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Finnish landscape studies – a mixture of traditions and recent trends in the analysis of nature-human interactions

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From traditions to modern landscape research

- 1 Landscape research was initiated in early 20th century Finland primarily by geographers interested in describing and characterising the regions of their country. The earliest and most profound work in Finnish landscape science was carried out by J.G.Granö, who developed a methodology for systematic landscape analysis in the 1920s (1928; 1929). His ideas paralleled the views of the German *Landschaftskunde* tradition (O. Granö & A. Paasi, 1997), but for him landscape referred primarily to the visual human environment, the distant view, without the sense of a «confined area» (*Landschaft*). He started from this environmental perception and proceeded to a definition of landscape areas in terms of *uniform regions*. It was through Granö's work that holistic *landscapes* became a concrete, regional object of research in Finland, and his publishing and teaching had a crucial influence on the Finnish perception of landscape, partly because he created an accurate set of scientific landscape concepts in Finnish.
- 2 Granö developed the concept of landscape further by analysing the spatial dimensions of the senses (acoustic, etc.) and assigning them cartographic representations in the form of a separate «micro-environment», to which he gave the name *proximity (Nähe)* (J.G.Granö, 1929; 1997; Jones, 2003). J.G.Granö's inaugural lecture on the Finnish landscape at the University of Turku in 1926 marked the beginning of a programme of

research (J.G.Granö, 1927) which led to a number of reports on the landscapes and built environments of localities mainly in South-Western Finland, some of which are available in published form (e.g. Tuominen, 1935; Heikinheimo, 1939).

- 3 Despite these strong methodological traditions, Finnish landscape studies can hardly be said to have progressed in a straightforward manner during the 20th century. The traditional concept of landscape gave way to the mathematical methods of regional science in the 1960s, and the visual component disappeared from use. The landscape as a field of vision was of little importance in science other than perhaps as a preliminary to the investigation proper. Landscapes were analysed primarily as a set of differentiated areas with forms of variable physical composition and geometry. Only the branch of landscape research that shared common ground with ecology maintained its position, primarily in central and eastern Europe, being known by the term *landscape ecology* (*Landschaftsökologie*) coined by Carl Troll in the 1930s (Tuhkanen, 1994). This concept was introduced in Finland as early as 1947 (O.Granö, 1947), but research began to be carried out under that name only in the 1980s.
- 4 More recent times have witnessed the reinstatement of the visual element of landscapes, however, and nowadays a landscape is understood holistically both as a physical object of research and as a subjective and cognitive construct, the interpretation of which has varied with time. Nowadays there are not only more empirical studies of landscapes, both real environments and those represented in visual and textual media, but also, and often in the context of the same studies, the focus is placed on the world itself, its history and ideology. As a consequence of this, one can also detect the emergence of a link between the landscapes of artistic and scholarly works (O.Granö, 1996a; Raivo, 1996; Saarinen & Raivo, 2000; Jones, 2003).
- 5 The quickening of interest in landscape study may be seen as part of a new cultural direction, especially in Anglo-American human geography, from which landscape studies have spread to Europe once more, at the same time as the European discipline of landscape ecology, as a quite separate entity from other varieties of landscape study, has recently gained a firm foothold in America.
- 6 This dichotomy between landscape ecology based on the natural sciences and landscape studies proceeding in the social and cultural sphere has now become visible in Finland as well. In both cases an interest in landscapes is felt across a range of academic disciplines and professions. The methods employed and the disciplinary frameworks in which they are set may be quite different, but they have the same focus, landscape, and it is this that justifies their treatment side by side.
- 7 Traditional Finnish landscape research as it evolved in the 1920s, which is still characterised by the classification of landscapes and the delimitation of regions on this basis, finds itself in the position of a mediator between these two schools in a sense. It set out from a foundation in the natural sciences, but it possessed features of a cultural approach, e.g. in its accent on human activity and the perceived environment, although it lacked the connections with non-material culture that are typical of true cultural studies (Paasi, 1984, 1989).

