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Introduction

- 1 Interest in both Estonian landscapes and landscape concepts has increased significantly over the last decade and several comprehensive surveys have recently been written stressing one or another trend (Arold, 1993; Roosaare, 1994; Kurs 1997, 2003; Järvet and Kask, 1998) and the conceptualisation of landscapes (Palang *et al.*, 2000; Peil, 2001). The set objective of this paper is therefore to provide a context for academic approach to landscapes in Estonia and for connections with the Estonian approach to Europe, as well as to present the main landscape regions (Arold, 2001) and a periodisation in landscape history (Palang and Mander, 2000).
- 2 When discussing Estonian landscapes, two distinct factors need to be kept in mind while comparing their research history with the European one. Firstly, the Republic of Estonia was first declared in 1918, up to which date the people and the country were dominated by their neighbours throughout the modern period. Secondly, the dominant people spoke languages that were not just slightly different but belonged to another linguistic family. The indigenous people working the land had no need or opportunity to reflect on their surroundings en masse (for the discussion of the peasant attitudes to their surrounding environment see Peil, 1999). This resulted in a late, i.e. the twentieth century development of both the vocabulary and concept for discussing the surrounding world by native Finno-Ugric people and the need to create and popularise the concepts quite forcibly. The latter was seen as one of the main tasks for the newly established Estonian University of Tartu. Lacking trained researchers in Estonia, a Finn, Johannes Gabriel Granö was invited to become the first Professor of Geography in 1919. This work has been significant and even central in the Estonian landscape study until the present.

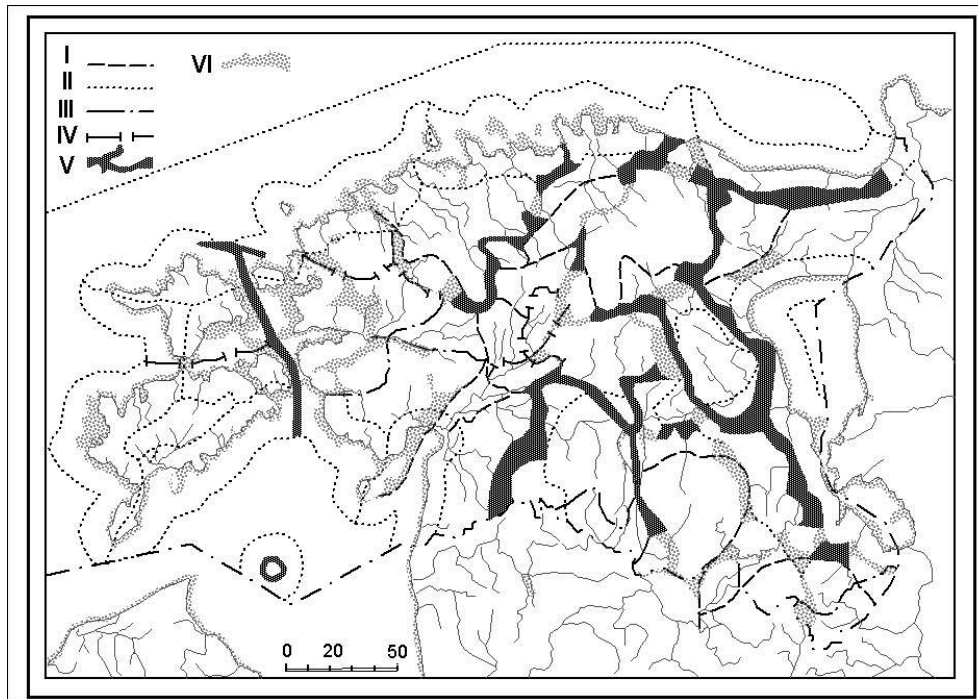
- 3 The new university discipline of geography focused largely around landscape, which offered it a monistic object of study – a region which encompassed both nature and the results of human activity – in the following two decades. The Soviet annexation of the Baltic States abruptly changed the conditions for the study of landscapes. The natural science based approach became dominant, as the human agent was erased from the landscape field. This, however, did not mean a total cessation of the research on human actors in their life-world, but this was conducted mainly by historians and archaeologists with no obvious indications to the connection with the physical environment/ landscape with a few exceptions (Indreko, 1934; Ligi, 1963; Moora, 1974; Lõugas, 1980). The dominant trend in history was, and to some extent still is, viewing the landscape as something separate, fundamental but not really connected with the people living upon it (for example the first part of the History of the Estonian Peasantry (ETA), published as late as in 1992). A new break-through was made in the 1980s with innovative landscape ecological studies and especially in the 1990s when the research was diversified to the extent that researchers did not understand each other while applying terms in a large variety of meanings.
- 4 The 2000s have been characterised by a new effort to create common ground and trans-disciplinary approaches. A significant landmark was the publication of a collection of essays that includes all main scientific and popular approaches (Palang and Sooväli, 2001). Simultaneously, landscape study has lost ground in school geography and as a university discipline (erased from both syllabi as a separate theme in 2003).
- 5 Today we can distinguish between four main schools of landscape study in Estonia: a systematic approach based on German landscape thought, developing into a genetic and functional scientific explanation of corresponding reasons; a natural science based approach focusing on "topoecology", having its roots in the Russian school (introduced by Markus) and becoming dominant in the Soviet period; social science and humanistic thought mainly re-introduced in the 1990s and inspired by the Scandinavian and Anglo-American landscape schools; and applied landscape studies, including school geography, management and planning and tourism promotion. Finally, this survey of the Estonian landscape would not be complete without including the research in other parts of (mainly) Europe by both exiled Estonians in the post-war years and interested foreigners (mainly in the 1990s). The suggested scheme is not a strict frame for classification, but will help the readers to orientate themselves in the different directions of landscape studies in Estonia.

