Janne van Berlo
ExploreLab XVIII
Graduation research

Technical University Delft, Faculty of Architecture
December, 2014
“The feeling of sacredness in architecture, as well as throughout the arts, is a category of experience arising from our encounter with a timeless, archetypal, or mythical existence. Our worldly materialistic and obsessively rationalistic culture has become a depressing and unsatisfactory lifestyle by imprisoning life in a one-dimensional reality”

Preface

With this research I wish to explore the experience of architecture, to finish my studies at TU Delft with a research that embodies what I find most important in architecture. Throughout my life I have visited countless number of churches, mosques and synagogues, all over Europe. I think my passion for the experience of architecture began there, with the experience of sacred architecture. That feeling one has when entering a church, the door closing behind you, your eyes slowly getting used to the light and then this feeling that comes over you. A serenity, a sense of security, of calmness. That is the power of architecture. The ability to move people, to create meaning and to touch people in the core of their being.

During my education I have often found that architecture is seen as something that stands on its own. It is an icon, a symbol, a political statement or an endorsement of the name of the architect. Too often it has little to do with how people will actually live in it, work in it, experience it. Whereas that is in fact exactly what matters to me in architecture, an atmosphere of well-being and beauty, inspiration and growth, being a part of society. Within my masters I have been looking for the balance between functionality, technique, the experience and the atmosphere. To further develop myself in this direction I have chosen to participate in Explore Lab18. Within this studio I was able to focus on my own fascination and use that as a starting point for a research and a design project. My fascination is the ability of architecture to move people, specifically the ability of sacred architecture to encourage a certain state of mind, contemplation, introspection and social cohesion.

Janne van Berlo
01 December, 2014
Rotterdam
“Living in this quasi-rational time of ours, we are in desperate need of the mental emancipation that the spiritual and artistic dimensions can provide the human thought, emotion and imagination.”

Juhani Pallasmaa,(2007)2012a, p. 115)
# Index

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preface</td>
<td>3</td>
</tr>
<tr>
<td>Introduction</td>
<td>6</td>
</tr>
</tbody>
</table>

## Part 1 Theoretical framework

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>16</td>
</tr>
<tr>
<td>1. The sacred and the profane.</td>
<td>17</td>
</tr>
<tr>
<td>Sub conclusion</td>
<td>28</td>
</tr>
<tr>
<td>2. The emergence of meaning</td>
<td>30</td>
</tr>
<tr>
<td>Sub conclusion</td>
<td>39</td>
</tr>
<tr>
<td>3. Phenomenological discourse</td>
<td>40</td>
</tr>
<tr>
<td>Sub conclusion</td>
<td>46</td>
</tr>
</tbody>
</table>

## Part 2 The experience of sacredness

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>56</td>
</tr>
<tr>
<td>5. The experience of sacredness in art</td>
<td>57</td>
</tr>
<tr>
<td>Sub conclusion</td>
<td>78</td>
</tr>
<tr>
<td>6. The experience of sacredness in architecture</td>
<td>84</td>
</tr>
<tr>
<td>Sub conclusion</td>
<td>146</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conclusion</td>
<td>158</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bibliography</td>
<td>165</td>
</tr>
</tbody>
</table>
Introduction

Purpose of the research within the contemporary society
It is important that the research has value within the developments of the current society. The current society is one that is derived from the individualization, which created an era of the liberated, free thinkers and secularism. In the 60s people wanted freedom, they wanted to experience everything everywhere. They wanted to create their own set of rules and values, they wanted no longer to be identified with a specific religion, nor to follow one indiscriminately. This increased the drop in church attendance and the influence of religious institutions declined, to a point where we now speak of a secular society in Western-Europe (Botton, 2014; Stegers, 2008).

The decline of the religious institutes does not imply that the need for spiritually has disappeared. There is a majority that is found between the believers and the absolute rationalists, a group that sometimes want to believe something and “are enthusiasts for transcendent meaning” (Gopnik, 2014, p. 4). This group tries to find their own set of beliefs, a personal religious identity and moral framework, and does not feel at home in a church, mosque synagogue or temple. This individualistic approach is also seen in the Netherlands where according to Prins (2008a) around 65% of the Dutch youth still prays, yet, not towards God but towards “something higher”. They search and self-experiment to create their own mixture of different movements, to create a framework of meaning and a sense of purpose.

Besides this individualization and secularism, there is also a desire for the search for meaning, coming from post-industrialization. The 20th century was the time of industrialization, where society was mostly driven by mass-production. This generated a consumer society, where the process of production resulted in a desire for more. There was suddenly a abundance of everything, products, freedom, choices and possibilities. This created a lack of satisfaction and a loss of value. An abundance that indicated a
meaninglessness. In the current post-industrialized time with the financial crisis and a growing importance for sustainability, mass-production has been put in a different light. People are again looking for value, there is a new quest for meaning.

In the post-industrialized, individualistic world there is a large interest in the purpose of being, a renewed emphasis on the sacred (Prins, 2008b). This interest creates the possibility for a new space in the city. A place that has the atmosphere of the sacred, which is not related to a specific religion. A place where life slows down, where people can de-stress, think, gather, talk and listen to one another. A place that has an atmosphere that encourages introspection and contemplation, and that functions as a metaphysical house for society.

Definition of the sacred experience
Sacred can be explained in many ways, used to describe art, architecture, places and events, rites and objects. For this research, the most striking description is that of Pallasmaa ([2007]2012). He describes that the experience of sacredness as induced by architecture or the arts, is one different from the religious experience. A religious experience is created by an encounter with specific places, people, or objects that are depicted as sacred. Yet, sacredness can also be an experience that is not connected to religious activities, but is an encounter of, for example, atmospheres, settings, arts and a sense of place. The experience of sacredness induced by architecture or arts, in a secular society is as "a sensitized encounter of the Self and the World. This experience arises from the holiness of life itself and deep existential experience of being" (Pallasmaa, [2007]2012a, p. 108).

Sacredness or holiness is an experience that lies beyond symbolism, functionality, aesthetics and beyond the identity of
a religion. It creates an experience that moves you, and creates a feeling of calmness, togetherness and wholeness, with nature, humanity or the cosmos. The feeling is overwhelming, one of a beautiful world and the infinity of the cosmos, putting life into perspective. Sacred spaces can facilitate contemplation, have a certain serenity and offer an escape from the hectic world, the busy life, the profane.

The sacred experience can be found in churches but also libraries, museums, gardens, nature, art and in commonest surroundings and objects. This experience is evoked by many different architectural expressions, which have in common that they guide the thoughts to something beyond the material essence of the place. This leads to the research question, How is the sacred experience induced by architecture? And: How does sacred architecture facilitate the contemplative experience of its visitors? The research is focused on the atmosphere, with the object to discover the poetic qualities that create such a space. For this, religion related aspects as symbolism, ritual, politics and program will be left out. The result of this research will create guidelines for the design of such an atmosphere.

Research goal
The object of investigation is to explore what constitutes the sacredness of a place, and find the essence of the experience one has in sacred architecture or spiritual spaces. The atmosphere is here seen as one that encourages both contemplation, oneness and social cohesion, or connectedness. For this I want to gain a better understanding of the phenomena of multi-sensory experience.

The project goal is to recreate this experience of sacredness, the atmosphere, within a space for society, for everyone who wants a place in the city to visit, to gather, to contemplate and find
The atmosphere of the sacred

serenity. A place that represents the heart of society, for people who happen not to believe in anything, people who don't know what they believe or just anyone who wants to feel the warmth of a social place or have a place for contemplation.

Research methods
The research consists of three methods. The first being a literature inquiry into the experience of sacredness, the second is a visual study of models and photographs and the third a phenomenological research consisting of a description of personal experiences and interviews. The literature study focusses on the experience of sacredness and has its purpose to find a well-founded basis for further visual research. Since the religious experience of sacredness is one that is different from the experience denoted in this research, this will be dealt with only briefly. The focus will be on the experience of sacredness through architecture and art, because they both can create the atmosphere of sacredness, without a specific religious symbolization.

Parallel to the literature research a visual study of models and photographs will be conducted. This study has the aim widening the perspective and of developing a physical link between theory and imagery. The models and photographs are made both intuitively and in relation to the results from the literature research. The study is based on Borgdorff (2009). He describes that artistic research is focused on enlarging the artistic universe. The essence here is creating new imagery, words, narratives or experiences.

The third method is the phenomenological research. Phenomenology is originated in the philosophy of Edmund Husserl and was later taken into further discussion by Heidegger, Sartre and Merleau-Ponty. Whose theories will be taken into
account for the literature research. The research methodology will be based on the book of John Cresswell (1998) *Qualitative inquiry and research design, choosing among five approaches*. Cresswell describes a phenomenological study as a search for the meaning of an experience of several individuals of a specific phenomenon, where the structure of consciousness will be analysed. A research on this will lead to a structure of the consciousness of the human experience and will point out the essence and central underlying meaning of the experience. For this three candidates were interviewed based on long, semi-structured interviews, with questions related to the meaning of the experience for the individuals. Furthermore, a personal description of the experience of several spaces / art works is given. Together this generates an overall description of the essence of the experience. The combination of both a visual study and an interview, will give a complete representation of the experience of a sacred atmosphere, both in words as well as in image.

**Justification and research order**

The research is presented in chronological order, starting with the literary inquiry of the theoretical framework. From the connotations of the sacred, several objectives came forward that where used as starting points for the analyses of the both art and architecture. These objectives where also tested in the interviews, and were used as inspiration for the visual/ model research.

The second part of the research describes the experience of sacredness in architecture and art as a phenomenon. This is explained through both the idea behind the works and through the architectural or artistic means to create the atmosphere. During the research it became clear that in particular the experience of the sacred was of great importance, more so than the idea behind the works of art. This resulted in a shift from a purely...
The atmosphere of the sacred

theoretical analysis, to a descriptive analysis of the experience. This resulted in a shift in analysed project, from ones that are interesting in theory, to ones that I could personally visit and experience the atmosphere. Thus projects such as Who’s afraid of red, yellow and blue of Barnet Newman, the Black square of Malevich and Villa Malaparte were taken from the research. Other projects such as the monastery of St. Benedictus in Vaals were deliberately added. Throughout the research, I visited several case studies, of which a personal description is added. To convey the atmosphere, the experience, not only words but also drawings and photographs are used.

Furthermore, the artistic research is added throughout the research. This contains images of the model studies. The first research proposal contained a model study of the atmosphere which would be used in phenomenological interviews. However, during the model study it became evident that models were, for me, not a useful tool to express the atmosphere. A multi-sensory bodily experience of a space is so complex that it cannot be tested through a model. Therefore, it was decided not to use the models as test cases anymore, but to use them as a design study.

Each part will end with a sub conclusion. The main conclusion will incorporate the various sub-conclusions and with them give an answer to the main question.

Hypotheses
To form the research definition, and problem statement, I started with the analysis of several photographs and images of existing places. By making simplified drawings, icons perhaps, of the qualities that characterized these places. They form, so to speak, the hypotheses of the research. The drawings on the right page show the qualities a space should possess to generate a sacred experience of facilitate contemplation. The drawings
on the left page resemble different architectural elements used to create these qualities of space. These images formed the basis of the literature research and the pilot interviews. Let it be noted that material, colour, tactile and texture are missing, whereas they are, as will become clear in the later example, of quite great importance. The reason they are not part of the hypotheses, is because they are not in a theoretical way related to the sacred. They are strongly related to creating an atmosphere in architecture so they will automatically be discussed in the analyses of the different case studies.
The atmosphere of the sacred

I  Strong lightening  
II  Framing the view  
III  Transition  
IV  Proportion  

V  Order versus Chaos  
VI  Sight-lines, skylines  
VII  Acoustics - Echo
Part I  Theoretical framework
Introduction

To be able to answer the research question, first a literary inquiry was made on terminology. This part of the study creates a theoretical framework and a well-founded basis for the further visual and phenomenological research. The objectives that have been deemed relevant here have to do with what is the sacred experience, and how this should be researched. This will lead to the exploration of the term the sacred and the profane, what it means and how is it created in architecture, a phenomenological discourse and atmosphere.
1. The sacred and the profane

The analyses of what is sacred and profane, starts with Durkheim, the first sociologist who analysed religion for the complex society. He created a definition of religion, based on the separation of the sacred and the profane.

“All known religious beliefs, whether simple or complex, present one common characteristic: they presuppose a classification of all the things, real and ideal, of which men think, into two classes or opposed groups, generally designated by two distinct terms which are translated well enough by the words profane and sacred” Durckheim (1964, p. 3).

The only way to explain the characteristic difference between the two is their heterogeneity. This heterogeneity is so absolute, that it is therefore also enough to explain the difference. The Sacred is the ideal, and transcendental world and refers to that what is set aside from society, or that which transcends daily life. The profane is that which is the material world, everything else, the mundane. Sacred spaces are spaces that represent something other than the ordinary, the profane. The practice and maintaining the distance between the two worlds, is what Durkheim calls religion.

