leaves neither lasting tracks nor such structures that could be studied by archeology. The formation of tracks caused by traffic during the summertime was affected by the considerably low traffic density of sparsely populated Finland in comparison with the other areas mentioned above. If tracks had been made on a larger scale, they would have been obliterated from the main routes later because of road maintenance. The alignment of the the main roads that have been studied to date by means of maps and terrain inventories, among others, the Häme Oxen Road and the Great Coastal Road, has to a large extent remained the same, and the roads have been in continuous use at least from the late Middle Ages to the present century. In fact, both of these old highways are still largely used by motor traffic as local or private roads.

In the dating of roads, it has therefore been necessary to resort to the analysis of administrative, economic and topographic factors. An illustrative example of this is the study of the Great Coastal Road, which leads from Turku to Vyborg along the coast of the Gulf of Finland.⁴⁵ It was earlier thought that the original purpose of the road was to act as a connecting route between its termini, the castles of Turku and Vyborg. If such were the case, the road would have been established in 1293, when Vyborg Castle, which is younger than Turku Castle, was built. A historical-administrative analysis, however, showed that the need for communication between the two castles was nonexistent because Turku and Vyborg were administratively separate until 1340. The study of settlement history and local government confirmed the conclusion that the Great Coastal Road did not become established as a public road between Turku and Vyborg before 1340s, at the very earliest. Excavations were carried out at the half-way mark of the road in Espoo, on an abandoned section, and the results of the ¹⁴C-dating of its top levels indicated, with a certainty of 68%, the result cal

⁴³ For example, no vehicles dating from the late Iron Age in Finland are known to have existed. This may be explained by the use of packhorses, however.

⁴⁴ Denecke 1979.

⁴⁵ Salminen 1993.

1260-1430 A.D. This would match perfectly the historical dating of the entire road alignment, but the dating of the bottom layer of the remains of the road produced the result cal 330-630 A.D., with a certainty of 68%. Therefore, it seems apparent that these two structures are not factually linked, as the alignment of the Great Coastal Road would not have been topographically feasible before 800-1200 A.D., for the natural reclamation of land from the sea alone. At present, there are two explanations for the dating of the oldest Finnish road. Either there really was a road section there half-way through the Iron Age, or then the site consists of the remains of a prehistoric burial cairn that was broken up by peasants during the Middle Ages in order to make a roadbed.

In light of the critical analysis of source material, the study of early road history in Finland is thus a synthesis based on indirect archeological evidence, retrospective interpretation of historical data, topography, and the general economic and transport history of the entire Baltic Sea area. This is by no means a new idea. Henrik Gabriel Porthan, who is known as the founding father of Finnish historiography, wrote in 1792, in what is probably the first study on Finnish transport history, as follows: "*The nature itself of the matter shows that footpaths and horsetrails could well have existed even before the birth of Christ. The need to travel to certain ports, fishing grounds etc. undoubtedly forced the population to make such roads. They also convened in special assizes and meetings, equipped pirate ships and collaborated in defending themselves from enemy assault: for all this to be possible there had to be roads.*"⁴⁶

⁴⁶ Porthan, Henrik Gabriel, 1873 [original from 1792], *Beskrifning öfver vägarne i Finland. Henrici Gabrielis Porthan Opera Selecta V = Suomalaisen Kirjallisuuden Seuran toimituksia 21:5*, 103.

