The Power of the Narrative

Annemette Scheltema
February 2018

ABSTRACT

Landscape narratives have the potential of being powerful design tools. Designing with narratives may provide new opportunities, shaping conditions for new possibilities and stories.

The project focuses on the gap between the theory of the landscape narratives and the practical application in the field; emphasizing the interconnection between the design elements which are essential for construction and the type of narrative. Starting from the theory of landscape narratives the spatial ways of the representation of time are discussed; followed by a further investigation of the way continuous landscape narratives may be translated into spatial architectural compositions which implicitly are presented in the materials, experiences, sequences and processes of landscape forming and resulting in a suggestion for a methodological framework for designing with landscape narratives, including instruments for analysing, constructing the narrative, spatial translation and implementation.

Keywords
Landscape narratives; Methodological Framework; Sense of place; Experience; Wild natural landscape; Design tools; Noordpolderzijl.

"It's not just that 'places' serve to remind us of the stories that are associated with them; in certain respects, the places only exist because they have stories associated with them. But once they have acquired this story-based existence, the landscape itself acquires the power of telling the story."

Edmund Leach, the British social anthropologist, 1976

The Power of the Narrative

An exploration of landscape narratives as a design methodology in wild natural landscapes

MSc Thesis
Annemette Scheltema

Mentor Team

Nico Tillie, ir. N.M.J.D.
TU Delft, Faculty of Architecture, Department of Urbanism,
Chair of Landscape Architecture

Luisa Calabrese, Dr. L.M.
TU Delft, Faculty of Architecture, Department of Urbanism,
Chair of Urban Design

External Examiner
Wido Quist, Dr. ir. W.J.
TU Delft, Faculty of Architecture,
Department of Architectural Engineering +Technology,
Chair of Heritage & Technology

INTRODUCTION

INTRODUCTION

Fascination

Stories are as old as mankind. The world is full of tales, legends, sagas and other narratives. Every child grows up with fairy tales and stories told by (grand)parents or read from books. Narratives can be discovered in many more disciplines. Even in the world around us. Narratives hold the power to reduce highly complex systems to a set of comprehensible relationships. By that narratives make complex systems accessible for reading and help to grasp the complexity of those systems. A narrative may be seen as a process that is continuously moving between a series of interrelated actions. Likewise, narratives emerge from the interplay of natural and cultural processes.

There are many types of narratives. Some focus on experiences, others are built upon associations and references or are told to keep memory alive. There are interpretive narratives and narratives which emphasize processes. The shape of a narrative is closely related to its purposes.

As narratives generally are easily taken to be true they hold a power. It is important to be aware of that power. Before choosing a certain type for a narrative the question needs to be asked whose story is told? Why is this story told? What is the message? What purposes are served and what role do the listeners/readers play in constructing the narrative? What is the degree of control of the storyteller/maker and the listener/reader? The right choice of type of narrative requires understanding of the cultural context and shared conventions. The task of the teller is not only how to tell the story but also to develop a critical awareness of the processes and interplay of the narrative.

Problem Statement

Ever since the dawn of mankind the ability to 'read' the surroundings was crucial for survival. Every clue or occurrence demanded investigation and interpretation; every detail needed attention. In that respect the modern man's mind has not changed much since then. Hence the American landscape architects Kaplan et al. (1998) stipulate that natural areas activate the human curiosity to understand and explore a place.

Narratives hold the power to structure details as well as overwhelming situations. landscape narratives have the ability to structure impressions of vast wild landscapes into tangible stories that fit the human scale. Landscape narratives have capacities that can be compared with bounded vectors in mathematics, both exhibit their complex structure by size(force), direction and point of engagement. The route in the landscape offers the opportunity of bringing complex layered systems back to causal narratives. Nevertheless, information regarding landscape narratives is limited. Methodologies about the implementation of these narratives into wild natural landscapes are lacking.

Aim & Focus

Designing with the help of landscape narratives holds the potential to add the human scale to the big structure of wild natural landscapes. Emphasizing the narratives can contribute to the sense of place, awareness and quality of these unique landscapes. The aim of this project is to develop a methodological framework for the implementation of landscape narratives.

In order to do so investigation is needed. The research for the theoretical framework focuses on the exploration of the perception of experiences, on a local scale, from a predominantly pedestrian perspective with a link to a larger scale.

Key Question

The fact that literature about the implementation of landscape narratives in wild natural landscapes is largely lacking guided this graduation project to the following research question:

How to construct a methodological framework for the implementation of Landscape Narratives in the discipline of landscape architecture, such that the human scale experiences can be related to the broader context of the Dutch wild natural landscapes?

How to construct a methodological framework for the implementation of Landscape Narratives in the discipline of landscape architecture, such that the human scale experiences can be related to the broader context of the Dutch wild natural landscapes?
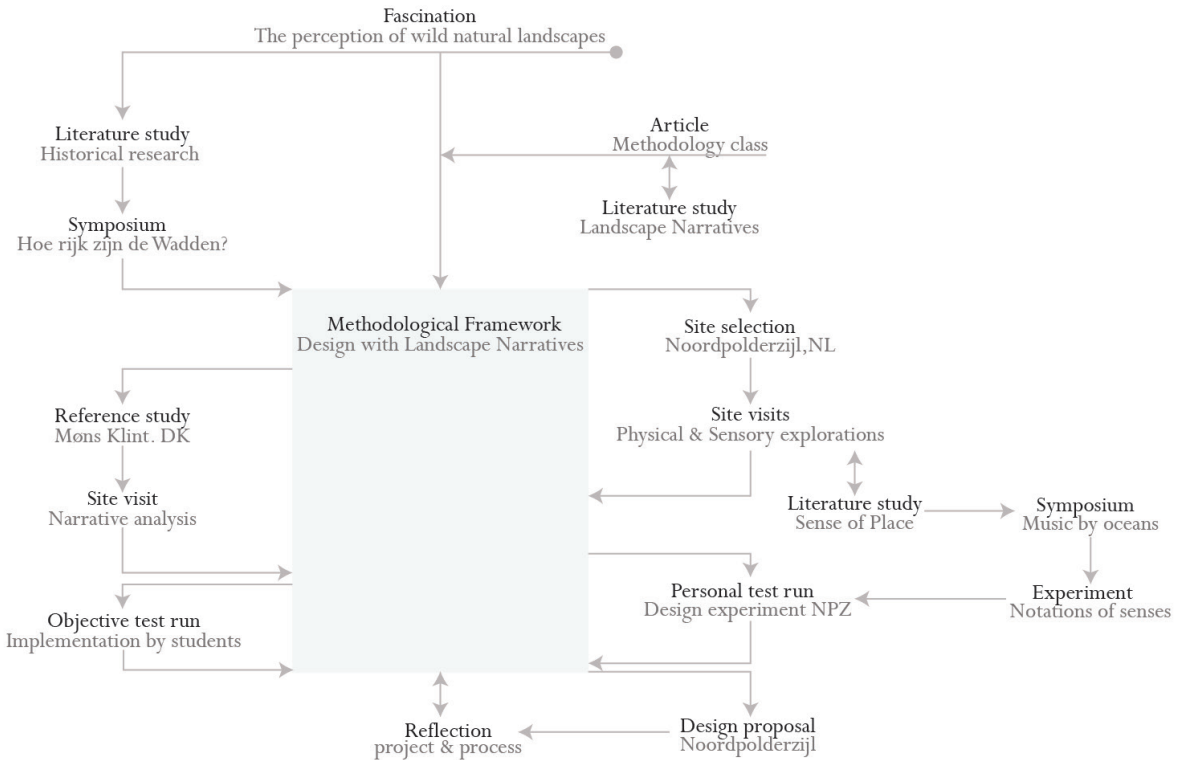
Social Relevance

The landscapes that are most compelling to the human eye contain a balance between a certain level of understanding and the possibility to explore the landscape (Kaplan, et al., 1998). Landscape narratives can enhance this experience by adding the human scale to the large structure of wild natural landscapes. Landscape narratives also offer the public, in addition to a chance to explore the area, the opportunity to create their own new stories.

Academic Relevance

Existing methods for landscape architectural analysis and design either focus on visual/geographical landscape research or focus mainly on the other senses, but rarely on both. On the other hand the discipline of designing by landscape narratives is based on the theoretical knowledge and the awareness of the sense of place as well as it links the design to larger visual scales.

A methodological framework for the construction by means of landscape narratives, which places local sensory elements in a broader context, could be the bridge over the gap that exists between the two strategies.

Fascination
The perception of wild natural landscapes

Literature study
Historical research

Article
Methodology class

Symposium
Hoe rijk zijn de Wadden?

Literature study
Landscape Narratives

Methodological Framework
Design with Landscape Narratives

Site selection
Noordpolderzijl, NL

Site visits
Physical & Sensory explorations

Reference study
Møns Klint. DK

Site visit
Narrative analysis

Literature study
Sense of Place

Symposium
Music by oceans

Objective test run
Implementation by students

Personal test run
Design experiment NPZ

Experiment
Notations of senses

Reflection
project & process

Design proposal
Noordpolderzijl

Framework of the Project

Outline of the Project

The research methods used for the project are focused on the development of the methodological framework of landscape narratives. The research can be divided into two parts: the theoretical research methods for the development of the methodological framework and the location-specific research methods for testing and applying landscape narratives. Theoretical research methods include collecting information through literature studies, reference studies, symposiums, workshops, and experiments. The site-specific research studies include, mapping, sensorial studies, composition studies, case studies and design experiments.

The sensorial studies have been extended with the development of a notation method for the composition of sensory elements to understand the complexity of the composition and notation of the senses. The sensory signals in the tangible/tactile landscape (Lassus, 1998) are similar to a symphony because both change over time and consist of a balanced interaction of different factors.

The complete graduation project is divided into three phases. *Orientation,* The first phase, focuses on formulating the knowledge gap. *Research*, the second phase; focuses on a constructing theoretical framework for the project to be further developed. The third phase has *Development and Application* as its theme. In this last phase the methodological framework is formed *Development* iteratively, parallel to and in response to literature, reference studies, design experiments and feedback of test results.

These studies come together in a proposal for a method for the development, design and spatial translation of landscape narratives for wild (semi-) natural landscapes. A detailed description of the development and application of this method will be given in the coming chapters.

Test Location

In an effort to find a suitable location for testing the new methodology, it turned out that the Wadden Sea coast offered ample opportunities; on one side of the dyke the (semi-)untouched mudflats and the sea, on the other side polders in a part of the country that is steadily depopulated due to lack of employment. The design for testing the methodology was situated in Noordpolderzijl, a desolate, small harbour formerly used for shrimp fishing in Groningen, which could benefit from an upgrade in order to attract more visitors. A test of the method's applicability by a group of students Landscape Architecture took place in Holwerd, a ferry port in Friesland, whose residents strive to make their area more attractive for tourism.

Although the proposed method was primarily intended for application in a Dutch wild coastal landscape, the method was also tested during a modest analysis after a brief survey of a completely different wild coastal area: the wooded chalk cliffs of the Danish island of Møn.

Dutch wild natural landscapes
the northern coast

Wild landscapes trigger the imagination. For centuries philosophers, poets and painters wondered about the world across the borders of civilisation. These places generally were poorly accessible, so mysteries and legends about wild landscapes were hard to refute, resulting in sagas about utopias and in romanticized scenes of the 'wild' as seen in Jacob van Geel's painting of a fantasized forest landscape. Explorers travelled around the world in search of these wild landscapes.

Even to this day wild landscapes are places of wonder, places one longs to visit and explore. Wild landscapes differ from (partly) cultivated landscapes, beside in their physical aspects, in their mental and emotional aspects. As cultivated landscapes tend to tell the plain story of human effort, struggle and ingenuity, wild landscapes leave space for dreams and fantasized narrations.

In densely populated areas wild landscapes either have been of lesser use for mankind in the past or have lost their importance over time. They tend to be uninhabited, or only sparsely or incidentally inhabited. This absence of human intrusion is the reason why the appearance of the wild landscapes is characterized by natural processes and the accessibility generally still is poor. Since wild landscapes are so hard to access a trip to one of these areas usually gives ample time to raise expectations as well as a growing urge to explore the site on arrival.

Fantasized Forest landscape, Jacob van Geel 1636, Retrieved from; Mauritshuis.nl

The coastal landscapes of Western Europe have a rich cultural history. For that reason only a few large-scale natural areas that border on the wilderness of the Wadden sea remain. This wild landscape is very peculiar, it consists of dry marshlands, wet salt marshes, mudflats, flow channels and shallow sea. A considerable part of the modern agricultural areas to the south of these marshlands were part of this landscape until medieval times. For protection against flooding the scarce population in this area lived on terps, man-made mounts, over centuries. Gradually more and more of the marshland was claimed from the sea. When a dyke was built more and more silt was deposited against it, with the result that more and marshland fell dry. Man-made breakwaters speeded up the process. The outer dyke areas were in use for livestock farming, until a new dyke was constructed. Newly dyked, fertile areas were used for agriculurure for centuries. Due to a change of ecological awareness in the 1980's the interventions that speeded up the forming of land were given up and the outer dyke areas were left to the dynamics of the sea and other (a)biotic forces. To this day the traces of taming the nature are visible in the landscape. Although this landscape owes much of its development to human interventions it is nowadays dominated by natural processes, outside the bounderies of
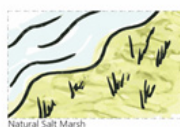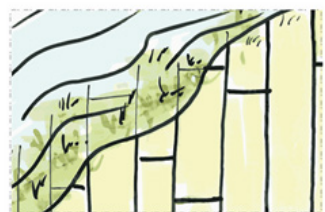
METHOD DEVELOPMENT

METHOD

Development of the methodological framework

Landscape narratives can be divided into two types: the objective landscape narratives that are formed by the elements, features and processes in the surfaces that take place and the subjective landscape narratives which hold relation to the way the objective features and processes are subjectively linked into new relationships. Subjective landscape narratives are based upon individual and collective experiences and therefore highly related to the perception of the receiver.

Every location is part of a bigger picture, is connected to a more extended environment and simultaneously functions as a platform for (smaller or bigger) narratives, always allowing to zoom in (IBM, 1977).

Objective   vs.   Subjective Narratives

Apart from being used as an instrument to tell the story of the past, landscape narratives also can be used as tools for constructing spatial relationships within a new design. This raises the question as to how exactly landscape narratives can be used to untangle complex systems and tell the hidden stories of the past and simultaneously can provide the conditions for future narratives.

As a designer, one holds the power to pick and alter distinct elements in the environment, change conditions and establish relationships. While doing so, some of the existing narratives will disappear while others will obtain a stronger presence in the landscape. Therefore it is important, especially when working with Landscape Narratives, to be aware of which/whose story is being told and to emphasize the desired aspects (Potteiger & Purinton, 1998).

The following method is an aid for investigating the feasibility of implementing *the narrative* as a useful design tool in the design process in order to add the human scale to the vast wild landscape of the northern coast. While checking the underlying hypothesis the coastline of the Dutch Waddensea was taken as a reference.

The proposed methodological framework consists of 4 phases / 10 steps. The phases are; Analyse, Frame, Construct, Detail. Working through the steps triggers the designer to formulate a set of landscape narratives and work towards a design that reflects those narratives. The first phase focuses on framing the existing, after that the bigger structure of the narrative for the location will be framed, followed by the construction and the detailing of the design. The rest of this chapter focuses on the method step by step. For every step the background will be discussed as well as the function and the possible outcomes.

ANALYZE

Frame the existing

- **Desk Analysis:** Determine the key patterns and driving forces by Answering the questions: Who, What, Why, When, Where?
- **Field Analysis:** What do you see, hear, smell, taste and feel at the site? How do these impressions influence you when you walk through the area?
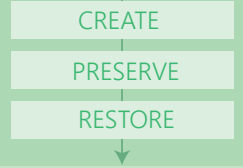
Define your purposes

- Emphasize on which experiences
- Define the purposes based on the conclusion in step one.
- Relate the purposes to a type of Landscape narrative.
- Start building up the narratives: Which/Who's Story? Why?

FRAME

Type of intervention

- Define the location of the narratives
- Define the goal of intervention: Restore, Preserve or Create?

CREATE

PRESERVE

RESTORE

Scale of intervention

- Define the scale and the focus of representation of time (Point, Sequence or Continuous Narrative)
- Describe what this choice will mean for the design of the desired narrative, the degree of control you have and which (interactive) role the future visitor will play?

OR/AND

OR/AND
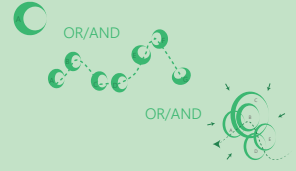
Frame your narratives

- For Whom? Who is the target group of each narrative?
- What are the main characters/driving forces in the landscape narrative?
- Summarize purpose, type & scale of intervention for each narrative
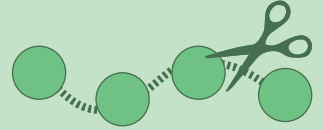- Give each narrative a title

Brainstorm   Make *How to reach the ...* the subject of a brainstorm session find 3-10 alternatives

Scenes of the storyline

- Bring your narrative into a storyline
- Break the storyline up into scenes
- Define title and desired goal for every scene

CONSTRUCT

Spatial translation

Note for every scene:
- Title, Theme, Location, Position in the Narrative, Goal, Target group, possible use and routings
- Ways to achieve this in terms of: Composition, Open/Closed, Sound, Smell, Balance,Touch, Movement, Dynamics

Relation of atmospheres

Design the borders and relations of the scene in terms of:
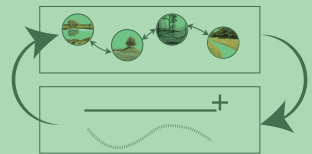- Composition
- Sequence/overlap
- Transition
Conclude with an overview of the complete design.

Test your narratives

- Check and adjust until the individual scenes and their coherence match with the starting point:
Design the Narrative.

DETAIL

Detail the design

- Detail the design in terms of materialization
- Keep in mind who's/what story it is and who will be the audience. The details may effect the cues in the landscape and how it influences the senses/experiences.
- Consider the effect of the design under different conditions and time.

FRAME OF THE EXISTING

The first step in making a landscape design is the description – the framing – of the present situation. In order to be able to frame the existing requires one is thoroughly acquainted with the present situation and its historical background. So the process focuses on the current representation of the site, the developments over time and the analysis of the history, In other words: patterns of What, Where, Why, Who and When need determination.

Framing consists of desk analysis and field analysis.

Desk Analysis - Visual landscape research

Desk analysis focuses on visual landscape research. According to S. Nijhuis (2011), the tradition of visual landscape research in the Netherlands started in the 1960s. The Dutch have gathered experience in spatial planning while 'creating (and developing) their own land' over centuries. The combination of this traditional approach and the academic interest in landscape perception influenced by later parallel developments in the United States led to the present view on visual landscape research.

Corner discusses the visual landscape research in his essay: The Agency of Mapping (1999). He distinguishes the difference between tracing and mapping; where tracing is hardly more than describing the existing, mapping holds the intention of an extraction/abstraction of the reality. Maps are easily taken for granted as objective representations, therefore they hold a power that is not to be underestimated.

Corner Identifies three essential operations in mapping:

- The creation of a field, the setting of rules and the establishment of a system;
- The extraction, isolation or 'de-territorialisation' of parts of data;
- The plotting, the drawing-out, the setting-up of relationships, or the 're-territorialisation' of the parts.

At each stage, choices and judgements are made, with the construing and constructing of the map alternating between processes of accumulation, disassembly and reassembly.

As Corner (1999) states" The application of judgement, subjectively constituted, is precisely what makes a map more a project than a 'mere' empirical description… The map 'gathers' and 'shows' things presently (and always) invisible, things which may appear incongruous or untimely, but which may also harbour enormous potential for the unfolding of alternative events in this regard, maps have very little to do with representation as depiction. …mappings do not represent geographies or ideas; rather than effect their actualization."

According to Corner four thematic ways in which new practices of mapping can be identified. 'drift', 'layering', 'game-board' and 'rhizome'. Each changing perceptions producing certain effects on the environment.

One of the approaches that is discussed by Corner - one that is widely applied nowadays – is the layered approach. This approach was developed by the architectural firm OMA in a design competition for Parc de la Villette, 1983. Here Koolhaas (OMA) presented different functions on layered images which clearly showed the relationship between these functions.

The approach following the Drift concept is derived from the experiments of some 1950's-1960's situationists. They aimed to disrupt and provoke any form of what they took for capitalist power and the dominant regime. Situationist Guy Debord walked aimlessly (drifted) through the streets and alleys of Paris, turning left and right whenever the fancy took him. By recording these wanderings, Debord cut up and reconfigured a standard Paris map in a series of turns and detours. The resulting map reflected subjective street level desires and perceptions rather than a synoptic totality of the city's fabric. This way Debord used representations in the shape of maps to give his private, anarchistic play a place within the recessive nooks and crannies of everyday life.

Another thematic development in mapping is Raoul Bunschoten's method: The Game Board. This approach invites stakeholders to meet and work out their differences. As a representation of contested territory, the map helps to try and find common ground while 'playing out' various scenarios.

The fourth approach to the visual landscape is known as Rhizome. (From the Ancient Greek ῥίζα- rhíza, "root"). Rhizome is a recent philosophical concept. In their project Capitalism and Schizophrenia (1972-1980) project Deleuze and Guattari use the terms 'rhizome' and 'rhizomatic' to describe theory and research that enable multiple, non-hierarchical entry and exit points in data representation and interpretation. In A Thousand Plateaus they set this concept against an arborescent (hierarchical, tree-like) conception of knowledge, which works with dualistic categories and binary choices. A rhizome works with planar and transspecific connections, while arborescent works with vertical and linear connections (wikipedia, 2017).

In (landscape) architecture the rhizome is themed by its open-ended characteristics. The rhizome has neither beginning nor end. It holds the ability to connect any given point to any other point. Corner (1999) states: "This viewpoint privileges actions and effects over representation and meaning; the concern is for how things work and what they do. Moreover, there is an explicit interest here for new kinds of affiliative relationship and interconnection."

One of the first known examples of rhizome in mappings is Charles Joseph Minard's map: Carte figurative des pertes successives en hommes de l'armee Francaise dans la campagne de Russie 1812-13. It is a narrative map of the fate of Napoleon's army during the invasion in Russia in 1812-13. In this map Minard combined various information sources into a visualised representation of the events in distance and time. The graph shows how a large army (422,000 men), that started from the Polish-Russian border in June 1812, was decimated. On the way the graphical bandage representing the amount of men gets thinner due to low temperatures (until minus 37 C) and geographical hazards (the army was forced to cross several iced rivers, losing thousands of men in the process).

Carte figurative, Charles Joseph,1812-13, retrieved from transnationalhstory.net
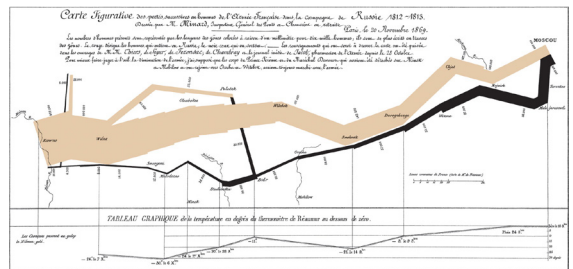
Thorough desk analysis will result in mappings which provide an extensive overview of the visual landscape. However, in order to frame the existing in broader perspective more information is needed.

Field Analysis - Sensorial landscape research

The second part of framing the existing is done by field analysis. The outcome of the field analysis depends on the personal observations of the participant. Therefore, the field analysis is largely based on the perception of the individual.

Perception is based on the knowledge from biological, cultural and individual sources (Jacobs, 2011). Studies show a crucial difference between the physiology and the psychology of perception.

The physiology of our eyes is crucial for the way we perceive the world (Jacobs,2006; Bell 1999). The perception of color, light and the limits of our vision are determined by the structure of the eye (and the brain). Our perception of depth largely depends on muscle coordination. Normal people generally have an almost 120 degrees, multi-colored, forward-facing, stereoscopic field of vision. The limitation of the field of view is determined by the condition of the eye and its musculature, the position of the observer, the viewing direction and the atmospheric conditions. Under normal physical circumstances and ideal atmospheric conditions this allows us to distinguish objects (from an eye-height of 1.70m) up to a distance of 1200-1400 meters (Nijhuis, et al., 2011).

Psychology of Perception is the field of research that studies how information is precepted in the brain. M. Jacobs (2006), states that the psychology of perception refers to two different processes: the basically unconscious processing of sensory information on the one hand, and the more or less conscious experience of analysing and interpreting the information on the other. Both processes include

recognition of shape, size, pattern, spatial arrangement and discrimination of colors. The psychological processes of perception are the basis for the identification of objects and their relationships with the context.

Physiological

Biological sources

Factors for perception

According to Nijhuis (2015) "individuals define their environment as a collection of surfaces, screens and objects in space. Architectonic composition consists of a given spatial relationship between these, though it will change according to the diurnal and seasonal variations in natural light".

Psychological

Individual & Cultural sources

Brain

The integration of existing knowledge, experience and personal symbolic and cultural elements determines the experience of the surroundings on an individual (subjective) scale. (Jacobs, 2006; Bell, 1999). In that the design is not inclusive but is open for differences in interpretation/perception (Kaplan & Kaplan, 1989).

Landscapes provide scenery and are perceived as a spatial, unchanging background, but are rarely conceived as narratives in itself. Nevertheless, landscape narratives are more than what meets the eye: what the narrative of a landscape is telling us comes from several sources.

Vision is the strongest and best developed of the human senses. and hence one tends to judge a location primarily by sight. Nevertheless, by focusing only on the visual perception, a lot of information is kept out of consideration since the human brain obtains information from 5 senses: sight, hearing, taste, smell and touch (Wit, 2014).

For all of the five senses the same distinction between physiological/objective perception and the psychological/subjective perception can be made. But, the way a visitor experiences a place and links the physiological and psychological information to a (subjective) narrative is influenced by more than the five senses alone.

According to landscape architect Saskia de Wit (2014), the experience of a specific place is determined by three key characteristics: the perception of scale, the perception of motion, and the social perception.
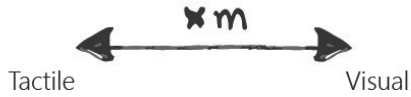
Perception
(Jacobs, 2006)

Physiological   Psychological

Distance scale
(Lassus, 1998)

x m

Tactile   Visual

Type of Movement
(Appleyard, LynchMeyer, 1966)

Social setting
(Potteiger & Purinton, 1998)

Solo   Collective

Factors for experience

Perception of scale:

In 1929, the Finnish geographer Johannes Granó made the distinction between 'Nahsicht' and 'Fernsicht', where 'Nahsicht' is a definition for the surroundings that generally can be experienced by more than vision alone, while 'Fernsicht' is the part that is mainly perceived visually. Lassus (1998) makes almost the same division but describes the concepts as 'visual scale' and 'tactile scale'. The visual scale provides impressions of near and distant phenomena. An environment can be defined by its contents and its organization solely based on its visual scale. (Kaplan, Kaplan, & Ryan, 1998). The tactile scale relates to a closer relationship between the receiver and the surroundings. Within the space of tactile scale visual and auditory information may become more specific, and information from other senses, such as smell, skin feeling, and taste may become notable.

Perception of motion:

The kinaesthetic sense and the vision are considered the most important among the senses. For most the visual information takes up 80% of the input capacity. Vision and motion are interdependent. (Gibson, 1954) One can't move or turn without visibly noticing it, and one can't see more without moving or turning.

The second factor for the influence of the experience is indicated by motion. Both the visitor and the landscape have the ability to be in motion (though often on a different time scale). Those motions will affect the sense of place. The motion of the landscape is mostly in terms of changing conditions; changes which can be annual, seasonal or daily (f.e. shift of light and dark, the change of the tides or the expansion of a forest). The personal experience of a place is highly influenced by the individual's mobility. The sense of speed, depth and distance is largely related to the mobility and the position (f.e. elevation) of the observer.

Nijhuis (2011) described the experience by motion through his studies: GIS-based landscape design research for the English landscape park of Stourhead. The Landscape park Stourhead is constructed from a visual logic where views and sightlines relate to the routes,

as well as the visibility and sequence of the architectural features. These routes and the related architected features generate visually controlled movement, drawing individuals into the landscape offering the perception of a sequence of gradually changing scenes. *"These successive acts of perception and recognition also influence one's sense of time. Observers in motion perceive change successively and adjust their knowledge."* Nijhuis speaks of a double visual structure: Firstly, there exists a stationary vision and framed views. The second visual structure is guided by motion directing the observer through a series of shifting views, offering a sequential and gradual discovery of the various features involved.

Social perception:

The perception of an individual is linked to the theories of physiological and psychological perception. And mainly based on personal knowledge, sensitivity, interest and awareness (Bell, 1999; Jacobs,2006; Nijhuis,2011), while the collective scale is focused on common knowledge of a place (Potteiger & Purinton, 1998). This can be the birth house of a famous painter from the golden ages, memories of war and disasters or annual cultural traditions.

From the above-discussed theories, the conclusion can be drawn that the experience/sense of place is influenced by many factors. The distance to the environment determines the scale of perception and the amount of sensory information the observer receives. The personal physiological and psychological conditions influence the choice of sensory information which is actually processed. The position, the route and the means of motion determine the way a visitor experiences a place. So does the individual and collective point of view.

