

A black and white photograph of the interior of St. Henry's Ecumenical Art Chapel. The image shows a long, narrow nave with a high, vaulted ceiling. The walls and ceiling are covered in dark, horizontal wooden slats. The floor is made of light-colored wood. At the far end of the nave, there is a large, bright, arched opening that serves as the main entrance. The light from this opening creates a strong contrast with the dark interior. On either side of the nave, there are rows of dark wooden pews. A piano is visible on the left side of the nave. The overall atmosphere is one of quiet contemplation and architectural grandeur.

Sung-Bok Song

Architectural Silence

-A phenomenological study on St. Henry's Ecumenical Art Chapel

Master's Thesis

Tampereen Teknillinen Yliopisto - Tampere University of Technology
Arkkitehtuurin laitos - School of Architecture

Sung-Bok Song

Architectural Silence
(A phenomenological study on St. Henry's Ecumenical Art Chapel)

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Abstract

Principles of the industrialized architecture design were first formulated by Le Corbusier in “*Towards a New Architecture*” (1923). The influence of his vision has globally dominated architectural design both in the West and the East. In this study I focus on the phenomena—the homogenized and commercialized style of contemporary built environment affected by Le Corbusier—seen both in Finland and South Korea.

There are several issues based on the phenomena. Firstly, it reveals the connection between Descartes’ dualism and Le Corbusier’s influence all over the world. Secondly, the trend of form in architectural design has lost lived experience with the built environment. Finally, by losing the ontological relation between human being and architecture, the replicated architecture has led us to feel homelessness and placelessness as the problem of the modern man, because the commercialized architecture has a lot of noise to get people’s attention instead of making them experience existential meaning.

In this research, I argue that architectural silence triggers people to be aware of this modern problem and to reconcile the relationship between architecture and human beings. This is because, firstly, the awareness of engagement on the beings and the architecture is introduced as the meaning of bodily experience with architecture. Secondly, the relationship supports people to feel the sense of Being-in-the-World, a phenomenological solution to the modern man. Thirdly, the engagement and ontological relation is revealed in a certain atmosphere: architectural silence. Therefore, I will study what is the meaning of architectural silence and how the silence and architecture are connected with experience to recall the being’s existential meaning by conducting phenomenological interpretation.

This study is separated into five parts: ‘Crisis of contemporary built environment’, ‘Critical reading of Merleau-Ponty’s phenomenology’, ‘Phenomenological method’, ‘Phenomenology of St. Henry's Ecumenical Art Chapel’ (Sanaksenaho Arkkitehdit Oy, 2005), and Conclusion.

In the first and second part, I will first argue how Cartesian Dualism and Le Corbusier have affected the built environment in the 21st Century, and then the main idea of Merleau-Ponty’s philosophy will be studied to criticize the dualism and to make a bridge between phenomenology and architectural language. The third part introduces phenomenological method, which is called “Step by Step” method, as an interdisciplinary research between ontology and architecture. In fourth and fifth part, the phenomenological interpretation is applied to the St. Henry's Ecumenical Art Chapel.

In conclusion, the phenomenological interpretation of the chapel shows as below:

Firstly, architecture, as a material form of body and experience unity, bases on architectural silence which leads people to recall the existential meaning of architectural experience with their memory. Moreover, the architectural silence stimulates people to encounter the empathetic connection between the being itself and architecture. Finally, architectural silence encourages people to have their own life story with architectural body-experience in the architecture.

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Tiivistelmä

Teollisen arkkitehtuurin periaatteet muotoiltiin ensimmäisen kerran Le Corbusier'n kirjassa Kohti uutta arkkitehtuuria (*Vers une architecture*, 1923). Hänen näkemyksensä on sittemmin vaikuttanut dominoivasti arkkitehtuurisuunnitteluun niin länsimaissa kuin idässäkin. Keskitynkin tässä tutkielmassa Le Corbusier'ltä vaikutuksensa saaneeseen, homogeenistuneen ja kaupallistuneen rakennetun nyky-ympäristön ilmiöön, joka ilmenee sekä Suomessa että Etelä-Koreassa.

Ilmiöön kuuluu monia puolia: Ensinnäkin se paljastaa yhteyden kartesiolaisen dualismin ja Le Corbusier'n maailmanlaajuisen vaikutuksen välillä. Toiseksi suunnittelussa vallitseva muodon trendi on kadottanut rakennettuun ympäristöön liittyvän eletyn kokemuksen (*lived experience*). Lisäksi kadottamalla ontologisen yhteyden ihmisen ja arkkitehtuurin välillä itseään kopioiva arkkitehtuuri johtaa modernin ihmisen ongelmaan: se saa tuntemaan kodittomuuden ja paikattomuuden tunnetta, koska kaupallinen arkkitehtuuri on meluisaa ja huomionhakuista sen sijaan, että se saisi ihmisen kokemaan eksistentiaalista merkitystä.

Tässä tutkielmassa esitän, että arkkitehtuurin hiljaisuuden (*architectural silence*) avulla voi tiedostua modernista ongelmasta ja sovittaa yhteen arkkitehtuurin ja ihmiset. Näin on ensinnäkin siksi, että ihmisen ja arkkitehtuurin toisiinsa kytkeytymisen tiedostaminen esitetään arkkitehtuurin ruumiillisen kokemuksen (*bodily experience*) tarkoituksena. Toiseksi yhteys auttaa ihmistä tuntemaan maailmassa-olemista (*Being-in-the-World*), joka toimii fenomenologisena ratkaisuna modernille ihmiselle. Kolmanneksi kytkeytyminen ja ontologinen yhteys paljastuvat tietynlaisessa tunnelmassa: arkkitehtuurin hiljaisuudessa.

Toteuttamalla fenomenologisen tulkinnan tutkinkin siis sitä, mikä on arkkitehtuurin hiljaisuuden merkitys ja miten hiljaisuus ja arkkitehtuuri ovat yhteydessä kokemukseen, jonka kautta ihmisen tunne eksistentiaalisesta tarkoituksesta elpyy.

Tutkimus on jaettu viiteen osaan: ensimmäisessä ja toisessa osassa perustelen ensin, miten kartesiolainen dualismi ja Le Corbusier ovat vaikuttaneet rakennettuun ympäristöön 2000-luvulla, minkä jälkeen tarkastellaan Merleau-Pontyn filosofian pääideaa kyseenalaistuksena dualismille ja siltana fenomenologian ja arkkitehtuurin kielen välillä. Kolmas osa esittelee fenomenologisen ”Step by step” –metodin tieteidenvälisenä tutkimuksena ontologian ja arkkitehtuurin välillä. Neljännessä ja viidennessä osassa fenomenologista tulkintaa sovelletaan Pyhän Henrikin ekumeeniseseen taidekappeliin.

Kappelin fenomenologisen tulkinnan tulos näyttää seuraavalta:

Ensinnäkin arkkitehtuuri materiaalisena kehon ja kokemuksen yhteyden muotona pohjaa arkkitehtuurin hiljaisuuteen, joka saa ihmiset jälleen muistamaan arkkitehtonisen kokemuksen eksistentiaalisen merkityksen. Lisäksi arkkitehtuurin hiljaisuus stimuloi ihmisiä kohtaamaan myötätuntoisen yhteyden ihmisen itsensä ja arkkitehtuurin välillä. Lopuksi arkkitehtuurin hiljaisuus rohkaisee ihmisiä muodostamaan oman elämäntarinansa arkkitehtonisen kehollisen kokemuksen pohjalta arkkitehtuurissa.

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*“We must... avoid saying that our body is 'in' space, or in time.
It inhabits space and time”*
(Merleau-Ponty, 2005, p.161)

*“Being established in my life, buttressed by my thinking nature,
fastened down in this transcendental field which was opened for
me by my first perception, and in which all absence is merely the
obverse of a presence, all silence a modality of the being of sound,
I enjoy a sort of ubiquity and theoretical eternity...”*
(Merleau-Ponty, 2005, p. 424)

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INTRODUCTION

The phenomena of contemporary architecture and cityscape—homogenized and commercialized architectural design: the biased aspect of architecture design—are analogous to many cities of the world, for instance, Finland and South Korea (my home country), even though the cultures and natural environment are quite different. The style of architectural design has a considerable possibility with practical way of thinking to create built environment efficiently. However, it has lost the engagement between bodily experience and the existential meaning of placeness: the problem of modern man.

The modernist and deconstructivist architects have conflicted between form and function. The confliction is based on a perspective of objectified architecture. This has been criticized by phenomenologists. Most of architectures in contemporary epoch have considered an object which is separated from man, so the objectified architecture has focused on ocular-centrism and techno-centrism in design. The main problem of the contemporary design is that the dualism—the separation of body and mind—has led to a common attitude to think of the creating space and place and the losing lived experience in which man can sense Being-in-the-World. In other words, the attitude can often cause a feeling of homelessness to man.

The noble vision was an important standard of judgment of knowledge in ancient Greek. While this vision has been considerably highlighted since Descartes, the tactile sense has been oppressed and the body has been subordinate to the mind, i.e. rational thinking. As the effect of his dualism, most people believe visible things as a science, which is a rational approach of thinking. It is also considered that the quality of life is improved by the technology. Moreover, the ocularcentrism and technocentrism have influenced the homogenized and commercialized architecture design in 21st Century, so the form of architecture has become magnified by authorizing to visionary sense and commercially iconic style. Eventually there are full of similar style of iconic architecture everywhere. With the roar of the architecture, our built environment is dominant by their noise.

The phenomena also stimulate that many architects and architectural students merely consider the connection between form and structure, which stems from a strong notion of the dualism, as architectural design creates spectacular form without considering existential experience with architecture. However, according to phenomenologist—Husserl, Heidegger, Merleau-Ponty—man can truly experience the space with one's entire mind-body and interact with built environment. Especially the phenomenology of Merleau-Ponty illustrates the empathetic/lived relationship between them all—experience, people, architecture and space, world, and silence—with the concept of dwelling have been considered main design principle based on the flow of experience.

In this paper, I mainly discuss the phenomenology of Merleau-Ponty and a method of phenomenological investigation with *St. Henry's Ecumenical Art Chapel* (Sanaksenaho Arkkitehdit Oy, 2005), Turku, Finland. This is because, firstly, Merleau-Ponty argues not only the mind-body unity, but also emphasizes the bodily experience and the engagement of silence, which implies multisensory experience of body with architecture. Secondly, the phenomenological method make a bridge between phenomenology and the experience in

architecture to examine the relationship between body and architecture with silence. Finally, with the method, the silence of the chapel reveals the connection between human beings and architecture. Moreover, in order to conduct the interpretation, the phenomenological language of Merleau-Ponty transforms into architecture language: architectural body, architectural experience, and architectural silence.

The architectural silence is a core of this interpretation. This is because, firstly, the architectural silence triggers people to be aware of the problem of modern man and reconcile the relationship between architecture and human beings as many great architectures have shown with experience. Secondly, the silence encourages to reveal the multisensory engagement between being's experience and architecture. In this respect, the silence is a solution to recall the existential meaning of being in built environment. Therefore, I will study what is the meaning of architectural silence and how the silence is connected with architectural language by conducting phenomenological interpretation with the chapel.

To begin with, the phenomena in architectural and urban design in South Korea and Finland will be claimed in this paper. The reason of the phenomena is rationalism, so I will argue that how Descartes' dualism and the housing-machine of Le Corbusier are affected the rational way of thinking in the design. Moreover, their notion will be presented in this chapter. After that, the main aspects of Merleau-Ponty's phenomenology are argued as a relevant solution for the phenomena. In his phenomenology, he asserts the mind-body unity and the notion of lived body (experience, space, world, and silence) as a different point of view compared to Descartes' dualism. An initial notion of architectural silence also will be argued. In the third chapter, the phenomenological method will be explained in detail. The method also will be broadly divided into architectural body, as built environment, and architectural experience, as experience of the built environment. Although the method is divided into the body and the experience to avoid the confusion about phenomenological investigation, the relationship between the body and the experience is fundamentally pre-reflective condition. In the following chapter four and five, the phenomenological interpretation is applied to the *St. Henry's Ecumenical Art Chapel* by describing and explaining the relationship between the body and the experience. Moreover, the meaning of architectural silence and the connection between silence and architecture will be examined with the phenomenological interpretation. As the introduced method, the certain character of architectural body will be presented in chapter four. In the chapter five, firstly, the first-hand experience of the chapel will be described to show the main essences of the experience. Secondly, the meaning and relationship of each essence will be examined by distilling and interpreting the essences. This examination recalls the existential meaning of Being-in-the-World and gives various horizon of architectural silence as a conclusion of this research.

| CRISIS OF CONTEMPORARY BUILT ENVIRONMENT

1 Background of Phenomena in Contemporary Built Environment

The dualistic argument between mind and body which is the correlation between a subject and an object, has been the main issue in architectural design, science, and philosophy since Descartes, who was considered the father of modern philosophy (Norberg-Schulz, 2000, p.67). Moreover, the effect and dilemma of the dualistic notion have been dominant contemporary built environment since Le Corbusier who was influenced by modern rational thinking. The influence of Descartes and Le Corbusier is more evident in architectural design because many designers have dealt with architecture as an object. Several architectural theorists—Karsten Harries, Alberto Pérez-Gómez, Juhani Pallasmaa—have similarly disputed that the design attitude of architecture is a biased aspect as an objected architecture. According to Karsten Harries (1996, p.392), architecture have lost the sense of place and the objectivity of modernity has led architecture is part of a technological culture that demands [Corbusian] machines for living, instead of [Heideggerian] dwellings. Also the objectivity has produced sense of homelessness (Harries, 1996, p.392). There have been many critic of the contemporary built environment which is effected by Descartes and Le Corbusier. In the following chapter, their influence will be studied.

1.1 Phenomena in Contemporary Built Environment in Finland and South Korea

Phenomena	Urban Design		Architecture Design	
	Finland	South Korea	Finland	South Korea
Homogeneity	Turku, Tampere (Figure 1)	Seoul, Dongtan (Figure 2)	Block of Flats (Figure 7)	Block of Flats (Figure 6)
Commercialization	Greater Helsinki (Figure 4)	Seoul Capital Area (Figure 4)	Tower Block (Figure 8)	Shopping Mall (Figure 10)

Table 1. Phenomena in Contemporary Built Environment

While there are two similar phenomena in South Korea and Finland in terms of architectural and urban design in the 21st century, these countries have quite different natural environment with societal culture. The phenomena are reflected the homogenized and commercialize design with urban and architecture level in the both countries respectively (Table 1). Kenneth Frampton also points the phenomena as below, even though there is time difference between his observation and mine:

*“Modern building is now so **universally conditioned** by **optimized technology** that the possibility of creating significant urban form has become extremely limited. The restrictions jointly imposed by automotive distribution and the volatile play of land speculation serve to limit the scope of urban design to such a degree that any intervention tends to be reduced ... to a kind of **superficial masking** which modern development requires for **the facilitation of marketing** and **the maintenance of social control**. Today **the practice of architecture seems to be increasingly polarized between**, on the one hand, a so-called **“high-tech”** approach predicated exclusively upon production and, on the other, the provision of a **“compensatory façade”** to cover up the harsh realities of this **universal system**.”* (Frampton, 1985, p.17)

The more each city of both countries have become urbanized, the more phenomena of architecture and urban form have provoked identical aspects. This is called universal system. With the system, a techno-centred and visual-centred design became a mainstream to achieve modern development. Although Frampton (1985) argues that the contemporary architecture is polarized between high-tech and compensatory façade, the phenomena take a far more extreme tendency than before. Firstly, in the architectural level, there have been some changes such as materials: nowadays architecture also has a dynamic façade which is based on high-tech wall and structural system, concrete wall panels and concrete facades in Finland. However, in order to commercialize economically and functionally, the concept of construction is still applied to contemporary tower block in Finland. Secondly, in the urban level, no matter what time period of city fabric has still remained in the city, the way of metropolitan has led each city to apply identical method to develop itself very effectively. According to Frampton (1985, p.17), “the last two decades [1960–1980] have radically transformed the metropolitan centers of the developed world. What were still essentially 19th century city fabrics in the early 1960s have since become progressively overlaid by the two symbiotic instruments of Megalopolitan development—the freestanding high-rise and the serpentine freeway,” for example, contemporary offices in downtown UK and mix-used shopping mall in South Korea or freeway in Finland and South Korea. After World War I, the Continuation War in Finland, and Korean War in 1950-53 in South Korea, a metropolitan urban form has been stacked and applied in the historical urban fabric in Helsinki and Seoul rapidly. Thus megastructures of housing has been built. This is because that type of design is liable for creating a mechanical and infinite reproduction, i.e., the quantitative value became a considerable element of built environment. In this sense, Frampton (1985, p.17) says that “today civilization tends to be increasingly embroiled in a never-ending chain of ‘means and ends’”. The homogenized design stems from the mass-production which suppresses the diverse character of man and engagement with place. And the production concentrates on efficiency to create built environment. The commercialized design tends to have an arrogant style which is large scale of built environment by accepting inhumanity and designing unique form as an impressive monument. These designs strongly intends to consider quantitative approach instead of qualitative approach. The quantitative design phenomena is presented as below.

1) Urban Design



Figure 1. Urban Structure, Finland

Seoul



Dongtan



Figure 2. Urban Structure, South Korea

Rauma, Finland

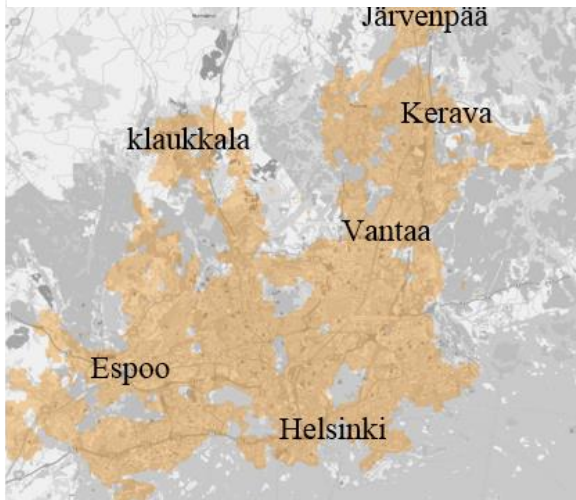


Bukchon, Seoul, South Korea



Figure 3. Historical Layer in City

Greater Helsinki



Seoul Capital Area



Figure 4. Metropolitan Area

In the urban design, there is homogeneity and commercialization in the both countries. The grid plan, which is homogenized phenomena in the urban structure, has been applied in many cities: Turku and Tampere in Finland (Figure 1) and Seoul and Dongtan in South Korea (Figure 2).

Although the plan considered natural environment, the design method has been strongly engaged with homogenized city plans. Moreover, it seems the grid can be infinitely expended in order to get a quantitative terms. However, the historical part of cities such as Rauma in Finland and Bukchon in Seoul (Figure 3), had a different urban structure in terms of a qualitative terms. While it is a fragmentary perspective of the historical part of city, there is plenty of humane space and a gentle interrelationship between nature and built environment. Furthermore, the capital city of both countries has been becoming metropolitan area: Greater Helsinki and Seoul Capital Area (Figure 4).

While there are many differences between two cities in terms of the speed of growing and centralized city, the boundary of many cities around the capital city and the capital city has been blurred by the urban sprawl. In this sense, the cityscape from the road recalls Le Corbusier's *Ville Radieuse (The Radiant City)* (1924) as in Figure 5.

2) Architecture Design

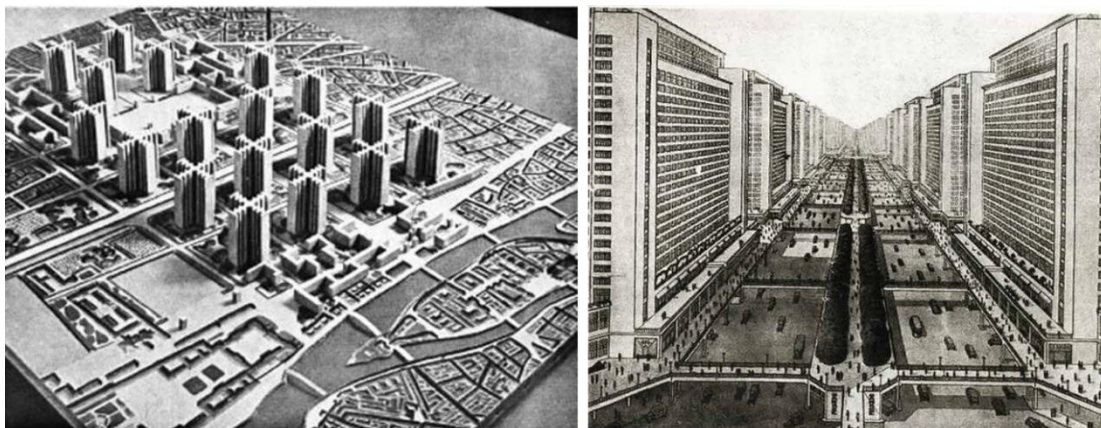


Figure 5. *The Radiant City*

Seoul

Dongtan



Figure 6. *Block of Flats in South Korea*

In the architecture level, it is observed the phenomena in the block of flats, Tower Block, and Shopping Mall in both countries. In other words, many architectures have similar floor plan and space organization as an efficient design method by creating an artificial environment, which has a limitary connection with nature and man.

Helsinki



Hervanta, Tampere



Jyväskylä

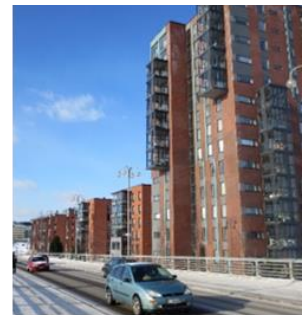


Figure 7. Box Type of Flats

Solo Sokos Hotel Torni, Tampere



Prkka-6, Hervanta, Tampere



Figure 8. High Rise Architecture

Prisma - Linnainmaa, Tampere



K_Citymarket - Lielähti, Tampere



Figure 9. Hyper Market

Firstly, it is easy to observe the homogenized style of architecture in almost all cities in South Korea. For instance, the indifferent block of flats have covered the most part of Seoul. Moreover, new style of apartments, which is not much different compared with previous one, is applied to a new city (Dongtan) as in Figure 6.

The phenomena are also discovered in the same way in Finland. While there are a little bit different style based on the time period, many cities are under the box type of flats such as Helsinki, Hervanta in Tampere, and Jyväskylä (Figure 7).

Secondly, some of the creative architecture represent the trend of commercialized architectural design. For instance, recently three high rise housings were built in Hervanta (Figure 8), and one same style of high rise built in the city centre in Tampere.

And same style of *Prisma* and *K-City* in Tampere are also in whole of Finland (Figure 9). In the case of South Korea, there are some office buildings, high rise, and shopping malls which are the same style of architecture in Japan (Figure 10).

Namba Parks, Japan



Mesenat Polis, Seoul, South Korea



Figure 10. Shopping Mall



Figure 11. Dongdaemun Design Plaza

Although it is not a mass-production design and has various meaning with the architecture, a gigantic architecture (*Dongdaemun Design Plaza*, 2014), which is designed by Zaha Hadid (Figure 11), was recently built in Seoul. It represents the monumental value of the city because of lack of connotative meaning between man and architecture.

1.2 Le Corbusier

“Le Corbusier did not create the modern architecture alone, but his book ‘Towards a New Architecture’ can be seen in a similar paradigmatic work as Durand’s Nouveau Précis des leçons D’Architecture. The transition to the modern form of the language was, of course, a huge and clearly visible change, but theoretically 1900s modernists do not end up essentially divorced Durand. Durand, as well as the early Le Corbusier, theoretical reflection is seen in kinship with Descartes’ thinking. Both architects reflection of architecture methodology can be seen as a kind of Cartesian method applications, even though, in his later work, Le Corbusier as an artist surpassed all of his rational design method which he had presented in his writings and designs.” (Passinmäki, 2011, p.33)

Although there have been many eminent studies of the phenomena described above, I focus on the early Le Corbusier, who had a decisive effect on Modern Architecture, and Rene Descartes, who was a first modern philosopher and a father of modern rationalist thinking. This study thus begins with Durand, Le Corbusier, and Descartes as the origin of homogenized and commercialized design, and the relationship between mind and body in the modern design.

1.2.1 Durand and Le Corbusier

How the Durand and Le Corbusier are connected with each other? While the grid system in design was not invented by Jean-Nicolas-Louis Durand, the grid became an only instrument in a technological process because of him. It was transformed into a common method, which focused on a homogeneous and universal geometrical space as a living space for man, in architecture design in the 19th and 20th century. In Durand’s theory, in order to obtain proportional system’s efficiency, the character of technical instruments and the geometry reflected on design. The notion of the technology oriented design is that technological values and process were important character of them, but these style lost cosmological reverberations and not dealt with the world of man (Pérez-Gómez, 1988, p.304–311).

Le Corbusier argued that the mass-production spirit is a new solution, new method, considering economy, sociology, and aesthetic in the architecture design of early 20th century. What is this new method of Corbusier? The method is using standardized elements, all equal, the arrangement regular and privatized garden, such as, *Freehold Maisonettes* (1922) (Figure 12), *Bordeaux-Pessac* (1924), and *University Quarter* (Corbusier, 1984, p.228–243).

In this sense, there was an interconnection between Durand and Le Corbusier: “Durand’s position has a certain similarity with that outlined by Le Corbusier in *Towards a New Architecture*. Corbusier begins by drawing a distinction between the engineer’s aesthetic

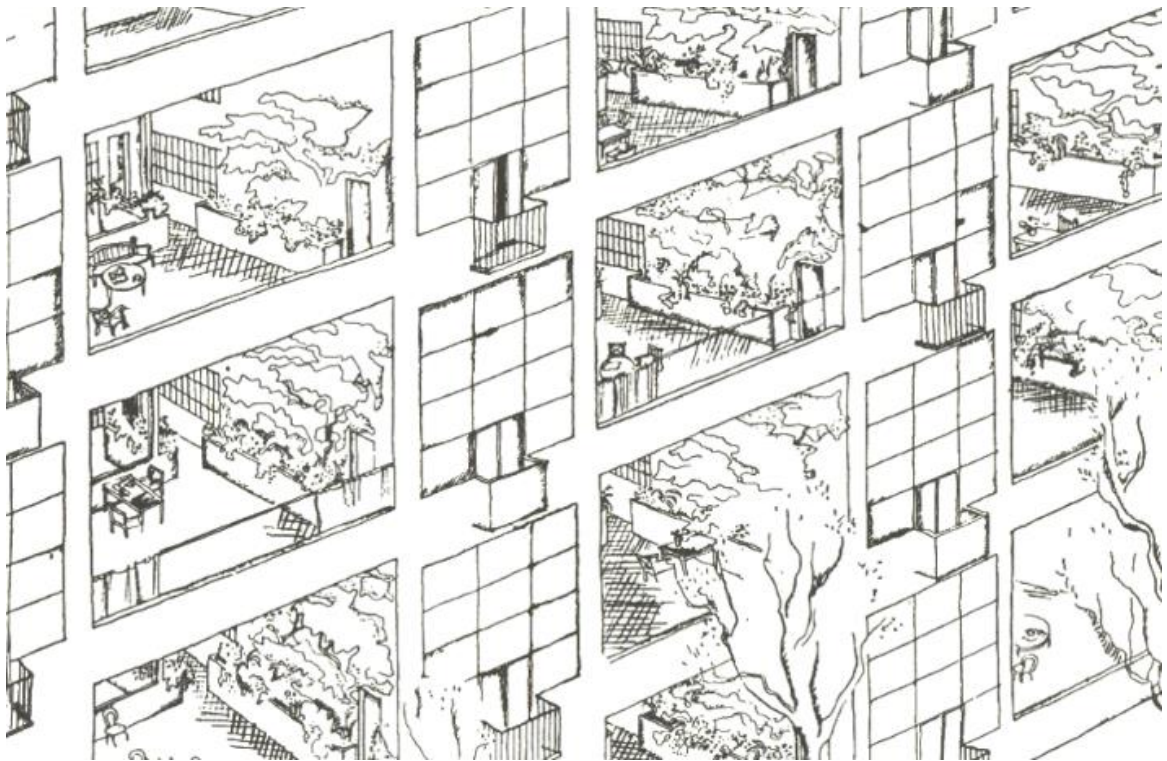


Figure 12. Freehold Maisonettes

and architecture. The two should march together, but Corbusier finds them unhappily apart: while the engineer's aesthetic is at its peak, architecture is caught up in an unfortunate state of retrogression. Like Loos, Corbusier takes the engineer, inspired by the law of economy and governed by mathematical calculations, to be working in accord with universal law" (Harries, 1997, p.235).

