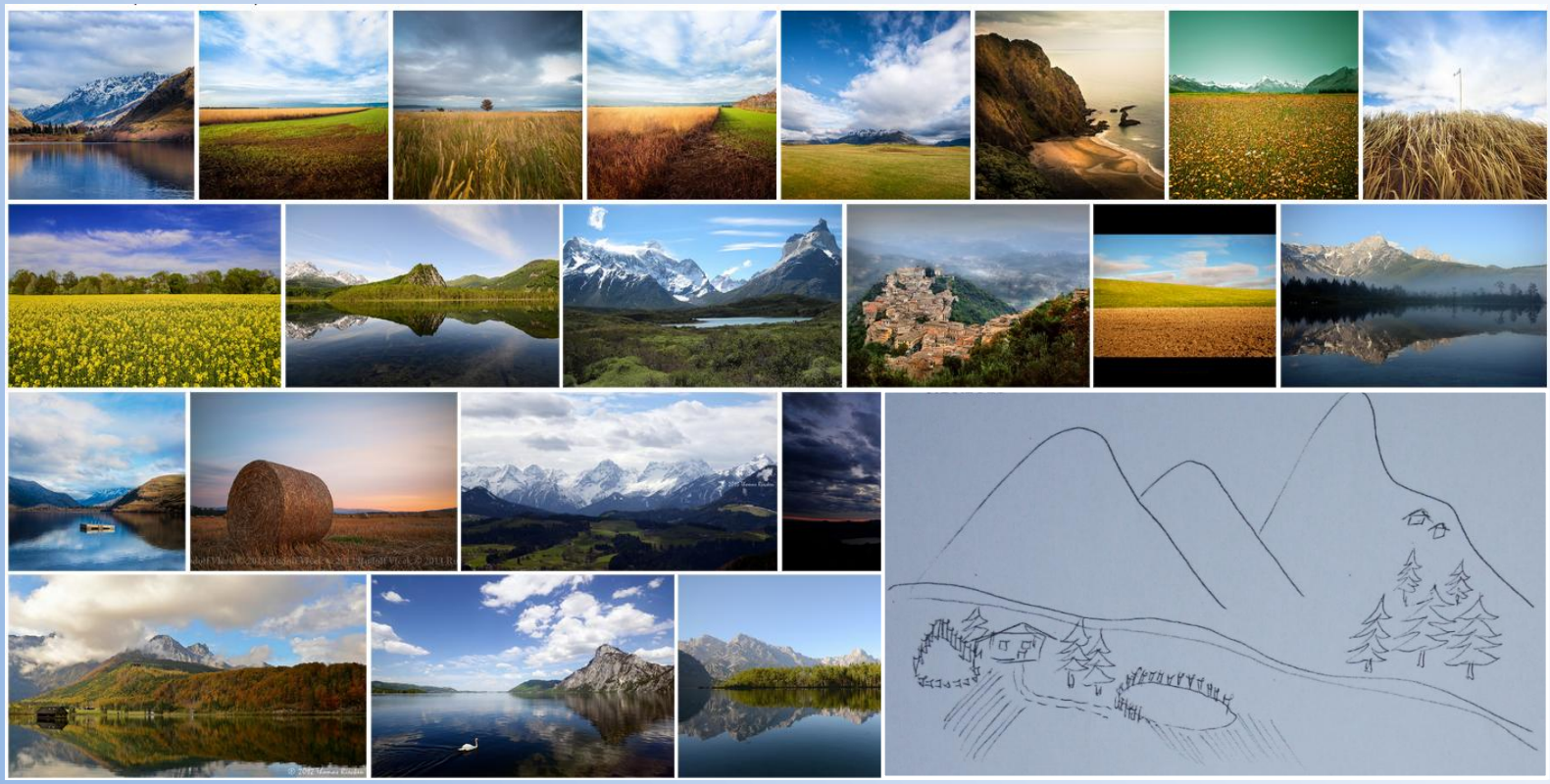
The shape of landscape

An experimental approach to the perception and social construction of landscape



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Summary

Although it is a key concept in the European Landscape Convention from 2000, perception of landscape remains poorly understood. This research has an experimental approach to finding an answer on how landscape is perceived – not the Dutch, Italian or fiord landscape, yet the generic word *landscape*. The perception of landscape is a sign of the social construction of landscape, and what is addressed meaning and what not. The social construction of landscape is complex and manifold though, and it is constructed, influenced and refined by an array of factors, both on the level of society, sub-society and the individual. Major roles are thought to be played by origin and professional background. Hence this experimental research deepens our understanding of the role of origin on the one hand, and educational background on the other. Education is taken instead of profession, since Kühne (2012) – the leitmotif of this research – reasons that profession brings along a specialised discourse and practice in a specialised milieu, which is precisely what most educational programmes concerned with landscape are as well. The specialised profession and thus education would cause a revolt in landscape perception, a process that Kühne named the second landscape socialisation. The objective of this research is confirming or rejecting the hypothesis that the second landscape socialisation may commence already during higher education. A secondary objective is discussing the role of origin in landscape perception. The method of this research is the mental mapping technique, which is considered a sound method for 'measuring' perception. Nevertheless, since analyses of mental maps are difficult, and since this research approaches landscape as a generic concept, this research is a study to the methodology proper as well. How suitable is the technique for the perception of landscape when it is not preceded by a adjective or suffix that defines a *particular* landscape? The results show that the method suits this experimental research, but that it is difficult when the subject is not linked directly to coordinates and locations. Furthermore, the second landscape socialisation does seem to occur during higher education and is best visible among students who do a landscape planning or design programme. Origin is a less clear storey, in that one-third perceives landscape as something exotic, so that origin would not play a role. To half of the people landscape is perceived as something local, so that collective memory, everyday discourse and utilisation favour the local. Furthermore, the role of the sky and climate have been touched upon as well, for which multiple speculative theories are launched.

Keywords

Landscape, perception, social construction, origin, second landscape socialisation, mental maps.

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Preface

Landscape has long been a major interest of me, be it the Arctic's or North Atlantic's. As this research is a bachelor thesis that demands empirical data collection, the theme of landscape obviously restricted me to my surrounding Dutch landscape. Although it took a while to make me »warm«, this research has triggered my interest in landscape for good, be it the physical glaciers of Greenland, the traditional cultural landscape of the Faroe Islands, or the societal construction of the land, the sea and the sky. The technique used in this research also fulfils a long-running wish to use imagery material made by people themselves. My affection with this research was greatly stimulated by the willingness of many who gave me the opportunity to perform data collection. Gratefulness is reserved for dr. J.W. Veluwenkamp, prof. dr. F.M.D. Vanclay, prof. dr. D.G.M. Beersma, drs. M. de Jong and dr. A.E.C. Storms-Smeets. A Danish *tusind tak* or 'thousand thanks' go to Wietse, Fedde and Hester, who left a slot in their busy schedules to review my thesis; It was of great help! Needless to say, I wish to thank my family and friends for mental support and patience. Special attention, however, deserves dr. Katharina Gugerell, in the role of supervisor, a helpful hand in data collection, and the lecturer I never had.

Curriculum of the researcher

A student in the bachelor of Environmental and Infrastructure Planning, I (21) have a broad range of interests both in the field of planning and geography. Interests include landscape architecture and urban design, public transport, geosciences, language and dialects, the Arctic and North-Atlantic, and their and West-European city-, land-, sea- and icescapes. Immediately after high-school I was awarded several awards for the thesis that completed six years of secondary school, which was about Greenland's socio-economic and spatial problems for an industrial future. During my bachelor Environmental and Infrastructure Planning, I have attended several electives in the field of place identity, and minors in Arctic and Antarctic Studies and the Danish language. My graduate programme causes still doubt: Urban planning, environmental and infrastructure planning, or a research master? In any case, autumn 2014 will be spent as a semester abroad at Concordia University, Montreal, Canada. Hobbies include travelling, flying (virtually), cycling (in flatland), car touring (if less flat), cartography and languages. Cartography includes both a passive side (reading atlases and transit maps) and an active side: Making maps by computer or by hand (figure 2). Also, as a member of IMAKA, I help organising a lecture on an Arctic or Antarctic subject once a month.

Figure 2 <> Urban landscape of Maniitsoq, Greenland. (Own work)

Figure 1 <> Fragment of a hand-drawn imaginary city's map. (Own work)

1 Introduction

1.1 Motive of research

When in 2000 the European Landscape Convention was adopted, a revival of landscape research commenced once again. The convention (henceforth ELC) was radical in two ways: First, it was the first international policy on landscape since human memory, with over 20 signatory states at the time, while more followed later. Second, it introduced a whole new definition of landscape that often was (and is) at odds with national and federal policies (De Montis, 2014). Landscape not anymore must be regarded as a physical entity, but as »an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors« (Council of Europe, 2008, p9). Central words in this definition are *perceived* and *human*. The latter contradicts many national interpretations of landscape, which used to focus on natural scenery (De Montis, 2014). De Montis, and others such as Herlin (2004) and Burchhardt (1977), have related this to an all-European landscape regime first established by Renaissance painters, who favoured to paint impressive mountain scenes. It is the perception part that this research focuses on though. Placing perception by the public into the core of planning, as it were the ELC relocates planning's relevance from the federal or national to the utmost decentralised entity a state knows: the individual. May this »hands-off« definition sound as a piece of democratisation to the European reader, it is problematic since it is poorly understood how people actually perceive landscape.

1.2 Case description

Perception of landscape remains poorly understood (De Montis, 2014; Holloway & Hubbard, 2001). Theoretical studies have advanced in the character of the multiform social construction of landscape, which is assumed to be reflected by the perception of landscape. Perception thus is an indicator of a larger social construction. Nevertheless, little progress has been made on comprehending perception and social construction from empirical studies. This research sets itself to unite theories of social construction and so-called landscape socialisation with an experimental, comparative, hybrid qualitative-quantitative approach to landscape perception. The chosen method is the mental mapping technique. Data collection is conducted at different study programmes at Groningen University and the University of Natural Resources and Applied Life Sciences in Vienna.