The information gathered in the field analysis focuses mainly on the individual, sensory, tactile/Nahsicht scale; providing answers to the question of what there is to see, hear, smell, taste and feel at the site, and how these impressions influence the individual who walks through the area.

To get a solid grip on the environment, the mix of visual experiences and the impressions of the other senses on a distance and closeby are important for the framing of the existing.

DEFINING THE PURPOSE

The next step in drafting the narrative is to define the purpose, based on the conclusion drawn from framing the existing.
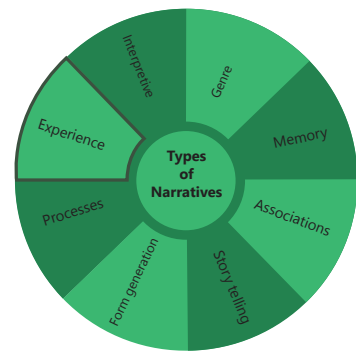
Once the goal is set one can start building the narrative: which/whose story, why etc.? At the same time, it is important to define the target group. Who are the recipients of the narrative? Those characteristics can be linked to a certain type of landscape narratives. Potteiger & Purington (1998) distinguish eight types of landscape narratives. See the diagram and the short explanations below.

- *Experience*

Narrative experience focuses on selecting and organizing the experience of a place into temporal sequences. Examples are routings, rituals or events.

- *Processes*

Processes such as erosion, growth, succession, restoration, demolition and weather influences are visible recordings of changes that take place one after the other or in stages to a certain end, in which time is recorded in the landscape form. Moving along a path structures a series of coherent changes in soil fertility, microclimate, vegetation types, habitat etc.

- *Form generation*

This type uses stories as instruments in the design process instead of explicitly integrating them into the design itself.

- *Story telling*

This type applies to theme landscapes designed to tell stories with explicit references such as gardens, memorials and theme parks.

- *Associations & References*

This type of landscape narratives works with symbolism. It relies on the individual perception of the landscape to connect experience, event history or other forms of narrative to the elements in the landscape

- *Memory*

Central to the type of memory landscapes are monuments, museums, preserved buildings, districts and regions. Those are places that serve as a tangible locus of both individual as collective memory.

- *Genre*

In this type culturally defined narrative forms or "genres", such as legends, epics, biographies and myths hold the power to shape sites.

- *Interpretive*

Interpretive landscape type are intended to make existing stories understandable. Interpretation can be achieved by elements of the design form. (Potteiger & Purinton, 1998).

These eight types of landscape narratives all have a different angle of approach and a different goal. They exceed limits of expression and representative forms. Some narratives focus on experiencing a site, others on processes, associations or memories. Nevertheless, since there is always more than one ongoing story in the landscape, landscape types can overlap just as well.

TYPE OF INTERVENTION

There are three types of Intervention options: Create, Maintain or Restore. The type of intervention is related to the type of narrative and the purposes which were established in the previous steps, as well as to the way in which the landscape is perceived. The site can be seen as a tabula rasa or as a palimpsest. In the case of the tabula rasa (the unwritten sheet) context is of minor importance so that the landscape can be forged into new architecture; the designer's intervention is meant to create something new (Corner, 1999).

The other option is to consider the landscape as a palimpsest (a reused parchment). This approach hinges on the idea that intervening in the landscape leads to the erasure or the fading of results from earlier natural and cultural developments (Corboz, 1983). On the other hand, it can be a conscious design strategy to respect the genius loci (the spirit of place) by maintaining / emphasizing the current state of the landscape or by realization of / suggesting the return to the past. This approach will inevitably add a new layer on top of all previous patterns, instead of really going back in time. This step forces the designer to take position before he/she chooses a strategy for a particular design.

CREATE

PRESERVE

RESTORE
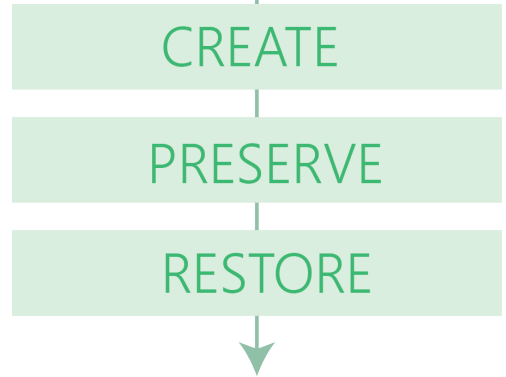
SCALE OF INTERVENTION

The type and scale of the intervention is related to the purpose and the type of narratives that were chosen in the previous step. The scale of the project depends mainly on the spatial representation of time. Time is a key factor for every narrative as landscape is not a static image, but is continuously evolving and changing in an unpredictable way, constantly altering the context due to complex patterns (Prominski, 2015). Without the dimension of time a site remains a static object without a narrative.

A story is only a story when action takes place, so every story is dynamic; during time it undergoes an evolution. Any sequence of at least two events can start a new narrative sequence; the situation in the one may establish the setting while in the second the emphasis is on the change (Chatman, 1978). On the way, the starting situation might alter, or the emphasis might shift due to events that made impression on the storyteller. The timescale of the landscape narratives depends on the character of the story. Each narrative is an element of a larger system and at the same time offers a framework for narratives on a smaller scale (Powers of 10, 1977).

Landscape Narratives (Potteiger & Purinton, 1998) mentions 3 kinds of representation of time: the Point in Time, the Linear Sequence and the Continuous Narrative.
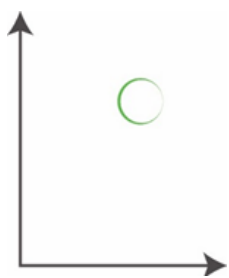
A Point in Time functions as a frame in the landscape. The frame may be constructed as an opening in a dense vegetation, a sudden view line on a scene or a sober frame of trees. The narrative is related

Point in time

to the scene at a moment in time. Linking the same frame to other points in time constructs a four-dimensional (i.e. space-time) narrative. This narrative may be built up by biotic and abiotic changes.

A Linear Sequence consists of a chronological sequence of events. The sequence and the route are among the main tools for building a story in the Linear Narrative.
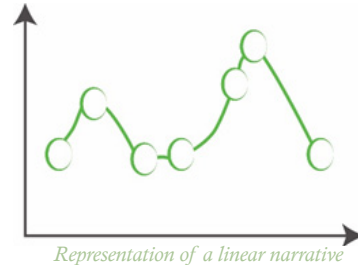
Representation of a linear narrative

The third way to represent time in a spatial form is through the use of the Continuous Narrative. Continuous Narratives are non-linear, characterized by an open framework where more than one story may take place. In the landscape continuous narratives form places with multiple stories shaped by a plurality of voices.
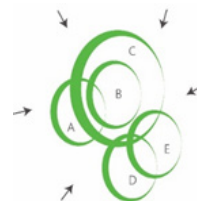
Representation of a continuous narrative

Open-ended landscape narratives represent democratic ideals of free expression and open marketing. In this type of landscape story, the role of the visitor is important when giving meaning to a site. Because of the interactive character, the meaning of the story has a multiple contextual and changing character.

Various techniques of storytelling can be applied. Such as the use of the synoptic view, parallel narratives, intersecting storylines, non-linear associations, multiple layers and narratives that are open to participation. Suitable design principles for the continuous narratives are design of multidimensional platforms with multiple entries, principles to steer the atmosphere, character and shaping conditions for new and other interpretations (Potteiger & Purinton, 1998). In contrast to a normal story, the 'reader' of the landscape narratives may enter at any place in the story and even 'read' the narratives in unforeseen order.

The category of Continuous Narratives depends on much more than the landscape itself. Because the visitor has a high degree of freedom of decision and freedom of interpretation, the structure of the narrative depends strongly on the 'reader' of the story. Because there is no pre-set linear sequence, starting and ending can take place at a self-chosen location. The visitor builds his/her unique chronological story within the non-linear continuous environment. In the image below the route of the visitor, indicated by the red arrow, consists of the series E-C-B-A.

Irrespective of the type of scale of intervention, the landscape offers elements and directions, so that the visitor can build up his own storyline. The visitor constructs the story himself by connecting the elements and filling in the untold parts from his/her knowledge and/or imagination. Especially in the category of the continuous story the visitor plays an active role in the formation of the landscape narrative; and thus, becomes the narrator of his/her own story.

One could say that every landscape is in fact a continuous series of narratives. The landscape is a platform that serves as a basis for countless series and points in time. That is why almost every design based on landscape narratives consists of all three representations of time. The designer is free to decide on the focus of the intervention but must keep in mind that the narratives are always connected by scale and time.
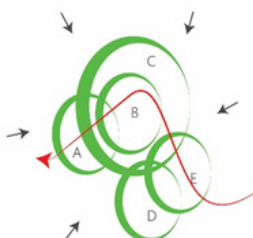
Linear sequence through a non-linear setting

FRAME YOUR NARRATIVES

As described by Elize van Doorn et al. (2014), designing is an implicit activity. Nevertheless, it is important for the construction, design and communication of the narratives that they become explicit. The aim is to frame the narratives explicitly on the basis of the collected information from the desk and field analysis, the formulation of the purpose, the type and the scale of the intervention. These conclusions will give direction to the rest of the project.

BRAINSTORM

Brainstorm

Over the entire process the design generally diverges in the beginning and eventually converges into (one or more) design options. But the design process is not a linear sequence. A typical design process is a non-linear and iterative series of steps (van Dooren, 2014). Every step could start with a bit of brainstorming. Therefore, the brainstorming symbol is placed in the middle of the method and not indicated with a phase, number or step.

SCENES OF THE STORYLINE

Every narrative consists of a sequence of events. The first scene frames the setting, while the next change(s) the circumstances (Potteiger & Purinton, 1998). The contrast makes the story. Once the larger framework has been set up and alternatives have been formulated to achieve the purpose, the narrative can be divided into thematic scenes.

The sequence is linked to the kinetic movement through space. Facts concerning zones and routing do not speak for themselves. Dosed alternation is the keyword here. Although the continuous narrative hasn't got a linear structure the route of an individual within the continuous narrative is by definition linear. Since it is unpredictable how a stroll through a structure will develop, every visit to the landscape will create its own set of sequences. As the amount of freedom of choices is a fixed number, it is possible to use the sequence as a design tool. A successful design steers the hiker so unnoticeably that he/she stays convinced that it is always he/she who makes the decisions.
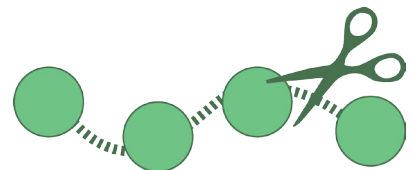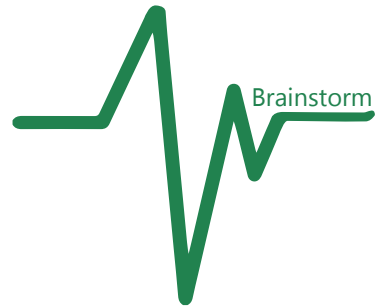
SPATIAL TRANSLATION

The combination of shape and composition of the elements in the landscape determines the quality of the site and can make a significant difference in people's basic needs for understanding and exploration. People like to make sense of their world, to comprehend what goes on around them, to provide a sense of understanding (=security) for themselves. At the same time people like to explore, to seek more information and look for new challenges (Kaplan, et al., 1998).

According to Kaplan, Kaplan & Ryan (1998), the scenic environments that are most popular with the public show a good balance between the narrative's comprehensibility and the possibilities that they offer to explore them through movement. The authors provide four informative factors that facilitate the translation the narrative into a series of spatial designs, such that the scenes maintain a healthy tension between the level of comprehensibility and opportunities for exploration. Those four factors are; Coherence, Complexity, Readability and Mystery. Even a small increase or decrease of one of the factors can make a substantial difference in the quality of the experience and the level of comfort.

Light vs. Dark
Instinctively man tends to avoid dark places. Going there triggers a level of excitement in the atmosphere. Dark surroundings not only stimulate our vision, but also our olfactory, gustatory and tactile (warm/cold) senses work harder and therefore enhance the experience (Kaplan, Kaplan & Ryan, 1998).

However, landscape architectural composition is determined not just by the visual qualities of space. The theory of landscape narratives is based on the literature of the sense of place. The total impression is based on the information from all our senses, in combination with personal/collective knowledge of the place and, in many cases, personal memories. Memories that might have been dormant for years. Narratives can link to the sense of time, event experience, memory and other (in)tangible aspects of a certain place. Narratives offer ways of knowing and shaping landscapes in an unconventional way, bringing order and sense into place.

Open vs. Closed
Open and closed areas work mainly on the visual and haptic domain. The soundscape is influenced on a secondary level due to the difference in habitat, range of the sounds and the acoustics. Open and closed spaces are associated with different moods and different genres of narratives. Whether the preference goes to the one or the other depends hugely on individual mental attitudes (claustrophobia versus agoraphobia) in combination with weather conditions (Kaplan & Kaplan, 1989).

Each visitor absorbs a scene with his/her senses in a unique, personal way. Although it is impossible to create a design that has a maximum impact on each individual visitor, it is possible to design cues in the landscape that can be perceived by each visitor and at the same time evoke strong experiences with some of them.

Once the frame has been set, the atmospheres that are required to transmit the landscape narrative can be created. The first question which sequences of atmospheres are suitable for this framework? forces the translation of an imaginative story into a spatial composition. Followed by the question which elements are needed to create that desired atmosphere? As discussed above, the spatial experience is influenced by many factors and shifts in time according to the timetable of the narrative.

Dynamics
As landscapes never move they reveal their stories on different locations, and in time. The dynamics of time are subdivided in different time scales: the dynamics of day and night - the dynamics of the seasons - the change of weather conditions - the evolutionary change of the landscape itself (Lund, 2012).

The compositional layout of the narrative is related to the type of representation of the space in time. Elements to consider regarding the spatial translation of the narrative are presented in the text boxes.

RELATION OF ATMOSPHERES

The Relation of Atmospheres provides information about how the separated scenes are connected. In this step the atmospheres will be assembled in an architectural sequence. The compositional design patterns: Coherence, Complexity, Legibility and Mystery (Kaplan, et al., 1998) are equally applicable to the connections as to the scenes themselves. The different scenes can either be separated by sharp or by vague boundaries, or overlap. The invitation to continue the walk by awakening the curiosity of the visitor is a crucial means to prevent voids. (Kaplan, et al., 1998). The degree of control that the designer has over the visitor is related to the type of narrative. A closed chronological order is better controllable than a non-linear open design.

TEST THE NARRATIVES

After several virtual 'strolls' through a design, the resulting narratives should be evaluated. Are the narratives consistent in all scales? If this is not the case, the iterative design process has not ended yet (Van Dooren, 2014). The initial design criteria must be reconsidered then, and the design process might have to be (partially) re-executed. Adjustment is required when the scenes and/or sequences do not seem to be consistent with the goal of the desired landscape narrative. This check is presented as a step, but because the design process is non-linear this consideration can/must be made after each design decision.
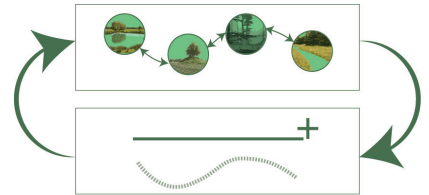
DETAIL THE DESIGN

Once the larger structure of the design, including the scenes and connections, has been tested and adjusted and the structure of the narratives has been validated, the design can be worked out in detail. Because the quality of a good landscape design works through all the scales, it is important to keep connected to the larger structure during the detailing of the design (TU Delft, 2017).

Although experience in hugely based on information from (a combination of) the senses, it is impossible to design solely on experiences, as the perception of the receiver is different on an individual level. It is possible, however to design on cues in the landscape. The designer can add (sensorial) cues or make them accessible for the visitor. (Wit, 2014)

Details, such as materialization, can influence the representation of the landscape. If for example, the surface of the walkway creaks under the shoes in an otherwise quiet landscape, this is probably noticed by the walker. In that sense, the walkway influences the senses and therewith the experiences.

The perception of Coherence, Complexity, Readability and Mystery (Kaplan, et al., 1998) depends on the mental and physical capacities of the individual receiver. It is almost impossible to make a design attractive, understandable and challenging for every visitor. Therefore it should focus on target groups, taking into account how this particular group of users would perceive the landscape.

As for every step, it is important to keep in mind whose/what story is told, which narratives will be emphasized and who will be visiting the site, with what purpose.

As discussed earlier in the steps the framing the existing and spatial translation every experience on a particular location is individual and differs from that of any other person, either single or in a group. Children and disabled visitors perceive a location from other eye levels than average adults. Their moblity is restricted and therefore their ranges differ from those of adults also, so designing for those groups need special attention.

Materialisation

The materialisation of the design effects almost all the senses. Its detailing influences a large part of the experience of the landscape. For example, the material used for a footpath influences the sound of the movement and the feeling at each step; wood chips sound and smell different than hard soil. The dimensions of a pathway also have an effect on the visual appearance. Apart from shaping the hardscape (materialization of paths, streets and sidewalks), the discipline of the landscape architecture has a unique tool for designing the softscape: vegetation. Not only does a landscape design in most cases stand of fall by the grace of the height, the shape and the color of the vegetation alone, its smells and sounds add unique properties to a landscape design (Havik, 2012).

Symbols & Memories

Symbols in landscape narratives can remind us of times gone by or act as triggers for new imagination. An element in a composition might have a referential value, but is meaningless without the spectator's interpretation (Nijhuis, 2015). As the continuous landscape has a non-linear structure the narrative has an eternal symbolic value, leaving a sense that there are many more stories to discover (Kerkstra, et al., 2003).

Element of surprise

While moving through the landscape the visitor builds up a pattern of expectation. Breaking that pattern with unexpected views or elements arouses the senses and can be the source of new, unoutspoken stories. Hiding elements from the direct view activates expectations and notion from other senses (Kaplan, et al., 1998).

Position

The position that one occupies in the landscape has a great influence on the experience. Being at eye level with the surface gives the feeling of being small. The perception of movement is stronger as the eye level is closer to the surface. From a bird's eye view the landscape can be seen as a panorama. For most narratives this synoptic view is not ideal because it gives away the storyline. The acceptance of an eye height of 1,55/1,60 meters as the average view position in the landscape offers the designer the possibility to create routes which present the desired sequences of atmospheres in an optimal way (CBS, 2017).

(Type of) movement

The sense of movement is related to the visual perception of the landscape's architectonic space. Motion structures the elements into a sensible story. The type of movement, meaning a great deal for the experience of the environment, should be considered in the design. For example, the implementation of stairs emphasizes height differences because when one uses stairs the haptic feeling is fully experienced. A pedestrian has a different notion of his/her surroundings than a driver, a horseman, a cyclist or a driver because the scales, senses, views and perspectives are different.

TESTS OF THE METHOD   I.

Method as Tool for Analysis

In order to find out whether the proposed method was viable the first test analysis of a site took place on a random wild landscape. The choice for the site fell on Møns Klint, a wild cliff coast in Danmark. This site fulfills most of the criteria that characterize a wild landscape.

FRAMEWORK FOR ANALYSIS ?

In order to find out whether the proposed method was viable the first test analysis of a site took place on a random wild landscape. The choice for the site fell on Møns Klint, a wild cliff coast in Danmark. This site fulfills most of the criteria that characterize a wild landscape.

Map and illustrations of Danmark, Mons klint

Møns Klint

1	Framing the Existing
2	Create or Restore?
3	Framing the Narrative
4	Representation of Time
5	Fragmentation
6	Determine Atmospheres
7	Materialize Atmospheres
8	Composition & Transition
9	Test & Adjust

Analyses

3
4
6
7
8

At the far eastern tip of Denmark the landscape is atypical for the rest of Denmark. While the rest of the country consists of sand hills that gently run down to the water, the land on the eastern side of the island of Møn ends with a sudden drop of 120 meters. The lime cliff is over 7 km long. The environment in which this cliff is located is unique for Denmark and very natural. The car traffic in the surrounding park is limited. The cliff itself can only be reached on foot or by boat. When descending along the cliff wall, one passes Muschelkalk sediments with fossils that show a history of 240 million years.

Already during the fieldtrip it became obvious that the initial draft for the proposed methodology had to be reconsidered. The result is that the original framework that consisted of fragmentation, determining the atmosphere, translating those atmospheres into materialization, finding relationships between the spheres and relating them to the larger scale developed into a more practical form.
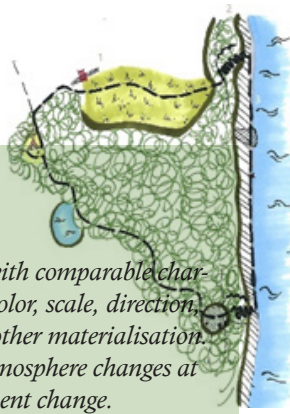
ATMOSPHERES

Atmospheres/scenes were identified as places with comparable characteristics in terms of vegetation, light, mass, color, scale, direction, materialisation, dynamics, sounds, smell and other materialisation. As the elements are related to each other the atmosphere changes at the moment the characteristics of the environment change.

Walking the route as indicated on the little map the sequence can be split up in distinctive scenes: the meadow (1), the forest (2), the shoreline (3) and the visitor square (4). The atmospheres and transitions will be discussed separately.

Meadow

A red gate marks the starting point. Here one enters a meadow. The open field is fenced off at one side. The path is slightly curved so that it is impossible to oversee the whole route in one glance. The path is not strict and only superficially indicated by shallow wheel tracks in the grass. The site is kept open by cows, the vegetation is low, with randomly placed shrubs and bosquets which give the site a feeling of a historic bocage. At the other side the field is bordered by the forest edge. The whole area is gently sloping down. A natural gate at the end of the field separates one atmosphere from the next. Standing in the light on the field it is impossible to look into the darker forest.

Cross section

Open field
Light

Bordered by
Forest

Breezy

Red
entrance

Dark
continuation

Cowshed

Curved

fenced

Mild slope

Dominating direction
with perpendicular paths

Fague Path
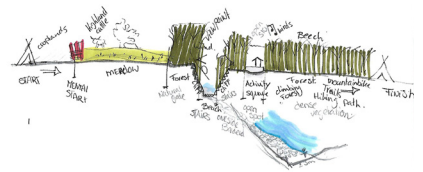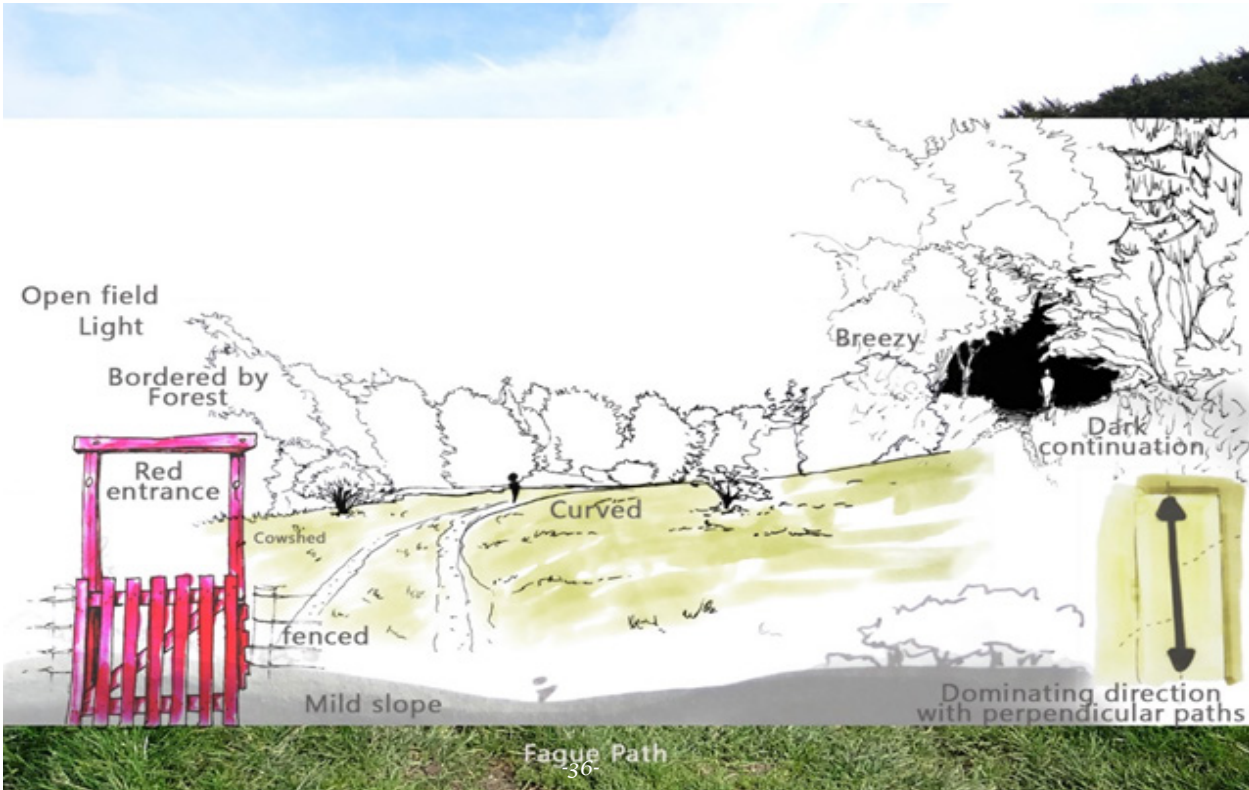
Forest I.

Viewlines from the forest

Material Forest Path

The change from open field to the darker beech forest (Fagus sylvatica) gives a sudden change in atmosphere. The path is eroded by rainwater, here and there enforced by timber (as shown in the picture below). The focus shifts from close to far away by constraint view lines, that frame the view towards the cliff.

On the edge of the cliff an upwards blowing headwind brings the scent of the sea into the forest. The same breeze is also visual and audible through the movement of the leaves. From the edge of the cliff a long wooden staircase runs down to the shoreline. After every flight of 18 steps there is a landing, allowing the necessary twists in order to fit the stairs along the cliff or in between two slopes. The descent of the stairs offers ample opportunity to enjoy both the view of the sea and the cliff wall.