What one has to look at is that effect of homogeneous and generalized design method lead people to only consider architecture in terms of quantitative terms. In this sense, both Durand and Le Corbusier contributed to form main trend of modern architectural design.

1.2.2 Housing-Machine

What is the "House-Machine" of Le Corbusier? With the engineer's aesthetic, "We must look upon the house as a machine for living in or as a tool" (Corbusier, 1984, p.222). The notion of him was relevant in the early mass-production period with considering social needs and the industrialization in the early 20th century.

Le Corbusier says that "the primordial instinct of every human being is to assure himself of a shelter. The various classes of workers in society to-day no longer have dwellings adapted to their needs; neither the artizan nor the intellectual" (Ibid., p.14). As he points that "the problem of the house is a problem of the epoch" (Ibid., p.12), there were quite numbers of homeless because of lack of homes. The house was a machine for living in order to consider people's needs, technological and economical terms in that period. Thus, "dwellings, urban and suburban, will be enormous and square-built and no longer a dismal congeries; they will incorporate the principle of mass-production and of large-scale industrialization" (Ibid., p.218).

In the respect of a machine for living, every architectural element—windows, doors, walls, floors, ceilings, etc.—must be measured, catalogued, and standardized, even the size of space, too. Moreover, he detects engineer's aesthetic. "Architecture only exists when there is a poetic emotion" (Ibid., p.199), and defines that the clearly seen objects are the essence of art instead of ambiguity, and the poetic emotion means "what is seen and measured by the eyes" (Ibid., p.196–199). That is why he refers the Modulor and geometry in his design as a fundamental tool for his design. A main effect of his design was that man and nature became a part of the machine. In this respect, it is understandable for people and architects to notice his arguments by referring to a ship or a car, even though designing house is a much more complicated task than others. In his notion, every place is equalized and the function is an important value to achieve efficiency. The proportion and detail of architecture which is based on the Modulor is deeply engaged with our being. "The Parthenon gives us sure truths and emotion of a superior, mathematical order. Art is poetry: the emotion of the senses, the joy of the mind as it measures and appreciates, the recognition of an axial principle" (Ibid., p.205). Therefore, Le Corbusier finds the beauty of quantity (Ibid., p.151) and the emotional connection with quantitative value (Ibid., p.195) as an engineer's aesthetic.

1.3 The Reflection of Cartesian Dualism in Le Corbusier

In this chapter, the influence of Descartes's concept on Le Corbusier will be studied with the detail study of the Cartesian dualism.

1.3.1 The Changing Perspective View of World

Architecture has been considered as a symbol of each societal culture. In the design principle of architectural history, human body was dealt as a basic scale of architecture in *the Parthenon* in AD 125, because the human body was nature itself (Im, 2012, p.59–78). The body represented the universal harmony and perfection of nature, such as Vitruvian figure by Leonardo da Vinci. Moreover, these architectures based on the holistic concept of body were regarded to be the place of God and the immaterial value; therefore, the architectures were locus to integrate the body and the mind. In the place, people could sense multi-sensory experience. There was a consideration of the existential context to reconcile between the world and man in the traditional knowledge. However, modern architecture has been considered as an object, since after the ocular- and techno-centrism were configured by Cartesian dualism, Galileo Galilei, and Isaac Newton. Modern architects have avoided the most fundamental existential issues (Perez-Gomez, 1988, p.4).

1.3.2 The Effect of Cartesian Dualism in Architecture

Galileo constructed the mathematical thought in 17th century, and Newton also settled intellectualism with Newton's laws. Shirazi (2014, p.36) argues that "Newtonian physics was also based on an axioms detached from real life...These quantitative attitudes generated an overwhelming atomism that remained dominant in all aspects and dimensions of modern life." While most scientists and philosophers in 17th century believed that mathematical thought represented the way to understand the relationship between human minds and the divine mind, Galileo understood the reality of the live world by motion, geometrical and quantitative properties. The correlation between the ideas of the subject and the reality of the object was

warranted by God. However, clarity and evidence for identifying the value and relations became a basic idea. Descartes' thought based on causal relations and priority over any perceptual evidence which was related with philosophy and scientists in 17th century (Perez-Gomez, 1988, p.19–25).

The argument of Descartes is based on the division of subject and object. In the dualism, the body, as an object, is not only separate with the mind, but also subordinate with the mind which is a subject. Moreover, in order to conceive the true face, Descartes rests on rational knowledge, which is based on thinking mind, rather than emotional feeling from senses. It emphasizes order and regulation in architectural design, for example, its influence is evident in painting of the *Perspective view of the Chateau, Gardens and Park of Versailles seen from the Avenue de Paris*, in 1668 by Pierre Patel (Figure 13).



Figure 13. *Perspective view of the Chateau, Gardens and Park of Versailles seen from the Avenue de Paris*

The value of architecture has been degenerated into an object as a material body. The value of the object has been evaluated by mechanical terms: measurements and standardization, as a tool which is visualized subject. Norberg-Schulz says that:

“From Descartes' cogito ergo sum derived ... the division of the world of life into opposition between subject and object. By looking upon things as objects, one reduces their presence to that of mere tools of ratiocination, one establishes a quantitative relationship with them. A world that operates in accordance with measurements and standards, therefore, proves to be essentially mechanistic, and can only be described in mechanical terms.” (Norberg-Schulz, 2000, p.66)

In addition, the dualism leads “the great schism between thought and feeling” (Ibid., p.10). The mind as a thought is a superordinate concept of feeling. This means that people can perceive all kind of feelings due to the relationship between mind and body, and are able to control the feeling with the thought, even though there is not opposite direction. In the intellectualism, people's mind and body is clearly divided as well as they are explicitly separated from place and space, because it is relevant for the people to observe the object to determine its value. Norberg-Schulz argues that “when subject is understood as cogito, then the object is externalized, and is understood visually and in terms of perspective. In other world, the ego becomes the observer instead of a participant, and the community is dissolved into the sum of a series of isolated individuals” (Ibid., p.10).

1.4 Cartesian Dualism

How exactly the early Le Corbusier’s notion is effected by Descartes Dualism? Descartes says that “...I observed that this truth, *I think, hence I am* [Latin, *cogito ergo sum*], was so certain and such evidence, that no ground of doubt...” in his Discourse on the Method (Descartes, 2011a, p.26–27). By using methodological scepticism, he tries to find the truth which he has learned and sensed. This is because “all I [Descartes] see is false...body, shape, extension on space, motion and place itself are all illusions” (Descartes, 2008, p.17–18). Descartes discovers being exists only when he/she is thinking, and he clearly argues that “I am composed of a body and a mind” (Ibid., p.58).

What is the relationship between a body and a mind by Descartes? In contrast with Merleau-Ponty, “the conclusion from the Cogito that he is, essentially, a thinking thing, a soul entirely distinct from the body” (Ibid., p.xii). Thus, in the Descartes principle of philosophy, there are two important issues: Firstly, what is a body, space, and soul? Secondly, the separation between the soul and the body. These two features of Descartes’ principle will be examined in the following chapters.

1.4.1 Body

What is a body of Descartes? Descartes insists that “I have a face, hands, arms, and this whole mechanism of limbs, such as we see even in corpses; this I referred to as the body” (Ibid., p.19). The body is defined anatomical and mechanical features, so that “the body of its nature is endlessly divisible” (Ibid., p.60–61). Moreover, the body and the soul are different realms of substance and there is an extension of substance. For instance, the body is an extended substance, so that my body and others’ body are an extended substance from me. According to Casey (1998, p.154), “extension must inhere in substance, and this substance can be nothing other than material substance or body.” There are thus many extended substances in the world, and the bodily things also have length, breadth, and depth.

1.4.2 Space

Isaac Newton defines “Absolute Space”, which is homogeneous and immutable (Kern, 2003, p.132). However, there is a difference between Newton and Descartes. “Absolute Space” of Newton is empty or vacuum space which is an immovable substance, while Cartesian physics and metaphysics insists identification of space with matter, with physical bodies possessing magnitude and shape (Casey, 1998, p.151–153). As Descartes’ philosophy, there is no subject

in the space, because the subject is nonmaterial properties. The concept of Space in Descartes is the same concept as the viewpoint of mathematics (*Euclidean Space*):

“...whereas in space we attribute to extension a generic unity, so that after taking from a certain space the body which occupied it, we do not suppose that we have at the same time removed the extension of the space, because it appears to us that the same extension remains there so long as it is of the same magnitude and figure, and preserves the same situation in respect to certain bodies around it, by means of which we determine this space.” (Descartes, 2011b, p.204)

The focus though is the concept of extension of Descartes. Descartes says that “there is only magnitude, or extension in length, breadth, and depth; shape, which results from the limitation of this extension” (Descartes, 2008, p.31). In this sense, Cartesian Coordinates (Table 2) explains the extension. Casey says about Descartes’ argument that “not only is it [extension] the common essence of matter and space, it determines the nature of quantity and dimension—and thus of all measurement of distance as well...any extension is not bodily” (Casey, 1998, p.153). In this respect, space is a homogeneous field of coordination (Ibid., p.160).

Most people are accustomed to the Cartesian Coordination Graph which was developed by Descartes who invents “x” and “y” axes as in Table 2. The table illustrates 2-dimensional coordinate system. The Euclidean Space which is 3-dimensions (x, y, z) (Table 3) utilizes the same coordinate system. It is mathematically well organized geometry to show the concept of space. Usually we take the concept of 2-dimensional spaces and 3-dimension for granted as a separated object from subject in the Cartesian coordination, for example, the subject located in the origin point observes and measures the object which is “P”. Thus we have taken the concept of space for granted as the way of understanding the world since Descartes.

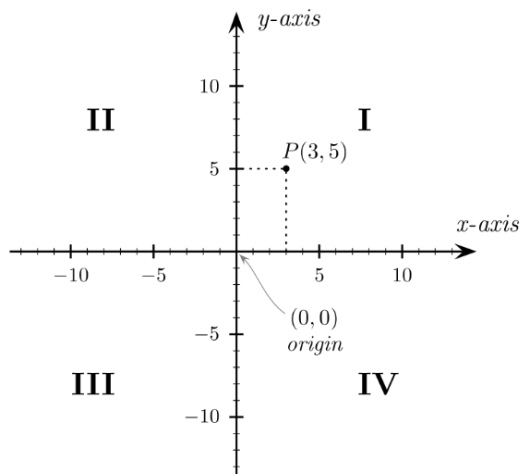


Table 2. Cartesian Coordinates Graph

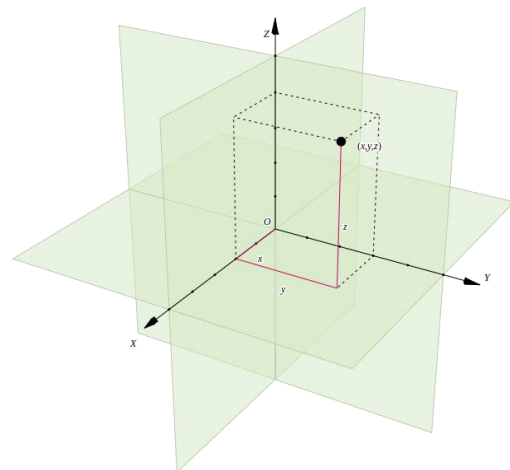


Table 3. Euclidean Space

1.4.3 Soul

What is the Soul/mind? The soul is not only a substance which is a thinking thing, but it is also independent. According to Descartes, “when I think that a stone is a substance, that is to say, a thing capable of existing by itself, and likewise that I am myself a substance, then although I conceive myself to be a thinking and not an extended thing, and the stone, on the other hand, to be an extended and not a thinking thing” (Descartes, 2008, p.32). Moreover, the soul [mind] cannot be measured and is immaterial substance. Descartes says that “the mind completely indivisible: for certainly, when I consider the mind, or myself in so far as I am purely a thinking thing” (Ibid., p.61) Being cannot decide, sense, and perceive any things without the soul which is a thinking substance. For instance, “Light and colours, sounds, smells, tastes, heat and cold, and the other tactile qualities are thought by me” (Ibid., p.31).

1.4.4 Separation between Soul and Body

The body is subordinate to the soul which means they are separate substances. Also there is a hierarchical relation between them. According to Descartes (Ibid., p.19), “I took nourishment, moved, perceived with my senses, and thought: these actions indeed I attributed to the soul.” The soul is the supervisor of all actions. In this sense, the soul legitimizes the existence of being. That is why he says that “I am, I exist, this is certain. But for how long? Certainly only for as long as I am thinking” (Ibid., p.19). Awareness of corporal things, which are sensing, perception, judging, and understanding, are merely thinking (Ibid., p.21). In addition, the soul lives in the body. The mind is immediately affected by small part of a brain (Ibid., p.61). Finally, the soul fuses with the body by thinking, perceiving intellectually, and understanding the body which Descartes called “fusion of the mind with the body” (Ibid., p.57). In this sense, Passinmäki (2013, p.8) says about the relationship: “Thinking mind is a subject and physical world, including human body, an object. Mind and body interact, even though they exist in different realms. Mind belongs to psychical world and body and all the other things to physical world. These two different kinds of substances cannot be reduced to each other”. The body is thus a vessel to inhabit the soul, and does not have exist without the soul; although the body has a quantitative, mechanical and material features, the soul accords the qualitative value to the body.

1.5 Criticism of Le Corbusier and Cartesian Dualism

There are opposed arguments of Housing-Machine. On the one hand, this concept has a considerable value to architecture because of economical and functional reason. As Le Corbusier (1984, p.210) states that "*Housing-Machine*", mass produced architecture, is a good solution of rapidly developed and urbanized society. On the other hand, the tendency also has unfortunate effects: the relationship between human being and architecture only led people to focus on vision, and people became hardened to experience architecture with other senses. In contrast to the “Housing-Machine”, house is not merely a machine as an instrumental tool but home that is rather an emotional space: Alvar Aalto says that “People often think of the human dwelling in the same terms as, for example, a car...Comparing the function of a genuine standard product, the car, to a building, we easily see the differences...They are not objects; they are living beings, with a family and many different relationships. Their environment

therefore cannot be standardized in the simplest sense, like some mechanical product” (Aalto, 1997, p.175).

The home is place to do existential experience, because although people are able to live at housing-machine, the engagement between human beings (body) and architecture (space, place, and architecture) is rather psychology-oriented with physical experience. For example, people are experiencing the built environment by using their body to do daily life activity such as cooking, sleeping, studying, birth and death with architectural experience. The action of people is response to the architecture. With these activities in the architecture, the people feel all different kinds of emotional experience which is related with their memory and imagination. This is because the relationship between the body and the architecture is not a fixed dimension, but a mutable and diverse: with the body and its motion, all people perceive the world.

The body is strongly engaged with the world before the man is consciously aware of it as a real feeling. As Pérez-Gómez (1988, p.3) asserts that “this own body, which is a similar the concept of body of Merleau-Ponty, is the locus of all formulations about the world; it not only occupies space and time but consists of spatiality and temporality. The body has a dimension. Through motion it polarizes external reality and becomes our instrument of meaning ... beyond the body's [and mind's] spatiality constitutes the thrust of architectural design, the creation of an order resonant with the body's own.” Despite the fact that architects argue of their design as a rational, scientific, functionalistic, and functionalistic architecture, all man — who have a lived body, especially architects themselves — perceive the involvement of intuition, art, expressionisms into the design. The division between rational and intuitive architecture, the mind and body is, in fact, very uncertain.

1.6 The Research Problem

The effect of Cartesian Dualism—separation between the mind and the body—and the early Le Corbusier’s notion—housing as a machine—is evident in contemporary built environment. Moreover, the form and function based on science has become a main concern in the architecture design in order to evaluate quantitative value of architecture. The architecture has been merely tended to deem a container as a machine and the tool of measurements; the architecture lost the existential meaning. Finally, the phenomena, which is effected by Descartes’ dualism and “*Housing-Machine*” of Le Corbusier, in contemporary of built environment have displayed the problem of the modern man: Homelessness and placelessness, the homogenized and commercialize design: Quantitative Terms, and Suppression bodily experience (existential experience).

The causes of the modern man’s problem lead to that human beings have lost the imagination of home, architecture and cities; people have lost the connection with an architecture and built environment; the meaning and experience of person’s place have become a consumer goods and the homogenized and commercialized built environment; the built environment has shouted a lot of noise with the symbolic form of speed and dynamic to architecture. However, many great architectures (*Pantheon, Villa Mairea, Therme Vals, and so on*) have shown the solution of the modern man’s problem with a strong architectural silence. They have recalled two features: Firstly, what we have lost (imagination, meaning, multiple interaction between architecture and experiencers), and secondly, how we can reconcile the existential meaning of being with architecture. Silence is thus an essential modality of the experience in architecture: “A strong architectural experience always produces a sense of

loneliness and silence irrespective of the actual number of people there or the noise. Experiencing art is a private dialogue between the work and the person experiencing it which excludes all other interaction” (Pallasmaa, 1996, p.452).

Therefore, I will examine what is the meaning of silence in architecture and how the silence and architectural are connected with experience to recall the existential meaning of being. In order to figure out the research question, the meaning of silence will be studied with Merleau-Ponty’s phenomenology, and then Phenomenological interpretation will be conducted with *St. Henry's Ecumenical Art Chapel* where I strongly experience the architectural silence.

II PHENOMENOLOGY OF MERLEAU-PONTY

2 Critical Reading of Merleau-Ponty's Phenomenology

“Visible and mobile, my body is a thing among things; it is caught in the fabric of the world, and its cohesion is that of a thing. But because it moves itself and sees, it holds things in a circle around itself. Things are an annex or prolongation of itself; they are encrusted into its flesh, they are part of its full definition; the world is made of the same stuff as the body.” (Merleau-Ponty, 1964, p.163)

In this chapter, the main aspects of Merleau-Ponty's phenomenology will be argued for a relevant solution of the phenomena. Especially the lived notion of his mind-body unity will be studied. Moreover, the importance of silence will be presented in the end of this chapter. This is because the notion guides people to be aware of the pre-reflective relationship between human beings and architecture reciprocally; the silence is a condition to convey the relationship to people.

2.1 What is Phenomenology?

Phenomenology began as a critique of science which is a binary structure, but there are several different definition of it, for example, “phenomenology is understood as 'a return to things themselves' [Husserl], as a 'method' or 'a way of seeing' [Heidegger], or as 'the essence of perception' [Merleau-Ponty]” (Shirazi, 2014, p.2). Heidegger and Merleau-Ponty as an existentialist philosophy clearly reject the Platonic-Cartesian-Hegelian ideal of absolute knowledge and the positivistic levelling which insists on objectivity and calculation (Langer, 1989, p. ix). Phenomenology is, in conclusion, the study of essences, which is not pre-existed truth and solid geometry, but pre-existed relationship, which is flexible, lively, and incalculable, between being and the world with bodily experience. In other words, the study of essences which is based on “a fresh unprejudiced look—i.e. untainted by scientific, metaphysical, religious or cultural presuppositions or attitudes—at the fundamental and essential features of human experience in and of the world”(Mooney & Moran, 2002, p.1). In the phenomenology, man is a well-knit unit of mind, body, and its environment, exists with the world; the man, consciously and unconsciously, integrate with time-space every moment through bodily experience.

The existentialist philosophy argues different sphere of seeing to the world, and they inquire of our common awareness of world. The concept of man in phenomenology is different compared with Descartes' supposition *cogito ergo sum*, which translates to the famous quote “I think therefore I am”. Descartes' dualism is widely dominant in modern society, which is visual and techno-centralized era. However, Heidegger's notion (*In-der-Welt-sein: Being-in-The-World*) illustrates that man is always inseparably engaged with his environment and life situation. Merleau-Ponty claims that the engagement between man and the environment is existential, actual, and fundamental situation because man has a lived body, which is actively involved in the surrounding world. In this sense, Merleau-Ponty's notion suggests the relationship between body and built environment. In this chapter, I am mainly going to discuss about his idea.

2.2 An Introduction of Merleau-Ponty's Phenomenology

“Phenomenology is the study of essences; ... the essence of perception, or the essence of consciousness...It tries to give a direct description of our experience as it is, without taking account of its psychological origin and the causal explanations which the scientist, the historian or the sociologist may be able to provide.” (Merleau-Ponty, 2005, p.vii)

Merleau-Ponty's notion is beyond empiricism and intellectualism, without psychology and science. The world already exists before human being perceives the world through the body. This is different perspective than Descartes'. The phenomenon is the way to perceive space, and reveals the existence of being in the world.

2.2.1 Mind and Body

Merleau-Ponty concludes that while it is disembodied mind of Descartes' dualism [mind/soul-body], the relation is not separated, but rather embodied mind (minded body). There is no boundary between mind and body. The embodied mind is not the sum of the mind and body, but the non-boundary is a precondition of being. Human being exists through the connection with bodily movement: “The experience of our own body...reveals to us an ambiguous mode of existing” (Ibid., p. 230). Thus the body lives with the mind and the connection is more intertwined as the relationship between angels and devils in “*Angels and Devils* (1960)” of M.C. Escher: “... the mind as the other side of the body ... There is a body of the mind, and a mind of the body and a chiasm between them” (Merleau-Ponty, 1968, p.259). Moreover, contrary to Descartes' disengaged object with mind, Merleau-Ponty argues differently which is mutually interrelated with the mind. Moreover, Merleau-Ponty says that “the body is our anchorage in a world” (Ibid., p.167). In this sense, the body is anchoring and anchored in the mind which is similar to the relationship between consciousness and unconsciousness of C. G. Jung, in terms of concurrent, indefinite, inseparable, and randomized interrelation.

2.2.2 The Relationship between Body and Space

The quantitative character of space has led many architects to consider technology, form, and typology of architecture and space. However, the design is still divided between body as a human being and architecture as a space.

The relationship between body and space is blurred, because they are not detached. The space is also lived space: the space stands for the body. The lived space is a precondition before perceiver defines the space with quantity and quality: “space is not a container in which I am located; in fact, I am the space. I live the space, and my body inhabits it” (Shirazi, 2014, p.33). And “We must... avoid saying that our body is 'in' space, or in time. It inhabits space and time” (Merleau-Ponty, 2005, p.161).

2.3 Lived Experience

Merleau-Ponty argues that one's own body is not an objective body. The character of the body reveals to the aspect of perception as a lived experience as below:

“When I perceive them [The sides of the cube] successively, with the appearance they present in different perspectives, I do not construct the idea of the geometrized projection which accounts for these perspectives: the cube is already there in front of me and reveals itself through them. I do not need to take an objective view of my own movement, or take it into account, in order to reconstitute the true form of the object behind its appearing: the account is already taken, and already the new appearance has compounded itself with the lived-through movement and presented itself as an appearance of a cube. The thing, and the world, are given to me along with the parts of my body, not by any ‘natural geometry’, but in a living connection comparable, or rather identical, with that existing between the parts of my body itself.” (Merleau-Ponty, 2005, p.237)

What is the character or effect of lived experience? Firstly, the meaning of lived is an identical meaning of inhabited body in the world as an ontological meaning. Secondly, the character of lived or inhabit or co-existent in his texts explains the difference of geometrized projection of an objective view. The character of perception is not geometrical idea of bodily movement as body concept in Euclidean Space: it is not matter of “my retina and crystalline lens, my eyes as material organs, go into action and cause me to see it” (Ibid., p.77). Thirdly, although process of perception cannot be separated to being a thing, body, and world, body and world are always living and lived with experience in perception process. As in “*Three Studies for a Portrait of George Dyer* (1964)” of Francis Bacon (Figure 14), body is always changing by experience with world and vice versa. Being and world are mutually response to each other as Bacon’s collage on the face in that painting: when noise of face is transformed into other, other parts of face are also changed and vice versa. The body and world co-exist together through the experience: when the body moves in the world, the world also moves to the body.



Figure 14. *Three Studies for a Portrait of George Dyer*

2.3.1 The Embodiment of Live Experience

Shirazi (2014, p.32) argues that “another outcome of Merleau-Ponty’s attention to concrete lived experience and embodiment is this point that our being-in-the-world is historical and

temporal.” How the experience and embodiment reveals the character of our being-in-the-world?

As Merleau-Ponty claims that “...the experience of our own body teaches us to embed space in existence” (Merleau-Ponty, 2005, p.171), and “...we are our body...the body is a natural self and, as it were, the subject of perception” (Ibid., p.239). Therefore, our experience is a modality of perception and of the relationship between body and world. In this sense, when we experience space, space is identical to us with our experience; experience is ‘Lived experience’, and ‘Co-existence’. As Merleau-Ponty says that “...every object is the mirror of all others...Any seeing of an object by me is instantaneously reiterated among all those objects in the world which are apprehended as co-existent, because each of them is all that the others ‘see’ of it... the house itself is not the house seen from nowhere, but the house seen from everywhere” (Ibid., p.79). This seeing concept reminds of “*Hand with Reflecting Sphere*” of M.C. Escher (1935) (Figure 15).

What “the house seen from everywhere” imply? The lived experience shows “the spatio-temporal structural of perceptual experience of body” (Langer, 1989, p.25) which is not an object thing: “we experience the unity of the object as correlated that of our body; and we experience our being in the world before we ever arrive at the idea of an external world...Underlying that reflective procedure which tears the subject away from its body and its world, we find a pre-reflective experience in which our body, things and the world are



Figure 15. Hand with Reflecting Sphere

immediately present and interrelated in a 'living connection', just as are the parts of our body itself" (Ibid., p.70).

2.3.2 Perception

"I perceive this table on which I am writing. This means, among other things, that my act of perception occupies me, and occupies me sufficiently for me to be unable, while I am actually perceiving the table, to perceive myself perceiving it."
(Merleau-Ponty, 2005, p.276)

What is perception, seeing, and looking? Generally it takes these notion for granted as we can observe and understand the object by our common rules and criteria which is in a rational way of thinking. However, the perception is mutual dialogue between perceiver and others: "every perception is a communication or a communion, the taking up or completion by us of some extraneous intention" (Ibid., p.373).

The perceive structure is "inextricably and dynamically interrelated in perceptual experience" (Langer, 1989, p. 158). Perceiver sees and looks the world and vice versa, based on the pre-reflective dialogue between them. For instance, when I am paddling a canoe in the lake, at the same time, the paddle is paddled by the water of lake. The world and the relationship between a being thing in the world have full of connection like the ecological systems of Earth: everything exists with together. The character of the perception shows the inhabited relationship between the being and the world.

In conclusion, the character of perception reveals the body-subject's existentiality with space: "to see is to enter a universe of beings which display themselves... In other words: to look at an object is to inhabit it, and from this habitation to grasp all things in terms of the aspect which they present to it" (Merleau-Ponty, 2005, p.79).

2.4 Lived Body

The notion of lived body in Merleau-Ponty is of a phenomenal body, bodily experience, flesh. Merleau-Ponty (2005, p.94) argues that "...the body is the vehicle of being in the world, and having a body is, for a living creature, to be involved in a definite environment, to identify oneself with certain projects..." And the body is a phenomenal body as a vehicle of being in the world (Ibid., p.266). The body concept of him is different than the body concept of Descartes. However, the body of Merleau-Ponty is "the vehicle", which the being inhabits in the world, and is moving towards the world. The vehicle notion of body is also of the anchorage notion of Merleau-Ponty: "body is our anchorage in a world" (Ibid. p.167), and "this power of habit is no different from the general one which we exercise over the body" (Ibid., p.167). There is no perceptual process if human beings have no body. The experience towards the world is truly bodily engagement: "when I put my hand to my knee, I experience at every stage of the movement the fulfilment of an intention which was not directed at my knee as an idea or even as an object, but as a present and real part of my living body ... as a stage in my perceptual movement towards world" (Ibid., p.167).

The body is not merely physical and biological object because of bodily experience, which is a primary function of body, so being can consciously perceive the world: "our bodily experience of movement is not a particular case of knowledge; it provides us with a way of access to the world and the object" (Ibid. p.162). The underlying of the relationship of bodily

experience is called a “chiasm” as main character of “flesh” in Merleau-Ponty’s phenomenology: “my organism, as a prepersonal cleaving to the general form of the world, as an anonymous and general existence, plays, beneath my personal life, the part of an inborn complex” (Ibid. p.97). Therefore, the body is the subject as an incardinate being and existential being.