1.3 Objectives of research

The objective of this research is to find an answer on how landscape perception takes place, and what influences individuals' perceptions. According to theories of the social construction of place, which stress that cultural and societal background create the basis for individual social constructions of place and landscape, the hypothesis reads that origin plays a significant role in the perception of landscape. In addition, the second landscape socialisation theory (Kühne, 2012) stresses that professional background revises one's construction and perception of landscape. However, since Kühne states that the role of profession has to do with specialised discourse and practice, this research assumes that a second landscape socialisation can already take place during higher education. Kühne should, consequently, redefine or broaden the process by which the second landscape socialisation takes place. By answering these questions empirically, new light will be shed on our understanding of landscape perception and construction.

The above abstract hypotheses lead to more concrete hypotheses when introducing the mental mapping technique. With regard to the role of origin, it is expected that Dutchmen are to draw predominantly Dutch landscapes with flatland, ditches, cows and churches, while for instance Indonesians are to draw rice fields, mountains and mosques. In typological terms, city people are to draw more urban features (infrastructure, apartment blocks) than those who originate from the countryside. With regard to the role of education and profession, it is assumed that planning and geography students are to draw more urban features than, for instance, biologists. This follows both Kühne and personal experience in that planning students frequently address the city as urban landscape or cityscape. Since geographers and planners have built-up extensive skills in reading cartographic material, it is also expected that this group is to draw more top-down views than 'laymen' would. A last variable in this study is travel experience, which I assume to universalise and standardise perceptions of landscape, since people have become familiar with many landscapes.

1.4 Methodology

This research is an empirical study in light of Kühne's *Landschaftstheorie und Landschaftspraxis* (2012). It uses an experimental mental mapping technique which is to be a stepping stone for upcoming research on understanding socials constructions and landscape socialisations empirically.

1.4.1 Choice of methodology

In research on themes such as place identity, meaning of place and perception, it is difficult to reveal respondents' ideas by the way they are approached. Questionnaires steer people already in a certain direction, in particular when it covers a broad range of subjects. Interviewing has the disadvantage of limited sample sizes (Clifford et al., 2010). As landscape has much to do with visual sense – but certainly not solely – representations in visual imagery are a valid approach (Bartram, 2010). Multiple methods exist; one is the passive method of analysing pre-existing images such as pieces of art, brochures or websites. Active methods involve participants in making visual imagery for the case of research. Among active methods the mental mapping technique is one of particular interest to spatial sciences.

1.4.2 Mental maps

The mental mapping technique asks respondents to draw their image of an area. The resulting maps

»summarize each individual's knowledge of their surroundings in a way that is useful to them and the type of relationship they have with their environment.« (Holloway & Hubbard, 2001, p48)

The maps usually are quick sketches, since mental maps are mainly concerned with the elements that are chosen, rather than aesthetics. The philosophy behind the technique is that our daily environment is more complex than we can understand, and therefore people create stable images of place based on environmental knowledge that is acquired through interactions and movements with respectively between places (Holloway & Hubbard, 2001). This knowledge is printed in the mind as a mental map, in order to make sense of their surroundings. The mental mapping technique attempts to reproduce inner mental maps.

Mental maps (also: cognitive maps) have been used in human geography ever since their introduction by Kevin Lynch in *The Image of the City* (1960). Lynch asked people to draw their image of the downtown area of the city they live in. He distinguished a number of elements in maps, which

are paths, edges, districts, nodes and landmarks. Of these, he counted the featured frequencies and made these into a generalised map, from which a number of roads appeared ubiquitous in every map, while other large avenues remained forgotten. Although a qualitative study, use of descriptive statistics makes it a hybrid with quantitative research.

Pioneering mental maps, Lynch was amidst fierce critique. Often-heard is the critique that mental maps make people express themselves in a way unfamiliar to them, forcing expression through pencils rather than speech. However, Lynch uses this exact argument's antithesis: Human speech hinders undistorted expression more because we are so familiar with it, that thoughts get stuck in certain patterns. Regardless of truth here, all human reproductions of thoughts undergo a process of selecting, distorting and simplification and therefore mental maps are not the world as such, but a *representation* of the world (Holloway & Hubbard, 2001).

In a study to preferences of residency in Great Britain and the contiguous United States (Gould & White, 1974), mental maps show their pure quantitative value as well. Respondents were asked to point where they would want to live, and all points taken together were visualised in *isoline* maps (e.g. maps with lines of same values). This was repeated for school children's topographical knowledge of their country. Resulting maps often confirm stereotypes and prejudices, but reveal many unknown facts as well. Who knew that so many people from Inverness, Scotland, would prefer to live in – apart from Scotland, naturally – southern England?

A recent example of solitarily qualitative usage is Van Dam (2008) in her dissertation about the multiple identities of the Territory of Nunavut, Canada. Van Dam lists results of people from a certain village who had to draw their mental map of the then brand new Territory. She does not use statistics, but only tells from six maps which landscape perceptions of Nunavut exist. The power of image evidently is the power of mental maps, which can be analysed quickly by intuition. However, with more than 10 to 20 maps, descriptive statistics start to necessitate.

Most recent examples of the application of mental maps are in the field of political geography, where perceptions are mutually compared and verified to the 'real' coordinates of a fixed territory (Fleishman & Salomon, 2008; Hidayana et al., 2007; Deschouwer et al., 2014). This research however cannot make use of fixed reference points for mutual comparison, due to its *generic* character. *The research is more about associations with a concept, than with a place*. This distinct use of mental maps is discussed throughout upcoming paragraphs and chapters.

1.4.3 Application and data collection

Different lecturers of different study programmes, (predominantly) graduate and undergraduate are approached to have me conduct the research during a lecture. English taught courses were favoured to ensure a higher share of students with an international background. When the lecture starts or approaches its break, the lecturer introduces the researcher quickly and asks him to explain the assignment. The students are instructed to spend maximum 10 minutes on the mental map, and afterwards answer the questions. After 12-15 minutes, the sheets are handed in. Results are analysed in-depth first in order to get familiar with the data. After data collection, the data is observed thoroughly, but analysed only after all data is collected.

Table 1 shows the courses that were visited for data collection. Prior to data collection, a pilot was conducted among the students of the course Dutch Merchant Trade. In order to preserve uniformity, these have been excluded from analyses.

Date all in 2014	Faculty	Course in landscape oriented programmes	Phase	Teaching language of programmes
7/5	Spatial Sciences	Yes	Ma	English
9/5	Life Sciences and Technology	No	Ma	English (though almost only Dutch students)
12/5	Spatial Sciences	Yes	Ma	English
15/5	Arts: Landscape History	Yes	Ba and Ma	Dutch
20/5	University of Natural Resources and Applied Life Sciences, Vienna	Yes	Ba and Ma	German

Table 1 <> Visited courses during data collection. (Ba=bachelor/undergraduate, Ma=master/graduate).

1.4.4 Questionnaire

The mental map is drawn on a white sheet of paper that is for ¾ quarter taken by a small questionnaire that adds background information and context to the map. In appendix I an empty sheet is included.


Answer these questions** (in Dutch or English) **after having drawn your idea of landscape

Current and past studies: ..... Age ..... Male / Female
* are they Ba/Ma?
.....
Did you do any courses that are concerned with landscape?.....
What is your country of origin? .....
In which region(s) did you grow up? .....
How would you describe the area? (city/countryside/forests/etc.) .....
.....
Have you (in your opinion) travelled a lot? .....

Mental map assignment for a Ba-project (Spatial Planning) on landscape perception, by R Hokwerda (2234750)

Figure 3 <> Lower section of the fill-in form of the mental map assignment. For a full size example, see appendix I.

The questions are stressing the following factors: Study programmes, origin, travel experience, age and gender. The study programme question is key to the second landscape socialisation, which would only take place among students of geography, landscape architecture and alike. The question is followed by a control question. Origin is addressed by three questions, of which the nationality is not really taken into consideration, since place of birth could have been left soon after birth. Since it is assumed that personal background is related to cultural background, the region of childhood is addressing a more important issue. 'Region(s)' is mentioned, instead of country, to encourage people responding more detailed information. In addition, the typological origin is investigated with a question that stimulates people to describe their childhood region, for example as urban, wooded or coastal. To this question, more attention is paid in paragraph 3.3.1.

Travel experience (or wanderlust) is included since it sounds plausible that people who have travelled a lot have more experience with different landscapes, so that their perception of landscape is more universalised. However, since this is in the margins of this research's scope, not much attention is paid to the question, so that »in your own opinion« had to be added. This avoids the question how to measure travel experience; counting countries seems unfair when, for instance, comparing Europeans to Americans. At last, age and gender are included as standard questions.

1.4.5 Data analysis

Mental maps carry very detailed information. When sample sizes are large and links between several factors are to be researched, a quantitative statistical analysis may work well. However, a hybrid with a qualitative approach often remains necessary, due to the many uncertainties mental maps contain (see next paragraphs). This makes generalisations hazardous. However, the data must be categorised some way in order to be able to come to conclusions. This research will be a hybrid, combining careful attention and describing maps (qualitatively), and categorising by using descriptive statistics (quantitatively). This makes for a sound stepping stone for further, more specific empirical research.