Sea wind

Dark vs Light

Steep

Curved stairs

499 Steps

Decidious trees (Fagus sylvatica)

Magnificent views
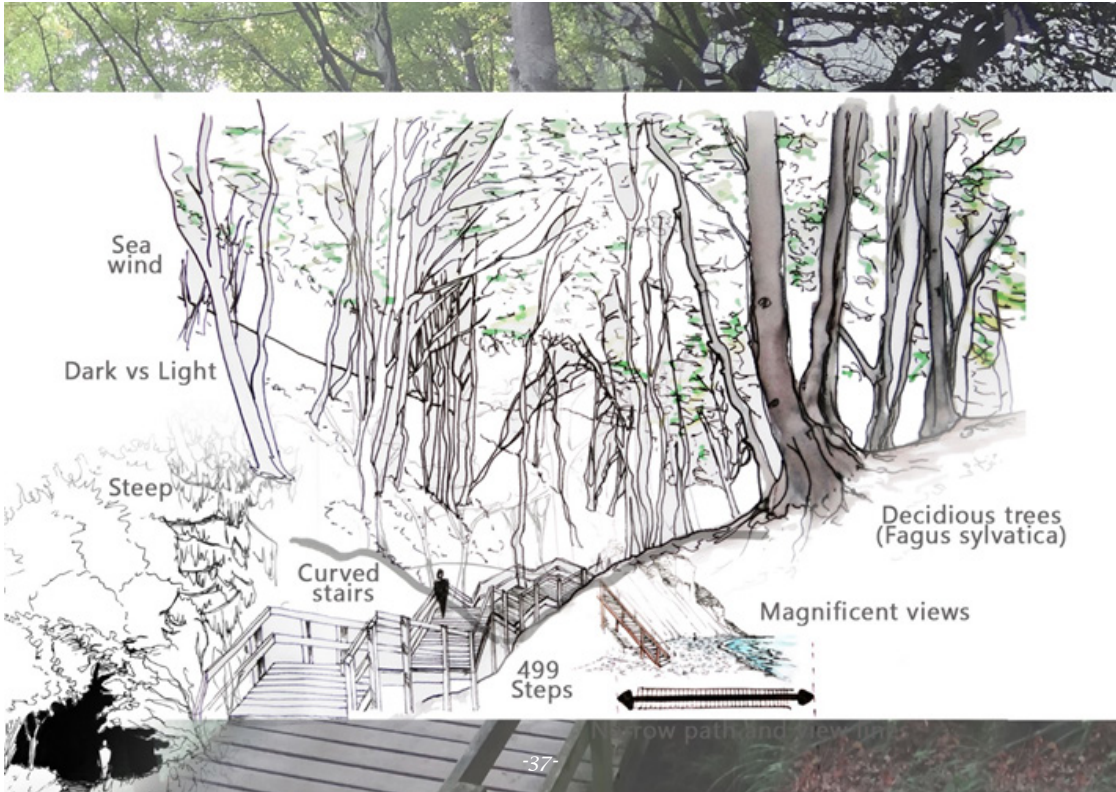
Shoreline

The stairs lead the visitor to a stony beach of 0-10m wide. The contrast between the sea (horizontal) on one hand and the cliff (near vertical) on the other is overwhelming. The coast is facing east towards the sunrise. The cliffs, the rocks, the pebbles and the water form a color panorama of countless shades of grey. Land vegetation is almost absent. One can hear the waves when they break on the rocks, but the sound of the retreating waves is even more characteristic, due to the rattling of the thousands of moving pebbles. Although there are several stairs that connect the forest with the beach, the beach is primary kept as a wild coastline where natural dynamics are dominant. The shore in between the stairs is not kept level for pedestrians. When walking from one staircase to the next one encounters mudslides, fallen trees and high tide. The site is used for many purposes; on one day one meets people walking, fishing, swimming, canoeing, sailing, picnicking, making camp fires, searching for fossils, digging for fresh flint etc.
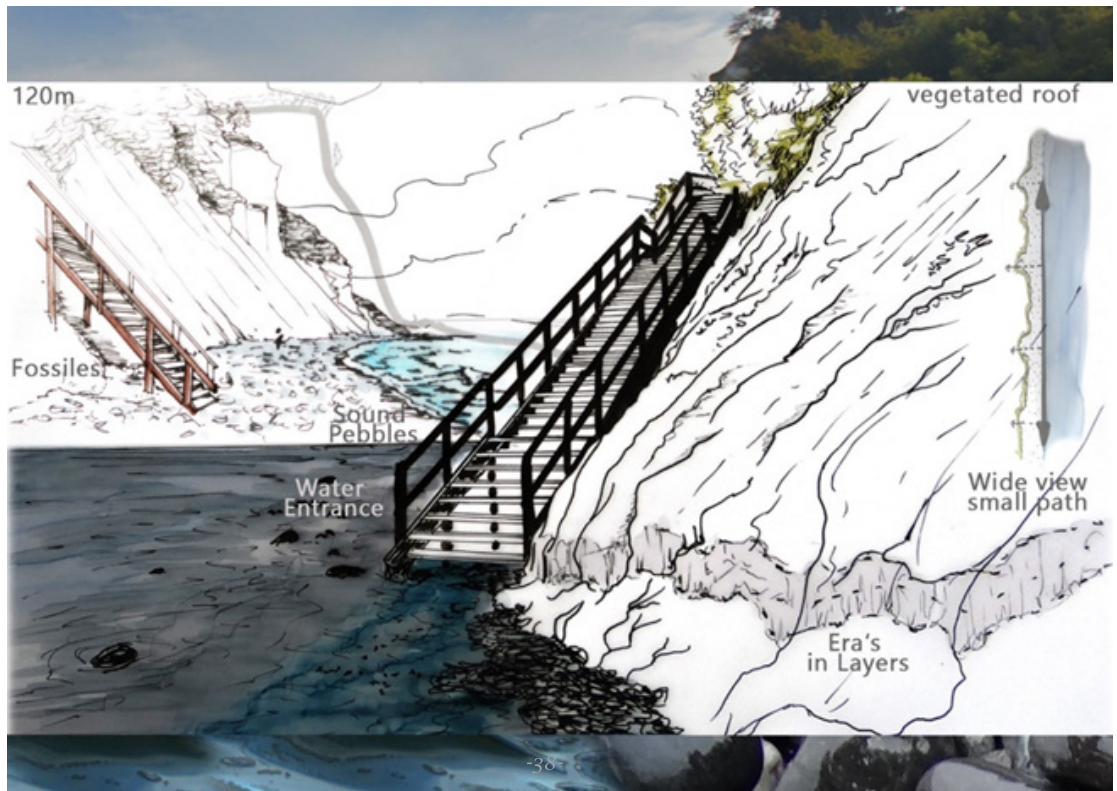
Forest II.

When one follows the marked round trail the staircase that brings one back to the edge of the cliff runs along a even part of the cliff wall. This offers the climber more view lines over the edge as he/she nears the top of the stairs. The forest one enters here is comparable with the deciduous forest one hiked through on the way to the edge. It is an old forest, dominated by beeches, a tree species with the shallow system of roots that is required for growing in the thin layer of fertile soil on top of a cliff. As soon as one enters the forest the acoustics change due to the presence of soft materials. In summer it is notably cooler in the shade of the canopy than it is on the beach or on the stairs. The summer colors range from warm browns on the forest floor to the more greyish brown of the eroded stairs and the tree trunks on eyelevel, ending with lighter green tones mixed with the blue of the sky above. The individual movement through the site is different compared with the first hike: instead of moving down towards the waterfront one climbs up with the wind in one's back.

Visitor Square

Located in the southwestern corner of the park, on the walking route, is an open area in the forest. The very sleek design of the visitor centre annex geological museum and their direct environment which were built here is in contrast with the surrounding nature, but merges very well. The predominant colors are shades of light greyish whites. Concrete, glass and pebbles are the main construction materials. The amount of shade is limited. The square is of a medium scale with a multitude of entrances/exits. The combination of the absence of a dominating direction combined with the openness and the facilities give the site a welcoming atmosphere, a place where one rather stays than leaves. Facilities: parking lot, visitor centre, geological museum, restaurant, playground, climbing park. It is the only point on the route that is accessible by motor vehicles.

Open place in the forest

All directions possible

Visitor centre

Restaurant

Play Ground

Resting place

LIght grey/white Materials
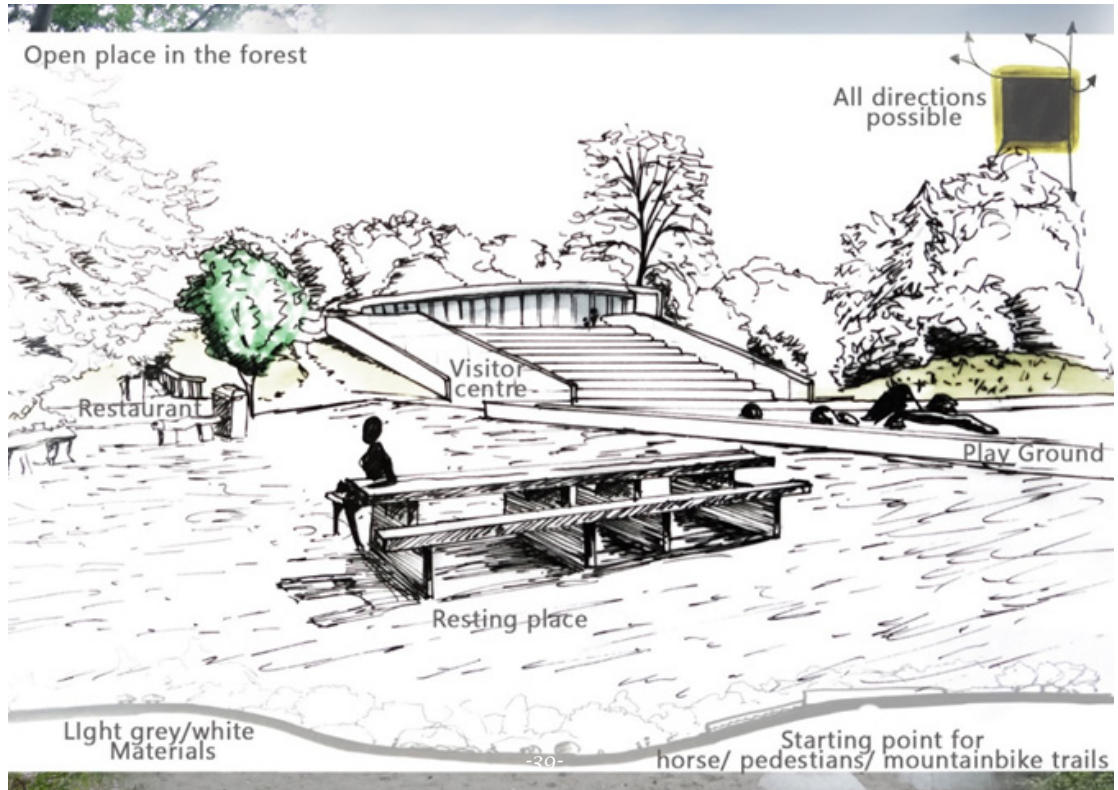
Starting point for horse/ pedestians/ mountainbike trails

Composition & transition Møn, DK

Composition & Transition

The sequence of the different atmospheres offers striking transitions. The meadow starts in open air with walking through a red gate and ends with a dark entrance to a forest. The forest is dominated by a walkway which is enforced with timber. This atmosphere ends abruptly at the edge of the cliff. The descend to the beach is dominated by sea views. During the hike over the beach one is almost challenged to go on fossil hunting, this way reminding one of our prehistory. The two sites in de forest have so many similarities that they can be counted as the same atmosphere. Looking at the map this makes sense because both sites belong to the same forest. Yet does the second entrance in the forest make one aware of details one had not noticed the first time. When nearing the visitor centre the brightening of the light is a harbringer of change. The differences in materials and colors mark the entrance to the square. As the forest surrounds the open square completely and the architecture is quite balanced this impression will be the same regardless from which direction one enters the visitor square.

Framing & Representation

Although the pathways guide new visitors through a sequence of atmospheres, the habitual hiker is free to use the network of pathways, and with this choice indirectly changes the sequence of atmospheres. From the possible starting points inland, the visitor is guided from open, light and bright areas through a restricting forest towards the coast. Time is one of the main themes in this location. The pathways lead the visitor down to prehistoric times; encouraging him to find traces of long gone eras.

1 Framing the Existing

Framing space and time
(Where? / When?)

Determining Main figure, intentions and driving forces
(Who? / Why? Which influences?)

2 New vs Old

RESTORE
or
CREATE

3 Framing the narrative

Framing space and time
(Where? / When?)

Determining Main figure, intentions and driving forces
(Who?, Why? Which influences?)

4 Representation

Point in Time
1 frame

Linear Narrative
2+X frames

Continuous
2+X frames

5 Determine

Determine the atmosphere of every frame
in relation to the narrative
in terms of emotion

6 Spatial translation

Atmosphere X:.........
Title:..........................
Goal:..........................

Spatial translation of every
individual atmosphere in terms of:

Composition

Light

Mass

Color

Senses

Movement

Dynamics

Materialization

Etc...

7 Relation of atmospheres*

In terms of:

Composition

Sequence/ Overlap

Transitions

* Only applicable for the linear and Continuous narrative

8 Test & Adjust

Evaluation and feedback

Method version sept. 2017, in the process of development

Tool for Analysis

Following the steps of the proposed methodology the research resulted in the distinction of 4 different atmospheres. When placing the on site made map of atmospheres over a tracing of the topography the atmospheres correspond with the changes of land use in the area. The spatial characteristics of the atmospheres are not traceable from the maps. The atmospheres are not only clearly separated, but also strongly linked by a central theme: Time.

Reflection & Discussion

The experience with Møn-case learned that the Determination and the Materialization of an atmosphere go hand in hand during the analysis of a wild landscape. It is therefore not useful to separate them in different steps in the methodology. More or less the same goes for Fragmentation and Composition & Transition. After the relationships of the several atmospheres had been analysed for the Møn-case it showed out that in the phase of Fragmentation- Composition and Transition the step Fragmentation didn't add any value. For that reason the phase Fragmentation disappeared from the proposed method. After that only minor changes were made on the draft of the proposal.

After this experience, it seemed reasonable to establish that the proposed method appears to possess potential as a tool in the process of designing landscape projects. Further tests are desirable.

The display of the methodology (shown above) differs from the final proposed framework. This changed later in the project after feedback about the readability.

TESTS OF THE METHOD   II.

As a Tool for conceptual design

Feedback sessions showed that first-year students Landscape Architecture norn-mally experience problems when translating the formulated concepts from a larger scale into a tangible, coherent design. Could the use of the new methodology for landscape stories be useful? The methodological framework is presented in the form of a one-day workshop for 34 master students of the Department of Landscape Architecture.

Method as tool for conceptual design

Feedback sessions showed that first-year students Landscape Architecture nornmally experience problems when translating the formulated concepts from a larger scale into a tangible, coherent design. Could the use of the new methodology for landscape stories be useful? The methodological framework is presented in the form of a one-day workshop for up to 34 master students of the Department of Landscape Architecture.

The students worked on a project in Holwerd, the harbour that houses the ferries to Terschelling and Vlieland. Since several years there happens to be an active group of citizens in Holwerd that see with sorrow how thousands of tourists are transferred to the islands annually, in stead of spending their holidays in or around Holwerd. The citizens' aim is to make their area more attractive for tourism. The students offer a helping hand in the process.

Location of Holwerd, Friesland, Retrieved from: Google earth

Workshop setting

Outcomes

The results of the workshop show a very interesting outcome. Although the students struggled for weeks in previous years to frame the narratives and to translate them into a spatial design, this time many students succeeded in formulating their findings relatively quickly in a series of narratives, (concepts / design goals) and translating them to possible design typologies. Not everyone started at the top, a few started working from the results backwards. The workshop resulted in a wide range of outcomes. 18 Students managed to work through all the steps in one day. Regardless of all steps had been taken into account, nearly all the students (33 out of 34) were able to formulate the narratives of their design project and came up with alternatives related to the narratives.

— FRAMEWORK FOR LANDSCAPE NARRATIVES : JUI DEUSKAR —
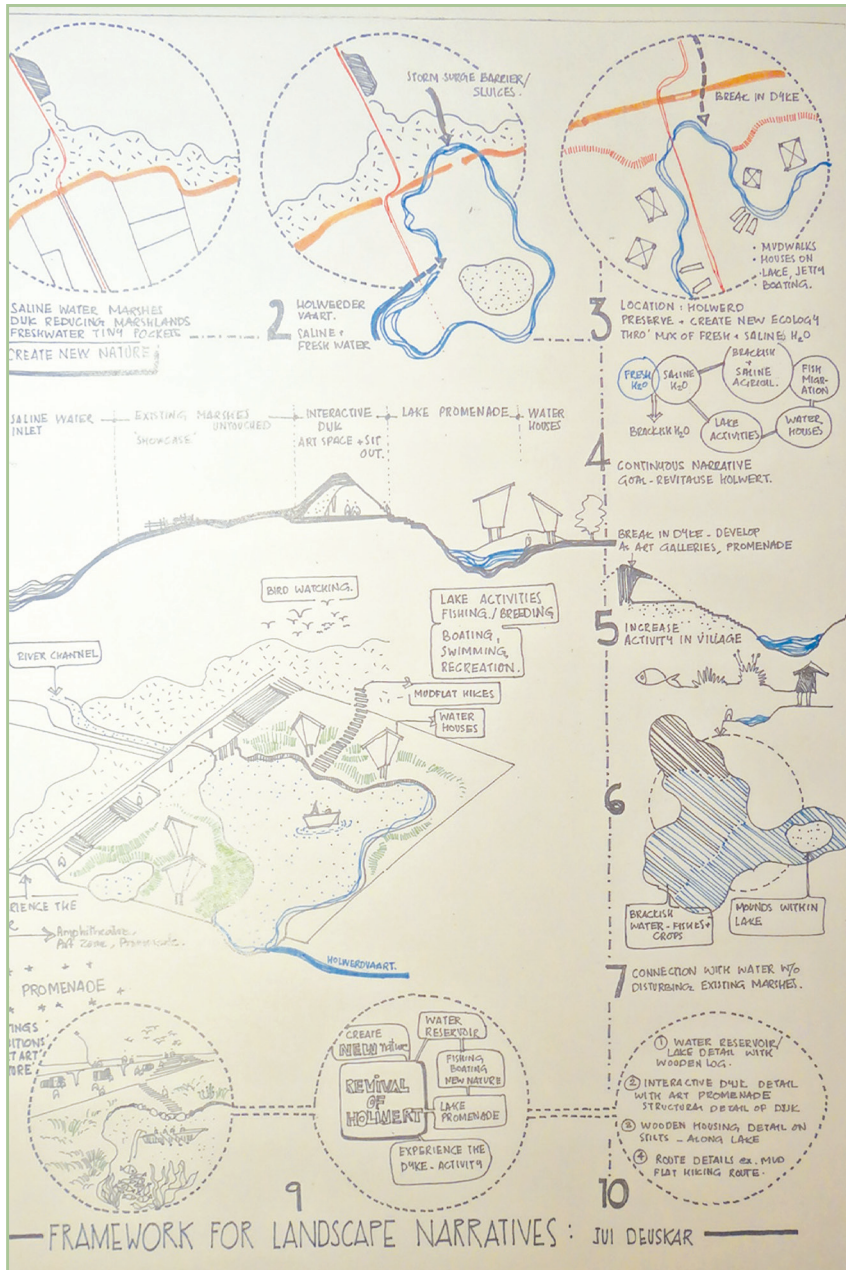
Feedback

The reactions of the students also show that they have experienced the proposed method as a useful tool in the elaboration of their assignments. Here are some of their reactions:

Conclusion & Discussion

The feedback from the students was mainly positive and constructive. A few mentioned the last steps, regarding the details of the spatial relation, as a little too detailed for the conceptualizing of their project in one day. Far most

'It is very clear after this what I need to work on and what is expected eventually. It is a great way to start developing a project from a large scale to final understanding how to build a narrative. This is a really helpful exercise to channelize our thoughts about the whole project. This also enabled me to realize that the idea I had is more of a small intervention but the whole concept has to be a thing unifying the whole process.'

Purvika Awasthi

'This Exercise was useful to understand the main problems inside the area, and, step by step going inside the landscape and focusing on the main points of interest in order to understand how to make them more attractive.'

Anna Saracco

Workshop result Aditya. A. Rao
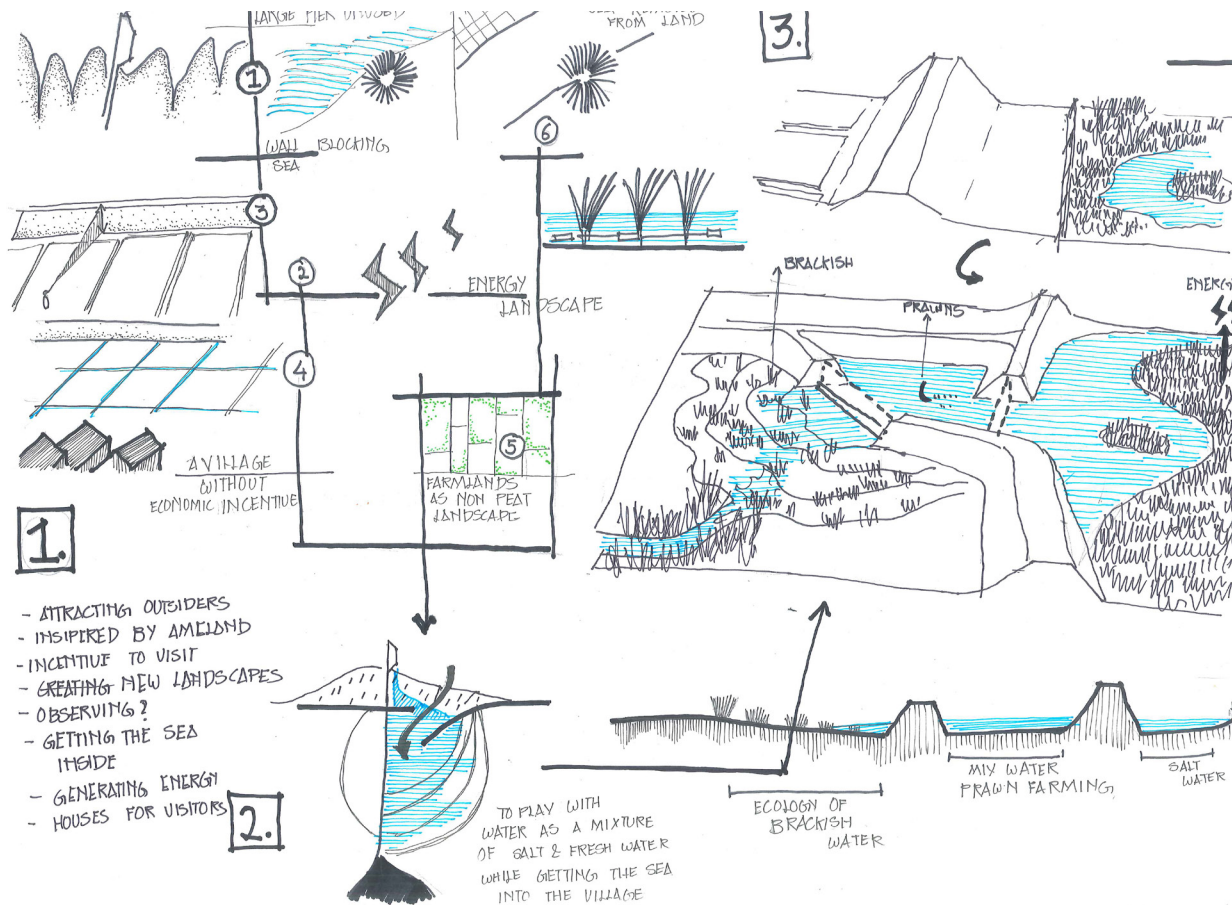
of the students experienced the workshop and the methodological framework as a useful tool for the forming of the conceptual design.

The instructors of the workshop day, Nico Tillie & Berrie van Elderen, experienced the exercise as very positive. They were amazed at the short time needed to achieve concrete results. Mr. Tillie noted that he would use the same excersize for his students next year. So far, the framework proved itself as a useful tool for conceptualizing the design narratives.

'I thought the exercise was useful up until step 5. To be able to think too much ahead at the "details", was bit difficult at this stage of concep-tualizing. Otherwise, it did allow me to start thinking about the design in a structure.'

Sindhuja

'It was useful in the way that allows me to order my ideas and the process of design. It is a good way to not start from nothing & formulate a lot of question to narrowing the problem. Also, the exercise helps me to define the Purposes that I want to achieve with the project; therefore now is more easy to formulate the concept.'

Calatina Rey

① STUDYING WATER SYSTEMS
② CREATING A LINK FOR HOLWERD TO THE SEA
③ ENERGY AS AN IMPORTANT ROLE IN LANDSCAPE
④ PLANT & -MARSHLAND ENERGY
⑤ TIDES SHOWING DIFFERENT VEGETATION IN TIME

SCALE OF INTERVENTION

GETTING THE SEA TO HOLWERD

7.
- A. EXISTING SURFACES
- B. OPENING THE DYKE
- C. CREATION OF LAKE & CONNECTING FREE WA
- D. WATER TO THE VILLAGE & BRIDGE ABOVE

8.
- SALTWATER & MARSH
- SALTWATER & DYKE OP
- SALTWATER & FRESH W
- BRACKISW WATER & VEGETATION
- HOUSES & WATER
- DYKE & VILLAGE

9.
- THE NARRATIVE IS A TEST OF TIME ON HOW THE LANDSCAPE WORKS. AS A FORCE OF WATER

10. DETAILS

FRAMEWORK.

TESTS OF THE METHOD   III.
Method as Tool for detailed design

The use of the methodology of the landscape narrative for formulating the set of stories and making conceptual designs might have been tested positively in the setting of a student's workshop with a time limit, but this does not answer the question whether the use of landscape narratives as a guideline for design indeed is a viable tool to add the human scale during the complete design process of wild natural landscapes. To get that answer, the complete method was used as a guideline for a landscape architectural design for the Noordpolderzijl landscape.

The North 'Sea'
80.000-10.000 BC

The North 'Sea' Pre-Glacial Situation
80.000-10.000 BC

Settlement pattern
10.000 - 9.500 BC
People moved seasonily between coast and island

Maglemosian Cultures
9500 - 6000 BC

The North 'Sea' Pole Desert
26.000-14.000 BC

Forming Barrier Islands
7.250 BC

Forming Mud Flats
5000 BC

Hunters & Collectors in NL
From 5000 BC

Dwelling mound as result of more storm floodings
100 AD -Middle ages

First Embankments
900-1200AD

Afsluitdijk
1932 AD

Less intertidal flow, tidal inlets shrink, islands grow
> 1932 AD
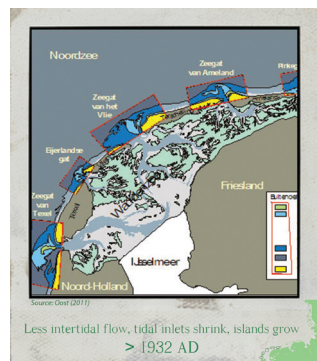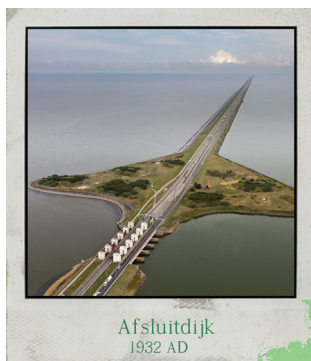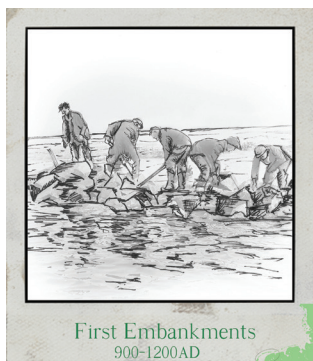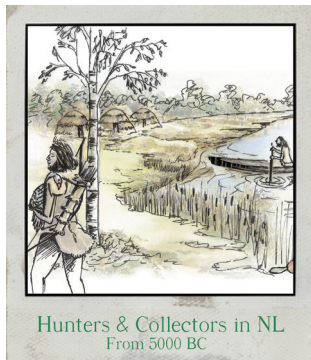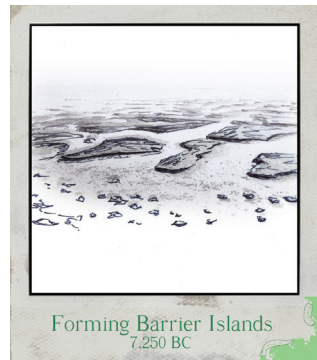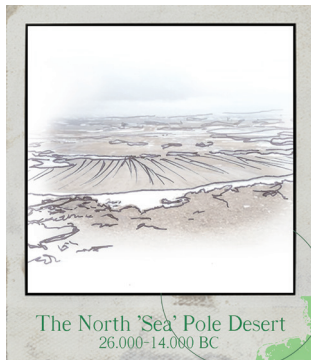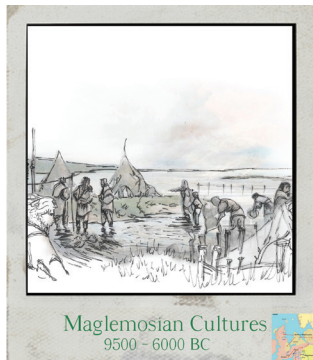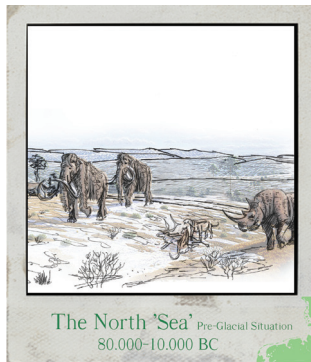
20 Thousand years ago the sea level was 60 meter lower than today. The present Wadden Sea was a tundra that was populated by woolly rhinoceroses, steppe bisons, reindeer and mammoths.

After the icecaps retreated around 10.000 years ago the climate changed and the landscape followed the change. First the tundra turned into an area of sandy flats which were intersected by creeks, later -around 5500 BC- the land was claimed by the sea. The intertidal zone became marshy, ideal for peat formation. First after man began to compete with nature around 1000 AD, the landscape changed again. This last interference diminished the size of the intertidal zone considerably.

This area, nowadays called the Wadden, covers a 500 km long stretch of coast that runs form Den Helder in the Netherlands, along Germany, to Esbjerg in Danmark. A line of islands, 25 of them are inhabited and 5 uninhabited, separate the Wadden Sea from the North Sea. The long stretch is intersected by 3 estuaries: the Ems, the Weser and the Elbe.

The lush vegetation that arose after the last ice age attracted many species of big grazers. Species worth hunting. Over the ages several cultures that lived from hunting and collecting appeared and tried their luck in the area, until peoples settled in the area that were farmers, peoples that cultivated their land and were

therefore home bound. Being home bound gave them the chance to collect properties over time; belongings that needed protection for flooding. For that reason terps, dwelling mounts began to appear in the landscape around the second century AD. Today there are around 800 dwelling mounds left.

Around the beginning of the second millennium the Frisians began to build clay dykes in order to protect themselves, their livestock and their crops against the sea. In this way they constructed polders. From the moment on a piece of land is closed in by dykes the land is not subjected to the influences of the natural hydrodynamics of the natural system any more. With the result that there is no sediment being deposited anymore; the water level control that is necessary for agriculture speeds up the oxidation of the peat, so the soil subsides.

A considerable part of the natural landscape of the Wadden area used to be cultural landscape. Over the centuries storms of biblical proportions have raged along the coastlines of the North Sea basin; floods that took hundreds of thousands of lives and that rank among the most devastating natural disasters in Europe's history. These gruesome events must have had a significant influence on the culture, the social structure and the economy of the coastal region.