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FIG.1 EUROPE IN THE VIKING AGE/ EARLY MIDDLE AGES

FINNISH SETTLEMENTS
 SCANDINAVIAN SETTLEMENTS
 VIKING ROUTES AND CORRESPONDING DATES

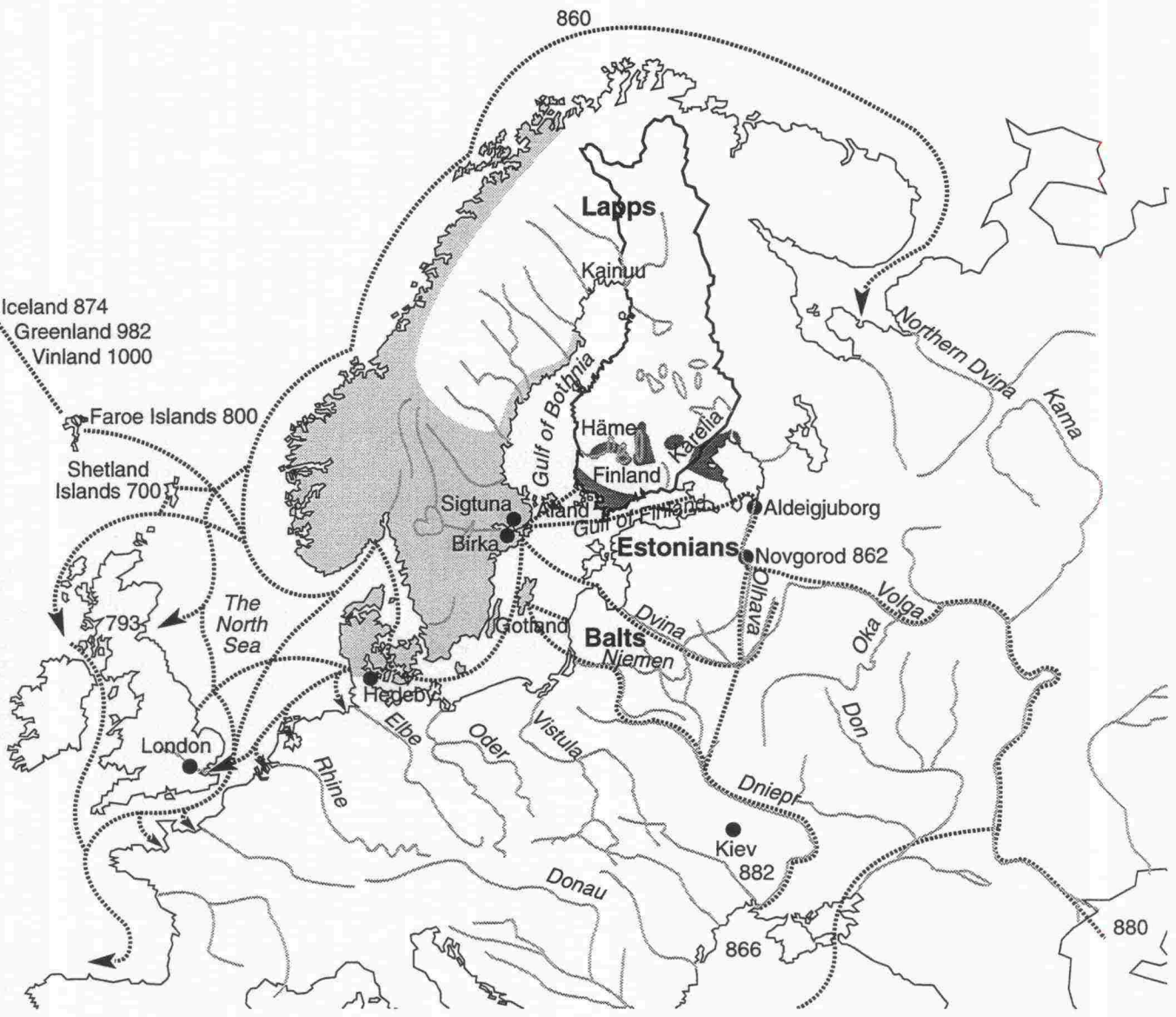