Maintaining this relation and distance is also the essence of religion, which is performed perhaps in different rites and symbols. However, in origin all religions have the same basis, the two realms. These realms are also mentioned by Mirceau Eliade, where his first and most simple explanation of the sacred is that it is the opposite of profane. Sacred to him is “The only real and really existing space”, and the profane as “all other space, the formless expanse surrounding it” (Eliade, 1957, p. 21). This difference in realms is also explained by how people experience the world. The religious experience it as non-homogeneous while the non-religious as homogeneous. A sacred space, is a break in the homogeneity of space, where the absolute reality is revealed.
Part 1, Theoretical framework

Eduardo Chillida,
Gili III Xylography
This is an absolute opposite of the non-reality that surrounds this sacred space, is the order which is created by the gods out of the chaos surrounding it. It is seen as the absolute fixed point, the centre of the world. For Eliade the orientation given by this fixed point is an important point, the profane experience is one without orientation, or direction. Eliade states that without this fixed point, there is no world, only fragments of the universe, or relative space. Therefore, according to him no man can ever be truly non-religious, since you cannot live without orientation. For the non-religious man, profane space can still, to some extent, have an experience close to religious. These spaces are then spaces with important memories, for instance the place of birth, of the place where one fell in love. These spaces are from a private point of view, special and unique, and form a “holy place” for the individual universe (Eliade, 1957).

The expression of a sacred place being different from the profane, is explained through the explanation of the threshold. “The door that opens on the interior of the church actually signifies a solution of continuity. The threshold that separates the two spaces also indicates the distance between two modes of being, the profane and the religious. The threshold is the limit, the boundary, the frontier that distinguishes and oppose two worlds – and at the same time the paradoxical place where those worlds communicate” (Eliade, 1957, p. 25) The door and the threshold are symbols for the transition from one realm to the other. This transcension from one world to another, is represented by an opening in the enclosed sacred space. This indicates that the sacred space has always a certain boundary, an opening and a transition. A threshold of some sort representing the “In between realm”. Samuel Beckett describes this of feeling the in between space eminently in his novel.

“That’s what I feel, an outside and an inside and me in the middle, perhaps that’s what I am, the thing that divides the world in two, on the one side the outside, on the other side the inside, that can be as thin
as foil, I'm neither one side nor the other, I'm in the middle, I'm in the partition, I've two surfaces and no thickness."
Samuel Beckett in The unnameable (1953)

What Samuel Beckett here describes is the feeling of this transition, not really being in either place, being in the middle. Indicating with this that the middle is an actual place, an entity of its own, the threshold. The relation between the two realms, the Sacred and the Profane, can be described as a Twin-Phenomenon. The one can only exist because the other exists, it is a relationship between two opposite entities depending on each other for their meaning.

The experience of religion

Without wanting to continue on the track of experiencing religion of sacredness as the experience of God, it is important to realize what this experience means. According to William James, the first to research the experience of religion in psychology, the research of the value of the experience was separated from the investigation into its origin and existence. Religion may be something non-logical or absurd, but, the spiritual impulse is what makes man human (James, 1902). In his book, The variety of experience, he searched for the practical benefits of being religious, simply saying that there must be great benefits, otherwise we would not all have been doing it for so long. There are three qualities which spiritual ideas should be judged, and can be beneficial: 1) immediate luminousness, 2) philosophical reasonableness, 3) Moral helpfulness. Meaning, do the idea's enlighten us, are they logical and do they guide us towards a better life?

In psychology, it is recognized that religion changes your life and there is a transformation beyond the normal consciousness. In psychology it is said this is the unconsciousness, whereas in
religion it is said it is a help from the outside, God. James states the idea that a religion is not necessarily the worshipping of God. It could also be the simplistic belief in an unseen order, to which our task was to “harmoniously adjust ourselves”. He states “Religion, whatever it is, is a man's total reaction upon life, so why not say that any total reaction upon life is a religion?” (James, 1902).

However in modern society, the experience of the sacred is seen more as the experience of the transition from the material to the spiritual, the experience of transcendence, and is no longer sought in religion but in other aspects of life. Important is to keep in mind that it is perhaps still something non logical that people seem to experience. Something that cannot always be explained, whether or not we call it religion.

In response to James, also Rudolf Otto (1923) writes a book about the experience of the sacred. He found the irrational side of religion even more important, and focused on the feeling that arose, when the idea of concept failed. Otto claimed that what for religious people was God, was not an idea or abstract notion, it was a terrible power that was manifested as the Divine. In his book he tries to explore what are the characteristics of this non-rational experience. For his analyses he introduces the word Numinous, which comes from the Latin *numen*, meaning God. With this name he tries to separate the experience of the sacred, which has also an ethical, moral aspect in it, and the pure experience of the Divine power. It can be seen as the ineffable core of religion. The Numen presents itself as the *Ganz andere* (wholly other), something that is completely different and has nothing human of cosmic in it. When encountering the Wholly other, Otto found first a moment of terror, frightening, which was followed by the experience of the sacred. This experience of the sacred is an awe-inspiring mystery, which he calls *Mysterium tremendum*. The tremendous aspect consists of three elements,
awfulness, overpoweringness and energy. Furthermore the feeling is described as uncanny, a sense of dependence, of impotence, of a profound nothingness. The words used he explains come closest to describe the full experience, are taken from normal secular life and cannot grasp the full experience. They do express, however, Man’s inability to express the *Ganz andere*, which can be seen as the ineffable core of religion.

Sacred in relation to the sublime
The sublime is in the aesthetics the quality of the ungraspable, of greatness. In the physical, moral spiritual or artistic matter, it is an experience that is overwhelming, of a greatness that lies beyond all possible calculations or measurements. In the Romantic Period, the sublime was often related to nature, later on this changed and the sublime extended toward all human experiences related to a great power. It was seen as a way to reach for a deeper understanding of meaning, the mysterious and the numinous (Whyte, 2011). Therefore the sublime is often related to sacredness.

The philosophers Edmund Burke and Immanuel Kant both described the sublime as something different from beauty. The beautiful is a harmony, is graspable by reason and is proportioned. The sublime however refers to disharmony, irregularity and the ungraspable. Within that it refers to both great and terrible objects. Burke states that whatever serves the idea of pain, danger or terror is a source of the sublime. The reason is that the awful produces the strongest possible emotion and feeling in the mind (Whyte, 2011). For Kant the main difference between the beautiful and the sublime is that the sublime does not exists as an object, as in that it has a form, a size and contours. The beautiful can be found in nature and is graspable, yet, the sublime can only be found in one’s own perception of it, when something is so large and overwhelming, the mind can no longer grasp...
The atmosphere of the sacred

Caspar David Friedrichs
Chalk Cliff on Rugen
Part 1, Theoretical framework

it. That is the moment it makes us aware of a “super sensible faculty” within us (Whyte, 2011). According to Kant, powers that are larger than what we can comprehend, give us both the magnificent as a terrified feeling. Interesting is that also Otto found this moment of terror, before experiencing the sacred. Kant’s theory can be explained through the painting of Caspar David Friedrich, *Chalk Cliff on Rugen* (1818/1819). The painting represents this idea of something that is both terrifying as it is magnificent. The three figures in the painting each reflect a state, the woman is pointing down at the horror below, the male to her right does not even look and therefore fails to see anything. The third person is leaning relaxed on a tree and admires the beauty. Fear is here from left to right transformed into joy (Whyte, 2011).

Burke describes several aspects that are important in creating a sublime experience, of which light is used often in architecture and arts. Not the light that merely shows us objects, but the light that leaves a strong impression on the mind, such as the light of the sun. The light that immediately overpowers in a way, it blinds the eye (Burke, 1998). Light like this, if it moves with a great speed, has the power to create the sublime. Important in this grandeur is its motion. A quick transition from dark to light, or from light to dark has a greater effect than a slow subtle one (Burke, 1998). Although light is often related to the sacred, with the Divine as the bringer of light, it is not just light that creates a sublime experience. According to Burke “darkness is more productive of sublime ideas than light” (Burke, 1998, section XIV).

To express the sublime fully, there must be a large contrast with that which we already know according to Burke. For the use of light in architecture, he therefore encourages darkness instead. Since it is not possible to enter a building brighter than the open air outside, and a building a few degrees less luminous would not create this contrast. Only utter darkness, the transition from light to dark is striking. Although light and darkness are absolute
opposites, they are both capable of creating the experience of the sublime.

"... thus are two ideas as opposite as can be imagined reconciled in the extremes of both: and both, in spite of their opposite nature, brought to concur in producing the sublime and this is not the only instance wherein the opposite extremes operate equally in favour of the sublime, which in all things abhors mediocrity"
Burke (1998, section XIV).

The sacred as a heterotopia
Related to the sublime are also heterotopias, as they are described by Foucault. He introduces the heterotopia in his essay *Of other spaces* (1967). Translated from the Greek, Hetero means other and Topos means place, thus 'Other place'. Foucault (1967) this heterotopia as a place that is other than all other space, but has a real location and is therefore not a utopia. This place is one that is in relation to all other spaces, and is a counter-site of society, that is a real place and a reflection of a non-place. The utopia is not a real place, it is an idea that reflects a relation or analogy with society and real space. Between the utopia and the real space, there is a space that is a joint experience, that could be a mirror of both spaces, and that is what he calls the heterotopia.

Foucault uses six principles, to describe the heterotopias as a heterotopology. Within his description of the principles, he doesn’t mention the church, temples or monasteries. Nonetheless, all the principles are applicable to the notion of a sacred place. The first principle is the explanation that heterotopias are different in every culture, but can be divided into two main groups, the heterotopia of the crisis and the heterotopia of deviation. It is the idea that a specific group, or action, is separated from real society, but is not truly somewhere else. The former is a forbidden place that has no place (boarding school, honeymoon-
trip). The latter is a place where deviant things can happen (rest homes, prisons). A sacred place is a place that is actually a representation of something else, where a specific group is separated from society. An eminent example is the monastery.

The second principle is that the heterotopia can have in history a different function within society. Foucault gives the example of how the role of the cemetery changed after secularization. This process can also be explained through the church, which changed from the highest power, the middle of the city centre to the empty building, the bookshop and the store. The reference of the building is in current society a completely different one that it had 100 years ago.

The third principle is the juxtaposition, a heterotopia places a real place next to several spaces. Examples are the theatre, where different spaces all exists and do not exists upon the stage, or the oriental garden. In the Persian culture the garden was sacred, it brought together the four elements of the world. Sacred places are places that represent the cosmos, the only real place and all other places. It is the place where the real place that brings together all bigger aspects in one single place.

The fourth principle is the one of time, A heterotopia captures pieces of time, like a museum or a library does. In a museum there is the desire to accumulate all times, forms, tastes etc., something also present in a cemetery. A sacred place also represents eternity, but in relation to time. For instance the Japanese gardens incorporate the changing weather of the seasons, the erosion of materials over time, but tend to represents all elements to represent the cosmos and eternity. The same accounts for the Buddhist monastery. Time is treated differently, where they make use of the same schedule every day, to represent eternal life, whereas it is a temporal place on earth. In that sense sacred space is a heterochrony.
The fifth principle is the one of closing and opening. A heterotopia is in a way open, but is excluded from the world. The individual has to perform a rite or purification before entering. This is clearly shown in the mosque, where before entering the visitor has to cleanse feet and face. The same accounts for a monastery, where certain rituals and rites are performed to initiate a new life, set aside from society.

The last principle is the relation to all other spaces. This can be executed in two ways, by creating a space that reflects every real space, or by creating a space that reflects “space that is other”. Both are applicable to sacred spaces.

According to Foucault, society could not function without its heterotopias and the other way around, heterotopias could not exist without society. Therein lies the same twin phenomenon as in sacred and profane, one cannot exist without the other.
Sub conclusion

From the preceding text two important conclusions can be drawn. The first is that the essential experience of the sacred is one that indeed, exceeds symbolism and cultural differences. It is described as an awe-inspiring, overwhelming experience that is the same for all religions and cultures. This means that for further research, the political and pragmatic sides of the experience of religion can be left outside the scope. Thus the focus of the research is on the atmosphere of the sacred, the poetic qualities. Secondly, this experience is described as ineffable, one that cannot be described in words. Indicating that for the rest of the research, besides text, also other media must be used to describe and grasp the experience fully.

The second conclusion is that from the meaning of the word sacred, the first objectives can be drawn, which will direct the rest of the research. The first important aspect was that sacred is seen as the order created out of chaos, a place of orientation. Secondly, that the sacred can be compared with the sublime, indicating that it is an overwhelming experience, one that you cannot grasp at once. The final aspect, which I also believe to be the most important, is that the sacred place is described as a totally different place, a heterotopia, das Ganz andere, set aside from society. This indicates a form of seclusion, where the threshold, or transition becomes vital.
Die Weiße Höle vom Piz Palü, by Arnold Fanck, 1929
2. The emergence of meaning

The emergence of meaning can be seen differently for a religious experience and a sacred one. The first is derived from the religious collective memory, whereas the latter is derived, according to Pallasmaa ([2007]2012a), from a sensitized encounter of the Self and the World. Important for the research is the understanding of how a place or experience can be meaningful, without the relation to a specific religion. For this there will first be a short overview of why a religious experience is meaningful, followed by an analysis what other aspects contribute to the emergence of meaning.