Merleau-Ponty discovers the potential of the body: “it [body] is never our objective body that we move, but our phenomenal body, and there is no mystery in that, since our body, as the potentiality of this or that part of the world, surges towards objects to be grasped and perceives them” (Ibid., p.121). What is potential value of the lived body? The lived body is a bodily and lived experience itself. It stems from body image: “body image was at first understood to mean a compendium of our bodily experience, capable of giving a commentary and meaning to the internal impressions and the impression of possessing a body at any moment” (Ibid., p.113). As the interrelationship between body and the world, it is basic psychic procedure for being to perceive the world with bodily experience, not intellectual understanding. “when we say that the life of the body, or the flesh, and the life of the psyche are involved in a relationship of reciprocal expression, or that the bodily event always has a psychic meaning, these formulations need to be explained” (Ibid., p.185).

The bodily experience is encountering the lived relationship between body and other. For example, as he mentions the “cube” (Ibid., p.237), of which perceiver cannot see all parts, but perceiver can be aware of different part of it with bodily movement. This is because the bodily movement perceives the cube’s movement; when the body moves, the cube moves too.

2.4.1 Sensing

Human being’s existence reveals by the two aspects of senses: the unity of sense as an *a priori* and the difference between each senses as *a posteriori* (Ibid., p.256). The immaterial aspects of senses acquire tangible manner by bodily experience as below:

“There is a sense in saying that I see sounds or hear colours so long as sight or hearing is not the mere possession of an opaque quale, but the experience of a modality of existence, the synchronisation of my body with it... When I say that I see a sound, I mean that I echo the vibration of the sound with my whole sensory being, and particularly with that sector of myself which is susceptible to colours. Movement, understood not as objective movement and transference in space, but as a project towards movement or ‘potential movement’ forms the basis for the unity of the senses.”
(Ibid., p.272)

Firstly, the underlying condition of body automatically merge all sensory realms by communicating with each other, but there is different intensity between them: “... the unity of space can be discovered only in the interplay of the sensory realms” (Ibid. p.258). Secondly, “each organ of sense explores the object in its own way” (Ibid., p.259). For instance, there is strong relationship between vision and architecture in the ocular-centred architecture, such as the *fire station* in Vitra Campus, Germany by Zaha Hadid (1993), rather than other senses. However, there is another relationship between haptic perception and architecture in the tactile-centred architecture like at *Therme Vals*, in Swiss by Peter Zumthor (1996).

2.5 Lived Space

Merleau-Ponty's space bases on existence and experience with body, and situation, which is engaged with space-time in the world. "We have said that space is existential; we might just as well have said that existence is spatial" (Merleau-Ponty, 2005, p.342). In this sense, space is not merely void, empty there, and hollow, which is enclosed by fixed boundary or not. The space is of the matter of experience. Merleau-Ponty considers that the true space is a formulated concept by experiencing of space, which he concludes from Stratton's finding (Langer, 1989, p. 81). This is because the space is neither the place of objective things-the physical space, nor the background of the mobility of things-geometrical space. "Here we want to confront it, not with the technical instruments which modern physics has acquired, but with our experience of space, the ultimate court of appeal, according to Kant himself, of all knowledge connected with space" (Merleau-Ponty, 2005, p.284). Therefore, he suggests third spatiality which transcend the physical and geometrical space. "We are confronted with that thirds spatiality ... which is neither that of things in space, nor that of spatializing space ... We have to look for the first-hand experience of space on the hither side of the distinction between form and content" (Ibid., p.289).

What is geometry? On the one hand, "geometry is the branch of mathematics most directly concerned with the nature of space and with the properties of points, lines, planes, and objects in it" (Kern, 2003, p.132). On the other hand, there have been heterogeneous concept of space in many fields: for instance, Merleau-Ponty's philosophy asserts that it is real space with considering experience in the philosophy; Émile Durkheim, who is French sociologist, argues heterogeneous space and social relativity of space which are engaged with the social origin (Ibid., p.137). Therefore, the space is not a simple character of geometry as a quantity, but has qualitative diversities which are connected to experience and social background of people.

The spatiality is, moreover, intimately connected with the feature of virtual body. "What counts for the orientation of the spectacle is not my body as it in fact is, as a thing in objective space, but as a system of possible actions, a virtual body with its phenomenal 'place' defined by its task and situation" (Ibid., p.291).

2.5.1 The Spatiality of Body

What is the aspect of body spatiality? There are several aspects of perception which are related between body and space. Firstly, perception stands for the understanding of bodily spatiality with situation, contexts, and psychological states: "Eduard Führ explains that every perception occurs in a social and spatial situation in which various meanings, feelings, emotions, and thoughts participate" (Shirazi, 2014, p.33). The relation between body and space is also pre-reflective and it is body centred, because "the body as the subject is comprehended the center of one's world" (Ibid., p.32) so the relationship is revealed by bodily experience. Secondly, in order to explain the relationship between body and space, Merleau-Ponty argues a 'perceptual field' which "is made up of 'things' and 'spaces between things'" (Merleau-Ponty, 2005, p.18). The perceptual field consists of body spatiality: bodily space and external space are interrelated with context and situation (Ibid., p.115) as the perception of Eduard Führ's notion. For instance, the perception of space through the top and bottom is formed by situation and location awareness of person's experience in the space.

Therefore, the relationship between them describes how the body-subject imparts meaning and construct to the world. Moreover, our body not only lives with the space, but also the body and the space are inseparable; as body has lively potentiality, the relation between body and space discloses with body, because of the third spatiality of body.

2.5.2 The Third Spatiality

In order to illustrate the third spatiality, Merleau-Ponty divides the body between an actual body and a virtual body; for example, a virtual body replaces an actual body to inhabit in the situation which the actual body cannot exist in “a tilted mirror room” of Wertheimer’s experiments. As Rene Magritte’s drawing (Figure 16), “*Not to be Reproduced* (1937)”, our body has two different bodies to perceive situation.



Figure 16. Not to be Reproduced

There are three aspects of the relationship between an actual and a virtual body: becoming mechanism, the diversity of perceptual habits and optical illusion. Firstly, the virtual body is automatically becoming the actual body because the actual body cannot understand its being in the world: “this virtual body ousts the real one to such an extent that the subject no longer has the feeling of being in the world where he actually is ... The spatial level tilts and takes up its new position” (Ibid., p.291). The slanted space becomes a new embodying system by regenerating a virtual body and it is becoming an actual body. The becoming mechanism represents the changing quality of space with the potentiality of the actual body which naturally adopts the change of space with virtual body. “The possession of a body implies the ability to change levels and to ‘understand’ space” (Ibid., p.292–293). Secondly, the relationship between the virtual body and the actual body reveals that there are many perceptual habits. The third spatiality is not merely connected with vision, but is also related to haptic senses, for example, a visual impaired person formulates their virtual body from touching, hearing, smelling. Thirdly, the relationship of the two bodies implies how much we rely on visual information and how our perception is just an optical illusion as in “*Abyssal* (2010)” of Regina Silveira (Figure 17). When an experiencer enters this room, which looks

like the person walks in the air, from a normal room, the visitor feels complicatedness, because the experienter's body still walks normally but the vision of the experienter perceive the different environmental condition.



Figure 17. Abyssal



Figure 18. Lesson of Dr. Nicolaes Tulp

2.6 Lived World

Merleau-Ponty's notion of the world leads us to break conventional attitude of world which is detached from body. There are three aspects of the relation between body and world.

Firstly, the connection is constantly interweaving and essentially inseparable. This is because a being is consistently faced with variable situation, and the meaning of understanding between the being and the world is the outcome of multi-sensory experience: touching, smelling, hearing, tasting, and seeing with situation. The minded body is actively operating with its perceptual field whether the body stands still or is moving: "our insertion into the world is through the body with its motor and perceptual acts. The incarnate domain of relations between body and world is an 'inter-world'" (Moran, 2002, p.403).

Secondly, the body is a heart of the world. Mutual interplay between each other is evident that the world is non-existent without the body. The body is of an identical dimension with the world. This is because the integrated system between the world and the body is existentially intimate, and vivid relationship: the body exists because of the world which exists because of the body.

Finally, the body and the world reflect each other, this means that the connection is a fundamental state of being's existence. Merleau-Ponty (2005, p.192) says that "the body is 'the hidden form of being oneself', or on the other hand, that personal existence is the taking up and manifestation of a being in a given situation." But how a perceiver can be aware of the immaterial connection? The body is not just an object of observation as "*The Anatomy Lesson of Dr. Nicolaes Tulp* (1632)" by Rembrandt (Figure 18). The body is a mirror of world, and subject, so that the body is being itself: there is chiasm between them, for example, "the things touch me as I touch them and touch myself" (Merleau-Ponty, 1968, p.liv). Alphonso Kingis says that "The flesh is the (lived) body ... The body is able to move itself because it has an awareness of itself and of its situation in the world" (Ibid., p.liv).

Thus the separation between the subject and the object is pointless and the lively connection leads us to provide open horizon of perception between the body and the world. In this sense, architecture is beyond simple object and functional design, and people inhabit within the space since the being and the space constitute a dynamic system as a world.

2.7 Lived Silence

"Being established in my life, buttressed by my thinking nature, fastened down in this transcendental field which was opened for me by my first perception, and in which all absence is merely the obverse of a presence, all silence a modality of the being of sound, I enjoy a sort of ubiquity and theoretical eternity, I feel destined to move in a flow of endless life, neither the beginning nor the end of which I can experience in thought, since it is my living self who think of them, and since thus my life always precedes and survives itself."(Merleau-Ponty, 2005, p.424)

As shown before, the body itself, existentially and poetically, contains the world and vice versa in Merleau-Ponty's phenomenology. The body experiences the world with all senses of body, and each sense experiences the world with its own way as Merleau-Ponty says (2005, p.259), for example, seeing sound and hearing colour are the modality of eyes' and ears' movement towards the world (Ibid., p.78). The body perceive the world or objects with colour and sound, sizes and shapes provide many modality for the perception. The body experience

the sensation of each sense is also a modality of existence (Ibid., p.251): the bodily experience explores the modality of being existence in the world (Ibid., p.272). The bodily experience is thus of encountering the modality between the body and the world. The body, the world, and each object have their own being's sound (smell, colour, shape, form, texture, material and so on), so that there are all kinds of sounds in the world. How a being can perceive own presence in the world? The sense of presence of being reveals in the silence which is a modality of being of the all sounds as Merleau-Ponty says. With the encountering ability of bodily experience, the being lives with the silence in the world: the being is silence and the silence is the being.

2.8 Architectural Silence: The Silence of Architecture

Before moving into the phenomenological investigation in the next chapter, Merleau-Ponty's phenomenological language transforms to architectural language and the importance of silence in architecture will be explained in this chapter. In chapter 2, the main aspects of Merleau-Ponty's phenomenology (Lived experience, body, space, world, and silence) have been studied. While the separation between mind and body of Descartes, Merleau-Ponty clearly claims the embodied mind or minded body as a mind-body unity. The fundamental notion of the unity in Merleau-Ponty is lived, so mind inhabits within body, the body within the space and the world through lived experience, and vice versa; being also perceives the pre-reflective relationship between them in the silence. This is a being's existence.

If the notion of Merleau-Ponty is looked from the viewpoint of architecture language, there is pre-reflective between being and architecture, and architectural being unity. Firstly, what does architectural experience stand for? As being perceives the nature of being's existence with experience, the notion of experience can be distinguished from being and architecture. The being projects architecture and vice versa. The projection is of being's experience with architecture as an exchange of each thing's existence. But the experience primarily engages with the architecture, so it will be called "architectural experience." This because, the sensation of being appears the being's bodily experience within architecture. Secondly, architectural body is of built environment—size, form, structure, materials, colour, sound, temperature, and so on—stimulate being perceive to have emotional feeling. Moreover, the architectural body provides a condition to recall being's memory and imagination. This is because the architecture contains the being's existence (the primary images of being's feeling and memory) with architecture. The embodied images within architecture are unveiled by experience between being and architecture: the architecture exchanges the images with the being with experience. The relationship between architectural experience and body is explained as below:

"Architecture provides these imaginative spaces for events, which are important for human imagination...The most powerful architectural experiences are embodied images [primary images of architecture]... ..Architecture releases certain deep memories...It is that genetic resilience that we unconsciously recognise, that we sense...These primary images have metaphysical power. For instance walking through a doorway has tremendous philosophical and metaphysical power. It embodies the transition from one world to another, from one space to another." (Pallasmaa, 2013, p.43–45)

Finally, what does architectural silence stand for? As Merleau-Ponty (2005, p.424) says, when being perceives all things surrounding being for the first time, the all thigs disclose their existence in the silence. The primary images of architecture show their inner meaning to being within the silence through the reflective experience between architecture and being. There are various silence because the being experiences the architecture with multi-sensory which means that each organ senses the architecture respectively, even though each sense synchronizes with other senses. Thus the silence reveals in many ways: the effect of light, sound, colour, materiality, gravity, and size of architecture. In this sense, the silence is the silence of architecture. Moreover, silence is architectural silence. This is because as the lived notion of body, space, and world, they inhabit silence: the silence dwells them. Although the silence be habitually with being, consciousness and visual dominated being (body) are easily abandoning what is a basic modality of perception. Also the commercialized and homogenized architecture generates biased silence with biased sensation, especially vision, so the silence of many contemporary architectures do not seem to provide the pre-reflective relationship between being and architecture.

In conclusion, in following chapter of the phenomenological investigation, the feature of architectural silence will be studied by defining the meaning of architectural silence, and investigating the relationship between architectural silence and architecture.

III PHENOMENOLOGICAL METHOD

3 Phenomenological Method

The phenomenological method of this research is a profound way to reveal the meaning of architectural silence by looking at the relation between being and built environments. This is because the research itself is a way to transform metaphysical meaning to architectural language as below:

“Phenomenology offers an innovative way for looking at the person-environment relationship and for identifying and understanding its complex, multidimensioned structure. ... provides a useful conceptual language for bridging the environmental designer's more intuitive approach to understanding with the academic researcher's more intellectual approach. In this sense, phenomenology may be one useful way for the environment-behavior researcher to reconcile the difficult tensions between feeling and thinking, between understanding and designing, and between firsthand lived experience and its secondhand conceptual accounts.”(Seamon, 2000, p.173)

3.1 What are the Important Aspects of Phenomenological Research?

Architecture is fairly commercialized and homogenized in our era. Most of architectures have and show similar form of beauty instead of generating the sense of place for being. The iconic form of the architecture abstractly seems to show off their dynamic, speed, and motion to the people. Many people are surrounded by the noise of form which forces them to be in the unlimited speed of life which is “a never-ending chain of means and ends” (Frampton, 1985, p.17). Only some of architecture invites people to engage with architectural silence. However, it is getting difficult for people to meet this architecture, and even the consideration of silence is ignored. Many people do not take into account silence as their general point of view towards the world, because it seems the connection between a being and architecture of silence is not a significant essence to enhance the living environment.

The purpose of phenomenological investigation encourages people to break from their usual way of recognition and this work leads them to move new paths of understanding (Seamon, 2000, p.172). In this respect, by unfolding the relationship between architectural silence and architecture with phenomenological investigation, this paper aims to discuss the meaning of architectural silence, and the relationship between them, which have been neglected.

There are several aspects of phenomenological research which need to be considered. Firstly, in order to identify phenomenological investigation, the investigation will proceed with the interpretation of “person-environment” relationship which are subjective horizons. There is the dilemma of phenomenological research: different interpretations convey completely inconsistent meanings. However, with a clear investigation between person and built environment, personal interpretation with intuitive awareness leads users (reader, architect, and researcher) to discover trustworthy information of the investigation. Moreover, the inconsistent meanings are equally real, even though a researcher argues a normative reality and another one reveals the inner reality (Ihde, 1986, p.37).

Secondly, this phenomenological research consists of two major parts: description and explanation of phenomena. Phenomenology is suspended from ordinary belief and taken-for-granted theory until we look carefully at them (Ibid., p.34). In order to achieve the attitude, Ihde suggests the description of the phenomena by first-hand experience. This is because it is a best way to have phenomenological answer with immediate experience (Ibid., p.35). The

explanation of phenomena is of the examination for the description: "...explanation is any sort theory, idea, concept or construction that attempts to go behind phenomena, to give the reason for a phenomenon, or account for it in terms other than what appears" (Ibid., p.34). In the explanation level, a researcher explains the essential features [essences] of phenomena (Ibid., p.38).

Thirdly, the description and explanation are associated with bodily experience of experiencer. The experience is cooperated with architectural elements, situation, and events of space: "Phenomenology as the exploration and description of phenomena, where phenomena refers to things or experiences as human beings experience them. Any object, event, situation or experience that a person can see, hear, touch, smell, taste, feel, intuit, know, understand, or live through is a legitimate topic for phenomenological investigation" (Seamon, 2000, p.158–159).

Finally, there are four concrete features of the research: no general method, encountering the essence of phenomena rather than scientific method, attach phenomena to its context, and the importance of meaning over facts (Passinmäki, 2013, p.18).

3.2 Phenomenological Method of This Research?

Although there are various types of phenomenological method, this paper refers the "*Step-By-Step*" method of Passinmäki (2013) and Spiegelberg's Idea of phenomenological investigation (1975). This is because their method transforms firsthand experience into phenomenological investigation, but also establishes a clear bridge between phenomena and architectural language. Moreover, Spiegelberg's method is more than analysis, it is an analysis of language (Spiegelberg, 1975, p. X¹). The "*Step-By-Step*" method will be concretely demonstrated in the subchapter. The *Step-By-Step* method has five steps (Passinmäki, 2013, p.19) (Table 4):

1. Research question formulation and identification of the phenomenon
2. Description of the phenomenon
3. Distillation of main essences
4. Interpretation of findings
5. Presentation of results

In fact, architectural silence consists of architectural body and experience, so I must specify the "*Step-by-Step*" method as follows. On the one hand, although these two languages are inseparable from each other, architectural body and experience are distinguished. The

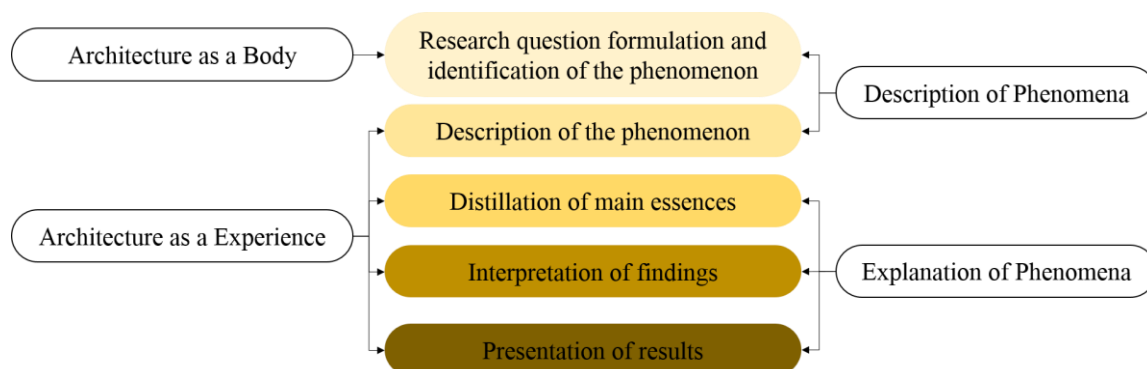


Table 4. Phenomenological Research Method - Step By Step

architectural body is of natural and built environment which generate being's experience, and the experience is about the feeling and emotion of human beings responding to the environment. On the other hand, these two languages will be combined in the interpretation part in the explanation of phenomena, because architectural silence is a compound of material form of architecture with spaces and the feelings. Therefore, for the purposes of this paper, phenomenological interpretation is divided into two broad categories: architectural body and experience (Table 4).

3.2.1 Research Question Formulation and Identification of the Phenomenon

"...the first steps are steps that begin to realize the complexity and immensity of that field...What is sought is what is given; what is sought is what is immediate or present to the experienter." (Ihde, 1986, p.33)

The first step is about realization of phenomena with its context with surroundings. A certain phenomenon of architecture is always there with the physical environment of it as an atmosphere of the architecture. In the initial architectural design step, the site analysis, the experienter describes the site context in terms of physical condition with a background history (knowledge) of architecture. This is because the phenomena emerges from site context of architecture and the design background of it. By doing this step, an experienter becomes aware of the precondition of the phenomenon. Therefore, a researcher as the experienter must explain the architectural body with a contextual point of view. Also the researcher formulates some initial hints of the phenomena of the architecture.

3.2.2 Description of the Phenomenon

In order to achieve the suspension from taken-for-granted knowledge, an experienter freely describes the first-hand experience of oneself in this step (Passinmäki, 2013, p.19). Since the first step, description and explanation are of architectural experience, because these take place within the interaction between the experience of being and the architectural body.

The range of description is a form of ordinary narration of the immediate experience of being. This descriptive phenomenology aims at maximum intuitive presentation with free from unexamined presuppositions (Spiegelberg, 1975, p.57). It is about what the experienter liberally encounters and how the person experiences architectural atmosphere. Although the description gives no direct answer of the phenomenon (architectural atmosphere), the describable experience intuitively leads the experienter to seek the potential of the phenomenon.

The describable experience always coexists with situation too. This is because the relationship between the body and the world are always intertwined in a changing situation. The experience of a situation stimulates the sense of being in architecture: "Heidegger argued that people do not exist apart from the world but, rather, are intimately caught up in and immersed. ... This situation — always given, never escapable — is what Heidegger called *Dasein*, or *being-in-the-world*" (Seamon, 2000, p.160). The experience is thus narratively recorded by the changing of spatial structure: approaching, entraining, being inside architecture, leaving, and so on.

3.2.3 Distillation of Main Essences

“...essential insight will not lead us to indulging in empty abstractions but to shuttling back and forth between the concrete and the abstract. Essential insight in this sense should develop the sense for responsible generalization.” (Spiegelberg, 1975, p.63)

In the previous step, where the existential relationship is narratively described, the explanation of essences will answer the meta-physical and abstract question: what makes up the phenomenon? Moreover, the first step of explanation reveals the relationship between architectural body and researcher's experience in the way that how architecture and its surrounding are structured with lived experience (Passinmäki, 2013, p.19). These essences have unfolded their potentialities which in turn have many variations to decipher. This is necessary to detect the certain essential relationship or connections among essences (Spiegelberg, 1978, p.680). This is the way to distill the main essences are distilled as follows.

Firstly, what is the relation between each essences? There are two types in the relationships in the nexus of the essences: relationships within a single essence or relationships between several essences (Ibid., p.680). Through the discovering the component of the relation, the researcher will decide what are the distilled essences of the phenomenon. Secondly, in order to discover the distilled essence, the researcher tries to explore the nexus among them with its necessity, possibility, or impossibility (Ibid., p.681). Additionally each essential characteristics has a symbiotic relationship between them. The character of essential insights is not self-contained, so that one of them orients the other and vice versa (Ibid., p.684).

3.2.4 Interpretation of Findings

“Hermeneutic phenomenology, insofar as it should be really in the position to interpret for us the meaning of human existence, could clearly change not only our outlook upon life but our actual living.” (Spiegelberg, 1975, p.69)

The distillation of main essences in the previous chapter will show the existential meaning in this chapter by the use of hermeneutic interpretation. The hermeneutic phenomenological interpretation reveals the concealed meanings in the phenomena (Ibid., p.57), and the interpreter tries to stand over the directly given meaning (Spiegelberg, 1978, p.695).

What is basic concept of the hermeneutic phenomenological interpretation? We can glance at the relationship between being's existence and situation with the distilled essences. The interpretation frames the relationship as a bodily existence of being in the enigmatic cosmos, and is justified by the ultimate intuitive verification (Ibid., p.697–698). Therefore, the interpretation would give the universal sense of the existence of all beings and the limited human existence a cosmic meaning (Spiegelberg, 1975, p.70).

There is no certain method in the interpretation. However, I intuitively assume that the distilled essences in the researched the chapel has a strong connection with Merleau-Ponty's phenomenology as in Table 5. This is because the meaning of the essences are generated by the relationship between built environment and time; the modalities of the essences exist in the spatio-temporal structure in the world; the silence is a core of the connection between meaning and the essences which are compound of architectural body and experience.

Thus the interpretation of distilled essences is examined with two conditions: the spatio-temporal structure of the essences illustrates the existential meaning of them, and the existential meaning of the essences is encountered by architectural silence which consists of the architectural body and experience.

3.2.5 Presentation of Results

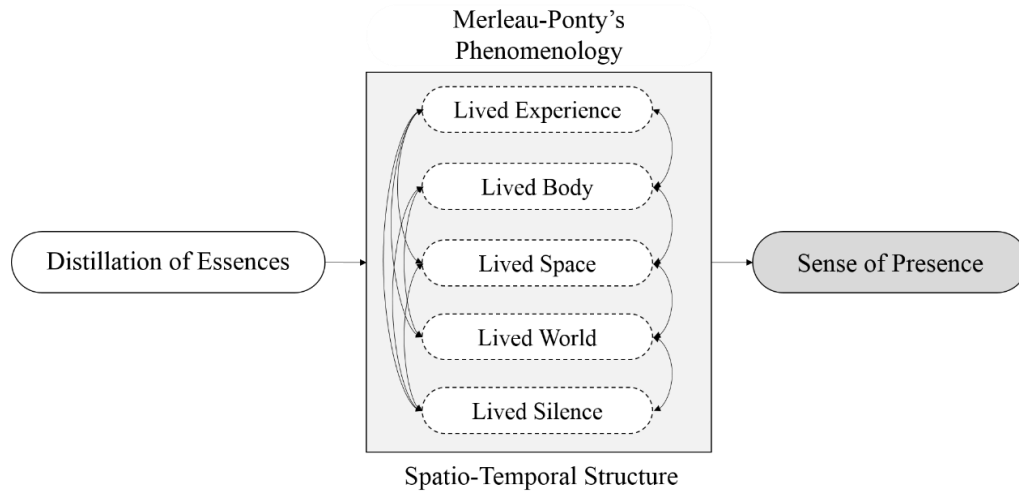


Table 5. The hermeneutic interpretation

In conclusion, the interpretation of architectural silence will be communicated to the readers by illustrating short result of the relationship between architectural experience and its body with silence and sequence of movement. The meaning of architectural silence will be also presented with the feature of silence.

IV PHENOMENOLOGY OF St. HENRY's ECUMENICAL ART CHAPEL

4 Architectural Body

In this chapter, architectural body will be presented in a detailed level. It is one wheel of the entire phenomenological investigation of the chapel.



Figure 19. Model Competition

4.1 General introduction of *St. Henry's Ecumenical Art Chapel*

In the architectural point of view, the main character of *St. Henry's Ecumenical Art chapel* is a simple form which is harmonized with its surroundings. This chapel won a first prize in a competition in 1995, and was opened to public in 2005. In the model (Figure 19), the chapel is considered a piece of art instead of a single object in the competition. This attitude leads the experiencer to have an atmospheric experience of minimalistic art which is connected to existential meaning. This idea has been obviously applied since the early design stage: Sanaksenaho Architects explain "The form of the building was inspired by the form of a fish. Another association is the image of an upturned boat. The chapel offers a setting for artistic expression, both music and visual art...Alongside wood and copper, an essential building material is natural light. It brings the forms, spaces and surfaces alive along with the passing of the day. The central idea of the chapel is that of a quiet journey through dimly lit spaces towards the altar bathed in light" (Donner, 2006, p.72).

4.2 Site



Figure 20. The site context of the Art Chapel

The *St. Henry's Ecumenical Art Chapel* is located in the island of Hirvensalo, Turku, Finland. In the landscape of the island, forested hills rise from flat fields (Figure 20). The chapel is aligned east west atop one of the hills near sea. Its placement focuses the landscape. Moreover, the chapel is surrounded by Meri-Karina facilities meant for cancer patients, so some patients visit the chapel to join Mass. Also there are many various visitors with different purposes to experience in the chapel (Table 6).

The copper surface of the chapel will become green by time and so the building will be in harmony with the colour of the surrounding trees. The form of the chapel speaks quietly. The intention was to create a large landscape sculpture and a small building. The path to the chapel rises up the hill (Figure 21).