The practice of landscape research in Finland

- 8 Finnish landscape research is practised within several university disciplines and governmental research institutions. While the ecological and spatial aspects of landscapes are of primary interest to the natural sciences, the social and cultural connotations are studied within the humanities and social sciences. Transdisciplinary approaches emerge especially when applied viewpoints have been adopted on landscape. This has been the case in landscape conservation, forest management and urban planning, for example.
- 9 Traditional university disciplines such as Geography, Biology, History are active in contemporary landscape research initiatives. These disciplines also provide a great deal of basic education in landscape science, focusing on different perspectives on landscapes. Other academic departments such as Landscape Architecture, Forestry and more recently the Department of Cultural Production and Landscape Studies at the University of Turku have added to the variety of ways in which landscapes are studied in Finland. In addition, a great deal of landscape research is involved in the activities of governmental research organisations which promote the management and protection of valuable landscapes and natural resources (e.g. the Finnish Environment Institute, the Finnish Forest Research Institute, or the regional and local environmental centres and offices). Inventory and conservation work on valuable archaeological and cultural heritage sites has been an object of interest for the National Board of Antiquities and various provincial museums, for example.

The scope and themes of Finnish landscape studies

- 10 We have categorised landscape studies under four main themes, with the intension of describing their overall emphasis and orientation in Finland: (1) theoretical and methodological, (2) ecological, (3) social and cultural and (4) applied. These divisions should not be interpreted too precisely, as several approaches are combined in practical landscape research. The themes are partly parallel to previously identified schools of landscape research in Finland (Kontturi, 2000, pp.151-158).
- 11 *Theoretical and methodological* landscape research was initiated by J.G. Granö in the late 1920s (1928; 1929), and revived later in the 1980s and 1990s. The ontological development and theories of landscape studies have been discussed at least by O. Granö (1982; 1996a; 2003), Keisteri (1985; 1990), Raivo (1996; 1997), Häyrynen (2000) and Kontturi (2000). Methodological developments, especially in applications of remote sensing, GIS and digital image processing, have been described by Keisteri (1990), Hietala-Koivu (1996), Luoto (2000a), Vuorela (2001), Burnett (2002) and Vuorela *et al.* (2002).
- 12 Research in *landscape ecology*, which focuses on analysing landscapes as dynamic ecosystems, has become a popular branch among natural scientists in Finland (under the headings of ecology, environmental studies or physical geography). While a great deal of this analysis seeks relationships between landscape structures and species patterns (e.g. Luoto, 2000b; 2000c), there are also many studies that focus on nature-human interactions, landscape changes and dynamics (e.g. Hietala-Koivu, 1999; Vuorela, 2000; 2001). Looking at the topics from a habitat/landscape type perspective,

three main topics can be identified: forest/woodland management, natural resources and biodiversity (e.g. Löfman & Kouki, 2001; Vuorela, 2001), agricultural landscapes, land use and biodiversity (e.g. Hietala-Koivu, 1999; Lehtinen, 1997; Luoto *et al.*, 2001) and urban environments, land use, planning and species interactions (Vuorisalo *et al.*, 2002). These topics reflect the character of Finnish landscapes as well as currently promoted environmental issues such as the protection of biodiversity in Finnish forest and agricultural landscapes, and consequently the land use and landscape management implications that these issues might arouse. Landscape ecology research makes extensive use of the tools and methods available in geoinformatics (remote sensing, Geographical Information Systems and digital cartography), which have enabled simultaneous analysis of several spatial data sets providing information on environmental factors, and have therefore served well for the analysis of landscape structures and their changes and functions (Vuorela, 2001).