Big scale Analysis

Topography

The Wadden area:

- along the coast of The Netherlands, Germany and Denmark;
- 500 km from Den Helder to Esbjerg;
- 25 inhabited islands, 5 unihabited islands;
- 3 estuaries / port entrances

Inhabited islands/cities

Uninhabited islands
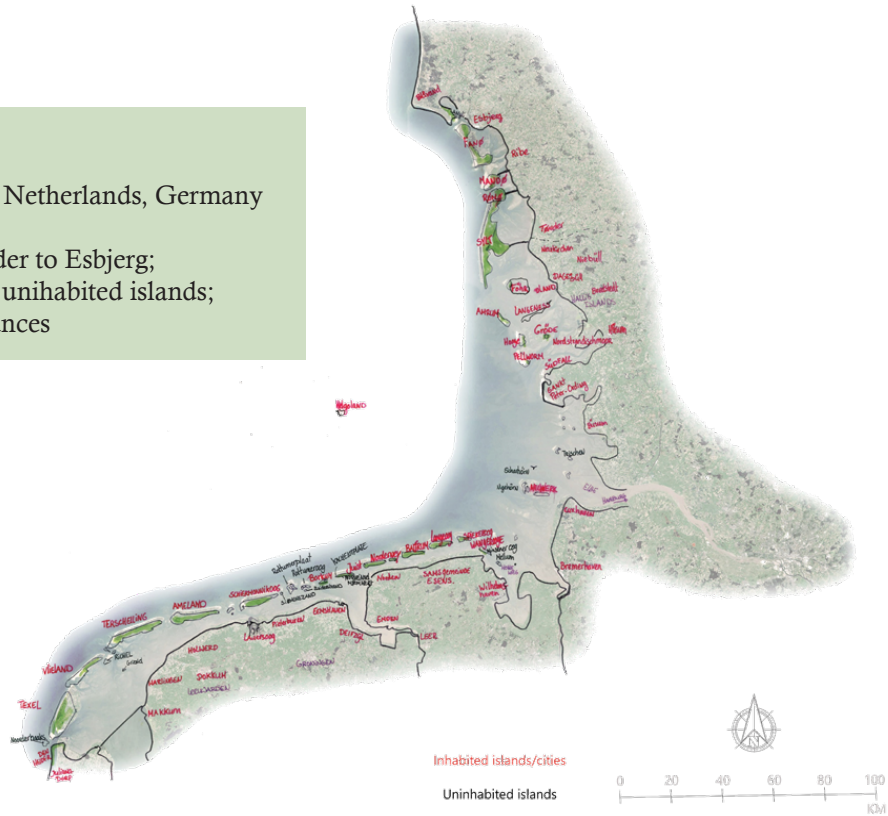
Morphology

With a tidal difference of up to 3 meters, the boundary line between land and sea is virtually non-existent. The inter-tidal area of 7500 km2 covers 75% of the entire Wadden Sea (10.000m^2). This tidal area is the largest of its kind in the world. The unique conditions offer unique opportunities for a wide variety of species. Species such as the spoonbill, the oystercatcher, and the godwit nest here, or use the area as a fattening place during their migrations (Common Wadden Sea Secretariat, 2005).

Below low tide

Inter-tidal area

Above high tide
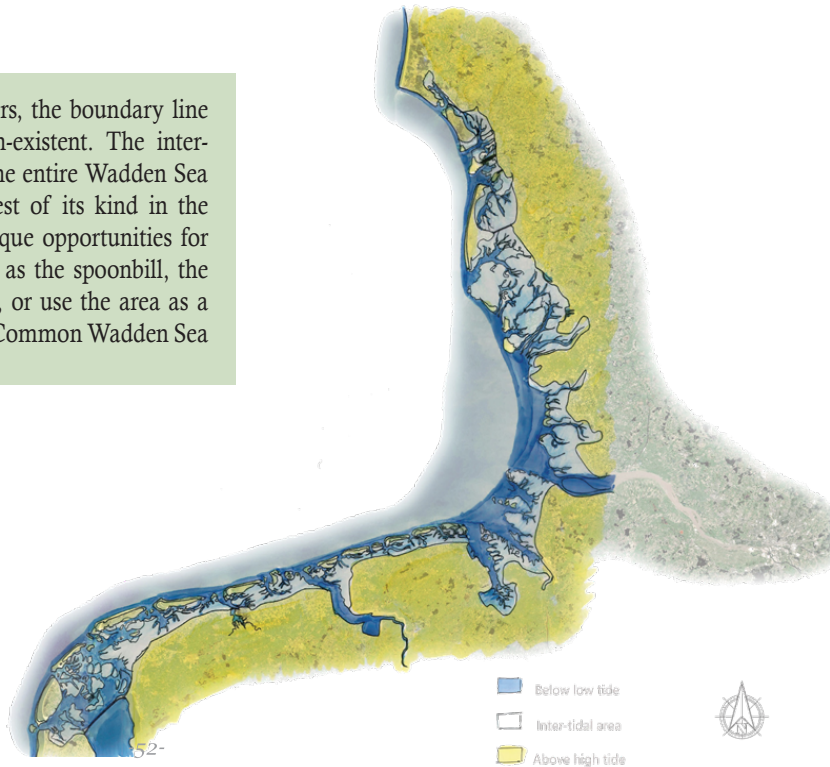
Demography

Nowadays the total population of the Wadden area is about 1,8 million, whereof 78.000 live on the islands. The only city that is directly situated on the Wadden coast is Esbjerg, the Danish home port for fishermen and offshore employees.
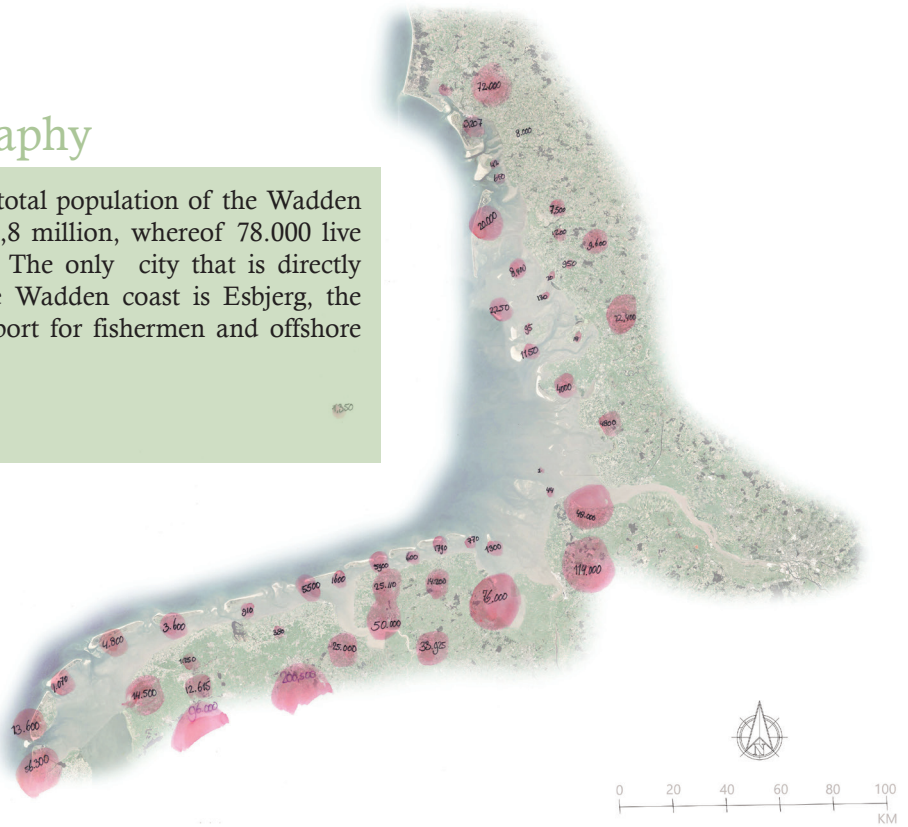
Nature vs. Industry

The 3 estuaries that are mentioned above are the port entrances to Delfzijl, Bremen and Hamburg. In 2009 Unesco granted the Wadden the status of World Natural Heritage. The entrances to the mentioned ports are excluded from this status. The traffic in connection with the ports is very dense, but the areas between them have considerable sizes, so the total region is at least as much a cultural landscape as it is a natural landscape. Still.

National Boundary

World heritage zone

Boundaries due to Waterways
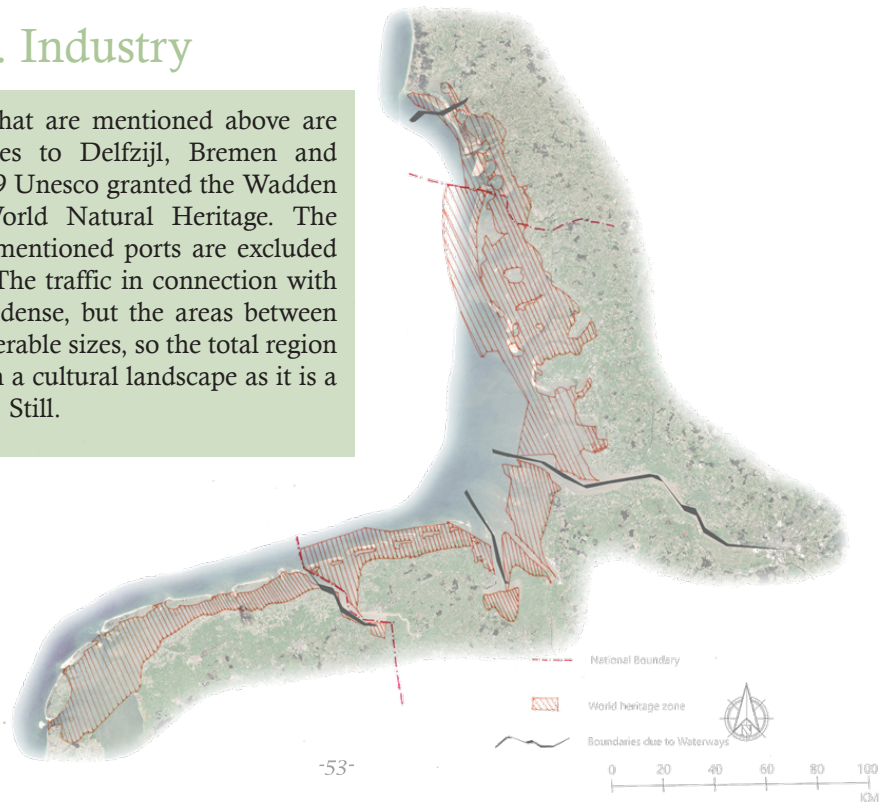
Infrastructure

The infrastructure between the centres along the coast is sparse, mostly perpendicular to the coastline. Some Danish and German islands are connected to the continent by road or railway. A couple of the Dutch islands as well as some of the German East Frisian Islands are facilitated with airstrips.

Motorway
Main road
Railway
Airport

0   20   40   60   80   100
KM
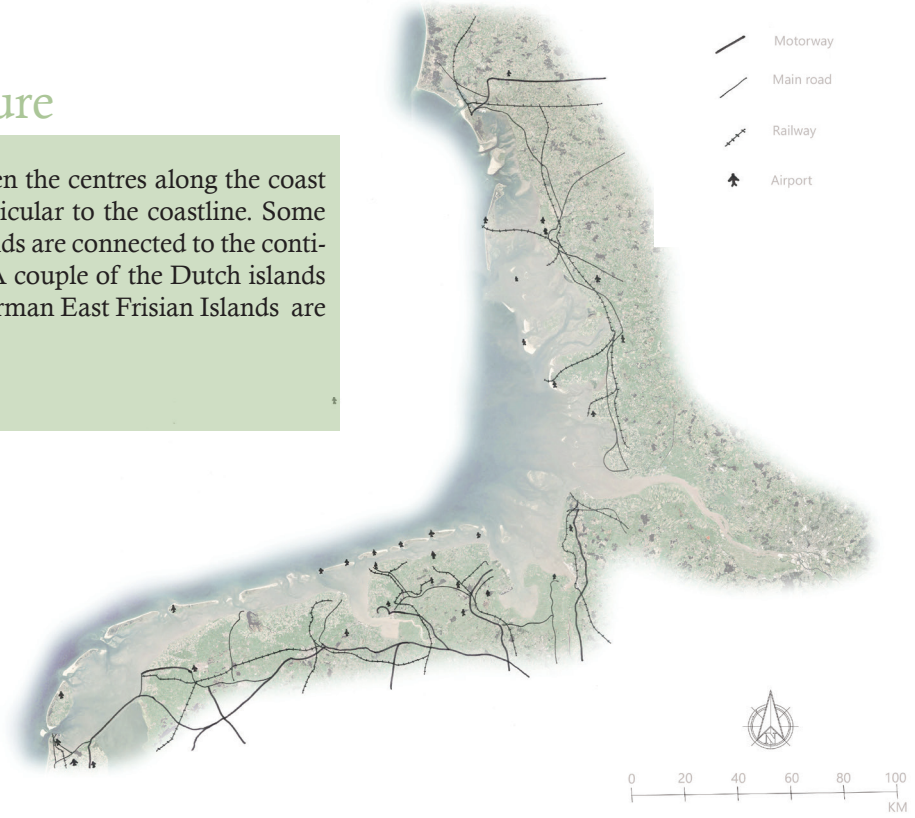
Harbours & Connections

The 3 estuaries intersecting the Wadden are entrances to commercial ports. 4 Minor ports are situated along the coastline; 3 in Germany's East Frisia, 1 in Danmark. The islands are connected to the mainland by ferry services, sailing mainly perpendicalar to the coastline. Coastal trading is impossible due to the intertidal character of the area.

Main port
Local Harbor
Waterway

0   20   40   60   80   100
KM
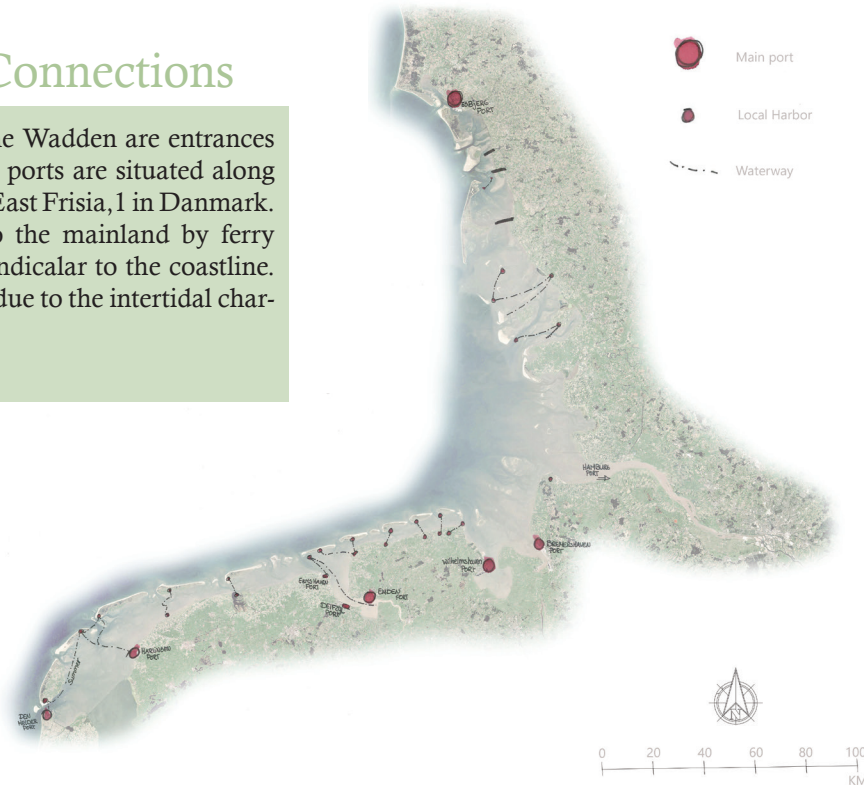
People & Nations

The Wadden area stretches over the borders of 3 nations. The borderlines between the different cultures are less obvious. The western part, West and East Frisia, used to clearly devided by the border between the Dutch Republic and the Holy Roman Empire; the countless shiftings of the patronage over the northern part over many centuries must have had its influence on cultures, languages and traditions in these regions.

West Frisian Islands
East Frisian Islands
North Frisian Islands
Danish Islands

0   20   40   60   80   100
KM

Prehistorical Landscape

The current unique physical conditions of the Wadden Sea provide a unique habitat that can accommodate a wide variety of flora and fauna. Never should be forgotten that the area is in fact a palimpsest, a cleaned scene of ancient cultures and extinct life forms.

0   20   40   60   80   100
KM

Method as Tool for detailed design

The use of the methodology of the landscape narrative for formulating the set of stories and making conceptual designs might have been tested positively in the setting of a student's workshop with a time limit, but this does not answer the question whether the use of landscape narratives as a guideline for design indeed is a viable tool to add the human scale during the complete design process of wild natural landscapes. To get that answer, the complete method was used as a guideline for a landscape architectural design for the Noordpolderzijl landscape.

As mentioned in the introduction the landscape along the Dutch northern coast is rather peculiar. The Waddensea and the area that borders it belong to the youngest landscapes of the Netherlands. For centuries the coast consisted of low mudflats -subject to the tides- that were cut through by sea arms, flats that were flooded regularly and higher marshlands that were flooded occasionally. The sparse population lived on terps, man-made dwelling mounts. During the medieval period man began to construct seawalls. After the human intervention came to a halt in 1985 due to change in the awareness, the area outside thedyke changed its character. To this day the old breakwaters are visible, the rest of the area consists of a vast wetland area with a vague boundary between sea and land. Thanks to the regular flooding of the lower areas and the occassional flooding of the higher, a unique salt marsh landscape could develop on these flats, creating living conditions for a wide variety of species of plants and animals.

Location of Noordpolderzijl, retrieved from: Google earth, june 2017

FRAMING OF THE EXISTING

Framing of the existing is a study on the current situation. Showing the development of the land and sea. Mapping the dominant natural, cultural, and industrial processes. Indicating the current character of the landscape.

Dykes

- 20th century
- 19th century
- 18th century
- 15th century
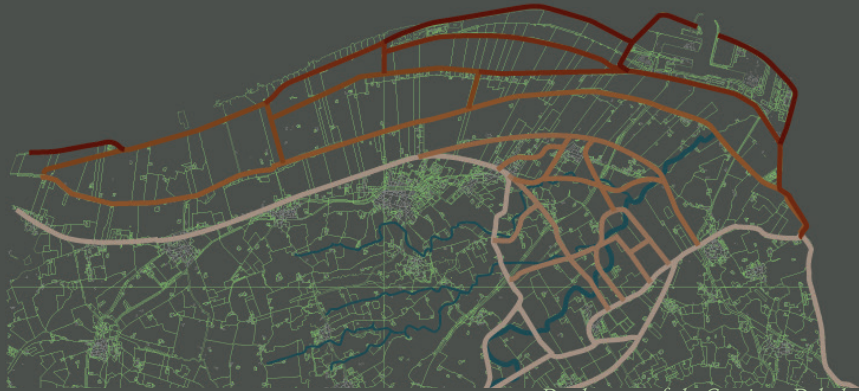
Development of the Groninger Dyke landscape

The wild natural coastal landscape has been in dialogue with the man made dyke landscape for a millenium. The strict borderline of the land advances to the sea steadily and continually. (Bos, 2011).

Sublitural - Superlitural conditions Noordpolderzijl

Supralitoral - daily scale
Intertidal - seasonal scale
Intertidal - daily scale
Sublitoral

On macro scale there is a distinction between-inner-dyke structures, outer-dyke structures and the dyke itself. The construction of scenes on micro scale level in the outer-dyke area depends on average sea level and their positionin the superolateral, the intertidal or the super tidal zone. The border of the scene shifts with the tides.

The irregularities of the substrate in the inner-dyke area show a clear correspondence with the gully pattern in the outer-dy ke area.

The map of the urban layer shows that the settlements remained behind the oldest dykes. The main industrialisation and the gas extraction plant came into being around Delfzijl.

The intertidal processes are the basis for all-natural land reclamation on the outer-dyke side.
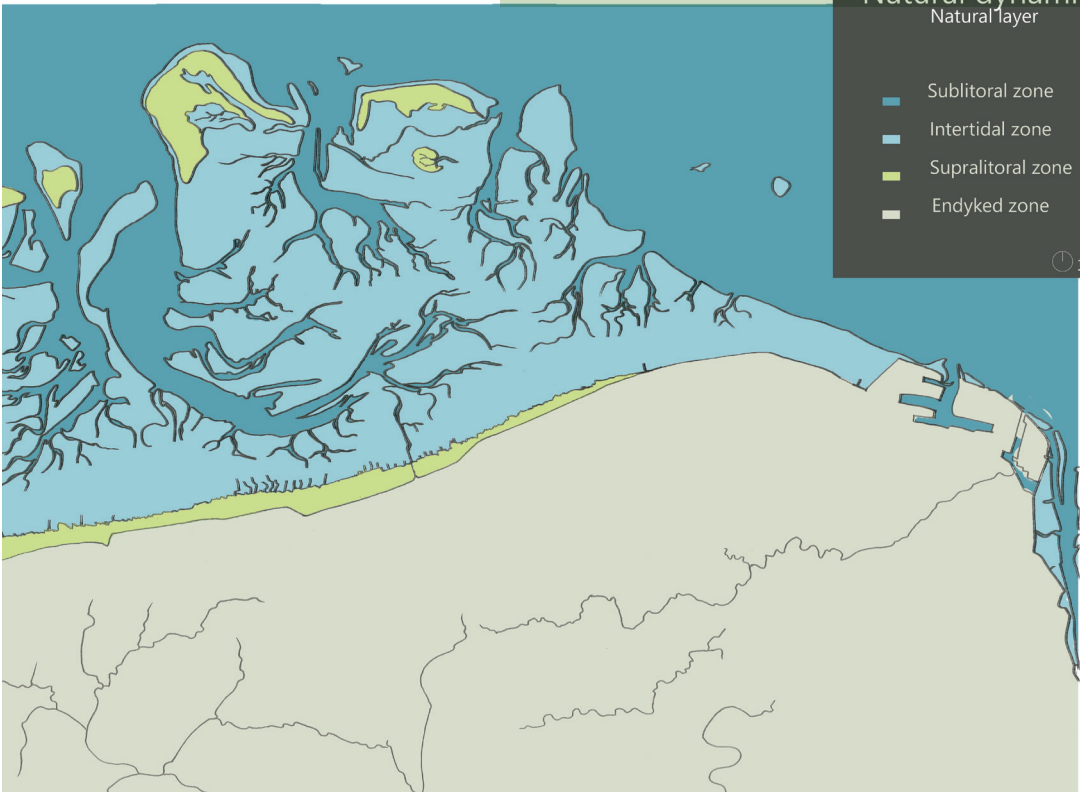
Natural dynamics
Natural layer

Sublitoral zone
Intertidal zone
Supralitoral zone
Endyked zone

100 m
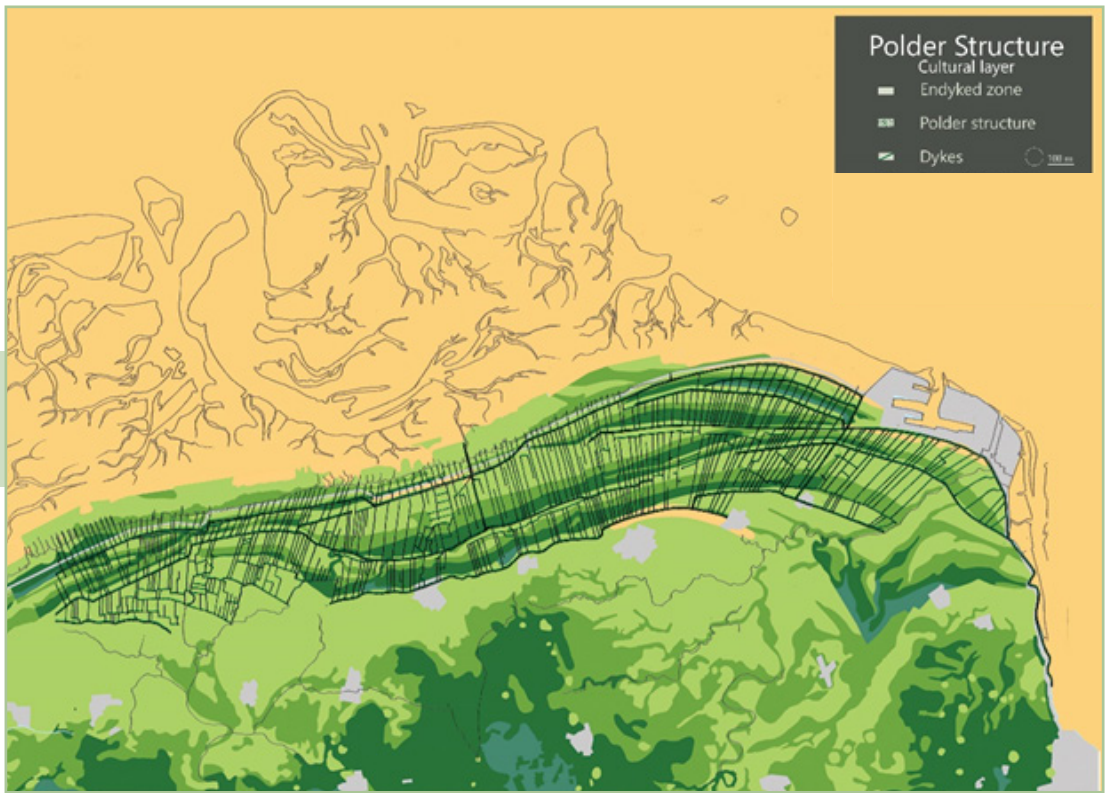
Natural Dynamics

Cultural Layer
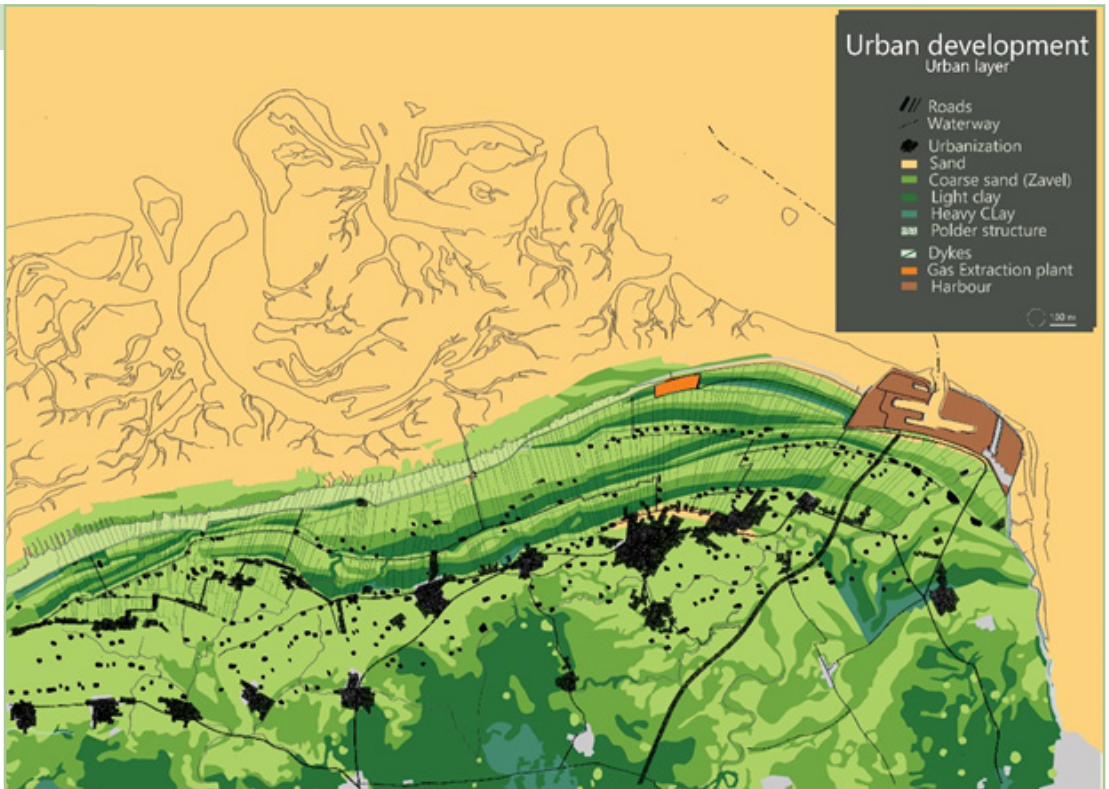
Urban Layer

Desk Analyse techniques

The 'Gameboard', based on Bunschoten (1996), shows clearly the outlines of the the main characteristics of the region: the natural dynamics, the man made, rectangular fields in the reclaimed land, the radial structures of the settlements and the dykes that separate these elements.
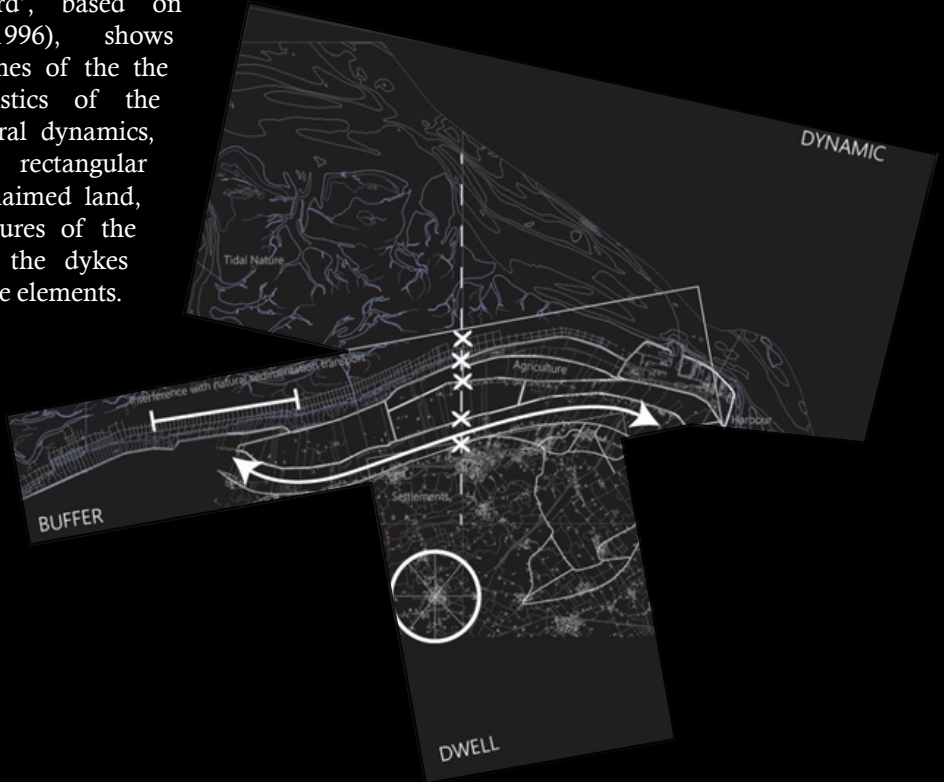
Driving forces of Groningen

The 'Drift', based on G. Debord (1957), The picture shows the limited possibilities for drift in the vast landscape around Noordpolderzijl. In the current situation the area is unaccessible outside the paved roads. The dotted line represents a potential for drift that would enhance the area's attractivity.