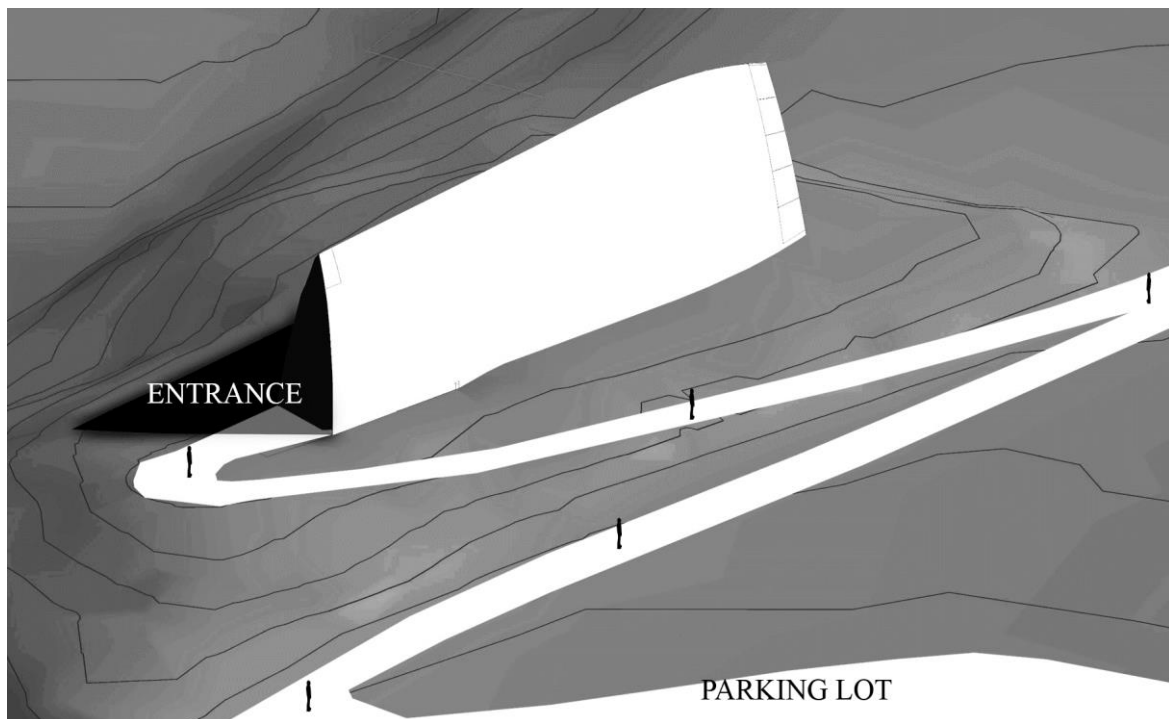


Figure 21. Position of the Art Chapel

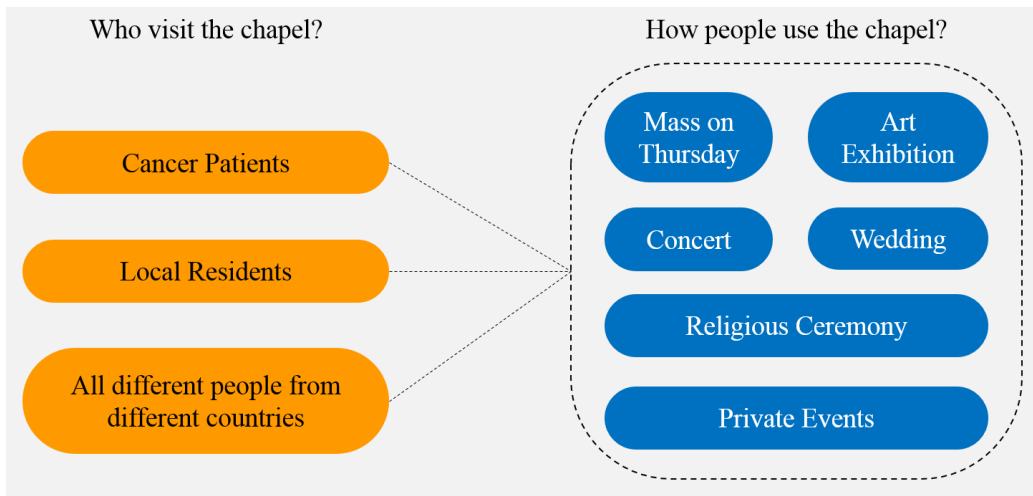


Table 6. Visitors and Purpose of Visiting

4.3 Architectural Body

4.3.1 The different Phase of Space and Context

There are three significant parts of spatial phases: ① Approaching and Entering: from parking lot to a main entrance of chapel (a)→(b)→(c), ② Chapel (d), and ③ Leaving - from the entrance to parking lot (c)→(b)→(a) as in Figure 22. These continuing phases consist of the experienter's vertical and horizontal movement with time. These bring about 3 dimensional spatio-temporal structure to the view to the experienter.

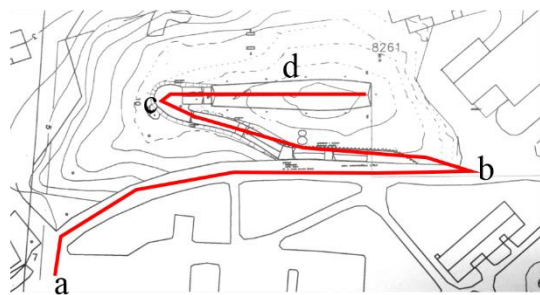


Figure 22. Horizontal Movement

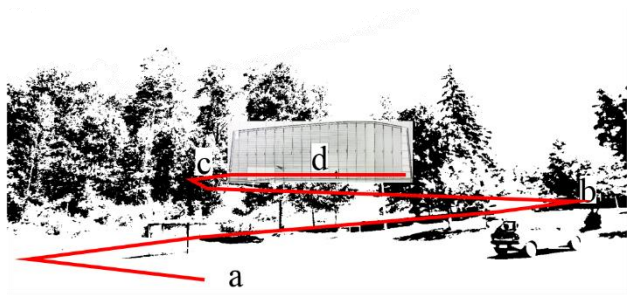


Figure 23. Vertical Movement

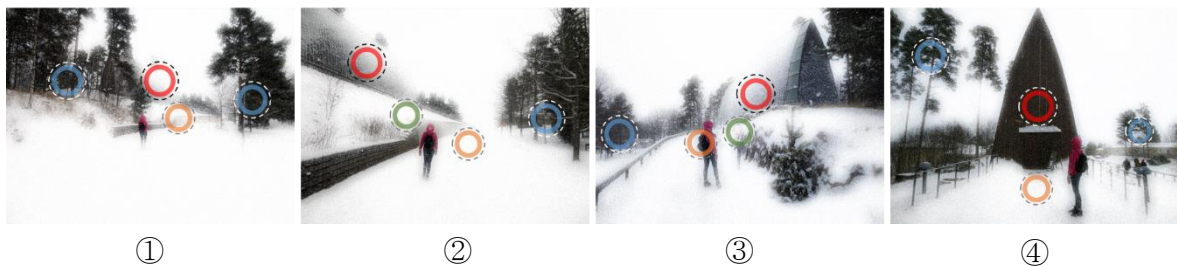


Figure 24. Horizontal-Vertical Integration

1) Horizontal movement – Firstly, it is approaching and entering movement from parking lot to the chapel, a winding path with a gentle slope (Figure 22). In the (a), an experiencer walks forward to (b), and then turn around toward (c). Finally, the experiencer turns around again in (c) to reach the chapel in (d) as in Figure 23.

2) Vertical movement

In terms of vertical movement, the experiencer perceives the horizontal-vertical integration (Figure 24). Based on the horizontal-vertical integration: inclined movement of the experiencer has been perceiving different view (a)-①and②, (b)-③, and (c)-④.

3) Context

The horizontal-vertical movement of visitor at *St. Benedict Chapel* by Peter Zumthor (Switzerland, 1989) in “Type A” (Figure 25). The Art Chapel is not urban context architecture like *Tempeliaukio Kirkko* by Timo and Tuomo Suomalainen (Finland, 1969) in “Type B” (Figure 25). The approach to the Art chapel is a longer process than to arrive at the main entrance of “Type A” compared to “Type B” which is located in an urban context. Moreover, the chapel is but also surrounded by pine trees (Figure 23) on the hill rather than other “Type B” (Figure 25).



Type A



Type B

Figure 25. Different Contexts in Architecture

4.3.2 Structure and Materials, Light and Shadow

1) Structure and Materials

The main structure of the Art chapel is the glulam frame which has a strong upward direction (Figure 26), and the frame is a noticeable pillar in the chapel. The structure frame is like the skeleton of a boat as the architects say. Although the form of chapel is simple lancet arch, each frame is of a varying angle of curve and size (5-6m width and 9-11m height). The façade of the chapel reflects the structure with its section as well (Figure 27).

Moreover, the surface of chapel is covered by copper cladding (Figure 27). The character of this material is effected by climate, so the copper cladding in this chapel has responded to weather and time. However, the surfaces of metal panels have a stable condition, for example, Zaha Hadid' work (*Dongdaemun Design Plaza*, 2014, Figure 28) in Seoul, South Korea has always same condition of surface regardless of seasons and weather. The surface is covered by twinkling aluminium. The metal panels have less response to weather, so it is hard to recognize the connection between architecture and time. Although the two architecture seem to use similar materials, they express completely different the sense of time.

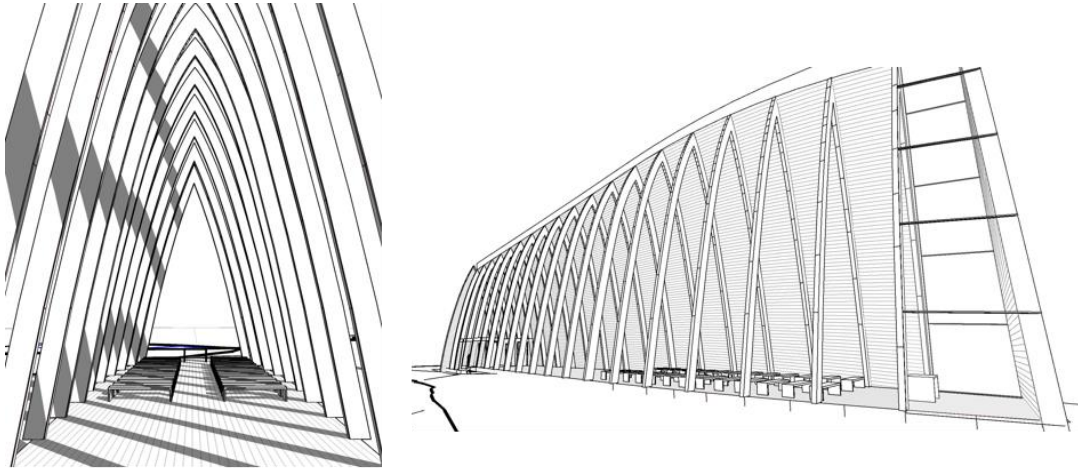


Figure 26. Structure and Walls

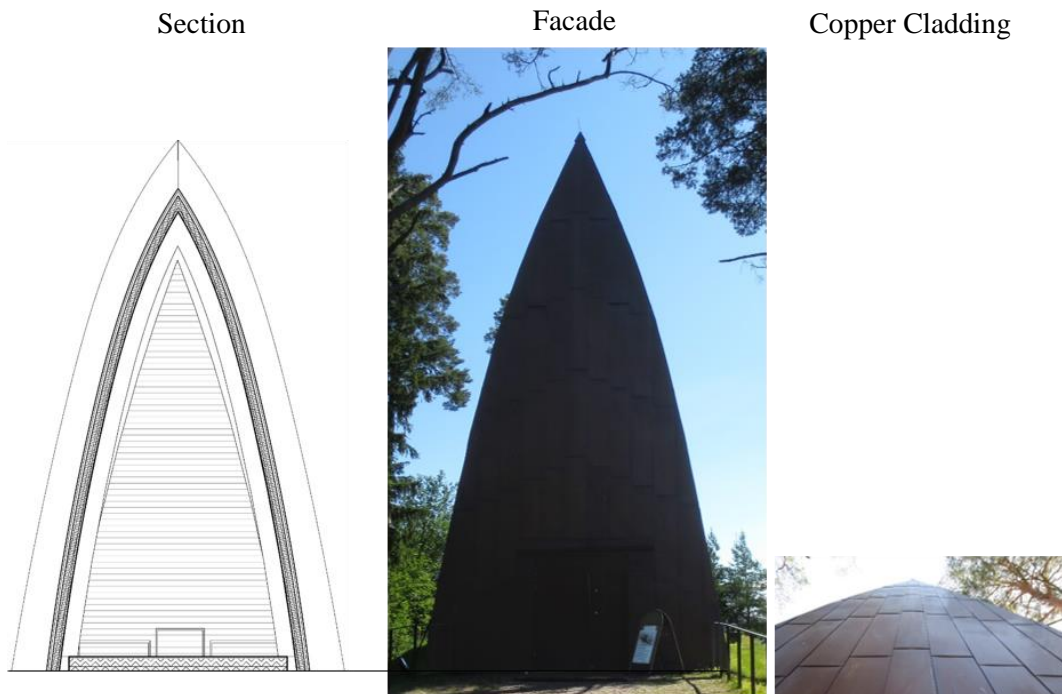


Figure 27. Facade

Dongdaemun Design Plaza



St. Henry Ecumenical Art Chapel

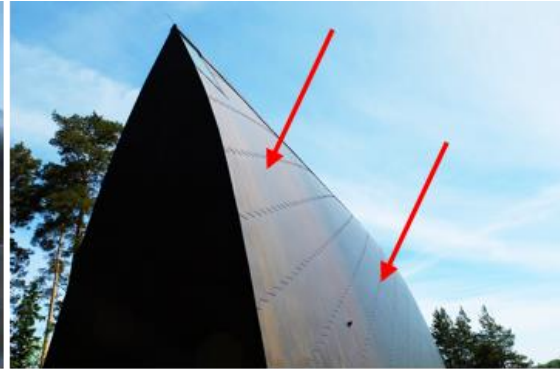


Figure 28. Materials and Weather.

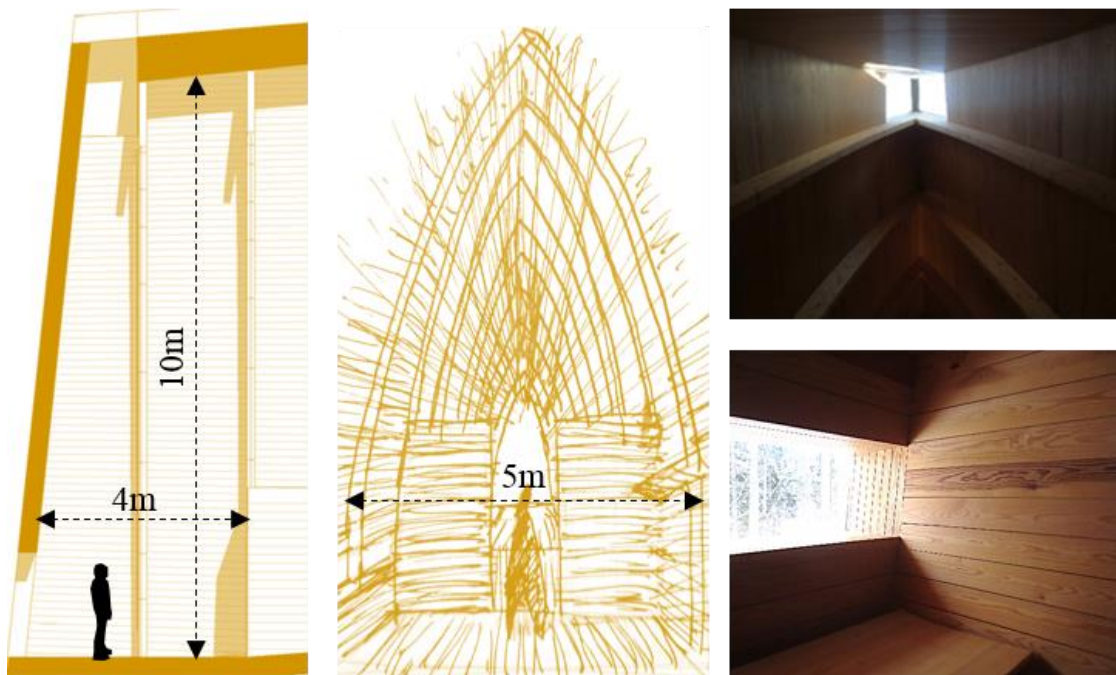


Figure 29. Vestibule

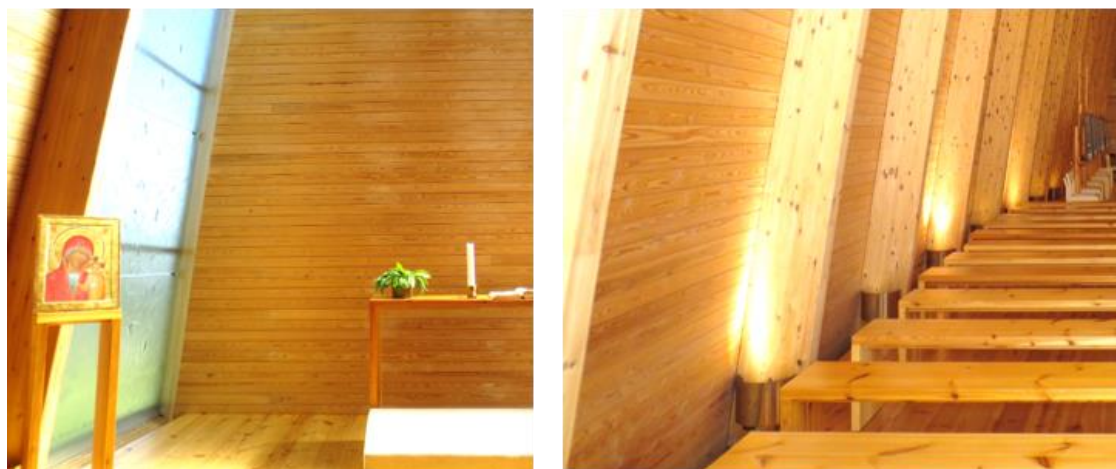


Figure 30. Altar & Nave and Aisle Seats

The inside walls are untreated pine cladding and the floor and the altar are pine boards. The furnishing is solid European alder (Figure 29). The transparent glass of the point on the ridge and the sandblasted glass help to bring the natural sunlight into the vestibule (Figure 29). The floor, the aisle seats, and religious furniture are made of pine boards and the windows near altar are painted glass (Figure 30). The windows support the creation of different effects of lightness compared to the windows in vestibule.

2) Light and Shadow: Door & Windows

The chapel is dominated by darkness, but light is the core of it (Figure 31). There are various intensities of dark and light, for example, the vestibule and corridor are the darkest spaces after the experience enters. The altar is the brightest part. However, in the opposite direction, the entrance is the brightest.



Figure 31. Effect of Light and Shadow

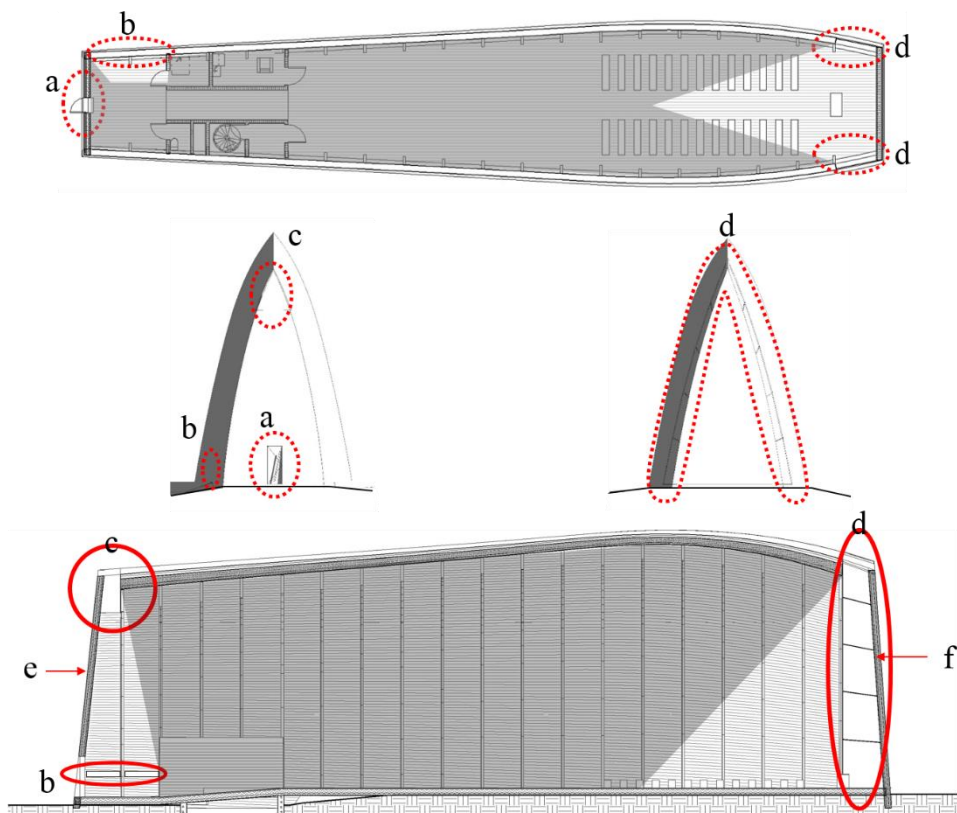


Figure 32. Location of Doors and Window

How does light enter into the Chapel? The main door “a” in the entrance (Figure 32) is brings light into inside and the door is rarely opened. Three fixed windows “b (glass), c (Sandblasted glass), and d (Painted glass)” consistently bring light into inside the chapel (Figure 32). Their size and location in the chapel are diverse. Because of this, the window “d” play an important role for letting light in (Figure 32).

There are different effects of light between tilted walls “e” (Figure 33) and “f” (Figure 34). The change of light is clear depending on time (Figure 33). The boundary of light is distinct, and the direction of light is vertical from above to bottom (Figure 33).

However, the changing of light according to time is blurred and steady in the tilted wall “f” (Figure 34). The boundary of light is not clear, because the light gradually spreads into the darkness in the chapel (Figure 34). For example, there are two pictures of a wall taken a

11 a.m. August 2015

12 a.m. August 2015



Figure 33. The Light and Shadow in Vestibule

August 2015

January 2016



Figure 34. The light and shadow in Altar

different year in Figure 34. There is no clear boundary or change of the light. The light is horizontally illuminated on the wall “f” from left to right and vice versa. Although the effect of light is stable on the tilted wall, there is a fine distinction of the lightness on the wall according to time change. The change is detectable if the experiencer looks at the wall “f” very carefully (Figure 34).

3) Reflection

There are various reflection in the chapel depending on the finishing of materials and the angle between walls and floor with sunlight. The various reflections are based on the matte surface and partially polished surface and polished surface (Figure 35). The reflections clearly reveal in the black and white picture (Figure 35). Firstly, the effect of reflection on the matte surface is as follows: the tilted wall (e) and arch walls (a) which are untreated pine boards, and (f) are matte type which has diffuse reflection (Figure 35). These elements are less reflected compared to benches (c) and floor (d) which are pine boards. Secondly, the pine boards are polished surface, but the floor becomes partially polished because the friction between the material and visitor’s step and movement (Figure 35).

The reflection angle between materials and sunlight cause different effects, for example, although the wall (a) and (e) have same materials, the wall (e) has more strong reflection than the wall (a) and even (d) in Figure 35. This is because the wall (e) gets a direct sunlight, but rest of them get an indirect sunlight. Moreover, the boundary part (g) of the wall (e) get a much more direct sunlight compare to the surface of (e) (Figure 35) by having a unique detail (Figure 34), because the detail parts support an experiencer can clearly perceive reflected ray from inclined ray.

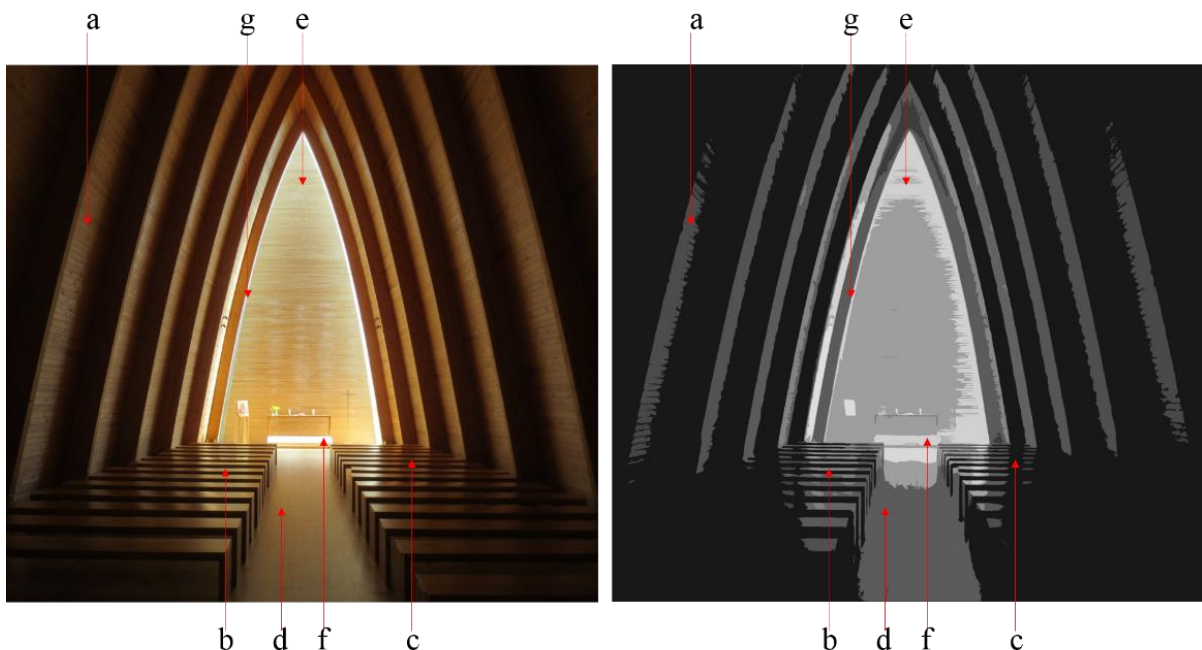


Figure 35. Reflection of Light

4.3.3 Sound

1) The Shape of Architecture and the Reflection of Sound

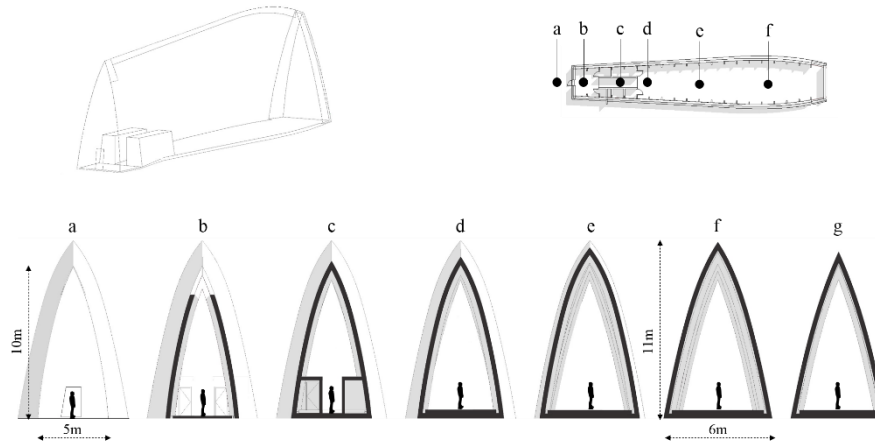


Figure 36. Section

Although this chapel is of a simple form, the shape of the indoor varies (Figure 36). The change also creates diverse reflections of sound (Figure 37). For example, the source of sound and reflection walls are very close. The angle of noise is direct in (b) and (b)-1. Therefore, an experienter who creates a sound directly hears the reflected sound (Figure 37).