Mental maps contain numerable variables that are signs of perception (see 1.7.6). Also the questionnaire adds variables. However, both the questionnaire and the mental map being »open questions«, information is highly detailed and varied. Generalisation and classifications rest on many uncertainties, such as in what a villages differs from a city, and when a bush starts to be a forest. Did the respondent use one tree as a sign for multiple? The technique involves many moments of interpretation: First, people have to interpret the instructions; Then, they must express their inner mental image, which regardless of technique poses restrictions; Next, the researcher has to interpret single mental maps; And then, ultimately, group them and compare them to others. Performing statistical tests is difficult due to the many nominal variables; performing statistical tests is invalid with so many uncertainties and multi-interpretativity. Only simple descriptive statistic tests such as frequency counts can be performed.

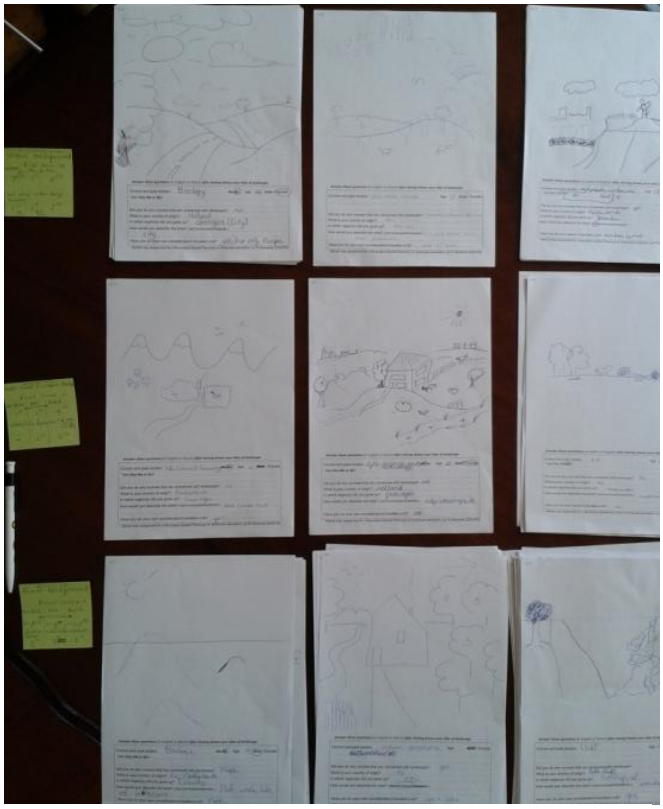

Figure 4 <> An exemplary photograph of a data analysis with piles, in essence a real-life cross-table.

That the data is difficult to analyse does not mean that the data do not tell new information though. Mental maps show loads of detailed information. The question is not about uselessness, but about *how* to use it. In essence, the used method is an oft-repeated frequency count. Mental maps are selected and placed in a category, which is, as figure 3 shows, a table of piles. After the primary selection, each pile is further selected and categorised, and possibly once more. This process is repeated dozens of times, with numerous plausible and less plausible dependent variables in order to find any correlations. The counts are expressed later in ratio values (%), but since groups of samples vary in size considerably, absolute values are showed additionally.

1.4.6 Signs on mental maps

In this research factors are categorised by several characteristics. In the research on the role of origin, several assumptions had to be made about landscapes' characteristics. The skyline tells relief, which is an important sign in categorising maps in 'national' landscape – the Dutch landscape is considered flat, thus the skyline should be straight. Qua typological origin, a classification in types of

featured constructions had to be made in order to categorise anthropogenic signs. Cities are symbolised by apartment blocks, suddenly ragged skylines (often with towers) or large concentrations of houses. Villages are smaller, without apartment blocks. If only isolated houses are shown, such as farms, this is labelled as 'isolated building(s)' unless it is a landmark (mill, lighthouse, church tower): these have been analysed separately. The last category is 'none', where no buildings are featured.

1.4.7 Ethical aspects

This research does not raise extensive ethical issues. Nevertheless, it is important not to force people to answer all questions precisely, because otherwise, people could feel put under pressure and give answers beyond the truth. Apart from this, the mental mapping technique is predominantly experienced as a fun activity both for the researcher and the researched. Willingness to participate therefore rests on sufficient goodwill. Anonymity is safeguarded by not asking names, and if people still write theirs down, masking them. The researcher's positionality is not an issue – nevertheless, it should be kept in mind that people are quite unfamiliar with the approach, so that careful explanation – without distorting their image of landscape – is required. On the other hand, people all too familiar with mental maps may start to make variations beyond their genuine ideas for the sake of fun. This is unfortunately not manageable.

1.5 Conceptual model

Figure 5 shows this research's conceptual model, which is clarified thoroughly in chapter 3.1 when theories of social construction and landscape socialisation are combined. In brief summary, landscape perceptions are reflections of multiple social constructions that have emerged in relation to meaning of place, which both are interrelated to societal and individual characteristics such as origin, overshadowed by collective memory. Profession, and according to the hypothesis also education, play a special role in the sense that these can revolt the social construction and subsequently the perception of landscape at a later stage in one's life.

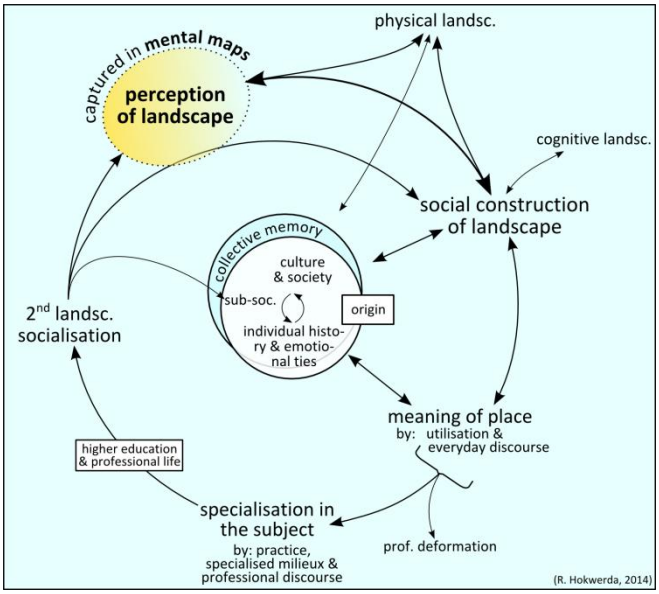

Figure 5 <> The conceptual model of this research.

1.6 Structure of upcoming chapters

Next chapter the social construction of landscape will be explained, continuing with the landscape socialisation theory. Then, the results of the mental map assignment will be elaborated on, and related to the theories of this research, where Kühne (2012) serves as a leitmotif. This will lead to the conclusion and discussion, where suggestions for further research are made.

2 Theoretical framework

In this chapter, the social construction of place (and landscape in particular) is investigated. This literature study is referring to Olaf Kühnes *Landschaftstheorie und Landschaftspraxis* (2012) and cites other works along the way. The objective of this chapter is finding an answer on the sub-question, »How does the social construction of landscape work?«, to be referred to again in chapter 3.

2.1 Social construction of place

2.1.1 Genius loci versus social construction

Until the 1980s the concept of place used to be connected directly to a verifiable location. Place was understood as a tangible, physical structure which derives its meaning from itself and this meaning could simply be observed by people. The idea of the meaning carrying place is known as 'spirit of place' or *genius loci* (Holloway & Hubbard, 2001). In the field of landscape research genius loci resulted in many studies that tried to sum up the different landscapes found in a territory. Already then the existence of multiple overlapping landscapes was acknowledged, based on criteria of time, scale, theme and subject. However, during the 1970s and 1980s, the idea of *genius loci was* gradually abandoned and replaced by the idea of place as a social construction. In brief this means it is not the physically observable structure that shapes meaning of place, yet how people communicate and interpret a place (Jivén & Larkham, 2003).

Meaning of place is presumed to rest on two foundations: First, direct utilisation, and second, communication. Utilisation of a particular place is what distinguishes insiders from outsiders, who do not have used a place first-hand (Kühne, 2008). Assmann (1992) interprets utilisation as interaction. Outsiders can only rely on means of communication – e.g. friends' narratives, commercials or common prejudices – for addressing meaning to place. Their perceptions of a place differ, in that insiders appreciate a place for more than the aesthetics: They have built up emotional ties with a place, which run deeper than physical appearance. Outsiders, who must rely on everyday discourses, do not have such emotional ties due to the lack of utilisation, so their appreciation (meaning of place) *is* mainly based on the aesthetic. Concluding, discourse and utilisation are the cornerstones of multiple, parallel social construction of place.

Perceptions overlap and conflict in terms of time, place, scale and person. In landscape research, the social construction approach has led to the emergence of a manifold of interwoven types of landscapes. What distinguishes, for instance, nature from a cultural landscape, or a city from a village, is now (tried to be) understood in terms of societal, cognitive, political or socio-economic landscapes. The physical landscape has become a substrate for social constructions and meaning of place has often become disconnected from longitude and latitude.

Exemplary to this historical development is Wagner-Sørensen's study to Nuuk, the capital of Greenland (2008). This city often is scorned by Greenlanders as non-Greenlandic, or even »a piece of Denmark on rocks« (*ibid,* p115), even though it has the largest population of Greenlanders. Whereas during the 1960s through 1980s Nuuk's landscape would be described as an urban landscape in a peri-glacial tundra landscape and »fjordscape«, the recent study distinguishes three perceptions thus three social constructions thus three cognitive landscapes of Nuuk. First, Nuuk is a state-of-the-art city and home place to born *Nuummiit;* Second, it is a repulsive Danish city in the heart of politics and

businesses; Third, it is the opposite of romanticised traditional settlement life. These three represent all perceptions of people who use this city as an insider (i.e. a Greenlander). To an outsider, say a tourist, Nuuk has a diametrically different image: Nuuk as an all-Greenlandic traditional village (see endnote I). The point here though is that the social construction is always manifold. The acknowledgement of the social construction has broadened rather than shifted the meaning of the word *landscape*, at least in scientific discourse; adjectives and prefixes such as urban, fjord- and glacial still apply, but as a physical substrate rather than bearers of meaning in themselves.