FIG.2 SETTLEMENTS IN THE LATE IRON AGE

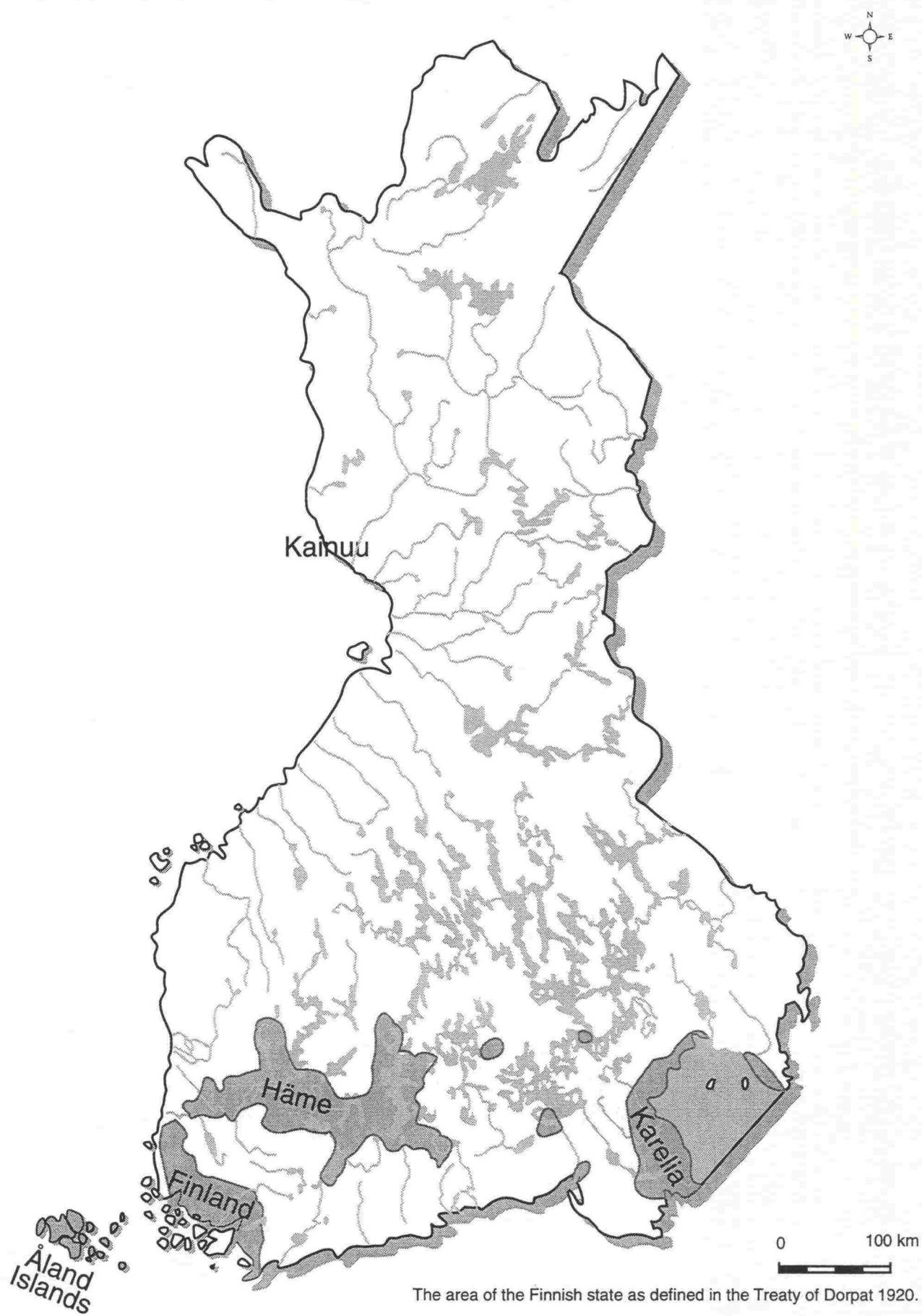
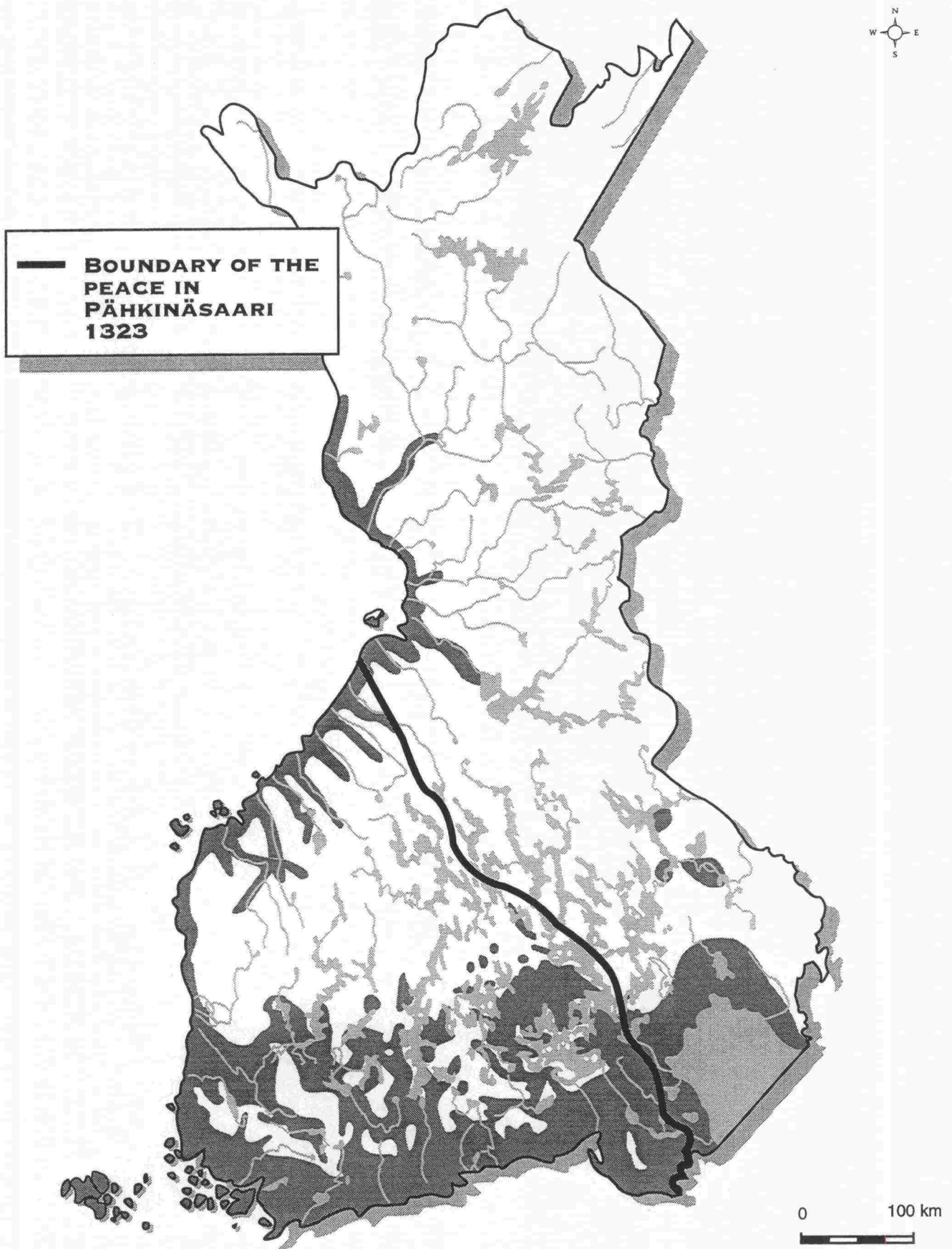