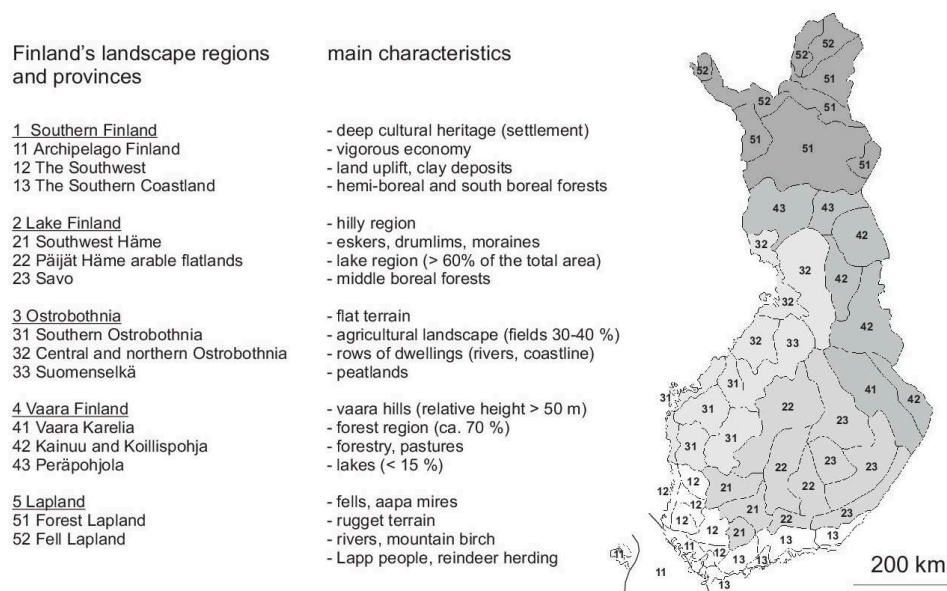
- 13 *Social and cultural* landscape studies understand landscape both as a framework for human activities and as a *way of seeing* and interpreting landscapes. Landscapes exist primarily as a form of human experience possessing symbolic meanings and significance. Landscape representations in art and literature have also increasingly come into focus (O. Granö, 1996a; Paasi, 1996; Raivo, 1996; 2000). This contrasts with the ecological approach, in which cultural landscapes refer primarily to landscapes where nature–human dynamics play an important role (Keisteri, 1990; Tuhkanen, 1994).
- 14 The social and cultural representations of landscape have often been studied in connection with the formation of the built environment. This started in the 1960s, motivated by a conservationist urge to preserve the traditional countryside. The symbolic connotations of these representations have provided material for cultural and art history (Klinge, 1993; Reitala, 1983) and alongside these, landscape issues have been addressed in local, rural and urban history and ethnology. In the 1970s, for example, attempts were made to launch «milieu studies» as an extension of art history, which then became understood as a discipline pertaining to the history of all visual phenomena (Arkio & Pöykkö, 1975). A distinct line of study has been the history of designed landscapes, pursued sporadically in Finland since the 1920s, which has only recently established itself (Häyrynen, 1994; Häyrynen *et al.*, 2001). Throughout the 1990s, the «spatial turn» in social and cultural studies and the international New Art History have informed Finnish art history in the guise of discursive and intertextual re-readings of visual and spatial phenomena (Eskola, 1997; Elovirta & Lukkarinen, 1998). These have provided the ground for new interpretations of landscape.
- 15 A large proportion of landscape analyses are *applied*. Environmental history has grasped landscape as a dimension of the human-nature relationship (Laakkonen *et al.*, 2001), forest landscapes have been examined as a specific subject area (Reunala & Virtanen, 1987), and even tourism studies have come across landscapes (Saarinen, 2001). The gradual emergence of landscape conservation has brought to the fore both the issue of a landscape as physical evidence from the past, hence an object of conservation, and landscape as a vehicle for cultural, e.g. national values (Ministry of Environment, 1993; Luostarinen & Olin, 1997; Mattinen *et al.*, 1999; Heikkilä, 2000; Ympäristöministeriö, 2001). The former aspect has resulted in the introduction of landscape archaeology (Maaranen, 2000; Nissinaho, 2000), while the latter has led to the study of popular landscape imagery, scenic heritage, literary landscapes, etc. (Palin, 1999; Häyrynen, 2000; Lassila, 2000; Konttinen, 2001). In addition, landscape preference

studies have become a popular application in Finland. Both scenic and recreation preference analyses have been performed, especially in forest and rural landscapes (e.g. Karjalainen, 1996; Silvennoinen *et al.*, 2001; Tahvanainen *et al.*, 2001).

Landscape regions in Finland

- 16 The conceptual system and terminology created by Granö provided a solid foundation for divisions of Finland into regions on landscape grounds (Keisteri, 1990, p.53). The first systematically classified map of landscape regions was presented in the Finnish National Atlas of 1925 (J.G.Granö, 1928). In addition to their concentration on spatial configurations of landforms, vegetation, water and man-made forms, these early mapping exercises involved the development of cartographic overlay and visualisation techniques (J.G.Granö, 1928; 1931; 1951; Alestalo *et al.*, 1994).
- 17 In 1992 the Ministry of the Environment published the Landscape Province map of Finland (Ympäristöministeriö, 1992), and in 1994 the National Land Survey and the Geographical Society of Finland together established a landscape area map, based largely on the earlier work of J. G. Granö (Figure 1). These landscape areas were hierarchically defined on three spatial levels using the proportions and spatial configuration of ground, water, vegetation and man-made forms.

Figure 1. Landscape regions and provinces of Finland.



