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Abstract :

The main focus for this master thesis project is to examine how nature affects human senses and how the natural darkness supports our wellbeing. Therefore I will be doing experiments with dark as a natural phenomenon and study how light can support the experience of this.

In the first part of the thesis I will create a textile art installation which will form "artificial nature" staged with light, darkness and movement. In this context I will perform a test to understand more about how our senses react on an indoor natural environment in light and darkness.

In the second part I will use my discoveries bringing them into a "real" natural space examining how a "sensing body" moves around in the dark nature (outdoor). Several sources mention that there is a great problem with light pollution in the modern society. Light pollution disturbs our animal life and also our ability to sleep and rest. This problem is also a motivation for the second part of my thesis, which is to create a "dark route" in a dark natural environment.

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TABLE OF CONTENT :

1 INTRODUCTION

1.1 PROJECT BACKGROUND.....	01
1.2 METHOD.....	01
1.3 MOTIVATION.....	04

2 PRE ANALYSIS

2.1 VISION.....	05
2.2 INVESTIGATIONS.....	05
2.3 RESEARCH QUESTION.....	06
2.4 THEORY.....	07

DIFFERENT PROCESSES FOR THESIS PART 1 AND 2.....	20
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3 ANALYSIS

3.1 CONCLUDING ON THEORY	
3.2 DEFFINE CHALLANGES AND GOALS	

4 TRANSFORMATION

4.1 PROBLEM STATEMENT = HYPOTHESIS	
4.2 CRITERIA	

5 DESIGN CONCEPT

5.1 INSPIRATION AND BRAINSTORM	
5.2 DESIGN CONCEPT	

6 TEST

6.1 CHOOSE METHOD	
6.2 PRE TEST	
6.3 TEST	
6.4 ANALYZE TEST RESULT	

7 CONCLUSION

7.1 EVALUATE FOR FURTHER DEVELOPMENT	
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9 REFERENCES

10 APPENDIX

1. INTRODUCTION

1.1 PROJECT BACKGROUND

This report is developed as a one year thesis for the Lighting Design master program at Aalborg University Copenhagen by Anna Rosa Hiort-Lorenzen. It summarizes activities and results created in the period of time spanning from January 2018 to december 2018.

I have a background as a textile designer and before I started my study at Aalborg University, I was doing a line of works with textile, light and darkness.

In my thesis I aim to continue this path creating two project which are build upon a row of experiments and artworks with textile, fluorescent medias, light and darkness.

The two greatest art exhibitions I have created in this line is : POSPHOROS – The magical nature from 2015 and “Old Age” which is a part of experimentarium’s tunnel of senses, from 2017.

With my thesis I want to examen how nature effect human senses and how the natural darkness support our wellbeing. Therefore I will be doing experiments with darkness as a natural phenomenon and study how light can support the experience of darkness.

Professionals working in the field of light, point out a great problem with light pollution in the modern society. Light pollution disturb our animal life and also our ability to sleep and rest. This problem is also a motivation for the second part of my thesis.

My thesis are split in two different projects which I call Thesis part 1 and Thesis part 2.

Thesis part 1 is a indoor art installation and thesis part 2 an outdoor art installation.

In the first part of the thesis I will create a textile art installation which will form a kind of ”artificial nature” staged with light, darkness and movement (indoor) In this context I will perform a test to understand more about how our senses react on a natural environment in light and darkness.

In thesis part 2 I will use my discoveries from thesis part 1, bringing them into a ”real” natural space examining how a ”sensing body” moves around in the dark nature (outdoor).

1.2 METHOD

Based on the nature of this project the thesis is approached as a design based project, the method is to follow the flow of collecting knowledge, exploring knowledge through tests and thereby be able to develop knowledge to integrate in the design process to create the right design.

The flow of the method will be shown through this report, which I will be handing in by december 2018

During my thesis I will be working with quantitative and qualitative methods.

Based on knowledge from my research I will create a design but based on tests of the design I will gain knowledge about the users wellbeing and thereby realize if the design is successful.

In thesis part 1 I will use the method of qualitative interviews where I will be using several test persons. In thesis part 2 I will use my self as an instrument observing the atmosphere and phenomenological methodology.

To make sure that the interviews I will be doing are actually valid as research I will be analyzing them according to Steinar Kvale and Svend Brinkmann (*Kvale and Brinkmann – 2015*) And to be sure about how to conduct a test, with my self as a test person, I will look into theory of James Spradley's descriptive observations.

The results I find with the interviews for theses part 1 will also be a part of the the theory for thesis part 2.

James Spradley writes about descriptive observations :

"You will make descriptive observations when ever you look at a social situation and try to record as much as possible. It means approaching the activity in process with out any particular question in mind, but only a general question - what is going on here?" (Spradley, J – 1980 p.72)

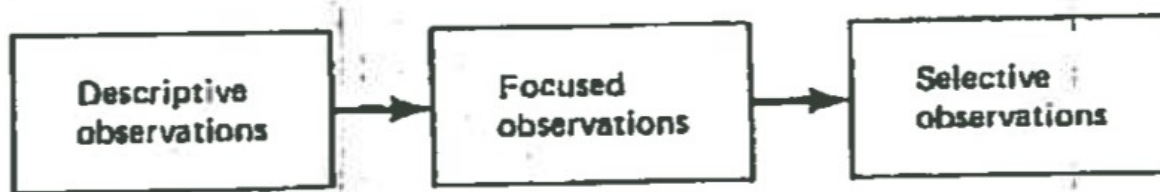


Illustration from descriptive observations

My thesis projects are related to the senses, therefore I find it very relevant to use the qualitative interview as a tool for analyzing test results.

I also find it interesting that the the qualitative interview has its roots in phenomology and is based on theory from philosophers as Edmund Hussel, Martin Heidegger and later Merleau-ponty.

In the book "Interview" Steinar Kvale and Svend Brinkmann describe how the qualitative interview is used :

"The qualitative interview encourages the subjects to describe as accurately as possible what they experience and feel and how they act. Focusing on nuanced descriptions depicting qualitative diversity, the many differences between species of a phenomenon, rather than ending with fixed categorizations. The question why the subjects are experiencing and acting is primarily the researcher's task to evaluate (Kvale and Brinkmann – 2015 p.51) "

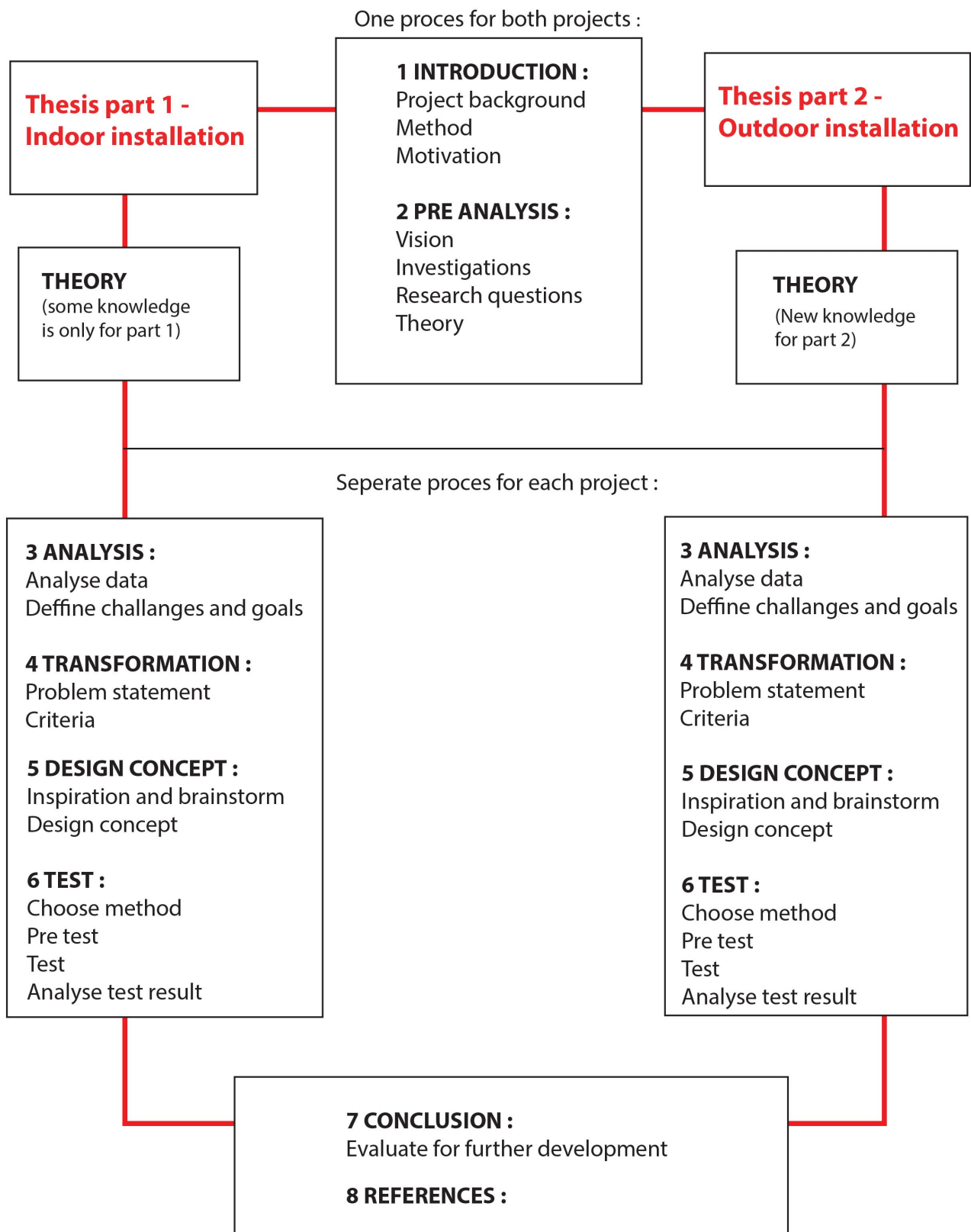
"The qualitative interview can be seen as a realization of Merleau-Ponty's program for a phenomenal science based on the primary experience of the world", (Kvale and Brinkmann – 2015 p.50)

"It is about describing the given as accurately and completely as possible. To describe rather than explain or analyze"

The qualitative interview seeks knowledge expressed in normal language. It does not strive for quantification. The interview seeks nuanced statements for various aspects of the interviewed life world (Kvale and Brinkmann – 2015 p.49)

To get an overview of the introduction and process for thesis part 1 and 2, I have made ill.1 the diagram below :

DIAGRAM FOR THESIS PROJECTS PART 1 + 2



1.3 MOTIVATION

My personal motivation for taking on this project is two folded. First I wish to examine our wellbeing in the sense of the stress related culture we have created for our society. But in the second part of the project I also wish to address the phenomenon of light pollution, which professionals in the field of lighting design, believe bring damage to human and animal health. (Arup, 2015 - p. 11)

The biggest challenge we face today is the explosive epidemic of mental illness that has hit the western world. Mental diseases such as stress, anxiety and depression account for about 50% of all western diseases, and society is the most expensive disease group of all.

It is well known and discussed that nature has a great effect on human senses. A stay in the nature should be the best medicine against stress related illnesses. Now a days staying in nature is even written on receipt and is said to calm us down and awaken our senses. (Kaplan, 1995 -p.169)

Also nature therapy is a discussed topic which describes the practice that combines a range of exercises and tasks in an outdoor environment. There appear to be various definitions of what nature therapy comprises. Garden therapy, horticultural therapy, Forest bathing or even ocean therapy may be viewed as forms of nature therapy. (Grahn, P 2010 – p.120)

In my thesis I aim to investigate if I can create two art installations which will stimulate the senses and create a non-stressful effect.

The philosopher Merleau-ponty said : *“the body meets the world before the mind”*

Most people use their vision as the main sense and forget the other senses.

In my thesis I wish to downplay the vision and thereby create a space where we have to feel our body and use our focus and attention.

“The darkness make space for reflection and doesn't have any shape, it is free, without words”
(Roepstorff, 2017 - Artwork)

In the second part of my project I will use the knowledge gained from the first part of the project to create an outdoor light installation which will support the darkness and the nature and at the same time fight the problem of light-pollution. Further more the design shall also support a non-stressful environment where the user will recharge their senses and relax, as in part one.

2. PRE ANALYSIS

2.1 VISIONS

Part 1 :

- imagine if I can create a indoor art-installation with textile, movement, light and darkness which is a “sensitive landscape” that will make the user fully aware of their senses and thereby prevent stress -

Part 2 :

- imagine if I can create an outdoor light-installation with nature, light and darkness which is a “sensitive walking path” that will make the user fully aware of their senses and thereby prevent stress -

2.2 INVESTIGATIONS

To get an overview of the project and where to gain knowledge I have made ill.(2) showing my visions and 3 areas of knowledge (designs scoops) which I will examen.

1) The nature

I will examen how the nature effect the human body, mind and health and how to create a natural atmosphere which will support human health

2) Light and darkness

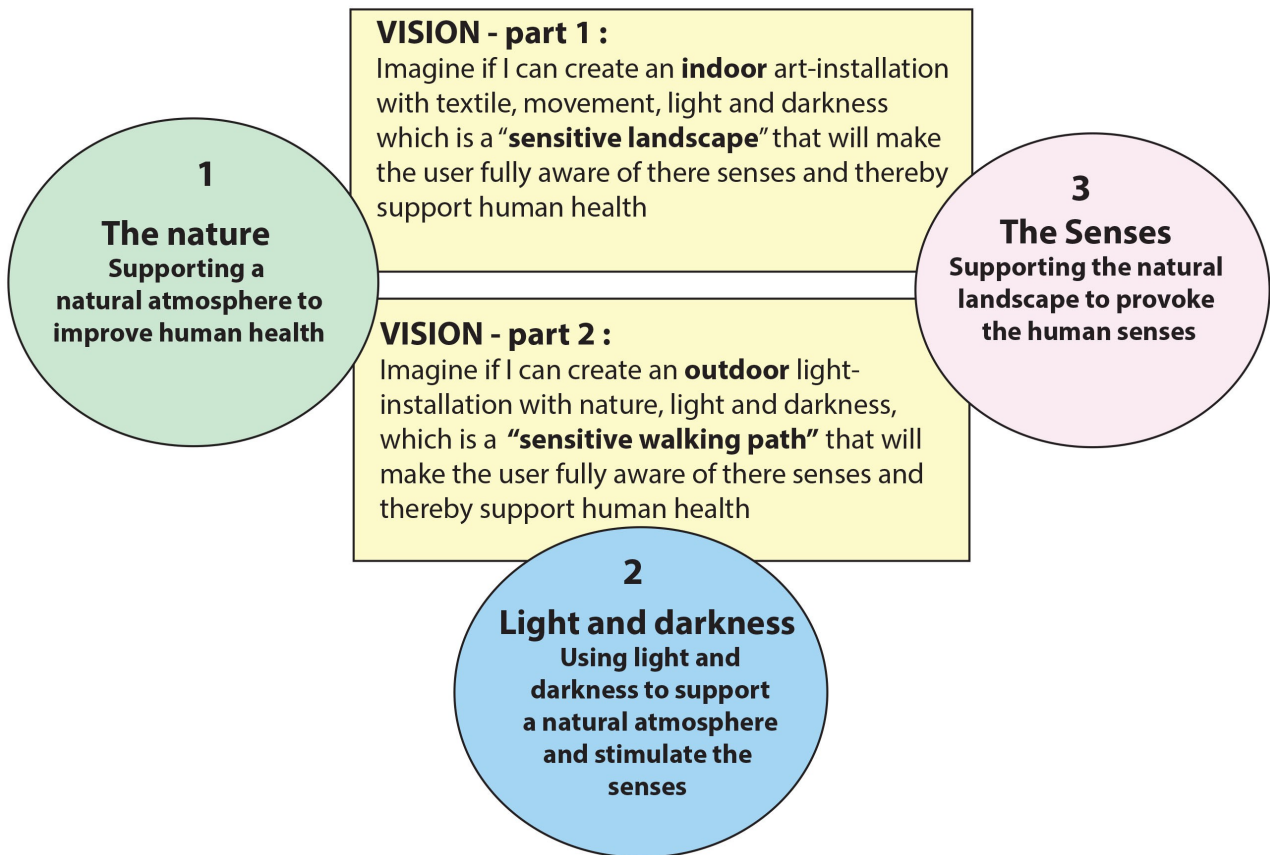
I want to examen how light and darkness can support a natural feeling and, at the same time, provoke the human senses. I also wish to gather knowledge about the darkness as a phenomenon

3) The senses

I want to examen how the human senses works and thereby gain knowledge to know how to stimulate and provoke them, in a design.

ill. 2

3 scopes of knowledge :



2.3 RESEARCH QUESTIONS

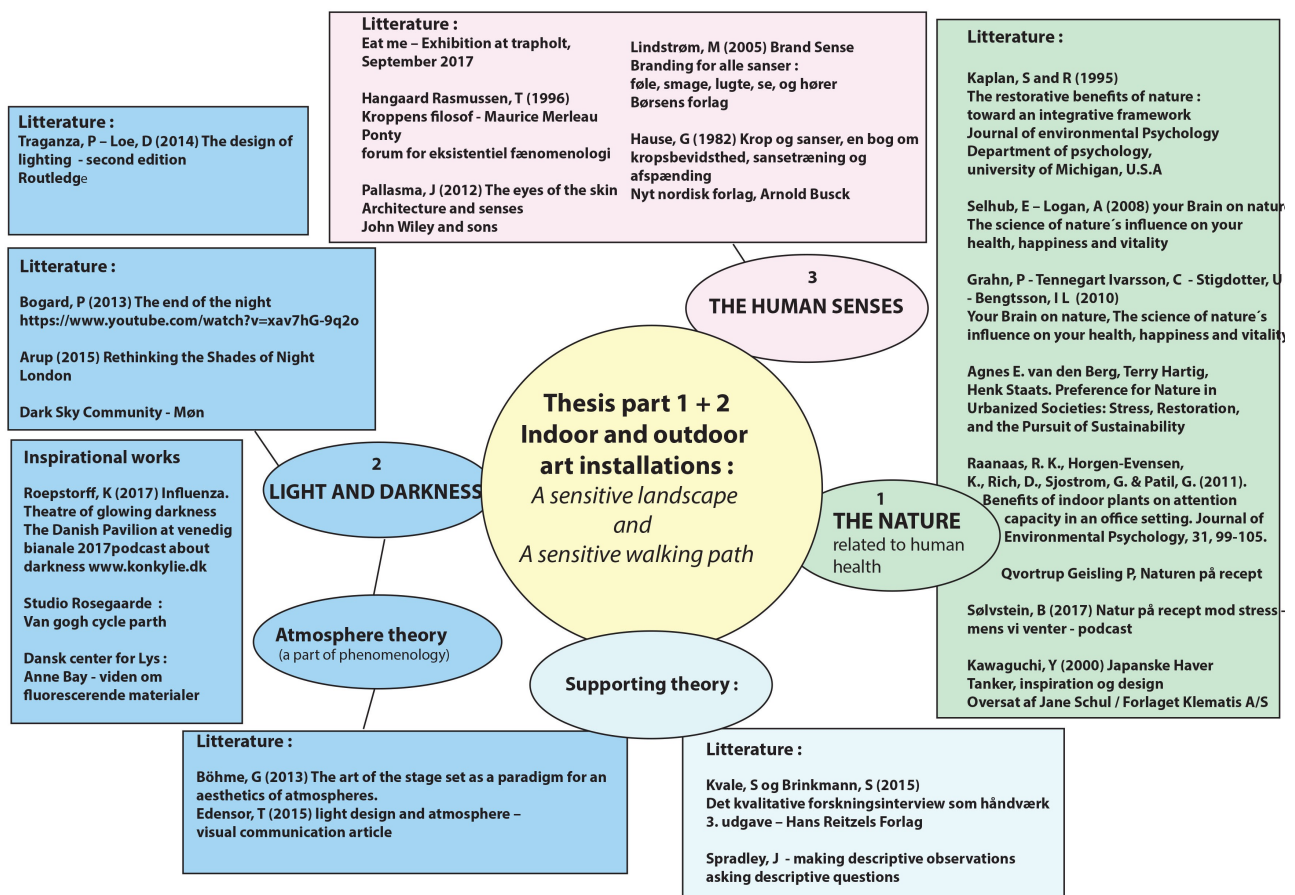
- 1) how can I create art installations which will enhance a **natural atmosphere**
- 2) How can I use **light and darkness** to support a relaxing feeling
- 3) How can I create an art installations which will **stimulate the human senses**

2.4 THEORY

To build on the shoulders on proven concepts and to ensure a thought out context based design, it is valuable to look at existing knowledge.

To ensure that the knowledge gathered is based on different perspectives, the literature selected is authored by a range of different disciplinary groups like philosophers, Architects, sociologists, psychologists, lighting designers, lighting design companies, researchers, art historians and artists.

An overview of the reviewed literature and how it is grouped, can be seen in ill.(3)



THE SENSES :

*"There is no idea in the human psyche that does not originate first in the sensory organs."
(Grøn, 2017 – Art catalog from exhibition at trapholdt)*

To enhance the vision, creating an art installation that will stimulate and provoke the senses, I find it necessary to examine the human senses.

To gain knowledge about why we appreciate the mind more than our body and senses I have looked into a historical point of view based on the work of Maurice Merleau Ponty and Rene Descartes. I have studied our senses by examining the concept of sensory training by pedagogue Greta House and from a branding perspective by Martin Lindstrøm. I have also looked into the work of the architect Juhani Pallasmaa and found more technical descriptions of the perception of the eye in the book - *the design of lighting*

Historical perspective :

The philosophical works of Maurice Merleau - Ponty's all revolve around the body and the sensory experience. Thereby he is breaking with a long European thought tradition which, since Plato, has seen with skepticism on the body and on the senses' ability to create recognition of the world. He criticizes specially the rationalism of Descartes where he separates the body from the mind and thereby splits the modern man into two halves which almost are contrary to each other. Descartes said "*I think, therefore I am*".

A consequence of the thinking of Descartes, is a mistrust to the body because the senses seem to deceive us. It's the body who gesticulates, points, talks, expresses thoughts, breaks into cry, smiles. It's also a fact that a smell can bring forward a childhood memory and an artwork can make the body relax. (Rasmussen, 1996 – p.2)

The body has a significant creative power, Merleau – Ponty calls it ***natural symbolism***.

The body meets the world before the mind. Just have a look at a child and see how the body is present in a way and how it creates a sensory logic of its own.

Merleau – Ponty's books, especially "the phenomenon of perception" circles around the bodily experiences that connect man with the world.

The body is already woven with the world and is part of a system of organic compounds that make sure the world seems meaningful to each individual.

(Rasmussen, 1996 – p.1+2)

Sensory training :

The sociologist Greta House has been studying and performed sensory training since the 70'ties and 80'ties. She divides our senses into three categories:

- 1) The main sensory organs is sight, hearing, balance, smell, taste
- 2) The skin organs is called sensory sense and is the sense of touch, pain, temperature, pressure, vibration.
- 3) The muscle and joint sense detect a degree of muscle tension, pressure, body position, limb placement.