Through religious memory

Pallasmaa ([2007]2012a) describes the religious experience as an encounter of yourself and an object, person or place that is denoted as Sacred. This denotation relies on memory, to generate meaning. Religious places benefit from both personal memory and a collective memory. Volf (2010) describes sacred places as places related to a sacred memory. These sacred memories, religious memories, create, in short, an identity, and answers four questions, 1) Who we are, 2) Where we belong, 3) What we expect, 4) What or whom we ultimately trust (Volf, 2010, p. 64). This framework is, according to Volf, what generates meaning in experiences.

In the light of architecture, Goodman (1985) describes how architecture can become meaningful through relation to something else. We use references such as express, evoke, invoke, comment, as to describe what a building looks like or what it means. These references are best expressed by the word exemplification, which he describes as following certain labels, but not all. When a building exemplifies something, we associate that with something else that might have a meaning to us. By using the right references, a building can give a certain representation, and within that a mood and meaning. Goodman (1985) also
mentions that parts of a building can mean more, or more clearly than the meaning itself. For instance Byzantine churches have a large mosaic-covered interior and a large number of sculptures. They quite literally tell a story, give a meaning to the interior. Furthermore he explains that the meaning of a building, or the references it tries to explain are not easily separable from the actual work of art. Within its design the building embodies the meaning, and would no longer be a work of art if all references were be taken out. ‘A mosque will not have the same structure for a Muslim, a Christian, an atheist. Stripping off or ripping out all construals (that is, all interpretation and construction) does not leave a work cleansed of all encrustation but demolishes it’ (Goodman, 1985, p. 650). This would mean that there is no sacred architecture without the connotation of religion and symbolism.

**Through the Sense of Place**

Norberg-Schulz approaches the meaning of architecture in a different way, he states that a place means something when there is a notion of a genius-loci. To be able to be rooted existentially, humans must be open to their surrounding, and identify with the spirit of the place. This spirit of the space is partly determined by the things of that place, for instance its architecture. Buildings should therefore according to Norberg-Schulz, take into consideration the qualities and character of its place, and represent the genius-loci (van Nes, 2012).

Norberg-Schulz (1980) describes architecture as the concretization of existential space. The existential space is divided into two complementary terms, space and character, representing the two functions orientation and identification. He furthermore refers to Heidegger, and his meaning of the word Dwell. Dwelling, in an existential space, is the purpose of architecture. Man dwells when he can orientate himself within and identify himself with an environment, or, in short, when he
experiences the environment as meaningful. Dwelling therefore implies something more than shelter. It implies that the spaces where life occurs are places, in the true sense of the word. A place is space which has a distinct character, it is always referred to a happening, an activity, and is more than a location. The genius loci, as the essence of the place, is made out of a totality of things, materials, shape, texture and colour.

The genius loci, or the character of the place is the concretization of the totalities which exceed science. To be able to dwell, man has to get a complete understanding of this. To structure this concretization, Schulz mentions a structure of place, which consists of three elements:

2. Representation of earth sky (horizontal-vertical) and outside-inside
3. Character, how things are, as determined by the material and formal constitution.

The difference between this place and its identity, is that when a man is in a space he is surrounded by its character, but to truly understand where he is, he has to be able to identify with this surrounding. For the orientation Norberg-Schulz (1980) refers to the work of Kevin Lynch, who describes a city or a place in several aspects, node, path, district, and landmark. This orientation prevents losing your way. And this difference, of orientation and being lost, is according to Norberg-Schulz, the difference between the sacred and the profane. The sacred thus has to be clear and systematic.

In his description on how buildings mean, Goodman does not refer to the site specifically. But, in his analysis of the language of Art, he states that a copy of art does not have the same aesthetic value as the original, since a part of the identity of the piece comes from the historic condition of the production.

Right page:
Jacob van Ruisdael (1665)
Gezicht op Haarlem
The atmosphere of the sacred
(Lageaux, 1998). Lageaux relates this historic condition to what in architecture is captured in the site. A building does not have the same meaning if you take it out of its context and rebuild it somewhere else (Lageaux, 1998). And not just buildings, but especially also memorials and monuments can get a great deal of meaning through their sites. The site then generates meaning, through a collective memory and history.

For the Dutch, the identification with nature lies in water, straight rivers through the landscape, orderly planted trees, and windy, cloudy sky (van Nes, 2012). This sky, as depicted by the Dutch painters in the Golden Age, generated a myth, stating its speciality and character. The German painter Max Liebermann wrote about the mists that rise from the water, that everything is covered by a transparent veil giving the land this special picturesque quality, that everything seems to bathe in light and air. About the flat Dutch landscape, the French philosopher Hypolite Taine wrote that it actually does not offer much, but with this empty space, the lack of objects, the mists that seems to be always present, the difference in clarity, the nuance of the contrast and the true colours create a surprising sensation for the eye (HollandsLicht, 2014).

Through experience of atmosphere

Pallasmaa discusses both the sacred experience and the artistic one, as one that is separated from connotation and denotation. He states that a true artistic encounter only exists in the experience ([2007]2012a). A book or poem does not become meaningful by the words, but only by the relation of the words and the person who reads them, the same goes for paintings, as for buildings. The artistic meaning of architecture does not lie in the material construction, the geometry or image of the work. The meaning only arises from the encounter of the body and mind of the viewer, with the reality of the building. “I live and experience
The atmosphere of the sacred

myself through the work and it guides, directs and conditions the way I understand the world and myself, or rather how I experience myself in the world” (Pallasmaa, (2007)2012a, p. 122).

Pallasmaa ([2007]2012a) believes that artistic works first have an impact, and only later can they be understood. Symbolic representation, is a misunderstanding when it comes to works of art. Their power does not come from the symbolic link, the meaning attached to it, but from the experience of its own reality. Pallasmaa believes that artistic works first generate an emotional impact, before they can be understood. This is also how Peter Zumthor describes the first experience of atmosphere, that which makes architecture good. “I enter a building, see a room, and – in the fraction of a second – have this feeling about it” (Peter Zumthor, 2006, p. 13).

We perceive atmosphere through emotional sensibility, which is a form of perception that works in the first moment. It enables us to immediately reject or appreciate something. The atmosphere or character of a space is not only a visual perception, it is a complex fusion of innumerable factors, which are all immediately grasped as an overall atmosphere, or mood (Pallasmaa, 2010). The very essence of the experience is a multi-sensory one, however, it also contains judgements beyond the five senses, such as balance, continuity, stability etc. The character is not perceived in a concentrated analytical way but in a diffuse and peripheral manner. It contains both the multi-sensory existential experience as it does memory and imagination, thus it also depends on the recipient. As Pallasmaa describes: “Atmosphere is similarly an exchange between the material existent properties of the place and the immaterial realm of human imagination” (2010, p. 239).

Even though atmosphere and mood are the first experience of a space, and probably also the most important memory of it, it is
not been analysed much when it comes to architecture. Gernot Böhme has been one of the first to approach atmosphere on architecture from the philosophical angle. Böhme (2014) describes atmosphere as that through which people experience space consciously. Through that perception arises what he called mindful physical space, thus atmosphere is that in which you are. He explains this through the understanding of Being. The atmosphere consists of two main aspects, the being in a place and the well-being, or sensitivity. The first, the being in a space, is the objective constitution and is not part of the personal sensitivity, the second is the personal mood, their well-being. Between the two there is a correlation, the well-being can change depending on the physical room you are in. Yet, the mood is never completely based on the space, it is something that is carried along, and already within a person before he enters the space, nonetheless there is a certain basic atmosphere carried out by the physical constitution of the space that influences, colours the original mood. The relation between the environmental qualities and the human state of mind, is atmosphere. Böhme furthermore notices a renewal of attention for the bodily experience of architecture, which will change the approach of architecture, where architecture is no longer judged on its bearing features but by what emotional experience they evoke. With this the focus is no longer by the building, but on the space that is created by it, both internal and external, which means that the perspective of the design is opened towards the infinite (Böhme, 2014).

In the arts, atmosphere is a more elaborated subject, which even had its own movement, Atmospheric painting, with painters such as J.M.W. Turner and Claude Monet (Pallasmaa, 2010). The essence of this movement was to create an atmosphere, rather than a concept or narrative content. These painters make use of the blurriness of peripheral vision, in which we perceive atmospheres best. They generate the atmosphere without clear
vision, since in all arts it is the case that the first impression is not the clear narrative concept, but the combination of colours and composition. It is the atmosphere of a painting, the first impression, that generates meaning, that leaves an emotional experience. This atmosphere generates an immediate understanding of the whole, which as a whole gives meaning to the smaller parts, not the other way around (Pallasmaa, 2010). It is the poetic image that leaves the expression, created by the smaller parts. The atmosphere of the sacred is also a poetic kind, indicating that the experience of it, the meaning, goes beyond what is actually there. In the same way as a poem says more than the individual words, it is a figure of presence.
Rotterdam
Kaart IV. Frans Huys & Dirck Davidsz Versyden, 1632
There are several ways in which meaning can be created. Starting with a connotation or symbolic link, which indicates often a narrative, referring to history and collective memory. This results in a form of identification, which is exactly the reason behind this research and behind the design project. Most sacred buildings have strong symbolic relations to specific religions, enhancing the identification for the religious. However, in a secular society, this identification is one that most people no longer seek. Important will be what kind of identification the design should bring out then.

Furthermore, the identification with a place, and the incorporation of its history are relevant. For the design guidelines this will mean the style of the building, materials, surrounding greenery etc. should have a certain link to the Netherlands and Rotterdam, to enhance the feeling of identification and orientation. The second aspect, the incorporation of history, indicates that a location with a historic value can add meaning to the building, which can be taken into account for the choice of location.

Most important, however, was the meaning emerging from the experience, which indicates that the research should indeed be phenomenological.
Part 1, Theoretical framework

3. Phenomenological discourse

There are several philosophical theories on the perception or the experience of the world. Starting with Descartes, who stated with the sentence "I think and therefore I am" that the ratio was the essence of the human being. The ratio determined consciousness and was the source of all knowledge. He separated the body and the mind into two separate entities, where the ratio does not rely on the body and its senses. The body was seen as an object that was ordered to perform by the transcendental mind. Edmund Husserl introduced a contra movement, the phenomenology, where the bodily sensory experience of the world was the source of all knowledge. Edmund Husserl first explained philosophy as a "descriptive psychology, or "the return to the things themselves" (Merleau-Ponty, 1945, p. 8). His theory was about the essential structure of consciousness which arises from the direct intuitive experience of a phenomenon, not taking into account other sciences such as psychology. In his theory he puts the body and the mind at the same level, stating that only when they come together, we can truly perceive the world. The body and the mind are not two separate entities, they are one. This theory was later taken up by Heidegger, Sartre and Merleau-Ponty.

Merleau-Ponty takes this theory even further, and states that the bodily experience comes before to the consciousness. He describes phenomenology as a study of the essence of perception or the essence of consciousness. The study describes the direct experience of the human being, the nature of the perception of the world, which leaves out the psychological and causal explanation of it. In his theory he states that the body and mind cannot be separated, and therefore he disregards the notion of Descartes, who saw the body and mind as two separate entities, where the mind was the source of all knowledge. According to Merleau-Ponty, we only perceive the world through our body, and through this perception we are aware and conscious (Merleau-Ponty, 1945). Perception itself is not an activity, it is the background of all experiences and it guides the conscious action.
The atmosphere of the sacred
The perceptions are not purely sensational, nor purely a logical interpretation, and also consciousness is derived from both the sensory experience as well as from logic. Human consciousness is what gives meaning to these perceptions. Since every human perception is individual, we cannot separate ourselves from our own perceptions of the world.

Furthermore, under-minds Merleau-Ponty the difference between the object and subject. The body can only perceive the world in relation to the world itself and therefore to other objects. The removal of the boundary between object and subject can be explained on the basis of an ambiguity in tactile sensation. This duality is explained by touching – being touched. When two hands touch one another, one hand is being touched and the other touches, but it could also be seen as the hand that touched, becoming the hand that is being touched. The object that is perceived can be seen as something that already existed, yet the perception is a fusion of it. Since what is touched also touches and what is seen also sees, they overlap (Healy, 2002). This overlapping results in the subject of the body perceiving the world through the objects, and thus there is no difference in object and subject.

“My body is the fabric into which all objects are woven, and it is, at least in relation to the perceived world, the general instrument of my ‘comprehensions’. It is my body which gives significance not only to the natural object, but also to the cultural object like words” (Merleau-Ponty, 1945, p. 272).

To be able to design an with experience, a phenomenological research can acquire the essence of the experience. As described in the research methods, this is a descriptive form of research. It uses both personal descriptions and long narrative interviews, to find the essence and central underlying meaning of the experience. However, the description of an experience of a space
The atmosphere of the sacred
Part 1, Theoretical framework

is always an abstraction of reality. The experience cannot be fully described, as Heidegger too concludes, true essence of being does not communicate through words. This makes the design of an experience limited in a scientific way. There is a radically large part that works based on the intuition.