2.1.2 Dimensions of social construction

Evidently the social construction of place is not uniform and depends on various factors. A major piece of research to the social construction of landscape has been conducted by Kühne (2012), who distinguishes four dimensions of landscape:

- The societal landscape
- The individually actualised societal landscape
- The external (physical) space
- The acquired physical space

The societal landscape is the dimension of the »gesellschaftlichen Verständnisse, was unter Landschaft zu verstehen ist und was mit ihm konnotiert warden kann.«[1] (Kühne, 2012, p62) It is the social-constructivist dimension of landscape that produces and reproduces interpretations and meanings. As the macro cultural and societal dimension of the social construction of landscape, it forms the basis of a society's common understanding of landscape and produces important context for landscape. It serves as a point of reference to individual interpretations. This dimension is heavily influenced by societal stocks of knowledge such as norms, narratives and history. Symbolic elements tie individual emotional ties together and to the physical space.

It is the individual that perceives landscape though, and thus automatically interprets landscape in his or her own way. The individually actualised societal landscape concerns how macro societal understandings of landscape and perceived landscapes are interpreted by individuals. Subjectivity is the cornerstone of this dimension that is built-up by strong emotional and communicative aspects. The individual interprets societal norms and values in his or her own landscape interpretation, but also adds own norms and values of how society should regard landscape.

The third dimension is what Kühne calls the external space, where I would add »physical«. This external physical space is the physical substrate and point of departure for »the world of objects« (Kühne, 2012). Space, or *Raum,*

> »wird durch die bewusstseinsinterne und sozial präformierte Zusammenschau physischer Objekte gebildet und is [...] als extern konstruierter Raum zu verstehen.« [2] (*ibid,* p66).

In contrast to the two previous dimensions, this dimension takes place outside the human body, and reflects the spatial-relational assembly of animate and inanimate objects. Functions of features in

[1] [...] societal understandings of what landscape compromises and what can be connoted with it. (Own translation)
[2] [...] is formed the by awareness-internal and socially preferred synopsis and can be [...] understood as externally created space. (Own translation)

our surroundings make up this dimension: Whereas there are features that are fully functional but not addressed meaning of landscape, there are also features with no other function than carrying meaning.

The acquired physical space is the dimension in which a synopsis is made of objects of the external (physical) space that are used for the construction of landscape (Kühne, 2012). With acquisition, the addressing of meaning is meant. A selection of elements in a landscape is addressed meaning for the overall landscape. Most meaningful elements are objects that are culturally determined: Farms seem to belong to any landscape people imagine. In addition a selection of object is addressed meaning by sub-societies, which select more specialised elements. At last, individuals have their selection of objects in a landscape that 'belong to landscape'. Kühne (2012) describes this selection as a puzzle, where a few puzzle pieces are registered and automatically count for the entire landscape, although many pieces are not regarded. Society selects a number of pieces, sub-societal groups and milieux next, and individuals select certain pieces that are symbolic to the total puzzle of landscape.

The sub-societal selection is of interest to this research, since study programmes concerned with landscape offer a sub-society that would make a unique selection of landscape puzzle pieces. By discussing theories and by fieldwork, students learn and teach each other and deepen their skills and knowledge, which all is stimulated by lecturers and professors who teach in a specialised jargon about a specialised subject. This direct occupation and communication change people's entire view on the total puzzle of landscape.

2.1.3 Collective memory

Kühne's four dimensions of the social construction of landscape, and in particular the societal dimension, touch upon theories of the collective memory. In his study on ancient Egypt from a modern perspective, Assmann (1992) first introduces theories of remembrances, and then elaborates on the individual and collective memory. Whilst individuals' memories are the product of individual interaction and communication, they are formed within collective (e.g. cultural and societal) »cadres sociaux« or 'social frames'. Thoughts and memories thrive within communication, and without communication they are forgotten. Repetition is a central concept in collective memory. In terms of origin and landscape, this theory implies that national social constructions of landscape only exist by virtue of communication and interaction, but also that this communication can create memories of something not personally experienced.

Until well in the 19th century painting was the most important visual medium, so that communication often took place via canvas. Several historians and landscape scientists underline the role of painting tradition in today's perception of landscape (Burckhardt, 1977; Antrop 2013). Painting advanced during the Renaissance and landscapes quickly became a main genre. 16th and 17th century realism often pictured (to Dutchmen exotic) hilly areas so that this image became leading in the societal dimension of landscape. Nordic (e.g. Munch) and Southern European (Van Gogh, Monet) mountains and hills were further distributed during 19th century im- and expressionism, which like realism's heydays do not usually paint urban landscapes. This research's cover reveals a clue of the meaning of *landscape* in photography, often with impressive scenes with much depth and fascinating details. The reproduction of landscape safeguarded the hilliness discourse in our collective memory, and communication, through the school system and museums, left landscape an important concept in today's landscape perception.

2.2 Landscape socialisation

Origin is both an aspect of the societal dimension and the individually actualised societal dimension of landscape. Also profession and assumingly education play a role in the various perceptions and social constructions of landscape. However, the latter differentiation is special in that it occurs during adult life and to a specialised group of people, to whom this change has more radical implications. This is the so-called second landscape socialisation, about which this paragraph sets itself to explain what it is and how it works.

2.2.1 Defining socialisation

In sociology, a socialisation is a transformation of thought patterns when in permanent contact and interaction with other ideas of a subject. The *Dictionary of the Social Sciences* (Calhoun, 2002) defines *socialisation* as »the process through which individuals internalize the values, beliefs, and norms of a society and learn to function as its members.« In other words, narratives (discourse) and learnt knowledge (discourse and utilisation) changes the meaning we address to certain things. Socialisations occur in many stages of life, the first normally during early childhood. By means of interests, education and profession this may occur a second time.

2.2.2 Two landscape socialisations

Kühne is addressing two periods of landscape socialisations; First, during childhood children undergo the first landscape socialisation where they get familiar with the concept of landscape and its attributes, such as norms, values, narratives and others (Kühne, 2012). On the one hand, communication about landscape drives this socialisation, yet on the other hand, children start to utilise the landscape as they age as well. This indirect respectively direct contact with landscape changes the perception of landscape, reflecting practical and narrative experiences, which eventually lays the groundwork for a social construction of landscape. In Kühne terms, both the societal dimension of landscape takes place – through standardised education and media – and the individually actualised dimension, in shape of home environment, hobbies and holidays. Referring back to the puzzle metaphor, children learn which puzzle pieces represent the landscape and which do not. However, plenty of literature has been written on this first landscape socialisation, so henceforth the scope of research concerns the second socialisation.

The second landscape socialisation takes place during adulthood among those who are concerned with landscape in their daily life.Consequently, people concerned with landscape in their daily life often have a profession such as landscape architect, planner or geographer. By special communication in and by specialised milieux and sub-cultures, such people start to reconstruct their image of landscape, and thus their perception. Landscape planning or research in practice gives people more thorough understandings of landscape. A theoretical and practical training revises individuals' actualised societal landscape by broadening its meaning to fit their acquired skills and knowledge; A new social construction is adopted. Kühne mentions the role of professional life in particular, but does not neglect the role of education when it comes to socialisation. The lack of extensive practical experience during study programmes, however, would strongly limit the second socialisation during education. Only Kühne's individually actualised societal landscape can change, on the basis of discourse, but the acquired physical space is still underexposed through lack of utilisation.

2.2.3 Professional deformation

The phenomenon of socialisation set me to think: Does not any profession, and possibly education, develop another perception of their subject and the rest of the world? I know (would-be) linguists who appreciate languages not for their usefulness in communication, but for their syntaxes, morphology, dialects and even the special pronunciation of the letter *R.* And does a car mechanic appreciate an engine for its mobility use only, or becomes it a project in itself? Clearly, thorough occupation with a subject can move the focus point of interest from a tool function to an intrinsic aim. Though in what does this differ from a socialisation?

The phenomenon does – it is almost unimaginable – not seem to be embedded in scientific literature. Even the words *déformation professionelle*, a French phrase which means that profession deforms one's thoughts and values, are scarcely embedded in scientific literature, except for examples in which the role of anxiety and power is explored (Taylor, 1975) or its negative consequences (Barrett, 1962), who concludes that the more specialised a subject is, the more things fall in a 'blind spot' that are disregarded. From my point of view, the difference between 'simple' professional deformation and socialisations lies in the fact that 1) socialisations occur in the cornerstone fields of human existence (language, the body, place), 2) occur naturally for the first time by everyday discourse and utilisation, but 3) *can* occur multiple times more radically after thorough practice and knowledge. The result is 4) that subjects develop from an instrumental value to an intrinsic value. Whilst a car mechanic will adopt an intrinsic value to engines, the instrumental value is not easily forgotten, though a linguist can discuss syllables' etymology without knowing a language well enough to speak it. A social construction is far more extreme than a normal professional deformation. Due to the lack of research, above argumentation is followed henceforth.

2.3 Summary

Meaning of landscape is addressed through a process of utilisation and/or communication. Utilisation distinguishes insiders from outsiders. Landscape does not carry meaning in itself, but is addressed meaning by people, who create social constructions of landscape. Such social constructions are reflected in the perception of landscape, and are complex, multi-dimensional systems and processes. It knows a societal, an individually actualised societal, external and acquired physical dimension. The first two constitute societal and cultural understandings and how these are interpreted by society and individuals; the external dimension is about how understandings come to exist, often by means of personal utilisation of landscape. The last, the acquired physical landscape, is about the psychological process by which elements of a larger, overall landscape are registered and perceived. These dimensions partly overlap the collective memory theory, that reads that through repetitive communication and interaction memories, thus meaning of landscape are transmitted. This is why it is assumed that landscape painting regime has left its stamp perceptions nowadays. Profession and possibly education exercise a special force on the individually actualised and acquired physical landscape, in that through highly specialised discourse and utilisation in a specialised sub-society the perception and social construction revises. This is the second landscape socialisation – the first takes places during early childhood – which is an extreme form of professional deformation.