(House, G - 1982 p.25)

The results of her sensory training was remarkable, it showed that strengthening the senses would increase our ability to concentrate, which makes it easier for us to perceive the information we receive and gain an overview to understand our environment.

Training the senses would also increase our ability to feel and experience and it would increase our communication with people and stimulate our imagination

Despite the fact that we have three groups of senses, I have decided only to focus on our five main sensory organs which is explained in the following pages :

The sense of sight :

The sense of sight is the most seductive sense of them all and also the strongest of our 5 senses. It often overrides the other senses and is strong enough to convince us in spite of logistical arguments.

A food and color test was made in 1988 by Dr. Ha Roth. In the test he colored a lemon and lime drink in color tones of different intensities. Then he asked hundreds of students to say which drink was the sweetest. Most were wrong. They thought that the stronger the color, the sweeter the drink. But it was the other way round. The stronger the color, the more acidic drink.

The sight is a quick sense, in a moment you have seen form, color, etc. It takes many times for the feeling to discover the same. Nevertheless, our depth of consciousness builds on a vision-to-feel relationship

At least 80% of all our sense impressions are visual impressions.

If we want to give the other senses a chance, we must close our eyes once in a while.

If the eyes are closed one would feel how much vision makes us outgoing and how we become inwardly aware when we do not see. How we then, take the sound to us, sense our skin and how clear the smell and taste will be. (Lindström, 2005 - p.33)

The architect Juhani Pallasmaa point out :

“we need to consider the focus we have on the vision as the primary sense.

Using our eye as the primary sense is a problem because if we want to get a satisfying experience we need to use all our senses and create a multi-sensory experience” (Pallasmaa, 2012 – p.15)

He says : *“Vision reveals what the touch already knows”*

The book ***The design of lighting*** describes the functions of our eye and how it works physically I find it interesting for my project to examine what happens with the eye when the darkness is taking over.

“In the range of visible light we perceive different wavelengths as different colors. Most of the colors we see are of a number of wavelengths. That's also why the difference between day and night vision is that night vision is blind to color.”

(Tregenza, 2014 – p.37)

“The vision function is about treating light patterns to translate into information that is useful to the organism. We operate with surprisingly low sharpness (resolution) in the visual field that lies outside the center. We are not aware of this because we usually focus our eyes on what we want to see. The light passes through the pupil and the lens focuses the image on the retina.

The top layers of the retina contain some photoreceptors with light absorbing chemicals. Signals pass through the first layers of the gangway cells, which via the visual nerve send the signal from eye to brain. The eye then converts the signal to what we see”.

(Tregenza, 2014 – p.37)

The book also describes *eye adaptation*, when our eyes are adapting from light to darkness

“The eye adapts to the level of light it is receiving by altering its sensitivity. This gives us vision over a vast range of brightness from faint starlight to strong sunshine. However, at any particular adaptation level only a limited luminance range can be accommodated

It is the photoreceptors themselves the light sensitive cells of the retina, that make the adaption.

They contain pigments which are broken down by photons, releasing electrical energy and becoming less sensitive in the process. Once the light is removed the pigments gradually regenerate so the sensitivity is regained. It is a process of self-regulation.

The retina adapts itself to optimum sensitivity for the ambient lighting.

The bleaching out process is fast-a few seconds - while complete regeneration can take as long as an hour.

Switching on the light when waking up at night gives only a short time of blinding glare. But it is many minutes before details of a dark room, such as cinema, can be perceived after entering from daylight”

(Tregenza, 2014 – p.38)

Sense of touch :

“The skin is the oldest and the most sensitive of our organs, our first medium communication, and our most efficient protector. even the transparent cornea of our eye is overlain with skin touch is the parent of our eyes, ears and nose and mouth. - touch is the mother of our senses”

(Pallasmaa, 2012 – p.46)

“The boundaries of the body, between our interior and our exterior body, is the skin that covers our muscles and skeleton. When we move about in the world, we are inside the skins membrane. which protects us from the outside world and holds us together.”

(Grøn, 2017 - p.30)

The sense of touch is the first one that an individual develops in life. It continues to be the primary means of experiencing the world through infancy and well into childhood.

The sense of touch has emerged as an important factor for growth and development.

Children that were deprived of normal sensory stimulation (like premature born children in incubators or institutionalized children) very often suffer from delay in growth and cognitive development and also have a higher incidence of serious infections. *(Lindstrøm, 2005 - p.40)*

Sensitivity is a communication cause for those who are blind and deaf. When everything else sets out, the skin can save one. The skin is the body's largest organ. The elements that make up the skin are richly repressed in the cerebral cortex. It is estimated that we have 50 receptors per. 100 m², each containing 640,000 micro receptors reserved for the senses. We need touch to grow and thrive The sense of touch brings us in touch with our overall well-being. *(Lindstrøm, 2005 - p.35)*

The sense of touch becomes an important additional source of information when sight is absent. According to a number of studies, tactile spatial acuity is enhanced in blindness. Already in 1964 scientists demonstrated that seven days of visual deprivation result in tactile acuity enhancement. Still, short-term visual deprivation (periods ranging from under 10 to over 110 minutes) does not result in that kind of enhancement. *(Lindstrøm, 2005 - p.36)*

Sense of hearing :

Children have sharper hearing than adults. They characterize fare more sounds and remember them more easier. As we grow old, we lose our sensitivity unless we train our listening device.

Audio has a connection with the mood and sound can create senses and gives us balance

Sounds come from moving objects or vibrations, like vibrations from a drum.

Movement sends vibrations or sound waves through the air. *(Lindstrøm, 2005 - p.85)*

The sound is a prerequisite for creating an atmosphere. The sound is firmly ingrown in our emotions. In an analysis from the Journal of Consumer Research, Ronald E. Millmann shows that a piece of music played, influences human behavior. The slower music, the more people buy. Studies have also shown that restaurant guests are sitting longer at the table with slower music.

In a study by Judi and Marl Albert, who was investigating how music influences mind states, they

concluded that happy music create happy moods, but sad music resulted in greater determination. They concluded : “*Sound place a picture or make an image more than a visual impression*” ...
(Lindstrøm, 2005 - p.86)

Sense of smell :

The most important sense next to the sense of sight is hardly the one you immediately think. The world's biggest survey of our five senses and brands, performed in 13 countries, shows that the sense of smell is number two after the sight, both in Denmark and other countries.

The sense of smell has a connection to remembrance and is impossible to describe.

You can close your eyes, hold your ears, do not touch and taste, but the smell is a part of the air we breathe. The sense of smell is our most direct and basic sense.

(Lindstrøm, 2005 - p.38)

“Odor is a mighty wizard who can lead us many 1000 kilometers away and let us relive all the years we’ve lived” - Helen Keller

(Lindstrøm, 2005 – p.39)

Sense of taste :

Our taste consist of a combination of food textures, expectations, smell, memories, surroundings, sound, light, temperature and space.

One can simply change the light in a room and there by the taste can be altered

The taste is based on taste buds.

There is a general understanding that girls are more sensitive to taste than boys are. We have about 10,000 taste buds, which for the most part are concentrated on the tongue, others are found at the back of the throat and palate. Everyone tastes different. Our taste buds age and become less sensitive.

There are 4 types of taste buds that perceive sweet and salty, acidic and bitter chemicals, respectively. Some areas of the tongue are better than others to perceive certain types of taste because they are each concentrated in a particular place. The tip of the tongue is best for sweet things, the sides are the best for sour things, the back of the bites and the whole area of salty things. The sense of smell is estimated to be 10,000 times as sensitive as the taste sense, and it makes the sense of taste the weakest of our senses. (Lindstrøm, 2005 – p.43)

How will I use the theory about the senses, in the art installations :

In the thesis the focus will be on how to train our senses. I will be examining how to create an art installations that will challenge the senses when the vision is no longer our strongest sense.

I do not think that I will be able to train all our senses in an art installation. Especially the sense of taste is probably difficult to challenge in the line of work, that I will be doing.

NATURE AND HUMAN HEALTH :

To gain knowledge about the natures effect on our body and mind I have looked into different topics about nature and health.

I want to discuss if nature is able to support our health and wellbeing and examen nature therapy which has many different forms. Especially the Japanese way of using nature to relax, I find fascinating and inspiring for my project.

I will mainly base my knowledge about nature and health on a theory developed by two professors of psychology, Rachel and Stephan Kaplan. They have developed a theory called *Attention* 11

Restoration Theory (ART). The theory proves that nature actually has a healing effect both physically and mentally for the human health. (Kaplan, R and S, 1995 – p.5)

Kaplan have investigated how people suffering from severe stress is the same as having a "broken brain" in many ways. Some of the most debilitating symptoms are worn attention skills and other cognitive problems such as memory difficulties. According to ART, we strive for attention in unnatural environments, and we are overwhelmed at the same time by information that the brain uses enormous mental resources to sort in. It activates the body's alertness and increases the risk of stress.

In natural surroundings, we do not use the same energy to sort out constant impressions, and we can use a more soft form of attention that does not require energy, while restoring the brain and recharging mentally. (Kaplan, R and S, 1995 – p.6)

Physically, you can measure that fresh air, green colors and water views calm the nervous system and make us mentally fresh. The environmental psychologist Roger Ulrich's Aesthetic Affective Theory (AAT) assumes that human beings are a biological beings. Even though we have moved away from nature, our body and brain functions are almost like the Stone Age, where we primarily navigated to immediate instincts and emotions - also called affections. (Kaplan, R and S, 1995 – p.6)

We need to relax our body and senses. Our relaxation response is the opposite of the body's response to stress and systematic activation of the relaxation response is linked to healing or alleviation of stress and many other physical and psychological problems.

Nature therapy:

Nature therapy can be understood as an 'umbrella term' which describes several approaches and theoretical directions - all in common, that they involve nature as a method for improving mental health and treating mental disorders. now a days It is even possible to be educated as a nature therapist

Forest bathing :

For several decades, Japan has been researching and using nature in the treatment of stress and other disorders. They mainly use forest bathing or shinrin-yoku, as it is called in Japanese, which is a recognized and widespread stress prevention activity.

Forest bathing can be defined as being in contact with and taking in the atmosphere in the forest. Forest bathing takes place as a recreational trip in the woods, where you intend to relax and inhale the special essential oils that the trees secrete.

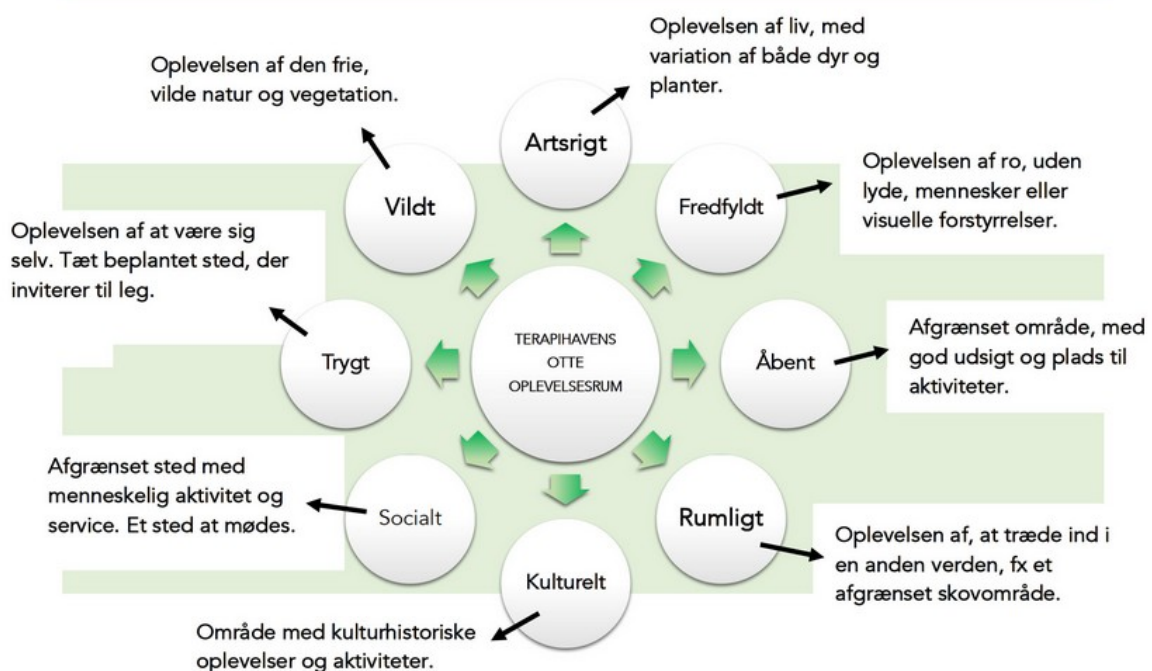
(Selhub, 2008 - p. 68)

Studies indicate that forest bathing lowers the level of stress hormones in the body, relaxes the nervous system, balances blood pressure, lowers the level of anxiety, depression and anger. In addition, the level of energy increases and the immune system is strengthened to a degree so that it can be cancer-preventive. (Selhub, 2008 – p. 68)

Therapeutic gardens :

"A therapeutic garden is a plant-dominated environment purposefully designed to facilitate interaction with the healing elements of nature. Interactions can be passive or active depending on the garden design and users' needs." (haverefigiet.dk)

In the diagram shown underneath, it is possible to get an overview of the elements used in a therapeutic garden design :



Kilde: Havrefugiet.dk

Japanese gardens :

Worldwide people are fascinated by the Japanese gardens calm and spiritual values.

The garden should be experienced as a holy place, distanced from the rest of the turbulent world.

(Kawaguchi, Y 2000 p.27)

The gardens possesses a silence which arise from the use of few materials.

The Japanese garden is designed to create peace and thoughtfulness created with mastery, order, harmoni and distance, as the key words.

It gives an expression of love of the living and a acceptance of the thing's passing away which it is shown when season change.

the gardens are an invitation to enjoy the atmosphere of eternity (Kawaguchi, Y - 2000 p.7)

There are 4 basic sorts of Japanese gardens :

Lake and mountain garden, dry garden, tea garden and the yard.

The dry garden was created by the zen-priests. Beside from sand and rocks the gardens could also be with moss, bushes and pines.

The mountains and rivers which before had been present in the gardens performed now as abstract and motionless shapes. Groups of stones was a symbol of a waterfall, demolished gravel was a symbol of moving water. The abstract shapes helped the zen-diciple to focus and concentrate.

The dry gardens doesn't have to be flat. Groups of stones can be placed as bridges or as lines through the landscape.

To do watering and demolition is a part of the ritual in a zen garden (Kawaguchi, Y - 2000 p.34-40)

Perhaps the spirit of the Japanese garden is best caught by not trying to cultivate rhododendrons where they obviously can not thrive, or just by building lacquered bridges and tea houses in the garden. Maybe not by arranging waterfalls and cliffs, but rather like the Japanese to look

forward to the essence of the local landscape. It may be done by heather in Scotland or West Jutland for that matter. The most important thing is to draw on the ways in which the Japanese gardens reach the calm and the severity, and then use these techniques in our own gardens. The goal is to achieve a controlled calm in the garden by emphasizing space, shapes and simplicity. (*Kawaguchi, Y - 2000 P.17*)

Temples and palace gardens:

rocks and cliffs came to play a major role - lonely cliffs appeared in the lakes as symbols of the sacred mountain from the buddish mythology.

There were paths that allowed you to move around the garden and experience it from different positions. The hiking garden, occurred.

Ex. The tour around The garden at Katsura contains several varied landscapes in miniature, but is also a thegarden that offers visitors several sorts of teas. There are the usual items that belong to well-reputed gardens: meeting rooms with covered benches, stone lights along the paths and basins where visitors can wash their hands. (*Kawaguchi, Y - 2000 p.23*)

It is the presence of nature that the Japanese garden tries to capture

The key to the Japanese idea of the spirituality of the garden is that it should be perceived as a holy place, separated from the turbulence of the world.

The aesthetic principles of wabi and sabi, which involved simplicity, calm, loneliness and dignity.

As modesty is perceived as a virtue of the Japanese host, the beauty of the garden emerges through the overall effect of the individual and natural materials

sen-no-rikyu (a master who developed a style) (*Kawaguchi, Y - 2000 p.49*)

The elements of the Japanese Garden:

All the features that are included in the creation of a Japanese garden play a role in the final picture of a simple and clear and harmonious landscape, although it - with Western eyes - can seem artificially with the carefully shaped trees and bushes. The fine cracked gravel and the most conscious location of rock, the Japanese themselves regard their gardens as nateuralistic. Each style represses its version of nature - soothing, contemplative and beautiful. (*Kawaguchi, Y - 2000 p.65*)

Rock and cliffs:

There is a big challenge in getting stones to look right in a garden. The goal should always be that it appears to have come naturally. Always dig stones down so the thickest place is in the ground.

The stones are much more exciting to look at if they appear as it was the tip of something much larger, hidden underground. Therefore, the stones must be placed so that the widest part is rising. The stone must not look "unsafe".

The importance of the role of the stones In the Japanese gardens, can not be overestimated. The stone and rocks are chosen for the garden by color, structure and the way wind and weather have worn them.

Japanese gardens strive to achieve harmony with nature by integrating man-made and natural materials (*Kawaguchi, Y - 2000 p. 77*)

How will I use the theory about the nature, in the art installations :

Through the art installations I will be designing through the thesis I will examine how nature is affecting our health and wellbeing. I will let my self be inspired from nature therapy because it is already proven to have a great effect on our senses.

Especially I will be focusing on nature therapy inspired from Japanese culture, where Forest bathing is my main inspiration for thesis part 1 and Japanese zen rock gardens, for thesis part 2

LIGHT, DARKNESS AND ATMOSPHERE :

To be more exact about the topic *light and darkness*, I will shortly mention what I find crucial for the project.

I will examine how working with light and darkness can contribute to an atmosphere by reading Tim Edensor's article *light design and atmosphere* and look into the work of G. Bohme

I find darkness as a phenomenon, very interesting and have been researching on Arup's design bureau and Poul Bogard's book – *The end of the night*.

I realized after researching, that this knowledge will mainly be used in the second part of my semester project where I will focus on outdoor lighting at nighttime.

I have also been curious about artworks created around our perception of darkness. Darkness is related to evilness but in reality, it is good for us and we need it.

Creating an atmosphere :

How can the qualities of light and darkness contribute to an atmosphere?

Light design and atmosphere an article by Tim Edensor describes how Light and darkness poses multiple qualities and how there recently has been a reappraisal of the qualities of darkness to create atmosphere.

"Light and darkness transform space. Light conditions the way we perceive a space.

Sunlight forms the everyday conditions which we see the world before night has fallen.

One way is to investigate how light and darkness are essential components of an atmosphere.

E.g. The experience of watching a football match under floodlights can compound the intensity of feeling"

The article also mentions that the manipulation of dark in a room can produce a sense of well and intimacy.

"It's important to emphasize that outdoor atmospheres are not formed out of one element. They are produced by a host of constituents : the weather, sounds, the time of day, the people, architectural forms, incidents, representations, sensations and interactions along with light and darkness."

(Edensor, 2015 – p.332)

Gernot Bohme describes :

"an atmosphere is an intermediate phenomenon and while certain ingredients that shape atmosphere - of lighting, for instance – may pre-exist people's entrance into the setting, their response to it could also be manipulated by their current mood and experience".

(bohme, 2013 – p.2)

Bohme emphasizes that atmosphere "can come over us"

Darkness and urban environment :

'Cities Alive: Rethinking the Shades of Night' is a report published by the company Arup. It has been written in a collaboration of the 'Foresight+Research+Innovation'-team and lighting team at Arup, with the help of internal and external experts.

The foundation for the report is the increasing number of people living in the city centers

and the related increased use of the city space in the nocturnal hours. It is argued that a considered approach to strategic planning and design for the night-time has been missing. It is mentioned that a holistic approach to the urban lighting and an understanding of the importance of the different shades of the night, will help to make up for this missing link.

“Cities Alive: Rethinking the Shades of Night explores the future of cities at night, and the role lighting solutions can play in enabling healthy, inclusive and sustainable urban lifestyles. It focuses on the human factor and ways to enhance the experience and use of public space during the hours of darkness.” (Arup, 2015 - p. 11)

“Light and darkness are equally important to our health and wellbeing. With the shift towards 24h cities, the value of darkness needs to be reconsidered. We should not aim to simply recreate the day at night, but should carefully consider the role of nighttime lighting, including how much light is required and desirable.” (Arup, 2015 - p. 45)

“Research shows that night-time lighting has increased by an average of 6% per year, and increases with up to 20% in certain areas such as Mexico and Tokyo. Over 30% of vertebrate species and 60% of invertebrate species on the planet are nocturnal. To support urban biodiversity, lighting in parks should be partially turned off at night. This shift would create valuable dark areas for the natural environment, while enabling easier management of parks at night. With a growing focus on sustainability and environmental resilience, night-time design will increasingly have to consider the needs and requirements of both people and the natural environment.”

In relation to the health, the report briefly discusses the impact of lighting on the circadian rhythm of people:

“While blue light helps people wake up in the mornings, it also suppresses the production of melatonin, a vital hormone for helping us get to sleep at night, [...] warm red light provides the right signals to help us the transition to sleep. [...] In the future, there will need to be a greater focus on the color of light and its effect on specific spaces and contexts.” (Arup, 2015 - p. 43)

“Light and darkness are equally important to our health and wellbeing. With the shift towards 24h cities, the value of darkness needs to be reconsidered. We should not aim to simply recreate the day at night, but should carefully consider the role of nighttime lighting, including how much light is required and desirable.” (Arup, 2015 - p. 45)

What are the suggested solutions for light pollution :

The recent rapid improvement of new lighting technologies combined with a better understanding of how the lighting affects the human being, results in opportunities as:

- Create intelligent lighting environments that are sensitive to the behavior of people and responsive to changes in the environment.
- Invest in smart lighting infrastructure that has the capability to be reprogrammed according to future needs and developments. (Arup, 2015 - p.35)
- Dedicated ‘dark routes’ throughout a city, in conjunction with green infrastructure corridors, could be an effective strategy for increasing the resilience and quality of life in cities, while preserving the natural environment and urban habitats. (p.45)
- To support urban biodiversity, lighting in parks should be partly turned off at night. This shift would create valuable dark areas for the natural environment, while enabling easier management of parks at night” (p.45)

”The End of Night” by Poul Bogard takes as its theme the rapid disappearance of

darkness in our world or the growing encroachment of light. Night-time as our ancestors knew it, even as recently as the mid-20th century, is disappearing. The question is how does this affect us and the other forms of life that share our environment? (*Bogard, P 2013 - film*)

Poul Bogard has listed the problems :

- The dark sky is very rare, our kids do not experience it
- The human body needs darkness to remain healthy (produce melatonin)
- We use too much energy lighting up spaces with no people
- over-illumination can reduce safety

Why do we need the darkness to remain healthy ?

Transforming darkness - podcast

produced by kunsthall Charlottenborg in connection with the exhibition “*Renaissance of the night*” by Kirstine Roepstorffs

The podcasts are developed by Carsten Ordman : www.konkylie.dk

In the podcast series “transforming darkness” A group of artists, scientists and philosophers are investigating darkness as a vital and necessary source of creativity. through a wide range of perspectives they investigate how dark and dark matter can open our mind, sharpen our senses and expand our reality.