Drift analysis Noordpolderzijl
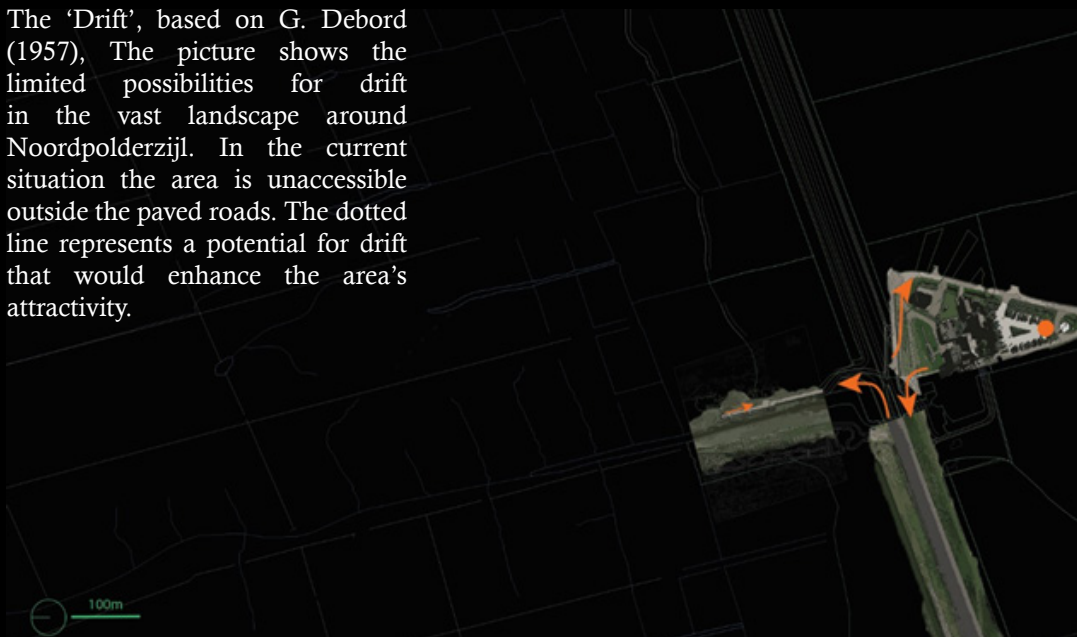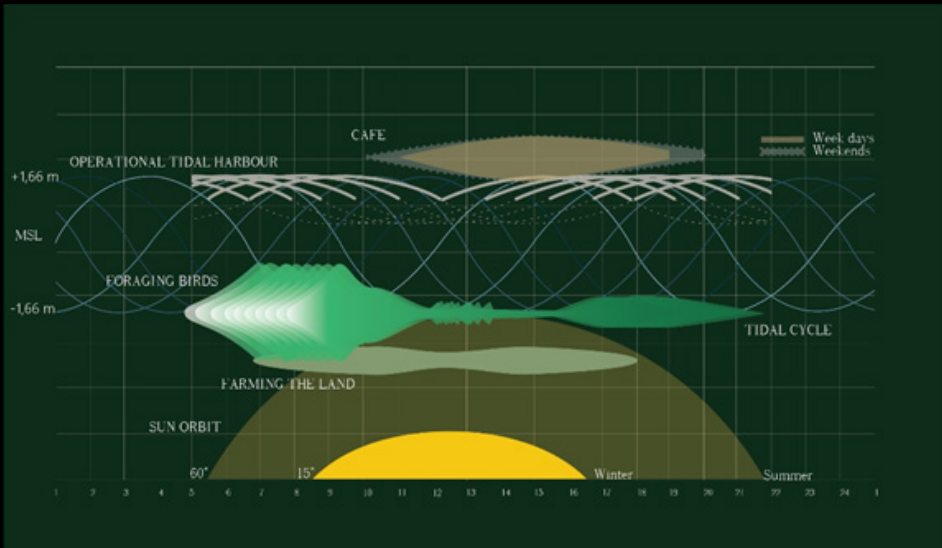
Program Noordpolderzijl

The 'Program', based on OMA for the design of the program map, Yokohoma (1992), is an experiment that shows the relationships between the different natural and cultural processes on the site.

The 'Rhizome', based on James Corner (1994), takes the cross section of the outer-dyke's ground-level of the site in Noordpolderzijl as the leading object. The ground-level in relation to the different sea levels gives a variety of landscape-types, with matching differences inbiodiversity.
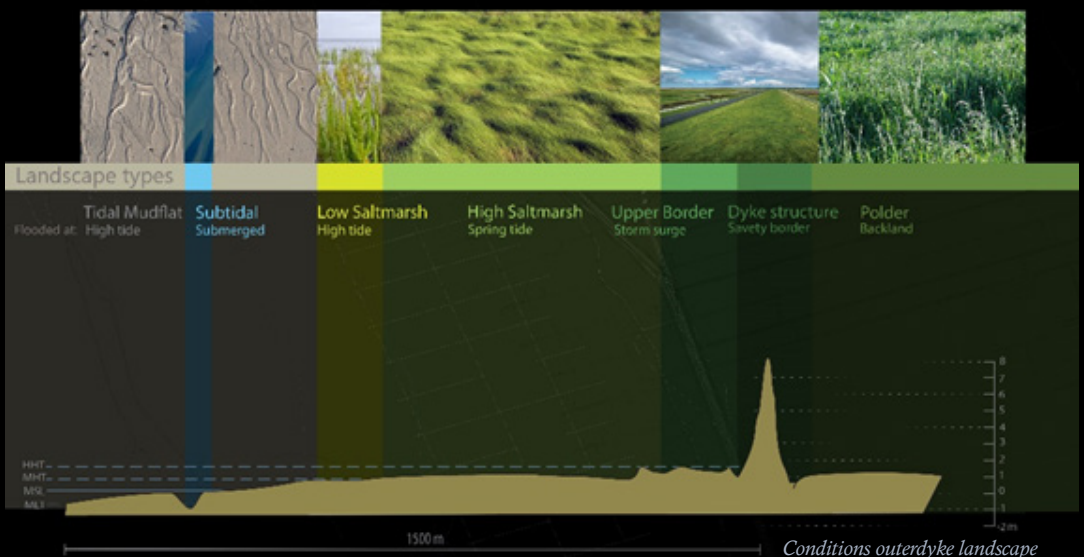
Conditions outerdyke landscape

FIELD RESEARCH FROM LAND

As mentioned in the introduction the landscape of Noordpolderzijl is rather peculiar. Desk analysis shows that the Waddensea and the area that borders it belong to the youngest landscapes of the Netherlands. For centuries the coast consisted of low mudflats that were cut through by sea arms, flats that were flooded regularly and higher land that was flooded occasionally. The sparse population lived on terps, dwelling mounts. During the medieval period man began to construct seawalls. Nowadays the area ouside the dyke consists of a vast wetland area with a vague boundary between sea and land. Due to the regular/occassional flooding a unique salt marsh landscape could develop on these flats, creating living conditions for a wide variety of species of plants and animals.

On the land side of the dyke one finds polders, wide panorama's over rich soils of sea clay used for argicultural monoculture.

The harbour of Noordpolderzijl was founded in 1811 after the shrimp fishers of Usquert and Warffum had lost their anchoring ground due to the making of the Noordpolder and the erection of a new seawall.

The place is fairly desolate at the moment. The region loses its population gradually due to a lack of employment. The entire region would undoubtedly benefit from a site that attracts water sports enthusiasts and day trippers.

During the reinforcements of the dykes in 1985 the entrance to the little harbour was bricked up and the shrimp fishers were forced to find shelter elsewhere. What is left since consists of a pumpwork, a small quay for pleasure crafts and the old harbour pub. The latter serves as a meeting point for mudflat hikers and those who want to take a breath of fresh air on the dyke.

The current landscape with its vague boundaries, its vast marsh areas and its mud flats that run dry twice a day offer excellent living conditions to a wide variety of species.

The impression the site arouses depends on different factors: temporary circumstances, personal interest, type of movement and cues in the landscape.

This collage of pictures on these pages shows moods, patterns, scale, textures and the immensity of the landscape.

The Dyke

Grazing

Art

On tour

Gazing

Living
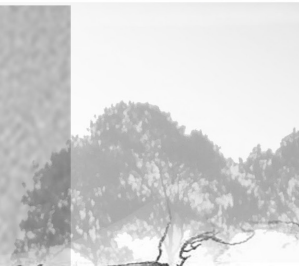
FIELD RESEARCH FROM WATER

The symposium 'Hoe rijk is deWaddenzee'', organized by the Wadden Academy (2017), offered the chance to investigate the landscape on the borderline between land and water from the other side, from a floating perspective. This experience confirmed the, rather gratuitous, assumption that there undoubtedly is much more on and under the water surface than what meets the eye on fist glance.
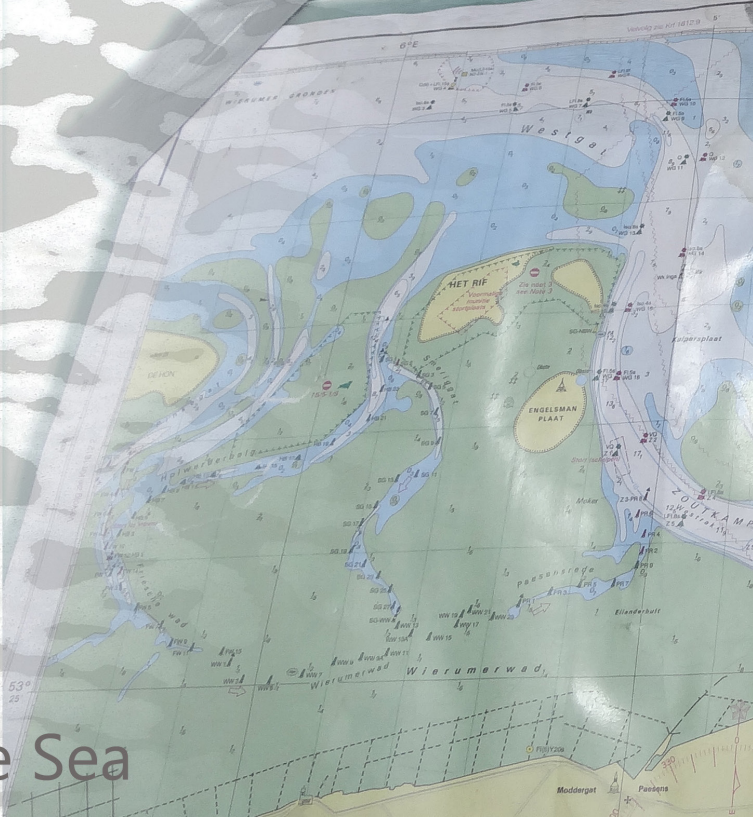
Wadden from the Sea

Noordpolderzijl anno 1914, Retrieved from: Bosatlas
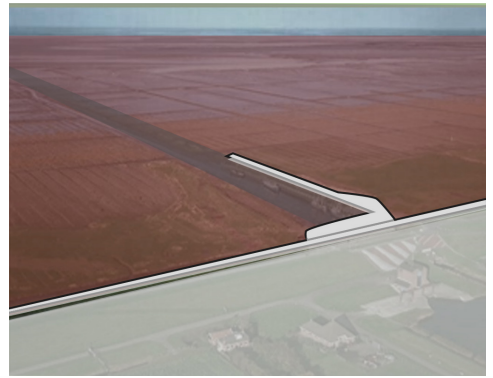
Current accessibility innerdyke (white) vs Outerdyke (red)
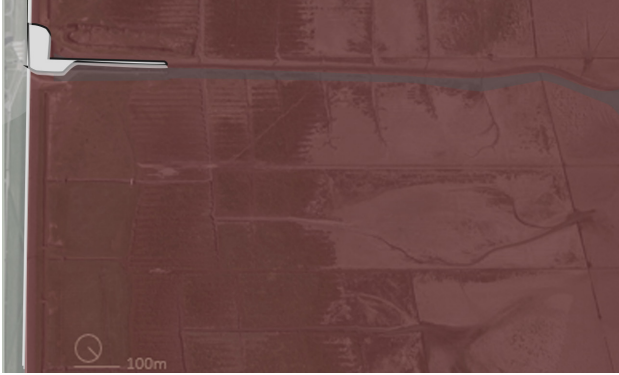
Current accessibility innerdyke (white) vs Outerdyke (red)
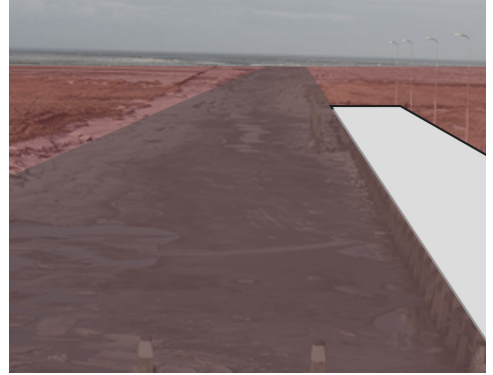
Only the quay is accessible in the intangible landscape

NOORDPOLDERZIJL

For most visitors the chance to get impressions is restricted to wide panorama's in the present situation. The sensory information can only be collected from the dyke and the short footway along the quay of the tidal harbour. The marshland is 1,5 km wide, so the sea, its sounds and dynamics are too far away to be sensed.

Spring High tide +1,7 NAP
Neap High tide +1,5 NAP
Neap Low tide +1,3 NAP
Spring Low tide +1,1 NAP

Mean sea level +0 NAP

MARINE GRASS
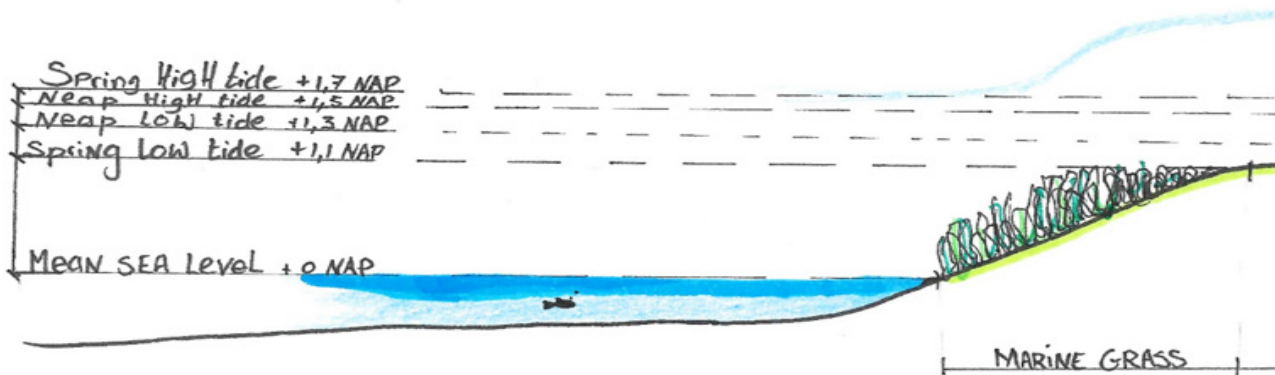
System of salt marshes

Navigation channel Noordpolderzijl, soure: youtube.com
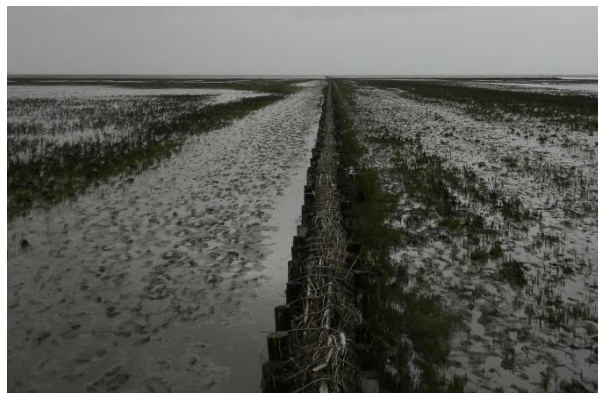
Exsisting groyne structure

Exsisting situation Noordpolderzijl

Salicornia Procumbens

Marsh hay cord grass

Salt wort

sea oxeye daisy

Mud Flat | Low Marsh | Mid-high marsh | Pool | upper marsh

High Marsh
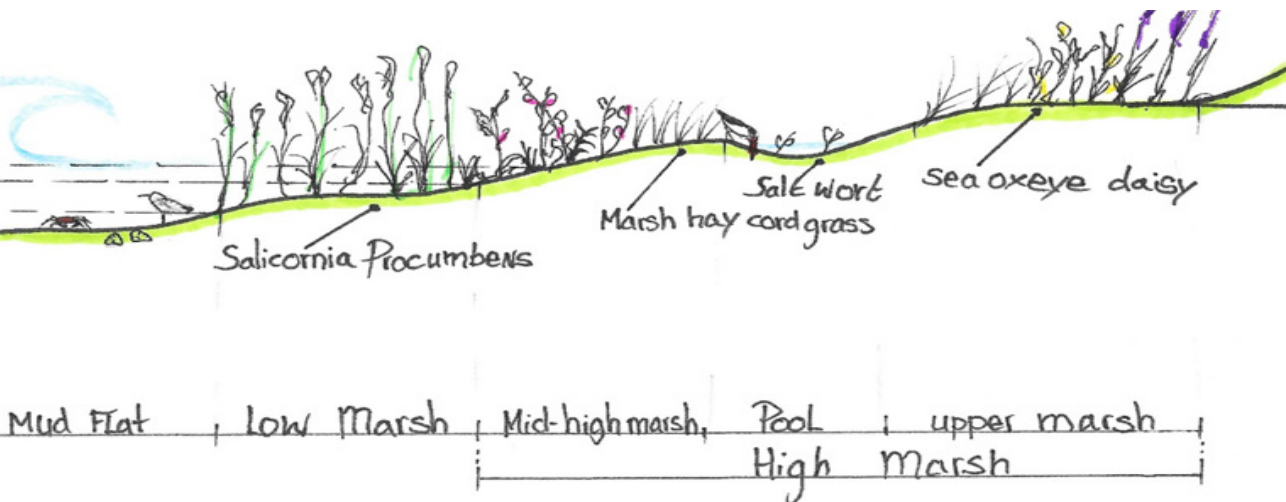
THEORETICAL BACKGROUND:

Notation of Sensory analysis

During the early stages of the research, the need was felt to make non-verbal notations of the impressions of the senses that arise when a certain recognition of a story occurs during a stay in a landscape. This triggered an investigation of the exsisting systems for describing impressions and expressions in a non-verbal way. Literature study showed numerous attemps in this field.

According to the American landscape architect Lawrence Halprin (1916-2009) a new visual language to describe movement was needed. He was married with avant-garde dancer Anna Halprin-Schumann Together they explored the common areas between choreography and the way users move through a public space. Halprin's work is marked by his attention to human scale, user experience, and the social impact of his designs. All in the egalitarian tradition of landscape architect Frederick Law Olmsted (1822-1903) (Wiki, 2017). Halprin's notation describes both objective movement and subjective experience of movement. Halprin's diagrams below describe the run of a fountain and the evaluations of two walking experiences. Halprin's notation system was ground-breaking, but too abstract to be understood easily. Therefore, the Halprin system was not widely adopted.

"We are coming to realize that our everyday surroundings have tremendous importance in their influence on our emotional lives. The art process must be a total and continuing experience rather than compartmentalized into museums, theatres or symphony concerts. If the kinaesthetic sense is satisfied at a dance concert and left dormant during the week we are only half alive. But if it can be cultivated and encouraged in our daily lives in garden and house and all our environment by designing for constantly pleasant movement patterns, our lives can be given a continuous sense of dance."
(Halprin, retrieved from:Cultural Landscape Foundation, 2017)
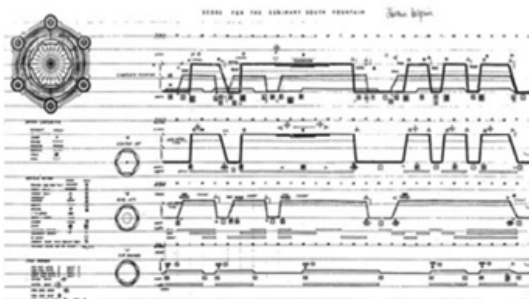
Motion of Fountain (left) &   *Perception along a route (right), L. Halprin, 1963*
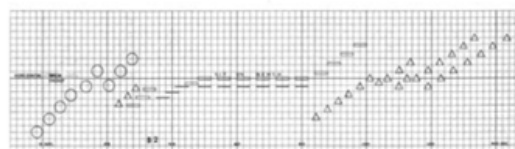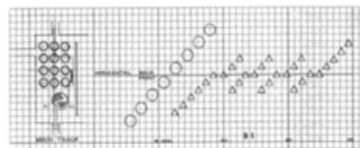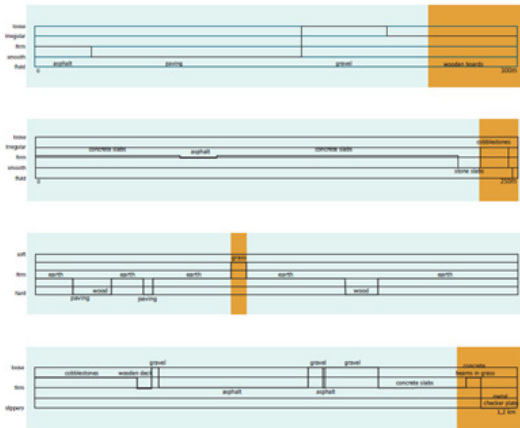
Notation, Saskia de wit, 2014

The recent work of Saskia de Wit (2014) show more types of sensorial experience. While depicting the route from town centre to a garden, Saskia de Wit used 4 axis to show the rise and ascend, turns, pavement textures and sounds along the trip. She used length, instead of time, as the unit of the axis.

Compared with time, length has a closer relationship with space. Although the time is not noted on paper, the reader can only read the axis from one side to another, thus the time sequence is reproduced automatically while reading.

Steffen Nijhuis (2015) uses GIS based research to build digital models for the analysis of Stourhead. His system shows the transition of light conditions and heights along the main walking routes in the garden in different periods. Change through time and the amount of light in relation to the location are visualized. The analysis of Nijhuis gives a well defined indication of the sensorial experience of light in relation to the geographical location, The representation doesn't show the interdependence between all senses.
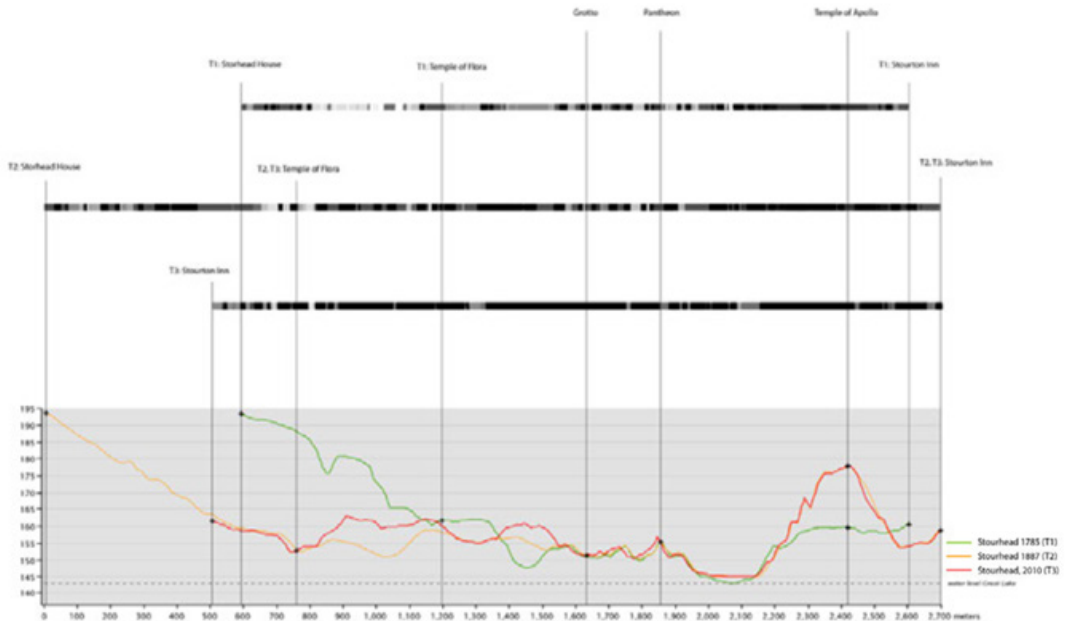
GIS based analysis: Comparison of light-shade experience along the main routes in Stourhead, Steffen Nijhuis, p.255

The French landscape architect Catherine Szanto (2010) published another way of notation for sensorial information projecting her findings in '*A graphical analysis of Versailles garden promenades*'. The figure below shows the first half of one of Louis XIV's walk represented on a timeline. The upper part of the line diagram shows the character of the spaces crossed along the walk in a schematic way. The lines in the lower part show the different experiences, regrouped thematically. Each section is proportional to the actual distance travelled. The representations of the several types of sensory experiences are aligned in a score revealing a complex sensory composition connected to the walk. As the notation of the first two bars are nearly identical one can say that the first two groups 'views' and 'sense of orientation' at different scales are closely (but not unequivocally) related.

The diagram, the geographical analysis of the sensorial information, is accompanied by an extensive legend. The detailing of the legend makes the original score hard to read. Except from the upper two bars it is impossible to link the information to sensible patterns.

The above described theories show studies for alternatives notations of senses. But none of the displayed theories result in an objective overview of a sensorial situation that links the information in an easy framework. The theories either focus on limited aspects of experiences, are too abstract uncomprehensive or lack cohesion. Earlier in this graduation research was stated that the visual perception is dominant in comparison to the other human senses (chapter 2.1.2). Although landscape architects are trained to develop those other senses as well, graphical visualisations
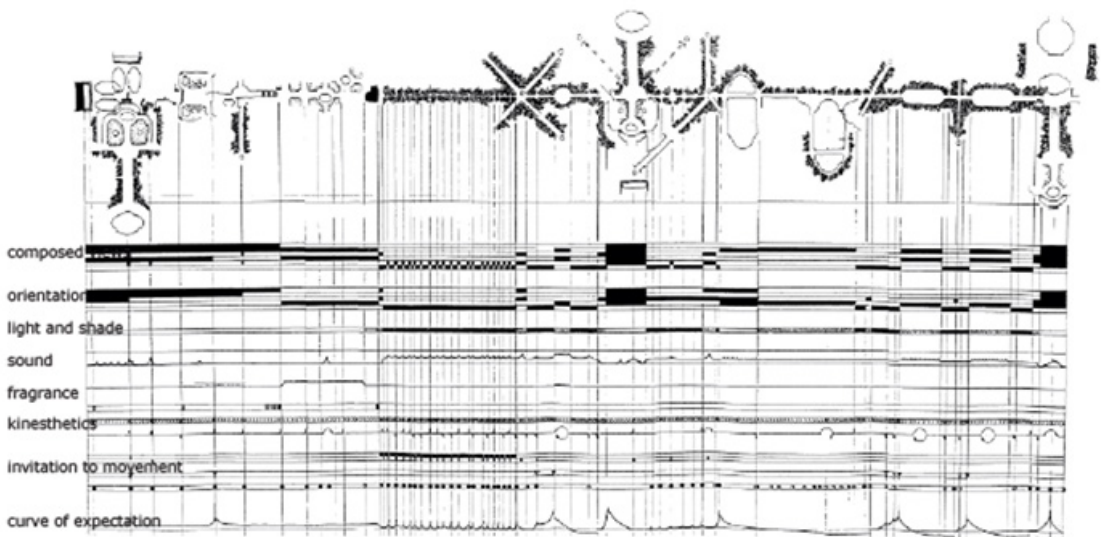
Szanto, C.(2010) score for Louis XIV's c. 1695 promenade itinerary. Representations of the different types of sensory experiences are aligned in a score we can see the walk as a complex sensory composition.