3 Landscapes, -shapes and -shades

In this chapter the empirical data collection and results are being discussed, and related to theories. In order to do so, the conceptual model of this research is explained. The question in this chapter asked is what is the perception of landscape among students of different programmes and what does it tell about the role of field of study in landscape perception? As will appear, it includes a thorough discussion about the validity and application of the mental mapping technique. This adds an extra question to this research: Which lessons could be learnt from the mental mapping technique for further utilisation?

3.1 Conceptual model

Now that the theoretical background has been explained, upcoming conceptual model that includes theory, case and methodology can be understood. Consider Figure 6.

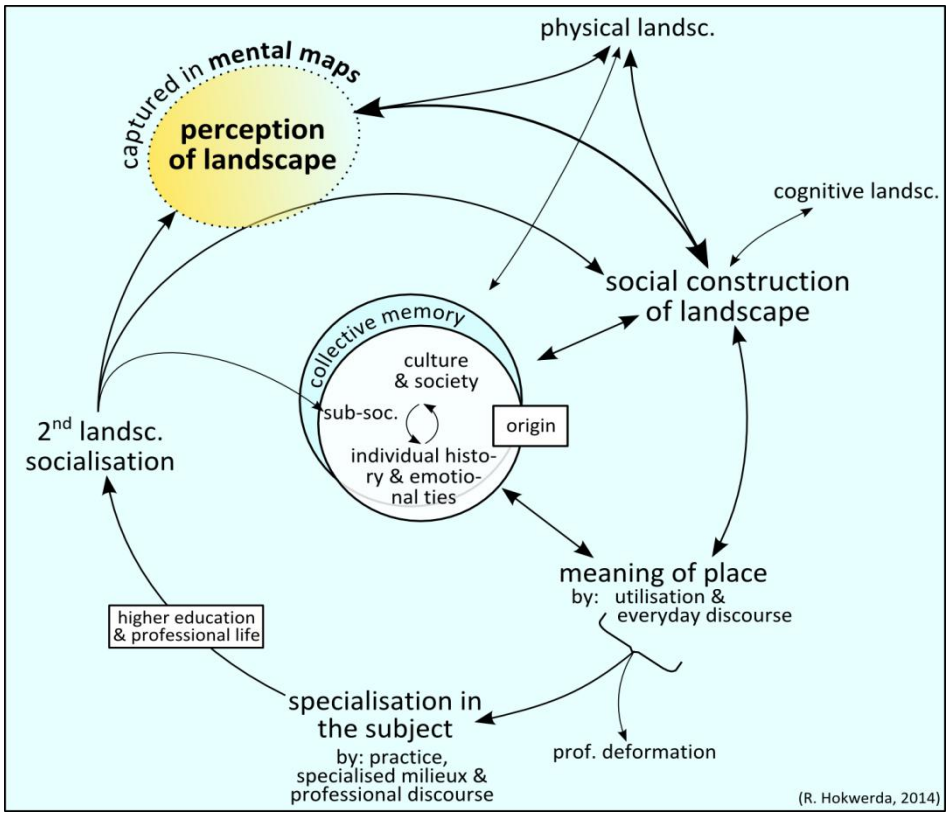

Figure 6 <> The conceptual model of the theories of this research.

Perception of landscape reflects the physical landscape (the external and acquired physical space) and is a reflection in itself of a social construction, of which the reflections are attempted to be 'captured' by the mental mapping technique. The social construction of landscape is interwoven with meaning of place via a series of interrelating dimensions of society, sub-societies and individually actualised parts of society and collective memory. Meaning of place emerges by utilisation (to insiders) and communication or everyday discourse (in- and outsiders). Factors such as origin, both in terms of location and typology, differentiate meaning of landscape, the social construction and eventually the perception of landscape. Also profession and education change perception via this way, but as profession and education on landscape bring along a specialised adult sub-society with its own discourse and utilisation, the perception changes radically to a select group of people. This is in contrast to earlier perception changes that occur to all during childhood. This radical change is the

second landscape socialisation, which changes perception through a newly developed social construction of landscape.

3.2 Descriptive statistics

162 mental maps were collected from 5 different courses. All but one course are part of a programme that is at least partly concerned with landscape, but since courses are often open to a wide range of students with different backgrounds, the data from these five courses is reasonably varied.

Origin / Study programme	Dutch	Austrian	Other EU	Indonesia	Other world	total
Landsc. designing	3	3	-	1	2	**9**
Landsc. planning	15	-	2	12	3	**31***
Landsc. analytical	18	-	1	-	-	**20**
Biology, life, sc. and technology	46	-	-	-	-	**47**
Forest/land management and	6	13	-	-	-	**19**
Other	19	3	6	1	3	**32**
Unknown	1	3	-	-	-	**5**
total	**108**	**22**	**9**	**14**	**8**	**N=162**

*Table 2 <> Distribution of respondents' study programmes and origin (in terms of childhood). *: in a later analysis, 35 is used, since here, bachelor education is taken as leading, while in Figure 12 also master students with a non-planning background were included.*

3.3 Role of origin

3.3.1 Typological origin

The role of origin is explored in a location-bound and a typological way. The first offers highly detailed information of the region of origin. The typology question, however, has been misinterpreted by some, in that they did describe the landscape they had drawn, instead of the landscape from their place of origin. If the descriptive typology question matches the drawn mental map precisely, but the region of origin is evidently not matching, these results had to be excluded from the analyses. For example, people from rural Holland who drew alpine landscapes, and described their region of origin as mountainous; this result is not further regarded in analyses.

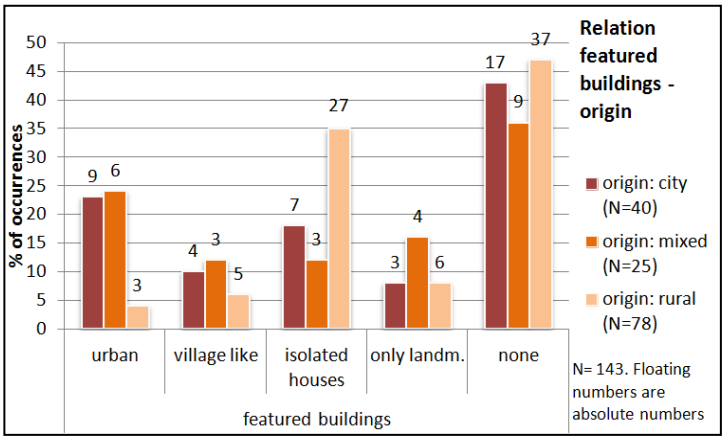

Figure 7 <> The relation between typological origin and featured buildings. Explanation: 35% of people from rural backgrounds feature only isolated houses. This means, 27 out of 78 respondents from the countryside do so. Categories' assumptions are explained in 1.7.4.

Social constructions are partly shaped by society and sub-societies. Such sub-societies criss-cross and overlap so that each person is a member of a plethora of sub-societies and milieux. These could be official – friends, colleagues, football mates – but also unofficial and unnoticed. People from the city, who spend

their daily life cycle within the city's boundaries, live in an urban society that has, ideally, its own social construction of landscape. Following everyday utilisation, landscape should include the urban surroundings. On the other hand, through national discourses through nationwide media social constructions can have become standardised. Results show that people from rural places indeed perceive landscape as an area (almost) free of human signs, apart from small, isolated houses. Cities are not part of their perception of landscape. This line is less clear among city people, whose perceptions are distributed more-less evenly over the categories. Possibly, the social constructions of landscape among city people can, but does not automatically, include cities. However, all except one drew a city in the background, with rural and natural scenes in front. This tells the social construction of landscape among city people is a mosaic of different land-uses, while countryside people mainly have a uniform social construction of landscape. Everyday discourse possibly dominates utilisation, though does not create uniform social constructions for all typological origins. Possibly, collective memory through a painting regime

3.3.2 Country of childhood

The external physical space and landscape differ from country to country. Norway is mountainous, England hilly and Greece insular. This leads to that the acquired physical space – or the selection of puzzle pieces from a landscape – differs from country to country as well. Which puzzle pieces are taken rests on national discourses (education, media, advertisement, painting history and education), sub-societal discourses (narratives among friends) and individual experiences with landscape. Ideally, the mental maps of Dutchmen and Austrians should feature Dutch respectively Austrian landscapes, though the picture is less clear.

Out of 108 Dutchmen, 43% did draw a landscape characteristic to The Netherlands. (In paragraph 1.7.4 it is explained what signs of »Dutchness« are). 34% perceived landscape as exotic with hills or mountains. 19% is a mix of both. Two parallel groups could be distinguished that have two parallel social constructions of landscape; some criss-cross both. An explanation may be that the one group is, for an unknown reason, less sensitive to local utilisation and discourses and more influenced by everyday international discourses or nationally actualised elements of foreign discourses. This one-third builds its social construction of landscape on communications through television, advertisements, books such as *The Da Vinci Code*, or have been influenced mostly by the Dutch painting tradition during primary education. The 43% that drew local landscapes possibly has been more sensitive to local discourses and everyday use of the so-common flatlands. No relation is found between this parallelism and travel experience, which otherwise was to universalise perceptions into an international perception.

When comparing origins with each other, it does not make sense to include the 34% and 19% who drew (partly) foreign landscapes in order to investigate in what Dutch, Austrian and Indonesian landscapes differ. Non-local landscapes for these groups have been removed from comparisons. Now the question in what Dutch, Austrian and Indonesian perceptions of 'their' landscapes differ can be analysed. This is done qualitatively by selecting for each subpopulation one exemplary mental map. Figure 8 is exemplary for the selected Austrians, Figure 9 <> for Dutchmen and Figure 9 for Indonesians.