To read more about each podcast look in the following appendix

How will I use the theory about light and darkness, in the art installations :

In the first part of the thesis I aim to create an atmosphere with light in darkness. When the sight is removed it is more easy to listen to the body and sense the surroundings instead of trying to analyze what we experience. As Merleau-ponty said : “*the body meets the world before the mind*”

Through the indoor and outdoor art installations I will examine how the sensing body moves around in a dark space

In the second part of the thesis my goal is to enhance the natural darkness in a poetic way.

I want to create a sensitive walking path which will take the problem of light pollution into consideration.

To sum up the introduction for thesis part 1 and 2, I have made ill.4 which can be viewed on the following 2 pages :

Introduction for thesis part 1+2

Art Installations with light and darkness, supporting human health. investigations through indoor and outdoor light installations.

VISION - THESIS PART 1

Imagine if I can create a **indoor** art-installation with textile, movement, light and darkness which is "**a sensitive landscape**" that will make the user more aware of there senses and thereby support human health

VISION - THESIS PART 2

Imagine if I can create an **outdoor** light-installation with nature, light and darkness, which is "**a sensitive path**", that will make the user more aware of there senses and thereby support human health

THE NATURE

Supporting a natural atmosphere to improve human health

THE SENSES

Supporting the natural landscape to provoke the human senses

LIGHT IN DARKNESS

Using light in darkness to support a natural atmosphere and stimulate the senses

REASEARCH QUESTIONS

Use question 1+2 to answer question 3

How can I design a light installation which will enhance a natural atmosphere and provide the user with some of the emotions that nature does? **1**

How can I design a art installation which will **stimulate the senses** and thereby support our health? **2**

How can I use **light in darkness** to support a relaxing feeling and at the same time, provoke our senses? **3**

THEORY

THE NATURE

Indoor installation :

Shared theory for indoor and outdoor installations :

- The attention restoration theory
- naturen på recept
- natur på recept mod stress
- nature Therapy

Outdoor installation :

- Japanske haver
- Therapeutic gardens

THE SENSES

Indoor installation :

- Maurice Merlu ponty

Shared theory for indoor and outdoor installations :

- Pallasma
- Eat me
- Brand senses
- Krop & sanser

Outdoor installation :

LIGHT IN DARKNESS

Indoor installation :

- Bohme

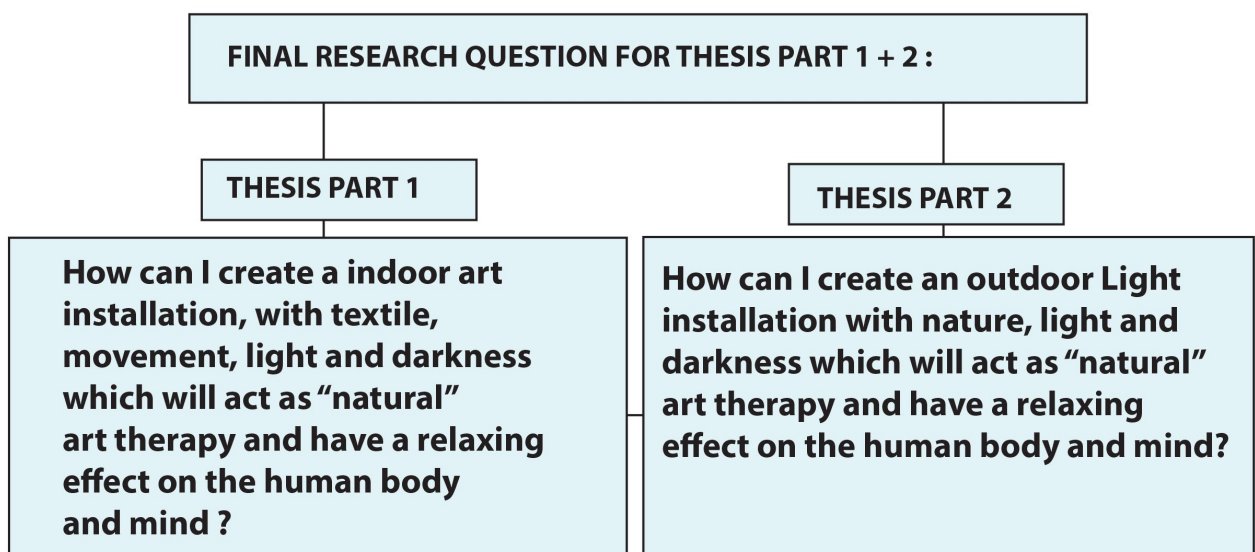
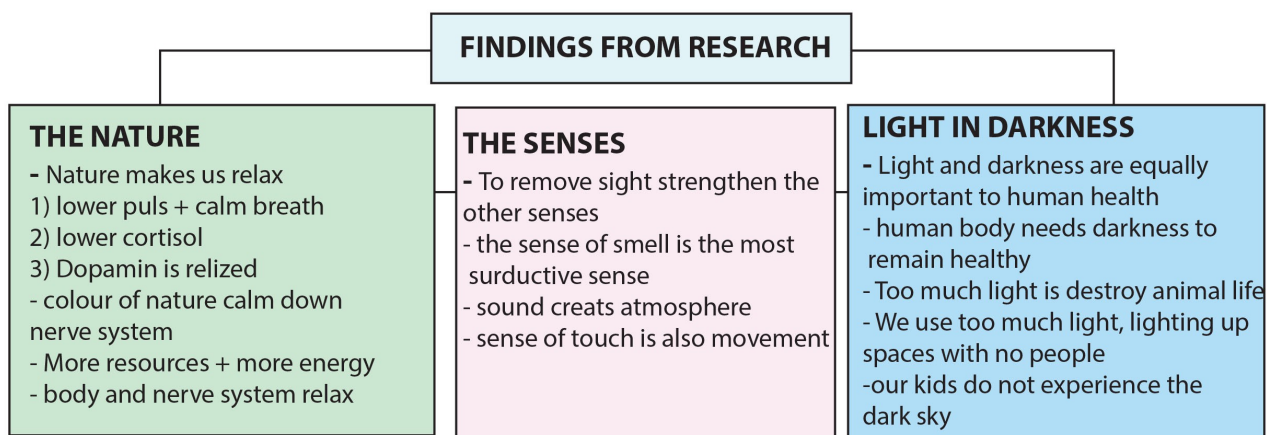
Shared theory for indoor and outdoor installations :

- Eye Adaptation
- www.konkylie.dk

Outdoor installation

- Poul Bogard
- Arup
- Dark sky community - møn
- Light regulation book
- Inspirational work : Roepstofte / Studio Rosegaarde

Supporting theory : Interview - by kvale & brinkmann and descriptive observations by james spradley



M.Sc. Lighting Design AAU CPH

Thesis part 1
“A Sensitive Landscape”
staged with light and darkness

“A walk through a forest is healing due to the polyphony of the senses”
- *Juhani Pallasmaa*

Author : Anna Rosa Hiort-Lorenzen
Supervisor : Mette Hvass and Ellen Kathrine Hansen
Submitted : 18.05 - 2018



AALBORG UNIVERSITET

TABLE OF CONTENT - Thesis part 1 :

1 INTRODUCTION

- 1.1 PROJECT BACKGROUND
- 1.2 METHOD
- 1.3 MOTIVATION

2 PRE ANALYSIS

- 2.1 VISION
- 2.2 INVESTIGATIONS
- 2.3 RESEARCH QUESTION
- 2.4 THEORY

3 ANALYSIS

- 3.1 CONCLUDING ON THEORY.....20
- 3.2 DEFFINE CHALLANGES AND GOALS.....23

4 TRANSFORMATION

- 4.1 PROBLEM STATEMENT = HYPOTHESIS.....24
- 4.2 CRITERIA.....24

5 DESIGN CONCEPT

- 5.1 INSPIRATION AND BRAINSTORM.....25
- 5.2 DESIGN CONCEPT.....27

6 TEST

- 6.1 CHOOSE METHOD.....33
- 6.2 PRE TEST.....33
- 6.3 TEST.....34
- 6.4 ANALYZE TEST RESULT.....38

7 CONCLUSION

- 7.1 EVALUATE FOR FURTHER DEVELOPMENT.....40

8 REFERENCES

9 APPENDIX

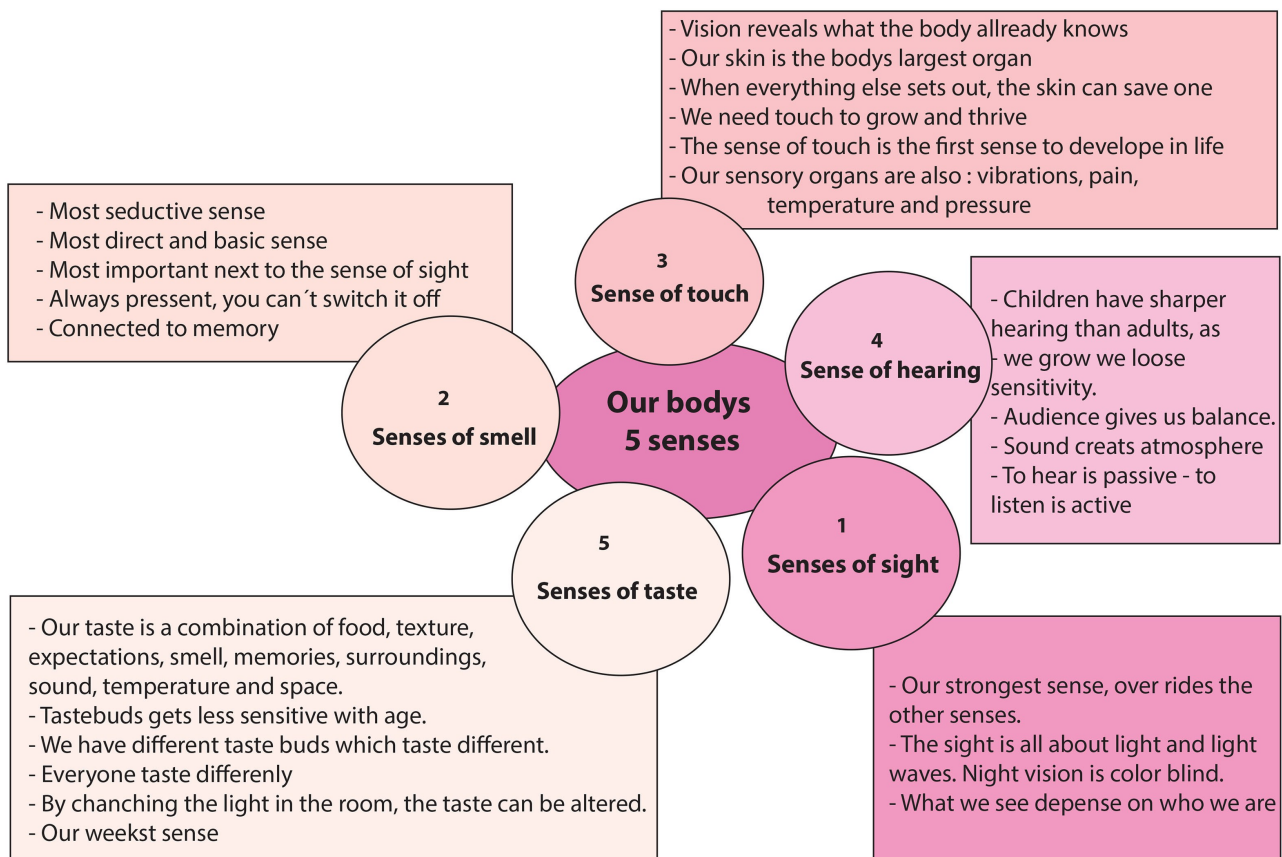
3. ANALYSIS

3.1 CONCLUDING ON THEORY

The senses :

What are our senses and why are they important :

In ill. (3) I have listed the most important findings from my research of the human senses
I find the knowledge valuable because I wish is to create a multi-sensory experience.



Reading Greta Hauser I realized just how important it is to strengthen the senses

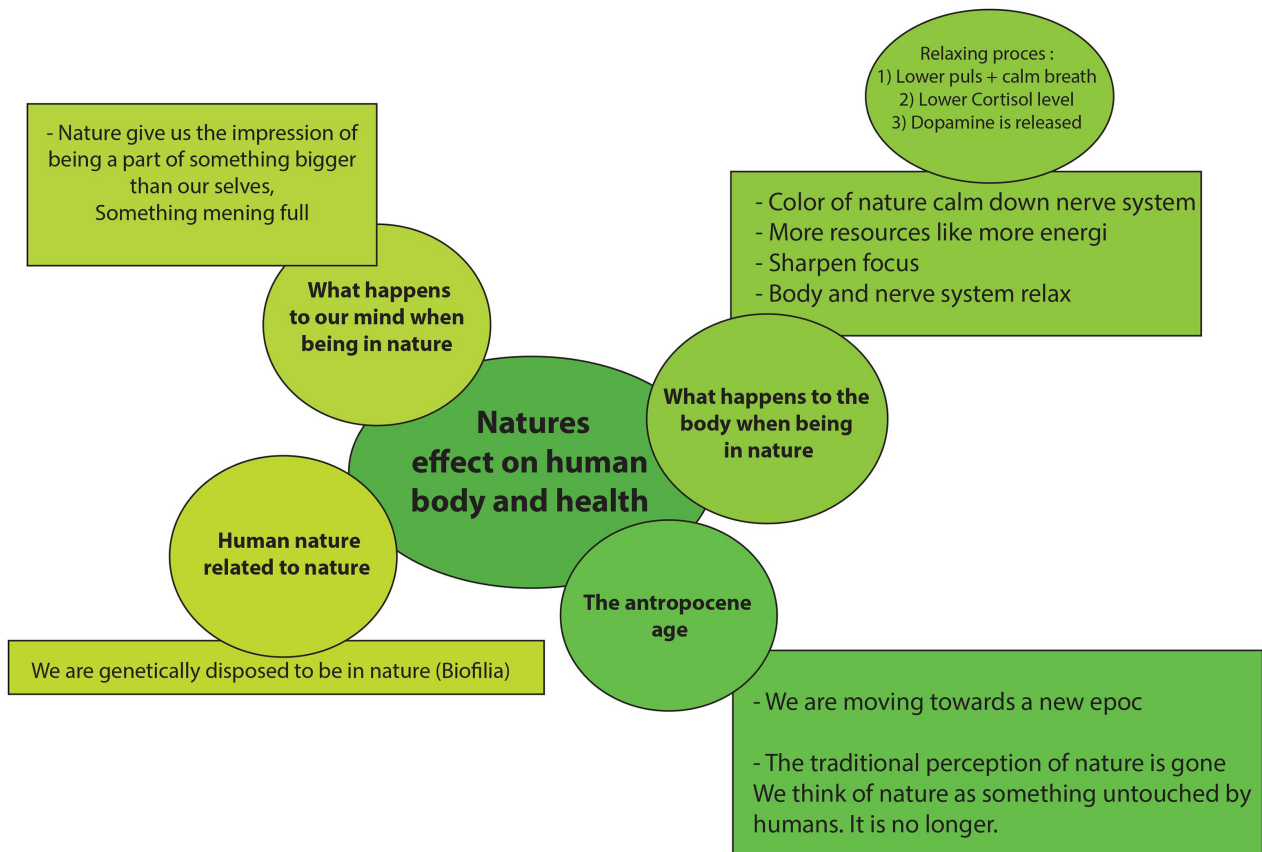
As previously described her sensory training will :

- 1) Increases our ability to concentrate, which makes it easier for us to perceive the information we receive, gain an overview and understand our environment.
- 2) increases our ability to feel and experience
- 3) increases our expression possibilities and thereby our ability to communicate with people
- 4) causes the imagination to be stimulated, our creative ability gets material to work with, personality develops. (Hause, G – 1982 p.45)

With these findings I believe that if I am able to strengthen the senses with an art installation I will succed to improve human health

How does the nature effect our health :

In ill. (4) I have listed the most important findings from my research of nature in relation to human health. With the “*Attention Restoration Theory*” I believe I have found evidence that nature has a healing effect on the human body and mind. (Kaplan, S and R -1995 p.169)



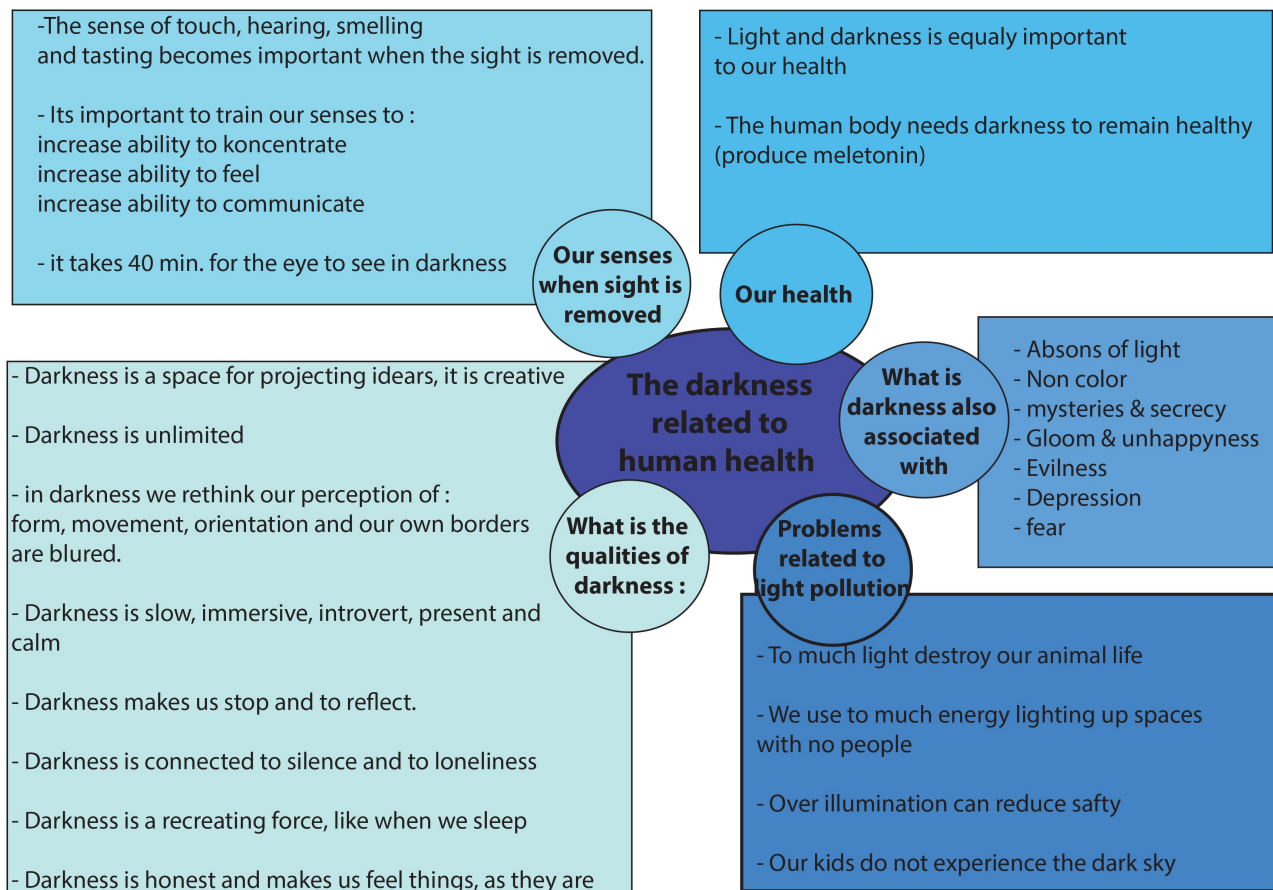
How does light and darkness effect our health :

in ill. (5) I have listed my findings from research about light and darkness:

Based on my knowledge about the senses I came to the conclusion that it is more easy to strengthen the senses when the sight is removed.

This is why I will focus on the darkness through a “dark” experience I will create. During my tests with the final design I will examen the users movement patterns in the darkness therefore this part of the project will be based on qualitative methods.

Some of my research about the darkness is related to the problem of light pollution which will be more relevant in the thesis part 2



3.2 DEFINE CHALLENGES AND GOALS

My goal is to create a non stressful art installation which will act as nature therapy and have a healing effect on the human senses.

The installation needs to :

- To create an atmosphere of nature
- To make people relax
- To lower stress level and thereby balance blood pressure in the body
- To recharge human senses
- To guide the user through the installation
- To work as a living lab

To help paint a clearer picture of the over all project scope a few words has been written for each goal :

- To create a natural atmosphere I need to use colors from nature and other visible natural elements (Kaplan, S and R -1995 p.169)
- To make the user relax I need to keep them in the installation for a while. Therefore I need to make the installation appealing visually and also interesting in the sense that the user will be queries
- To lower stress level and blood pressure, the user need to stay in the installation and let there mind be occupied with the experience
- To recharge human senses the user has to make them selves a part of the installation in the sense that they will be seduced by the experience.
- To get the right experience is also important that the user is guided through the installation, from beginning to end.
- The installation also has to work as a **living lab** in the sense that I can interview the user about the experience because I will use this knowledge for further examinations when I create the design for the **glowing path**, next semester

4. TRANSFORMATION

From my analysis I found the findings I thought was most relevant to enhance in my installation and I was able to create a problem statement and 4 design criteria which all has to do with my main goal which is to reduce stress.

4.1 PROBLEM STATEMENT = HYPOTHESIS

-How can I use fabric, light and darkness to create a natural atmosphere that will make the user relax and, at the same time, stimulate there senses to improve human health. -

4.2 CRITERIA'S

- 1) Focus on the human senses and let them come into play
- 2) Enhance a natural atmosphere
- 3) Light in darkness will create a relaxing feeling
- 4) Use light and darkness as equal important elements

In the table underneath I have listed the main findings from my analysis and decided how I want to address them in the art installation. I have listed them under my 4 design criterias :

Findings from analysis	Design elements	Design approach to be tested
Criteria 1 : How to focus on the human senses and let them come into play?		
We exercise our senses by removing sight and thereby support the ability to concentrate, to feel and to communicate	Partly remove sight by creating darkness	Use light that change between light and darkness.
Our skin is the largest organ we need touch to grow. The sensory organs are also vibrations.	Use wind to create vibrations	Use fans to create wind and there by movement in the fabric
Sound creates atmosphere	Use sound from speakers	Use meditative music or sound from fans or both
Criteria 2 : How to enhance a natural atmosphere?		
Colours of nature calm down nerve system	Use colours from nature	Use textile die with colours from nature
The body and nerve system relax in nature : Lower plus + calm breath	Use elements from nature	Use the textile technique sun printing with plants and light
The rooted underground includes a symbioses with the tree above ground to exchange phosphorus for sugar	Use roots as motif in the dark	Print the roots with screen printing and fluorescent colours
Criteria 3 & 4: How does Light in darkness create a relaxing feeling?		