The senses
The bodily perception of the world is a multi-sensory experience. There is a simultaneity of experiences and an interaction of all the senses, it is not merely a sum of the visual, tactile and audible. The bodily experience is a perception of a total way with the whole being (Merleau-Ponty, 1945). All senses are interrelated and together create the full experience, which happens both consciously but mainly unconsciously. According to Pallasmaa (2010) all senses are extensions of the sense of touch, even sight is related to the skin and to tactility. Since it is the oldest and most sensitive sense, it integrates the other senses and thus our experience of the physical world. In the western philosophy we generally recognize five senses, seeing, hearing, smelling, touching and tasting. There are also theories that divide the sense system differently. Thomas Barrie uses the system of the psychologist J.J. Gibson, who describes the senses according to five perceptual systems, since he says that they are not merely passive receptors, but interact with their surroundings. These five systems are visible, audible, taste & smell, basic orientating and haptic (2010, p. 14). With this he describes an integrated and active system, that does more than just process the information. Also in Buddhism a different system containing six senses is recognised. The mind is a separate sense with specific functions. It is seen as the sense that integrates all other senses (Barrie, 2010). Furthermore the theory of anthropologist of Rudolf Steiner recognizes twelve senses. Lievengoed (2000) describes how the experience of architecture is created by the perception of space through these senses.
The atmosphere of the sacred

<table>
<thead>
<tr>
<th>Sense of life</th>
<th>Sense of sight</th>
<th>Sense of hearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sense of touch</td>
<td>Sense of smell</td>
<td>Sense of word</td>
</tr>
<tr>
<td>Sense of movement</td>
<td>Sense of taste</td>
<td>Sense of thought</td>
</tr>
<tr>
<td>Sense of balance</td>
<td>Sense of warmth</td>
<td>Sense of ego</td>
</tr>
</tbody>
</table>

The senses in the first column are the senses that Lievengoed (2000) considers the most sensitive to the influence of architecture, and therefore also the most dependent on their environment. Interesting is the sense of life, which is directed completely inwards, and senses how he feels. This is the sense with which a person feels sick or healthy. This sense determines to a form, or environment works invigorating or sickening (Lievengoed, 2000). Another interesting sense is the sense of warmth, which does not perceive temperatures in a psychical way but the quality of a space. It senses that we, for instance, say that wood is warm and concrete is cold, and allows a person to perceive the ambiance of a space.

All together the senses create the perception of the world, not only the visual but also the bodily perception. They cannot be truly separated and are together woven into a web. Some of them play a larger role in the design than others, for instance smell is one that is more difficult to incorporate than sight or touch.
Sub conclusion

The experience of a space cannot always be put in theories, science or concepts. Architecture creates a bodily experience where the whole is more than the sum of the parts. Therefore, to analyse the experience of the atmosphere, one should incorporate all the senses. However this also shows the difficulty in making models/photographs to test the atmosphere. First of all, one cannot recreate all the small details, sensual input etc.. Secondly, Out is impossible to recreate the interaction between the perceiver and the perceived object on a smaller scale.
The seclusion

“I heard this story about a place where there is nothing, in the midst of a forest. As I go outside the city to visit it, I feel relieved. Nature, birds, the smell, the wind, all make me forget my daily life. Walking through the forest, there it is, a wall. So high, I cannot see what is inside. In it is a small opening, where I immediately stumble upon a new wall. I can go left or right, both ends curve so I cannot see what is the at the end. After choosing one direction, I walk along the curved walls, in halve a circle. Exactly on the other side there is another opening, leading up to a void. A place where there is nothing, no greenery, no grass, birds, noise, nothing. Only silence and the moving shadow of the sun”
Artistic research
Artistic research

The atmosphere of the sacred
As I approach the large solid mass, I see no apparent front or back, only many entrances on every side. The heaviness of the block makes me curious to go inside and see what it hides. As I go through an entrance, the door shuts behind me and the sounds of the city disappear.

Inside there is this new world, filled with light. Thin white walls filter and scatter the light around. They are positioned rhythmically, creating a transition from the back wall to the centre. Standing between the walls, all there is, is a play of shadow and light. As I walk towards the middle of the space, the walls become lower and the spaces between them smaller. The repetition creates a sense of infinity, as if I would never reach the centre. Once I am there, all I see is light.

Looking back I can see the repetition of the walls again, this time moving upwards..”
Artistic research

The atmosphere of the sacred
Artistic research

I  Section

II  Floor-plan
Part II The experience of sacredness in case studies
Part 2, experiencing sacredness in case studies
Introduction

The experience of sacredness as explained by Pallasmaa, is one not necessarily bound to religious denotation but as evoked by the encounter of atmospheres, worldly settings, art and a sense of place. This experience of sacredness can be found in a number of different spaces, ranging from old ruins, houses, libraries, nature, gardens etc. It’s described as a personal existential experience, which can arise from “an exceptional sense of place or space, purity of form, intense materiality or colour, or a transcendent illumination” (Pallasmaa, [2007]2012a, p. 10). To create a better idea of how this existential experience is created, various works of art and architecture are analysed. The examples are described through both the phenomenon they represent, as the architectural or artistic parameters used to create them. Architecture always consists of realities such as material, texture, colour, climate and technical design, it also aspires to certain ideals. Without this idealising ideas, architecture would merely be a construction (Pallasmaa, [2007]2012a). Therefore, both the actual physical reality, the architectural elements and parameters that create the atmosphere, and the idea it conveys will be described. The parameters describe the real existing place, the world that is perceived by the senses and that which generates the multi-sensory experience.

The part consists of two chapters, the first contains the analyses of several works of art. These works of art are explained by means of different art movements and artists throughout history. The second chapter contains architectural examples, chosen based on the results of the foregoing visual and personal experience research.
5. Experience of sacredness in art

Art forms such as music, poetry, literature, sculpture and painting all create an atmosphere, all resemble a reality of their own. It is through the experience of such a work of art, meaning arises and a sensitized encounter of the self and the world can be created (Pallasmaa, [2007]2012a). A lot can be learned by looking at more disciplines than only architecture, that is why art is included too. This chapter will contain several works of art, some of which are explained according to the artistic movement they belong to, others on the basis of the sensation one experiences when standing in front of them. Together they give an idea of how the sublime or sacred experience is induced by art. For that reason, only pieces of art that create an experience are incorporated. Religious art is left outside the scope of the research.

Romanticism and Caspar David Friedrichs

The atmospheres or the natural scenery, specific weather, light and clouds, trees or mountains can evoke feelings of sacredness. Such natural conditions can appear perfect, indicating the existence of a Creator, and therefore be related to religious places (Pallasmaa, [2007]2012a). In the Romantic Period, the overwhelming power of nature was seen as a place of sacredness, and related to the idea of the sublime. The paintings of Caspar David Friedrichs are eminent examples of the sublime in art. The previously mentioned painting *Cliff on Rugen* by Caspar David Friedrichs, can be interpreted according to the theories of Kant. Furthermore, his paintings *Fogs wanderer* and *Monk at sea*, depict the overwhelming experience of nature. In the former the human figure is seen from the back, enabling the viewer to experience the power of the foggy scenery. It is the overwhelming view that is the theme of the painting, not the figure itself. Through the position of the figure, the viewer can almost experience standing on the cliffs himself. The latter shows a man, the monk, standing at the sea-side looking out over the vast ocean and the grey sky. Here, too, the human is
Part 2, experiencing sacredness
in case studies
The atmosphere of the sacred

Caspar David Friedrichs,
Der Mönch am der Meer
no longer the subject, but the overwhelming experience of nature is the subject of the painting. An experience you cannot grasp in one second, is shown by means of the presence of this one man, looking out over the sea. The sky takes up about 2/3 of the painting, symbolizing the vastness of the universe and nature. This is also expressed by the size of the man in comparison to that of the surrounding nature. The dark colours blur into one another, creating a sense of endlessness. There is limit in the view, no limit in the power of nature.

Abstract expressionism and Mark Rothko

Around the second world war, abstraction superseded realism and the “abstract expressionism” arose as a new style. Painters such as Mark Rothko and Barnet Newman worked in this style, and in the expression of the sublime. In this movement, the essence was not so much the image, the narrative or the composition, but was the emotion that arose from it. These painters wanted to evoke deep existential emotions and experiences with their paintings (Shaw, 2013). The abstract paintings don’t give any symbols, or references that can give rise to contemplation, but the large intensely coloured paintings, creates an experience that goes beyond that.

Robert Rosenblum draws a comparison between religious goals of the Romanticism and the transcendental aspiration of the abstract painters. He compares Caspar David Friedman with Mark Rothko and claimed that:

“The floating, horizontal tiers of veiled light in the Rothko seem to conceal a total, remote presence that we can only intuit and never fully grasp. These infinite, glowing voids carry us beyond reason to the Sublime; we can only submit to them in an act of faith and let ourselves be absorbed into their radiant depths” (Rosenblum in Shaw, 2013).
Mark Rothko

“Standing before the painting I feel calm, heavy, grounded. A weight presses on me, keeping me still, standing there for I don’t know how long. The colours draw me in, especially where they fade into one another. My eyes following the borders, try to grasp the colours, the change overs and their limits. Something that feels impossible. The longer I look, the more there is to see. But in the end, nothing really changed, all there is are planes and colours and yet...”
I  Focus point

II  a sense of Order

III  Infinite by layering

Left Page
Mark Rothko, Unnamed
Photograph by J. van Berlo
Gemeente musem Den Haag/
Part 2, experiencing sacredness in case studies
Mark Rothko was strongly conscious of the spiritual and the emotional experiences created by art. He tried to create the experience of the elementary emotions, such as tragedy, ecstasy and doom. He painted colour planes that existed of many different layers. Towards the borders the colours faded, making this border something ungraspable. In the colour planes of the paintings the unmeasurable is represented, because there is no relation to the visual reality. They create an impression of depth due to the difficulty of separating the foreground of the background, creating a sense of the ungraspable of the beyond. His paintings are not so much about infinity as they are about the inherent materiality (Shaw, 2013). Due to the lack of recognition, form or a relation to the visual reality, his paintings represent a different reality.

Besides the depth of his paintings, the size of them also creates this overwhelming experience. For instance the Red on Maroon is 2667 x 2388 mm, which is in comparison to most works of art extremely large. Rothko painted on such a large scale, because that was, according to him, the only way to create an experience that included oneself. Where Caspar David Friedrich uses a human being to express the scale and vastness of nature, Rothko only paints this vastness. He puts the visitors on the border of this beyond, and uses the scale of the canvases to include the viewers. In Houston Chapel the size becomes even more overwhelming, and according to Shaw (2013) “the force of the sublime seems utterly disabling, in an instant the impulse towards transcendence is both raised and dashed”.

The spatial artist Lucio Fontana with his piece Waiting 1960 also attempted to express the beyond, by literally breaking the surface of the plane and showing the viewer the place that is beyond. He tried to express the infinity of the space of the sublime with this piece. The slash itself seems not always predictable, and created by a force which makes the piece dramatic and energetic.
Part 2, experiencing sacredness
in case studies
However, where, according to Shaw (2013), this work falls short, is that with the existence of the lash, Fontana creates a relation to that which is hidden, and creates therefore a penetrable beyond.

**Monochromatic colours of Yves Klein**

The use of a monochromatic colour to create a transcendental experience is also used by Yves Klein. The paintings of Klein are seen as a representation of a religious connection creating a sense of holiness resembling the golden auras of saints (Pallasmaa, [2007]2012a). Shaw describes Yves Klein as the example of the catholic notion of the Sublime. As a devout catholic, Klein puts the emphasis on the relation between mystery and reality, which is most visible in the casket he created for the convent of Santa Rita da Cascia in 1961. The casket consist of three small compartments, filled with his blue pigment, a pink pigment and a golden one, which symbolises an attempt to evoke immateriality, a moment of lightness which is referred to in religious speech. It is the relation of raw material and vibrant colour and light, that creates this moment. The work can be seen as sublime because the transformation of colour into the divine is in fact impossible, and therefore reflects this relation between the material and the spiritual (Shaw, 2013).

Klein saw his own paintings as an “open window to freedom, as the possibility of being immersed in the immeasurable existence of colour” (MOMA, 2014). He is most famous for the colour blue, which is named International Klein Blue. He created this colour in collaboration with a chemist, by developing a binding medium that absorbed the pure colour pigment without losing its intensity. As a truly spiritual and religious person, he visualized his ideas through the colour blue, which, according to him, was the colour of infinity. Through this colour he tried to express the immateriality of his vision of the world (MOMA, 2014). Through the special technique of producing it, the colour contains a deep
Part 2, experiencing sacredness in case studies

intensity, which creates the impossibility to separate foreground and background. With the loss of depth perception, and the invisibility of the limits, a sense of infinity is created.

**Light and artwork of James Turrel**

The installations of James Turrel guide the thoughts of the visitors to the very limit of their perception and “experience of being” (Pallasmaa, 2007). Turrel was fascinated by light, not as a tool to make something visible but as the object to be seen itself, as a visual experience. In his light installations, sky spaces and land art pieces he creates spaces that enable you to look at light by making use of the limits of the human perception. Turrel referred to the Parable of Plato’s Cave, and used his notion that “we are living in the reality of our own creation, subject to our human sensory limitations as well as contextual and cultural norms” as introductions to his work (Turrel, 2014). In his skyspaces he focuses on the natural light of the sky. They are plain white chambers with an opening towards the sky. While simply looking at the sky from within such a Skyspace at dusk or dawn, the viewer is made aware of how from within we create the colours that we see, which is our perceived reality (Turrel, 2014). The colours that are generated come from the elimination of the horizon, where the light is lighter and contains more white, while towards the zenith the light is deeper (Schielke, 2013).