FIG.3 SETTLEMENTS IN THE MIDDLE AGES



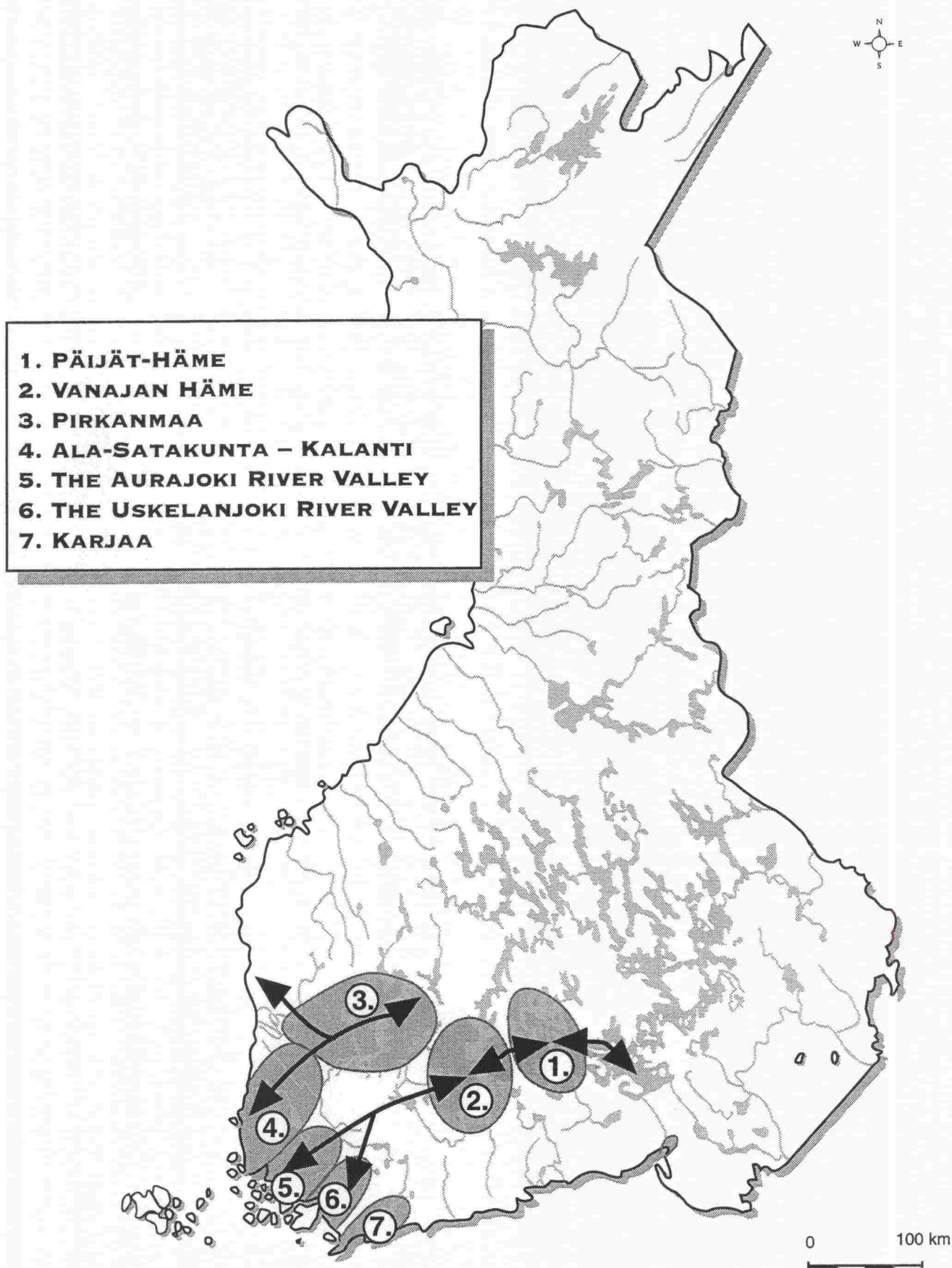
The area of the Finnish state as defined in the Treaty of Dorpat 1920.

FIG.4 ESKERS AND ICE-MARGINAL FORMATIONS



The area of the Finnish state as defined in the Treaty of Paris 1947.

FIG. 5 ECONOMIC AND TRAFFIC AREAS



The area of the Finnish state as defined in the Treaty of Dorpat 1920.