Use light and darkness as equal important elements		
Light in darkness can create a relaxing feeling	Use light in darkness to create a relaxing feeling	Use fluorescent ink so that the textiles will glow in the dark
The eye has to adapt from light to darkness	Create a fading between light and darkness	Find out how long time it takes from the eye to adapt from light to darkness in a fading
Light and darkness are equal important	Use light as well as darkness	The installation will change between light and darkness

5. DESIGN CONCEPT

*- A walk through a forest is healing due to the polyphony of the senses -
(Pallasmaa, 2012 – p.45)*

5.1 INSPIRATION & BRAINSTORM

When looking for inspiration, I referred to the main findings of research. I tried to think of what kind of installation I could design which would inspire the user to open up there senses and relax

The main findings told me that to create an installation which would reach my goal and problem statement the most important elements in the installation should cover my criteria

For inspiration, I gathered varying images from different kind of nature therapy and from other artists who had worked to enhance a natural atmosphere.



Nature therapy



Artists who has worked to enhance a natural atmosphere with light. (1)Jacob kirkegaard, vestindien – (2)Olafur eliason, the sun - (3)Ingo Maurer, plants

During my inspiration research I also looked for pictures where I could express my idea about the darkness.



Inspiration pictures from Natural darkness (1)Star light, (2) moon light, (3) roots underground

From an article written by Phd student Thomas Christian De Bang I discovered that most trees can form a symbiosis with fungus, where tree and fungi live together in a relationship based on mutual nutrient development. For example, a plant lacking phosphorus may invite the fungus to live in its roots, which is advantageous because the fungus with its wire-shaped network mycelium is able to extract phosphorus from the corners of the soil where the roots of the plant can not reach itself. The trees pay the fungus back with sugar and fat.

I find this knowledge inspiring because Phosphorus is actually an element that we do not get anymore off.

(De Bang, 2018 – p.1+2)



*Different artists has also worked to enhance the darkness in a natural way
(1) japanese team-lab light up the forest in the night, (2) installation Inspired from glowing roots underground*

Coming from a textile background I wanted to work with textile as my artistic medium so I had to translate my idea's in to ways of working with textile. I had to find a technique which could enhance my criteria's for the installation.



Eksamples on three different textile techniques for inspiration : (1)ego print, (2)screen print, (3)woven textile

5.2 DESIGN CONCEPT

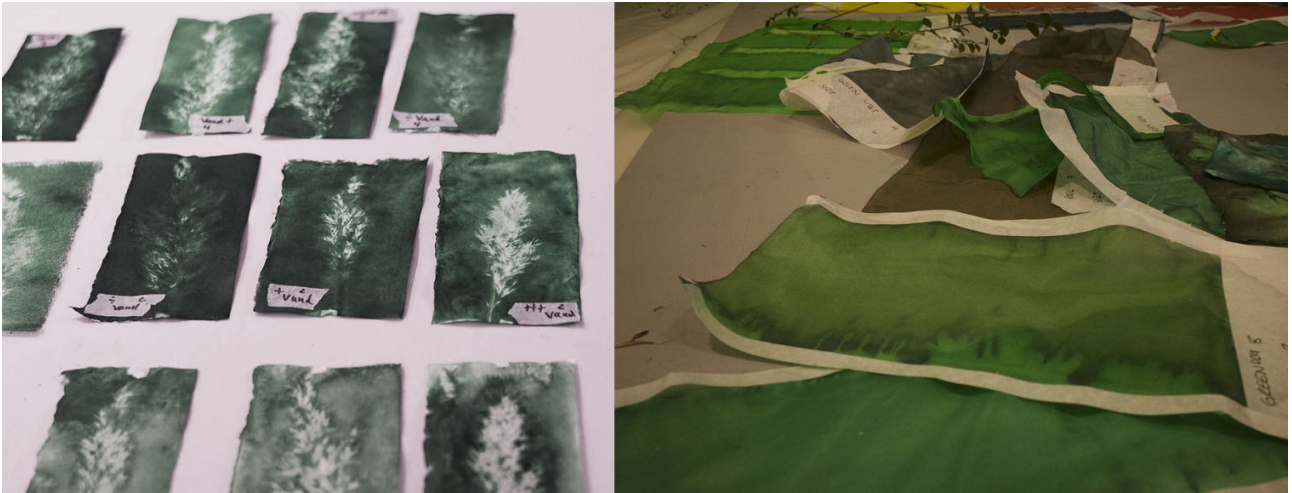
For the design concept I wanted to create a natural space inspired from my findings during research. The installation should be a non-stressful space where our senses could be charged and the body relax. In the installation light and darkness should be equally important.

Inspired from Japanese forest bathing and other kind of nature therapy I decided to create a natural space using plants as motifs and colors from nature. Colors in a scale in green, blue and brown. I chose to work with a technique called Sun printing. It is a very natural way to work and it leaves a random expression which I think fits well with the way nature itself, works.

How did I create the installation :

Even though sun printing Is a very intuitive and simple technique it take some practice to know what works.

It can be done with most plants but some plants leaves a more prices print, than others. It has to do with the amount at die and water in combination with the plants suction ability.



Test with different amount of die and water - Test with Colors in a natural scale between green, blue and brown

The interesting part with sun printing is also that it is made with die, plants and light.

It is the heat in combination with the light (sunlight or halogen light) that push the die away from the plant and thereby leave a mark from the plant.

The mark which is left depends on the suction capacity of the plant in combination with the amount of die and water on the fabric.

The process itself creates a very meditative and beautiful atmosphere very much in line with the installation that I am making

There are 6 steps in the process :

- 1) find the plants with the right suction capacity.
- 2) spray water with a spray water bottle, in a thin layer over the fabric
- 3) Cover the fabric with die
- 4) Place the plants on the die
- 5) Place the hole setup in light. It can be sunlight or Halogen light
- 6) let it dry and remove plants



Sun print with the sun and akeleje plant – summer 2017



Sun printing with Halogen light and strawberry plants – The danish artworkshop 2018



In the making at the danish artworkshop 2018 – the silk pieces are 140 x 200 cm

The motif in the dark :

Studies show that our vision is the main sense and because we use our vision too much we do not use the rest of our senses enough.

Thats why I wish to remove the vision to be able to create a space where we have to feel our body and use our focus and attention and make space for reflection.

“We need the darkness, the lonely space where we can create. Like the uterus for the baby or the earth for the roots”

(Reopstoft, 2017 - artwork)

The installation has two expressions, a visible nature side and a dark side where only a little light is visible, fluorescent light.

In the installation I have chosen to work with silk fabric because it is beautiful in the light

and cope very well with the textile die I use. The silk fabric is also very light and so thin that it almost disappears in the darkness, which I think is important for the installation. The thin silk moves easy when it hangs down from the ceiling, this movement is also a quality I look for.

The design concept is about nature and I want to create a forrest walk. So whats in the ground? What is developing in the darkness underneath us and what is the essence of all plants on earth? The roots and the fungus.

I found the knowledge about the symbioses between the trees and the fungus, very inspiring. Trees actually needs phosphorous to grow and now a days the farmers use it as fertilizer but Phosphorous is a natural resource that we do not get anymore of. Therefore its much more sustainable if the trees and the fungus help each other out.

I think this knowledge is important to create attention on, that is one more reason why I decided on a motif resembling the rooted underground and fungal spores.



(1)Roots created with threads – (2)The roots printed on transparent paper ready for textile printing

The motif should be combined with the sun printed silk and therefore it had to be the same size as my sun printed silk, 140 x 200 cm. For this set up I had to use 3 textile frames put together as one piece.

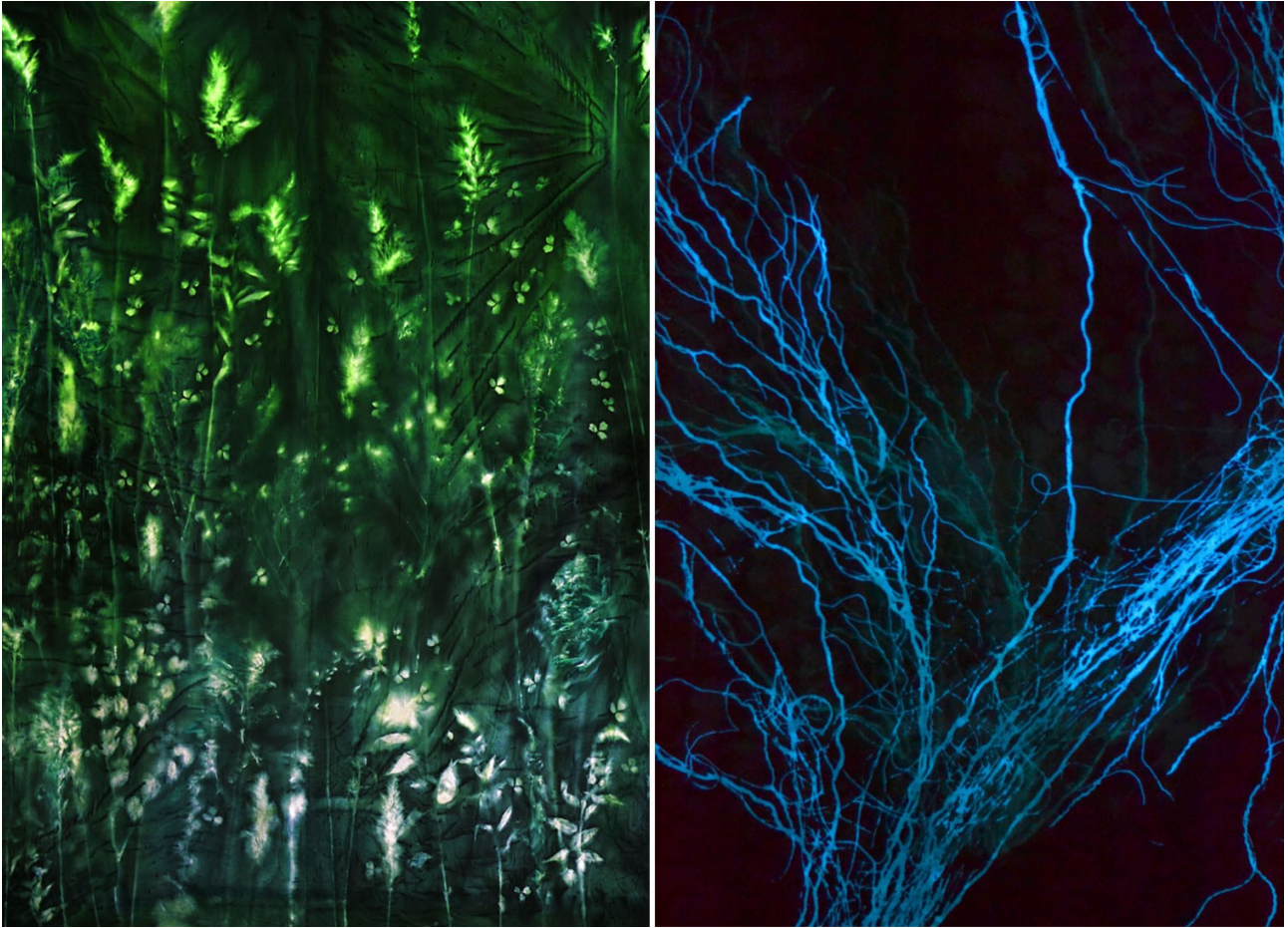
The motif had to light up in the dark and therefore I have used fluorescent (phosphorus) ink for the print. I decided on an other textile technique for the motif in the dark, using textile printing. Thats because the fluorescent colors are very solid and not possible to use with sun printing.

I made a concentrated blend of fluorescent phosphor pigment and textile binder.

For textile printing I had to create computer files with my motif and print it on transparent paper to transferee it to textile frames and later print it on the “sun printed” silk fabric

I created the root motif with different sizes of string in 1 to 1 scale. (picture)

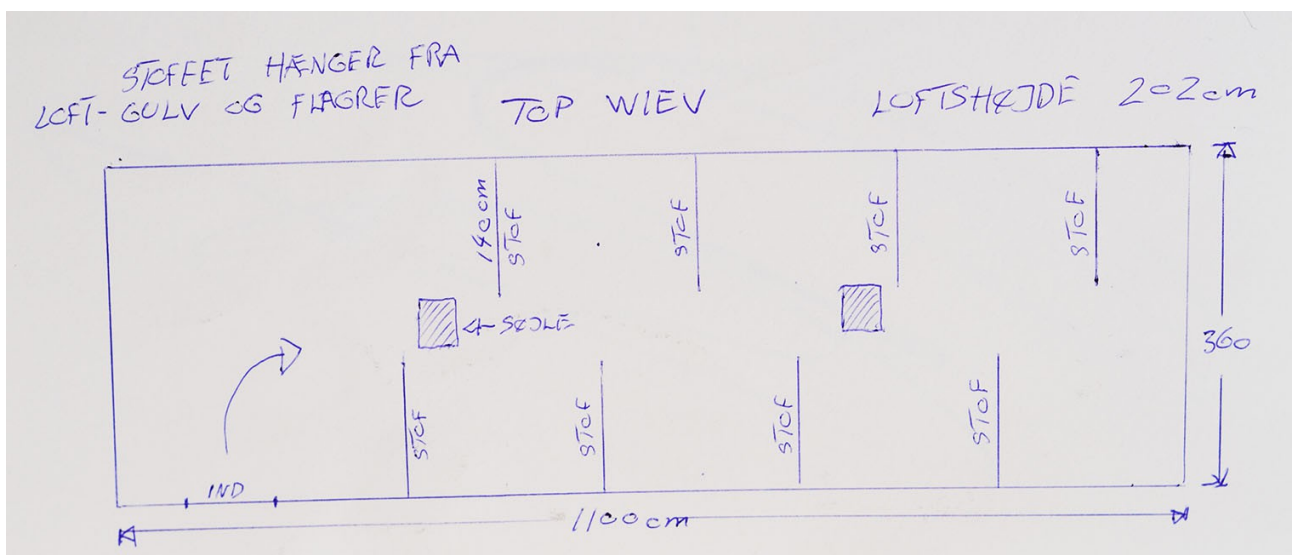
The result of this print is that in light, it is hardly possible to see the roots, but in the dark the plants disappear and the fluorescent, fungus will light up.



Result in light and darkness

5.3 THE STAGING OF THE TEXTILES

I want the installation to be alternately illuminated and darkened, and the silk fabric will hang in a row and overlap slightly, the user will then get a feeling of moving through a forest.



Sketch from the exhibition room

Its important that the light is coming from the top because the silk is very see-through and I don't want the light source to be seen through the textile.

What light source will charge the fluorescent colors?

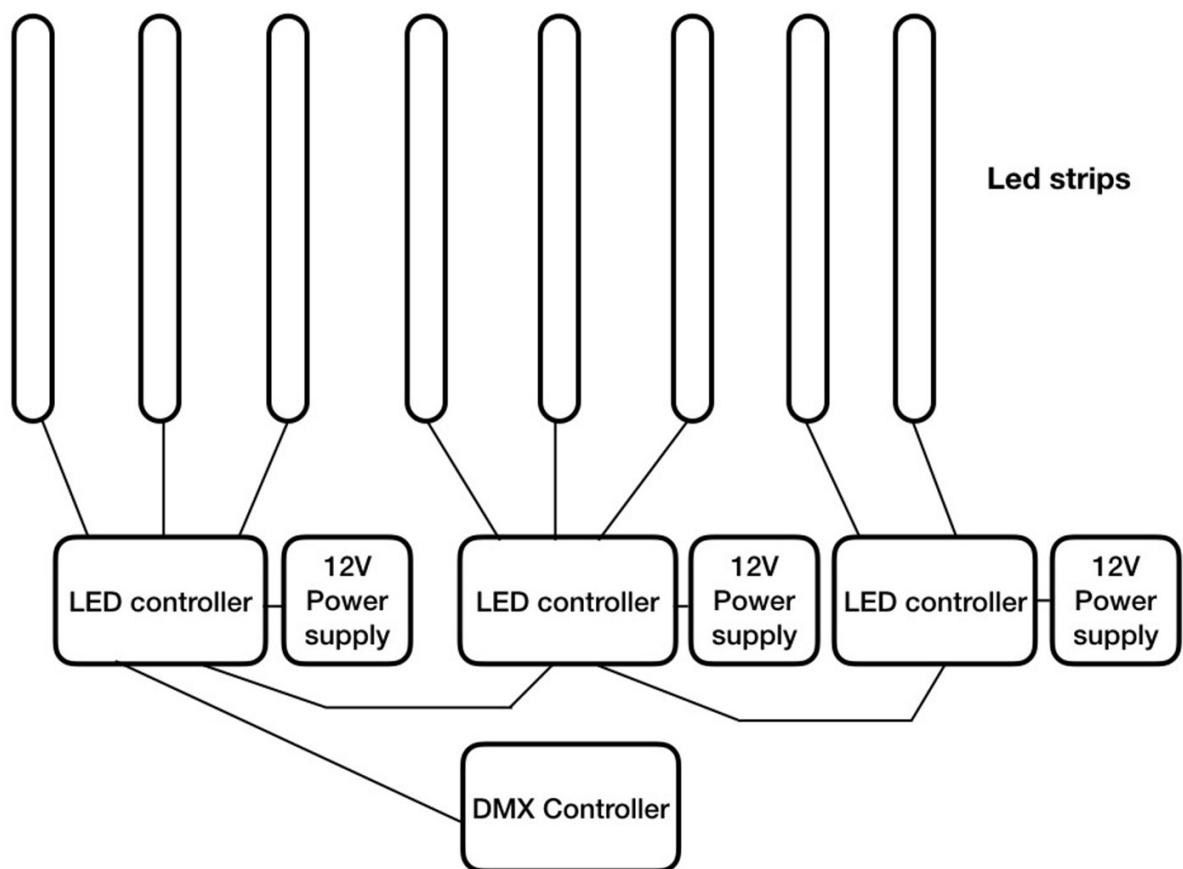
I know from former experience that fluorescent lamps is charging the fluorescent colors the best but I am more interested in LED strips because they create a more sensitive atmosphere. Fluorescent lamps with blue light is most effective to charge the fluorescent colors

How do I switch from light to darkness and what interval shall I use?

Its a complicated setup to change from light to darkness and a lot of equipment is needed to create a DMX universe which will meet my needs.

From a programmed computer I have created a chain of lights which are connected to LED dimmers so the light can change in a endless loop.

I have 8 LED strips to light every piece of fabric from the front and the blue light will be on an hour before stating the installation, to charge the fluorescent colors for the day.



From my tests I will know how long time light is needed to create the “forest atmosphere” and how long time the user will need in the darkness to awaken there senses and relax.

Also the fading between light and darkness is important because the eyes has to adapt to the darkness, to see.

The movement :

I like the fabric to move slightly. This is because I realized that movement contribute to the feeling of touch and creates a more sensitive experience. It also creates attention on the motif in the dark and contribute to a feeling of concentration

The sound :

There are two kinds of sound effect that I will use

One sound is meditative music composed by a musician I have worked with earlier on. The music is changing with the light. The other sound is coming from the ventilators creating wind.

The ventilators remind the user of wind in the trees which I think contributes to the feeling of being in a forest.

The music places the viewer in a meditative state of mind and is more seductive than the ventilators.

By testing I will know whether to use both music and the sound of ventilators or only one of them

6 Test

6.1 CHOOSE METHOD

The installation "*a sensitive landscape*" was created at the Danish Art Workshop in Copenhagen and exhibited at The Northern part of Iceland, to Skagaströnd Art festival in June 2018.

At that occasion I was recording video material for a presentation video, which I will be handing in at the end of my thesis in December 2018.

I have tested my design in two different phases.

One on a small scale using a small scale light box

Two in a one to one scale mock up where I have tested if I was able to achieve the atmosphere I want for the installation

6.2 PRE TEST

Hypothesis: - *Light and sun printed silk fabric will create a relaxing atmosphere*

Test method :



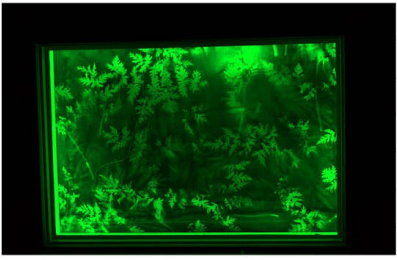
Steven Scots Lightbox is a box on 50 x 50 cm with LED strips in different depth. The box is controlled with a DMX controller so it's possible to combine different colors of light

What :

Test in Steven Scots light box

The small scale testing enabled me to try out different fabrics and colors of light and to rule out many materials that were inappropriate for the effect that I was trying to achieve.

The test in the Lightbox also made me realize that I could work with several layers of silk fabric because the fabric is transparent

Test with light box - Testing fabric and light		
Test with silk fabric and red light	Test silk fabric and green light	Test with two layers of silk and white light
		

Why :

Because I think that the see through silk fabric with light will meet my criteria to create a relaxing atmosphere that will have a positive affect on the users senses

How :

From these experiments i felt convinced that with the use of silk fabric, light and sun printing i was able to reach my problem statement :

-How can I use fabric, light and darkness to create a natural atmosphere that will make the user relax and, at the same time, stimulate there senses to improve human health. -

Result :

From these experiments I found that silk was the right fabric to work with and that I did not have to use colored light when working with the colors of nature on the textile. I also realized that I was able to work with different layers and depth because the silk is see through

With the test conclusions I was ready to work with a 1 to 1 scale model

6.3 TEST

Hypothesis: - *The installation will create a relaxing atmosphere.*

Test method :

Testing mock up in 1:1 scale

I have conducted 7 interviewed after the participants have experiencing the installation for about 10 min each.

The interviews was semistructured with planned questions.

It is possible to see the interview in there full length in the following appendix.

Where did the interview take place :

For this test I was using my studio in Møllegade in Copenhagen which is a room that measures 4 x 6 meter. I was placing 4 peaces of fabric hanging with 1 meters distance (see floor plan below)

The test room was dark so there was no natural light coming inside the room. It is only the light that I have created which was there.

I have placed 1 LED strip in an aluminum case with defusers over each fabric,

lighting up the fabric from above.

How did I do it :

The light change from light to darkness controlled by my DMX universe. (see technical drawing)
The program I use to control the light is PC stage which is a professional Light design program
In the test it was 1 min. light and 30 sec. Darkness

When :

The test took place sunday the 20th of maj 2018 between 16 – 20 PM

Who :

The test persons I was interviewing was between 10 – 50 years old and had different professions

How long time was the user in the installation :

The user was in the installation as long as they wanted to. I asked them to stay there fore atleast 2 rounds with light and darkness.

What did I ask :

I asked about how they experienced the installation :

- 1 : How did they notice the soundscape, how did it make them feel?
- 2 : What associations did they have while being in the installation?
- 3 : What happened when it got dark, how did they feel in the darkness, what did they experience?
- 4 : How did they experience the movement in light and darkness?
- 5 : How did they experience the fading from light to darkness?
- 6 : How was the experience in total, what did they get out of it?
- 7: Did they want to stay a long time in the installation?

During there stay in the installation I was also observing there behavior

How long time did the interview last?