In the dunes of The Hague he created a Land art piece the *Celestial Vault*, 1996, which generated the perception of the sky as a celestial vault. The ellipse has the form of an artificial crater, overgrown with grass. In the middle there is a bench made from stone, where two persons can lay on their backs to see the sky. The measurements of the artificial crater are based on psychological perception, and cause the sky to take the form of a dome. Near the crater, on a higher dune, there is the exact same bench. There the effect is reached the other way around,
The atmosphere of the sacred
and still the sea, the countryside and the beach form a dome. Both art pieces rely on the limits of human perception, creating a situation that according to our physical laws can not truly exist. The sky, curving and taking up the form of a dome, creating a space in the open air, is an experience beyond physical laws, an unearthly (and also immaterial) experience.

In his artificial light installations, he makes use of coloured light, and never applies body colour. He explains that by leaving the walls white and letting the light in, the light itself becomes the space rather than the walls. If the walls had colour, they would reflect the light and create the space rather than the light itself creating a volume. By using strong light and white walls he creates a space that is immaterial but based on perception. In this work he created architectural installations, based on rooms and tunnels. They consisted of framed lines of light creating a contrast between diffuse and direct light. With the aim to create a transcendental passage for the viewer (Schielke, 2013). For this he mainly used blue light, since this light is perceived as unfocused, thus creating a more diffuse and immaterial effect within the tunnels. Blue light enabled him to delaminate the object, the material within his work, creating no image to look at, no point of focus, only the space created by light. He uses light as a material to create a space that is solid, and without any voids (Schielke, 2013). However, the void is needed, by eliminating everything between the objects, to create this space made out of light, thus the transcendental, immaterial experience. The use of one monochromatic colour was also seen in the work of the abstract expressionists. These artists have in common that they make use of the monochromatic qualities of light, colour of material, to create a serenity and focus.

According to Shaw, James Turrell’s light work can also be seen as a representation of the Sublime. Visitors are placed in concrete places, such as a volcanic crater or a chamber, that encourages
Celestial Vault
of James Turrel

“I know it is only an optical effect. Still, as soon as I lay down on the stone, I am surprised. The sky, an infinite space, unmeasurable, becomes a dome. A recognisable form, a limitation of the finite space. It ends where sky and ground touch each other. Where normally a horizon shows the infinite, shows this dome a touch-point, as-if there is a space where earth and heaven touch upon each other. In the middle of this am I, on the stone, caught between heaven and earth”.
Personal experience

James Turrell (1996)
Celestial Vault
Personal experience

The atmosphere of the sacred
Part 2, experiencing sacredness in case studies

Christo and Jean Claude (2013), Big Air package
concentration and observation. By creating a visual space, through movement and light. Which creates a "flight of the soul".

“My work has no object, no image and no focus. With no object, no image and no focus, what are you looking at? You are looking at you looking. What is important to me is to create an experience of wordless thought" (Turrel, 2014).

Cathedral of Air of Christo and Jean Claude.
Christo and Jean Claude similarly endeavourers to create a sense of infinity with the relation material and immaterial. Known for their packaging art pieces, they created a similar monochromatic experience in with their art piece, Big air package, 2013. The project, situated the in the Gasometer of Oberhausen is constructed from semi-transparent polyester fabric and inflated it forms an envelope of 90 meters high and 50 meters wide. The project can be experienced from both inside and outside. There is only a small distance between the artwork and the walls of the gasometer, leaving a small passage way. Inside the space is goes up to the skylight of the gasometer. The artists themselves call the work of art the “Cathedral of air” (Jeanne-Claude, 2013) Although the light comes strongly from above, inside it creates a diffuse light. The limits are blurred due to the soft material, creating a sense of infinity. The fabric muffles the sound from inside, creating an atmosphere of serenity and silence (Jeanne-Claude, 2013). The high, narrow dark passage way forms a strong contrast with the light bright wide space inside. It is this contrast that enhances the experience of the space in sight, and that makes the light overwhelming.

Richard Long
Richard Long’s work originates in walking outdoors in distant places. He documents his walk by collecting natural elements,
writing short texts and by photography. In Long’s work there are two main themes, the first being the act of walking, as a representation of human movement, and the second is the intervention. He uses geometrical configurations to leave his mark in nature. This indicates the relationship between man and nature, where natural elements and natural forces are brought into relation with the formalism of man, the abstraction ideas (Manchester, 2000).

For his exhibitions he takes the materials gathered in nature to the gallery where he places them again in a geometrical form. He uses this form to go beyond cultural boundaries. He said: “I think circles have belonged in some way or other to all people at all times. They are universal and timeless, like the image of a human hand. For me that is part of their emotional power. Although there is nothing symbolic or mystical in my work” (Long in Manchester, 2000).

Although he himself does not create his work from a symbolic or mystical point of view, he does want to connect people across the world, and beyond their different cultural heritage, and believes that the geometrical basic form is what unifies them. The order of the cosmos, as something universal.
The atmosphere of the sacred
Part 2, experiencing sacredness
in case studies

Sub conclusion

The analysis shows that art can create a sacred experience, without symbolising it. The works don’t show literal narratives or symbolic links, but are purely focused on the experience of the work. This confirms that the essence of the experience of the sacred is one of atmosphere. It is not about the literal imagination, but about the creation of the atmospheric experience.

The previous sub conclusion showed that sacred is primarily different from everything else. This is expressed by seclusion, order and the sublime. Primarily the experience of the sublime is recognizable in several works of art. It is generally visualized as a overwhelming, sometimes dark, experience. In the works of Friedrichs, Rothko and Fontana, a clear reference is made to the beyond, a large, unknown world. For this they made use of the abstract image, as well as the use of light. Rothko and Friedrichs both use blurring boundaries, ungraspable limits, to visualize the infinite. The infinite refers to both the cosmos as to this other place. Human beings live in time and can therefore not relate to the infinite, it is a wholly different place. This is also expressed by leaving out literal references to our normal environment. Another way to express the different world, is my making a reference to the immaterial. This is how James Turrel creates his spaces, by making use of visual perception and light.

The order is also visible in several works of art. However, it becomes clear here that order is not always expressed as symmetrical or straight. The experience of order can also be created by the lack of chaos. In his work Long uses in his works a literal order, by creating a tension between that which is natural and that which is not. With this he also creates a relation between nature and human being, where nature represents all elements, the cosmos.

In short, out of the analysis several guidelines for the design assignment developed. These guidelines will also influence the choice of case studies. Most important was the reference to a different place, another world. Moreover, the creation of an orderly world, the reference to the cosmos visualized by the relation between man and nature and the creation of an overwhelming experience, expressed by light.
The path of endless repetition

“I enter upon a long path that directs me towards the end. I cannot go right or left, only back or forward. The path slowly grows darker, as I walk further down. An uncomfortable feeling overcomes me, what will be at the end? A bright light shines in, creating a hard contrast between the dark tunnel, and making it impossible to see what is there. It is a mystical attraction. As I start walking, rhythmical lights guide me on, making me lose track of time. As I approach the end, the light becomes brighter, yet still I can see only emptiness. At the end, that is also what there is: a view into nothingness. I stand at a border, looking deep down into a crevasse that seems to be endless. Overwhelming, frightening and beautiful all in one. I have left the world behind me”.
Artistic research

Right page: section

Left page: Photograph of model
Artistic research

The atmosphere of the sacred
Part 2, experiencing sacredness in case studies
The atmosphere of the sacred
5. Experience of sacredness in architecture

For the analysis of the experience of sacredness in architecture, the projects were chosen because they seem to have one of the qualities that were found earlier in the theoretical framework, or in the analysis of the experience through art. Furthermore visitability played a role in the choice. During the research it became evident how important a visit to the buildings was, and therefore some projects were left out, such as the Villa Malaparte, and others were added later on, the monastery of St. Benedictusberg. Each of the projects represents one of the guidelines, or aspects found earlier in the research. The first important guideline was the creation of a different place. For this the analysis of Modena Cemetery is important. As a second item the creation of an orderly world, for which Louis Kahn and Hans dom van der Laan are included. For the use of light the Pantheon and Luis Barragan. The incorporation of all elements and the use of monochromatic color is shown in the Teshima art museum and the Japanese gardens and temples.

Modena Cemetery, Aldo Rossi.

The cemetery of Modena is an eminent example of the creation of a place that is different from all surrounding places. Rossi’s abstract approach based on typologies creates an alienating yet familiar architecture. He believed that architecture was a autonomous discipline, based on specific aspects and principles (Moneo, [1973]1998). These principles he researched by means of analysing the city. By analyzing the city, and the way it grows, he analyses the ‘construction’ of architecture. Construction is for Rossi the act on the basis of reason (Moneo, [1973]1998, p. 108). This lead to a study of typologies of buildings related to the form of the city. Rossi uses the word type as defined by Quatremere de Quincy, where type represents not an image of form, but the idea of an element, the idea of architecture.
The atmosphere of the sacred
The design of Modena cemetery shows clearly, how he uses typologies as a basis for his design. He makes use of the collective memory of a typology, to create recognition and understanding of meaning. With this project he introduced the concept of the house, and translates this into the house for the dead. This typology refers to the earliest cultures, where the house and the grave were the same (Moneo, [1973]1998). Rossi points out the social value of death, and states that history is made up from all kind of live in a society. Architecture is used to shelter these lives, and therefore death should also be sheltered. For this he creates the house of the dead, a typology of a house but then deserted and abandoned. A house that is no longer useful and which is empty. This is especially visible in the Tomb, which, in its proportions, form and window pattern resembles a regular house. However, without a roof, floors and window frames, the house is incomplete and abandoned (Moneo, [1973]1998). The lack of detail creates a sense of anonymity, where the windows are devoid of frames and glass, they seem like hollow eyes, creating a uncomfortable feeling. The original design contained two more typologies.

The second type in the design is the arcade walk, which resembles the same idea of emptiness with a path that leads to nothing. The arcade is designed as an ‘endless path’. By a changing composition in a triangular form, with lesser height and length in the end, the expected perspective is destroyed. This enhances the sense of endlessness, and creates the idea of a timeless place (Moneo, [1973]1998). The arcade ends in a common grave, which resembles the “abandonment of the abandonment” (Moneo, [1973]1998, p. 121). The third type, the common grave, creates this experience of emptiness trough the use of a toplight and a narrow-high proportion. The arcade and common grave of his original design were never realized, and exchanged for a large empty lot. This land, resembles the same idea of emptiness, a void surrounded by a single wall with few openings. On the one
The atmosphere of the sacred

1 Original design
(Sketch by Janne van Berlo)
Part 2, experiencing sacredness in case studies

Giorgio de Chirico, Italian plaza with equestrian statue
hand, in relation to the house it refers to a settlement, a city for the living, while at the same time there is only this anonymous space of death and no signs of life within this settlement.

The total design, originally stronger than the realized, resembles a surrealist image. The architecture of Rossi is often compared with the paintings of Chirico, where familiar forms and types are placed in such a way that they create an almost melancholic feeling. Surrealist painters try to change the objectives, through the occurrence of new situations created out of familiar objects assembled in a random way. The same accounts for Rossi, who uses familiar objects (the house) and positions it in an alienating way. The architectural elements create a different reality, generating a transcendent, unearthly experience. The cemetery resembles the world of the dead, in an earthly material way, creating a sense of a different reality on earth. Where the paintings of the Surrealists can only create the image of dreams and visions that go beyond reality, the Modena cemetery forces the visitor to participate. This creates a full bodily experience of alienation, and an unreal reality.

**Proportions of Hans Dom van der Laan,**

In architecture the sublime is often associated with a scale beyond human measurements, simple and geometrical. Geometry as a representation of order made out of chaos, a metaphysical order of reality. (Pallasmaa, 2007). Egyptian pyramids, or the Cenotaphe a Newton monument of Boullée evoke the feeling of the sublime and absolute silence, through their size and relentless construction and absolute geometry. In the same way, the works of Hans Dom van der Laan and Louis Kahn express a sense of order.

Dom Hans van der Laan was both a monk and an architect, who spent his life studying liturgy, architecture and the relation...
Part 2, experiencing sacredness in case studies

I  Lack of detail

II  Literal emptiness

III  Endlessness

IV  Emptiness in the field
between them. In his search he focused on order, numbers and their visual perception. He created a spatial measurement system, to give order to architecture. This system, named the plastic number, works on a perceptual basis, incorporating what we perceive as different sizes. This takes into account the depth of architecture, and the fact that its perception is fundamental in unveiling its beauty (Ferlenga & Verde, 2001). The system of measurements is founded on the grouping of sizes set in relation to each other. It is meant to create a composition where the difference or similarities in size of separate elements is immediately clear. In his architecture, this system, the forms and relation of spaces it created was predominant. He believed that all architecture should develop from the concept of a home. The house is the element that mediates between man and nature, it is because of the house that man can survive in the heart of nature. When the house becomes a monastery, van der Laan demonstrates the domestic origin of holiness. It forms the framework for religious liturgy, translated into elements of everyday life (Ferlenga & Verde, 2001). Van der Laan also saw the act of building a church as the ultimate task of creating a human home.