Szanto, C. (2010) The legend of the graphical analysis
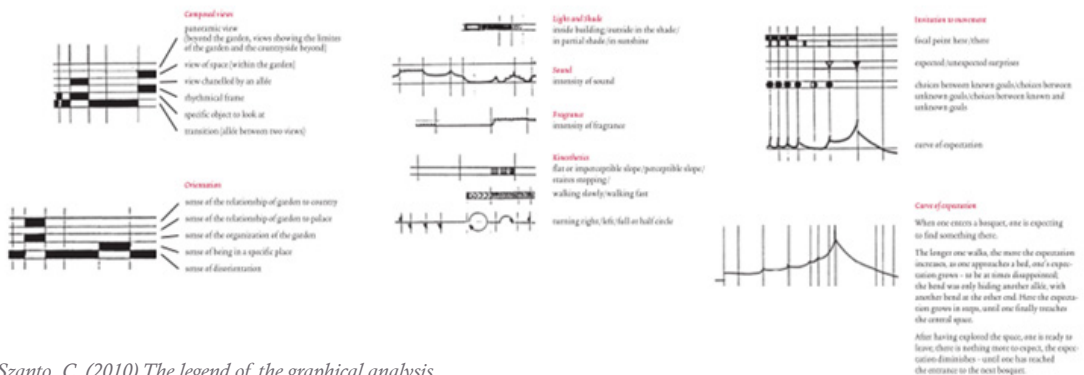
appear to be dominant the in the landscape architectonical field (Dee, 2004). It is not improbable that new insights can be obtained when the results of the sensorial analysis cross the 'visual boundary'.

In 1928 the Hungarian dancer and theorist Rudolf von Laban developed a notation system for the recording and analysing of human movement which he called Schrifttanz. Later it would be called Labanotation. This system uses abstract symbols to define the movement in terms of: direction, level, indication of the moving body part, duration and the dynamic quality. By forming movements into Laban's visual patterns they can be translated into musical compositions.

The motion, time aspect and the integral quality of this type of scoring may fit the requirements of a multi-sensorial analysis, because it could be extended with multiple bars without losing context.

Recently the composer Stef Veldhuis (2017) developed, in collaboration with the Department of Hydrolycs of the university of Utrecht and the meteorological institution KNMI, a scoring methodology for oceanographical data. His system translates salinity, turbulence, velocity and temperature of seawater into a partiture with playable compositions that reveals totally new patterns and relations of data. Only recently Veldhuis' compositions were played by a complete orchestra. The concert that took place in the university in Utrecht revealed inspiring soundscapes. Veldhuis' notationsystem has not been published yet. In a personal brain storming session the composer showed much interest and belief in the potential of a notationsystem that descibes landscapes.

Labantation, 1928, musical notation of movement
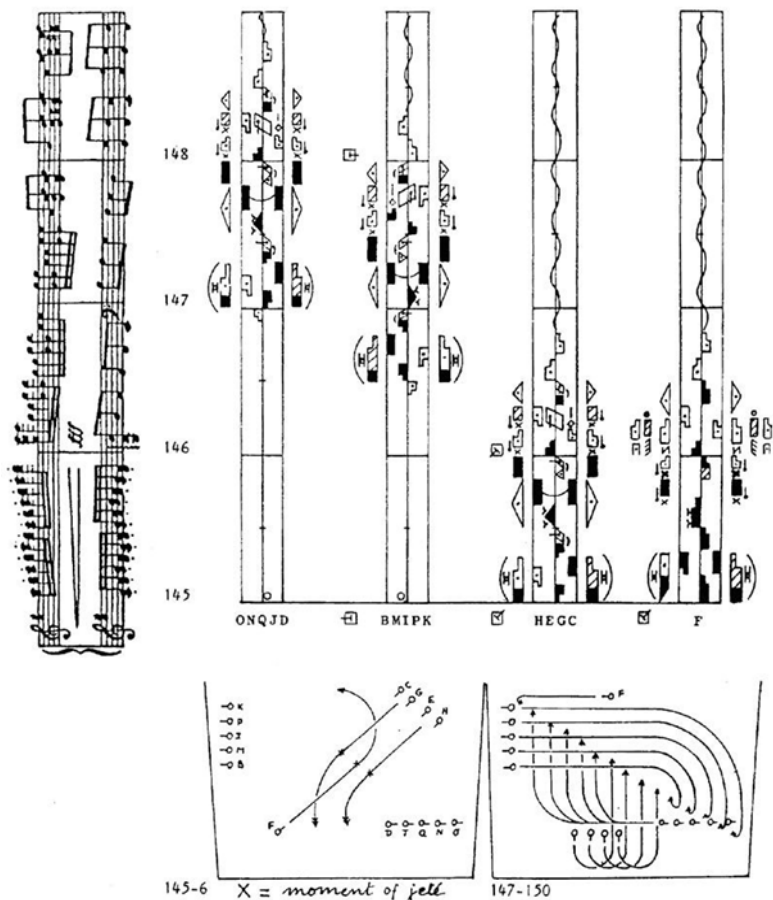
A study upon the composition of the landscape in terms of senses gives the opportunity in an alternative notationsystem. Adding structured information to the impressions of the dominant visual sense may give new insights in the dynamics of a place.

The diagrams show an attempt to capture the characteristics of Noordpolderzijl on staff lines. In a cross-section from the former inland port, via the dyke, high and low marshes and mudflats to the sea. The height in the bars corresponds to the intensity of the impression.One diagram shows ordinary data, the other shows the translation in simple music. Transcription of this score to multiple instruments could reveal features of the landscape in Noordpolderzijl that are difficult to grasp.

Prior to the excursion to Noordpolderzijl, the expectations of the experiences of all the senses with regard to the rich biodiversity of the area were high. Those expectations have not come true. The impressions are fairly homogeneous, flat and not in line with the diversity of the area as a whole. Reason for this is the fact that the wild natural landscape is not accessible to the visitor, because the landscape is currently completely fenced off. The sensory information can only be collected from the jetty, the path along the tidal harbour and the dyke and is limited to visual impressions of the panorama, a weak general smell and a weak sound of the wind. The marshland covers a vast area, so the dynamics of the sea are far away and hardly noticeable.

However, the analysis of the site does give an insight in its development and its unique specifics of the topos. In the case of Noordpolderzijl the natural wild coastal landscape is in permanent dialogue with the cultural developments. On the outer side of the dyke agricultural activies still take place. The minimal elevation of the surface in comparison to the average sea level is the motor behind the shaping of this specific landscape. Existing components in the field of sensory information are mainly subtle and consistent. Visitors stay on the dyke, the quay or on the footway that runs from the latter, or sit in a little boat. They remain far from the salt marshes and mudflats. and will never experience the full quality of the place.

DEFINING THE PURPOSE

The narratives are formed with the purpose to rediscover this wild landscape, giving opportunities for new experiences and add the human scale to the intangible landscape.

CREATE OR RESTORE

CREATE

PRESERVE
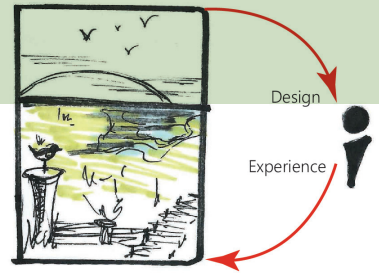
RESTORE
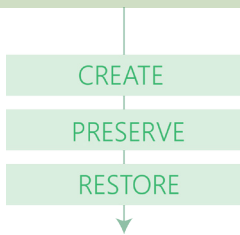
Step two of the methodological framework acknowledges the land-scape as a palimpsest and functions as a preparatory step for the framing of the narrative.

In the case of Noordpolderzijl the narrative's potential lies in creating a way to get the visitor to experience all the dynamics of the wild land-scape in their full extent: Create

REPRESENTATION OF TIME
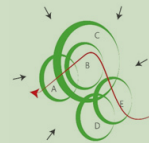
Creating a route for experience will result in a linear narrative on a continuous platform.

End of the quay

wave

ppp
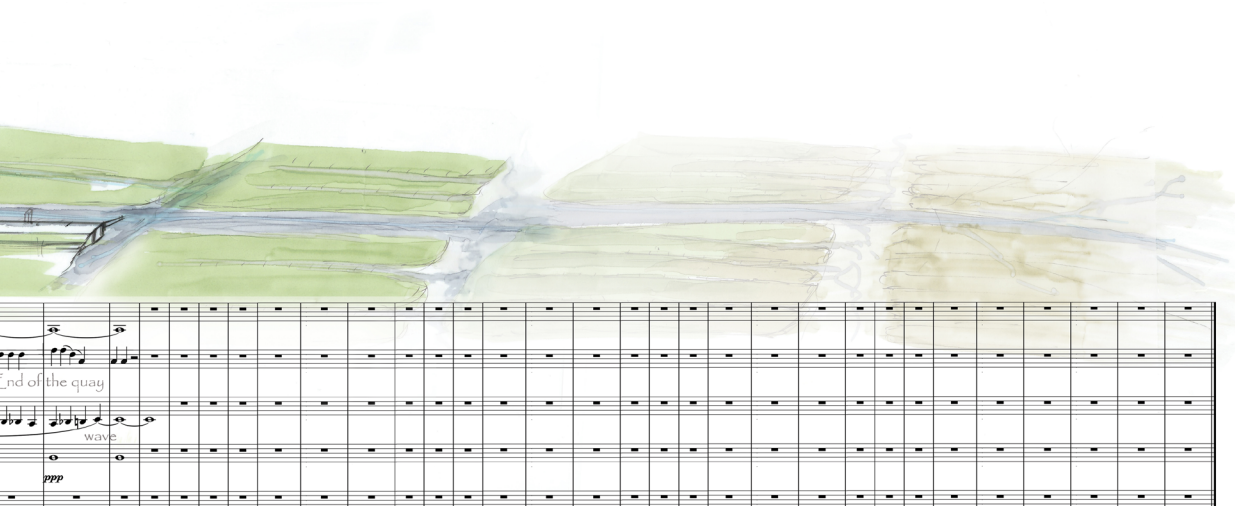
Composition of the sensorial Analysis of Noordpolderzijl

FRAMING THE NARRATIVES
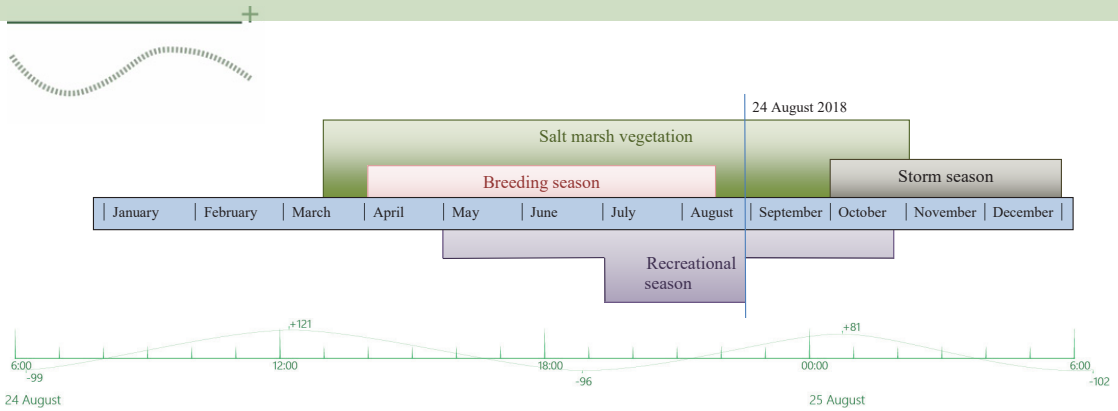
Water levels, Eemsmond, August 2018 & influencing factors

The natural environment of Noordpolderzijl consists of a huge horizontal surface without distinguishable differences in elevation. Kaplan, Kaplan & Ryan (1998) stressed that such large plains of undifferentiated land surfaces generally are considered unattractive, because it seems as if 'it is all the same' and one is therefore not tempted to explore the area. But what initially seems like an undifferentiated and monotonous area can reveal itself as a place with a rich diversity, depending on place and time. As we consider wild natural landscapes, the genius loci is the strongest quality of the place (Kaplan & Kaplan, 1989). The peculiar landscape of Noordpolderzijl is the result of a combination of various natural processes and human activity.

After the analysis, the purpose was formulated to add the experience of the human scale to the large-scale structure of the wild natural landscape. Kaplan and Kaplan (1989) describe in their book the ingredients for a successful landscape from the human perspective. Attractive landscapes contain a balance between a certain level of understanding and the possibility to explore the landscape. Factors for a balanced landscape are; Coherence, Complexity, Readability and

Mystery. Appropriate use of landscape narratives gives the public, in addition to being able to explore, also the power of creating their own new landscape stories.

The landscape already consists of countless narratives as each narrative is an element of a larger system and at the same time offers a framework for narratives on a smaller scale (Powers of 10, 1977). But the subtle narratives almost disappear in the vast intangible landscape of Noordpolderzijl. Even the historical narrative of the drunken polders, well visible on the surface, is hidden for the visitor.

This design with Landscape narratives concentrates on 3 storylines which are subject to diurnal and tidal rhythms. In general, experiences are linked to perception, distance, movement, and the social setting (see also p.22).. Because experiences are subjective it is not to say whether an individual visitor will pick up the signals. These intentional experiences can't exist when the visitor isn't able to reach a certain place on a certain point in the cycle of events. The experiences need an infrastructure. The type of infrastructure adds to the experience as well. Without clues in the landscape the
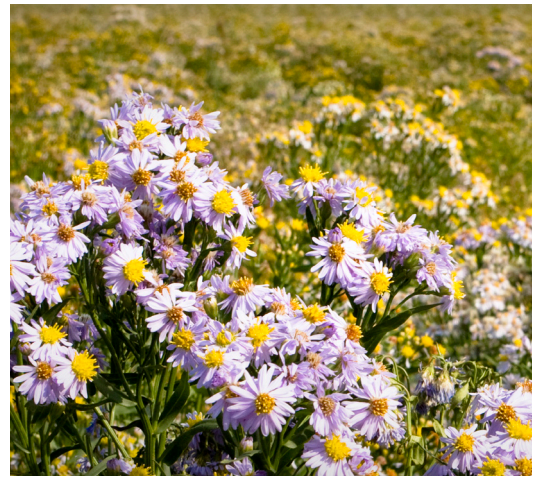
Limonium vulgare (left), Tripolium vulgare (right), beeldbank RWS

experience wouldn't be possible in the first place. The 3 narratives emphasize on experiences that may take place on a particular day and, by subtle interventions, reveal the hidden layers of this wild, natural area.

Narratives: *Solitude, Education, Collectiveness*
Day: 24th /25th August 2018,
High water: 12:20, +121cm/ 00:40,+81cm,
Low water: 06:10, -99cm/ 18:50,
-96cm/06:30, -102cm (in relation to m.s.l)

The choice for the end of August as the moment to describe the area was made deliberately. The breeding season has ended then, the storm season hasn't started yet and the temperature of air and water are perfect for recreation. The high water temperatures at the end of summer facilitate comfortable mudflat expeditions and offer optimal conditions to enjoy the bioluminescence of the sea sparkle (Noctiluca scintillans), a minuscule dinoflagellate. The flowering season is at its peak and the salt marshes colors purple because of the typical salt marsh species such as sea lavender (Limonium vulgare) and sea aster (Tripolium vulgare). August is in the middle of fishing season for the mussel, oyster and shrimp, most of the schoolchildren still have

holidays and the tidal differences are at their maximum then.

The 3 narratives will be discussed separately.

For the design with narratives it is essential to establish whose story is told and to whom (which user group), and in which way and from which perspective the landscape will be experienced.

The characteristics of the user profile in relation to the landscape will influence the experiences. Therefore the first step is to specify a user group for the specific narrative. In the case of Noorpolderzijl the classification of the participants in the various storylines leads to the characterization of different user groups. The scenes of the storyline are formed by the activities that take place in the landscape during 24 hours. These activities can only take place in this landscape with use of the spatial translation; translating the scenes of the storyline into a landscape design. Together the linear narratives form the basis of a design for a non-linear platform where countless other narratives may take place. In Noordpolderzijl the design is detailed in the transition of places and on the hub where the three narratives meet.

The first storyline: Education is about understanding by exploring. How is it formed, which processes lead? How does it taste, feel, smell in different places? Making the unique past, present and future visible. Learn about the surroundings in an exploring way.

User profile

The aimed user group for this narrative is embodied by the family Kite. This family consists of a mother (35), a father (38) and their 9-year-old daughter. Their goal is to have a relaxing daytrip in the countryside as well as to get a unique insight in the typicalities and the historical background of the landscape.

Scenes of the storyline

The family hopes for a day away from the daily hustle and bustle. Therefore they take it easy and travel by car. They follow the trail that runs over the crowns of the former breakwaters that once were constructed for catching the sediment. Herewith they experience the process of land forming on a comprehensible scale. The trail will lead them to the borderline between land and water. Due to the mild slope of the salt marshes this borderline shifts with the tide. In this area the family might meet the old horse fisher who learned his very old trade in the province of Zeeland and who now tries his luck on catching shrimps in Noordpolderzijl. More about the culture, history, traditions, plants, animals and processes waits for the family in the Experience Center. Their daytrip finally ends with a picnic, watching the sunset.

Experience center

Parking

200m

Spatial translation

Without a spatial translation -a design for the landscape- the story of family Kite's daytrip would be short: from the parking lot to the leisure harbour and the crown of the dyke and back again. Just the spatial translation of the narrative will add excitement to the site and will let things happen. The used materials and the constructions in the landscape will add to the experience.

The walk towards the viewpoint of the water-front is uniform and accessible for all types of visitors. The wooden deck is 1.2 m wide. The top of the deck is situated 0.3 m above average high tide, which means the deck is only inundated by extreme high-water levels. From the viewpoint small steps invite the visitor to explore the landscape away from the beaten track. These steps also serve as a boarding point for the trip with the horse fisher.

The Experience Center is built on top of a modern terp in the dynamic landscape of the marsh lands outside the dyke. Steps of 0,45m high are integrated in the western slope of the terp in order to facilitate picnics during sunset.

Entrance path, lifting and lowering by low and hight tide
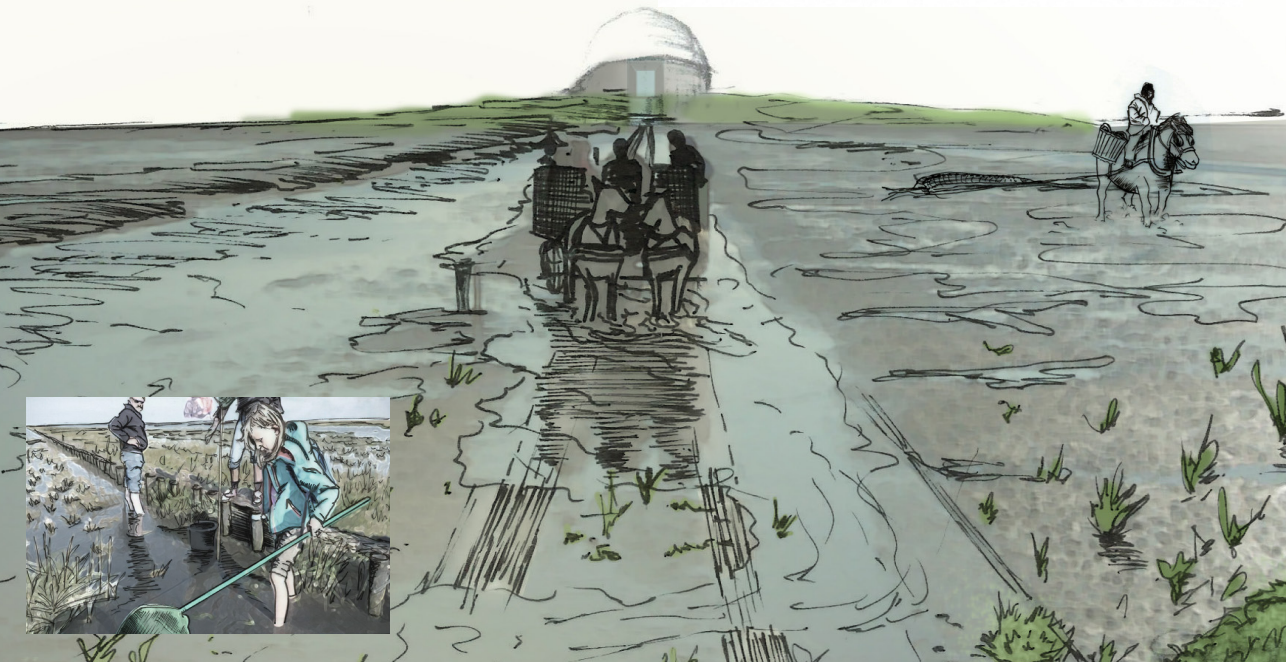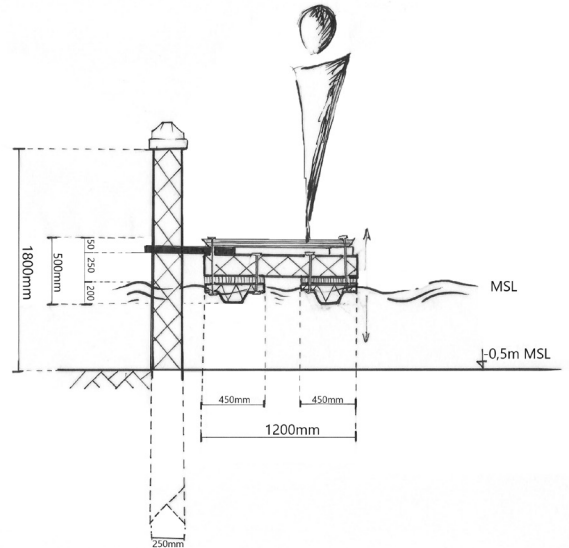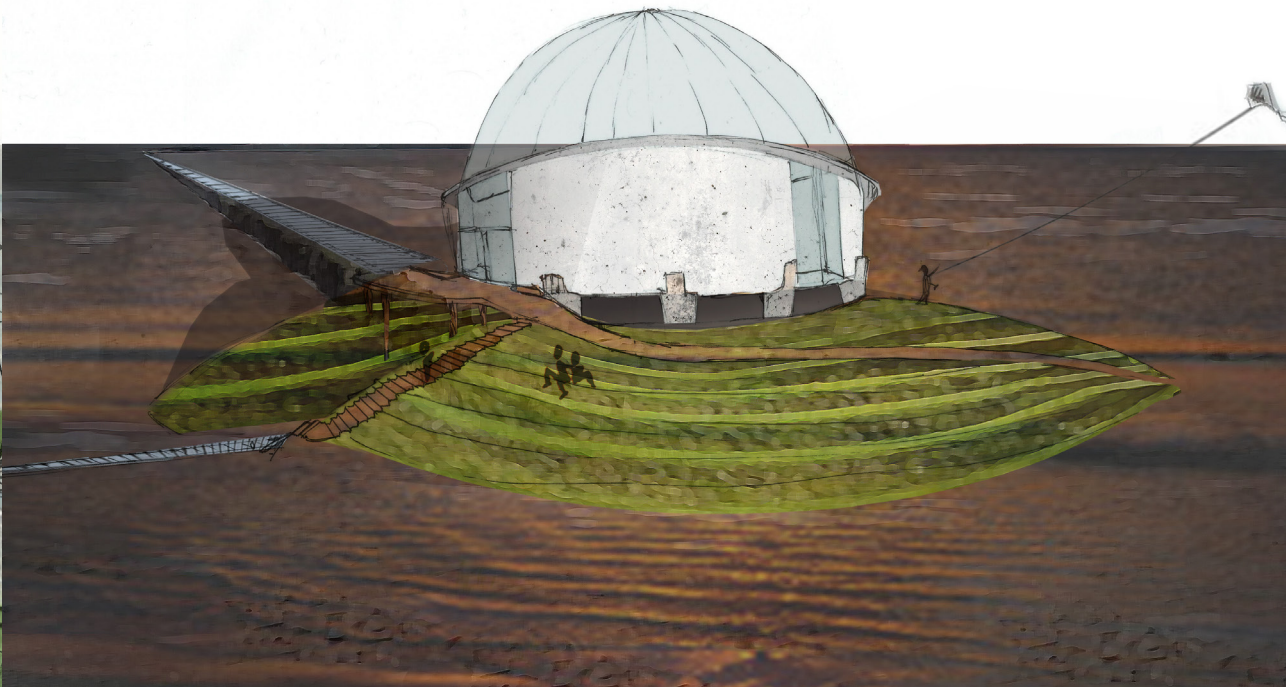
The narrative Solitude emphasizes the exploratory nature of people. A blanc spot on a map stimulates the imagination. Natural wild landscapes offer conditions in which the topography of the landscape can meet the topography of the mind.

User profile

The central character of the narrative of Solitude is the hiker. Traveling solo through the landscape allows a person to connect to the landscape without any other forms of distraction. A real hiker seeks distance to the civilized world, tries to find his/her way through the wild nature and to get closer to his/her environment. It is almost as if the hiker tries to find something in the landscape, but the question is whether it is the landscape he/she explores or his/her inner self. Following him/her on a 24-hour hike will give a complete new insight in the landscape of the Wadden around of Noordpolderzijl.

Scenes of the storyline

Our hiker might enter the area from east-northeast, traveling by foot along the dyke. At Noordpolderzijl he/she might head directly to open sea. Along this walk the hiker passes all stages of the high, middle, and low salt marshes and the mudflats. On her way (back) he/she passes the Experience Center, but there seems no need for him/her to go in. Instead he/she rents a canoe at the kayak station underneath the museum and books the sea-camp-cabin for the night. When hiking in this environment the hiker has to be keen on the tides. With only a few hours of high tide left and a 6-kilometer paddling distance, it's probably time to go. After arrival at the sea-camp-cabin on the mudflats opposed to the coast of Rottumeroog the wild natural landscape finally truly surrounds our lonely hiker. The elevated cabin offers a splendid 360° view and -more important- keeps the feet dry. The next day he/she will return the kayak in the harbour of Noordpolderzijl.