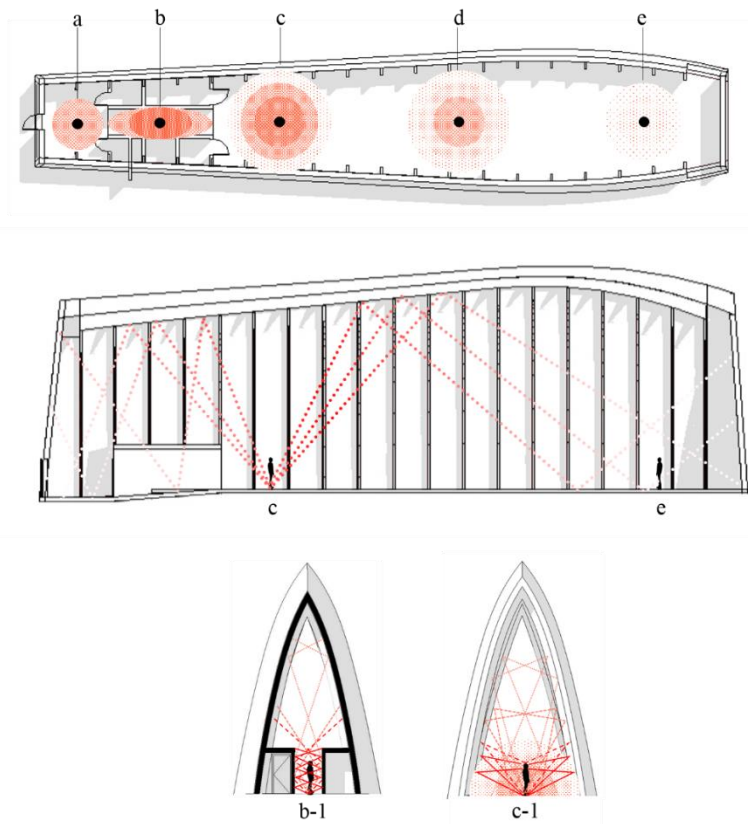


Figure 37. Sound with Form

However, the distance and reflection angle between the source and walls have been increased and become indirect in the ③, ④, and ⑤ (Figure 37), so the experiencer hears a deeper resonance. Especially, there is a big change in ③, because of the size of space is suddenly increased as shown in ③-1 (Figure 37). In addition, while there is a little sound in the ① which is vestibule compared to ③, ④, and ⑤, not much sound emerges in ⑤ which is in the end of chapel (Figure 37). Moreover, the source of the experiencer's behaviour is various as below (Figure 37).

- The experiencer puts their own clothes on a hanger and looks around to understand inside the space in ①.
- The experiencer walks up on the slope; in ③, the experiencer looks at a display and speeds up towards the altar in ②.
- The experiencer walks up the aisle and sits on the seats in ④.
- The experiencer stops and stays in front of altar to see the tilted wall and windows in ⑤.

2) The Example of Resonation

There was a performance on lute when I, as an experiencer, visited the chapel (Figure 38). The sound near altar deeply resonates through the hall as shown in the diagram below (Figure 39). The sound from the player near the altar is reflected with various angles of form (Figure 39). A diffused sound is also generated by the curved walls, the glulam frame, and the floor (Figure 39).



Figure 38. Performance on Lute

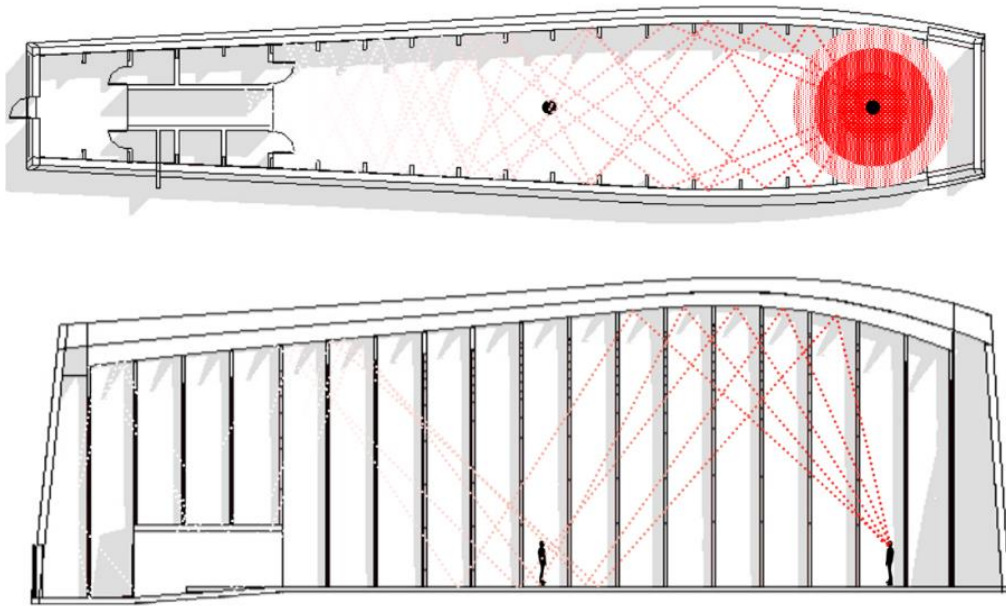


Figure 39. The resonance of Sound

There is a considerable difference between when sound is and not in the chapel. If the experiencer stays in a certain position, there is silence in it. This is because there are no other sources of sound. In contrast to the experiencer is aware of one's sound, so the experiencer is willing to stay a place while music is performed. Thus the pine floor and wall, and the glulam frame direct the action of experiencer.

4.3.4 Size of Space

1) Architecture and its Surroundings

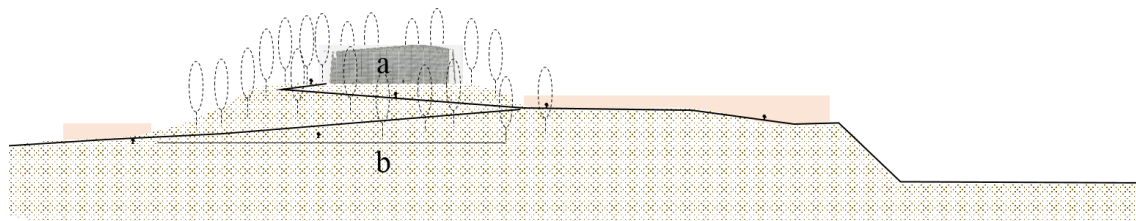


Figure 40. Relative Scale between Chapel and its Surroundings

The chapel seems relatively taller than the surrounding architecture, because it is located on the hill. The size of it is not easy to estimate by eye because of the pine trees and the ground level of the chapel in "a" which is 10m higher than the parking lot in "b" (Figure 40).

2) Human Being vs Architecture

The size of chapel is getting clear when the experiencer approaches. Its profile is 40m wide and 10-12m height and the distance between chapel's profile and the person is 1-5m (Figure 41). Thus, in order to perceive the whole scale, experiencer looks from right to left of it by moving own's body horizontally.

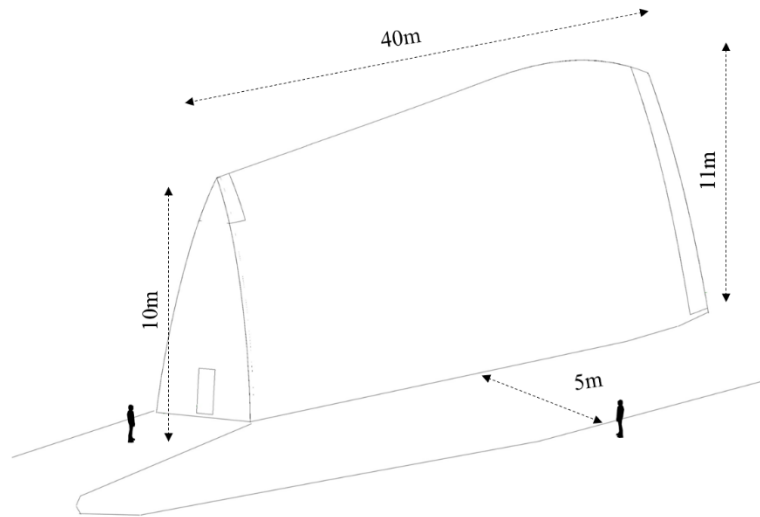


Figure 41. The sense of Scale

However, the scale of chapel is relatively narrow and tall when the experiencer approaches its main entrance: the size of its rear is 5m wide and 10m height, so that the experiencer move one's head vertically (Figure 41).

3) Human Being vs Inside Space

The section of the chapel varies in size along the aisle its rear and front. The changing is continuously detected form (b) to (e) (Figure 42). However, in (c), the experiencer perceives the sense of narrowness, because the width of the corridor is 1.5m which is relatively narrow compared to others (Figure 42).

The lancet arch continuously forms the changing of size from floor level to pitched roof. The size of floor is 5m to 7.1m wide and its dimension is become 0m in the roof (Figure 43). Additionally the size of furniture is of an intimate scale for experiencer, for example, the seats are around 2.7m wide and around 0.4m height, and the size of altar is around 2.5m wide and around 0.7 height (Figure 43).

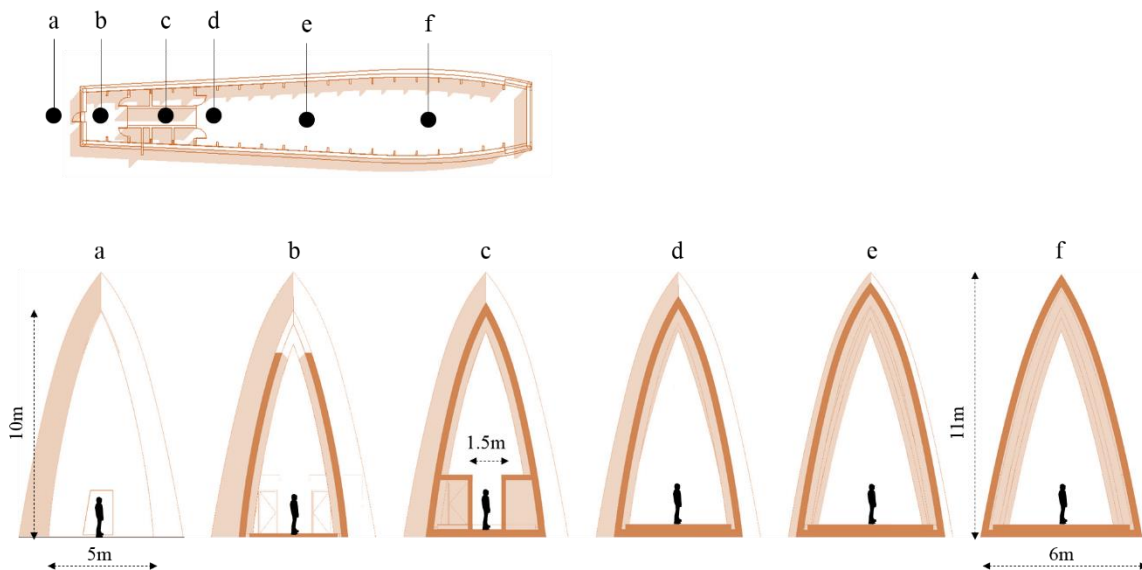


Figure 42. The variation of its size

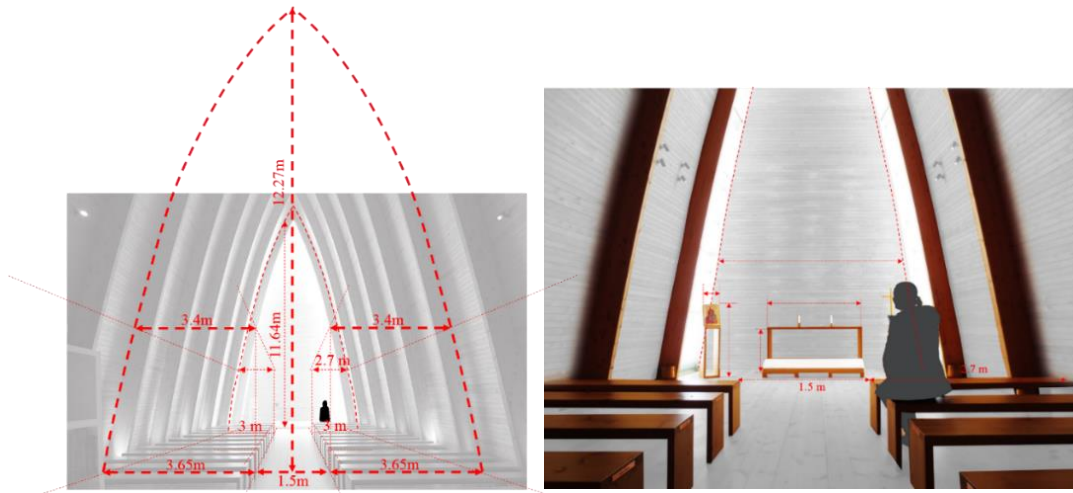


Figure 43. Size Comparison between its Inside Space and Experiencer

4.3.5 Temperature

The temperature of the chapel has two aspects: the feeling of colour and air temperature of ventilation system in the chapel. The former is naturally generated by a material, sunlight, and structure, while the latter is artificially controlled by machine.

1) The Feeling of Colour

In order to feel the colour, there are four elements to be considered: material, structure, sunlight, and the contrast of colour (Figure 44). Firstly, the wooden wall, floor and flame show yellow and orange colour. Secondly, the arch beams generate the gradation colour with sunlight. Thirdly, there is contrast between black colour in the vestibule and white in altar. Finally, the contrast and the gradation is gently appeared from the vestibule to the altar.

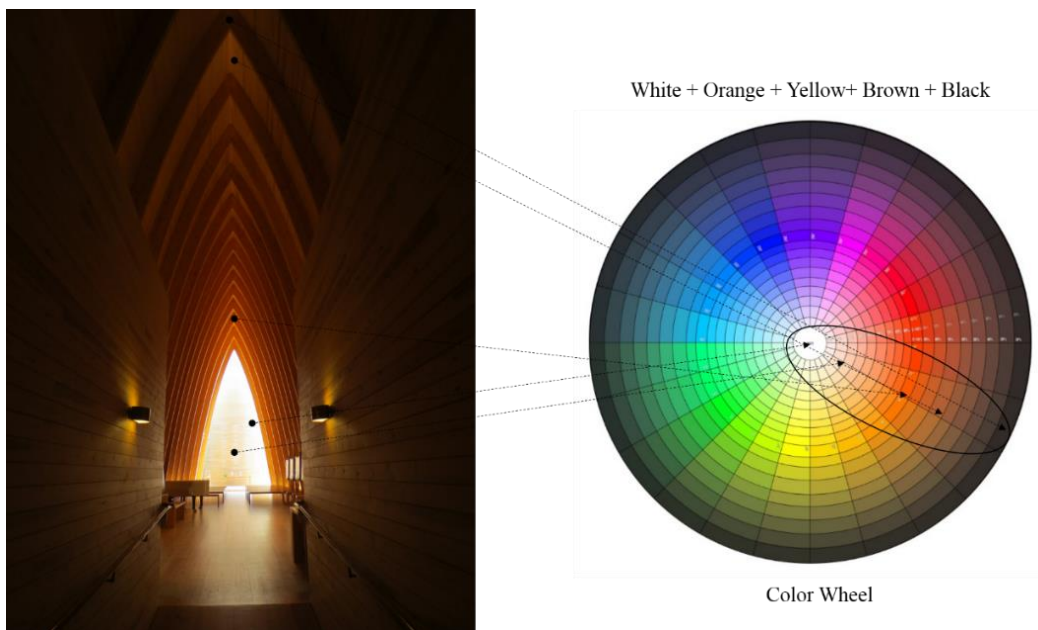


Figure 44. The Feeling of Colour

Psychologically the colours (yellow and orange, black and white) create positive and dreamlike feeling. Yellow represents warmth, cheer, optimism, while orange is health and happiness. Black represents mystery, seriousness and calmness. White is goodness, purity and safety. The experiencer feels the sense of silence which is warm and mysterious, because of the combination of various colour, contrast of colour, playing materials, structure, and light. The moderate air temperature also helps to feel the silence (Figure 44).

2) Air Temperature of Ventilation system

The air temperature and humidity are controlled by ducts where are both side of the aisle, at the corner of floor and walls (Figure 45). These are designed to keep a moderate level of temperature, and to support the thermal comfort of the experiencer. The floor ventilation system is hardly visible. It seems the mechanical system supports the pleasant character of the chapel as a background feeling of temperature in the chapel, so the person is not likely to recognize the system.

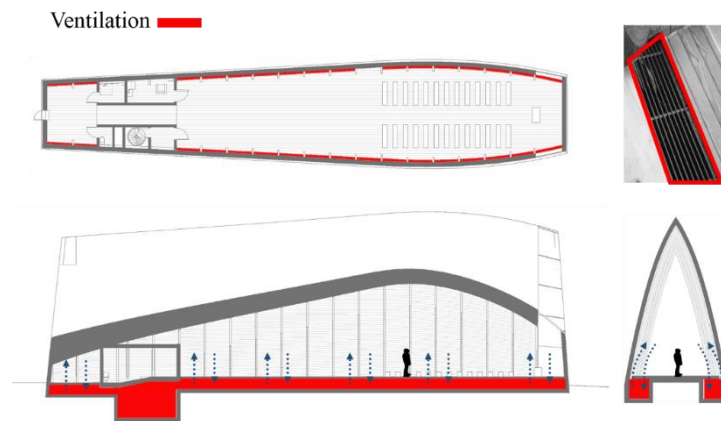


Figure 45. Ventilation Systems

4.3.6 Vision

1) Peripheral Vision and Darkness with Lightness

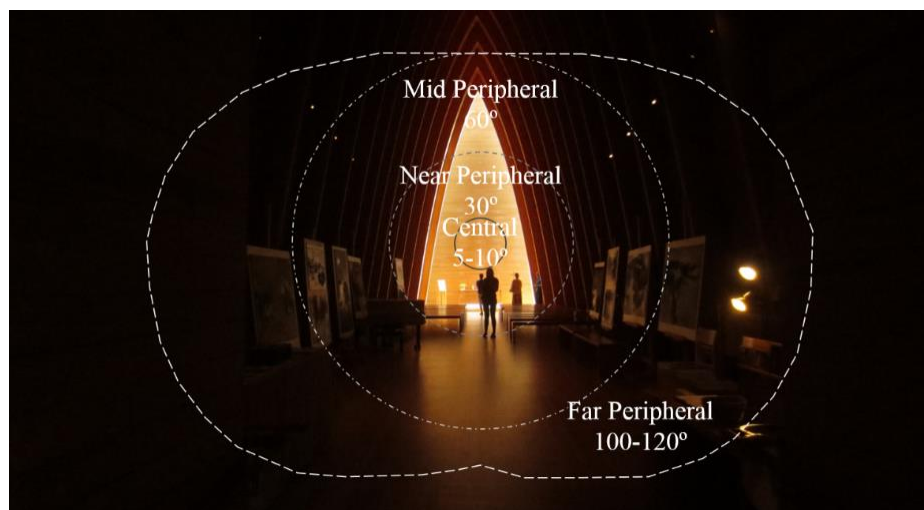


Figure 46. The range of vision

The range of vision has four parts: central, near peripheral, mid peripheral, and far peripheral vision (Figure 46). Human beings clearly not only see the central and near peripheral vision, but also atmospherically perceive the peripheral range of vision. Thus the experiencer can perceive floor and walls within the scope between 5° to 120°, but can partly see the arch near the ridge of the roof at the range of peripheral vision (Figure 46).

2) Perspective view

This arch form, which is longitudinally and transversely various dimension, creates a clear direction with dramatic view which looks deeper than the real distance (Figure 47).

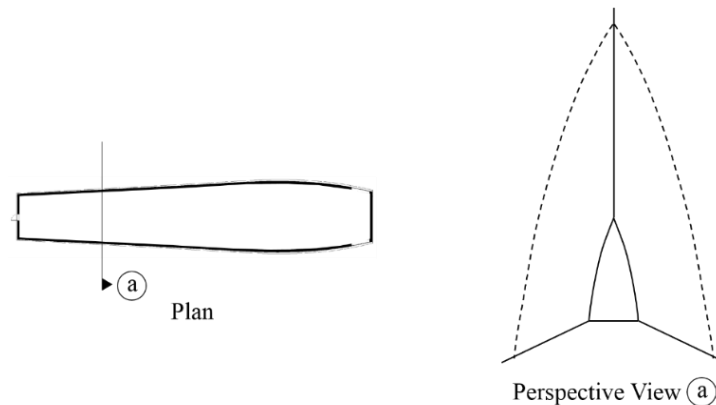


Figure 47. The Feeling of Distance

3) Proportion

In terms of proportion, there is the rule of 3rd is in the transverse section (Figure 48).

The cross section of the chapel has a narrow width and is tall in height. While the row ② is in the focal point of vision, the “a” is in the middle part of ① row seems heavy looking because many objects are in “a” compared to the ② row (Figure 48). Thus, the experiencer’s

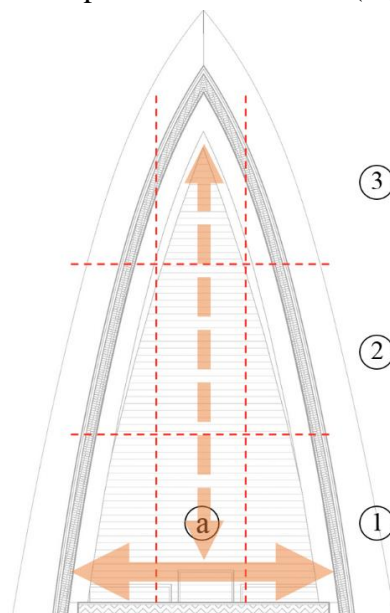


Figure 48. Rule of 3rd

eyes travel the ① and ② row (Figure 48). The row ③ looks out of peripheral vision(Figure 48). As ③ is the “nave” part of the three column which is an idea borrowed from traditional church architecture. The vertical axis forms the heart inside the chapel. The left and right column of ③ are “aisle” as the historical church.

5 Architectural Experience

The architectural experience will be examined in a detailed level as another wheel of the entire phenomenological investigation of the chapel in this chapter.

5.1 Description of the Architecture

An experiencer will describe one's first-hand experience of the built environment, which is complex but the description will provide considerable ideas about the relationship between bodily experience and built environment with silence. This description consists of several phases according to the first-hand experience: Entering [① Outside of the Chapel (Slope), ② In-between Outside and Inside (Façade and Entrance), ③ Inside of the chapel (Vestibule, Corridor, Hall, Nave and Aisle seats, and Altar) and Leaving [④ On my way back (Nave and Aisle seats, Hall, Corridor, Vestibule), and ⑤ Outside Again (Main entrance and Slope)]. This sequential experience conducted the experiencer's bodily movement and a video recording.

5.1.1 Outside of the Chapel

1) Neuter Face

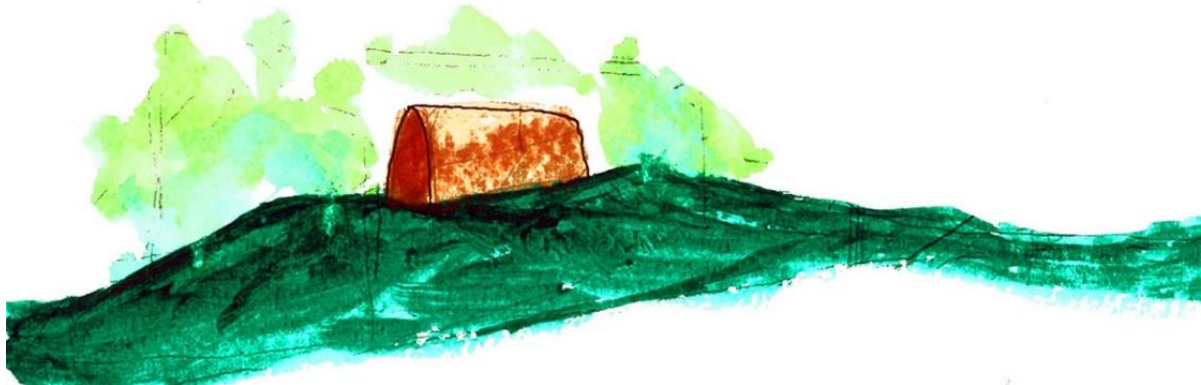


Figure 49. A Sign of the St. Henry's Ecumenical Art Chapel

As first seen from the road, I saw it was an unclearly shaped of the chapel, even though it was of a massive scale in comparison with surrounding architecture in that area. As I was approaching the slightly bulging profile of the chapel was revealed, which was a polished, slightly dark colour, and felt like an artificial hill (Figure 49). The rough shape was horizontally located in the middle of surrounding the pine trees, and vertically situated between the sky and the earth. It seemed like a stone-faced statue of achromatic colour in the background of trees.

A gentle slope leaned to the right step aside the chapel much like a country lane. It reminded me of the road toward the mountain temple in Korea, which people know leads to a Buddhist temple, but they cannot completely see it from the base of the ascent.

2) Footsteps and My View

With the cries of birds, I was stepping towards the slope which was between the hill and the pine trees, and walked slowly going down. The air was cool, and my long hair was waving in the gentle wind, so that I was touching the air with my hair. Meanwhile, my back was getting hot from the rays of midday sunlight.

The contradicting thoughts were generated when I had almost arrived at the end of first slope. On the one hand, my eyes had tried to clearly navigate the perspective view forward, and were soon fixed on the infinite vanishing point which was the end of the slope where it met the sky. I was just walking slowly, because I did not feel in a hurry.

On the other hand, my body started to move a little bit faster than before, since I was eager to see what lay beyond. My awareness of the slope had been fragmented. I concentrated on my view, rather than touching, hearing and smelling from time to time. The detail of left and right side were becoming faded, as well as the cries of birds. My sense of wind and sunlight became faint. However, I could hear the beating of my own heart.

Momentarily arriving at the point of the ridge, I realized that I had reached the residential area. I was soon swerving back, having left the infinite point. I could hear some people chatting who wanted to visit the chapel. It reminded me why I am here.

3) Revealing

The unclear form of architecture exposed the real image of itself as a massive upturned cacique. The next slope, which was close to the chapel, lead me to the rear of the chapel. However, still, the figure of it had been abstract, because the surface of it absorbs the rays of sunlight. Moreover, the surface of it was not polished anymore from this direction in contrast with the first image.

By swerving my movement toward the rear of it, step by step, I was approaching with calm in my mind. Naturally, I could hear the cries of birds and the wind with the sunlight again after I was taking a step. While vision became dim, the other senses grew intensely on the slope of gentle angle with modest colour of road, railing and vegetation. Each moment of my steps on the slope seemed to write on my mind.

5.1.2 In-Between Outside and Inside

4) Shadow

The movement was changed again when I was arriving near the rear of the chapel. The simple form of the facade with dark shadow, which was contrasted with the blue sky, and surrounded by big pine trees created a calm atmosphere as the end of the slope (Figure 50). The scale of the chapel was suddenly no longer huge anymore from this view. The volume was becoming more modest. My first impression of it seemed to be an illusion.

However, I had not moved for a while to understand the facade. The first impression of the chapel had been transformed into as simple and modest in design as an ancient architecture. It was a mysterious moment when the scale and volume of it became so simple, and the impression of the rear was incalculable. My eyes went up towards the end of the sharp facade and down. After that, the shadow had faded down and I became aware of the entrance door as a picture puzzle.



Figure 50. Facade

5) Threshold

The chapel was not tall and huge in volume as Turku Cathedral, but it gave a special impression of the identity of this place as I was crossing over the threshold into the different world. It was a similar impression to when I passed the gate of a mountain temple in Korea, even though it was already in the middle of a peaceful natural environment. I had walked the slope as mountain path to the temple and unconsciously prepared my heart with some initial tensions and peaceful mood. After, I became in a silent mood.

Although I felt some peaceful feelings, because of the colour of the sky, gently blowing wind and birds crying, I was hesitating to enter the inside of chapel. The plain facade had aroused my curiosity. Thus I paced around in front of the unadorned door, my eyes looked up and down, left and right. At the same time, I felt a different touch underfoot compared with walking on the slope.