Systematic approaches in Estonian landscape research

- 6 Generally, the history of scientific and systematic landscape approach in Estonia is traced back to the arrival and influence of Granö, although the so-called *Landschaft* principle had been adopted in Estonia by that time and influenced the teaching of geography at schools (Rumma, 1922; Paatsi, 1984, 1995). The ideas of Hettner and Passarge were adopted, although the studies and the first attempts at systemising were based on the external appearance of landscapes. Granö developed the ideas of *Landschaftskunde*, which he linked with the early tradition of "pure geography" (Granö, 1929) considering perception through sight as well as other human senses. The next stage was the distinguishing of immediate environments that moved with the observer

on the earth's surface in the form of more or less homogeneous regions by means of a specific cartographic method. The formation of those areas was based on orthographical, hydrographical, administrative and anthropo-geographical borderlines (Granö, 1922, 1924). According to this principle, he determined 22 distinct landscapes in Estonia, providing new names for some of them. Figure 1 shows the border-zones of landscape districts with varying strength depending on the dissimilarity of adjacent landscape groups.

Figure 1. Landscape regions defined with the help of combinations of different borders.



- I - BORDERS OF LAND FORMS DISTRICTS**
- II - BORDERS OF SUMMER HYDROGRAPHICAL DISTRICTS**
- III - BORDERS OF VEGETATION GROUPS' DISTRICTS**
- IV - BORDERS OF SETTLEMENT AND ROADS' DISTRICTS**
- V - BORDER-ZONES OF FOUR OR THREE LANDSCAPE ELEMENT GROUPS**
- VI - BORDER-ZONES OF TWO LANDSCAPE ELEMENT GROUPS.**