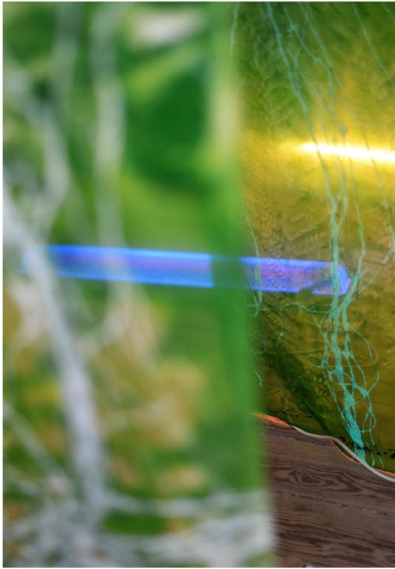
The interview took place right after the experience in the installation, was finished

How did I keep the answers :

I was writing down the answers on my computer

Testing the light on fabric :

When I was testing the blue light and LED strips I found that having the blue light on for an hour before the installation is in use, the fluorescent colors will be fully charged and can light up for most of a day

Test in 1 : 1 mock up		
Test with fabric and light - blu light + LED strip	Blue light behind fabric, LED strip on top or bottom	Blue light is charching fluorescent colors for an hour. Its charching through the thin silk
		

Testing the see-trough effect of the silk :

During my test I realized that 1 LED strip over each fabric wasn't enough to make the fabric see through. I needed some kind of background light. Its important that the light source cant be seen through the textile thats why it has to be placed in the conners of the room.

I will use fluorescent tubes with white light to create an effect of background light.

This light will also be controlled with my DMX univers.



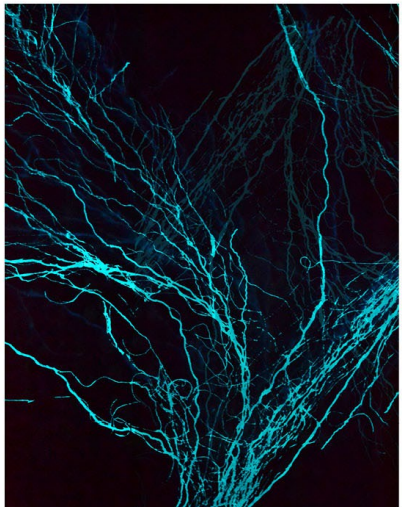
Test in 1 : 1 mock up

<p>Test with fabric and light - seethrough effect</p> 	<p>Light from behind will make the fabric see-through</p> 	<p>The light source shall not be seen through textile</p> 
---	---	---

Testing the fading and the darkness :



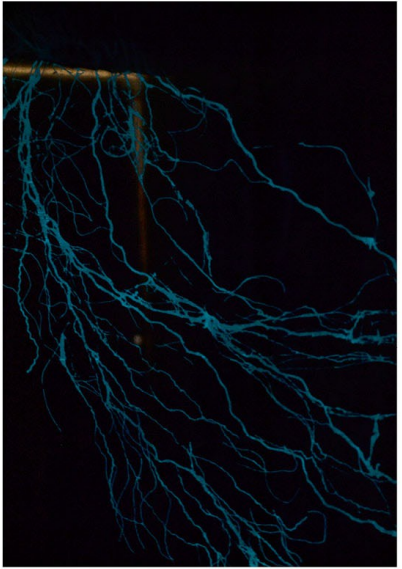
I have been testing the fading from light to darkness. It fades over 10 sec. which I believe makes the eye adapt from light to darkness, in a sensitive way.

The fluorescent roots slowly get visible when darkness arrives.

Test in 1 : 1 mock up		
<p>Test with dimming from light to darkness</p> 	<p>when transforming from light to darkness Roots come forward</p> 	<p>In the darkness, the layers of roots come forward because silk is see-through</p> 

Testing the movement and the sound :

To create the movement in the fabric I am using fans, placed in different places in the installation. In light it creates a feeling of wind in the trees and in darkness the roots come to life and reach out for the user. It is difficult to create the “right amount” of movement. Too much movement doesn't create the right atmosphere. The fan is also creating a sound of wind. I am also using meditative music together with the sound of wind.

Test in 1 : 1 mock up		
I am using a fan to put the fabric into motion	Fabric in motion	The roots in motion
		

Why :

I think the installation will meet my criterias of creating a relaxing atmosphere and enhancing the user in a multi-sensory experience. An experience that will help me to meet my final goal of improving human health

Result :

From the experiments in my 1:1 mock up I believe that with the use of silk fabric, light, darkness and movement I was able to create a natural relaxing atmosphere.

Having test persons to experience the mock up, I will see if it works

6.4 ANALYZE TEST RESULT

Analyzing the results from the interviews regarding the 3 design criterias :

Criteria 1 : How does the installation focus on the human senses?

The senses which I have in play in the installation is **seeing, hearing and touching** (movement) and then I challenge the senses with the darkness.

- for all the participants they thought that the **movement** was essential for the feeling in the installation. The movement made them curious and in the darkness it was very meditative and relaxing to look at the “rooted” textile move

- There was different answers regarding the **sound**.

Most of the participants was happy about the meditative music because it made them relax and they felt surfaced by the atmosphere in total.

Most of them preferred the sound of wind (fan) and music together.

A few participants would like only to listen to the wind (fans) because they thought that it was more interesting and was leaving them with a more open interpretations

- Most of the participants found it very poetic to experience the **darkness**.
They would like to stay there for a while
They found it very relaxing and meditative
Some felt it frightening but that was also what made it interesting

Criteria 2 : How does the installation enhance a natural atmosphere?

- All the participants associated the motifs in the light with nature, like a forest in the spring or a flower field. (the light wasn't finished when I did the test in the mock up)
- The light has to come from the top in the installation like sun coming through the trees. There also has to be a background light which create a see-through effect in the textile.
I wasn't able to give the participants the full experience in my mock up testing. Because of that they didn't comment on the lighting but they all agreed that it was a "piece" of nature that they were experiencing
- There was different associations to the motif in the dark but all natural phenomenon's
Some participants said it was roots underground, others that it was lightning in the sky and a few said that it was streams running down.

All the participants walked around between the textiles like walking between trees in a forest.
When the light change to darkness they were standing still but then they moved around again after a short break

Criteria 3 : How does light in darkness enhance a relaxing feeling?

- There was different associations to the motif in the dark but all some kind of natural phenomenon's. Some participants said it was roots underground, others that it was lightning in the sky and a few said that it was streams running down.
- They all said it was two very different worlds in light and darkness and that was what made the whole experience interesting.
- Most participants agreed that it was a sensual experience in total. That it made them relax and some even said that it made them "fragile" and more open to the world afterwards.
Especially the moving fluorescent light in the dark made them relax and more fragile afterwards.
- The fading between light and darkness worked well with 1 min light and 30 sec darkness and 10sec fading between the two.

7. CONCLUSION

In the first part of my thesis I was aiming to create an atmosphere with light in darkness. When the sight is removed it is more easy to listen to the body and sense the surroundings instead of trying to analyze what we experience. As Merleau-Ponty said : "the body meets the world before the mind"
Through the installations I was investigating how the sensing body moved around in the dark space.

Based on my interviews I believe that the installation was successful in the sense that it actually felt stress reducing for the participants. The associations to nature, the green colours and especially the darkness felt relaxing to the participants.

Therefore I believe that I can continue to work with the same guideline in thesis part two

Guidelines for a successful stress-reducing art installation, with light and darkness :

- a. To create a natural atmosphere I need to use colors from nature and other visible natural elements
- b. To make the user relax I need to keep them in the installation for a while. Therefore I need to make the installation appealing visually and also interesting in the sense that the user will be queries
- c. To lower stress level and blood pressure, the user need to stay in the installation and let there mind be occupied with the experience
- d. To recharge human senses the user has to make them selves a part of the installation in the sense that they will be seduced by the experience.
- e. To get the right experience is also important that the user is guided through the installation, from beginning to end.

7.1 EVALUATE FOR FURTHER DEVELOPMENT

For the second part of my thesis I wish to continue with the three scoops of knowledge :

The nature, the light and darkness and the senses,

The senses:

The art installation is focusing on three of our senses : Sense of sight, sense of hearing and sense of touch: In the the second part I wish to continue to challenge these three senses but sins the outdoor installation will be in the nature I believe that the sense of smell also will come into play

The Nature :

In the art installation I worked to create a natural atmosphere. I did it by combining two textile techniques with one expression in light and an other in darkness.

Both motifs was inspired by nature to create a natural atmosphere in the installation.

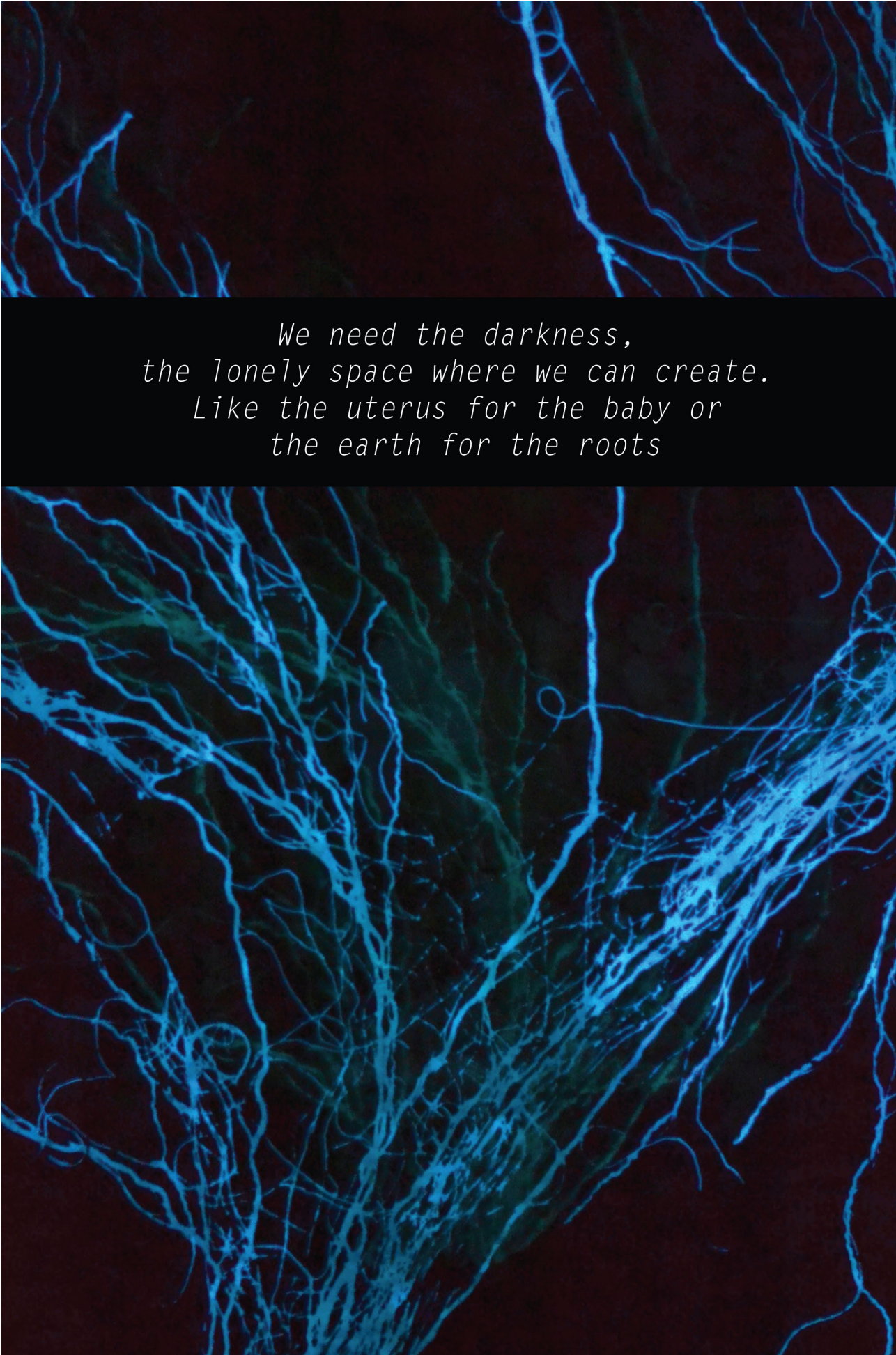
In the second part of the thesis I will already have a natural environment to work in. But a challenge is to combine this environment with my own artistic expression, in an elegant and interesting way, both in light as well as in darkness.

Light and darkness :

The atmosphere created with light and darkness is definitely something I aim to recreate in the second part of my thesis. With the art installation I believe that I have proven that the chancing between light and darkness is very effect full and I am excited to find a method to implement that in an outdoor environment

The second part of my thesis is called “**a sensitive walking path**”

In the project I wish to bring my conclusions into play by creating a sensual and relaxing experience in an outdoor environment. A nature walk that will stimulate the senses.

The image features a dark, almost black, background. Overlaid on this are numerous thin, glowing lines in shades of blue and green. These lines are irregular and branching, resembling a complex network of roots, a neural map, or perhaps a microscopic view of biological tissue. The lines are more concentrated in the lower half of the image, where they form a dense, tangled mass, and become sparser towards the top. The overall effect is one of organic complexity and hidden structure.

*We need the darkness,
the lonely space where we can create.
Like the uterus for the baby or
the earth for the roots*



M.Sc. Lighting Design AAU CPH



AALBORG UNIVERSITET

Thesis part 2
“A Sensitive walking path”
staged with light in darkness

Author : Anna Rosa Hiort-Lorenzen
Supervisor : Mette Hvass and Ellen Kathrine Hansen
Submitted : 18.12 - 2018

TABLE OF CONTENT – Thesis part 2 :

1 INTRODUCTION

- 1.1 PROJECT BACKGROUND
- 1.2 METHOD
- 1.3 MOTIVATION

2 PRE ANALYSIS

- 2.1 VISION
- 2.2 INVESTIGATIONS
- 2.3 RESEARCH QUESTION
- 2.4 THEORY

3 ANALYSIS

- 3.1 CONCLUDING ON THEORY.....43
- 3.2 DEFFINE CHALLANGES AND GOALS.....46

4 TRANSFORMATION

- 4.1 PROBLEM STATEMENT = HYPOTHESIS.....46
- 4.2 CRITERIA.....46

5 DESIGN CONCEPT

- 5.1 INSPIRATION AND BRAINSTORM.....48
- 5.2 DESIGN CONCEPT.....52

6 TEST

- 6.1 CHOOSE METHOD.....58
- 6.2 PRE TEST.....58
- 6.3 TEST.....61
- 6.4 ANALYZE TEST RESULT.....64

7 CONCLUSION

- 7.1 EVALUATE FOR FURTHER DEVELOPMENT.....66

8 REFERENCES.....68

9 APPENDIX.....70

3. ANALYSIS

3.1 CONCLUDING ON THEORY

To be sure that I create a project for thesis part 2 which is based on thought out and tested knowledge. I wish to include knowledge from two areas :

1) CONCLUTIONS ON THEORY

2) TEST RESULT CONDUCTED FROM "*A Sensitive landscape*"

1) CONCLUTIONS FROM THEORY

The senses :

Important findings from knowledge about strengthen the senses to improve human health :

Research from Greta Hauser's sensory training showed that training our senses would:

- 1) Increases our ability to concentrate, which makes it easier for us to perceive the information we receive, gain an overview and understand our environment.
- 2) increases our ability to feel and experience
- 3) increases our expression possibilities and thereby our ability to communicate with people
- 4) causes the imagination to be stimulated, our creative ability gets material to work with, personality develops. (Hause, G - 1982 p.45)

As in thesis part 1 I wish to create a multi-sensory experience for thesis part 2 and wish to challenge the senses by reducing sight. I believe that challenging the sense also train the senses.

The nature :

Important findings from knowledge about the nature to improve human health :

As in thesis part 1 I will mainly base my knowledge about nature and health on the theory developed by the two professors of psychology, Rachel and Stephan Kaplan.

The *Attention Restoration Theory* (ART) which proves that nature actually has a healing effect both physically and mentally for human health. (Kaplan, R and S, 1995 – p.196)

To be more accurate the theory specify what happens to the human body while being in nature :

- 1) The colors of nature calm down our nerve system
- 2) We get more energy and more resources
- 3) Our focus is sharpened
- 4) Our body and nerve system relax (relaxing process : lower pulse + calm breath, lower cortisol level, dopamine releases) :

In thesis part 2 I wish to base my design on theory from the area of nature therapy.

I find the Japanese way of thinking very interesting and want to use that as inspiration in my design for a "*sensitive walking path*".

Also the diagram from a therapeutic garden design, I find useful for a design process. It could be interesting to design the path to run through natural surroundings with some of the elements from the diagram, integrated.

Most important findings from the book of Japanese garden design:

1) *“To capture the spirit of a Japanese garden, the Japanese seek to find the essence of the local landscape. For example. can it be done by using heather and sand in West Jutland. The most important thing is to draw on the ways in which the Japanese gardens reach the calm and the severity, and then use these techniques in our own gardens. The goal is to achieve a controlled calm in the garden by emphasizing space, shapes and simplicity.” (Kawaguchi, Y - 2000 P.17)*

2) Hiking gardens:

“Ex. The tour around The garden at Katsura contains several varied landscapes in a miniature, but is also a tea gardens that offers visitors several sorts of teas. There are the usual items that belong to well-reputed gardens: meeting rooms with covered benches, stone lights along the paths and basins where visitors can wash their hands” (Kawaguchi, Y - 2000 P.20)

3) *“Japanese gardens strive to achieve harmony with nature by integrating man-made and natural material” (Kawaguchi, Y - 2000 P.20)*

Light in darkness :

Important findings from knowledge about light and darkness to improve human health :

Light pollution is one of our great problems and challenges in our world today

The map is showing that one fifth of the worlds population do not have access to electric light.

What happens when they do, If we have not changed our way of using light in an urban environment?



Poul Bogard has listed the problems of light pollution in his film – the end of the night :

- The dark sky is very rare, our kids do not experience it
- The human body need darkness to remain healthy (produce melatonin)
- We use too much energy lighting up spaces with no people
- over-illumination can reduce safety

The light design bureau Arup suggest solutions for the problem of light pollution. The recent improvement of new light technologies combined with a better understanding of how the lighting effects the human beings, results in opportunities as:

- Create intelligent lighting environments that are sensitive to the behavior of people and responsive to changes in the environment.

- Invest in smart lighting infrastructure that has the capability to be reprogrammed according to future needs and developments. (Arup, 2015 - p.35)

- Dedicated 'dark routes' throughout a city, in conjunction with green infrastructure corridors, could be an effective strategy for increasing the resilience and quality of life in cities, while preserving the natural environment and urban habitats. (Arup, 2015 - p.45)

- To support urban biodiversity, lighting in parks should be partially turned off at night. This shift would create valuable dark areas for the natural environment, while enabling easier management of parks at night" (Arup, 2015 - p.45)

2) TEST RESULT CONDUCTED FROM "A Sensitive landscape"

Despite from the findings from theory, I also want to elaborate on the findings from the tests and I did in the installation "a sensitive landscape"

The findings are based on interviews I did after the users had experienced the installation and on watching there behavior while they were experiencing the installation.

I have listed the conclusions from the testing i did, under the 3 main topics :

The senses :

- findings from "sensitive landscape"

When I was running my tests In the installation I succeeded to awake or even practice the participants senses.

- To partly remove the vision did result in opening up the users senses.

- The darkness together with the soundscape of the installation and the green colors had a calming effect on the user and made them relax.

The nature :

- findings from "sensitive landscape"

Asking the participants they all agreed that the installation had a natural expression. The green colors and the imprint of nature motifs created associations to a natural environment.

Off cause they were aware that they were not in a forrest but the feeling of being in a natural space, was there.

Light in darkness :

- findings from "sensitive landscape"

When I was running my tests In the installation I was examining peoples behavior in the dark.

A few of the participants was worried about the darkness and didn't feel comfortable moving around but most of them was amazed by the the beauty of it and would like to stay there for hours.

Most of the users agreed that the darkness had a calming effect and that the moving fluorescent light in the darkness, was very poetic and was drawing there attention.

Based on the above I was ready to define my challenges and goals for an outdoor light installation

3.2 DEFFINE CHALLENGES AND GOALS

My goal is to create an outdoor light installation, which will act as natural therapy and have a relaxing effect on the human senses.

The installation needs to :

- a.** To support the atmosphere of nature
- b.** To make people relax by lower the stress level and thereby balance blood pressure in the body
- c.** To recharge human senses by supporting the nature
- d.** To guide the user through the installation
- e.** To appeal to the user because it is beautiful both in light and in darkness

To help paint a clearer picture of the over all project scope a few words has been written for each goal :

- a.** To enhance a natural atmosphere I need to support the colors of nature in a light design
- b.** To lower stress level the user need to stay in the installation and let there mind be occupied with the experience
- c.** To recharge human senses the user has to experience the nature while being in the installation
- d.** To get the right experience is also important that the user is guided through the installation, from beginning to end.
- e.** To make the user relax I need to keep them in the installation for a while. Therefore I need to make the installation appealing visually and also interesting in the sense that the user will be queries

4. TRANSFORMATION

From my analysis I found what findings I thought was most relevant to enhance in light installation and I was able to create a problem statement and 4 design criteria which all has to do with my main goal which is to reduce stress.

4.1 PROBLEM STATEMENT - HYPOTHESIS

- How can I use the nature and light in darkness to enhance a natural atmosphere that will make the user relax and, at the same time, stimulate the senses to improve human health?

4.2 CRITERIA'S

- 1) Focus on the human senses
- 2) Enhance a natural atmosphere
- 3) Light in darkness make the user relax
- 4) Use light and darkness as equal important elements

In the table underneath I have listed the main findings from my analysis and decided how I want to address them in an outdoor light installation. I have listed them under the 4 design criteria's :

Findings from analysis	Design elements	Design approach to be tested
Criteria 1 : How can I let the human senses come into play?		
We exercise our senses by removing sight and thereby support the ability to concentrate, to feel and to communicate	Partly remove sight by creating darkness	Use light that change between light and darkness.
Our skin is the largest organ we need touch to grow. The sensory organs are also vibrations.	Use wind to create vibrations	Use fans to create wind and there by movement in the fabric
Sound creates atmosphere	Use sound from speakers	Use meditative music or sound from fans or both
Criteria 2 : How can I enhance a natural atmosphere?		
Colours of nature calm down nerve system	Enhance the colours from nature	Use light on the trees to support the colour
The body and nerve system relax in nature : Lower plus + calm breath	Put focus on the natural elements in the design	Use light to put focus on the natural surroundings
Nature therapy makes the body relax	Use zen inspired patterns to enhance a relaxing atmosphere	Create a design with a zen motif
Criteria 3 : Light in darkness make the user relax.		
Criteria 4 : Use light and darkness as equal important elements		
Light in darkness make the user relax	Based on knowledge from testing a “sensitive landscape” I am sure that fluorescent light in darkness make the user relax	Create light which is very sensitive but still strong enough to lead the way
Light and darkness are equal important	Use light as well as darkness	Create a design which is beautiful in daylight as well as in nighttime

5. DESIGN CONCEPT

- A walk through a forest is healing due to the polyphony of the senses - (Pallasmaa, 2012 – p.45)

When looking for inspiration, I referred to the main findings of research.