It immediately appears that the respondents in question build upon a national societal social construction. This is reproduced in their individually actualised societal construction of landscape. Overall culture makes people address meaning of landscape to key elements ('puzzle pieces'), which carry the overall meaning of landscape. The individually actualised societal social construction is reflected in the mental maps, which show some key elements that are signs of the meaning of landscape. It also works in the opposite direction: as a reader of this research, one will spontaneously associate the mental maps with a certain region, since we have learnt – as the societal dimension shaped by everyday discourses – what typically Austrian, Indonesian or Dutch landscapes should look like.

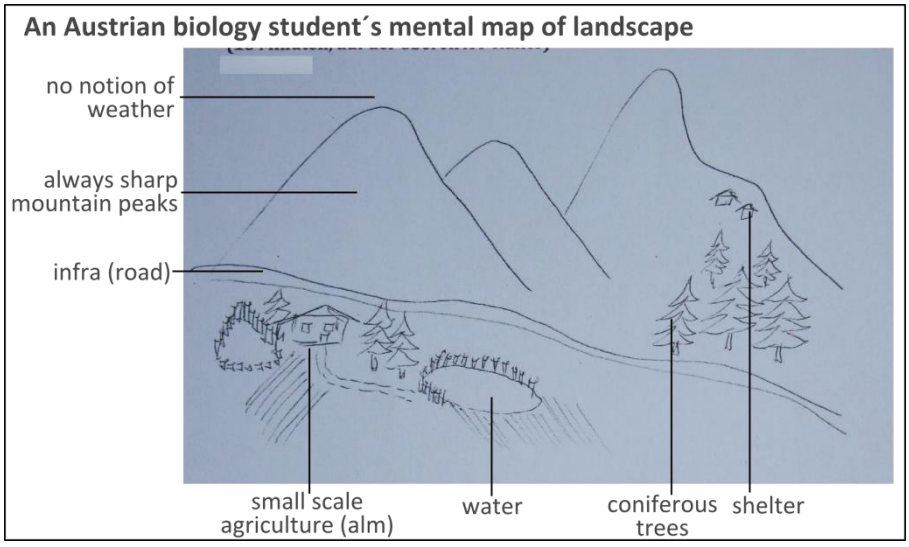

Figure 8 <> An Austrian biology student's mental map of landscape. Weather is included in anticipation of upcoming paragraphs.

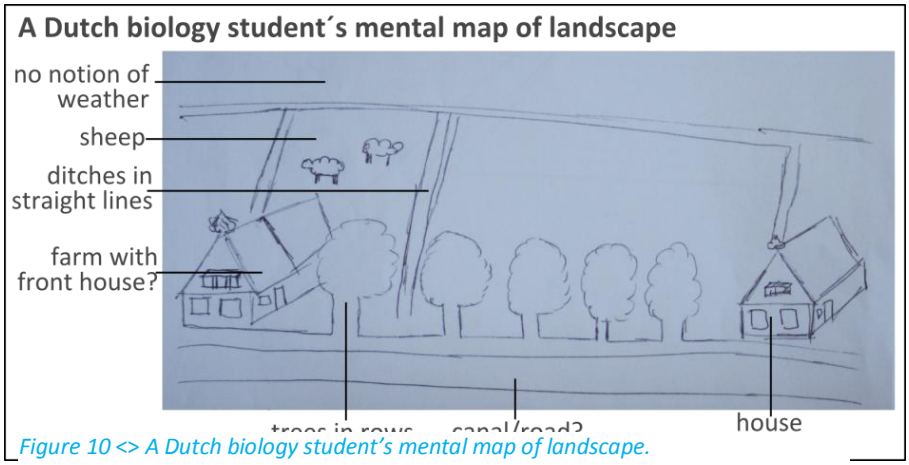

Figure 10 <> A Dutch biology student's mental map of landscape.

Returning to the three mental maps, most respondents (i.e. who drew local landscapes) drew typical rural scenes. Austrians tend to draw alpine small scale farms (with *alms*), Indonesians *sawas* (rice fields) interwoven in forests and undulating mountains, while Dutchmen draw large scale farms with ditches and trees predominantly in rows along roads. Many Indonesians (but not Figure 9's) feature volcanoes, while Austrians always draw mountains with sharp peaks (and in this case, even a *horn*). The sea is often featured in Indonesian mental maps, which suits the country's topography well. All three mental maps show certain elements that can be regarded as 'puzzle pieces' of the acquired physical space that has been addressed meaning by the society *and* the individual. Fish, flying birds, livestock and isolated flowers are recurring items, yet

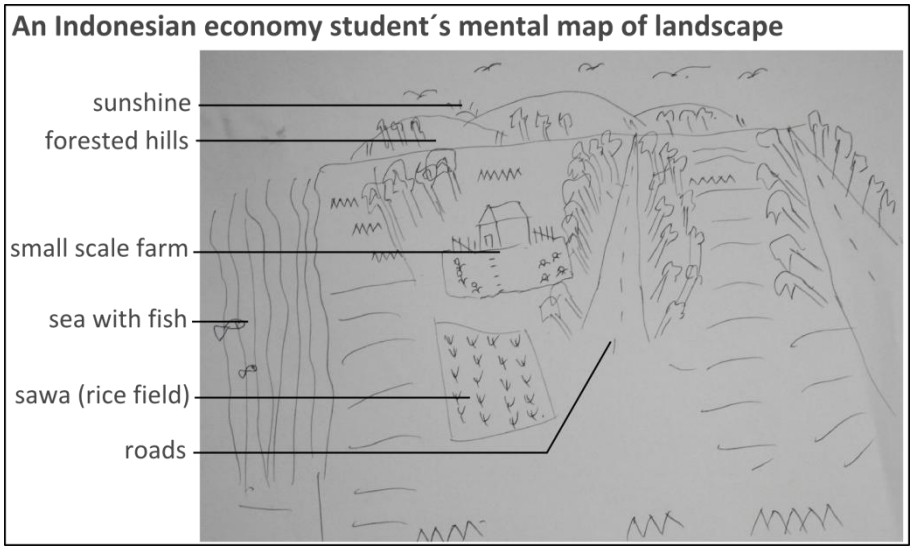

Figure 9 <> An Indonesian economy student's mental map of landscape.

cars, grazing birds (geese) or – for the sake of this example – fungi are infrequent, thus do not carry the overall meaning of landscape. Some individuals do perceive them in their individually actualised landscape, yet (lack of) national discourses of landscape have avoided them being part of the macro societal social construction of landscape.

Comparing the role of typological origin and national origin, it can be concluded that everyday discourses preferably thrive on the national level. This is explained as follows: City people do have a differentiated social construction of landscape compared to countryside people, but national discourses have prevented the urban landscape to be everything city people are familiar with. National media and advertisement play often at the national level – in Europe possibly because of the fragmented sprachraums – so that citizens of a country have more-less similar social construction of landscape, regardless of the exact location. However, in accordance with the one-third of Dutchmen who drew exotic landscapes, some people are sensitive to border-crossing discourses of landscape, while, in addition, national media may respond to the familiarity with other landscapes and reproduce exotic landscapes within national discourses. This, however, is utter speculation.

When comparing the 34% and 19% who drew (partly) mountainous landscapes with Austrians, it is striking how often Dutchmen tend to draw convex, undulating yet glaciated mountains. Austrians, to which the Alps are *heimat,* draw mountains more realistically with concave bases, pointy peaks and sometimes even *horns*. Any course in physical geography teaches that the Dutch Alps are non-existent. Are Dutch discourses of foreign places to be addressed *international* discourses, or only superficial, foreign elements embedded in *national* discourses?

3.4 Role of field of study

The second landscape socialisation is expected to take place already during higher education, since Kühne's assumptions of the role of specialised discourse and practical experience in a specialised milieu does not solely apply professional life. The second landscape socialisation would refine the general perception of landscape among those who study landscape oriented subjects. From Kühne (2008) and personal experience, it is known that many programmes have a discourse in which the anthropogenic role in landscapes is emphasised, and as a consequence, perceptions and social constructions of landscape should widen their view from solely natural and rural landscapes. It is even common practice to label the city as landscape, in phrases such as the (sub)urban landscape or *cityscape*. Taking this as a point of departure, those who have undergone the second landscape socialisation (i.e. geography and planning students) are to feature more buildings than, for instance, biology and economy students.

The results confirm Kühne's second landscape socialisation sufficiently, but also teach that Kühne should widen the process under which the second landscape socialisation occurs: Also education is of importance. Figure 11 (N=149) shows indeed that people with a landscape orientation include more urban constructions and less 'empty' landscapes than non-landscape oriented students do. To the latter, landscape is mainly perceived as something natural, free of large human constructions. A clear line is visible: The less anthropogenic signs, the more an area is perceived as landscape. To landscape oriented students, however, the social construction of landscape has changed significantly, so that the individually actualised societal landscape is detached from the macro societal construction. However, two connotations need to be made. First, the vast majority of geographers and planners does also include natural and rural scenes extensively, preferably in the foreground and the city as part of the skyline. The socialisation merely broadens the social construction of landscape to a mosaic, rather than replacing the rural/natural social construction. Second, the number of mental maps of landscapes without cities and villages still is striking, which prohibits rigorous conclusions. The above analysis needs to be put into perspective.