“God doesn't live in a home made Byzantine human hands, no, the Domus Dei is a human home dedicated to God” (Dom van der Laan in Arve, 2008, p. 1).

His architecture is modernistic, without obvious decorations and symbols, but through the use of spaces, the relations between them and the different volumes symbolism plays an evident role. Although not clear at first sight, you can even say that symbolism predominates functionalism in his buildings, every room is designed with a specific purpose and clear hierarchies that resemble benediction life (Ferlenga & Verde, 2001).
Part 2, experiencing sacredness in case studies
The Abbey of St. Benedictus, Vaals

The power of Dom Hans van der Laan’s architecture is that he uses simple architectural elements. Ordinary forms and building types such as sheds, barns, courtyards, workshops and normal materials, however, are placed together in such a way that they create the atmosphere of the sacred. Therefore, to describe the atmosphere he creates, one can do no more than give a simple description of the construction of his work.

The St. Benedictus Abbey at Vaals began construction in 1922, but was never completely finished. In 1947 Van der Laan was commissioned to complete the construction by building the church, the library, the sacristy and a cloister. The addition started with the building of the crypt. It is a space that is austere, the atmosphere is created by matter, light and rhythm (Ferlenga & Verde, 2001). The space is formed by a double row of columns that also support the church above. The materials used are clearly visible, the bricks lightly touched in with mortar, and the beams are of reinforced concrete. The roof is made of large slabs of concrete, that show the structural design. Only the back wall is an exception, which is made of large blocks, hiding the tomb behind. The only ornament is a candlestick, also designed by van der Laan. The light enters only from the left, and the shadow it creates, can be seen as the only decoration, it is part of the construction design,

“The characteristic features of the whole Vaals complex appear here for the first time: the masterly assemblage of absolutely ordinary elements and materials from which a mysterious, sacred aura, emanates” (Ferlenga & Verde, 2001, p. 54).

The church and its entrance form a composition of several elements, which all function as independent entities. The first is a long block that houses the entrance, porter lodge, related services and a few guest rooms. This leads to the atrium that is open on
two levels, which gives access to the church. The extension is on a slope, thus the church is higher than the entrance, and can be reached by climbing a staircase in the portico. The atrium is an open room to the sky, and acts as a threshold between the public and enclosed parts of the monastery (Ferlenga & Verde, 2001). The space is devoid of decorations and created from simple materials, brick, concrete beams and wooden boards. The entrance of the church consists of two simple doors, opening up to the aisles. The floor plan is based on the plan of a basilica, with a nave surrounded on three sides by a colonnade. The nave is higher than the colonnade, and seems to be an independent building, enclosed by the church (Ferlenga & Verde, 2001). Light enters through high rectangular windows that become narrower towards the corners. The idea that the nave is a separate entity is strengthened by the roof of dark wood, a material not used anywhere else in the church, and the windows that do not correspond with the rhythm of the colonnade. In the lower part of the nave, all rhythms correspond with each other, the benches, the stones and the colonnades. Furthermore, the roof is separated by two vertical lines above the colonnade. Through the upper windows the surrounding landscape is visible, but the windows are so high up that they do not create a direct link between inside and outside. Light comes in through all the windows, resulting in little difference between shadow and light. But thanks to the smoke of incense the light beams are still clearly visible.

Van der Laan manages to create this awe-inspiring experience, using normal lay-outs, materials en heights. There are no obvious crosses, symbols, dark contrast between light and dark or overwhelming decorations to create the atmosphere, nonetheless it is there. It is through his use of math, numbers and the relation of perception, that he creates this atmosphere, the absolutely strict use of the measurement system, creates a calmness and rest that is unique.
Monastery of St. Benedictus, Vaals 
of Hans Dom van der Laan

“This is silence.

“The portico was light, but when I enter the church, it seems even brighter and spacious and radiant. The atmosphere is mysterious, luminous. Incense creates a fog, a mysterious haze through the space. The light rains are visible through the gauze, and shine with straight lines through the space. The contrast between dark and light seems small, fog seems to reflect the light evenly, but also captures it.

The colours are all close to one another, enhancing the feeling of a fog. The grounded heavy materials show a strong texture, which creates a calmness. The thick columns, a small step down, the rhythm, the perspective, I can feel the measurement system. Everything feels as if it is right, as if this is the only way this space could be.

The mass starts and I sit down in the back. Only men come in, am I even welcome? I decide to stay, and the man sitting next to me smiles affirmative. I feel awkward, as I watch the others when to stand up or bow. I feel rude not to participate, I feel fake when I do. To bow for something I don’t believe, is that not just as disrespectful as not participating?”
V  Floorplan based on measurement system
The atmosphere of the sacred

I  Only view is upwards

II  Strong lightbeams through incense

III  Tree tops visible: a different world?

IV  Separation roof by different material, rhythm and construction
Personal experience

The atmosphere of the sacred
Personal experience
Order of Louis Kahn

The architect Luis Kahn devoted his career to the search of the meaning of Order. He saw order as the way for people to be in the world, to create a relationship between our consciousness and nature. He spoke of order as a metaphor, as that which created the encounter of the Self and the world (Lobell, 1979). Throughout his search, Kahn tried to give words to what Order meant, however, he ended up with the phrase, “Order is” since there were no other words (Kahn, 1979, p. 18). To express this Order, He used the poetic description of Silence and Light. Silence stood for the unmeasurable, the desire to be and that which is not there yet, where Light stands for that which is there, the measurable. The threshold of the measurable and the unmeasurable, is where architecture should be.

Moreover, Kahn believed that only by looking into your own intuition, you can relate to Order. Everything that exists was made, and within everything there is still the record of how it was made. Within ourselves, Kahn called this record intuition and by exploring this intuition, the truest sense, he aimed to explore his own origin and the nature of nature (Lobell, 1979). With this approach Kahn differentiated between Form and Design. Form meant the existence will, the nature of things. This existence-will expresses the Order behind it. It was, according to him the role of the architect to listen to the will of the building and the material, and ask the question, what would you like to be? Once the form is there, the Design part brings the building into the world by means of a shape and materials (Lobell, 1979). Within his search for the true Form of a building, Kahn saw architecture as based on geometry, and mathematics based on the theory of Platonism (Sauter, 2012). Platonism refers to the philosophy of the abstract object, that existed in the third realm. This third realm was separated from both the external world and from the internal world of the conscious. From here the platonic solids, five polyhedrons that all have the same number of faces and
the same angels were derived. These solids represent the cosmic elements according to the Platonic tradition. The tetrahedron represents fire, the cube – hexahedron - refers to the earth, the octahedron stands for air, the dodecahedron for the ether and the icosahedron for water (Sauter, 2012). Kahn was inspired by this theory and recognized that these ultimate forms were so powerful that there was a need to obey them. For Kahn, there was no doubt that there was "no exception to the rule that God always geometrizes" (Kahn in Sauter, 2012, p. 181).

Salk Institute
Louis Kahn's Salk institute is an eminent example of how Kahn created Order. He himself referred to this design as derived from “a respect and understanding of the nature of nature. I am becoming increasingly conscious of the architecture of water, the architecture of air, the architecture of light” (Kahn in Sauter, 2012, p. 181). Kahn designed the Salk Institute as a mandala, which in oriental art is the representation of natural order and hierarchy. The mandala contains several concentric geometric forms representing several aspects of the Self (Lobell, 1979). The floor plan of the Salk institute is constructed in this concentric way, starting with a space containing the stairs and the toilet,
The atmosphere of the sacred
which stand for the body, then the laboratory spaces, which represent the mind, followed by the paths and walkways that stand for society. Finally, through the offices to the central court, a void, that represents the spirit. Thus, going through this building is going through the places of the body, mind, society, and spirit, all aspects of the human being (Lobell, 1979).

Most striking about the design is the central court, which is called the roofless cathedral. The court resembles literal emptiness. Secluded and open to the sky, it has an air of sacredness. The atmosphere here is created by several aspects. Primarily the feeling of endlessness is important. By means of the facade, which are positioned rhythmically on both sides of the court, a repetition is created. This repetition together with the view overlooking the sea and the sky, create a sense of infinity. Furthermore the court is enriched by a small stream of water, creating a contrast with the heavy stone. Otherwise the court is left empty, without greenery or trees. This literal emptiness together with the scale of the court, creates an imposing, anonymous space. The lack of human scale creates a reference to another space, a different world. The emptiness created by the use of bare monochrome marble, also creates a reflection of the sky. It is a void always changing and in full anticipation of the cycle of the sun. The last important aspect is the sky which forms a celestial ceiling for this outdoor space. Together it creates a space which induces the visitor into silence and cosmic reflection (Pallasmaa, [2007]2012a).
The atmosphere of the sacred

IV Repetition Shadow and light
Pantheon

The pantheon is an excellent example of the use of light and symmetry, furthermore it is particularly interesting because over the years it served many different functions, from religious to worldly functions. The architecture, however, has never changed since emperor Hadrian had it built (c. 120-126 AD), only the metaphor, the reference of what it meant. The user changed, and simply read different meanings in the space. The oculus of the pantheon, the circle and the direct light, is used to express many different powers, gods, believers, forces etc. This indicates that the awe-inspiring experience of the building, is for both believers and non-believers, universal. Originally, the function of the building was also universal, Pan meaning all and theon meaning gods, was it a temple for all the gods. The pantheon seems to have been built more for uniting the divine in the general than as a sanctuary for a particular cult (Watkin, 1994). However, in 609 it changed into a place of worship for the Catholics. Pope Boniface IV changed the building into a space of prayer, and until this day it has been a catholic church, referred to by the current Romans as S. Maria Rotonda. Yet, the Pantheon expresses, even when its function has changed, something universal, the sublime light.

In religious architecture light is often used to invoke a sublime experience. The sun is the Giver of Light, it is something that you cannot change, or alter, and therefore you cannot make yours. It always belongs to the beyond, the bigger world (Wierenga, 2012). Perhaps therefore also the use of the direct light in the Pantheon, can be read in many different ways. The opening, the eye, creates a connection between the individual and the beyond. The light that sometimes shines on the ground, then on the walls and in the end of the day on the dome, creates a bridge between the intangible and the tangible (Watkin, 1994). It creates a relation between the spectator, the material and the world above.
The circle, the oculus, is the symbol of infinity, wholeness and universality. The circle is represented both in the layout, and in the opening, and creates this sensation, since it is a figure that never ends, has no starting point or end, but is whole in itself (Watkin, 1994). Because this symbol is universal, something also seen with the artworks of Richard Long, its reference to any particular concept almost disappears. Spectators attach their own metaphor to the circle, their own meaning, and therefore the symbol that it was supposed to represent is replaced. The visitor draws meaning from himself, instead of from a metaphor (Wierenga, 2012).

The interior of the Pantheon shows perfect dimensions due to the fact that the diameter of the dome is the same as the distance from floor to top; a perfect circle. The walls of Corinthian columns and exedras interrupt the circle, and visualize in a subtle way the scale used. Since the height of the columns are equal to that of a normal temple, it becomes visible how much higher the dome is (Watkin, 1994). The exedras enhance the spectacle of the dome, since they eliminate wall surface. The dome seems to float lightly over the small and slender construction. The actual construction is hidden by architectural ornamentation that has nothing to do with, or even contradicts the real construction. The floating effect of the dome creates an immaterial experience as if it could not really be true. To achieve this effect, the architect made use of perception and
Part 2, experiencing sacredness in case studies
false perspective, an effect also seen at James Turrell’s celestial vault. Where Turrell uses light, literally immaterial, the Pantheon uses the perception of heavy material, concrete, to create the immaterial experience. It is the use of both this perception, and of the direct light and the perfect circle, that give the Pantheon its awe-inspiring, transcendental qualities.

Luis Barragan

Pallasmaa ([2007]2012b) describes the work of Luis Barragan as a microcosm, the image of a paradise, a dream-world of metaphysical transcendence. Barragan uses like Aldo Rossi, a lack of detail to create spaces that seem different than all other spaces. It shows the essence of architecture as colourful, poetic en contemplative through the use of light and colour. In the Chapel from the Capuchinas Sacramentarias this use of light and colour creates a true sense of contemplation, which makes this an interesting example to analyse. Pallasmaa describes Barragan’s use of colour of the Chapel for as one that turns the light into warm liquid with sonorous qualities, which can almost be heard as a humming sound ([2007]2012bb).

The Capuchinas chapel is the extension of a convent for the Franciscan nuns in the south of Mexico City. It is entered through an anonymous wall, that merges with its surroundings, leaving the chapel more secluded. The courtyard is paved with a black stone that absorbs the light. The surrounding roughly plastered white walls, reflect the sun strongly, creating a strong contrast between the sky and the floor. This empty court makes the passing of time only visible through the shadows that changes on the walls (Jaime, 2012). Inside, the heightened spiritual experience is created through a carefully orchestrated space, light and simplicity. There is only indirect and reflected light, creating a half-lit environment which is, according to Barragan, the light we need to contemplate (Jaime, 2012). Architectural elements like
The atmosphere of the sacred
lattice, stained glass and coloured walls create this indirect light, and free the space of flaring distracting direct light.