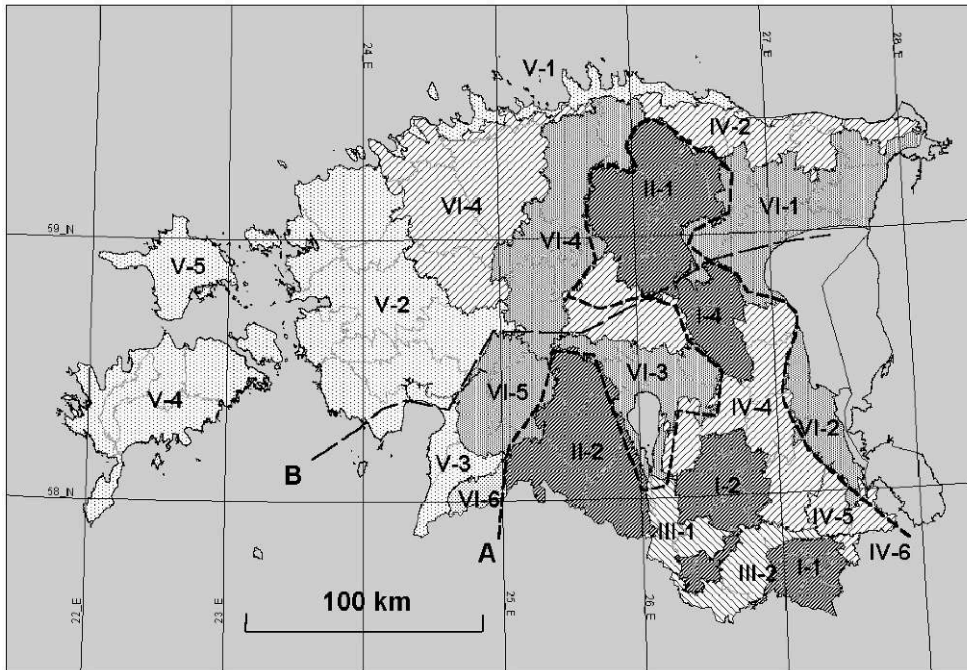
SOURCE: GRANÖ, 1922

- 7 The second large task embarked on thanks to his initiative was the publication of a series (*Eesti - Estonia*) of comprehensive treatments of the Estonian counties. This material is still used today for reference in both historical and geographical research. Granö's was not the first attempt to provide a regionalisation of the Estonian landscapes or define the concept (Kampmann, 1917; Matkur, 1921; Rumma, 1922), but was the most systematic and scientifically grounded covering the whole territory of the new nation state, while the previous ones had left areas in between blank (for examples see Miksikese õppekeskkond 2003). The following decades witnessed a methodical and meticulous particularisation of the descriptions of particular landscapes and their borders. This continued to some extent in the post-war years, when the most significant contributions to the systematisation of the Estonian landscapes were made by Endel Varep, the Head and later Professor of Physical Geography at University of Tartu (Varep, 1964; Varep and Maavara, 1984). Kallio Kildema (1958) published a

classification of Estonian land forms, the main principles of which are still in use. Latest version was published by Ivar Arold (2001). Although these divisions are largely based on geomorphology and physical features of the landscapes, they follow in their main features the system created by Granö providing a politically neutral (the pre-war "foreign" influences were proclaimed undesirable in the Soviet period) source of reference. Wide use of computers and GIS technology (Peterson and Aunap, 1998; Aaviksoo, 1993) has reduced the need for classification of landscape units in its traditional sense.

- 8 The most current classification of landscape as presented on Fig.2 was detailed by Ivar Arold (1993, 2001); later adjusted by Ülo Mander and Tõnu Oja (1999). The territory of Estonia falls into two parts: Lower and Upper Estonia. The former comprises the coastal areas and the inland depressions, which remained inundated during the Late and Post-glacial periods until about 11 000 years ago. Upper Estonia embraces the higher areas of uplands.

Figure 2. Typological landscape regions (modified from Arold, 2001).



I Accumulation uplands:

I-1 Haanja, I-2 Otepää, I-3 Karula
I-4 Vooremaa

II Abrasional uplands:

II-1 Pandivere, II-2 Sakala

III Depressions:

III-1 Valga, III-2 Võru-Hargla

IV Plateaus:

IV-1 Harju, IV-2 Viru

IV-3 Central Estonian, IV-4 Ugandi

IV-5 Palumaa, IV-6 Irboska

V Marine coastal lowlands:

V-1 Gulf of Finland,

V-2 West-Estonian

V-3 Gulf of Riga

V-4 Saaremaa

V-5 Hiiumaa

VI Inland swampy lowlands:

VI-1 Alutaguse, VI-2 Peipsi

VI-3 Võrtsjärve, VI-4 Kõrvemaa

VI-5 Soomaa

VI-6 Metsepole.

A - border between Upper Estonia and Lower Estonia

B - border between the outcrops of Silurian and Devonian sediments

- 9 The so-called Finnish-Estonian school of geography was further developed by students of Granö - August Tammekann (1933) and Edgar Kant (1923, 1933, 1935). These researchers paid equal attention to both natural (geomorphology, water, vegetation) and artificial (mainly the distribution and shape of rural settlements) features. Tammekann developed the ideas, taking the genesis of the landscape into account (Roosaare, 1994). Kant (1935) continued his work on urban landscapes and introduced new ideas for analysing the life-world and the ecological preconditions of Estonian landscapes, which later inspired his students in Lund, Sweden, especially Torsten Hägerstrand, in developing time-geography and situational ecology.