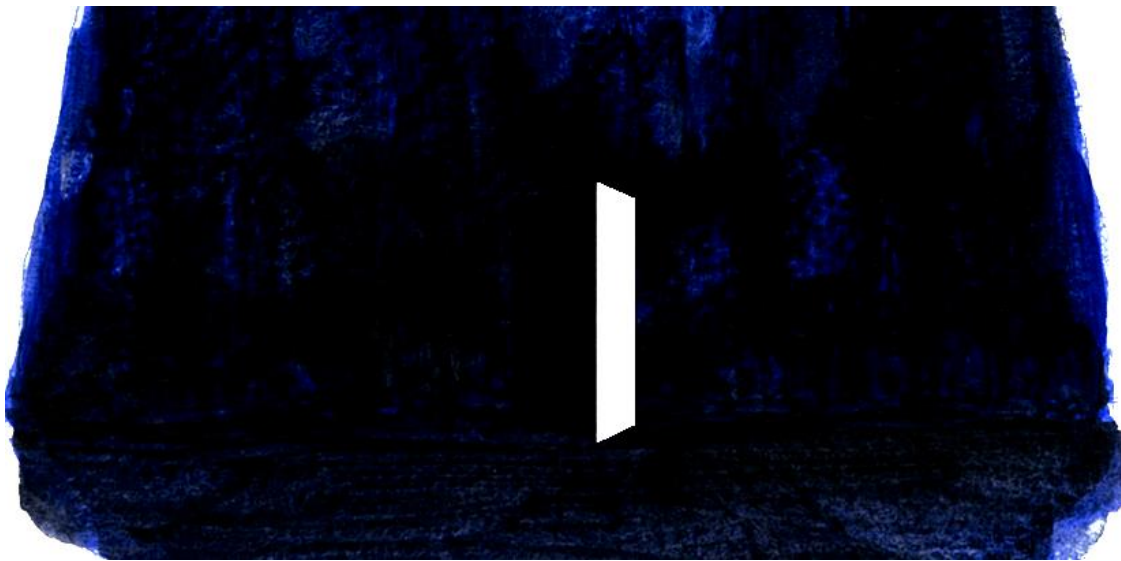


Figure 51. Main Entrance

While the door was handy to pull on with the narrow handle, which was at a slight angle, it was heavy in itself as my expectation, so that my all attention was on my hand to open it (Figure 51). It seemed to convey one single idea; that is one part of the rite of passage to enter the different world.

5.1.3 Inside of the Chapel

6) At a Vestibule and Corridor (Transfer Space)

As soon as I was entering the inside space, to my surprise, I momentarily encountered the quick change of light between darkness and brightness within the lofty space. It was hard to distinguish whether it was an illusion or real. Moreover, as if I was in a different gravity. As I was adjusting between light and dark, my gaze perceived the light in the infinite distance and the dark around me. Naturally I was becoming more silent with my gaze and mind and movement, but it was not a deep awe. However, one axis, one passageway, one narrow corridor between flanked walls of service rooms pushed me forward with the sense of strong perspective which I felt that I was in another part of the rite of passage (Figure 52).

Simple texture and materials, everything is wood inside the space; for example, the arches - drawing upward from the floor to the ceiling which is a point above, the facing of the walls, and the floor. It was difficult to decide where was wall and where was ceiling as a space in the grotto or capsized hull, or simplified and modernized Gothic chapel. Moreover, the scent of wood recalled within me a comfortable feeling - directly opposing ideas outside of the door. It was hard to judge the space through sight alone, because the space was illuminated by an illusion of light, spilling from the end. However, I soon became aware of my surrounds by touching with my hands and feet, through which my perception became real. My feeling was placed between the simple impression of outside and the infinite indoor space with the light.

The light with infinite vanishing point and the light curve of the ceiling behind the narrow corridor led me into the deep inward space. I felt another slope in the passageway and after I walked only a few steps heard the sound of my own step through the air of silence. The sound was surprisingly noticeable and it seemed my entire body was vibrating with space. My movement became slowed again, but I could keep moving forward with the feeling of a slant as I walked in a different gravity field. Every movement was natural or happened irresistibly.

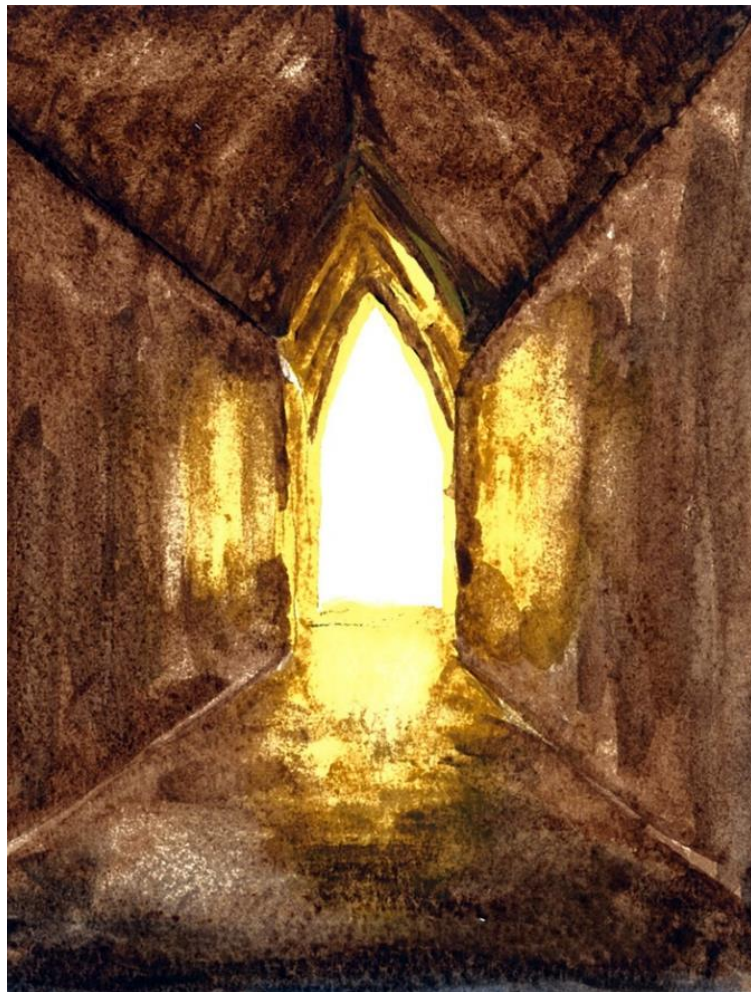


Figure 52. Corridor

7) Hall

As I moved forward into the hull, the mystery began to germinate within my mind brought by the clearly manifesting unity of space and light. Over the distance the light and dark had dramatically spread out to me as the wave rising in the lake. It seemed like these waves were appearing on the form according to the row upon row of the numerous arches of the ceiling structure. On the other hand, the light and dark gently diffused on the floor without any wave, as a still looking lake. Overall, the light spilled strong from the distance and it became faded in the beginning of the hall which is the next corridor (Figure 53). Thus, I felt as though I could sense the light wavelengths.

The arches with the light and dark led me to get a deep spatial feeling by showing folded form, from hundreds of timber frames. It seemed that the arches were intertwining with the light. In other words, the empty space seemed to unfold in profound, quivering architectural expression; the form created a profound reality with colour of light. The feeling of the space was so profoundly strong, I couldn't focus on the artistic works near the wall. At the same time, I was suddenly slowing down because my steps were resonating with the empty space as I was walking in the cave. The deep, resonating sound awoke my body from the illusion of light, shadow and structure (Figure 53).

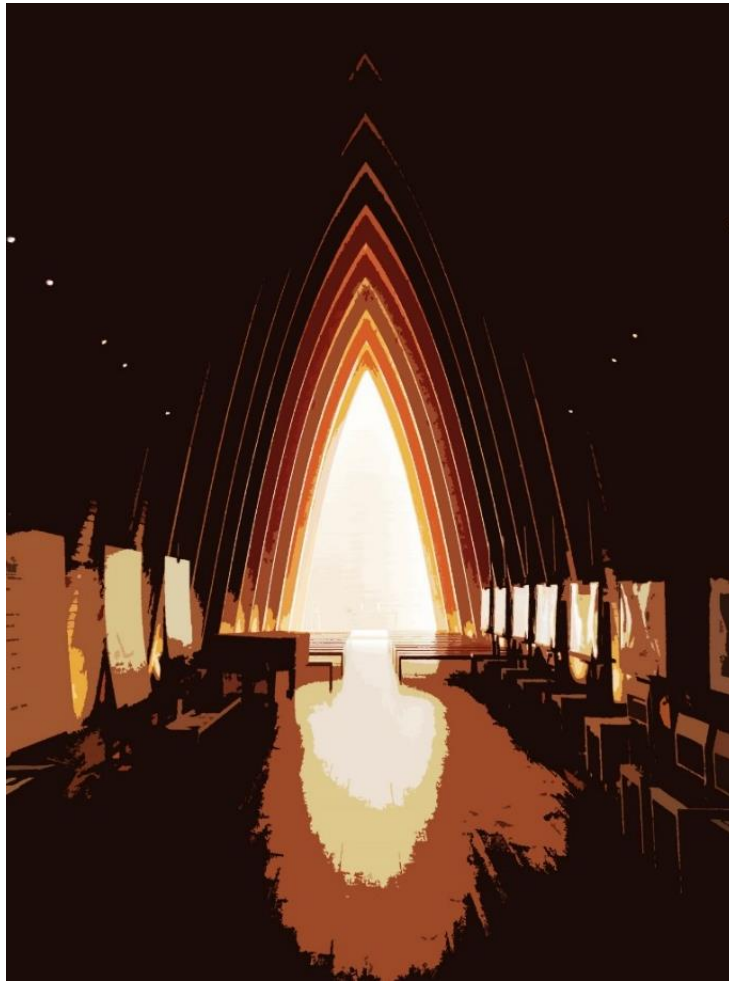


Figure 53. Hall

8) Nave and Aisle Seats

In the middle of the chapel, my movement was stopped by the silence of the clarity in every element so modest and simple. Thus I sat, in one of the rows of backless seats, which were simple in design, and I slowly breathed in and out. I realized that I was in the most silent of silences. The dark was faded away, but the light faded in. The holy wall was straight ahead at the farthest end (Figure 54).

As I gazed to the wall in horizontal strip planking, I encountered wideness of the wall which transformed to the ceiling above. The thousands of timber frames were lined up with the strip in the entire interior as real wooden hull structure. Sitting down for a while, my upper body twisted back according to my gaze from below to above (Figure 54).

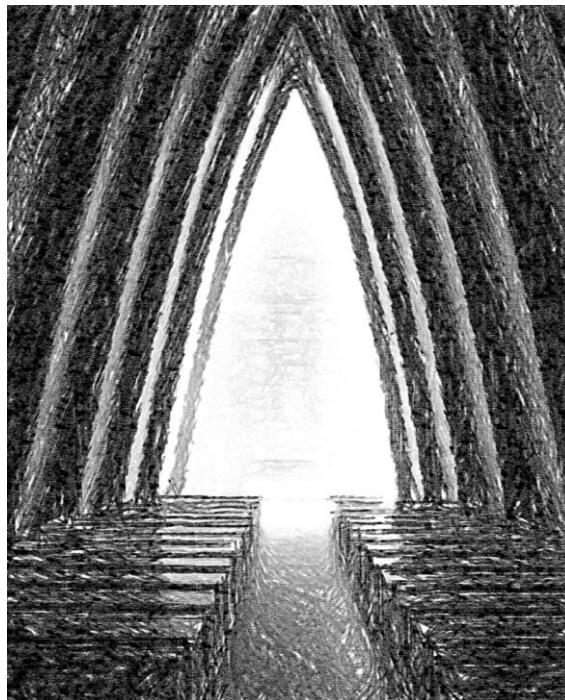


Figure 54. Nave and Aisle Seats

9) Being in Front of Wall (Altar)

As space and time warp in science fiction, I neared the altar in front of the holy wall. The more I approached the wall, the more the minimalistic style of the wall clearly exposed the details of the end in the chapel.

The darkness of the entire chapel vanished, so that the reality of each part of the altar became certain by the light. The light on the wall spilled down from the right and left window which ascended to the ceiling. The light from the right was stronger than left. The wall reminded me a minimalistic style painting of Richard Serra and 'Vals Therme' which was designed by Peter Zumthor. The wall was fixed and plain faced, but the colour and texture of the wall seemed to change every moment by the slowly shifting light of day.

A small sized wooden cross, a wooden altar with two candles, a painting of Madonna: each element was one piece of art which was pleasantly plain. They were the air of prosaic and simple rather than sacredness, so that, for a while, I could meet my projected mind on the wall as practicing Zen facing the wall (Figure 55).



Figure 55. The Wall

10) Music in the Air

A lute player came to near in front of altar, and she played one song with lute. Another magic suddenly appeared as if I could see the music in the air at the wooden structure of hull. My body became more sensitive as my gaze and my ear followed the sound of music from the altar to the back of chapel: as though the lute melody reverberated by creating wave by crashing onto the timber and ceiling structure. The sound was interwound with architecture: the relationship between the illumination of light and the space seemed to be strongly interwoven (Figure 56).

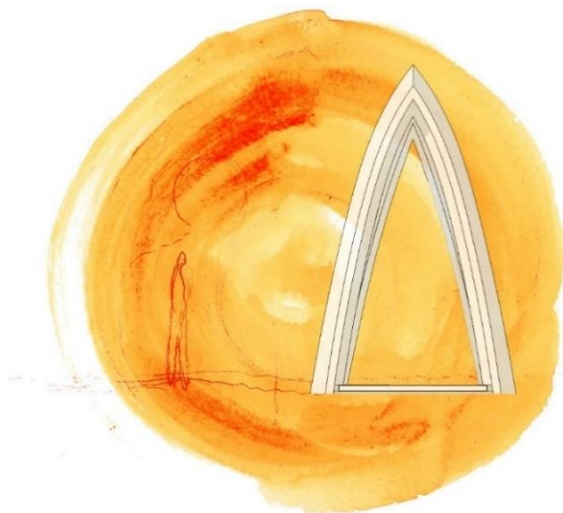


Figure 56. Seeing Sound

5.1.4 On My Way Back

11) Metaphor of the Secular Society (Nave and Aisle seats, Hall, Corridor, and Vestibule)

There was a strong inversion when I was turning around back from the altar. As I was waking up from my long sleep, the scenery in the foreground changed again when I turned toward the door. In other words, I was walking in the near end of the forest; as though I would like to move out from the extant remains of the ancient architecture (Figure 57).

Timber structures were in rows, and the light shined down from the point above at the end of the rows, which was completely different from the light on the holy wall. The space from the holy wall to the door grew smaller and smaller. Everything was clearly identified, and gave mysterious senses, even every object seemed to overlap further; the small volume



Figure 57. A Feeling of Forest

of two boxes with arch structures in the corridor, the foreground which seemed like a cityscape at street level.

Although I was speeding up a bit towards the entrance, something pulled my gaze with body to the back again, as a person who had a strong lingering imagery from the holy wall. To my surprise, I was encountering how a single axis with symmetry — which is playing with light, sound, and touch — could have a diverse difference less monumentality.

The scent of wood and touching sound became faint as well as the light became dim. Moreover, the sense of my movement was becoming less sensitive compared to the entering movement toward the altar. Although my every step was making a sound and echo by interacting with the wooden floor and hull, it was not conscious. However, my entire body and mind seemed to remember each step I made.

I stepped through the narrow corridor. On the slope, where it was between flanked by wall on the side, the feeling of hull disappeared. In this space, it seemed to remind me that I was near a secular society: two lamps on the wall and door, emergency light. However, the wooden wall, with differing volume of space embraced me with silence in the tension behind the door.

5.1.5 Outside Again

12) Coming Back to Nature (Main Entrance and Slope)

When I was opening the unadorned door, all my senses awakened by the scent of pure and fresh air, happy birds crying, vivid light and vegetation with a blue sky. They were just there as they were, but I could sense differences about them than felt before (Figure 58). Everything was welcoming in the outside of the chapel, giving a secular sense.

My movement was becoming faster and faster, but it was slow enough to be aware of the changes in my feelings. My body and mind soon became acclimatized to the world, but I felt



Figure 58. A different World

that I became a different person, who was not same as before. I still remember the feeling and moments of the entire journey.

5.2 Distillation of Main Essences

The experiencer explores a strong and various intensity of silence in the chapel, so I will examine the silent atmosphere. What makes the phenomena, and what is the relationship between them; how the silence is able to create through architectural body and experience. These essences will be distilled by detecting the relationship between them.

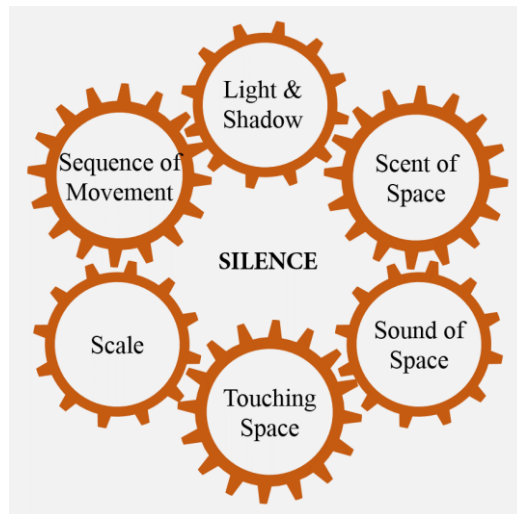


Table 7. The relationship of each essences

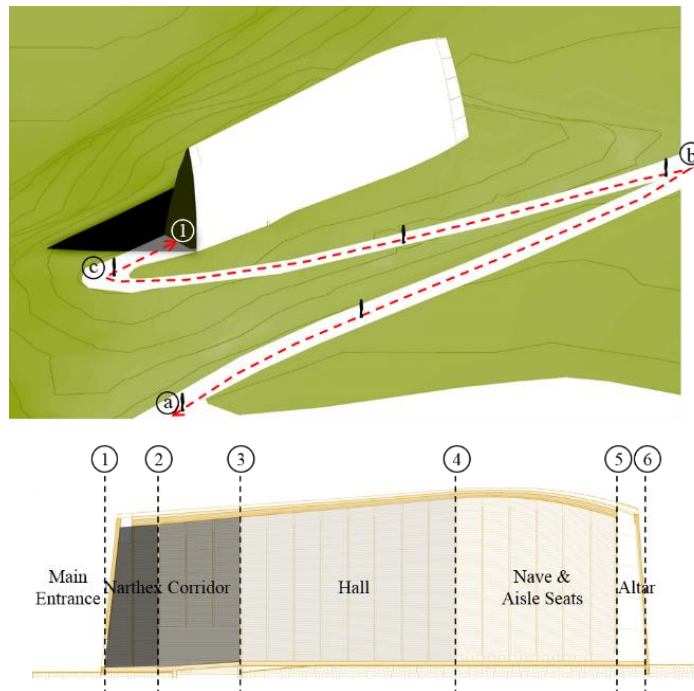


Figure 59. Sequential Movement

5.2.1 The Essences of the Phenomena

There are at least six essences — Sequence of movement, Light and Shadow, Scent of materials, Touching space, Seeing Sound, Scale — to explore the atmosphere which stems from the description in the previous chapter. The silence is not generated by a single essence, but it is result of cooperation with all (Table 7).

1) Sequence of movement – Architectural Phase

The sense of sequential movement generates according to the experienter’s position in the journey of the chapel (architectural phase), for example, entering [a→b, b→c, c→①, ①→②, ②→③, ③→④, ④→⑤, ⑤→⑥] and leaving[⑥→⑤, ⑤→④, ④→③, ③→②, ②→①, ①→c, c→b, b→a] (Figure 59). Also, each point has a blurry boundary as a moment when the experienter realizes a meaning of the space; the experienter physically and perceptively pauses to look around their surroundings in that moment.

There are 3 dimensional level differences in the architectural phase as ‘the horizontal-vertical integration’: diagonal approaching towards chapel by a zigzag path [a–b–c–①] and liner moving inside chapel with the changing of slight floor level [①–②, ②–③, ③–④, ④–⑤, ⑤–⑥] (Figure 59). Moreover, the movement inside spans various architectural phases: the heavy door ①, darken vestibule ①–②, narrow corridor ②–③, expanded hall ③–④, Nave and Aisle seats ④–⑤, and brighten altar ⑤–⑥ (Figure 59). Although the experienter cannot remember every each step, one’s movement is sequenced by having different body movements and position of the path.

2) Light and Shadow – Structure, Wall, and Floor

The light from windows near the altar is the main feature of spiritual infinity in the chapel, even though it is contrasted with darkness inside the space. The darkness appears in the form of the chapel as a shadow chapel (Figure 60). Especially, there is high and gradational contrast with various changes between light and shadow inside the chapel as dazzling and shimmer of

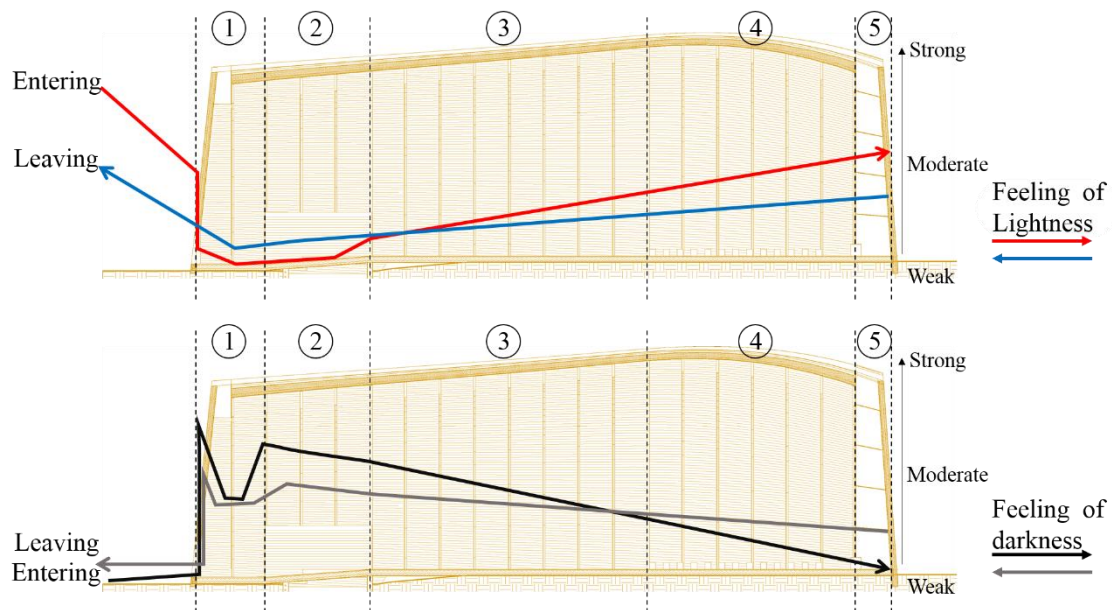


Table 8. Feeling of Lightness and Darkness

light with darkness (Figure 60). It seems that the shadow of the form of chapel is fundamentally considered, and then the light is added. The shadow and light create the emptiness in the chapel (Figure 60). As the darkness is the other part of infinity, it embraces the light and form of the chapel. In this sense, the experiencer explores the other part of infinity – the lightness in the darkness (Figure 60).

Moreover, the aspects lead the experiencer to have a powerful tranquillity which the experiencer is aware of the core of chapel. The illumination, clearly and blurredly spread from the wall behind altar ⑤ to entrance ① with different intensities of formulation of light and shadow on the beams, walls, and floor. The varying intensity generates the sudden unfamiliarity and imagination in ①, high tension between fear and hope in ②, relief of the fear in ③, thrilling of finding the holiness in ④, realization of the finding in ⑤ (Table 8). Therefore, the emptiness in the chapel has a full spectrum of emotional changes.

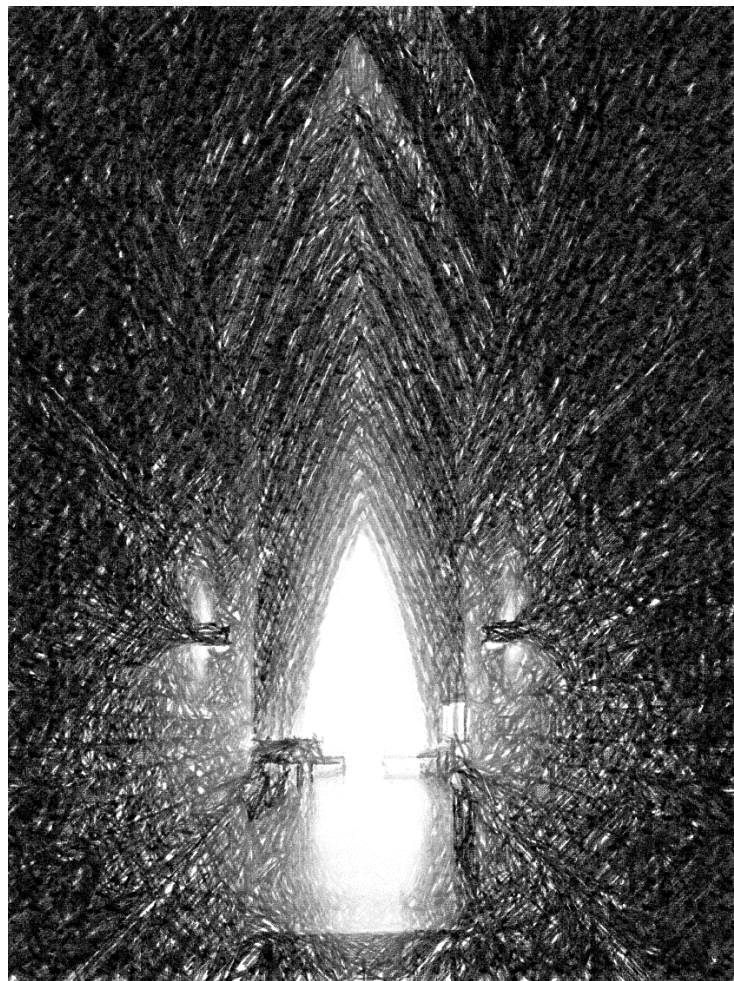


Figure 60. Light and Shadow

3) Scent of Space – Materials and Memory

There is always a certain scent to recall a certain memory and place, for example, each home has a different scent of home and each corner of each street also has various scents: automobile exhaust in the Keskustori in Tampere (Figures 61), smell of grease near Hesburger

in Hatanpää, the smell of disinfectant in TAYS and so on. The scent of the chapel is pine trees.



Figure 61. Keskustori, Tampere

The experiencer is scented with pine tree needles on the slope in the outside of the chapel. With suppressed vision in the inside chapel, the experiencer feels a hot pine tree scent (Table 9). The awareness of scent is changing according to one's movement with visibility, for example, the feeling of scent is most strongly perceived in ① with entering movement where the vision of experiencer is mostly of poor visibility. However, the visibility is clear enough in ③, ④, and ⑤, and the effect of scent from the materials is unrecognizable (Table 9).

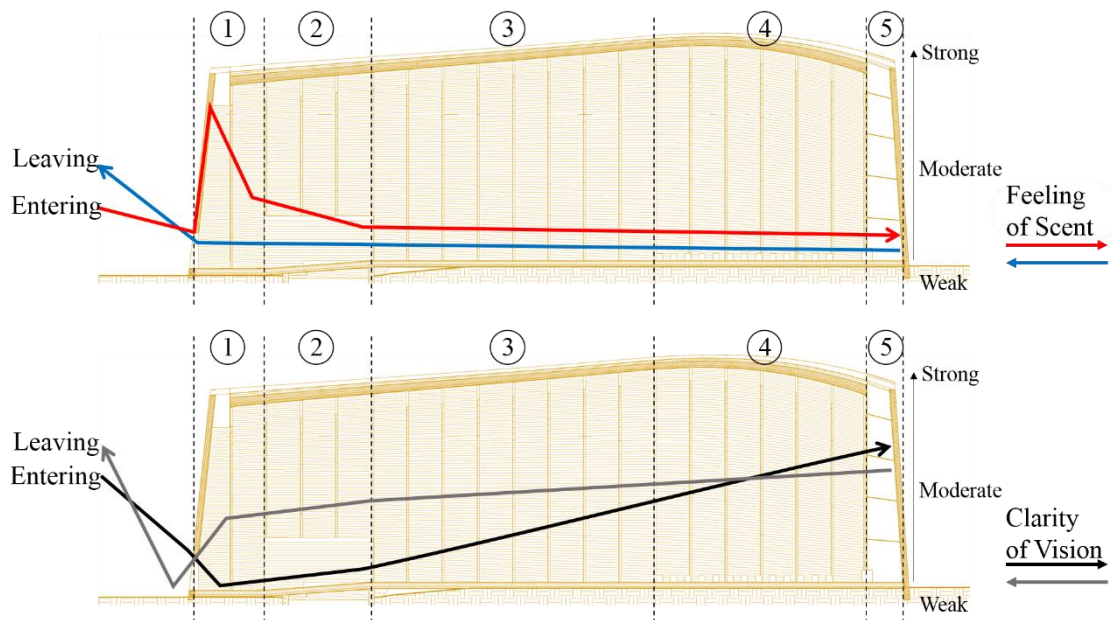


Table 9. Feeling of Scent

The scent instantly helps to recall the memory of experiencer and encourages curiosity of the inside space in ① (Table 9). The memory is merged with the person's imagination as the

beginning point of encountering the mixed feelings in the experience in the chapel. In ③, ④, and ⑤ (Table 9), the experiencer is becoming familiar to the scent, even though the person is not focused on the initial scent anymore. On the other hand, the experiencer has another imagination when the person steps out of the main door in ① with leaving movement (Table 9). After the experiencer finishes their own journey in the inside of chapel, the experiencer is faced with a similar scent from outside of the chapel. However, the scent is not same scent as before which the experiencer breathed before entering the chapel. This is because, with the experience of scent of inside space, the experiencer has developed a different imagination with the breathing of air in the outside.