I tried to think of what kind of installation I could design which would inspire the user to open up there senses and relax

Based on my criteria's I decided to design a **light path** through a natural area :

To be more accurate about how my criteria's could work in a light design for a path, I have written a few words for each criteria :

Criteria 1)

A path where the user will open up their senses because the sight is partly removed and therefore they are able to listen and smell the nature in all seasons.

Criteria 2)

A path where the light will support the colours of the nature in all seasons

A path where people are guided through the landscape

Criteria 3)

A path that will light up the landscape in a sensitive way so that it will create a relaxing feeling

A path that will make the user relax and feel safe, at the same time

A path that will support the reduction of light pollution

Criteria 4)

A path where the user will experience the nature in daylight as well as nighttime.

5.1 INSPIRATION AND BRAINSTORM

For inspiration, I gathered verifying images and knowledge supporting the nature of my project. I have also looked into how other designers have been working with a successful design using the same elements.

The art installation from thesis part 1 "*a sensitive landscape*" was exhibited at the northern part of Iceland in June 2018. During my stay there, I was also gathering inspiration for thesis part 2. Among other things I was investigating the colors and patterns of the ground.



inspiration pictures from Iceland summer 2018 – vegetation and rocks

Zen garden – Japanese philosophy :

In autumn 2017 I had the pleasure to visit Japan and Kyoto, which is one of the most famous cities in Japan, due to its collection of buddhist zen temples and gardens.

I found myself very lucky to experience how the peace and harmony of the gardens reflect on a person. Even though the gardens are so well visited by tourists, it was impossible not to feel amazed by the atmosphere.



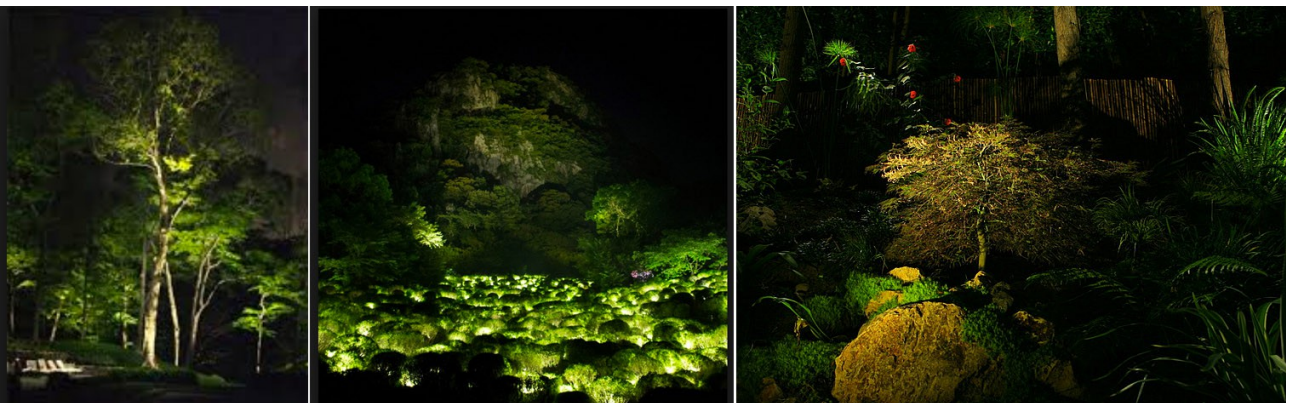
Enhance nature with light :

I was visiting Japan in the season where the maple trees was celebrated and among other things they light up the maple trees to enhance the red and yellow colors of autumn. Its extremely beautiful and very inspiring.

In thesis part 2 i wish to take the seasons in to consideration and thereby enhance the colors of our seasons with a light design.



Enhance nature with colored light – to bring forward the color of the season



Enhance nature with white light – to bring forward the color of the plants

Inspiration from designers who has been working with a Glowing path design :

The Van Gogh cycle path is a well known example of how to use fluorescent stones for a path design. It is a cooperation between Daan Roosegaarde and Heijmans. The stones harvest light during the day and glow at night.

The path is a 600 meter long. The bicycle path section has been given a new layer of asphalt, scattered with thousands of **luminous stones**. Innovative technology enables them to charge during the day and emit light in the evening.

Specifications:

Smart coatings, energy harvesting, sensors and other media.

The dutch company Pro-tec also work on a similar technologies called StarPath, a sprayable coating of daylight absorbing particles that emit illumination at night.

Its said about the projects :

”once solutions like this are perfected for robustness and glow-time it could reduce the need for electric lighting and decrease the operating costs for city lighting”



Studio Roosegaarde studio – Van gogh path and Pro-tec StarPath design

Research on materials for the design in 1 : 1

Inspiration for coating to the path, in daylight :



Asphalt coating : The red square in Copenhagen – design by BIG architects



Cobblestones or tiles in a pattern – look like zen motifs



Different size of tiles and rocks

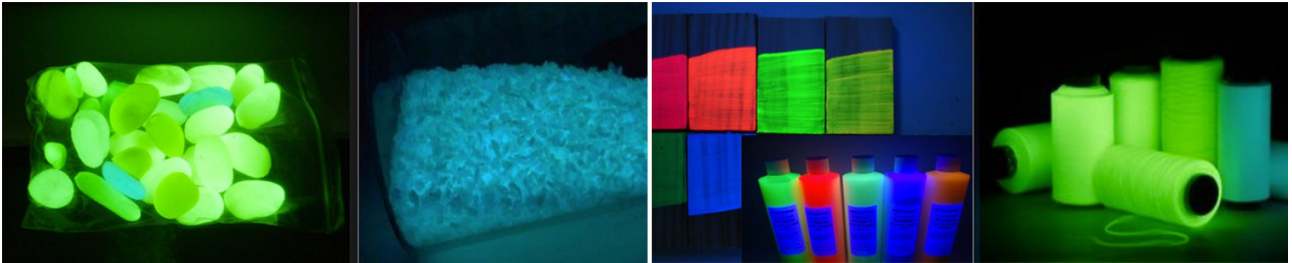


Stones and concrete

5.2 DESIGN CONCEPT

Inspired from glowing materials that I want to use for a path design, I have started a design process by sketching with various techniques on paper.

Below pictures of the materials used for sketching :



Materials : Glow stones, fluorescent sand, fluorescent paint and glowing threads

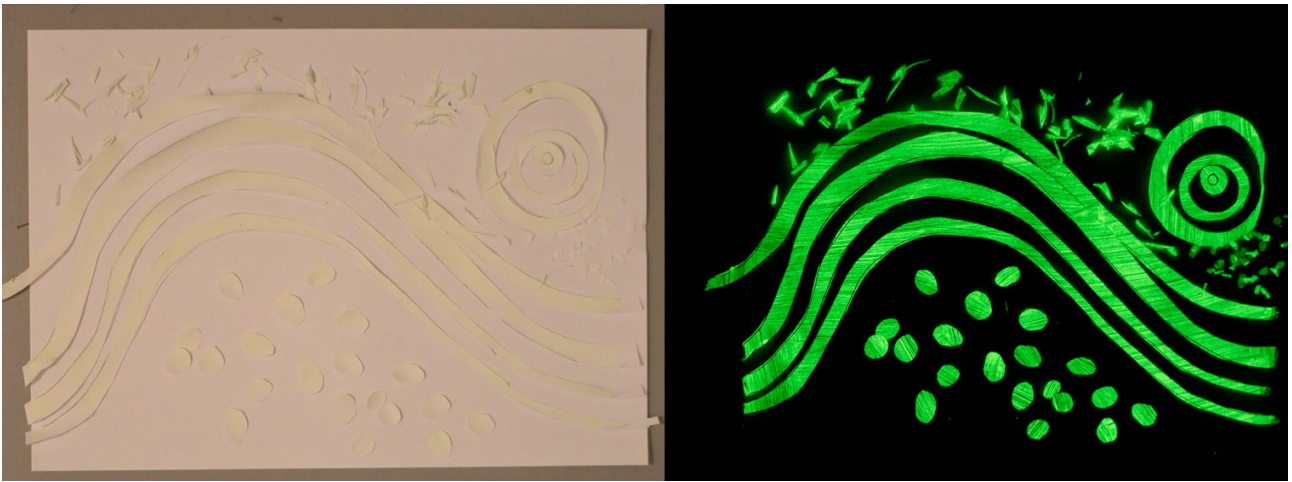
I find the Zen rock gardens very inspiring and interesting for the theme of my project. As mentioned they seem to have a calming effect on the user. I am wondering if a glowing design inspired from zen gardens, could reinforce the feeling of silence, which the darkness all ready enhance.

Also due to the fact that glowing stones and sand are something that I have the oppertunity to work with, I find these motifs relevant as inspiration.



Pictures from zen gardens – sketch of zen garden designs

Using paper painted with fluorescent ink, it is possible to try to create a design (inspired from zen rock gardens) – which will glow in the dark



*Collage on paper with a "zen rock design" - same design glows in the dark.
Should be designed of glowing sand and stones*

Inspired from the icelandic nature I have worked with collages on paper. I am thinking of these motifs as a design for the path in daylight.



Pictures from Iceland june 2018, Rock and moss



Collages as inspiration for pattern design in daylight

Sketching process with zen rock garden – patterns :

Collages as inspiration for integrating the two layers.

The colors from nature in a surface layer, seen in daylight - only the designs inspired from zen rock garden motifs, seen in darkness.

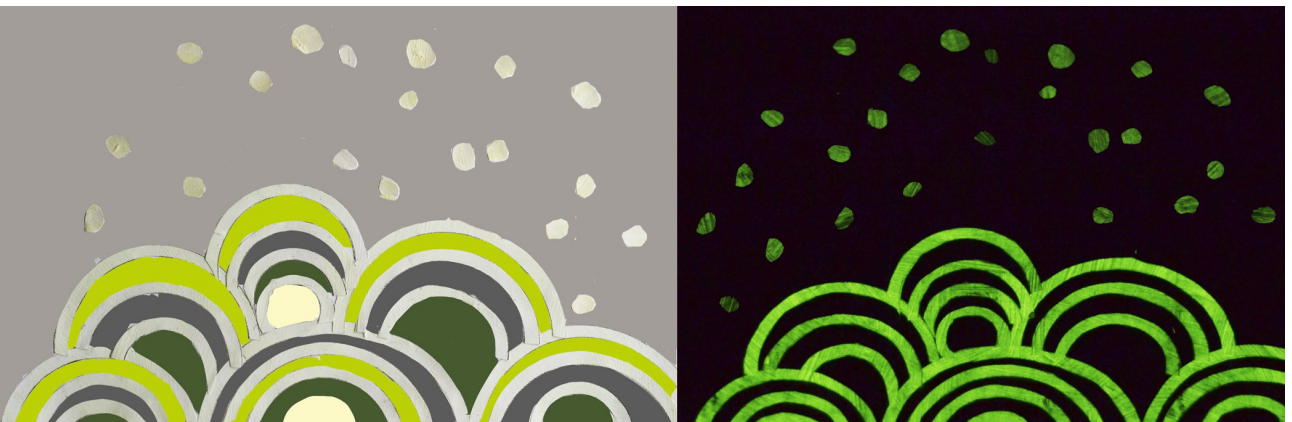
All designs should be created with glow stones and fluorescent sand.

The pattern seen in daylight could be designed with asphalt, tiles or sand and stones as the inspiration pictures are showing.

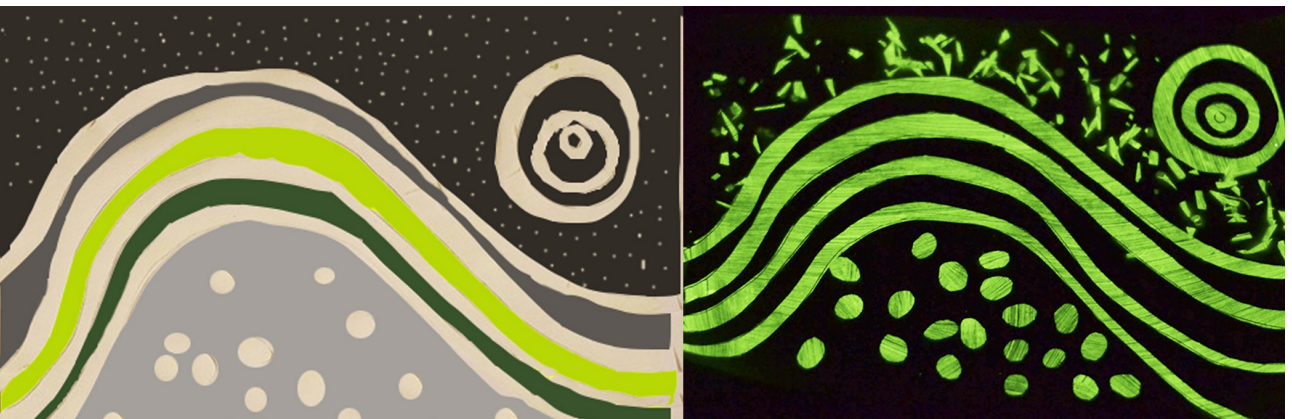
It is also possible to use different fluorescent colors for the designs



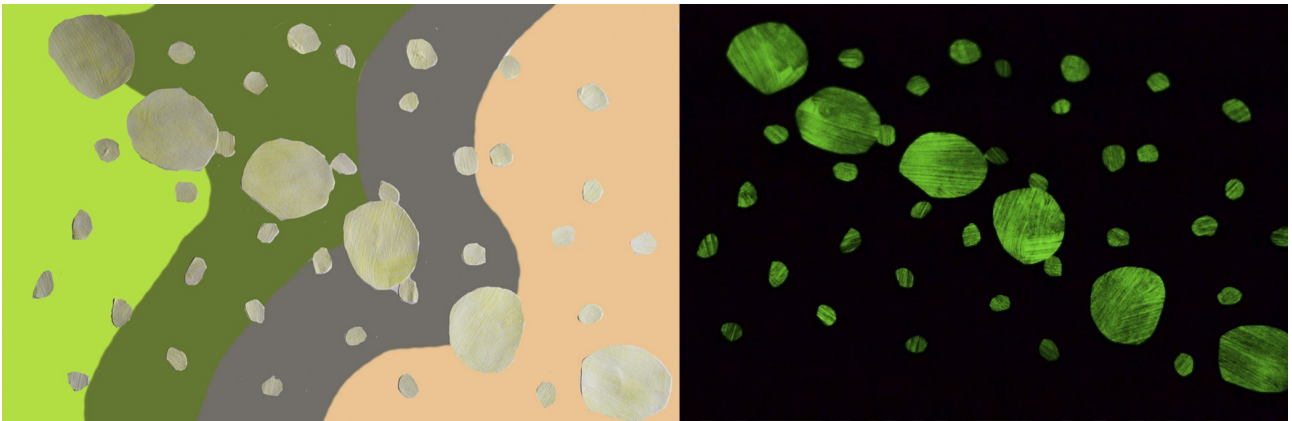
*Collages on paper – fluorescent ink and colors inspired from nature
The rings should be made out of fluorescent sand*



*Collages on paper inspired from sand pattern – fluorescent ink and colors inspired from the surface of the ground
The rings could be created with fluorescent – the dots could be glow stones
The colours could be designed from asphalt or other types of pavement surfaces*



*Collages on paper inspired from sand pattern – fluorescent ink and colors inspired from nature
The strips and small dots should be designed with fluorescent sand – the big dots should be glow stones*



Location for the design :

In my the findings from reading about Japanese garden design i realized that it might be more interesting to look at the nature where the design should be placed and use the elements with the same thoughtfulness as the Japanese people does, in there garden designs.

To get further with this idea I have decided on a location which i find interesting.
I have chosen to work with the Western part of Jutland which is a very interesting an beautiful part of the danish nature.

Inspiration pictures from the chosen location :



Sand, heather, grasses, stones and seashells



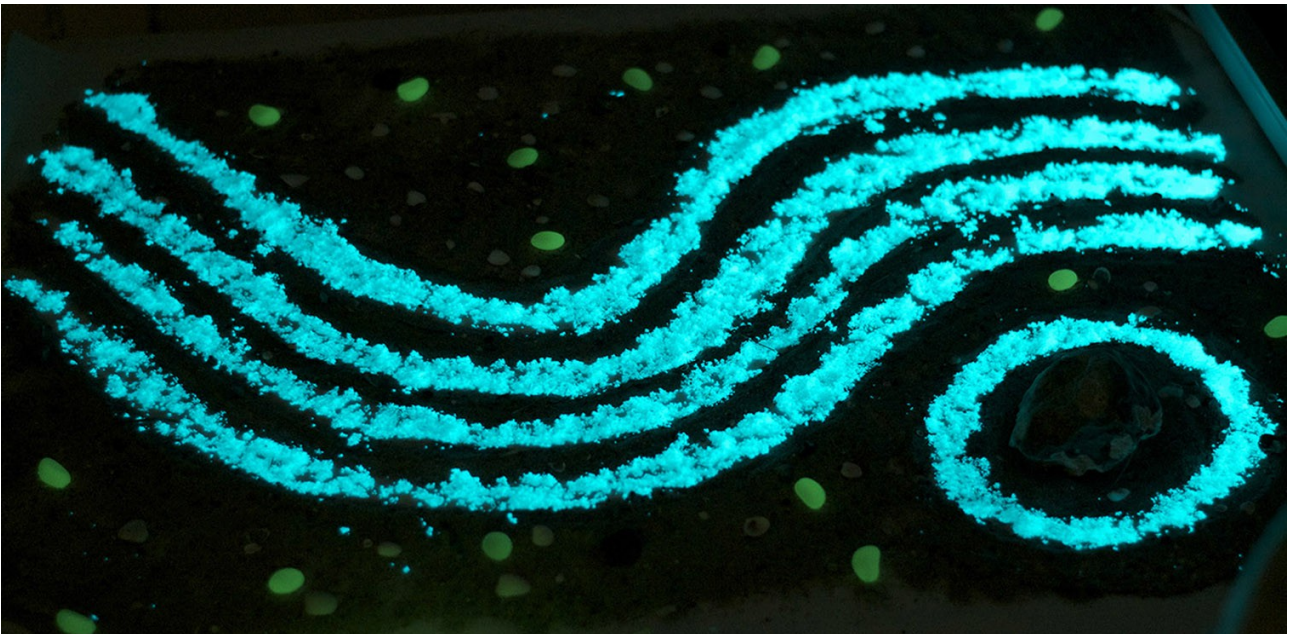
Pavement made from concrete, glass worked by the sea, seashells, stones ect.

Sketches with materials from the surrounding of the North sea and inspiration from Japanese garden designs :

Wave pattern :



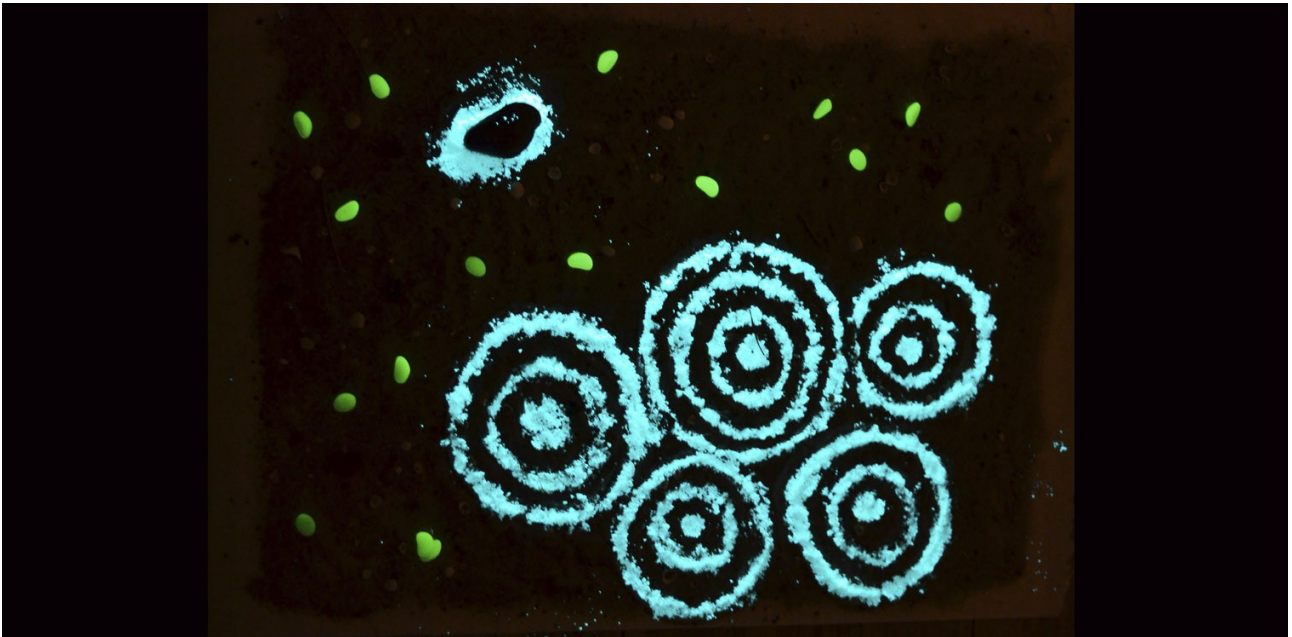
Sand pattern inspired from zen rock gardens and the surroundings of the North sea – viewed in light
Materials : Sand, fluorescent sand, stones, seashells and fluorescent stones



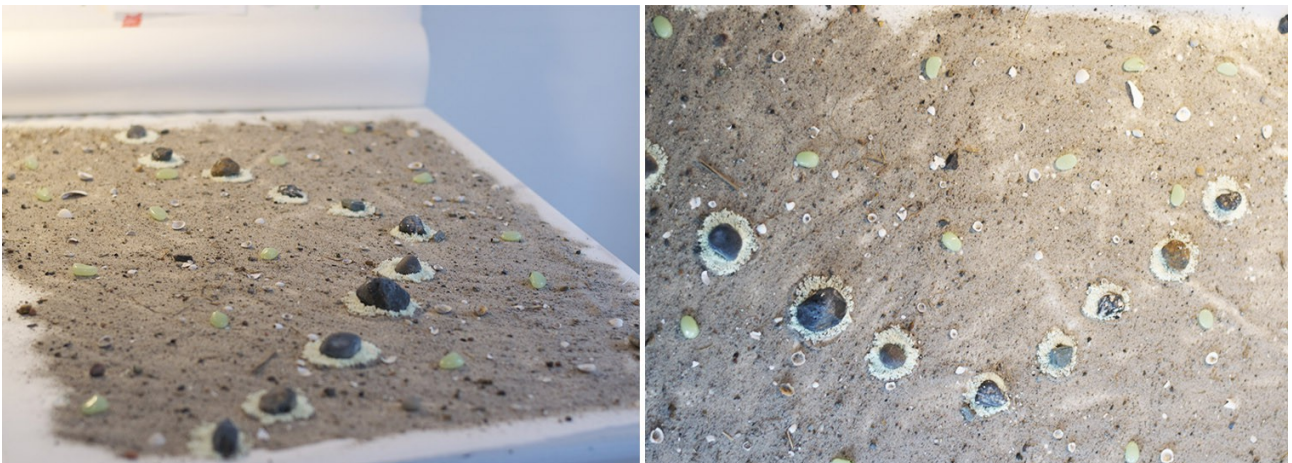
Ring pattern :



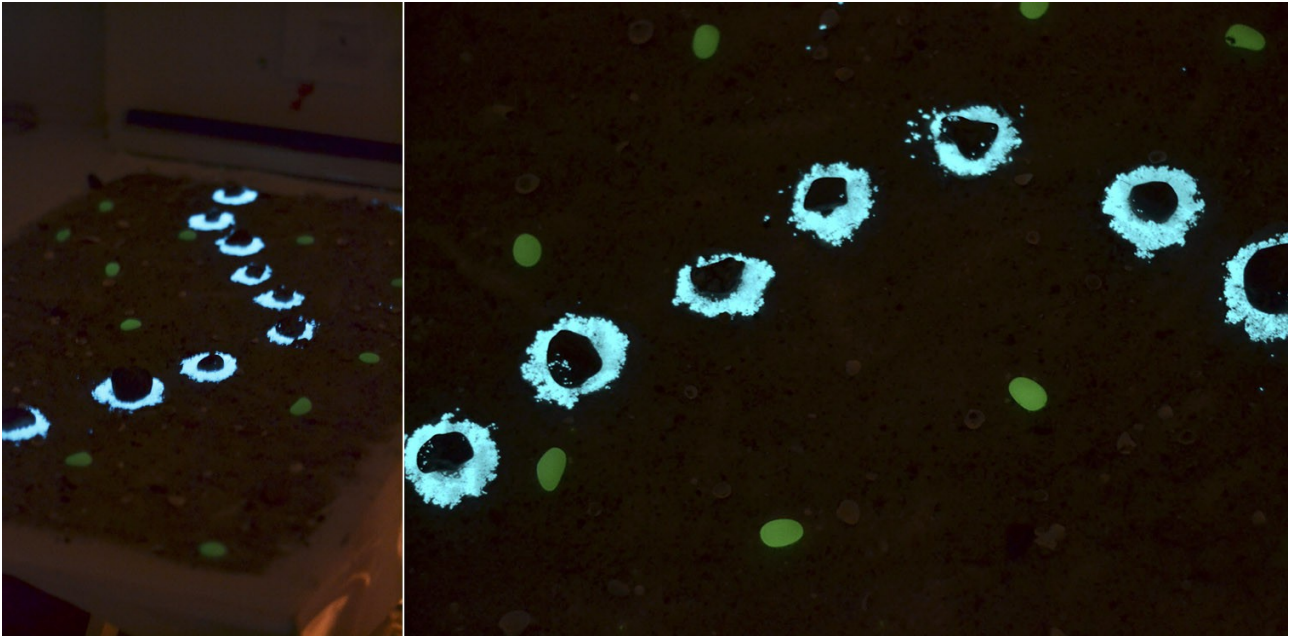
Sand pattern inspired from zen rock gardens and the surroundings of the North sea – viewed in light
Materials : Sand, fluorescent sand, stones, seashells and fluorescent stones



Stepping stones :



Sand pattern inspired from zen rock garden and the surroundings of the North sea – viewed in light
Materials : Sand, fluorescent sand, stones, seashells and fluorescent stones



Sand pattern – viewed in darkness

6 TEST :

6.1 CHOOSE METHOD

I have tested my design in three phases.