- 10 The division of landscape into natural and cultural ones was first introduced in the 1930s. Kant argued that cultural (garden and industrial) and physical landscapes, were different stages of formation of the cultural landscape (Kurs, 1992) and insisted that "research, delimitation, description, and explanation of cultural landscapes must follow the same rules applicable to geographical study of every other landscape that is underlining their artificial character shaped by human activities" (Kant, 1933, p. 59). This primacy of culture and the human actor in the landscape was reduced in the Soviet period; the emerging generation of landscape researchers concentrated mainly on nature in the landscape.

Natural science based approach

- 11 The study of physical landscapes was pursued from the early years of Estonian landscape research and some innovative work was conducted. For example, Johannes Käis published a work on the lakes of Võru (1923) treating them as ecosystems, although not using the term (cited in Arold, 1993). Generally, Eduard Markus is considered as the leading figure of the natural science approach to the Estonian landscapes. Having been educated in Russia, he shared the views of Russian geographers and soil scientists such as Berg and Dokuchayev. Markus aimed at defining the main landscape units or ideal landscape embryos based on soil and vegetation studies (Markus, 1925). While Granö concentrated mainly on finding typical areas that are separated by diffuse border areas, Markus focused on borders, especially on the shifts in borders, defining a landscape as a geographical unit only when it is a natural complex. Thus the term landscape, according to him should be used only to indicate a certain group of natural complexes (Markus, 1930).
- 12 The main aim in the post-war years was to create a landscape science that would establish a sound theoretical basis and elevate geography to be among fundamental sciences. The investigations were also expected to meet the demands of practical needs. The change, however, did not result in replacing the concept used previously, but in a diversification of the concept itself (Kildema and Masing, 1966; Kildema, 1969). A greater stress was put on cross-disciplinary studies with physics (a discipline of geophysics of landscape) and chemistry (landscape geochemistry). Geomorphology was seen as the determining factor in landscape formation and thus the focus was put on the landscape genesis. Primarily inventorial studies, investigating the character of various natural resources and focusing on the classification of typological units (bed rock, Pleistocene cover and hydrographical networks, geocomplexes, relief, plant cover; later also forests and mires) were conducted. Paleogeography and pollen analysis were applied in examining landscape formation, developed at the Institute of Ecology, Tallinn Pedagogical University (Punning, 1994; Punning and Koff, 1997). Many of the original studies were limited to a description of one type of phenomena with no means for describing interrelations, dynamics and development processes but based on extensive field studies and resulting in painstaking regional descriptions (Arold, 1974; Karukäpp, 1974; Sepp (Ratas), 1974; Hang, 1976; Linkrus, 1976). An innovative approach was introduced examining the interactions between the landscape components by Urve Ratas (Ratas *et al.*; 1988) and Are Kont (*et al.*, 1994) presenting the so-called complex profiles or landscape transects.