4) Touching Space – Material, Form, Shadow, and Sound

There are three different haptic experience (hands, Feet, and Skin), which are direct communication between the experiencer and space, in the chapel.

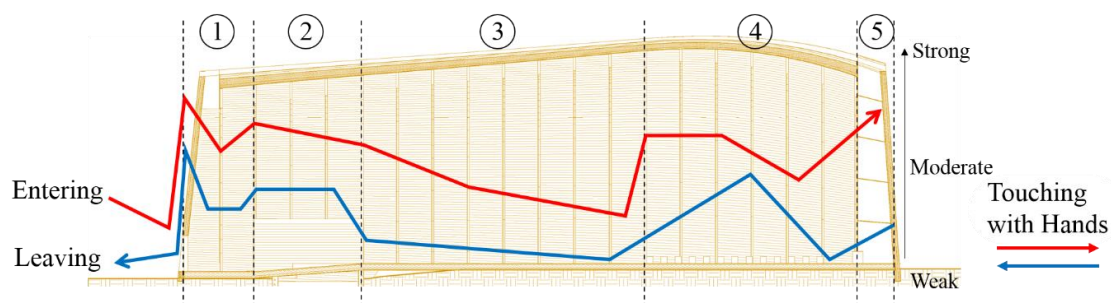


Table 10. Touching with Hands

Firstly, is touching hands, for example, the experiencer strongly holds the heavy door's handle and opens the door to enter to ① (Table 10). The touching action implies that the experiencer moves into the different space as the entering to another world by intimate connecting with an architectural element. By hanging cloth on a hanger in ① (Table 10), the experiencer touches the furnishing and keeps oneself mind and body tidy. There is a similar experience in other architecture: At the entrance of *Stockholm library* (Figure 62) which is

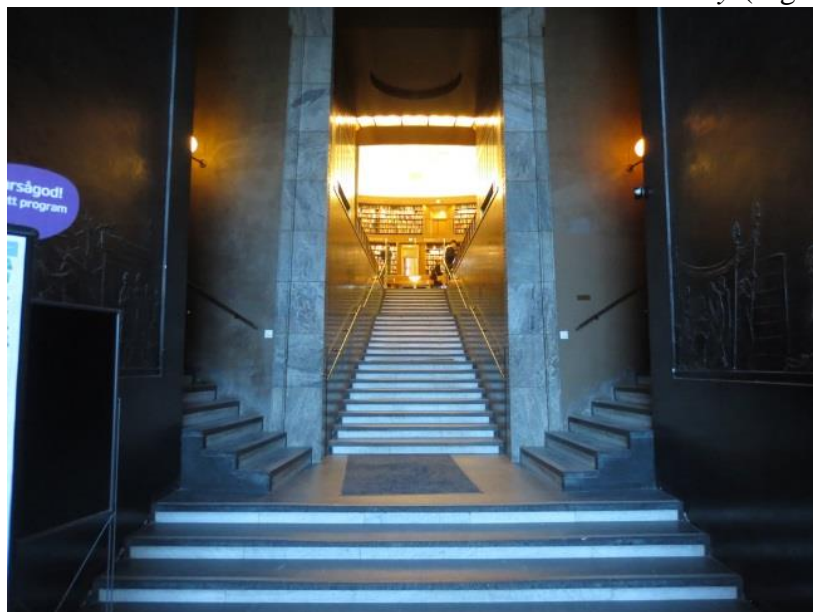


Figure 62. Stockholm Public Library

designed by Gunnar Asplund (1928), the narrow corridor with slope and natural material lead the experiencer to hold the handrails and touch the walls. The opening heavy door and hanging cloth action are also engaged with all muscle and bone movements. Moreover, the experiencer passes under pressure with narrowness and closeness in ② (Table 10). The experiencer sometimes holds the wooden handrails and sometimes sweeps the wooden wall with fingers gently in ②. The touching with own fingers is getting reduced in ③, but the intimate connection emerges in ④ and ⑤ again with Aisle seats, altar, windows, and wall (Table 10).

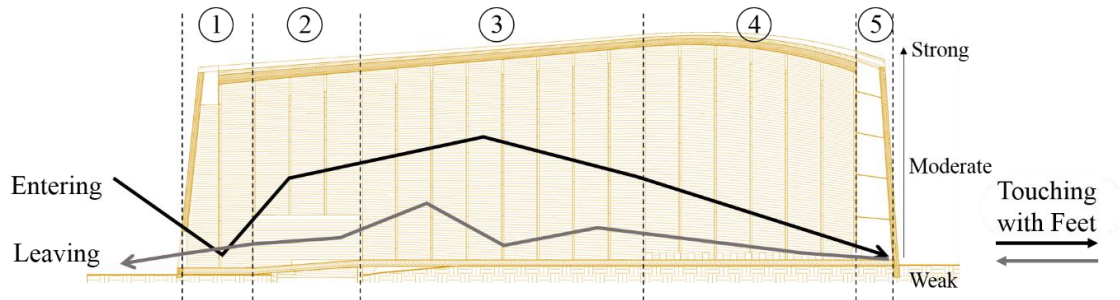


Table 11. Touching with Feet

Secondly, stepping with feet, muscles, and bones is actively felt in ② and ③ (Table 11). The slope in the ② stimulates to increase the experience's attention of their own feet to have a proper response towards the floor, so that physically the muscles and bones try to adopt a new angle which is not same as the even floor in ① (Table 11). The floor level become flat again in ③, but the stepping becomes very careful. This is because the body is conscious of the resonate sound of stepping on the floor. In this sense the experiencer's touching movement is clearly structured by the architectural body.

Finally, feeling the inside temperature with skin, mouth, ears and eyes are intensively experienced in the winter. The big gap of air temperature between inside and outside of the chapel encourages the experiencer to feel the clear touching experience, for example, the experiencer feels the contrast of temperature after entering to ① and going out from ① (Table 12). Moreover, the inside temperature is stable such as around 20 degrees from ② to ⑤ (Table 12). The moderate temperature supports the experiencer's ability to feel the other touching experiences and senses.

In conclusion, the experiencer touches the space with one's whole body in reality. Thus the body directly reads and meets the chapel.

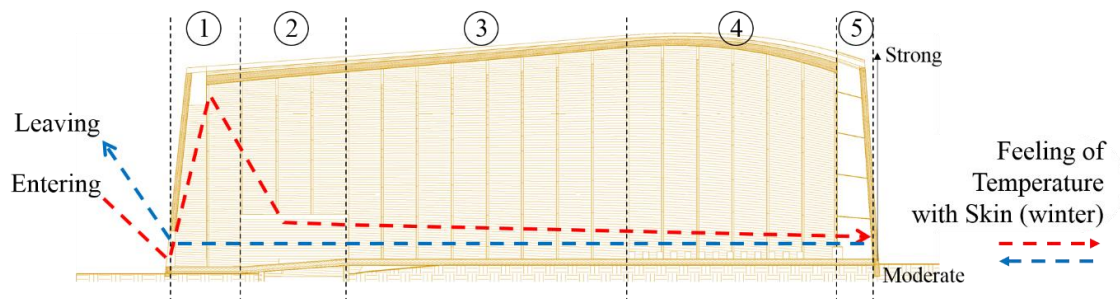


Table 12. Touching with Skin

5) Sound of Space – Form, Structure, Light and Shadow

Every space has their own sound as scent, for example, the full of mechanical sound in the factory, mother’s voice at home, the creak on the wooden floor, car engine sound on the streets, and the sound of wind through the trees. Basically human beings are surrounded by all different kinds of sound, and silence is a fundamental layer of these sounds. It does not mean everyone should be quiet for the experienter to feel the silence. This is because the listener often feels the silence for a moment or long time as an essential layer among those sounds. As the emptiness with light and shadow, the silence supports a certain resource of sound to be marked. In addition, the sound is not able to exist with the silence.

There are four factors – Listener, Source of sound, and silence/emptiness, built environment or natural environment which forms the silence – in sound. Mostly the listener is distinguished from the source, but the listener often becomes a source of sound as in the chapel as the experience of sound in chapter 4.3.3. In any possible case, the waves of sound pass through the emptiness in the chapel with various velocity. For example, the sound is very strong in ② and ③ where the resonance of the source is loud and quick (Table 13). But the velocity is wearing off in ④ and ⑤, because the speed of stepping eventually stops in ⑤ (Table 13). Thus the sound of space in the each phase formulates the sense of place in the location of the experienter because of the difference of resonance.

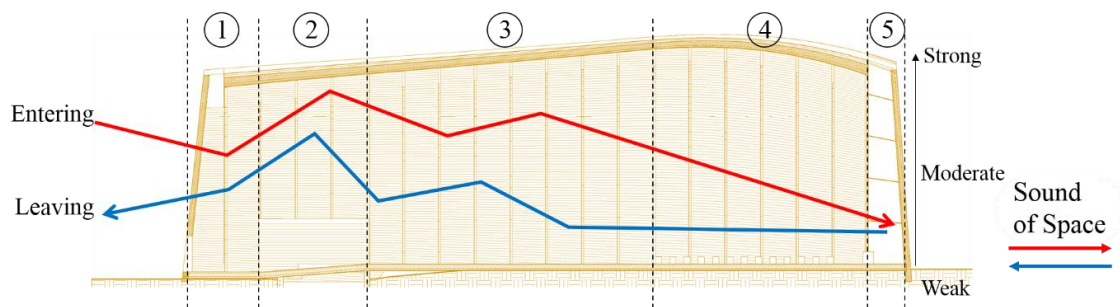


Table 13. Sound of Space

The experienter fundamentally hears sound with ears and skin. The unique experience in the chapel is that the experienter has a capability to see sound because of the combination of structure and form of the chapel with light, and source of sound. Moreover, the silent and simple source of sound in the inside chapel stimulates the experienter to see the sound. The source of sound hits and refracts on the structure and wall of the chapel. The listener seems to see the sound because the refraction flows the gradation of light and shadow from ⑤ to

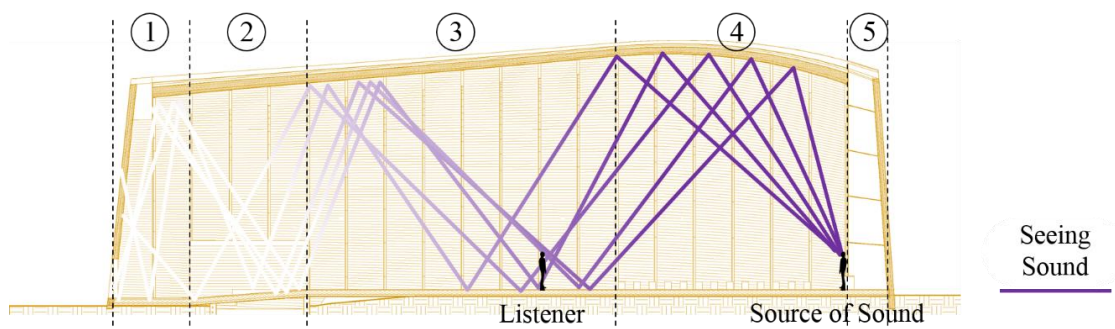


Table 14. Seeing Sound

③ (Table 14). Although the source is not moving, the listener's body moves to follow the resonance of sound along the gradation from ⑤ to ③ (Table 14).

6) Scale – the Size of Space, Furniture, Light

The size of chapel represents its religious power which is relatively associated with the experiencer and space/architecture. Firstly, the experiencer sometimes feels beyond imagination and understanding of the person within the chapel, and sometimes has a strong intimacy with it. The sense of scale is in relative perspective of experiencer in there. Secondly, most human beings in cities, where are many buildings with high density, do not recognize themselves as in Seoul, South Korea. This because these buildings are too tall and wide: out of scale with the person's understanding. Thirdly, the experiencer feels grandeur on the phase of the journey because of the big difference between experiencer and architecture. Some architects do not give any sublimity because of complicity, but some architecture produces the grandeur because of simplicity and coherence as the Pantheon, for example, the experiencer fairly understands and perceives the chapel which is simple and clear of architectural body.

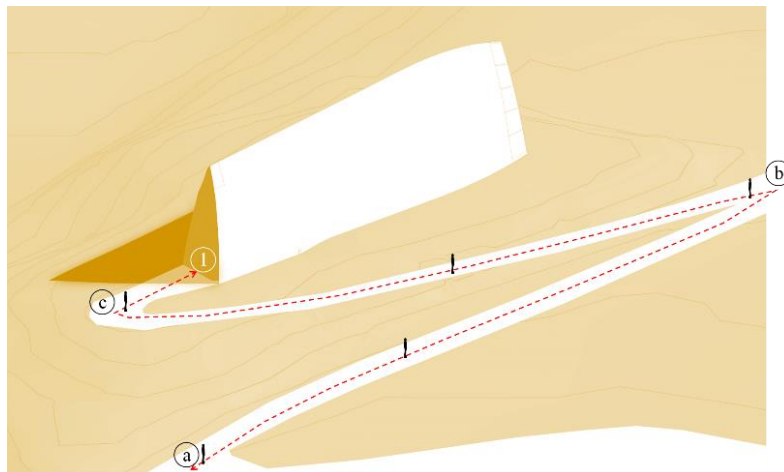


Figure 63. The sense of scale in the outside

On the one hand, the scale of experiencer to chapel is very small to the outside of the chapel [a, b, c of Figure 63]. It is difficult to define the relationship between the experiencer and the chapel because they are less intimate with each other. Although the experiencer can clearly see the chapel, the one cannot touch the chapel.

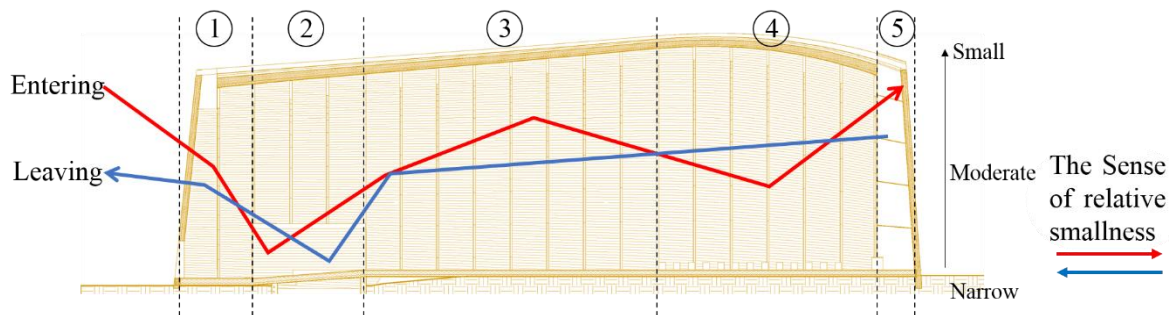


Table 15. The Relative Smallness

On the other hand, the sense is relatively changeable in the inside chapel from moderate to small depending how the experiencer can connect with architectural elements as in Table 15. The experiencer feels very small in front of main entrance in ① and then the feeling is suddenly moderate in ① because the size of vestibule is comfortable enough, but the feeling turns into the narrowness in ② (Table 15) because of the size of corridor is too intimate as in Figure 64.

However, the size of hall from ③ to ⑤ is noticeably wide compared to ② (Table 15), so the experiencer comparatively feels small there. The feeling become faded and even sensed as a bit narrow because of seats and it is close enough to the altar in ④ (Table 15). The

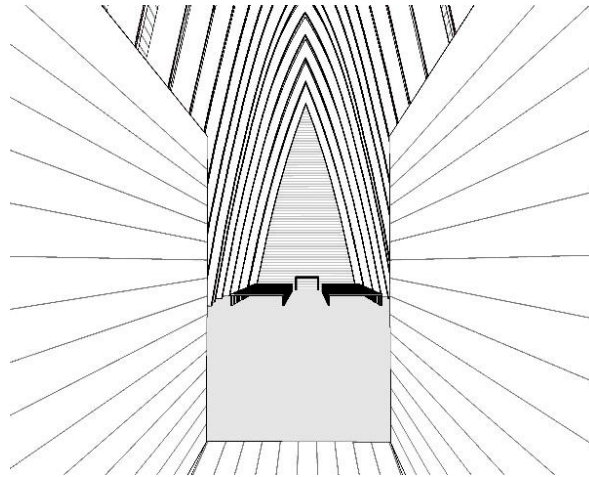


Figure 64. View from Corridor



Figure 65. View from Altar

smallest feeling, which is in front of altar ⑤ (Table 15), is rather comfortable because of soft natural light from windows.

Moreover, there is difference when the experiencer leaves (Figure 65). The feeling of scale is rather moderate in ③ and ④, because every architectural element looks familiar for the experiencer. But the sense is still small when the person just turns around in ⑤ toward the hall, because the scenery is unfamiliar with the experiencer's perception, so that the experiencer starts to encounter a new view as a different world as (Table 15 and Figure 65).

5.2.2 The Relationship between Essences

There is already a considerable implication of the relationship between each essence in the previous chapter. The connections are diverse rather than simple as is the relationship between mind-body unity of Merleau-Ponty. Therefore, the relationship between each essence will be considered as several comparisons together instead of case by case in this chapter. Moreover, the nexus is examined by necessity, possibility or impossibility (Spiegelberg, 1978, p.681), but the three items will be explored as this (necessity and impossibility, and possibility, or necessity, and possibility). Thus the intertwined relationship shows how the connection between silence and architectural body and experience influence one another.

1) Sequence of Movement + Light and Shadow

- Necessity and Impossibility:

Firstly, the experiencer feels that there are several phases in this chapel, and the phases are necessarily defined by light and shadow. While many modern buildings have homogenous lighting and try to avoid shadow, the stark contrast between shadow and sweeping light on the material and frame is considerable in character in this chapel as it is in the Caravaggio's painting (1599-1600) in Baroque Style (Figure 66). The chapel shows a great depth through



Figure 66. The Calling of Matthew

contrast which has a gradation effect. There are several moments which have a different intensity of contrast in the chapel, for example, the sense of strangeness of darkness and seduction of lightness in the main entrance and vestibule, the sense of composure and safety in the hall and altar. However, the effect of contrast can be weak if the chapel is makes use of artificial light (B, Figure 67). The influence of artificial light seems like that in many contemporary buildings, which do not consider the effect of light and shadow together.

Secondly, while the form of the chapel has a clear boundary between inside and outside, the boundary becomes loose inside of the chapel: the free form walls of the chapel create a frame to guide the experiencer to perceive the light, but the person cannot recognize the boundary as the shadow part of Caravaggio's painting (Figure 66) because it is hidden with darkness. The experiencer is full of imagination with the shadow as the dark part of universe, in this sense, the boundary is opened by the shadow, and a singular light from the altar creates a sense of the infinite as in the "A" of Figure 67. Moreover, the experiencer encounters each corner of the deep boundary by moving one's whole body: the person can identify that the reality of the boundary is part of lightness when the person approaches closely enough towards the corner of the walls.

Finally, the chapel has a similar layout in the floor plan compare to traditional style churches such as *Messukylä Old Church* (16th century) in Tampere (Figure 68), but the meaning of holiness with light and darkness has changed, for instance, an experiencer's linear movement of walking through the nave from the entrance in the west to altar in the east in both churches (Figure 68). However, the infinite is towards the front wall instead of facing upwards to sky in the Art Chapel, so that the infinite is earthly rather than sacred: although the chapel does not directly mark religious power as does the traditional church. This is a personally internalized spiritual power as the main phase of sequential movement. The infinite guides the experiencer to meet inner solitude of oneself and measureless time.



A: The effect of natural Light

B: The effect of artificial Light

Figure 67. The effect of different light and shadow

Thus the person experiences the entire phase, which is unknown space, with one's bodily movement. Moreover, the sequential movement of the chapel has a similarity to the old church, but the exploration with light and shadow make a spiritual atmosphere from one's inside mind instead of chasing transcendental power in the chapel: the first feature of this chapel's atmosphere (Figure 69).

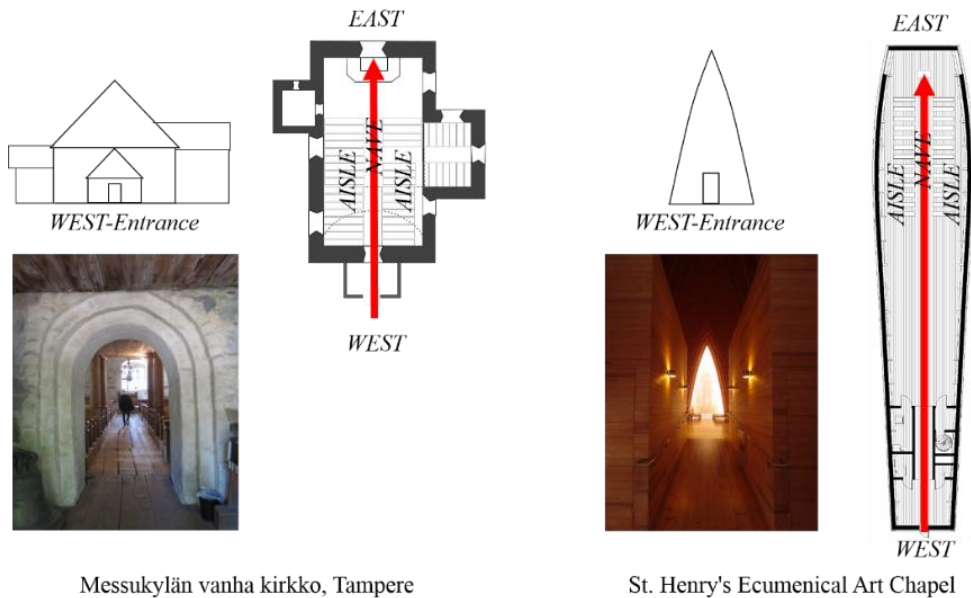


Figure 68. Tradition and Modern Style

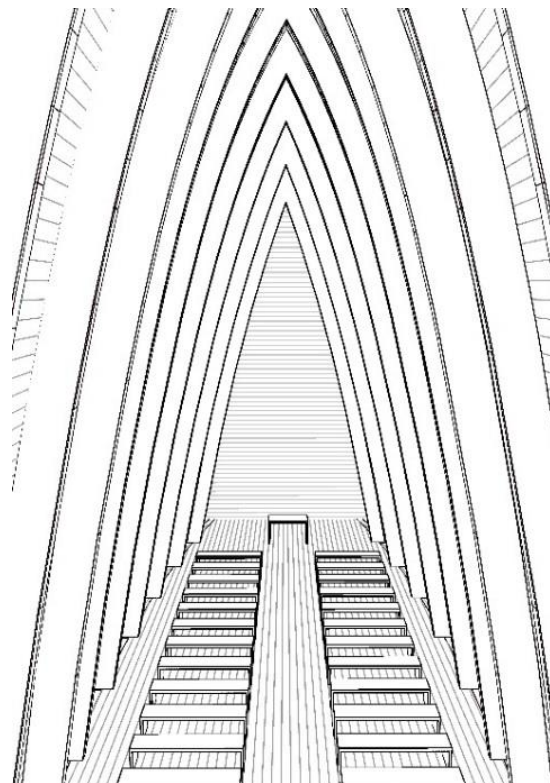


Figure 69. Centre of Art Chapel

2) Sequence of Movement + Scent of Space (+Light and Shadow)

• Necessity:

The resident of the city is able to locate one's location according to the scent while the person travels around in the city by the character of sound of the space.

On the one hand, as the traveling with scent, the experienter meet all kinds of scent in the journey in the chapel, for example, the scent of pine trees outside of chapel give the sense of forest and the scent of cutting wooden walls, beams, and floor make an comfortable impression as an extension of the nature's scent from outside. Moreover, the connection between the experienter's memory and the scent is revealed through the sequential journey.

On the other hand, the relationship stimulates various emotional feelings: warmness of one's home, freshness of forest, unwelcoming nature of police station, fear of hospital. The experienter feels the fear, warmness, and freshness with comfortableness in the chapel which is the second feature of chapel's atmosphere.

• Possibility:

The limited vision because of the contrast between light and shadow raises the opportunity to encounter the effect of scent from materials in the experience. Transitional materials, which reflect changing time and weather, generate their own scent (woods, bricks, stones, rusty steel panels). But artificial materials (plastic panel, glass, steel panels which have rust resistance) do not have any scent within their timeless surface. Architectural bodies with the transitional materials exude a certain characteristic of odor in the space as the chapel. However, sometimes it is hard for an experienter to be aware of the wooden scent under the full of lightness in the *Kamppi Chapel* (2012, K2S Architects) compared to the Art Chapel (*Figure 70*).



Kamppi Chapel



St. Henry's Ecumenical Art Chapel

Figure 70. The Relationship between Scent and Light and Shadow

3) Sequence of Movement + Touching Space (+Light and Shadow + Scent and Sound of Space)

- Necessity and Impossibility:

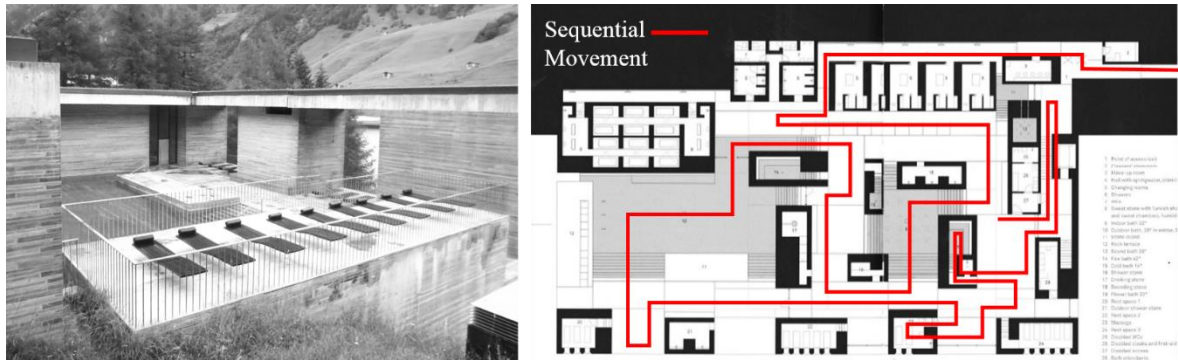


Figure 71. *Therme Vals*

Touching experience is also inseparable in its relationship with sequential movement. The movement itself touches space and architecture. Firstly, as in the circulation of user in *Therme Vals* (1996, Peter Zumthor) in Figure 71, an experienter instantly feels the gravity of floor, density of textures of structure and walls, temperature and colour of space with light and shadow, weight of materials and furniture from each space in the architecture. Moreover, the touching experience is actively connected between the architecture and one's body (haptic of hands / feet / skin, and kinesthesia, touching light with retina in eyes, touching sound with cochlea in ears, touching odour causing substances with nasal cavity in nose). In this sense, scientifically the human beings touch the space and architecture.

Secondly, the various levels of intensity in the intimate connection stimulate various psychic states which cause the feeling of sequence for the experienter in the chapel. The states recall the latent feeling in muscles and bones as a kinaesthetic memory, for example, with full bodily action to open the heavy door of the entrance in the chapel, the experienter intentionally has an a fearful and unwelcome impression. These feelings are similar to the conventional idea of traditional door in *Turku Cathedral* in the end of 13th century (Figure 72).



Figure 72. *Turku Cathedral*



Figure 73. Touching Experience

Thus, with the haptic feelings and kinaesthetic memory, the experienter illustrates a certain phenomenon of space and architecture as the third feature of atmosphere. This touching experience is one significant dialogue between the person and built environment (Figure, 73).

- Possibility:

As a visually impaired person walks relying on the sense of hearing and tactile sensation, the limited light and resonated sound of the chapel potentially stimulates this structure to the explorer's touching experience. The human being has a sensitive body which is latent in its abilities. The visually restrictive built environment induces the haptic potential: the experienter regains the ability through the touching experience.

4) Sequence of Movement + Sound of Space (+ Light and Shadow + Scale)

- Necessity:

The sound is another means of dialogue between the experienter and architectural body and experience. Firstly, the sound does not appear alone, but it is an action and reaction between them. Thus each architectural phase of the chapel shows various auditory experiences, for example, invitation and hospitality on the slope to the outside, nervousness and monumentality in the vestibule, denseness in the corridor, and calmness at the altar: these feelings, which are based on the sound, give the experienter to feel the sense of place in the chapel.