The surrounding walls of concrete capture and reflect the light in various tones or intensities. The lateral wall stands at an angle, creating an asymmetrical space with a narrow window hidden in the corner. The various panels of stained glass let in the light from the east, creating different hues of colours on the wall. The gilt triptych that stands on the altar reflects the light again, changing the wall's vibrant colours as the sun moves around (Jaime, 2012). Furthermore during the morning mass at 8:00 o'clock, the morning sun projects a shadow of a cross standing before the window on the wall.

The architect used a type of opaque glass and lattice work to tone down the intensity of the light and create the half light contemplative atmosphere desired for the chapel. The colours on the wall were chosen carefully to create a warm atmosphere. The orange and yellow colours enhance the idea of Sundays coming in, and have the psychological effect of warmth (Jaime, 2012).

Interesting is the different use of light in comparison to the Pantheon. Where the pantheon uses light to directly create a relation to the cosmos, to an other world, here light is used primarily to create an atmosphere of contemplation, calmness and warmth. There is no direct light, no overwhelming difference between shadow or light, or opening towards the outside. This creates a focus solely on oneself.

**Teshima art museum**

The Teshima art museum, created by the artist Rei Naito and architect Ruye Nishizawa is located on a hill, among the terraced rice fields, on the island of Teshima. The essence of the museum is that it is “empty”, and creates a true sensory experience that
expresses the in-between and appeals to one's emotions (Ryan, 2010). The museum is shaped like a drop of water, and has an irregular form. The construction is a self-supporting concrete shell covering 40 by 60 meters with a maximum height of 4.5 meters. The shell has no beams or columns, and forms a smooth surface inside and outside. The concrete creates the idea of an industrial facility, and forms a contrast with the nature of the island. The material is unusually white, creating a monochromatic, smooth surface where the curved shapes create a refined transition from light to shadow. The smooth transition makes boundaries slowly disappear and creates ungraspable limits, creating a nearly immaterial experience, a sense of nothingness. Inside the museum, the visitors are left to contemplate, to experience the nature created by light, water and air (Ryan, 2010).

The two openings allow these elements into the building. Inside the artist Rei Naito designed an installation for the collection of rainwater, guiding the water through the two large openings into the building. The water accumulates on the concrete floor below the two openings. By small, ever flowing fountains, flows of water and drops the paddles change per hour and per season. The ever changing play of water drops on the concrete surface, create a strong juxtaposition between the solid material, and the subtle changes of nature. One of the openings has a thread hanging downwards that slowly moves in the breeze, visualizing the movement of the air. The strong concrete structure enhances the experience of the fragile thread, the wind breezes and the water droplets. Beyond that, the surrounding greenery is visible, but only upwards, creating no horizontal relation to the surrounding. By the emptiness and its construction, the building represents as it were, the natural elements (Ryan, 2010). It is through these elements and the strong contradictions in the building, the lightness of the shadows, the structure, the nature and the concrete heavy material, that the atmosphere is created.
The atmosphere of the sacred
Part 2, experiencing sacredness in case studies

I. Formiliar / unformiliar form

II. Light dark contrast

III. Indirect relation to nature

IV. Ungraspable limits
Brüder Klaus kapelle  
of Peter Zumthor

“Though the fields there is a long path leading up to the chapel. Walking through the fields, I have left the city behind me. The chapel changes, what was a rough formless block of concrete slowly becomes an elegant pentagonal tower.

The door is heavy and muffles the sound when it slowly closes. The hallway, narrow small and dark, forms a strong contrast with the endless fields outside. Captured in this space, I enter this intimate room. The odour of the space is overwhelming, burned concrete, wood, water and candles. The experience of the chapel is turned around when entering it. The straight concrete hard corners change inside into a fluent space. Light and sound are absorbed by the textures of the wall. These textures create a strong direction upwards, to the light, which comes in strongly from above. Looking upwards, I seem to see both the sky and the stars.

There are four other people the space, which surprisingly doesn’t bother me. It enhances the experience of the space to be there with others. To see them feel the stillness, to be quite together..”
Personal experience

Brüder Klaus Kapelle
of Peter Zumthor
Photograph by J. van Berlo
Personal experience

The atmosphere of the sacred

I  Contradiction of hexagon and fluent space

II  Top-light and cast are the same

III  Transition free to guided

IV  Incorporation all the elements

V  Strong use of textures with direction
Personal experience
Poem left by a visitor

Mitten im Sturm -
egborgen
Ohne zu wissen, wohin.
Der Himmel ist da, wo ich bin...
Offen für mich und die anderen.

Anna aus Worms
Personal experience
Japanese gardens and Ryoan-ji

Japanese gardens are considered as sacred in Japanese culture, and are often situated within a temple complex. As can also be seen within the description of heterotopias, gardens often resemble a different world, due to their symbolism and their seclusion. The Japanese garden is interesting because the two best known types approach contemplation in a different matter.

Also, the Japanese garden is full of symbolism, explained by the origin of the words used to name them. One of the words is *shima*, which also means “island”. The use of this word, indicates the making of a focus point, something that stands on its own. On the one hand this could mean, literally, the creation of a piece of nature, or on the other hand as an act of sacralisation (Nakagawara, 2004). The second term that had great influence is the concept of *sansui*, which comes from Chinese *shanshui*, which means mountain-water. Sansui is used to address nature and landscape, which combines the idea that landscape consists of mountains and water (Nakagawara, 2004). This also expresses the yin-yang opposition. Mountains are the representation of masculinity, power and stability, and water is the representation of the feminine, formless, unstable and fluent.

The Japanese garden has known many different forms and layouts in history, varying from a picturesque, theatrical one, to an object to be observed. Now, when we speak of a Japanese garden, we often refer to the dry Zen garden, which is in fact only a specific type of Japanese garden. The first gardens were of the Heian period (794-1191), were the water paradises that belonged the aristocratic residences (Nakagawara, 2004). The garden consisted of only functional places, a flat area covered with sand, and the pond garden. The lay out was non symmetrical, with specific locations for trees and bridges. The pond was used for both pleasure boats and as a stage for festivals, with boats for musicians. These gardens were a representation of a
Part 2, experiencing sacredness
in case studies

Ryoan-ji, Kyoto
make-believe world. They created a world of a paradise for the elite, where literary works could be performed by human actors (Nakagawara, 2004). With the weakening of the aristocracy, the Samurai and Zen Buddhism came up, also changing the perception of the garden. The garden changed from a naive, ideal place, to a place of meditation and contemplation. The former encouraged contemplation through the stimulation of all senses, materials, colours and fragrances whereas the latter achieve contemplation through the mind, concentration and silence.

The dry Zen gardens are always secluded, creating a separation from the profane. They are located inside a temple, which creates a double transition as is the case with the monastery garden. The Zen garden, is no longer a garden to be in, it developed into a forbidden space, which significantly changed the experience of the garden. Since the visitor only sits on the veranda, the relation between the spectator and the garden demands active participation of the mind with the environment, conform the Zen principles of Mindfulness (Barrie, 1996). Important in the experience of the garden is the angle of vision. The relationship between the different elements, the horizon, the specific framing, the effect of the threshold, the narrative and the symbols all change when the viewpoint changes. The garden can be viewed from the corridor, while sitting, standing or walking, forms all used in Zen meditation (Weiss, 2013).

The dry garden is has no pond and stream, but is made of sand and stones. The primary character of the garden is the lack of water, this is replaced with stones and often gravel. The second feature is the use of empty spaces, voids, with often with an absence of plants and trees. Typical is that with the absence of plants, also the seasonal connotation disappears. Within the garden there are two aesthetic ideals, the first is the profound and austere elegance, containing multiple layers of symbolism, and
John Cage composed several music pieces based on the garden, called Ryoanji. He claimed that the position of the stones was not deliberate, determined by aesthetic, symbolic of metaphysical objectives, but that the emptiness of the sand indicates they could be placed everywhere (Cage in Weiss, 2013). As an expression of this he created the work Where $R = Ryouanji$. 

---

John Cage, 1992
Where R is Ryoanji

John Cage composed several music pieces based on the garden, called Ryoanji. He claimed that the position of the stones was not deliberate, determined by aesthetic, symbolic of metaphysical objectives, but that the emptiness of the sand indicates they could be placed everywhere (Cage in Weiss, 2013). As an expression of this he created the work Where $R = Ryouanji$. 

---

Part 2, experiencing sacredness in case studies
The atmosphere of the sacred

The second is *yakaku no bi*, which addresses the beauty of the void, the empty space (Weiss, 2013). The void is both symbolic and literal, it relates to the ineffable, the mystery, and within that is a representation of something that cannot be explained. The symbolic aspect of nothingness is that of theology, where the goal is to reconcile us with the void (Weiss, 2013). For the monks the garden played an essential part in their contemplative experience, they made and tended the garden, which brought their contemplative experience further than the mere aesthetic appreciation of the garden (Nakagawara, 2004). The creating of a place, or tending it, creates apart from the meditative rhythm, also a deeper bond with the place and therefore its meaning.

The most famous Zen garden is the dry garden of Ryoan-ji in Kyoto. Despite the enormous number of photographs, and analyses performed of the garden, the experience is supposedly still ineffable. The garden consists of raked gravel and fifteen stones. The patio on which visitors can sit and observe the garden, is made of wood and surrounds two sites of the garden. The view is framed by the patio and the garden and shows the garden, however, never completely at once (Weiss, 2013). The wall surrounds the garden, creating a separate place, however, surrounding nature is still visible behind the wall. The material and its deterioration over time, plays an important role in the experience of the garden. The unpredictability of the way the mosses grow, and how the humidity leaves its marks make time a part of the garden.

**Japanese Zen temples, Daisein of Daitoku-Ji**

Japanese Zen temples have a layout different from most western religious architecture. The floor plan is based on what Thomas Barrie defines as the ‘segmented path’, where a multi-directional sequence of spaces leads towards the sacred place. An example of such a typical temple is the Daisein, a sub temple of
Part 2, experiencing sacredness
in case studies

I  Ordered but non-symmetrical floorplan

II  Mass vs. voids

III  Different materials per fase
The atmosphere of the sacred

Daisen-in, of Daitoku-ji
Daitoku-ji. This temple consists of an entry sequence of several different paths and spaces. The temple accommodates both secular and sacred functions. The path through the temple leads slowly towards the garden and is along the way marked by the use of different paving patterns and edges. Each part of the path has its own typical pavings and characteristics. In total it passes through four different volumes, that create a different atmosphere and have different functions, through which the path runs (Barrie, 1996).

“At Daisen-in the volumes sequentially decrease in size, creating the experience of compression and anticipation. The sequence of gateways establish thresholds to increasingly sacred spaces. Along the path incomplete glimpses of the temple and its gardens are afforded, underlining the experience of passage and anticipating the attainment of the spiritual place” Barrie (1996, p. 132).

The paths end in the Hojo, which forms as a separate entity, in the ‘middle’ of the settlement. The surrounding landscapes create the idea that the hojo floats in the landscape. The hojo itself is a sequence of volumes, which increase in sacredness. The volumes are surrounded by a wide veranda, looking over the garden. From the inside the hojo is dark and introvert, creating a large contrast with the garden. The garden is completely closed, yet it suggests a sense of infinity due to the horizon and view lines. The garden is asymmetrical, in opposition to the ordered and modular temple. This represents the opposites of the cosmos, yin and yang, the architecture represents a masculine strength and order, whereas the mysterious garden represents the feminine. The sequence of spaces changes in tension due to their different forms. The hojo with its full view of the garden, releases the tension and as a result triggers a spiritual experience (Barrie, 1996).
Light and shadow
The hojo was described as dark inside, forming a contradiction with the garden outside. In the Japanese culture there is a high appreciation of shadow. In *Praise of Shadows* by Junichiro Tanizaki (2001) describes as sacred not the light, but the shadow. He describes the power of shadow, and how things become stronger when only seen in the dark.

"Lacquerware decorated in gold is not something to be seen in a brilliant light, to be taken in at a single glance; it should be left in the dark, a part here and a part there picked up by a faint light. Its florid patterns recede into the darkness, conjuring in their stead an inexpressible aura of depth and mystery, of overtones but partly suggested. The sheen of the lacquer, set out in the night, reflects the wavering candlelight, announcing the drafts that find their way from time to time into the quiet room, luring one into a state of reverie"  Tanizaki (2001, p. 21)

This describes the two main powers of shadow: the first that it does not reveal everything at once, that it keeps the mystery alive, makes you take time to adjust, to take everything in. The second is that because shadow reveals, it is also possible to show only that which is truly beautiful.
Personal experience

Japanese Garden
The Hague
Photograph by J. van Berlo
“Through the forest I enter the garden, the smell is fresh and light. I see no clear structure of focus point. That makes me wonder what to do, where to go, what to see, think, feel. As time passes by all that disappears and calmness grows within me. I start to grasp the garden, it feels as if it has been created out of moments. Untouchable little altars of nature.

They form untouchables stills. However they are not still, they move slowly in the wind, react in colour and light. One of these altars is a small pond in the midst of the garden, surrounded by colours, beautiful tree’s and plants. The water mirrors the garden and the light, creating a poetic image, a paradise.

When I walk away from the pond, to a different place in the garden, it also seizes to exist. I enter a new moment”.