Borkum

Rottumerplaat

Rottumeroog

Zuiderduintjes

Schiermonnikoog

Sea-Camp-Cabin

Eemshaven

Slack water line

Experience Center

Noordpolderzijl

Uithuizen

Usquert

200m
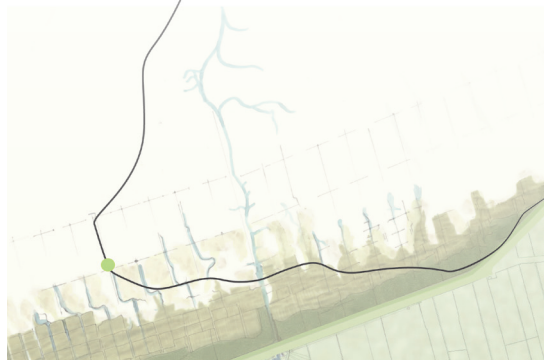
Spatial translation

For hiking through the salt marshes, the landscape doesn't require alterations other than an invitation into the landscape in form of a few steps as it would go against the wild nature and the intention of hiking.
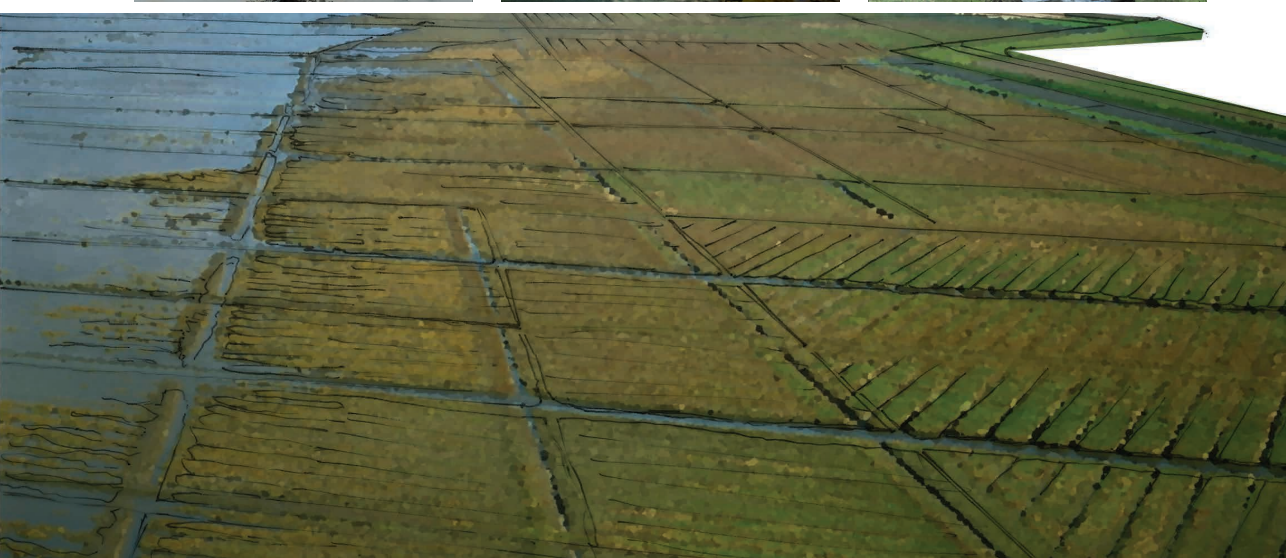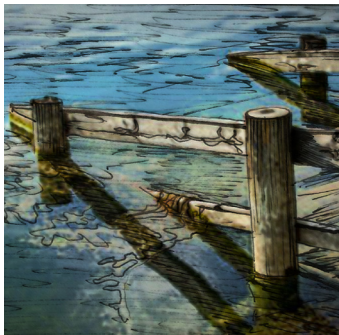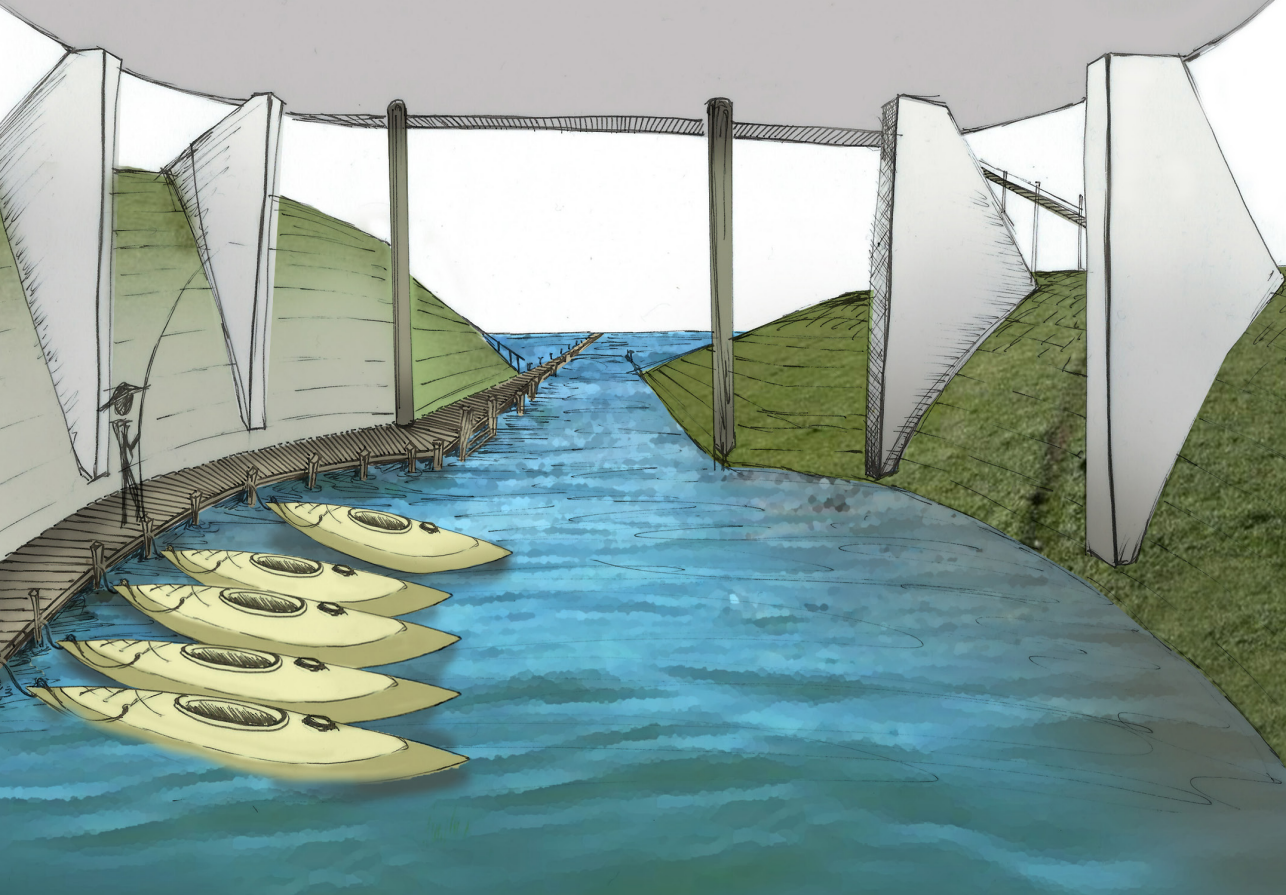
The lower area of the experience center which is open to the dynamics of nature is an excellent place for establishing a kayak station and a booking desk for the sea-camp-cabin(s).The surface level of the experience center is open to the dynamics of the landscape. The design will contain the facilities for a kayak station in order to provide this mode of transportation. Navigation towards the sea-camp-cabin takes place by GPS (location: 53.49099, 6.52176). Therefor there is no need for signal posts or buoys to mark the track.

The sea-camp-cabin itself is constructed on top of a concrete slab that is placed 1m below the surface level of the mudflat. 4 Wooden poles, connected to pins on this slab, provide for the primary base of the elevated cabin. The space in between the poles will be filled with blocks of biodegradable plastics on which mussles and sea weeds can grow. After a decade the honeycomb construction of these plastics will be disappeared and replaced by a fully-grown mussel bank that catches sediment and attracts many birds and other wild life.

Biopolymers as basis for the cabin
Retrieved from: griend.org
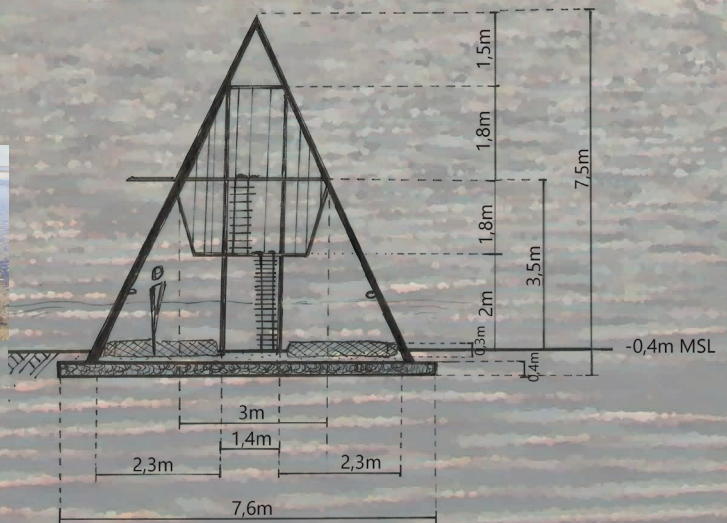
Collectiveness is the third main theme for revealing the hidden layers of the landscape by experience the process of experiencing. The experience of a place is influenced by both physiological and cultural factors. Collective experiences add meaning to a place so that the value of its elements increases. (Baaijens,2017).Excellent place for collective experiences like: picnicking/swimming/ guided walks/watching shooting stars or the sunset/ performances.

Noordpolder Nigh

Scenes of the storyline

The friends make use of the opportunity to come by boat, entering the harbour of Noordpolderzijl from the sea side around noon (high tide). There they are welcomed by acoustic street music. For celebrating the beginning of their merry weekend they start with a proper lunch on the integrated picnic table alongside the quay. After that the friends want to explore their surroundings and decide to follow the Salt Marsh Experience Trail, enjoying some more 'street performances' on the way. They end up at the top floor of the Experience Center which functions as a lookout during the day and turns into a dark sky observatory by night. It's already late at night when the friends decide to end the day with some drinks and a swim in the sea sparkled water.

User profile

Meet our group of friends: the millennials, expert socializers who like to spend the weekend together. On this occasion on a boat in the harbour of Noordpolderzijl during the Noordpolder Night Festival. The leading idea of the festival is based on the fact that the area is free of light pollution. By means of the Noordpolder Night Festival groups that are involved in nature issues get a chance to create awareness for this unique phenomenon via the Dark Sky Park. Our group of friends looks forward to enjoy the music and performances by both actors and landscape.

Spatial translation

Although there is a harbour in the nowadays landscape, it appears quite desolate and has fallen out of favor after the shrimp fishers from the nearby village of Usquert found there shelter elsewhere. There is a tidal navigation channel that links the small harbour with its surroundings; the entrance to the original harbour basin is bricked of and doesn't invite for a pleasure stay. Replacing the fences with ditches, which will remove the visual borders and will prevent the livestock from wandering off, will contribute to a more inviting ambiance. As does the replacement of the cladding of the harbour by the same durable hard wood cladding as the entrance paths and the jetties *(Robinia pseudoacacia)*. The street lighting should be removed also because artificial light is detrimental to the desired atmosphere in a dark-sky park.

The Salt Marsh Experience Path makes use of the existing structure of the breakwaters. The widths of the crowns of the breakwaters are doubled to 0.6 m, and filled with locally available willow branches. Not all breakwaters are connected, so the possible routes vary depending on the tide. Wherever the connection is obstructed one can either cross a stretch of mudflat, turn around or use the in between stepping stones.
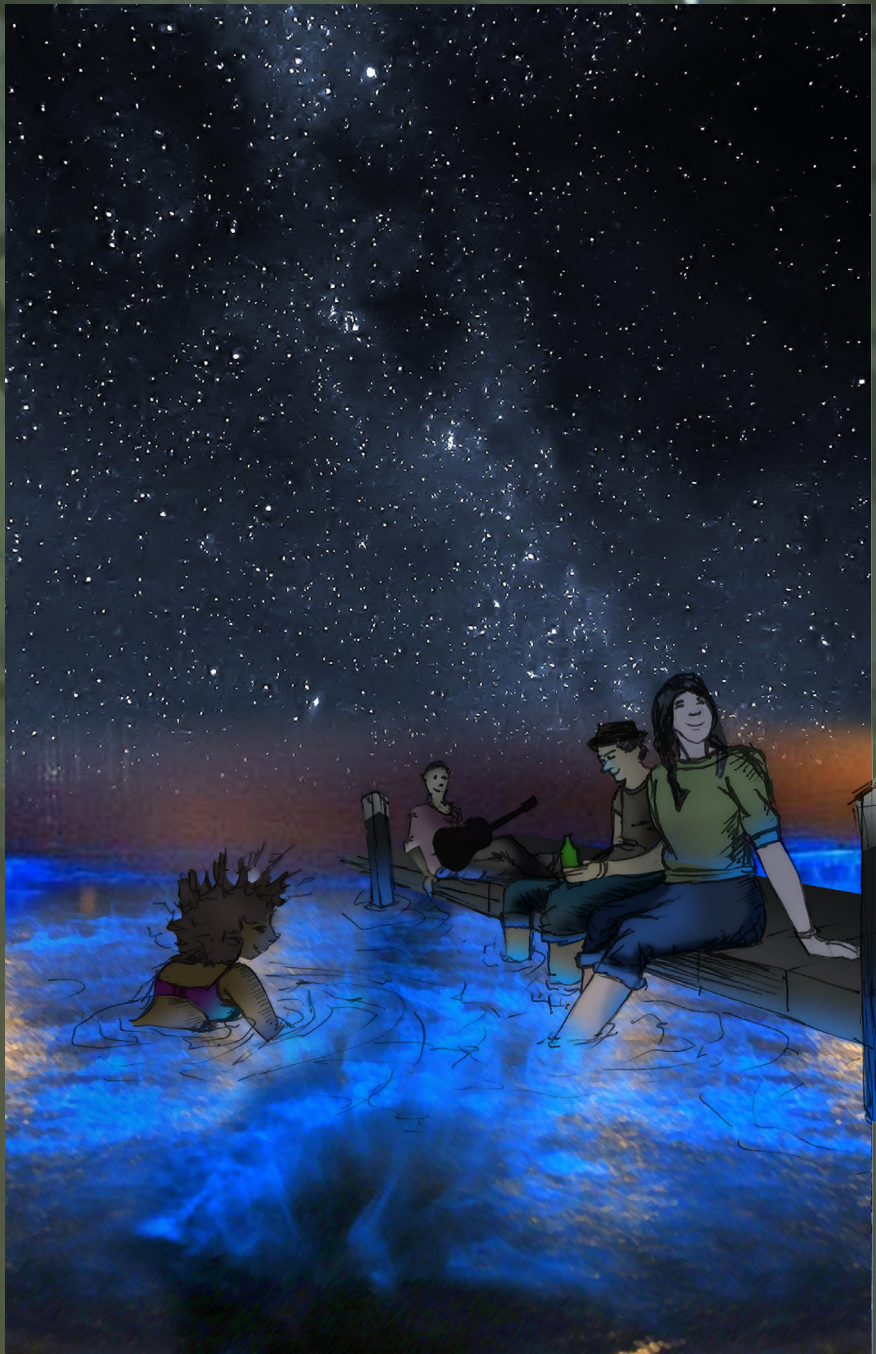
The top floor of the Experience Center acts a lookout during the day and as an observatory during night times. The absence of light pollution creates conditions that are unique for the Netherlands; conditions in which even small glimpses of northern light may become visible. The basin of the kayak/canoe station underneath also functions as a swimming pool. The contours of this tidal pool are only visible at ebb tide. At high tide this pool will be as big as the entire Wadden Sea. In august when the water is relatively warm light effects might occur due to the presence of the sea sparkle *(Noctiluca scintillans)*, thus offering circumstances for swimming in a glowing sea.

COMBINED SCENES OF THE STORYLINES

Combining the scenes of the storylines

The 3 narratives are independent of each other, but make use of the same site and (some of) the same facilities. Together the linear narratives create a non-linear platform on which new narratives may occur. In order to make the mentioned experiences possible some activities must be taken and a program of requirements must be extracted from the scenes of the storyline and the spatial translation of the 3 discussed narratives.

Implementing the 3 stories in the landscapes requires different types of elements. Just like the stories are interconnected, so do the elements on the list of requirements. Some of the requirements serve more than one storyline. For example, the observatory has a multifunctional function. Concentrating the program on a compact area reduces the impact on the landscape and offers a strong vocal point for visitors. Comparable elements in the program are the tidal pool and kayak/canoe facilities.
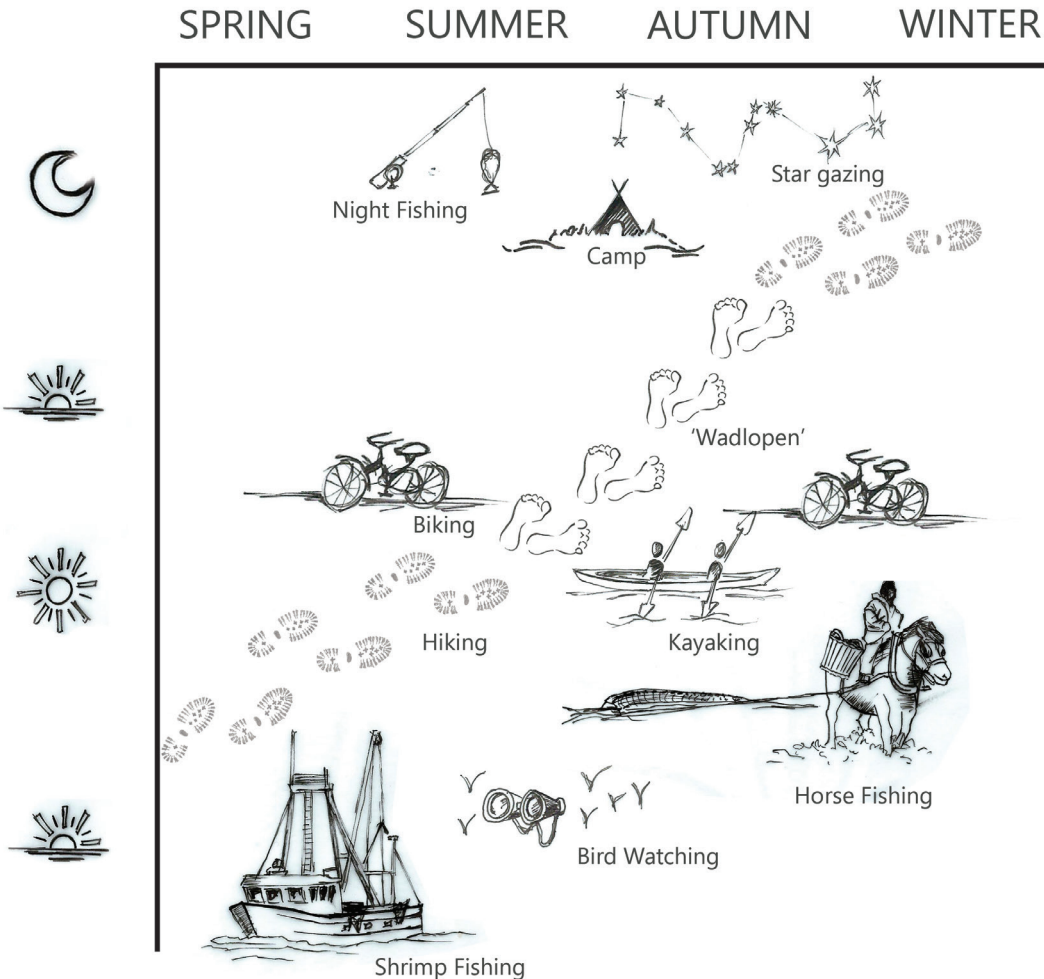
SPRING   SUMMER   AUTUMN   WINTER

Night Fishing

Star gazing

Camp

'Wadlopen'

Biking

Hiking

Kayaking

Horse Fishing

Bird Watching

Shrimp Fishing

	EDUCATION	SOLITUDE	COLLECTIVENESS
EXPERIENCE CENTRE	✓		✓
OBSERVATORY	✓		✓
THEATRE	✓		✓
INSTRUCTION ROOM	✓		✓
TIDAL POOL	✓		✓
SALT MARSH EXPERIENCE	✓	✓	✓
SURVIVAL HIKE		✓	
KAYAK STATION	✓	✓	✓
ENTRANCE ROUTES	✓		✓
HARBOUR		✓	✓
LOGISTICS	✓	✓	✓
SEA-CAMP-CABIN		✓	
PICNIC CONDITIONS	✓		✓

COMBINED SPATIAL TRANSLATION

These design typologies resulted in the following master plan and created an inter-connected platform for all 3 narratives. By doing this, the landscape becomes physically, mentally and socially accessible to the public and adds value and meaning to the place. Scale: Approximately 100 Hectare
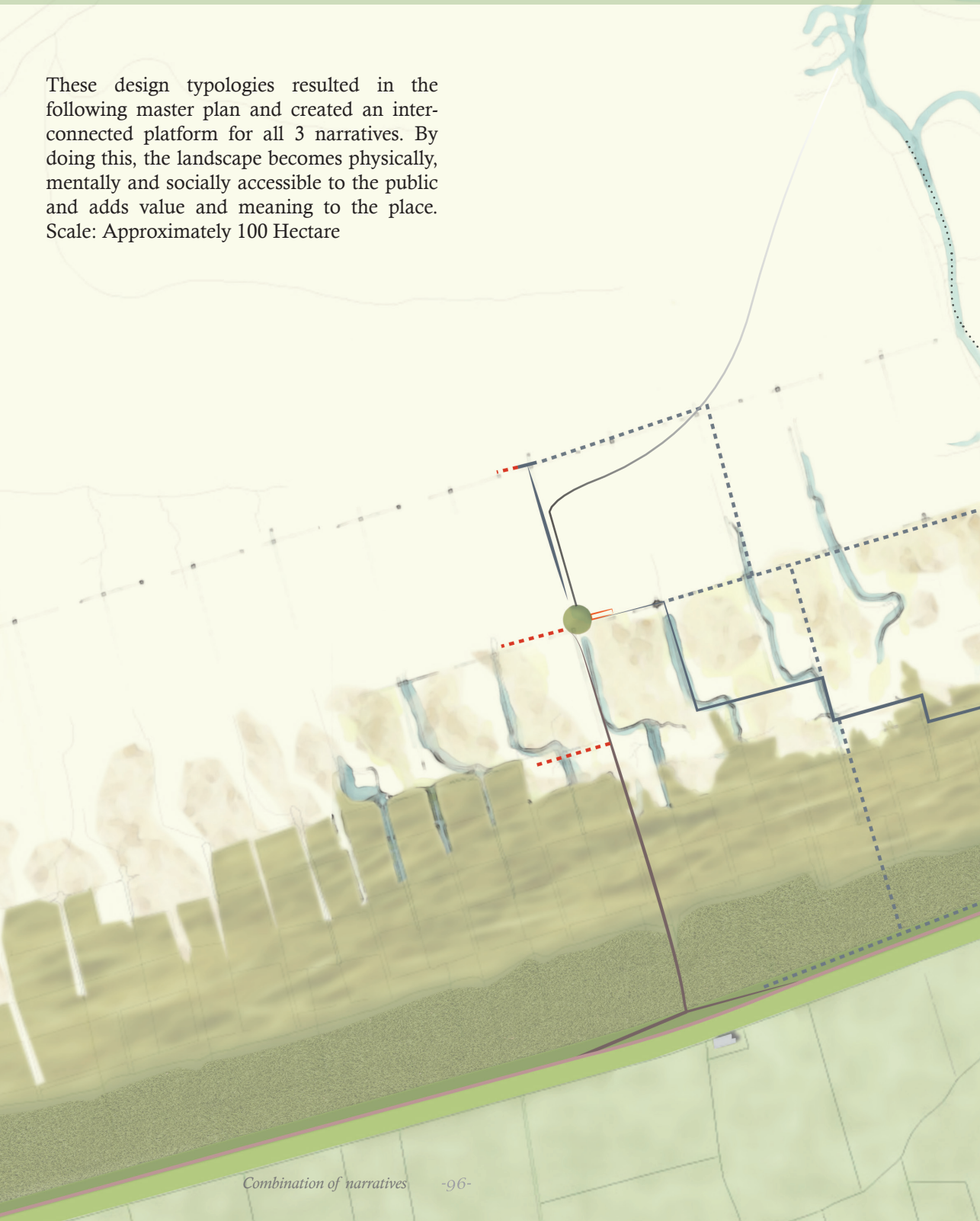
sea-camp-cabin
2km
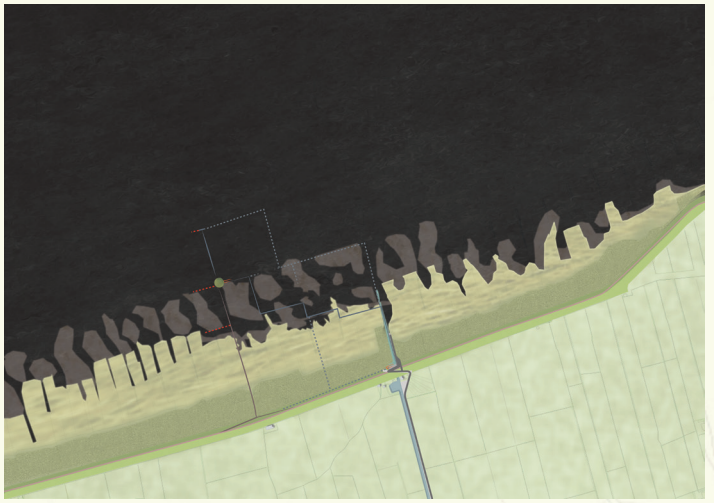
High tide

Pedestrian Entrance/
Family path

Experience walk/
collective experience

Towards Solitude

Experience centre/ Observatory

Kayak station

Motorized infrastructure

Supply and emergency route

200m

RELATIONS OF ATMOSPHERES

In order to provide the infrastructure that connects the main Experience Center to the storylines 5 different sets of design typologies for routing through the landscape were implemented; The Entrance Route, the Salt Marsh Experience Trail, the undisturbed Wild Natural Landscape Trail, the Navigation Channel and the Emergency & Supply Route. The degree of accessibility is related to the level of effort/difficulty and linked to the storylines.

The first route typology links the observatory with the dyke through a jetty system for pedestrians. Because the observatory must be accessible to everyone, the deck is 1.2 m wide. It is 0.3 m above average high tide. The jetty does not change along the way; in this way it brings a level of coherence in the broad landscape; its seemingly endlessness provides a certain amount of alienation.

The Salt Marsh Experience Path uses the existing structure of the breakwaters. Because the path is part of the educational and collective storyline, the route must be accessible to all able-bodied people. For this reason, the widths of the crowns of the breakwaters are doubled to 0.6 m, and filled with locally available willow branches. Not all breakwaters are connected, so the possible routes vary depending on the tide.
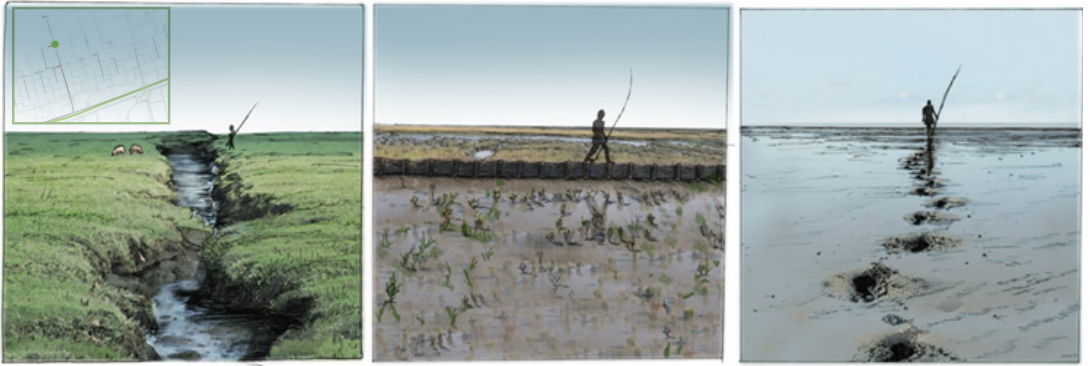
Solitude's storyline does not require any trails in the landscape because it would spoil the experience of finding a way in the landscape. By navigating between the dyke on one side and the sea on the other, it is impossible to get lost.

Another way to navigate through the rugged area, offering a completely different perspective, is by kayak or canoe. By adding a kayak station to the observatory, it is possible to paddle to the harbour or vice versa. Since the landscape is dominated by natural processes, this form of transport is only possible during high tides. A fact that contributes to the educational and the collective narrative.
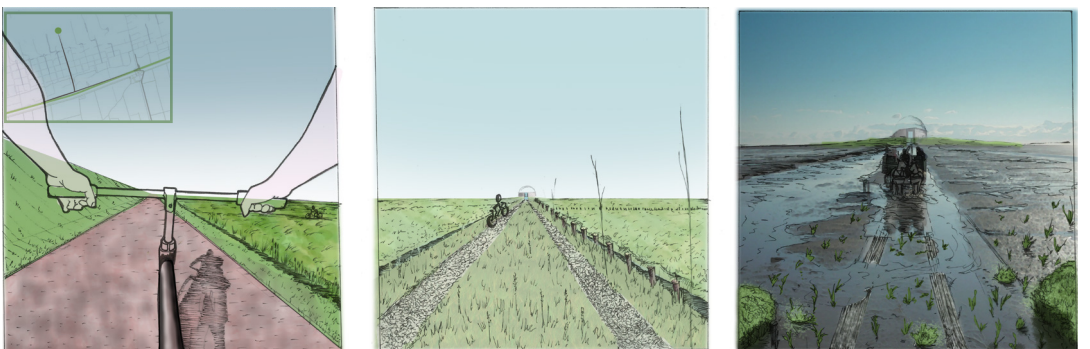
The observatory is designed to be off the grid, ie without supporting infrastructure. Yet it can't do without an emergency & supply route. This route, also accessible to bicycles, is 3 meters wide, built in a straight line perpendicular to the dyke. The track is reinforced with local mussel shells, so that a user experiences a crackling sound in the quiet landscape.

Salt marsh trail

+1: Entrance
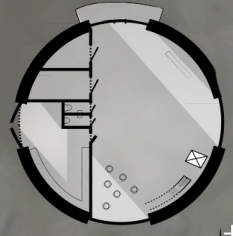
+6m

Tidal pool

Kayak station

Dwelling mount

+0 m

Supply Route

+2 : Visitors centre

+9,5 m

+3 Observatory

+13 m
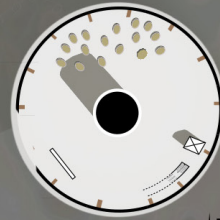
0   5 10 15 20 m

Detail the design

Pedestrian Entrance

The single spot in the landscape where all 3 storylines meet is the building construction in the salt marshes outside the sea dyke. The public visits this place for different purposes and on different moments in time. As the construction functions as a vocal point in the vast landscape the detailing of the design will focus on this place. The experience center/ lookout /observatory & kayak station is positioned on top of a modern terp structure, 1,2 km perpendicular to the dyke.