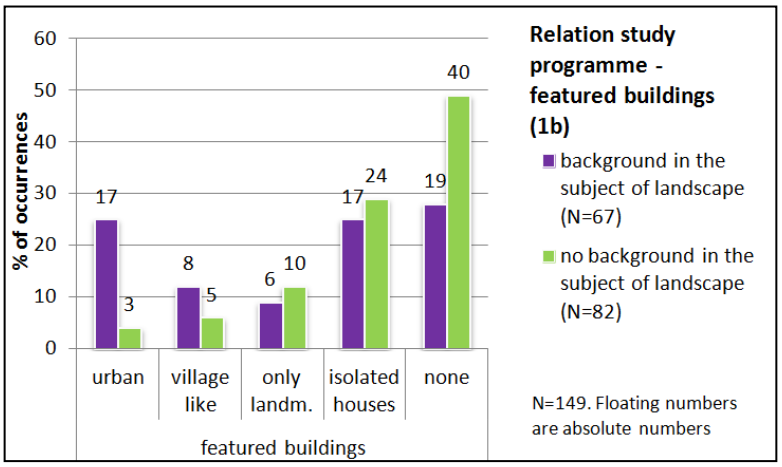

Figure 11 <> The relation between featured buildings and the educational background, being related to landscape or not.

This perspective is added by differentiating landscape and non-landscape oriented students into several subpopulations. Kühne (2012) distinguishes three 'degrees' of how much concerned a profession with landscape is. While geographers, and certainly human geographers, are only addressing landscape analytically, planners have more thorough experience with landscape both in terms of theory and practice. However, designing professions would play the lead in the second landscape socialisation, in that they can build upon a base of extensive knowledge (discourse) and practice (utilisation). Among non-landscape oriented studies, due to the variety, two distinctions have been analysed: Between life sciences respectively forest or environmental management programmes. Figure 12 (N=119) confirms that the anthropogenic discourse is strongest among landscape design students, whereas it is weakest among life sciences students. Indeed, analytical landscape students (geographers) tend to perceive landscape more natural than their design colleagues-to-be. Now, it can be concluded that the second landscape socialisation does not or only has initiated among students that approach landscape analytically, while planning and designing programmes are in a later stage of the second landscape socialisation.

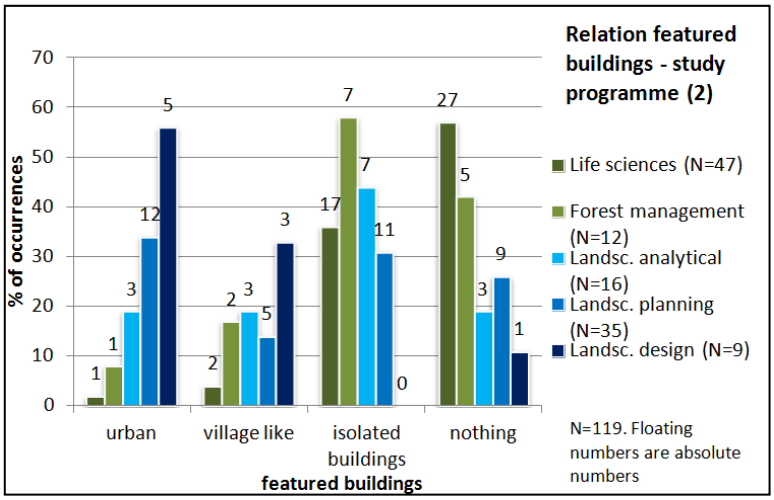

Figure 12 <> The relation between featured buildings and the study programme. All students are graduate students.

Further, the tendency among geography and forest and environmental management students may be *déformation professionelle,* and not a pure socialisation as such.

Interestingly, even among landscape designers, signs of nature are always perceived as part of landscape, whether it is rural or fully urban. Water and vegetation are showed approximately 65% respectively 90% among all students, regardless of type of programme. Infrastructure, be it in its simplest form such as entrance lanes, are showed in circa 45% of all mental maps, regardless of study programme. Heavy infrastructure such as railroads and highways, conversely, are perceived mainly by geographers, planners and designers, although notable exceptions occur. Clearly, national discourses of landscape keep influencing even the most socialised landscape architect, in that greenspaces are always part of landscape – but the consequence is that it is taught in study programmes, rather than that landscape architects have come to understand this each individually.

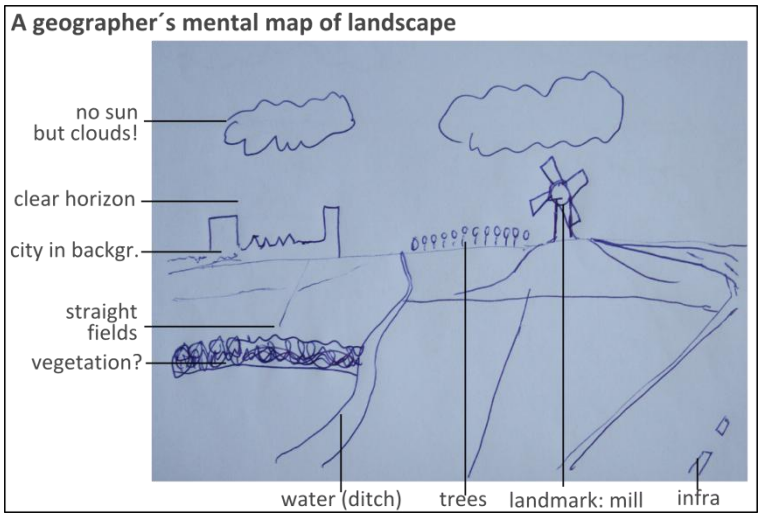

Figure 13 <> A (Dutch) planning and geography student's mental map of landscape.

Analysing the role of study more qualitatively, two mental maps are considered: Figure 13 (planning student) and Figure 14 (biology student) tell directly the difference in perceptions. The planner- geographer perceives landscape as a mosaic, or a *system* of multiple land-uses. The city indeed is put in the background: A sign that specialists still are sensitive to national everyday, instead of solely scientific, urban discourses. The biologist-to-be shows the romantic undulating hillsides that lacks any sign of human presence, apart from an empty road. The examples show, on the other hand, that certain elements, such as clouds and vegetation, are featured always regardless of study programme.

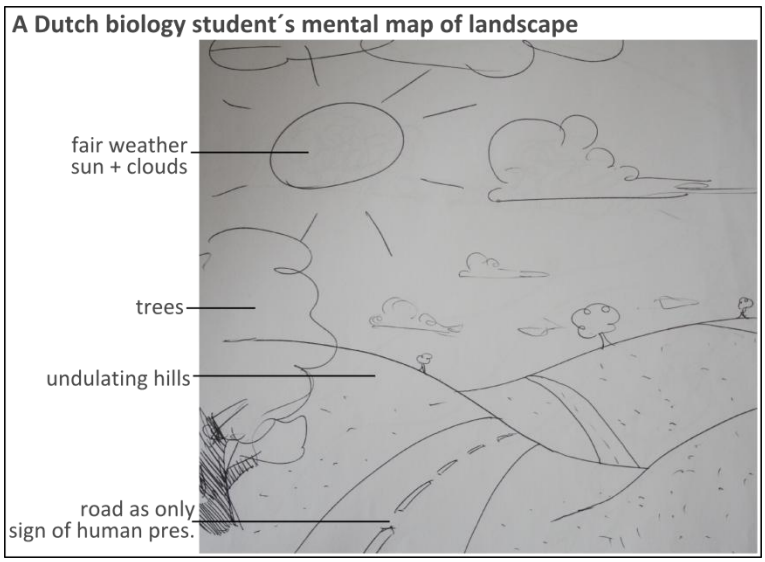

Figure 14 <> A (Dutch) biology student's mental map of landscape.

3.5 The sky(line) is the limit

During the analyses my attention was drawn to the role of the sky in landscape. A standard conversation in The Netherlands includes complaints about the weather, which would be rainy all the time. This is, quite fortunately, far from true, although the *threat* of rain is fairly common. Also, the flatland, without panoramic viewpoints overlooking the land from a higher angle, makes that the field of vision in lowlands consist of sky for a large share. Consequently, one would expect that Dutchmen would perceive the sky as an important part of landscape, but this does not hold true.

80% of the 108 Dutch respondents drew a horizon and thus the sky, and the vast majority of them drew their mental maps from a bird's eye perspective, which is, except for pilots, never eye level in The Netherlands. Figure 15 shows how the bird's eye perspective conflicts with normal eye level. The result of this perspective (no difference between men and women observed, despite many urban myths about women and maps) is that the sky is 'eaten up' by the land.

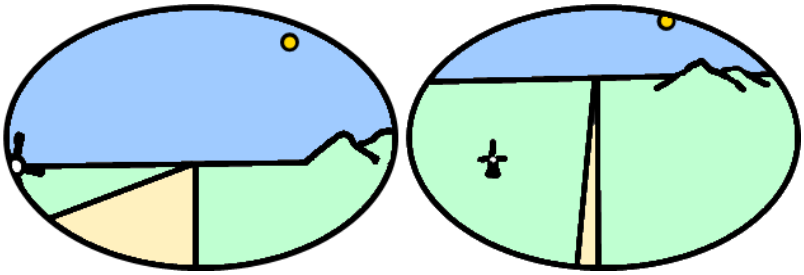

Figure 15 <> Two fields of vision. The left-hand field is from eye-level and includes much of the sky. The right-hand field is from a bird's eye perspective and includes mostly firm ground. Although most Dutchmen should be most familiar with eye level, their perception of landscape is reflected in the mental maps most usually by the right-hand example. (Own work, inspired by Arnheim, 1978)

Considering the weather (please compare the five mental maps presented earlier), again the absence of the sky and its conditions is striking. 38% did not offer any notion of sky conditions, 36% drew clear skies with the sun – landscape is not a night thing – and 16% featured both sun and clouds. Only 9% of all Dutchmen perceive landscape rainy, snowy and/or tempestuous weather. Considering climate, all but one mental map show vegetation in its summer state. No maps feature ice, except one where it snows. Of course, the use of white sheets and monochrome pens makes analysis rely on intuition and general atmosphere in order to distinguish snow from grass. The fact that landscape is perceived as something sunny and summery is in line with Jauhiaien and Mönkkönen (2005) who did research to the perception of landscape and *seasonality* (see Fry et al., 2005) in a Finnish city, where the land and sea are covered by snow respectively ice five months a year. 88% of the people preferred the summer, the remainder mainly taken by spring fans. However, the striking thing is that Dutch realism's painting regime is not only fond of hilly landscapes, but also cloudy skies (e.g. Ruisdael, Figure 17) and winter landscapes (e.g. Avercamp, Figure 16), also in exotic countries.