Japanese garden, The Hague
Personal experience

Japanese Garden, The Hague
Photograph by J. van Berlo
“In the park, daily life feels far away. No sign of cars, smells, loud people, shops or commercials. Only nature and small pavilions surround me. Walking through the park, each pavilion seems to stand alone in the midst of nature.

One is completely empty, a round space, that echoes my voice. Walking through the circle my humming changes in tone and vibration. Together with some others, we start composing, listening to the effects that occur in the empty space.

Another red cube, with a small narrow door. Inside, the door slams shut behind me with a dull thud, creating silence.

Everything is white, bright, with diffuse light from above. On the back wall is a large canvas, too large and complex to take in at once. A wild, colourful painting that is overwhelming. Nonetheless the atmosphere is calm. In the witness of the walls, the indirect lightening on the back wall, there is something serene”.

Insel Hombroich
Personal experience
Personal experience

The atmosphere of the sacred

Museum Insel Hombroich
Photograph by J. van Berlo
Personal experience
Personal experience

The atmosphere of the sacred
Previous page:
Tadeusz Pavilion,
Museum Insel Hombroich
Photograph by J. van Berlo

I Invisible top

II Top-lights (invisible)

III Contradiction inside outside
Mariendom Neviges

“The entire village seems to exist out of a path to reach the Mariendom. The urbanistic gesture is so large, that it feels almost threatening.

Once inside, its overwhelming, an experience as I have never had before. The space is dark, cold, fully constructed out of concrete, damped and silent. A heavy feeling comes over me. As if the weight of the building is pressing on me. There are harsh echo’s, loads of candles dripping over each other. Red stained glass. Though small windows, light comes barely in. To be able to see anything, construction lights are used, an odd and eerily combination.

The space is like a small city, nowhere I can grasp it, or see an overview. It consists of small chaotic spaces, coming together in an even more chaotic dark centre. Every corner, every part is dark heavy, depressing, almost threatening”.

I Darkness

II Guided path
Personal experience

Mariendom Neviges
Photograph by J. van Berlo
While describing several architectural projects, it becomes clear that there are many different ways to create a sacred atmosphere. All projects use different manners, proportions, materials, light, sizes, textures etc. to translate the notion of the sacred into a built-up environment. The primary reference to the idea of the sacred is that of another world, one that is contrary to the profane. Contradictions are used primarily to express this Empty versus full, order vs. chaos, secluded vs. open, dark vs. light. A particularly interesting expression of an other world, is the use of a void or emptiness and an abstraction in detailing. In a way they both express a non-human world. The abstraction in detailing causes a feeling of alienation, of a place that is not fully human, as seen in Modena cemetery. Emptiness causes the same effect, and furthermore, leaves one free of distraction. This allows you to feel and sense the silence. In that sense, emptiness expresses the ineffable, that for which there are no words.

Another expression of another world is the idea of order, which can be expressed through measurement systems, geometry or the incorporation of all four elements. A perfect geometry is very powerful because it leaves no room for change, it is as it is supposed to be, and therefore relates to a different place. This is visible in the Pantheon, where the perfect circle combined with the non-human scale creates an overwhelming experience.

Furthermore the idea of seclusion came up. Secluded by walls, gardens or distance, there is always an entrance, a transition point from the profane world to the sacred. This transition makes one aware of entering a different world. This transition can be short and strong, or it can make use of width to prepare for the eventual experience as if entering is a ritual. The latter is seen in Daisen-in, where the tension is built up slowly each step into the building through the use of different materials, heights, window frames and lighting. Once inside, in most of the cases I studied, seclusion is seclusion expressed through a lack of horizontal
relations. Gardens are enclosed by walls, and windows and sight lines are above eye level, pointing upwards and mostly showing the sky.

The last aspect I would particularly like to address is the use of light, which is of great influence in the creation of atmosphere. Part 1, the theoretical framework, addressed the fact that both light and darkness can create a sublime experience. Often darkness is related to the frightening terror aspect of the sublime, where light is related to the awe-inspiring aspect. The Mariendom Neviges uses complete darkness, a lack of windows, no relation to the outside, dark heavy concrete, echo’s and a cave like construction to create a heavy, almost frightening experience too. On the other hand, the Salk institute is an open space, so bright that it is almost blinding. The complete order, strict view lines and horizon together also create a sense of the sublime, without the feeling of terror. One cannot say either light of darkness is more suitable to relate to the sublime, only that the atmosphere desired is different.

Altogether it is clear that all kinds of architectural elements can be used to create a sacred atmosphere, sometimes even contrasting ones. Important is the creation of a different world, where one can experience silence. The moment of transition, entering, is the moment that immediately should create this silence. That moment is often overwhelming, sudden or a relief of tension.

Right page:
Nathan coley, 2012
A place beyond believe
A PLACE BEYOND BELIEF
Part 2, experiencing sacredness in case studies
The deconstructed moment

“I walk on a long path, enclosed by two walls. Halfway I can enter a different space, resembling a different world. A large open space, constructed and deconstructed of walls and disks. There are many spaces, paths and choices, all leading to different moments. It seems to be a structure of spaces, moments and walking paths. Long sight lines are interrupted by enclosed spaces, moments of rest. Each moment, is like a new altar, a new world, where the last space does not seem to exist anymore. I can see others walking there, wander freely, searching on their own. They are guided by the walls, and yet free to go wherever they want.

My own search changes from space to space, from walking, to standing still. Movement and rest are interspersed. Small see-throughs give a glimpse of other spaces, other worlds. To discover the spaces, I move through this complex, yet orderly world of repetition and walls. The walls seduce me to go further, to discover what is the next moment. Transitions flow from one into another, building up the tension and creating relief in a moment. Every corner, every choice, again reveals another world, another moment of silence.”
Photographs of models
Artistic research

The atmosphere of the sacred
"The building I approach is a heavy dark cube. When coming closer, I can see the texture of stamped black concrete, rough and heavy. There is one opening, without doors. Walking through, I feel the thickness of the wall and the concrete.

Once inside, the space seems hollowed out. The roof is open, and lets in the light, rain and wind. The sharp shadows on the wall reveal the rough texture, enhancing the sense of heaviness. In the middle of the floor there is a small shallow peddle of water. The water reflects the walls, and the sky and the clouds, as if it relates to the cosmos.

Sounds of droplets of water fill the space. After a while I notice that it is not just the rain that fills up the pond. From different floor-levels, small streams of water flow over the walls toward the middle, where they gather. They are small, erratic streams of water, that form a big contrast with the clear, heavy concrete cube."
Artistic research

The atmosphere of the sacred
"Music is the space between the note".

Claude Debussy (in J. G. Koomey, 2001, p 96)
The atmosphere of the sacred
My research shows how the sacred can be experienced. There is a difference between the notion of the sacred and the experience of a sacred atmosphere. Therefore, the research is split into two parts: the first part is the literary framework, where the meaning of “sacred” is investigated. This shows what is the idea, that is visualized in art and architecture. The actual experience of the sacred is also researched through “atmosphere”, which is described in the case studies. The two different parts yielded different answers to how to visualize the sacred. Combining these answers led to certain guidelines and architectural elements as to how the experience of the sacred can be visualised or experienced.

The research shows both the importance of meaning and the notion, just as it demonstrates how primary elements such as light, shapes and materials are the main tools of creating an atmosphere, how these elements became the medium for human perception. The architectural object here is the transitional point, it is the place where the dialogue takes place between the sacred and the profane. The architecture forms a place, but creates no limits, as a transitional place and a connection between two different realms. These two realms are absolute opposites, where sacred represents a place that is different. Therefore it is not possible to know exactly what it is, because human beings live in the profane world. It is this contrast that gives it meaning, and through this contrast one can form a theory of what it is. We know the profane world, and can therefore have an idea of what is the sacred.

**Definition of the Sacred**
Sacred and profane are absolute opposites, and can therefore be defined by only that. Thus the most important reference is that to a different place, das gang andere, the wholly other. It is a place that is totally different from the world we know. It is the world
where order is created out of chaos, where light is brought to the darkness, that creates orientation and represents all other spaces. It is a space that represents the beyond, but at the same time it creates an encounter of the self and the world. The experience of this encounter is one that exceeds symbolism and cultural differences, and is described as awe-inspiring and overwhelming. This definition results in a set of terms that define or express this different place. These terms are often contradictions, following also the opposition of the sacred and the profane.

**Enclosing and transition**
For the sacred to be a different place, there has to be a boundary, a separation from the profane. This boundary has to have a point of entry, the point where the two realms meet. This threshold forms the transition from the one to the other. This can be expressed in two ways, a sudden strong transition that creates the wow effect, or the slow, transition which acts as a preparatory ritual. The former can be expressed by a strong difference in lightning, height, size and colour. The latter is more subtle, and makes use of many different small steps that together prepare one to enter. The breath-width of this transition can be long, yet the moment of entry should still be clear.

**Light and darkness**
Both light and darkness are used in reference to the sublime and the sacred. It is not so much that the one works better than the other, but they determine completely different atmospheres. They both have their own qualities, where darkness withholds, keeps hidden and triggers the imagination, light reveals and shows a certain power of life. Utter darkness is often related to terror, the frightening aspect of the sublime, an atmosphere that I believe is not desired in a modern translation of the sacred. Light on the contrary is related to awe-inspiring and overwhelming sensations,
and more related to the design task. Even though light is desired, one cannot work without darkness to achieve this. A room is only experienced as bright and light, as the previous one was darker. It is the transition from one to the other, that creates an overwhelming experience.

Light in itself can be used in many different ways. Often used is the strong contradiction, the top-light, which creates a relation to the above. In other examples the use of floodlight makes the spaces interesting and mysterious. It creates an atmosphere that cannot be taken in at once.

Emptiness
Emptiness can be used to express that which cannot be said, as a symbol of the essence of the ineffable experience. It is also a symbol of silence, of the place where the world is stilled. The abstract expressionistic artists express this by not visualizing any material objects, but the emotional dimensions. They do not try to create form to what it is, but show the essence of the experience. A place is literally left empty of the material object. This is also visible in the Teshima art museum, that creates an empty space to experience the four elements. Another example was Modena cemetery, that encloses an empty lot and was abstract in the detailing. This abstraction created a sense of alienation which enhances this experience. This abstraction is a means of expressing a different world.

Order
Order created out of chaos, is part of the definition of the sacred. Order can be seen as the geometry, or mathematical measurement systems, or the incorporation of all elements. Order gives rest, creates calmness, creates the sense that things are right, as if it is an answer. Not all examples are automatically
The atmosphere of the sacred

geometric or symmetrical. To be ordered can also mean a lack of chaos. This is, I believe, more appropriate for a modern translation of the Sacred, since it does not represent one answer. It is a quest, where each person finds their own answers. The design should still be orderly, but it should be careful not to express one answer, one truth.

Infinity
Infinity is in a way a reference to the cosmos, the immeasurable universe, the beyond. This can be expressed both horizontally a vertically. Projects such as the Pantheon create a vertical axis, that brings the visitor in relation to the sky, the worlds of the god, the infinite cosmos. This is then a reference to the infinite as something that is beyond our normal daily world. Other projects express a more horizontal reference to the infinite, like the courtyard of the Salk institute. Here the sense of infinity is created by the repetition of the facade in combination with the horizon. The repetition seems endless, creating the sense that the limit is endless. This ungraspable limit is also expressed in the works of Mark Rothko. He uses vagueness and depth in layering to express the beyond, the ungraspable limit.

Non-physical dimension.
A sacred experience can be expressed as a transcendental experience, one that goes beyond physical laws. This is a reference to an unreal phenomenon that represents a different reality. This can be visualized through the spectator’s perception, as seen in James Turrell’s Celestial vault. He uses the human perception to create an experience that seems not to be real. Another expression is that of immateriality, and a lack of gravity. The Pantheon is an example of this. The walls seem to consist of separate elements, which cannot carry the weight of the dome. The wall is subordinate to the dome, and so the dome gets its
Final conclusion

floating character. Through this floating character the dome seems to be of a different order, one that is beyond everyday reality.

These so-called guidelines give some insight into what is important in creating a sacred atmosphere. However, they are not a fixed set of rules. This is because in every example, the atmosphere is different and created by a different set of architectural elements. The proportion, material, size, composition, relation to nature, openings etc. are different each time. A set of rules would be based on ratio, where the atmosphere is one that cannot be rationalized. In each case it is the architect who managed to create a poetic image, using his own intuition. Therefore in the end, the guidelines that appeared relate more strongly to the idea of the sacred, than to the atmosphere experienced.

Furthermore the research is of course limited, and so are the subjects which I chose to analyse. With this I would like to state that obviously here are more possible solutions than the ones described here. This is only the beginning of a theory, not the answer by a long way.
The atmosphere of the sacred

Hannsjörg Voth
Boot aus stein, 1978-81
Bibliography


The atmosphere of the sacred


Bibliography

of Louis I. Kahn. (pp. 5-57). Boulder: Shambhala.


Images


P. 38  Historicke plattegronden van Nederlandse steden, deel 12. RotterdamKaart IV. Frans Huys & Dirck Davidsz Versyden, 1632


The atmosphere of the sacred


Research mentor:
Peter Koorstra

Design mentor:
Leontine de Wit

Building technological mentor:
Jan van de Voort

Graduation studio:
Explorelab XVIII
2014-2015

© Janne van Berlo