- 13 The aspect of landscape as scenery was suppressed and such studies discouraged as old-fashioned. Human beings and their activities were separated from the landscape. In its most radical form people were seen as an enemy of natural landscape, destroying its natural order and having a negative impact (Eilart, 1976; Raukas and Rõuk, 1986). This was partly a reaction to the large-scale Soviet development schemes, since the only possibility for protection of Estonian nature was seen through prohibition and keeping people away. In its turn, this contributed to a further separation of people and their life-environment, resulting in heated debate on conservation issues in the 1990s. Landscape could thus be defined scientifically only as the basic unit for determining landscape regions (Arold, 1991) or indicating a territorial unit with interrelated landforms, soils, vegetation and artificial features (Varep, 1964).
- 14 In the late 1980s, two new approaches emerged, which were (1) a natural-territorial system with interrelated purely natural parts and results of human activities (Ratas and Puurmann, 1995; Ratas *et al.*, 1996; Hellström, 2002), and (2) the "old-fashioned" understanding of landscape as scenery (EE, 1992, pp. 80-81). Inter disciplinary studies based on matter cycling in catchment areas and resulting in computer modelling were also launched (Roosaare, 1984).
- 15 The re-emergence of the monistic view of landscape occurred parallel to the acceptance of the fact that landscape science had failed to meet its aims. Static classifications and regional descriptions were found incapable of handling landscape components that occur as more or less continuous fields with fuzzy borders. Time was difficult to integrate into the study, and the dynamics of the landscape as a system was explained using static and cinematic models (Roosaare, 1989).
- 16 The ideological breakdown of landscape science led the physical geographers to seek for new ideas which coincided with the fall of the Soviet Union. Estonian landscape research opened up for new perspectives in physical geography, landscape ecology and cultural geography. Landscape ecology was promoted by Ülo Mander, the current Head and Professor of Physical Geography and Landscape Ecology at the Institute of Geography, University of Tartu, who has established a local centre with numerous students attached both locally and with connections to European networks (Mander *et al.*, 1997, 2000; Mander and Jongman, 1998). Interesting transdisciplinary research with combined methods, "a new form of landscape ecology", appeared alongside a general "ecologisation" of society.
- 17 International and interdisciplinary collaboration increased in the early 1990s. For example, within the PACT Palaeo ecological Network led by Urve Miller, a Professor of Quaternary Geology at Stockholm University, Estonian researchers and post-graduates from various disciplines including geology, geography and archaeology were included in an international network. This had a significant role in information exchange, which resulted in several volumes dealing with Baltic environmental and cultural history and introducing a new combined approach to the environment (PACT 37; 50, 51, 57).

Social science and humanistic approach to landscape

- 18 Landscape as a visual pattern thus re-emerged in the 1990s and its treatment was broadened to cover the perception and experience of landscapes in the minds of ordinary people conducted by a new generation of researchers educated further in

Europe and inspired by the humanistic Scandinavian and Anglo-American research (Peil, 1999). A synthesis of critical, human and historical geography, in which landscape is read and interpreted as a form of cultural praxis, has been created (Peil, 1999; Peil *et al.*, 2002; Alumäe *et al.*, 2003; Kaur *et al.*, 2003; Palang *et al.*, 2003; Sooväli *et al.*, 2003). Palang and Mander (2000) presented a periodisation of cultural landscape history in Estonia as illustrated in Figure 3. They define five stages of landscape development and compare the stages with those in Western Europe as discussed by Vos and Meekes (1999).

Figure 3. Stages in landscape history; comparison of the European (Vos and Meekes, 1999) and Estonian landscape evolution.

Stages in landscape history

Western Europe	time	Estonia
Postmodern landscapes	2000	Postmodern landscapes
Industrial landscapes	1900	Collective open fields Private farm landscapes
	1800	Estate landscapes
Traditional agricultural landscapes	1700	
	1600	
	1500	
Mediaeval landscapes	1400	Ancient landscapes
	1200	
Antique landscapes Natural/prehistoric landscapes		

Vos and Meekes 1999 Palang and Mander 2000

- 19 Simultaneously, the opening of Estonia attracted the interest of several European geographers who were interested in the extensive societal changes connected to the ongoing transition in Estonia, particularly in agriculture, the problems and challenges of rurality. Scholars and PhD students from the Nordic universities as well as from Great Britain have introduced a new social perspective into the Estonian research of landscapes and identity. The UK scholars Ray Abrahams (1994, 2001) and Tim Unwin (1998, 1999, 2000) have examined the rural transition. A research group led by Professor Göran Hoppe, originally at Stockholm and currently at Uppsala University, has conducted extensive analyses in the frame of the project "Geographical aspects of the Estonian Swedes. Changes in society, landscape and cultural meetings during 800 years". Copenhagen University has launched several projects in agriculture, planning, tourism.
- 20 In social and humanistic landscape research, re-established in the 1990s, landscape is often defined as a social construction, a way of seeing, and thereby the task of the researcher is seen to interpret the meaning and symbolism of the landscape. This covers a variety of disciplines. Within archaeology inter-disciplinary studies about

early communities and relations to the land, the shaping of cultural landscapes and mythology have emerged (Ligi, 1992. Valk, 1999; Lang, 2000; Mägi, 2001). Research in landscape history focusing on settlement and land use patterns has mostly been conducted by historians (Troska, 1987, 1994; Moora and Lõugas, 1995; Moora, 1998). Folkloristic studies have concentrated on landscape scenery, its temporal formation and variation – local lore and its connection to the physical setting (Hiimäe, 2001). Semiotics strives to understand the relationship between memory, culture and landscape in interpreting the signs and symbols created by human actors (Kull, 2001). The growing interest in landscape, both urban and rural, could be detected in newly established disciplines in Estonia such as landscape architecture, landscape aesthetics, landscape psychology, identity and art history (see for example Lehari, 1997, 1999; Listra, 2001). Critical geopolitical research has also contributed to a new understanding of landscapes, marginal areas and borderlands; these studies have increased our consciousness of presentation and representation of Estonia in the media (Berg, 2002).