The first phase has been done along side my sketching process with fluorescent materials.

The second and third phase has been done after the design concept was finished.

Pre test : Testing different fluorescent materials in a natural dark environment.

Test 1 : Testing the fluorescent sand and stones to see how long time they will light up without being charged

Test 2 : Testing the chosen pattern design for the path and place it in a natural dark environment.

All the tests has been conducted at Møn in September and October 2018.

Møn is one of the few places with total darkness at night. Møn and Nyord has a certification as the first Dark sky park in Denmark by the international dark sky association (IDA) who work to reduce light pollution.

For the tests I have used blue light from fluorescent lamps, to ”charge” the fluorescent materials.

6.2 PRE TEST

Hypothesis: - *Fluorescent materials in the dark, will create a relaxing atmosphere?*

-How can I use fluorescent materials, light and darkness to enhance a natural atmosphere that will make the user relax and, at the same time, stimulate there senses to improve human health. -

How :

The first test was conducted along side with the design process to make sure that the use of fluorescent in the nature was a good idea

The pictures was taken in a big garden on grass

Test method :

Location : Møn (hjelmnakkevej 4) – 100 meters from the sea

Date : 15.09 – 2018

Time : 21 PM

Weather : Clear sky with no moonlight

Lights : four blue fluorescent lights, placed in a line which simulate a path in nature.

Materials : Four sorts of fluorescent materials – fabric with fluorescent ink, fluorescent thread, fluorescent stones and fluorescent sand

Camera Settings :

- Tripod + nikon camera
- shutter speed : 1/8
- aperture : 1.8
- Manuel focus

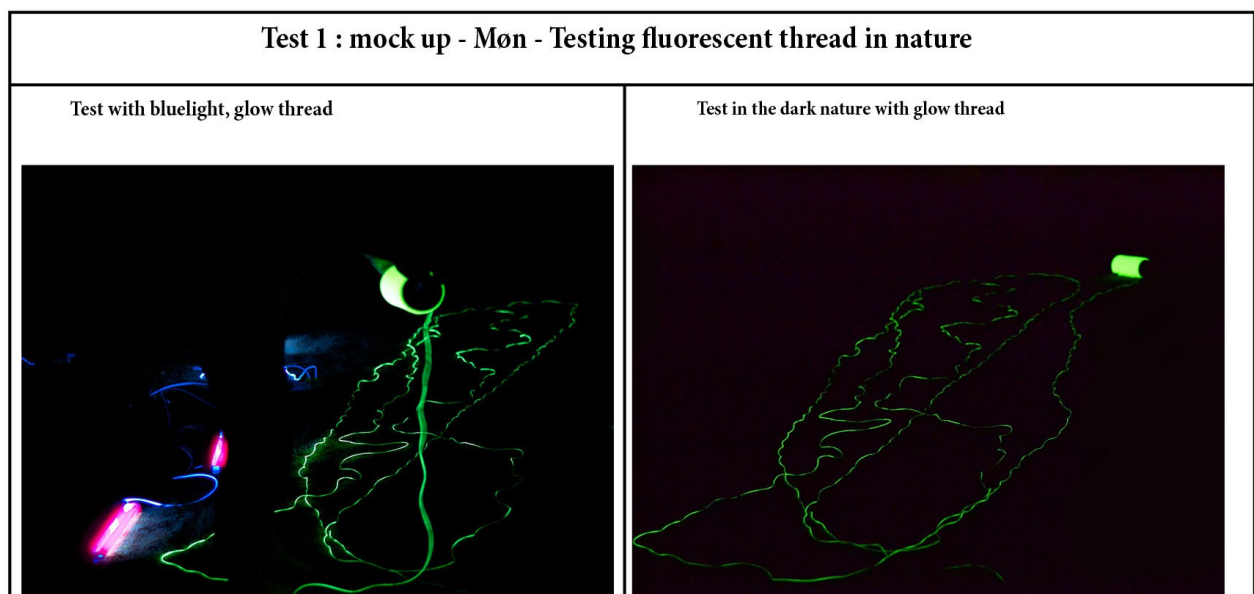
What :

Testing fluorescent materials in the natural darkness

The testing enabled me to try out different materials and choose the ones which seemed most relaxing and poetic, in the dark.

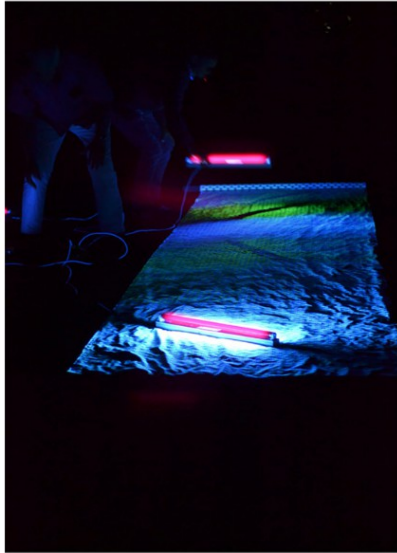
Why :

Because I believe that fluorescent materials in the dark will meet my criteria - to create a relaxing atmosphere that will have a positive effect on the users senses.

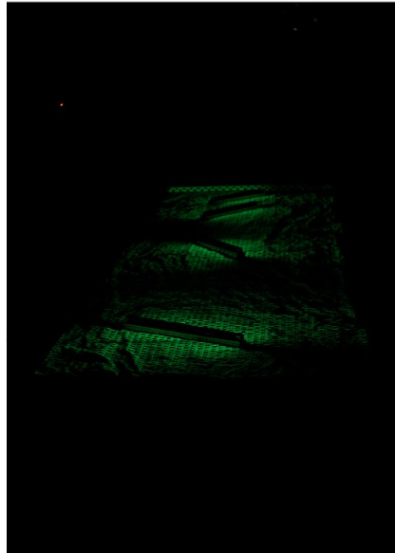


Test 1 : mock up - Møn - Testing fabric with fluorescent print

Test with fabric and blue light



Test in the dark nature - fabric glow

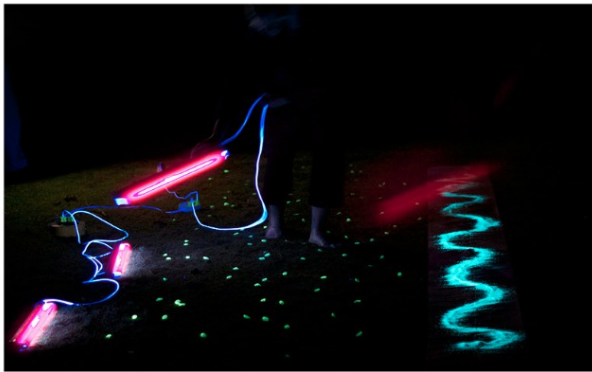


Testing fabric in the dark with light on tree in background

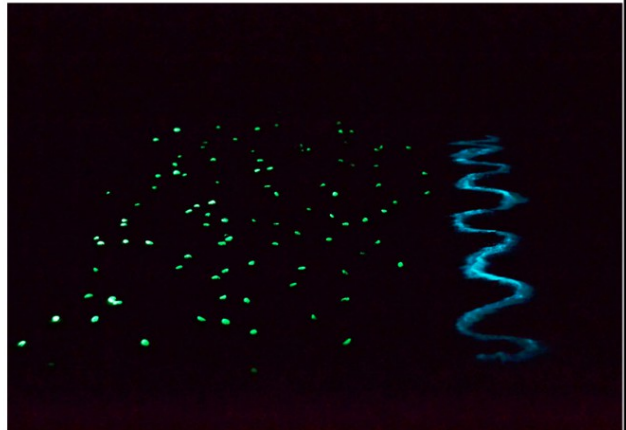



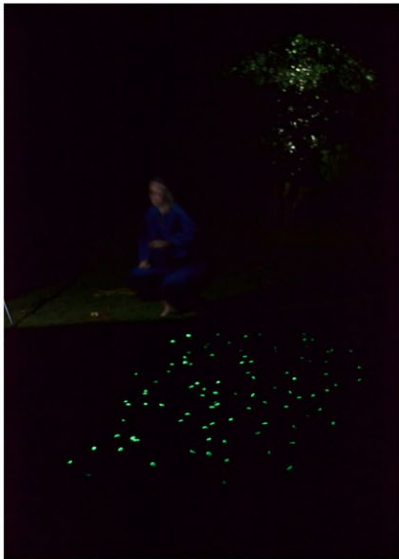
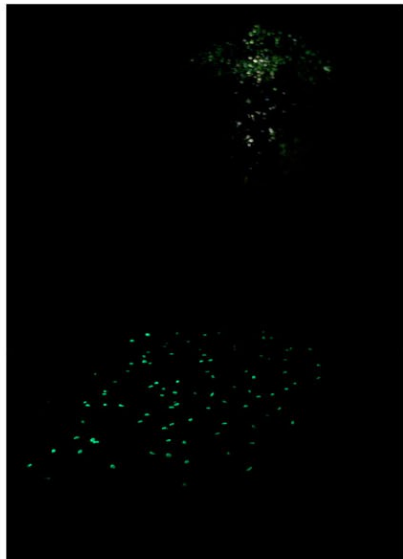
Test 1 : mock up - Møn - Testing glow stones and sand

Test with bluelight, glow stones and fluorescent sand



Test in the dark nature with glow stones and fluorescent sand



Test 1 : mock up - Møn - Testing stones and tree light		
Test with bluelight and glow stones	Test in the dark nature with glow stones and tree light in background	Test with glow stones and tree light
		

Result :

From these experiments I found that fluorescent stones and sand was the right materials to work with because I wanted to enhance the natural darkness.

I also thought that lighting up the trees was a very nice idea together with the fluorescent path.

With the conclusions from the first test, I was ready to test the chosen fluorescent materials for glow time and charging time from the sun.

6.3 TEST 1

Hypothesis: - *Fluorescent sand and stones which has been charged with sunlight will glow all night in a design for a path?*

How :

The pictures was taken in a dark room with no daylight or artificial light

Test method :

Location : Møn, hjelmnakkevej 4

Date : 18.10 – 2018

Time : 2 PM

Lights : The stones and sand has been charging for 8 hours in sunlight

Materials : fluorescent stones and sand

Camera Settings :




- Tripod + nikon camera
- shutter speed : 1/8
- aperture : 1.8
- Manuel focus


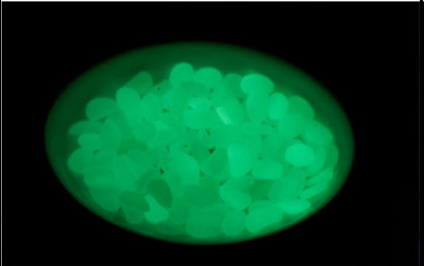
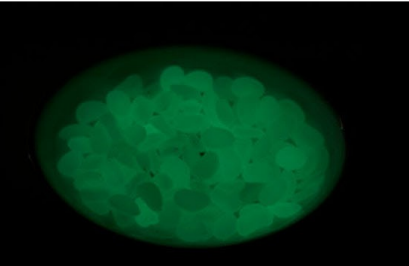
What :


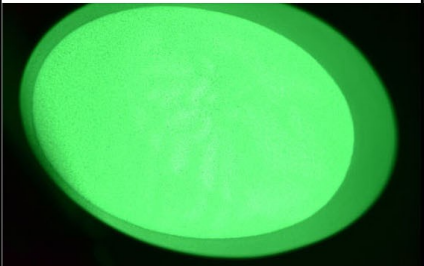
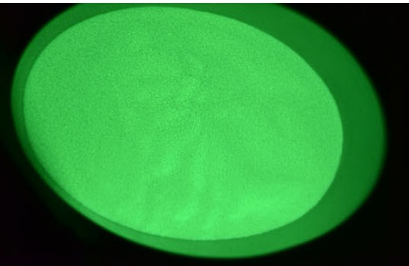
Testing stones and sand to see how long time they will light up at night, when they have been charged with sunlight during the day

Why :

Because I hope that there is no need to recharge the sand and stones during the night

Test with fluorescent blue stones to see how fast they loose glow		
Test 1 with blue fluorescent stones Time : 2.15 PM	Test 2 with blue fluorescent stones Time : 2.20 PM	Test 3 with blue fluorescent stones Time : 2.25 PM
		

Test with fluorescent Green stones to see how fast they loose glow		
Test 1 with green fluorescent stones Time : 2.30 PM	Test 2 with green fluorescent stones Time : 2.35 PM	Test 3 with green fluorescent stones Time : 2.40 PM
		

Test with fluorescent sand to see how fast it loose glow		
Test 1 with fluorescent sand Time : 2.45 PM	Test 2 with fluorescent sand Time : 2.50 PM	Test 3 with fluorescent sand Time : 2.55 PM
		

Result :

The result of this test was that the stones loose there glow time very fast.

The sand also most strong just after charging but it does not loos as much glow as the stones does
I believe that this test show that the stones need to be charged but the sand does not it.

With the conclusions from the second test, I was ready to work with my design in 1 : 1 scale muck up

6.3 TEST 2

Hypothesis: - *Fluorescent sand and stones in a zen motif, in the dark - will create a relaxing and meditative atmosphere?*

How :

The pictures was taken in a big garden on grass.

Test method :

Location : Møn (hjelmnakkevej 4)

Date : 18.10 – 2018

Time : 18 - 11 PM

Weather : Clear sky with crescent (moon is half full)

Lights : Transition time and fluorescent lights to recharge the pattern

Materials : Fluorescent stones and sand

Camera Settings for test 1 (transition time) and test 2 (night time) :

- Tripod + nikon camera
- shutter speed : 1/30 + 1/8
- aperture : 3.5 + 1.8
- Manuel focus





What :

I have created a test path which is 2 meters long and 50cm wide. The motif of the path is inspired from zen rock garden design.

The materials for the path is sand, stones and fluorescents sand and stones.

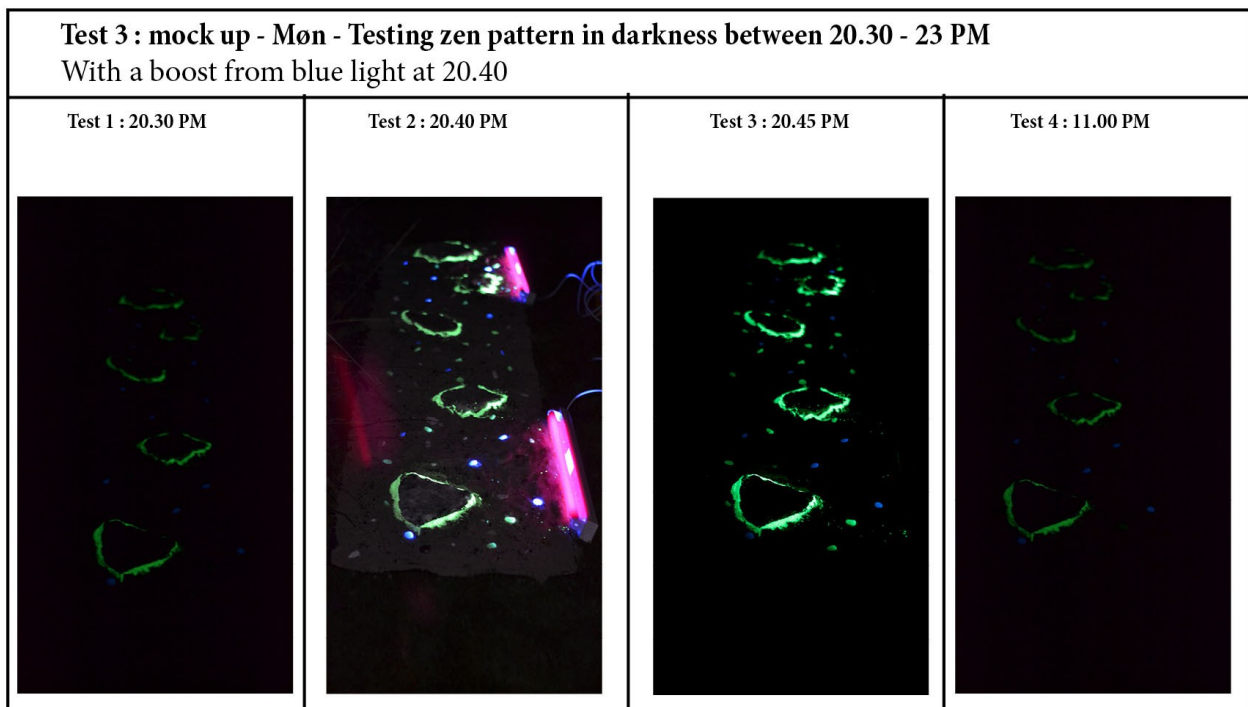
Why :

Because I think that the fluorescent zen pattern in the dark will meet my criteria to create a relaxing atmosphere that will have a positive effect on the users senses.

Test 2 : mock up - Møn - Testing zen pattern in transition time between 18.20 - 18.50 PM			
Test 1 : 18.20 PM	Test 2 : 18.30 PM	Test 3 : 18.40 PM	Test 4 : 18.50 PM
			

Result :

The result of the test with the transition time showed me that the fluorescent sand is glowing much more than the stones. The sand actually overthrows the the stones and does not leave the relaxing atmosphere that I was looking for.

**Result :**

The result of the test with the pattern in the dark hours showed me that the stones needed to be charged much more than the sand to glow with the same intensity. The sand was still glowing when I looked at 11 pm and I think it would glow all night so if I only use sand for my design I will not need to charge the path with light during a night.

6.4 ANALYZE TEST RESULT

For the third tests I was using my self as a test person

I have been analyze my test results according to James Spredley's descriptive observations. Second I have been analyzing the result according to my 3 design criterias.

Criteria 1 : How does the installation focus on the human senses?

Criteria 2 : How does the installation enhance a natural atmosphere?

Criteria 3 : How does the light in darkness make the user relax?

Pre test :

Hypothesis: - *Fluorescent materials in the dark, will create a relaxing atmosphere?*

With the results of the first test I made sure that the fluorescent materials in the night did create a relaxing atmosphere. I also realized that fluorescent stones and sand would be the best objects to work work with.

Test 2 :

Hypothesis: - *Fluorescent sand and stones which has been charged with sunlight will glow all night in a design for a path?*

Based on the analysis of my second test I became aware that the stones needed to be charged with light during night time. It is not that different from the fluorescent ink I used for thesis part 1

A sensitive landscape

The stones loose there effect very fast and has to be recharged at least every 10 min. to have an interesting effect. The sand, on the other hand, can glow all night with out any charging

If I choose to use the stones in my design concept it has to work with sensors and street lights so it is possible to recharge the path every 10 min.

Test 3 :

Hypothesis: - *Fluorescent sand and stones in a zen motif, in the dark - will create a relaxing and meditative atmosphere?*

First I have been analyze my test results for the third test, according to James Spredley's descriptive observations. Second I have been analyzing the result according to my 3 design criterias.

"you will make descriptive observations when ever you look at a social situation and try to record as much as possible. It means approaching the activity in process with out any particular question in mind, but only a general question "what is going on here?" (Spradley, J – 1980 p.72)

Own descriptive observations: Thursday the 18th of oktober - evening from 20:00 to 21:00

Starry night with moonlight, very beautiful.

Stars and moon are so powerful that the path lights up, but it is very clear to see the sand around the "stepping stones" in the pattern.

The luminous blue and green stones are very weak

The sand does not give the poetic impression I'm looking for, it's just very luminous ...

There are many sounds also from a few animals. In fact, it sounds like an animal has been hurt, I'm a little afraid of that sound. My location is close to the water, therefore there are also sounds from the ocean waves.

It smells cold and wet ... maybe the smell of dew fallen on autumn leaves and grass.

The darkness is not heavy, due to the moonlight, but it is still nice to move around in the silence.