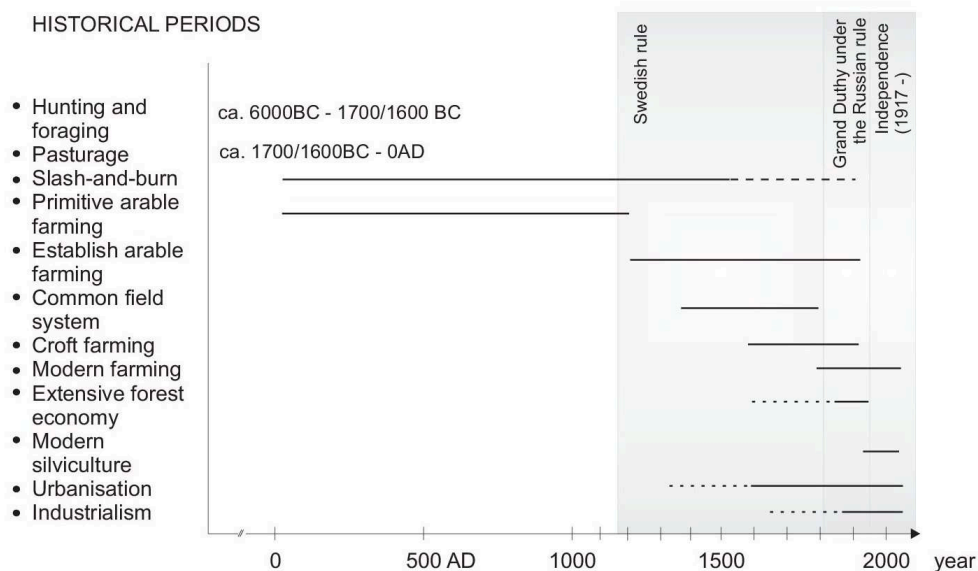
The most homogeneous units are a set of 51 areas, which can be combined to form 14 provinces. These may then be categorised into five main regions: Southern Finland, Lake Finland, Ostrobothnia, Vaara Finland and Lapland (for details, see Alalammi, 1994, 27).

Finnish landscapes – governed by natural processes, shaped by human activities

- 18 Finnish landscapes are locally heterogeneous but regionally fairly uniform. The relief is relatively flat and the country is characterised by lakes and boreal forests. The bedrock

and its structure have been heavily influenced by the Ice Age and ubiquitous morainic drift provides reminders of that period. The clay deposits that occupy the lowlands are indicative of subsequent marine stages. Settlement is relatively sparse throughout the country, but is concentrated somewhat in the southern parts (Aartolahti, 1982; Alestalo *et al.*, 1994). A large proportion of the Finnish landscapes are dominated by natural components such as forests, lakes and mires. The natural setting has always been an important character of Finnish landscapes, but several historical phases have influenced their development on the regional scale (Figure 2).

Figure 2. Major historical periods that have influenced the development of Finnish landscapes.



The temporal extents of the periods are rough estimates, mainly referring to southern parts of Finland. The area currently identified as Finland has not evolved in a uniform manner.

- 19 According to Heikkilä (2000), the cultural landscapes of Finland have several crucial values and themes. Values, which most essentially embrace open agricultural land (meadows, permanent fields), high levels of biodiversity and the existence of a man-made environment, are dependent on sustainable nature-human interactions. Major themes are the overuse of environmental management, promotion of larger farm sizes, replanting of forests, lack of management in the case of traditional agricultural landscapes and lack of preservation of old built environments (Heikkilä, 2000).

The future of Finnish landscape research

- 20 Despite the significance of landscape research traditions, the modern concept of *landscape* is remarkably diverse. This diversity, and also the lack of precise landscape definitions for research purposes, hinders collaboration between landscape researchers (Raivo, 1997). In many respects, truly holistic, integrated landscape analyses are difficult to find, although Finnish landscape studies have begun to assume an interdisciplinary character, with different fields of study interacting with one another and exchanging concepts and methods. An informal *Landscape Research Network* was set up in 1991, and this maintains an electronic discussion forum. The network has also

organised a number of national colloquia (Häyrynen & Immonen, 1996; Landgren & Häyrynen, 1997; Saarinen & Raivo, 2000). In addition, a BA course in Landscape Studies was started in Pori in 2001, based on an interdisciplinary approach to landscape with an emphasis on the humanities, cultural studies and landscape conservation. Ecological landscape research still remains separated from these activities.