Figure 16 <> Jacob van Ruisdael, The windmill at Wijk bij Duurstede*, ca. 1670. The painter's trademark is his magnificent ability to picture impressive skies (so-called* ruisdaelluchten*). (Rijksmuseum, 2013)*

Figure 17 <> Hendrick Avercamp, Enjoying the Ice near a Town*, ca. 1620. Avercamp is famous for his winter landscapes. (Rijksmuseum, 2013)*

The profound lack of special notion of the sky in the data can be explained by several things. The first explanation is that the Dutch painting tradition is not as important as it is assumed, or second,

that im- and expressionists from younger centuries deserve to be addressed a more important role. The former would imply that current media and advertisement discourses play the most important role. Third, it could be that the sky is perceived as detached from the concept of landscape, possibly because landscape is considered something fixed, while the sky and seasons change continuously. Fourth, during the instructions to the data collection, the words *map* and *land*scape are used, which may well automatically steer people to draw top-down views onto the land. This makes the data unsuitable for making conclusions about the role of the sky in the perception of landscape. However, it certainly sets one to think.

3.6 Mental maps: lessons learnt

Has this experimental research's focus first been at landscape proper, its focus widened gradually and ultimately included not only the perception of landscape, but also a study of methodology. This paragraph summarises lessons that can be distilled for further research using the mental mapping technique.

First of all, the number of respondents was too large. With N=162, but the disability to use statistical analyses due to the many uncertainties and classification problems, it is desirable to conduct mental mapping technique with less respondents so that individual maps can be analysed with more time and effort. Since the number of variables the mental maps proper have (scale, perspective, featured objects, atmosphere (both literally and figuratively), terrain), the questionnaire added too many variables. Without statistical tests, age is hard to analyse. The question »Did you (in your opinion) travel a lot?« was hardly analysed, since a first glance told immediately that yes/no is random with regard to the mental map results. If travel experience, but also language knowledge or literature reading would change one's perception, this should be conducted in a specialised way, where I consider interviews and questionnaires a better method. Whereas past and current studies can be listed objectively, more subjective questions (when have I travelled a lot, when do you know a language, what means reading *a lot*?) are hard to answer in open questions without face-to-face contact, or questionnaire with closed questions with fixed classes, is conducted. In addition, as summarised earlier, one question was misinterpreted by some, so that the number of invalid responses and the overall uncertainty increased.

On the other hand, the method offers a fresh point of entry to further research. Research is not only about answering questions, but also about posing new questions based on new answers. This experimental research certainly has enabled me to make numerous conclusions, be they solid, speculative or downright ending with a question mark. Also, the approach is new in that it uses mental maps for associations with a word, rather than a concept. This means, data cannot be linked to spatial data, yet if this is not desired, no problem occurs. It only makes analysis slightly more difficult, since coordinates would have offered sound points of reference. This research is rather an entry to people's thoughts, than to people's behaviour, and in that, the mental map is a better way to 'capture' thoughts than many methods, especially given the limited time, which does not allow interviews.

4 Conclusion and discussion

4.1 Conclusion

The results of the empirical study have showed that the role of origin is important in the perception of landscape when speaking in terms of country of origin. Strong national discourses have created national societal social constructions of landscape, on which citizens build in their individually actualised social construction of landscape. However, due to international discourses and foreign elements in national discourses, a considerable amount of people do not perceive landscape as something local or national. The importance of traditional painting regime should not be overestimated on cost of modern media in the perception of landscape. No relation has been found with travel experience or wanderlust, even though it was assumed that much diverse experience with different landscapes universalises the perception and social construction of landscape. The weight of typological origin not univocal, though results tend to favour the theory that people from the city perceive the city as *part of* landscape, while people from the countryside do not. However, since the relation is weak, it can only speculated about the role of parallel social constructions among people from the city respectively countryside.

A special form of the individually actualised societal social construction of landscape is found among students who are much concerned with landscape in their education. Contrary to Kühne (2012), education does offer such a specialised discourse and thorough practice that a second landscape socialisation can occur prior to 'proper' professional life. However, whether or not it occurs during higher education depends on how much concerned a programme with landscape is: Landscape architects and planners will respectively can undergo this second socialisation, visible via the multifaceted landscapes including urban structures. Geographers' and other students' perception variations rely solely on the individual actualised landscape, or slight professional deformations.

Both origin, collective memory and the second landscape socialisation have been addressed in the empirical study to be existent. However, Kühne's theories should not be rewritten immediately, since origin and education do not play the grandeur role assumed in advance. What can be concluded fiercely though is that social constructions are manifold and overlap, intertwine and conflict on different scales among various societies, sub-societies and individuals. The physical landscape is a substrate for a plethora of cognitive landscapes.

At last, the research has become a study to mental maps as well. Learnt lessons include that mental maps about a concept, rather than a fixed location, are difficult to analyse, but it is not impossible. Despite the many uncertainties and multi-interpretativity, consequent and painstaking selections and categorisations can count for sound research. The number of respondents, though, should not exceed unmanageable numbers (say, 40 to 50), this prevents qualitative analyses and asks for rigorous choices. For an experimental research that has its objective to lay groundwork for further research on the perception of landscape, nevertheless, this method is a sound stepping stone and catalyst.

4.2 Discussion

The European Landscape Convention's perception of landscape can turn out to be problematic, in that this study has showed that a plethora of overlapping perceptions of landscapes exists. However, since this study is a first stepping stone to deepen our understandings of how perception works, further research needs to be done in order to jump to conclusions about the ELC. One of such researches has already been conducted. Conrad *et al.* (2011) did a study on the landscape of Gozo, Malta, where they addressed landscape perception's ambiguity: On the one hand, several people (no numbers given) perceived landscape as a pristine alpine setting, not found on Gozo, yet still, 98% of all people considered the Gozitan landscape to have its own qualities (cliffs, fields, authentic villages). Among the implications Conrad *et al.* list, is the notion of many intangible features that appear to be important 'puzzles pieces' to landscape, such as church bell sounds and low-trafficked roads. This is in accordance with this thesis' mental map results, where often small details 'colour' the scene (such as flowers and birds; obviously non-visual items could not be mapped). Overall authentic landscape is considered most important, be it a rural, natural or built-up surrounding. The main line is that no single discourse of landscape exists in Europe (as concluded by De Montis, 2014 as well).

The lack of location, prohibiting mutual comparison in spatial terms, should not withhold the use of mental maps. It is a good way to 'capture' associations and perceptions with spatial concepts, generic places (such as: what is a city?) and imaginary places. Chartier (2007) conduced research on the Imaginary North of Canadia, which is embraced in the hearts and national identity, but is virtually unvisited. Southern Canadians must, therefore, rely on second-hand discourses for their social construction and collective memory of 'their' north. An undefined area (see also Hamelin, 1975), it would not only be interesting to let people draw their perception of the North's boundaries, but also let them make a drawing of the Canadian North's landscape. The first can be linked to fixed coordinates, the other not. In accordance with Kitchin (1997), I plead for a special term for mental maps without spatial reference points.

Apart from professional deformation, which is completely underexposed in literature, further research needs to be done in the role of the sky in landscape perception. Nevertheless, my particular attention was drawn to landscape perception among pilots, who see the earth from high altitudes for hours a day. How does landscape perception vary among intercontinental, international and domestic pilots? Furthermore, pilots are among those who ply so-called »non-places« frequently (Augé, 1995). *Non-places* are places without a distinct *sense of place*, such as airports, which would be universal, standardised and globalised 'spaces'. However, do pilots perceive all airports the same? Isn't the coffee in Milano better than in the JFK, New York? What about special approaches, VCTs (towers), aircraft or stewardess suits on particular airports? Narratives and thorough practice enables one to recognise details in order to recognise places: The more standardised, the more important details.

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Footnotes

I. The phenomenon that the capital is not considered a city that represents its country is widespread. Van Dam (2008) concluded that Iqaluit, the capital of Nunavut, Canada, is treated with disregard by other *Nunavummiut* because it would not be an Inuit town – although it has the largest concentration of Inuit in Canada. With less dislike, the same goes for New York not being the real USA, or Copenhagen being a world apart. Further research on such social constructions that suffer from what I call the »number one syndrome« would be interesting. Theories of economic geography (Dicken, 2011) succeed in attempting to show that »second cities« rely relatively stronger on the country they are in, than primary cities, which tend to be relatively more linked to each other. But does this hold true for provincial, local and island 'capitals' as well?

Appendix I Blank mental map form

(Date on course in which mental maps were sampled are added afterwards)

Answer these questions *(in Dutch or English)* ***after having drawn your idea of landscape***

Current and past studies: ..... Age ..... Male / Female

* are they Ba/Ma?

.....

.....

Did you do any courses that are concerned with landscape? .....

What is your country of origin? .....

In which region(s) did you grow up? .....

How would you describe the area? (city/countryside/forests/etc.) .....

.....

Have you (in your opinion) travelled a lot? .....

Mental map assignment for a Ba-project (Spatial Planning) on landscape perception, by R Hokwerda (2234750)

Appendix II Mental maps

(Anonymous; only available to supervisors)