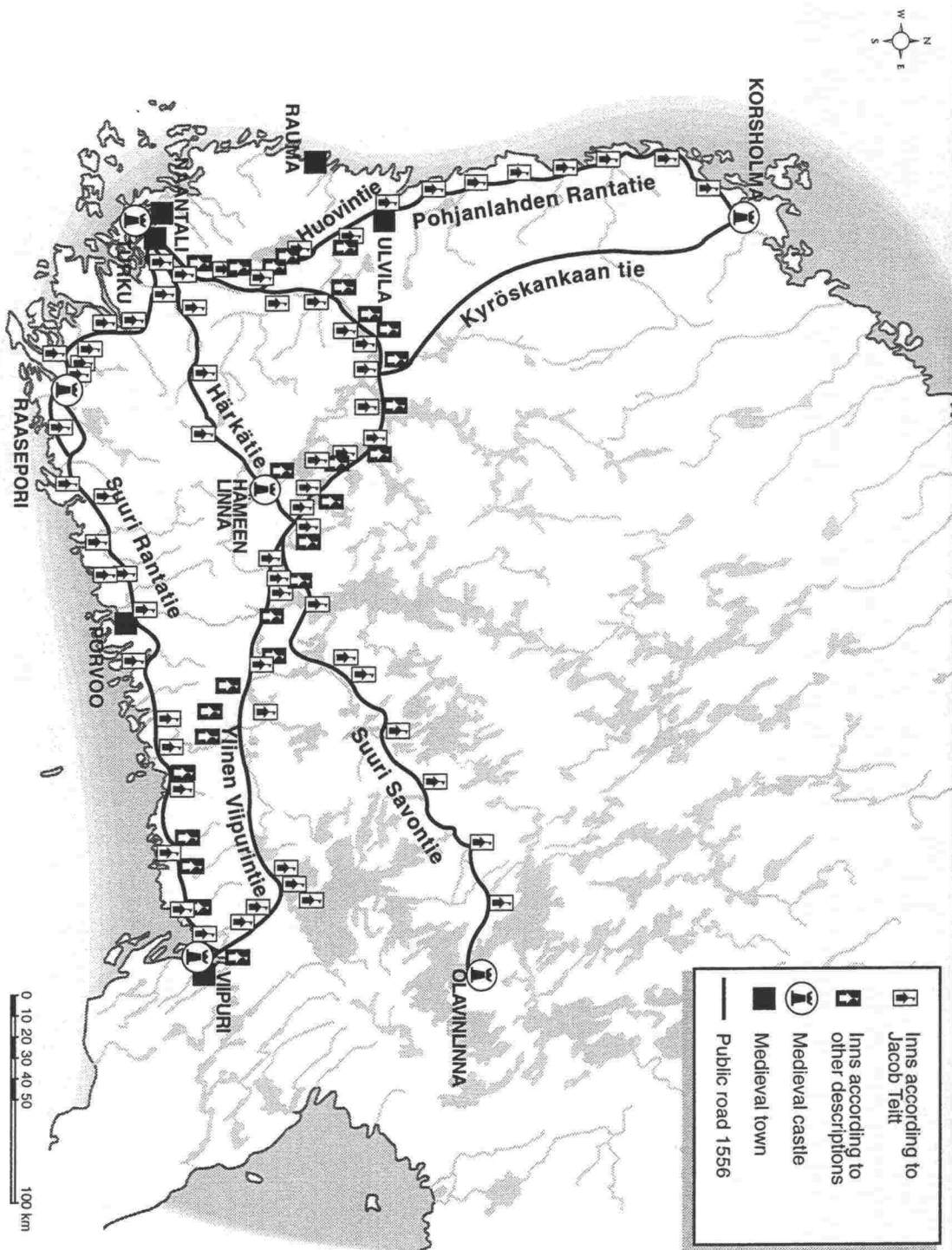


FIG. 6 PUBLIC ROADS AND INNS IN FINLAND 1556

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