It is a nice feeling to be alone with the glowing darkness and nature. However, I'm not happy with the path design, it does not have the poetry that the stones have when they are not disturbed by the sand.

I get attracted to the path when i walk there, of course because there is something that lights up.

Nature is very calm by the luminous light, it seems undisturbed. I think that's beautiful.

In the moonlight i can sense the contours of plants and trees, so i feel very much in the darkness of nature. It's exciting to walk alone in the dark with only the glowing path as company.

I go out again after an hour at around 11 pm

Now the pattern is actually more beautiful.

The sand is still glowing, but not so strongly, the stones begin to emerge. It's not powerful, but I think this expression is much more beautiful and fits better with the natural darkness. It's more poetic and not so strong.

I would watch it all night, to find out how long it has an effect.

Perhaps this is the expression that I'm looking for?

Criteria 1 : How does the installation focus on the human senses?

The senses which I had in play in the installation was **seeing, hearing and smelling** and then I was challenge the senses with the darkness.

The senses in use was getting more clear in the dark, thats the interesting part about partly remove the view, with the darkness.

- Sense of sight :

It was possible to see a little because of the moonlight but it is beautiful to walk along the path as it catches one's attention and because the bright sand was so powerful that one felt safe.

It gives an undisturbed feeling that other people are not watching you.

- Sense of hearing :

it's nice to listen to nature in the dark, the sounds are getting stronger when you can not see much other than the contours of trees and plants and the glowing pattern.

- Sense of smelling :

It smells of cold and wet nature, probably because of dew there has fallen on autumn leaves and moles. The smell is getting stronger in the dark but it was comfortable and also a thrilling.

Criteria 2 : How does the installation enhance a natural atmosphere?

Nature is very calm by the glowing light, it seems undisturbed. I think it was beautiful. The soft light works gently on the surroundings.

In the moonlight I could sense the contours of plants and trees, so i felt very much present in the dark nature. It's exciting to walk alone in the dark with only the glowing path as company.

Criteria 3 : How does the light in darkness make the user relax?

The darkness let us sense with the body before we reflect with our mind. As Merleau-Ponty said : *"the body meets the world before the mind"*

I believe that the installation would be relaxing for the user.

It was meditative to move along the path in the dark. It was quiet and dark. However, one's senses are a little in readiness as nature is out there and you are not sure what happens. It's exciting but also a little bit scary.

The pattern seems to attract attention in the dark, which makes the user present in the present and that is relaxing and comfortable.

7. CONCLUSION

The main goal for the thesis was to develop two art installations which would make the user relax and there by improve human health. My hypothesis and research questions was the main targets for the development :

Hypothesis :

-How to enhance a natural atmosphere with the use of nature, light and darkness which will make the user relax and stimulate the senses, to improve human health. -

Research questions :

- 1) How does the installation focus on the human senses?
- 2) How does the installation enhance a natural atmosphere?
- 3) How does the light in darkness make the user relax?

To answer the research questions and hypothesis several analysis has been conducted.

In the pre analysis I was researching existing knowledge about the human senses,

our relationship to nature and on the darkness, also in relation to the disappearance of it and what consequences it has to human health.

With the main findings from pre analysis it was possible to create two transformation tables which made the foundation for a design concepts.

With the collected body of knowledge combined with experiments with fluorescent materials, textile and light it was possible to develop two design concepts that answered the research questions and hypothesis.

Since my project was two folded I was using my evaluation of the first report to be clear about what I want to base the second part of the thesis on.

By creating the installation, *a sensitive landscape* I was able to conclude that the darkness with fluorescent material did have a healing effect on the senses and that a natural darkness made the user relax. Therefore it also seemed like a good idea to design an outdoor installation with the same guidelines which could embrace the dark nature, in the second part of the thesis.

7.1 EVALUATE FOR FURTHER DEVELOPMENT

I am aware that the design I have made for the *“sensitive walking path”* is not ready to be put in to action yet. There are several things that has to be investigated and tested more thoroughly.

Therefore I have made 6 bullet points that I find it necessary to work with, before the design should be implemented anywhere.

- I need to work with motion sensors and streetlights with blue light to recharge the stones in the path. The design would still be energy saving because the sensors should only work when pedestrians was using the path. In that way the pedestrian would see the design in light for the first two minutes and then enter a glowing path, for the rest of the walk.

- I need to examen how the blue light will effect animal life when it is partly turned off and on during night time

- I need to examen how a path design with stones and sand should be designed. Which pavement shall I use ect.

- I need to examen how I can enhance colors from nature due to the season changing

- I am also aware that the moon would have an effect on the design. Therefore I also need to investigate how the stones and sand will charge with moonlight. And if it is possible to see the design at night, with a full moon.

- Last I want to know more about a therapeutic garden design.

If the sensitive walking path is going through a natural area which is rather big, it would be interesting to include elements from a therapeutic garden design

My wish for the *sensitive walking path* is that it will be implement it in the nature near the sea, where it will be connect with the surroundings. Fortunately I found the perfect “Case” to work with. At the moment there are plans to build a new museum and nature area in the Western part of Denmark. The project is called Naturkraft and they will be opening there doors in 2020.

I have already been in contact with the board of Naturkraft and know for a fact that they need a design for a path which will connect the city of Ringkøbing with the area of Naturkraft.

In the following appendix I have investigated the vision and thoughts about Naturkraft, more thoroughly.



8. REFERENCES

Agnes E. van den Berg, Terry Hartig, Henk Staats.
Preference for Nature in Urbanized Societies : Stress, Restoration, and the Pursuit of Sustainability
Horgen-Evensen

Arup (2015) *Rethinking the Shades of Night*
London WIT 4BQ
arup.com

Bogard, P (2013) *The end of the night*
www.youtube.com/watch?v=xav7hG-9q2o

Böhme, G (2013) *The art of the stage set as a paradigm for an aesthetics of atmospheres.*

Christian de bang, T (2018) *Svampe skal fodres*
Phd i planternes ernæring – institut for plante og miljøvidenskab - Københavns universitet

Edensor, T (2015) *light design and atmosphere – visual communication article*
Manchester Metropolitan university, Manchester, UK

Grahn, P - Tennegart Ivarsson, C - Stigdotter, U - Bengtsson, I L (2010)
Using affordances as a health-promoting tool in a therapeutic garden
Innovative Approaches, chapter 5

Grøn, K (2017) *Eat me*
Trapholdt – Art katalog from exhibition

Hause, G (1982) *Krop og sanser; en bog om kropsbevidsthed, sansetræning og afspænding*
Nyt nordisk forlag, Arnold Busck

Hangaard Rasmussen, T (1996) *Kroppens filosof - Maurice Merleau – Ponty*
forum for eksistentiel fænomenologi

Have refugiet
web : Haverefugiet.dk

Kaplan, S and R (1995) *The restorative benefits of nature : toward an integrative framework*
Journal of environmental Psychology
Department of psychology, university of Michigan, U.S.A

K, Rich, D., Sjostrom, G. & Patil, G. (2011)
Benefits of indoor plants on attention capacity in an office setting.
Journal of Environmental Psychology, 31, 99-105.

Kawaguchi, Y (2000) *Japanske Haver - Tanker, inspiration og design*
Oversat af Jane Schul / Forlaget Klematis A/S

Kvale, S og Brinkmann, S (2015)
Det kvalitative forskningsinterview som håndværk
3. udgave – Hans Reitzels Forlag

Lindstrøm, M (2005) *Brand Sense – branding for alle sanser : føle, smage, lugte, se, og hører*
Børsens forlag

Pallasmaa, J (2012) *The eyes of the skin - Architecture and senses*
John Wiley and sons

Spradley, JP (1980) *Descriptive observation*
page 1 of 6

Traganza, P – Loe, D (2014) *The design of lighting - second edition*
Routledge

Roepstorff, K (2017) *renaissance of the night* - artwork
Transforming darkness podcast series produced by kunsthall charlottenborg in connection with the
exhibition *renaissance of the night*
Podcast produced by carsten ordman - **www.konkylie.dk**

Sølvstein, B (2017) *Natur på recept mod stress - mens vi venter*
podcast : soelvstein.dk

Selhub, E – Logan, A (2008) *your Brain on nature*
The science of nature's influence on your health, happiness and vitality

9. APPENDIX

Project planning thesis part 1 :

1. Fundament	Background	Plan for porces	Feb 07 x 08 x 09 x
	Method	Læse litteratur	
	Motivation	To Do Liste	
2. Pre analysis	Vision	Goals	Marts 10
	Deffine method for investigations		
	Research questions		
	Opsumere analyse		
3. Analyses	Analyse af data fra undersøgelser		Marts 11 12-18
	Deffine challanges		
	Deffine Goals		
4. Transformation	Hypotese (hvordan kan problemet løses?)	Sætte installation op Morten kommer og arbejder med lys i installation d.21	Marts 12 19-25 13 26-1
	skab kriterier for design		
	Deffinere designproces		
5. Design Concept Inspiration research brainstorm initial concept	Arbejde med lys, lyd, materiale og bevægelse, i installation		April 14 15
	1 Research fra kriterier	Evalueringstabel Hoved idé - skitse eksperimenter med lys og stof	
	2 Brainstorm		
	3 Rå ideer		
	4 Udvælgelse		
	Udvikling af lysdesign til installation		
6. Test Chose method Test Analyse test	Forsøg med test personer i installation		April 16 17
	1 Hvordan sanser vi i mørket? hvordan opleves lys og mørke forskelligt?		
	2 Hvordan understreges naturens farver med lys?		
	3 Giver bevægelse nogen yderligere fornemmelse af natur?		
	4 Hvordan opleves mørket med fluorescerende lys?		
7. Conclusion Analysis of test Evaluate Present	Konklusion af test	Fremlægning	Maj 18 19
	Afvikle rapport		

Project planning thesis part 2 :

Face	Process Step	Production	Week and date
			1.08.2018
1.Fundament	Project background Method Motivation	Proces plan	Aug. Week 32 - (6-10) Week 33 - (13-17)
		Litterature list + Read + notes	
		To do list	
2.Pre-Analysis	Vision Investigations Research questions Goals	Conclutions from litterature Investigations online talk to skilled people Investigations on location	Aug/sep Week 34 - (20-24) Week 35 - (27-31) Week 36 - (3 - 7)
3.Analysis	Analyse data Define challanges and goals	analyse data from location analyse data from other sources	Sep. Week 37 - (10-14)
----- MILESTONE 1 -----			
4. Transformation	Problem statement = Hypothesises		Sep. Week 38 - (17-21)
	Criteria		
5. Design concept	Inspiration research	Decide concept Choose materials Create prototype	Sep/Okt. Week 39 - (24-28) Week 40 - (1-5) Week 41 - (8-12)
	Brainstorm		
	Design concept	Prepare pin up	
----- MILESTONE 2 - PIN UP -----			
6. Test	Choose test method Test Analyse result	Test prototype Test prototype at location Invite test people	Okt. Week 42 - (15-19)
7. Conclusion	Evaluate	Finish Report	Okt. Week 43 - (22-26)
----- MILESTONE 3 - HAND IN REPPORT -----			
8. Communication	Portfolio	Create Portfolio	Okt/Nov. Week 44 - (29-02) Week 45 - (05-09)
	Video	Presentation video	
	Presentation	Make Presentation slides	
	Maternity leave		Nov/Dec. Week 46-49 - (12-07)
	Exam presentation	Practice Presentation	Dec. Week 50 - (10-14) Week 51 - (17-21)
		Examination	

Interviews for thesis part 1 :

Linda 22 year - Student at KEA design academy – sustainable fashion design

Sound :

music and wind together, is the best result

Associations :

over ground and underground
life and death

The darkness :

Was enduring the darkness, could stay there for a long time, Its interesting also because of the movement, scary until you accept it and then relaxing and fascinating
The darkness do something to the senses

How was the movement in light and darkness :

In light you walk faster through the installation
In darkness you stay to feel safe, or move slowly around

How was the fading from light to darkness :

It was very nice and the eyes was getting use to the darkness

How was the experience in total :

Meditative natural experience
Nice experience

Did she want to stay for a while to enjoy the installation :

Yes, she would like to stay there for a while, especially in the darkness – she enjoyed the darkness

My observations of Linda :

She was standing still in the darkness
She was walking around in the light but would have liked more space between textiles so she could view the hole surface
talked with low voice in the darkness
Said WOW when light came off the first time

Marius 12 year - Schoolboy

Sound :

music is the best result

Associations :

forest and lightning

The darkness :

Scary and whawww
Like flying between lightning

How was the movement in light and darkness :

Very scary that it was moving in the dark

How was the fading from light to darkness :
didn't think of it

How was the experience in total :
very relaxing

Did he want to stay for a while to enjoy the installation :
yes, in the darkness

My observations of Marius :

He was not that interested in the installation in the light but was walking around – talking a lot
When the darkness came he was standing still and was quiet except from saying (with a low voice)
That it was great

Mads 40 year - Carpenter

Sound :
music and wind together, is the best result – more loud

Associations :
Light, flowers – some are shining white, he liked that
Roots in the dark

The darkness :
the darkness is frightening but thats what makes it interesting

How was the movement in light and darkness :
To walk around in the darkness is not more slow because he already new the room
The movement creates liveliness

How was the fading from light to darkness :
It seemed very natural

How was the experience in total :
Meditative natural experience
expand the senses
becomes more sensitive

Did he want to stay for a while to enjoy the installation :
no – was finished after seeing it to times

Per & stine was in the room at the same time

Stine 40 year - Artist

Sound :
wind is the best result – more interesting. Doesn't tell you what to feel

maybe sounds randomly from animals or something like that

Associations :

nature feeling

lightning

very different feelings of nature, she liked that – “it just works”

The darkness :

the darkness is frightening but that's what makes it interesting

the darkness made her calm

How was the movement in light and darkness :

walk equally in light and darkness, are used to art rooms which are dark.

Had seen the room in light so felt safe

How was the fading from light to darkness :

It seemed very natural

How was the experience in total :

She found it refreshing and was happy afterwards

Did he want to stay for a while to enjoy the installation :

no – was finished after seeing it a couple of times

Per 40 year - Art writer

Sound :

wind is the best result – more interesting. Doesn't tell you what to feel

Associations :

Woods

streams of something, couldn't orientate

The darkness :

Didn't know what to say

How was the movement in light and darkness :

walk more slow in the darkness, more quiet

How was the fading from light to darkness :

It seemed natural

How was the experience in total :

Meditative and relaxing

very nice

he liked the simplicity of the installation. Just fabric, strings and fans... but creating a new world

Did he want to stay for a while to enjoy the installation :

Yes, would like to stay, really liked the chancing from light to darkness – makes you curious

My observations of Per & Stine :

They didn't talk to each other, nor in light or darkness
they seemed pleased with the experience
they walked slow in light and in darkness

Annika 48 year - Fashion designer

Sound :

best with music because it seems more finished. When you enter the installation you know the experience has started

Associations :

Spring in the Woods
Lava streams coming down a mountain
two different worlds – both related to nature
Day and night – dramatic not dramatic

The darkness :

More interesting in the darkness

How was the movement in light and darkness :

walk more slow in the darkness, not scared

How was the fading from light to darkness :

Works well, its no problem for the eye to adjust

How was the experience in total :

relaxing feeling of a nature experience

Did he want to stay for a while to enjoy the installation :

Yes, would like to stay for a while, needed time to absorb it
It would have been better if the motif in the darkness wasn't a like

Mette 43 year : Graphical designer - teacher

Sound :

Only the fans, more interesting

Associations :

Forest feeling
Under the water – two worlds

The darkness :

Very poetic experience in the dark, like the movement from wind

How was the movement in light and darkness :

walk equally fast in light and darkness
the music sets a natural speed for walking

How was the fading from light to darkness :

Would like a longer fade between light and darkness

How was the experience in total :

very relaxing feeling of nature. The body calm down, like the feeling

Did he want to stay for a while to enjoy the installation :

Yes, would like to stay for a while, mostly in the darkness

My observations of Mette :

Becomes quiet in the dark and stand still for a while

tries to distance her self from the fabric in the light to see the motif more clear

Notes from podcast series – Transforming darkness :

1) We need darkness and to engage with forms not yet emerged

Jonas Tinius , Lector in Anthropology, Humboldt-Universität, Berlin

The list of dark subtexts seems endless: from uniform and uncolor over depression and anger to problematic notions of race and skin color. With anthropological perspectives you can approach darkness across a wide range of connotations without necessarily trying to pinpoint its essence, definition or boundaries **but instead try to grasp** how darkness has been mobilized by people, theories and political movements throughout history. Mankind has always been driven by the urge to explore the farthest, darkest corners of our realities, but maybe we don't need to know all those things? Maybe darkness is for mysteries?

2) Society is dark, but when we can go fearlessly into darkness, we transform it destructively into the constructive

Kitt Johnson - Dancer and Choreographer

The material saves, like the sea, on huge amounts of seals," and if you really listen to the material, you may hear the darkness getting ridiculous. The dance can enter and act in language and beyond the language is the dark, so in the movement the body can approach the existential darkness. A body is a material that works in the sensual, and the Japanese Butoh dance is the perhaps clearest bodily redemption of dark energies and moods such as oppressed sexuality, violence, death and chaos.

3) The light is sense, the darkness is emotions, sensations and senses

Dorte Jørgensen -

Professor of Philosophy and History of Ideas, Aarhus University

You can not talk about dark without talking about light like you can not see light without knowing darkness - all parts are part of a whole. Where the Greeks were absorbed by light, they moved into Christianity towards a stronger contrast between light and darkness, salvation and sin. With the modernization, the West is especially dominated by the enlightenment thoughts that clearly prioritize the light. Today, we live in a divided era, where some cultivate the sense and its rational light, while others feel the body and it is shapeless. But in that landscape there may be a glimpse of the game between the bright and dark prerequisite for human recognition.

4) Eigengrau is your very own gray in total darkness

Daniel Zederkoff - Musicians and Ideas Stories

When human beings are exposed to darkness, the phenomenon of Eigengrau occurs - the brain will not accept the darkness and therefore generate a shade of gray that appears black. The deep, all-encompassing darkness is thus not really available to human minds and minds,

but as an alternative, obscurity can be fertile to our hearts. But if the experience horizon and our basic reflection room are expanded into the dim aspects of reality, centuries's enlightenment ideas may have restricted the scope of thought?

5) Part 1, Chaos and Cosmos, Titans and Gods, darkness and light

Niels Viggo Hansen, philosopher and zen buddhist

To some people, darkness - mental as well as physical - is what seems to appear when life has no meaning. Men via den filosofiske tilgangen af såkaldt eksistensielle følsomhed kan vi aktivt trække tilbage til vores mørke for at omdanne fra en psykologisk tilstand til en anden. In a dialectic cosmology of light and darkness, we tend to associate light and cosmos where the dark is chaotic, however, darkness is needed for the world of light, the cosmos, to have a shape.

6) Darkness and Silence Inside the Mountain

Morten Søndergaard & Jakob Schweppenhäuser, Poet and composer

Join 'Speos', a poetic, audible journey into a mountain cave through the eyes and ears of a person stripped of everything he knows. Being deep inside the earth confronts you with your loneliness, with the actual sound of silence and so silence and darkness become composed and interwoven – the immersion in the dark makes it alive and physical. In this deep, almost platonic dark, every sound is the difference between life and death. Is there a notion of dark sound beyond metaphorical meanings?

7) Dark Ecology & OOO in sound

Marie Koldkjær Højlund & Morten Riis, Musician, composer and sound explorer

In a realm of the audible maybe darkness is silence – the dark as the absence of sound. What happens when we try to bring forth everything that darkness normally hides from us? The philosophy of dark ecology deals with the notion of everything sharing a sensibility that we normally consider purely human. Humanity needs to realize that we are not on top of everything, and ideas of dark ecology is way of illustrating how much of our reality is beneath our vision, beyond our control. Darkness is hidden but crucial to tune into – this is where other senses than eyesight are useful.

8) Rave on darkness

Solvej Helweg Ovesen, Curator

The dark as a positive space for unrestrained physical action. In a black and noisy void like the Berlin club Berghain, our bodies can be absorbed in a darkness of sound, dance, maybe of trance and disappearing – a way of unleashing ourselves from habits of everyday life connected to screens, pace and efficiency. Engulfed by nightlife and through decolonial curatorial practices, the mind and body are set free, enabled to discard the common notion of darkness as non-knowledge, opposed to a widely recognized (Western) perception of Enlightenment as a shared truth and ideal.

9) Hikes in the increasing darkness that turns the stars on

Alaya Riefenstahl & Julie Hjetland, performance group **Myrkr**

A group of dark activists call for fighting light pollution and overlap when arranging sound walks in the dark as a ritual. The hope is to ward off the historical demonization of darkness, to raise a common and individual trust to ourselves and our senses to question the fear. In the dark we can turn our eyes inward and maybe it's even healthy for the body and mind to disappear a little in the absence of light.

Many more podcasts are to be found at www.konkylie.dk

Naturkraft – vision (for thesis part 2) :

NATURKRAFT - Analyse af oplæg

Udgivet af Komitéen for etableringen af KRAFT i samarbejde med REDIA, Thøgersen & Stouby og OddFischlein, Århus, april 2013.

Koncept :

Kombinere **natur, viden og læring** med **udvikling, vækst og turisme**

Baggrunds idé :

- 1) Viddensbaseret oplevelses univers i Ringkøbing (vestjylland)
- 2) tager udgangspunkt i naturens kræfter
- 3) Bæredygtighed som overordnet fortælling (KRAFT er selvforsynende)
- 4) skabe bevidsthed om at vi skal handle bæredygtigt
- 5) sikre udvikling i landkommuner

Baggrund :

- 1) Ringkøbing/skjern kommunes våbenskjold : Laks, bølge, det grønne græs = vesterhavets bølger, hvide strande, hyggelige småbyer, fugleliv
- 3) Nu tiltrækker området 1 mil. turister om året - med KRAFT mange flere

VISION :

Med afsæt i naturens resurser har KRAFT som formål at skabe et vidensbaseret oplevelses univers med global/lokal gennemslagskraft.

Gennem oplevelser, lej, sanseindtryk og fysiske udfordringer ønsker KRAFT at skabe et dybere indblik i naturens kræfter for derved at motivere til en fælles bæredygtig fremtid

Arkitekturen :

- 1) 60 Ha

Nord Øst = dyrket landbrug med bæredygtig undergrund

Vest = Eng og vådområder langs Von Å

- 2) Mellem KRAFT og vådområder ligger industriområde der skal forandres

Volden (Cirkelslag)

- Volden lægger sig midt i landskab og har tydelig refferance til vikinge anlæg
- volden er 15 meter på det højeste sted (læ for vind)
- Volden deler område op i 2 : et område inden for volden og et uden for volden

De 4 sfærer (indendørsområde) = Træ, jord, biosfære, vesterhavsstorm

- repræsenterer elementer jord, vand, sol, vind

KRAFTS udendørsområde

- 1) Revlen = 1000 m stort vandbassin hvor man kan udforske understrøm
- 2) Vindkraft = Hvor meget vind skal der gennereres for at oplyse en hel by?