Applied landscape studies

- 21 Providing an overview of all applied research in Estonia in the twentieth century would be an enormous task, but a few main trends need to be considered. Studies in landscape planning and management have a history going back over forty years and have significantly contributed to the popularisation of concepts and increase in local knowledge. As planning is seen to guarantee sustaining the landscapes, several approaches have been used to assess their sustainability. One of these approaches has been the concept of ecological networks, introduced in the early 1980s and developed currently (Jagomägi, 1983; Jagomägi *et al.*, 1988; Mander *et al.*, 1995; Külvik, 2002). This network was developed to counterbalance the impact of anthropogenic infrastructure in the landscape. Landscape approach had an increasing role in environmental policy in the 1990s (MoE, 1997; MoE, 1998). A project with an innovative approach to landscape – "Environmental conditions significant in settlement and land use patterns" was launched by the Ministry of the Environment and covers the whole territory of the Republic of Estonia. The so-called valuable landscapes are determined in each county and connected to the ecological network. The Ministry has produced several popular booklets for best land use practices to preserve the diversity of landscapes and biodiversity while taking into consideration the level of economic development.
- 22 The most recent development in applied landscape research was launched by the Estonian Tourist Board in co-operation with the Estonian Ecotourism Association (ETB, 2000; Sarv, 1999). Dividing Estonia into five "lands" for tourism promotion may be considered the most radical re-orientation in landscape systematisation since Granö. The division is supposedly based on physical and cultural conditions, following the borders of former parishes, the borders of which are argued to follow natural divides as well. The re-introduction of the Estonian ancient word for land – *maa* – in the names of artificially construed "fifth-lands" is an interesting indication of new myth creation made to serve exclusively commercial purposes.

Conclusion

- 23 The history of Estonian landscape research is limited to the twentieth century. The German systematic and scientific notion of landscape (*Landschaft*) has been a dominant trend, but Estonian landscape study has had numerous undercurrents and exciting interactions with other disciplines from the natural and social sciences, as well as the humanities. Conceptualisation and contextualisation in the current plurality of meanings and concepts are the new challenges that the dynamic landscape study is facing in Estonia, although if nothing else, its ninety-year old turbulent history has provided the tools for adaptation and persistence.
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ABSTRACTS

The history of Estonian landscape research is limited to the twentieth century. The most significant milestone in this process was the appointment of J.G. Granö as Professor of Geography at the University of Tartu who introduced the German systematic and scientific notion of landscape (*Landschaft*). This has been a dominant trend ever since, but Estonian landscape study has had numerous undercurrents and exiting interactions with other disciplines from both the natural and social sciences, as well as the humanities. This is a first attempt to write a landscape research history with a broader perspective in mind, stressing the wide spectrum of landscape studies by researchers who may not consider themselves primarily as concerned with landscapes but have nevertheless contributed to the discipline and the understanding of landscapes in Estonia.

L'étude des paysages en Estonie ne débuta qu'au début du XXe siècle. L'étape la plus importante de ce processus fut l'engagement comme professeur de géographie à l'Université de Tartu de J.G. Granö, qui a introduit la notion allemande de "Landschaft" au sens systématique et scientifique du terme. Cette tendance a depuis lors prédominé en Estonie, marquée, en dépit de certaines tensions sous-jacentes, par de passionnantes interactions avec d'autres disciplines, que ce soit les sciences naturelles ou sociales, ou encore les sciences humaines.

Cet article constitue une tentative inédite d'écrire une histoire de la recherche paysagère dans une perspective plus large, en mettant en évidence le vaste éventail d'études paysagères réalisées par des chercheurs qui, sans nécessairement se considérer comme des spécialistes des paysages, ont néanmoins apporté une contribution déterminante à cette discipline et à sa compréhension.

INDEX

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