A research policy for landscape studies

- 21 The future of landscape studies is tied to whether knowledge about nature-human interactions on the visible surface of the earth will be able to overcome the fragmentation brought about by specialization. Against this background there has been some discussion of its future role and the adaptation of this field to the institutional changes taking place in science as a whole (O. Granö, 1982; 1996b). The distribution of landscape studies among various academic disciplines, professions and pressure groups can particularly be expected to interfere with the development of the field as a single entity, and thus it is that the rapidly growing ecological branch grounded in the natural sciences that is now known as *spatial ecology* has begun to shift its interests beyond the boundaries of landscape studies to include the habitats of specific organisms.
- 22 The fragmentation among academic disciplines and professions has resulted in parallel attempts to achieve *interdisciplinary teams*. Organisational forms of co-operation are important, but they are not enough. What is needed is a common world of concepts, a new way of thinking. We do not need merely interdisciplinary teams, but *transdisciplinary concepts, intertraditional points of view*, in which quantitative and explicatory methods are complemented by qualitative approaches and methods which emphasize understanding, meanings and symbols. If we wish to develop landscape studies as fundamentally a single entity, this will presuppose above all just such an intertraditional view. Although no methodology common to both landscape studies grounded in the natural sciences and landscape studies grounded in a social and cultural perspective has yet been developed, one possibility for this may be provided by the process of change now taking place in the structure of science as a whole, by which an alternative to traditional scientific investigation is evolving in the form of a *new mode in the production of knowledge* (Gibbons *et al.*, 1994; O. Granö, 1995; 1997), in which a transdisciplinary form of basic research has become bound up with the decision-making process in society in the manner of problem-solving applied research. In the case of landscape studies this would mean that organism-centred basic research should be rendered an essential element from a human point of view and thus dovetailed in with questions of social values and decision-making in the course of a research process that takes social and cultural aspects into consideration. This would do much to alleviate the difficulty of creating a direct link between the results of basic research into the ecology of organisms and the decision-making processes taking place in society.

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ABSTRACTS

Finnish landscape studies have long methodological traditions stretching back to the early 20th century. These are reflected in present-day landscape research, which is practised within various university disciplines and research institutions, representing both the sciences and the humanities and also applied fields. We have categorised Finnish landscape studies under four main themes: (1) theoretical and methodological, (2) ecological, (3) social and cultural, and (4) applied. The focus of Finnish landscape research has been on both physical landscape characteristics and their spatial and temporal interactions, and also on the diverse social context of landscapes. Finnish landscapes have been mapped and delineated on several occasions, the latest landscape map being based on a publication by the National Land Survey and the Geographical Society of Finland dating from 1994. This classification recognizes landscape areas defined hierarchically on three spatial levels using the proportions and spatial configurations of ground, water, vegetation and man-made forms. The future of Finnish landscape studies is tied to whether knowledge about nature-human interactions on the visible surface of the earth will be able to overcome the fragmentation brought about by specialization. What is needed is a common world of concepts, a new way of thinking. This will call for transdisciplinary concepts, intertraditional points of view, in which quantitative and explicatory methods are complemented by qualitative approaches and methods which emphasize understanding, meanings and symbols.

L'étude des paysages finlandais possède de longues traditions méthodologiques remontant au début du XXe siècle, qui se reflètent dans la recherche paysagère pratiquée aujourd'hui par différentes disciplines universitaires et institutions de recherche, tant dans le domaine des sciences exactes que des sciences humaines ou appliquées. Nous avons classé ces études dans quatre catégories principales: 1. les études théoriques et méthodologiques; 2. les études écologiques; 3. les études socio-culturelles; 4. la recherche appliquée.

En Finlande, la recherche en matière de paysages est centrée à la fois sur les caractéristiques physiques des paysages et les interactions spatio-temporelles, ainsi que sur les divers contextes sociaux des paysages. Les paysages finlandais ont été cartographiés et délimités à plusieurs occasions, dont la plus récente a été la publication, en 1994, d'une carte des paysages par le cadastre finlandais et la Société géographique de Finlande. Cette classification définit de manière hiérarchique des zones paysagères sur trois niveaux spatiaux, sur base des proportions et des configurations spatiales des sols, des eaux, de la végétation et d'autres formes dues à l'homme.

L'avenir nous dira si la connaissance des interactions homme-nature sur la surface visible de la terre permettra de dépasser la fragmentation inhérente à toute spécialisation, ce qui nécessite un univers conceptuel commun et une nouvelle manière de penser. Ceci exigera des concepts transdisciplinaires et des vues intertraditionnelles où les méthodes quantitatives et explicatives se verront complétées par des approches et des méthodes qualitatives visant à la fois la compréhension, les significations et les symboles.

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Mots-clés: Finlande, thèmes de recherche sur les paysages, carte de zones paysagères, recherche transdisciplinaire

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