The 5 meter high terp consists of two semicircles. The form of the terp structure is derived from the hoof print of the extinct Irish elk *(Megaloceros giganteus)* that once wandered through these areas. The middle of the terp circle is kept open to the dynamics of the surroundings.
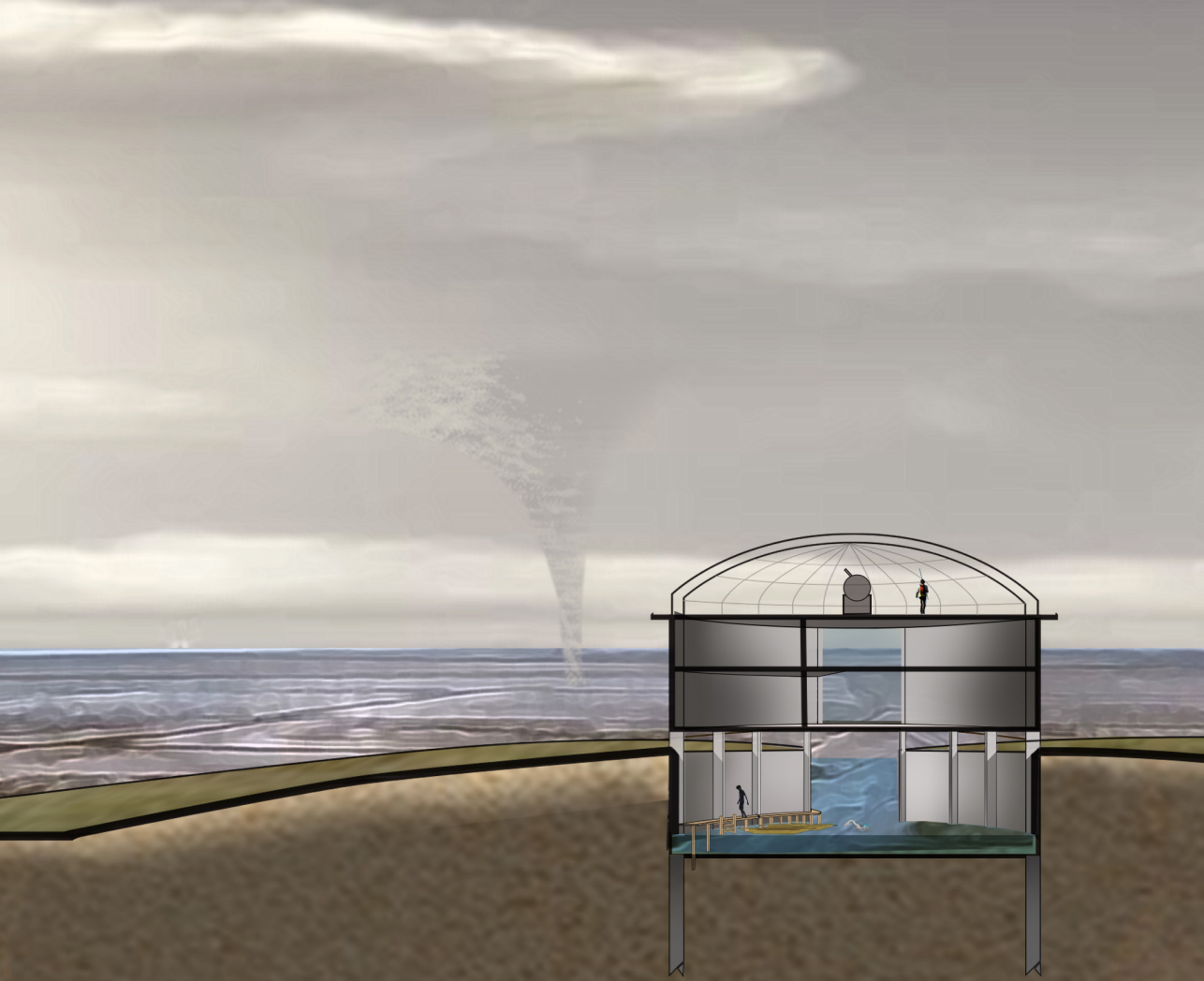
A vocal point in the landscape stimulates curiosity, invites for a visit and -after gathering more information- feeds the appetite for the rest. As described in the relation of atmospheres, there are multiple ways to access the observatory, but not all routes are accessible the whole day around.

The middle of the terp circle is kept open to the dynamics of the surroundings. The inside of the circle is deepened to 1,2 meter below average sea level, thus creating conditions for a kayak station and a tidal pool under the experience center. The lower floor of the experience center is 1 meter above the terp structure so light can reach the kayak station and normal high water peaks will not flood the building. Information, exposition, preparation of local food and instruction take place on the first two floors. The top floor is in use as a lookout during the day. Its position on the borderline between mid salt marshes and the mudflats gives a good sight of the old cultural layer; like watching the area from a birds-eye-view. Standing on top of the sea dyke the average eye-level, 13.0m above mean sea level, is on the same height as the floor observatory, making the glass dome only just visible under good weather conditions.During the night the dome acts as an observatory of the Dark Sky Park.

Scale bar:

0   5   10   15   20 m

+13m MSL

+6m MSL

+0m MSL

MSL

5m

7m

1m

13m

13m

18m

5m

1.2m

15m

5m

20m

90m
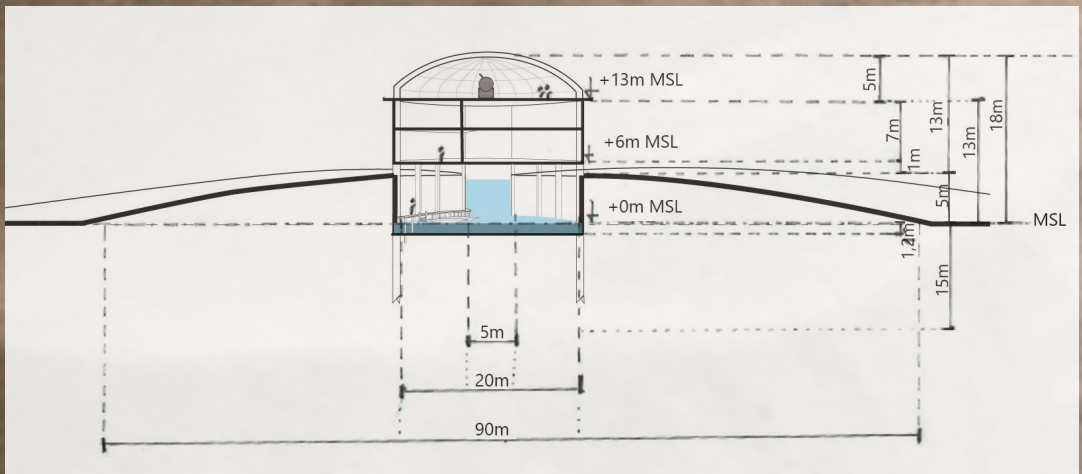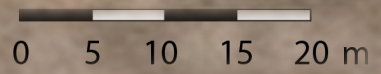
Experience center / observatory
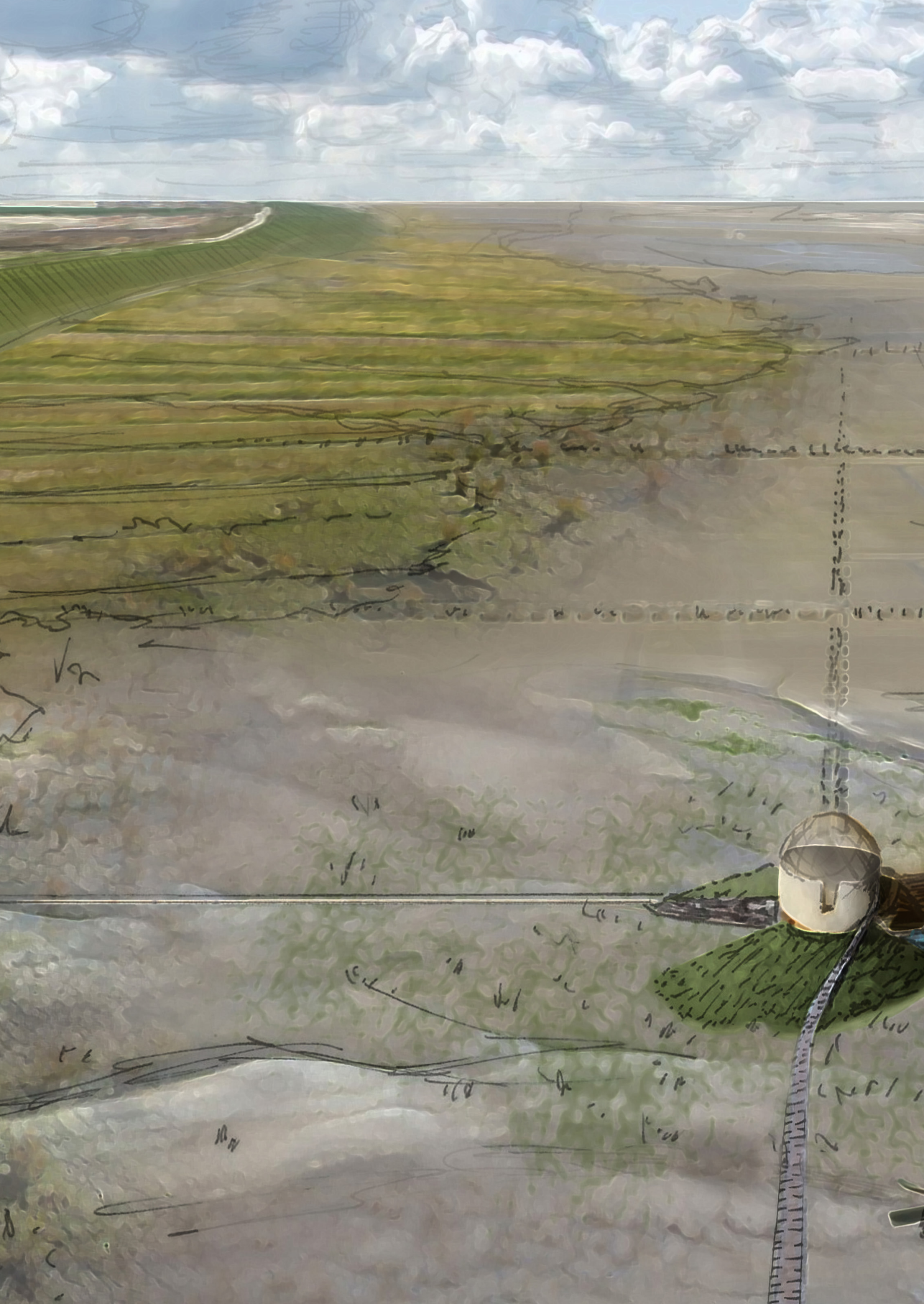
FRAMEWORK FOR LANDSCAPE NARRATIVES

ANALYSE

Frame the existing
- **Desk Analysis:** Determine the key patterns and driving forces by answering the questions: Who, What, Why, When, Where?
- **Field Analysis:** What do you see, hear, smell, taste and feel at the site? How do these impressions influence you when you walk through the area?

Define your goal
- Define your goal based on the conclusion in step one.
- Relate your goal to a type of Landscape narrative.
- Start building up the narrative: Which/Who's Story? Why?

FRAME

Type of intervention
- Define the location of the narrative.
- Define the goal of intervention: Restore, Preserve or Create?

CREATE
PRESERVE
RESTORE

Scale of intervention
- Define the scale and the focus of representation of time (Point, Sequence or Continuous Narrative)
- Describe what this choice will mean for the design of the desired narrative, the degree of control you have and which (interactive) role the future visitor will play?

Frame your narratives
- Conclude from analysis: Summarize type, goal and representation
- Built up your narrative

CONSTRUCT

Scenes of the storylines
- Bring your narrative into a storyline.
- Break the storyline up into scenes.
- Define title and desired goal for every scene.

Spatial translation
Note for every scene:
- Title, Theme, Location, Position in the Narrative, Goal, Target group, possible use and routings.
- Ways to achieve this in terms of: Composition, Open/Closed, Sound, Smell, Balance,Touch, Movement, Dynamics

Relation of atmospheres
Design the borders and relations of the scene in terms of:
- Composition
- Sequence/overlap
- Transition
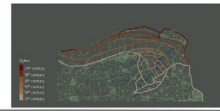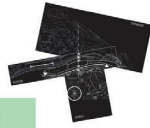Conclude with an overview of the complete design.

DETAIL

Test your narratives
- Check and adjust until the individual scenes and their coherence match with the starting point.
- Design the Narrative.

Detail the design
- Detail the design in terms of materialisation.
- Keep in mind who's/what story it is and who will be the audience. The details may effect the cues in the landscape and how it influences the senses/experiences.
- Consider the effect of the design under different conditions and time.

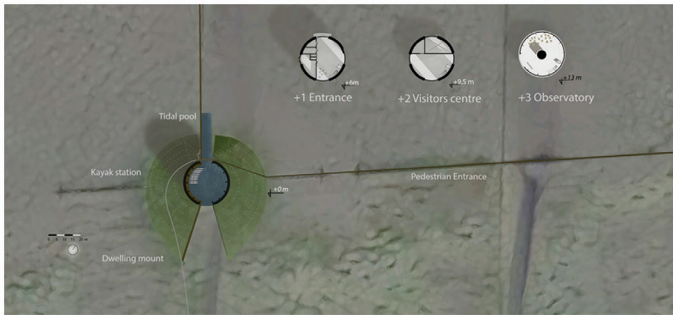Make *How to reach the goal* the subject of a brainstorm session .... find 3-10 alternatives
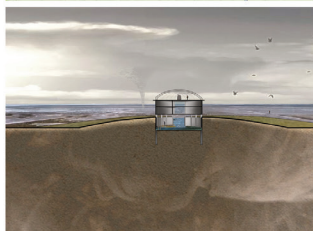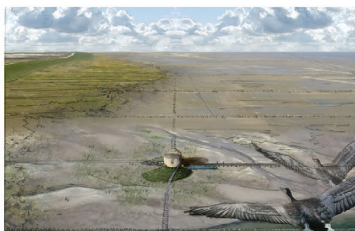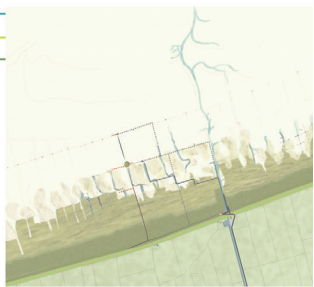
An experience narrative

Telling new and forgotten stories from the existing landscape. Perserve the landscape, Create new narratives
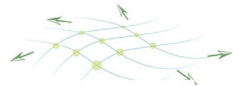
Education
Collectiveness
Solitude

	EDUCATION	SOLITUDE	COLLECTIVENESS
EXPERIENCE CENTRE	✓		✓
OBSERVATORY	✓		✓
THEATRE	✓		✓
INSTRUCTION ROOM	✓		✓
TIDAL POOL	✓		✓
SALT MARSH EXPERIENCE		✓	✓
SURVIVAL HIKE		✓	
KAYAK ROUTE	✓		✓
ENTRACE ROUTES	✓		✓
LOGISTICS			

+1 Entrance   +2 Visitors centre   +3 Observatory

Tidal pool
Kayak station
Dwelling mount
Pedestrian Entrance
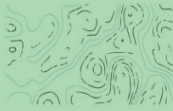
Related to the method

Does the design meet the needs which were derived from the analysis and the earlier framing of the narratives? The following matrix mirrors the design to the method. Working through the different phases of the methodological framework the landscape narratives have been shaped as a result of the conclusions of the analysis of the framing of the existing in combination with the creation of different user profiles. The formulation of the framing of the narrative was derived from the purpose, type and scale of intervention. Next in line on the design path is the definition of the scenes of the storyline, followed by the spatial translation. These are formulated for the three narratives separately. The unified masterplan doesn't change the spatial translations of the individual narratives and is therefore in line with the original concepts. The further specifications of the design typologies of the relation of atmospheres and the detailing of the design focuses on the main theme of emphasizing on experiencing, revealing the landscape and making it tangible for the human scale.

Implementing the 3 stories in the landscapes requires different types of elements. Just as the stories are interconnected, so do the elements on the list of requirements. Some of the requirements serve more than one storyline. For example, the observatory has a multifunctional use. Concentrating the program on a compact area reduces the impact on the landscape, but offers a vocal point for visitors. Other elements in the program are a tide pool and kayak facilities.

|	Frame the existing	Define your purposes	Type of intervention	Scale of intervention	Frame your narratives
			CREATE / PRESERVE / RESTORE	OR/AND OR/AND	— +
1	The area outside the dykes is missing the basics to stay for longer time. Opportunities for new mobilities may increase the experiene.	**Experience narrative** Emphasize on the experience of the present elements. Extend the possible duration of stay gives opportunities for new experience.	**Create** new storyline by subtle interventions in the existing landscape	Linear	**Solitude** Emphasize on the experience of the present elements. Being with/in/a part of the environmentin a full circle of day and night.
2	Entering the area by car, visitors are restricted to the view from the dyke. There is no opportunity to explore & understand the landscape from a closer perspective.	**Storytelling narrative** Providing tools and opportunities to explore & understand the events and processes of the past, present & future landscape.	**Restore** past cultural traditions **Create** platform to lear about present and future scenarios **Preserve** cultural layer	Linear / NON-LINEAR	**Education** Explore and understand the wild natural landscape. Learning about past, present & future proccesses and events
3	Coming by boat gives a insight of the landscape. The movements from the harbour quay is restricted by fences that are positioned all around. The sky is exceptionally dark at night.	**Genre narrative** Making the landscape suitable for collective experiences focussed on a theme unique for the environment of Noordpolderzijl.	**Create** cosy places in the vastness. Places for magical moments.	Linear	**Collectiveness** Enjoy & share special dark sky experiences on the **Noordpolder Night Festival**

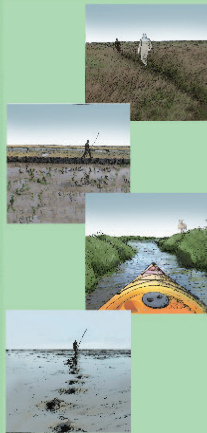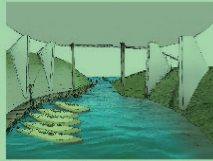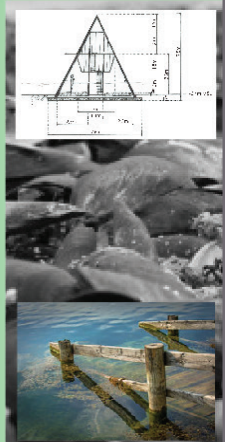| Scenes of the storyline	Spatial translation	Relation of atmospheres	Test your narratives	Detail the design
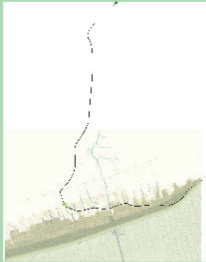
-Kayak route
-Camp

The landscape can be experienced in a different way by adding a new type of mobility. The dynamics become visible by lengthening the duration of the stay.

-Parking
-Experience centre
-saltmarsch trail
-sunset side

The combination of a salt marsh hike with an experience centre/obersvatorium provides conditions for new understanding of the landscape.
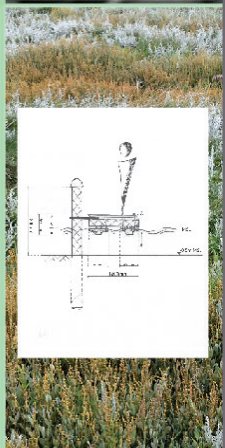
-multiple spots
-picnick
-observatorium
-night swimmning
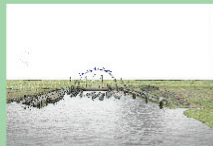
The interventions done in line with the Noordpolderzijl Night festival gives opportunities for shared experience the whole year around.
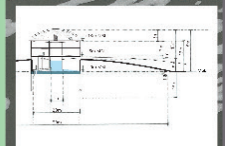
CONCLUSIONS

Conclusion, Discussion & Recommendation

regarding the methodological framework and the project

CONCLUSION, DISCUSSION & RECOMMENDATIONS

In a continuous narrative, the series of experiences has a non-linear atmosphere, giving the visitor the opportunity to write/read his/her own chronological story in the landscape based on interpretation and perception. Landscape narratives have capacities that can be compared with bounded vectors in mathematics, both exhibit their complex structure by size (force), direction and point of engagement. The route in the landscape offers the possibility to bring complex layered systems back to a causal narrative. It is possible to make a design for several sequences and routes that cross the same site, with the aim of making each of those walks the source of different sets of narratives.

The Landscape Narrative approach is an interesting design tool that seems to have a great potential. Depending on the purpose and type of narrative, a framework can be formed. By answering the questions on the method one by one, the framework fills up with details for the intended narrative. This approach gives the designer information about the spatial translation of the narrative; the amount of interaction, freedom of choice, desired spheres, routes and sequences. On the basis of this method, (vague) stories in specific architectural compositions get detailed with the implementation of the discussed design elements.

The translation of this information into a tangible design is open to the interpretation of the designer. There are roughly three types of interpretation; Reveal, Merge, Contrast. Revealing, reveals underlaying layers in the landscape that where not visible before. An example of the revealing approach is the project of the cut through Bunker 599, by RAAAF, Culemborg. The cut through the buildings reveals the design philosophy behind the constructrion which otherwise stays hidden. Merging the design with the context is the second approach of interpretation. The Mozesbrug (the moses bridge), designed by RO&AD architects in Halsteren is an example of a design that merges perfectly with the surrounding water level. Thirdly Contrast can be used as an approach for spatial translation of the narrative. An example of contract with the surrounding landscape is the bridge called 'The Elastic Perspective' in Barendrecht, by NEXT Architects.

Example of an revealing interpretation: Bunker 599, by RAAAF, Culemborg.

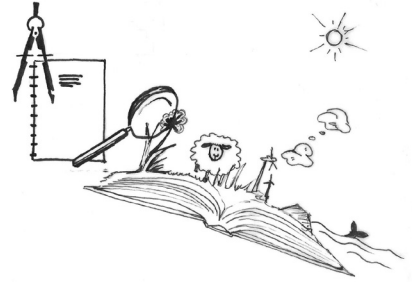*Retrieved from: raaaf.nl, 15-01-2018*

Example of an merging interpretation: Moses Bridge, by RO&AD Architects Halsteren.
Retrieved from: ro-ad.org, 15-01-2018

Example of an merging interpretation: The Elastic Perspective, by NEXT Architects, Barendrecht.
Retrieved from: nextarchitects.com, 15-01-2018

Designing with narratives gives new opportunities. Landscape Narrative Design can take the lead, create conditions for new opportunities and stories and also respond to unavoidable future uncertainties, instead of playing a trend-following role. Until this day a design technique regarding the implementation of landscape narratives was non-existent. Given the potential, this discipline certainly requires further research and development.

After the limited amount of available literature on landscape narratives was scrutinized and the field of study and the goal of the exercise were determined, a preliminary methodology on the subject was set up. During the research a method was developed. This method proved to be a useful tool during a 1-day-workshop for master students Landscape Architecture where students were asked to use the method in order to build their own set of narratives. The majority of the students mentioned afterwards that the method had been a help when formulating conditions, purposes, concepts and structure. Only a few felt restricted (they weren't asked whether this was caused by the inhibiting aspect of obligation). Although testing the method on a self-made design might sound a bit like having a butcher inspecting the quality of his own meat, mention must be made that the method proved its service also here by bringing structure in the design.

The approach to the development of a methodology in the context of a master's project Landscape Architecture might be unconventional, because it is not primarily aimed at designs. Nevertheless, the most cautious conclusion can be drawn that the exercise resulted in an instrument of practical value, since the method discussed here indeed proved to be applicable as a useful tool during the architectural design process of wild landscapes.

Because each landscape consists of a complex system with multiple layered narratives, narratives can be an important tool for creating the sense of place. Narratives tell about heroic events, about past battles, about the struggle of man with his natural environment, about epic failures etc. It seems worthwhile to investigate whether a standardized methodology for integrating landscape narratives into the design process could be a useful tool in the development of landscapes in general, because in this study most of the attention was paid to a fairly specific type of wild landscape.

REFERENCES

Baaijens, A., sept 2017. *Paradijs in de polder*. [Sound Recording] (Vroege Vogels).

Bell, S., 1999. *Landscape. Pattern, Perceprion and Process*. London: ESFN Spon.

Bos, H., 2011. *De Groninger zeedijk: een landschapselement op de grens van water en land.* Groningen: Rijksuniversiteit Groningen.

CBS, juni 2017. *Lengte en gewicht van personen.* [Online]
Available at: http://statline.cbs.nl/StatWeb/publication/?DM=SLNL&PA=81565NED [Accessed 24 October 2017].

Chatman, S., 1978. *Story and discourse - Narrative structure in fiction and film*. Ithaca and London: Cornell University Press.

Common Wadden Sea Secretariat, 2005. *Migratory Waterbirds in the Wadden Sea 1980 - 2000*, Wilhelmshaven, DE: Common Wadden Sea Secretariat.

Corboz, A., 1983. The land as palimpsest. *Sage Journals*, 31(121), pp. 12-34.

Corner, J., 1999. Recovering Landscape as a Critical Cultural Practice. In: *Recovering Landscapes*. New York: Princeton Architectural Press, pp. 1-25.

Corner, J., 1999. The agency of mapping. In: *Mappings*. London: Reaction Books, pp. 213-252.

The Cultural Landscape Foundation. [Online]
Available at: https://tclf.org/pioneer/lawrence-halprin [Accessed 17 November 2017].

Dee, C., 2004. Critical visual studies in landscape architecture. In: *Critical visual studies in landscape architecture; contexts, foundations and approaches*. s.l.:s.n., pp. 13-30.

Gibson, J., 1954. The visual perception of objective motion and subjective movement. *Psychological Review*, 61(5), pp. 304-314.

Granö, J., 1929. Reine Geographie, Ein methodologische Studie beleuchtet mit Beispielen aus Finnland und Estland.. *Acta Geographica* 2 (2), 2(2), p. 202.

Halprin, L., 1963. *Cities*. Cambridge: The MIT Press.

Havik, K., 2012. *Urban Literacy - A Scriptive Approach to the Experience, Use, and Imagination of Place.* Delft: TU Delft.

Jacobs, M., 2006. *The production of mindscapes.* Wageningen: Wageningen University.

Jacobs, M., 2011. Psychology of the visual landscape. *Research in Urbanism Series*, 2(1), pp. 41-54.

Kaplan, R. & Kaplan, S., 1989. *The Experience of nature*. USA: Cambridge University Press.

Kaplan, R., Kaplan, S. & Ryan, R. L., 1998. *With People in Mind*. Washington: Island Press.

Kerkstra, K., Vroom, M. J. & and Ettema, M., 2003. *The landscape of symbols: landschap van symbolen.* Wageningen: Blauwdruk.

Lassus, B., 1998. *The Landscape Approach*, Philadelphia, PA: University of Pennsylvania Press.

Leach, E., 1976. *Culture and communication*. USA: Cambridge University.

Lund, K., 2012. Landscapes and Narratives: Compositions and the Walking Body. *Landscape Research*, 37(2), pp. 225-237.

Meyer, J. & Nijhuis, S., 2016. Designing for Different Dynamics: The Search for a New Practice of Planning and Design in the Dutch Delta. In: *Complexity, Cognition, Urban Planning and Design.* Switzerland: Springer, pp. 293-311.

Nijhuis, S., 2015. *GIS-based landscape design research - Stourhead landscape garden as a case study,* Delft: TU Delft.

Nijhuis, S., van Lammeren, R. & Antrop, M., 2011. *Exploring the visual landscape. An introduction.* In: Delft: TU Delft, pp. 15-39.

Potteiger, M. & Purinton, J., 1998. *Landscape Narratives*, USA: John Wiley & Sons.

Powers of 10. 1977. [Film] Directed by IBM. s.l.: s.n.

Prominski, M., 2015. Designing Landscapes as evolutionary systems. *The Design Journal*, 8(3), pp. 25-34.

Rijkswaterstaat, 2018. *Getijdentabel*. [Online]
Available at: https://waterberichtgeving.rws.nl/water-en-weer/dataleveringen/astronomisch-getij/astro-2018
[Accessed 28 December 2017].

Száanto, C., 2010. A graphical analysis of Versailles garden promenades. *JoLA Spring* , p. 56.

TU Delft, 2017. *TU Delft, Master track, Landscape Architecture.* [Online]
Available at: https://www.tudelft.nl/onderwijs/.../landscape-architecture/ [Accessed 18 November 2017].

van Dooren, E. et al., 2014. Making explicit in design education: Generic elements in the design process. *International Journal of Technology and Design Education*, 24(1), pp. 53-71.

Veldhuis, S., 2017. *Music by Oceans*. Utrecht, Utrecht University.

von Laban, R., 1928. *Schrifttanz Labantation*, s.l.: https://www.britannica.com/topic/dance-notation.

Waddenacademie, 2017. *Hoe Rijk zijn de wadden?.* Lauwersmeer, Waddenacademie.

wikipedia, 2017. *Rhizome Philosophy*. [Online]
Available at: https://en.wikipedia.org/wiki/Rhizome_(philosophy) [Accessed 17 November 2017].

Wit, S. de, 2014. *Hidden Landscapes, the metropolitan garden and the genius loci* (new chapter), Delft: TU Delft.