Figure 74. Acoustic Panels

Secondly, the experience with sound is different inside and outside of the chapel. The hearing range of humans is limited, so the experiencer cannot perceive every sound from natural environment. But hearing of sound is more intensive inside the chapel where there is a boundary to reflect sound with the form of the chapel. Sound is a wave in a physical term and it travels through air and water. Each material of the chapel has a different reflection, such as concrete, which quickly reflects sound as a hard material, and acoustic panels which absorbs sound as a soft one in *Tampere-talo* (Figure 74) which is designed by Sakari Aartelo and Esa Piironen (1990). Thus the sound reveals the textural nature of materials, structure, and form of the built environment: the experiencer recognizes the roughness and softness of the architectural body.

In conclusion, the experiencer uses sound as a communication and navigation method with the built environment. Moreover, the sound experience reveals the character of an inside space: the forth feature of the chapel's atmosphere.

- Possibility:

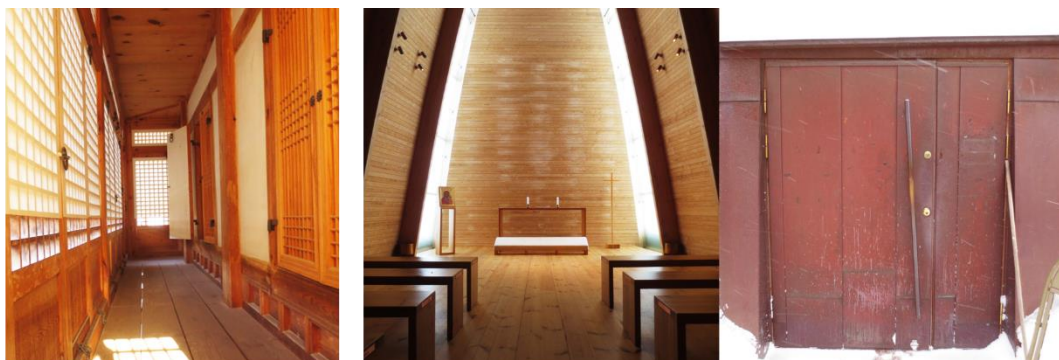
Firstly, the emptiness has a considerable potential to reveal the sound effects in the inside of the Art chapel. An empty space is generated by the architectural body, for instance, the space is fundamentally dominated by silence as in the *Church of the Three Crosses* (1958, Alvar Aalto), Imatra, Finland (Figure 75). The church is formed by wall, floor, free form ceiling, windows, light and shadow, and furniture. The experiencer of the church, firstly encounters



Vyborg Library

Church of the Three Crosses

Figure 75. Structure and Silence



Gyeongbokgung Palace, South Korea (14C)

St. Henry's Ecumenical Art Chapel, Finland

Figure 76. In-between Externality and Interiority

the silence, which has been always there, with entering. The relative sense of scale between an experiencer and the church leads the person to be in the silence as in the chapel.

Secondly, the direct effect of light to the structure brings the feeling of seeing sound in the chapel, because of the play of light and shadow on the structure as the wooden ceiling of *Vyborg library* (1935, Alvar Alto) in Russia and the concrete structure of *the Church of the Three Crosses* (Figure 75).

Finally, a main door and windows of the chapel (Figure 76) are the linkage between outside and inside in terms of sound effects with light and shadow; these effects are working with the textuality of doors and windows. These in-between elements, doors and windows, support the experiencer to meet the outside and inside environment simultaneously by hearing sounds and seeing contrast between lightness and darkness. For example, the experiencer can feel the heavy door when it is opened and hear the sound of hitting rain on the glass when it is raining on the chapel. Also the person can transiently meet light shining into the dark vestibule from outside when the door is opened and can consistently see blurred light from outside to altar through the windows (Figure 76). The lighting effect recalls the atmosphere of rooms with a ‘*Shōji*’ door in traditional Japanese architecture. A similar type of door is also found in traditional architecture in South Korea (Figure 76). Moreover, the atmosphere and the sound reflections from floor and walls lead the experience to adopt the silence with slowness.

5) Sequence of Movement + Scale (+ Light and Shadow + Scent and Touching Space)

• Necessity:

As human beings’ life is mutually entwined with the built environment, an experiencer faces the relative sense of scale in every moment of daily life. The relationship between scale and sequential movement of being is a spatio-temporal experience; the fundamental substances of the relationship are an experiencer, an architecture, space, its surroundings, and time. The interaction of these substances is detected in terms of its contextual surroundings, and encountering the silent atmosphere of inside.

Firstly, it is about context: the experiencer enters into dialogue with an architecture and its surroundings. The experiencer has various impressions (intimacy and comfort or distantness and unfamiliarity) with the direction of façade and form, materials and colour, and vegetation between the Art chapel and its surroundings, for example, as ③ and ④ (Figure 77), the person meets the profile of the chapel as ① and ② (Figure 77). Moreover, the form of a capsized ship and the colour of the copper of the chapel blend well into surrounding buildings (as ③ Figure 77-*Helsinki University Main Library*, 2012, AoA) and nature (as ④ Figure 77-*Vatialan Big Chapel*, 1960, Viljo Revell).

Secondly, the gradational change of the sense of scale in the chapel: the explorer sequentially steps into the existing silent atmosphere which is created by touching visual effects with form of light and shadow, colour, scent and sound of material as ① and ② (Figure 78). Moreover, the sequential movement of the person (the red colour in Figure 78) feels the closeness of shadow with the form and openness of light on the wall ①, and entrance ② (Figure 78). The feeling is about the conversation between built environment and emptiness as ③ (Figure 78) in which the landscape poetically leads the explorer to meet the sky, full of emptiness, by placing the cross just next to the main pedestrian thoroughfare. There are at least two different aspects of emptiness in Figure 78: there is vertical contrast

between landscape and the sky in the *Skogskyrkogården*, and the illuminant emptiness in the middle of darkness of the chapel (Figure 78).

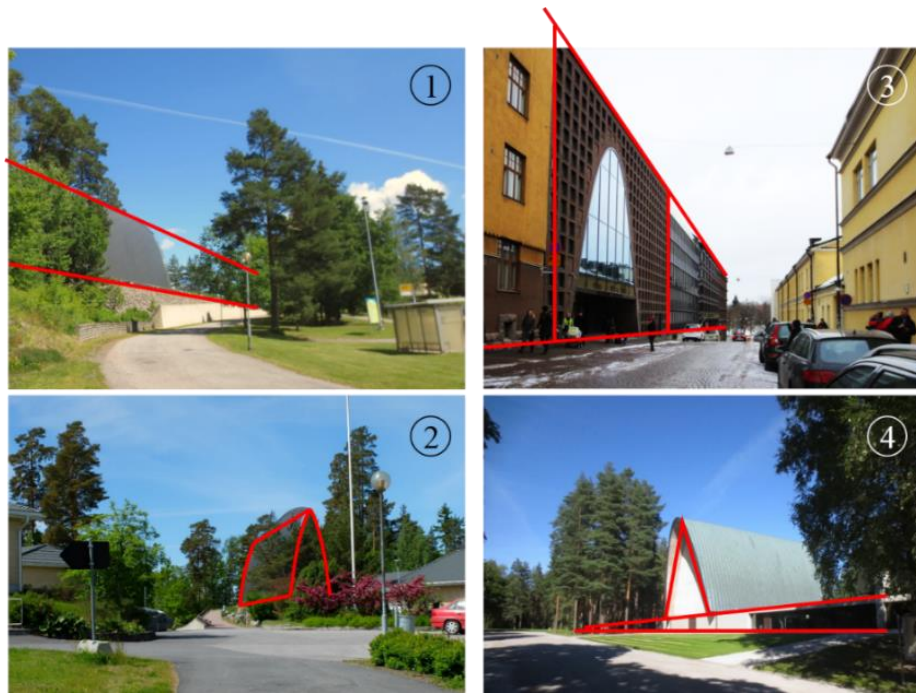


Figure 77. Contextual Surroundings

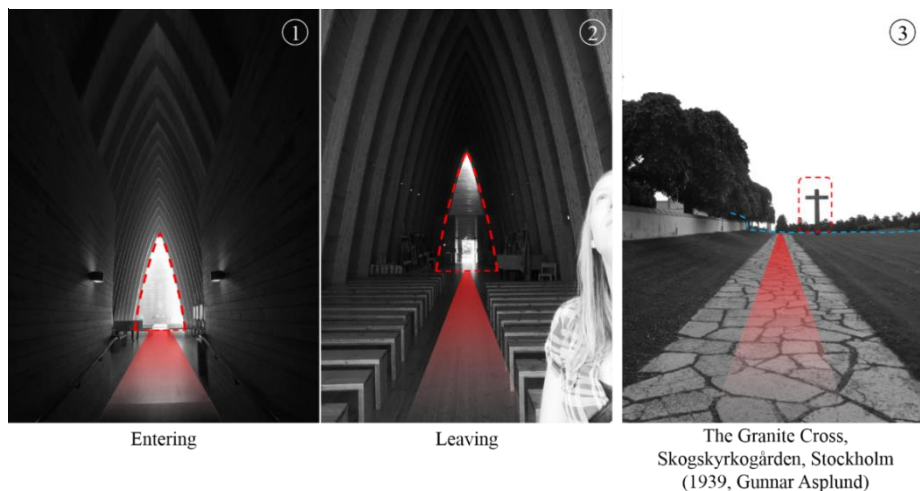


Figure 78. Stepping into the Existing Atmosphere

Finally, the sense of scale is generated by the psychological effect to the built environment by which the sense becomes more intensive and concrete according to the specific architectural phase. For example, the powerful tension of scale between outside and inside begins in front of the main door (Figure 79): a new sense of scale starts with entry into the inside which is an enclosed space, then narrowness in the corridor, and the last big change which appears with stepping out in the door (Figure 79). When leaving, again from the entrance, the sense of scale flips again to a new scale when the experiencer goes outside.

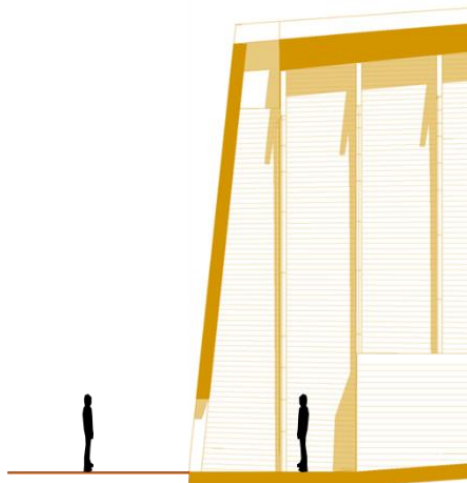


Figure 79. Sense of In-between

Human beings perceive the senses with the physical dimensions of the environment (mass and form ①, width ②, Depth ③, Height ④, Density ⑤) and time ⑥ as in Figure 80. Thus the sense of scale is strongly connected with sequential movement.

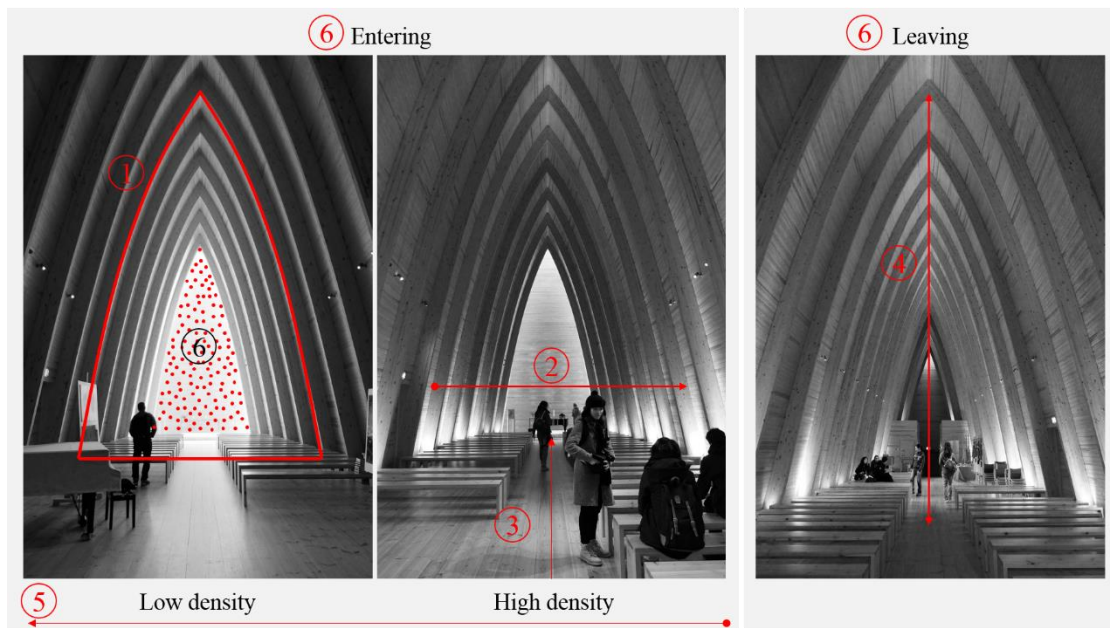


Figure 80. Physical Dimension of Architecture

•Possibility:

The various levels of intimate scale can be manifested in different intensities of touching experience, for example; the strong unfamiliarity of the architecture in the entrance is then becoming closeness when sitting on the aisle seats, stepping on the floor, touching the wall in the hall of the chapel. In this respect, the intimacy and unfamiliarity which is related to the sense of scale is dependent on how the architecture is engaged with the experience's experience.

Moreover, the simplicity and coherence is related with the experiencer's recognition of the built environment: the more the person has fully experienced the architecture with all senses, the more the simplicity and coherence give a clear sense of scale. Thus the sensing is a matter of dialogue between the person's experience and the simplicity of the architectural body, which is structured by the gesture of façade, form, materials, furniture, and light and shadow.

5.3 Interpretation of Findings: *Architectural Silence*

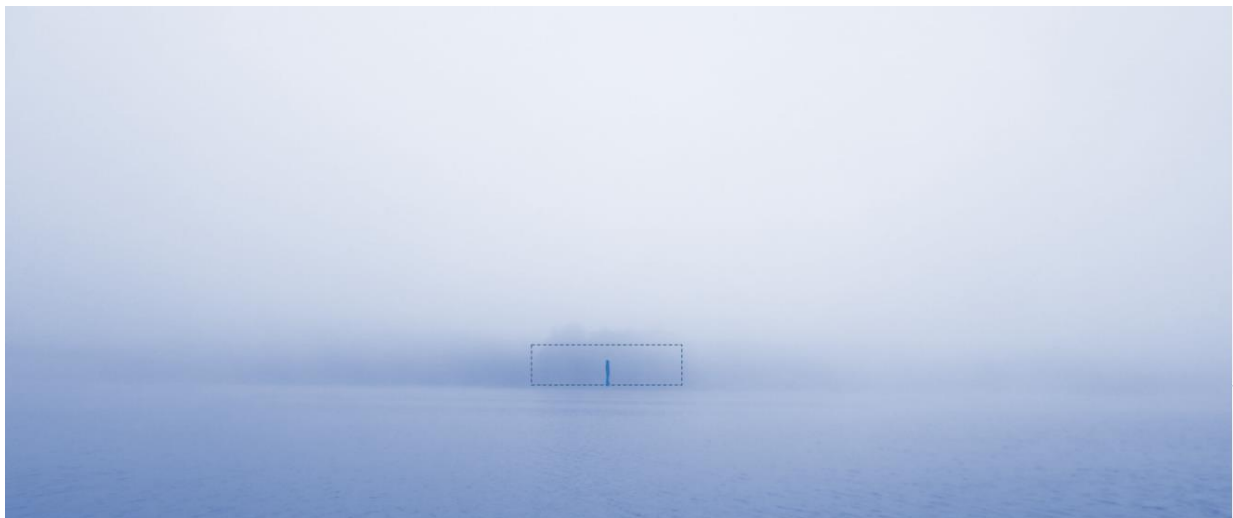


Figure 81. Silence, Särkijärvi, Tampere

Silence exists everywhere (Figure 81). The most important thing is that the connection between architectural body and experience shows that is a fundamentally reciprocal response based on silence in the previous chapter; the silence leads the experiencer to encounter the relationship of architectural body-experience unity. The relationship is thus an architectural body-experience unity of a being's life, which is same concept of the mind-body unity of Merleau-Ponty, and silence is mutually vibrated within the unity. There are several features of the relationship, relating to the existential meaning of being in the built environment and the existential connection between silence and architectural language by interpretation of the distilled essences. With this interpretation, the meaning of architectural silence will be presented as follows.

5.3.1 Silence: A Triggering Psychic State with Architectural Body-Experience Unity

The architectural body-experience unity always has this existential role and meaning: the encountering of several atmospheres in the chapel tell that every architectural body is a way to reveal and trigger the existential meaning of the person with silent atmosphere. What are the features of the relationship?

Firstly, it is a mutual response between them. On experiencing the chapel, the explorer feels an emotional change which mutually responds with architectural body (paving, façade, walls, ceiling, floors, structures, windows, doors, handrails, furniture). In the moment of response, the person unconsciously realises that they become each element of the architecture: the body simultaneously reveals its inner meaning with the person as "every object is the mirror of others" (Merleau-Ponty, 2002, p.79).

Secondly, it is recalling the experiencer's memory. Memory, imagination, and cultural background of the experiencer are instantly recalled and blended with the feeling in the moment. Every moment of sequential movement in the chapel unveils the connection between psychological states with language as Pallasmaa says that the architecture stems and resonates from the biological, cultural, mental ground of human existing (Pallasmaa & Mallgrave & Arbib, 2013, p.7–8).

Thirdly, it is encountering the inner meaning of architectural body-experience. The inner meaning appears in the manner of generating behaviour with feelings of the experiencer as "...the floor invites movement, action and occupation; the roof projects shelter, protection and experiences of insiderness; the wall signifies the separation of various realms and categories of spaces, and it creates, among other things, privacy and secrecy" (Pallasmaa, 2011, p.129). As the architectural body has a trigger effect on behaviour with psychic state, the gesture of architecture supports the person to have one's own emotions by oneself; the gesture is architectural experience which is the distilled essences (chapter 5.2) such as 'sequential movement, light and shadow, scent, touching, scale'. The experiencer of the chapel encounters one's own feeling which is invited by the architectural body: "Architecture should not specify emotion, but should invite emotion" (Pallasmaa, 2013, p.43).

Finally, it is the realization of spiritual atmosphere. The atmosphere of architectural body is silence, as is the spiritual ambience in the chapel. The chapel itself is a spiritual threshold which is generated by the architectural experience. The silence is the heart of the character of the chapel. The experiencer meets the sense of place by exploring the silence: "In moving architectural experiences, space, material, and time seem to unite into a single dimension that penetrates our awareness. In these experiences, space takes on more gravity, as it were-the character of light becomes tangible, time seems to stop, and space is dominated by silence" (Pallasmaa, 2012, p.75).

5.3.2 Silence: An Empathetic and Symbiotic relationship between Being and Architecture

There is a good example to explain *Einfühlung* (empathy) between being and architecture in an American film, "*At first sight*" (1999), which is directed by Irwin Winkler. In the movie, when Virgil and Maria are in the house when it is raining, Virgil says that "...It [rain] is best to way for me to understanding dimension of [the] room. Can you hear? ... Just Listen! ... Close your eyes. Listen with your whole body. Can you feel it?" They can really focus on the rain drops on the roof of the house, and then he interprets the architectural dimension through the rainy situation. Pre-existing silence in the house encourages them to feel and share the relationship with each other, for example, as the experience of seeing sound in the chapel (Figure 82). As the empathic moment in the movie, the experiencer is able to become aware of the wave of sound touching the structure and the involvement of light and shadow in the touching during a moment which the sound passes through the silence in the chapel.

Although the coinciding musical performance with the architecture does not directly give the meaning of the experience to the player and the experiencer, the unique silent atmosphere of the chapel invites the person's performance which is an interpretation of the atmosphere of the chapel. However, the player and the experiencer cannot have that interpretation without empathetic relation with the architectural body, her own experience and the experiencer's experience, and the moment: "as it is a unique imaginative re-interpretation and re-creation of a situation by each individual" (Pallasmaa & Mallgrave &

Arbib, 2013, p.11). In this sense, the connection between silences, architectural body and experience are a symbiotic relationship.



Figure 82. Seeing Sound

The empathy as a symbiotic relationship has a unique character to the experiencer and architecture as a dweller: “We settle into the space, and the space dwells in us; architecture becomes part of us and we become part of it” (Pallasmaa & McCarter, 2012, p.6). The moment of encountering the experience is the moment of empathy between experiencer and architecture. The features of empathy between the person and architecture are momentary, multiple, and heterogeneous, for example, for the experiencer the empathy is the moment of hearing music with light in the space of the chapel: “... I listen. The music draws me in. It is a space. Colourful and sensual, with depth and movement. I am inside it, for a moment, nothing else exists” (Zumthor, 2010, p.71). During the architectural experience in the chapel, there are several moments in which the person feels the sound, colour, temperature, scent, and infinite depth of space. The moments generate with the sequential movement, because the person faces with many different situations which interact with the architectural body on the journey of the experience in the chapel. In this sense, thus there are several empathic moments with various, intensive psychological states which stem from diverse memory and

imagination of the experiencer; the feeling of silence is multifaceted — light and shadow of silence, scent, touch, scale of silence — and is based on the architectural body-experience unity.

5.3.3 Silence: An Emptiness with Sensory Equality

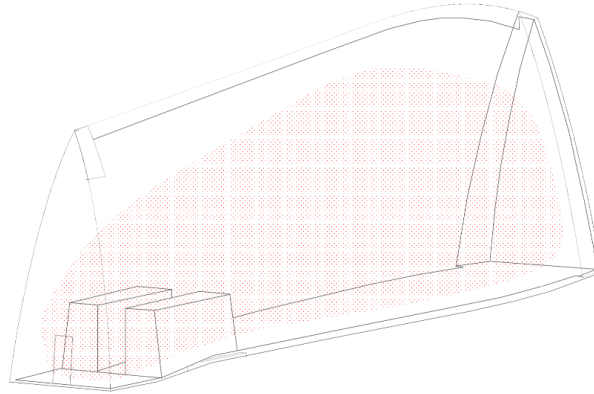


Figure 83. Emptiness

The ambiguous feeling of emptiness (Figure 83), as a main character of the chapel, as opposed to form, is generated by the conversation between architectural body-experience unity, in particular the various silence in chapter 5.2. In other words, while the inner space is formed by curved beams and 3 dimensional curved walls in quantitative view, the space is the horizon of potentiality which every sensory experience is unveiled by bodily experience with architecture in silence.

The experience has several features. Firstly, the experience is manifest by the measurement of the person’s sensory fields. As the drawing of Oskar Schlemmer (1921)

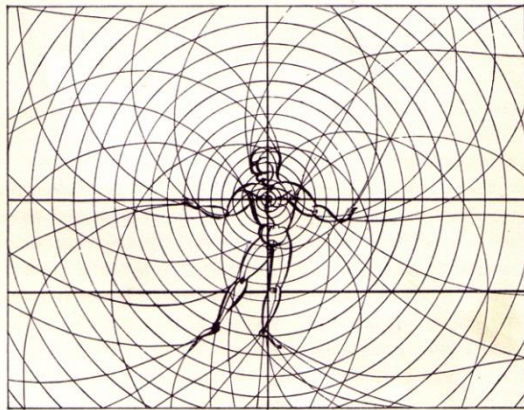


Figure 84. Drawing of Man as Dancer

illustrates (Figure 84), a person perceives its surrounding environment with all sensory fields (visionary, scent-taste, tactile, auditory, kinaesthetic sense) and time: “...my legs measure the length of the arcade and the width of the square; my gaze unconsciously projects my body onto the facade of the cathedral, where it roams over the mouldings and contours, sensing the size of recesses and projections; my body weight meets the mass of the cathedral door, and my hand grasps the door pull as I enter the dark void behind” (Pallasmaa, 2005, p.40)

Secondly, the experience is situation-oriented, for example, the position of an experiencer is continuously exploring the changing of sensory fields with the space as sequential movement with other distilled essences of the Art Chapel in chapter 5.2. Moreover, the relationship of each sensory field is self-generative in respect of instantly one thing re-activating others.

Thirdly, especially, limited vision, which is opposite concept of modern design, stimulates reconciliation with other sensory fields in silence, so the experiencer perceives various architectural experiences by concentrating on the spatio-temporal structure in the

chapel. With that experience, the experiencer becomes aware of the reconciliation to dwell in every moment of the journey within the chapel. Thus the emptiness of silence is resonated with the person and the architectural body-experience, and vice versa. The interaction of the sensory fields of the experiencer with silence is the existential meaning of void: Grafton Architects say that "...the void, the nothing, vibrates as a thing in itself. You are not looking at a building as an object; instead you become aware of the space, and of yourself held by the containing forces of this space in a way that heightens your sense of being alive in a particular place at a particular moment" (Goodwin, 2014, p.83).

Finally, the interaction between each sensory field is a realistic manner in limited visionary circumstances of the experiencer. An interviewee, who is a visually impaired person and employee in IIRIS (2004, Lahdelma & Mahlamäki Architects), says that she can freely move and access the IIRIS, but she needs a guide dog outside of the building. This is because it is very difficult for her to compose the sense of space outside. However, she can easily form the space in the building by using her other senses. The interviewee says that "touching, hearing, smelling are equally the same as vision" (Table 16). It shows that every step of her movement is a multisensory experience: Pallasmaa says that "every touching experience of architecture is multi-sensory; qualities of matter, space, and scale are measured equally by the eye, ear, nose, skin, tongue, skeleton and muscle. Architecture involves seven realms of sensory experience which interact and infuse each other" (Pallasmaa & Holl & Pérez-Gómez, 2006, p.30). Although people without sensory difficulties mostly rely on their vision, their other senses are always active in the perception process as are the interviewee's. They are merely not consciously recognizing this fact, but the experiencer sensitively encounters inside and outside chapel of silence by detecting the bodily experience with all environments (built, social, culture, and nature environment).

Therefore, silence as an emptiness consists with sensory equality which has a flexible relationship with each senses.

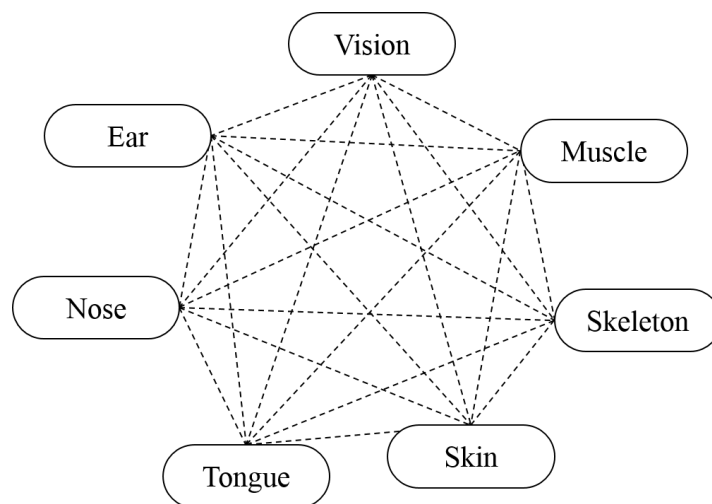


Table 16. Sensory Equality

5.4 Presentation of Results: *Architectural Silence in St. Henry's Ecumenical Art Chapel*

As a dweller of the chapel, each step of one's experience gradationally develops one's life story by engraving the empathic moment, which is based on silence, into the mind-body unity of the experiencer. In the silent atmosphere of the chapel, the potential of architectural quality is revealed through bodily experience which is the nature of being. The story of the experiencer in the chapel is about the meaning and connection with architectural silence on the architectural phases as below:

1) Approaching Chapel and Entering its Inside

- Road

Seeing the silhouette of the chapel on the hill, the appearance of the chapel reflects the landscape and a harmonized dialogue with its surroundings while approaching toward the chapel and realizing the sense of new territory.

- Slope & Path

Stepping and moving forward and backward along the slope, the sense of upwardness and of distance, the sense of increasing kinesthesia; resonating with wind, smell of trees, and sound of birds, the sense of silence; being close to the chapel which is unrecognizable, the sense of curiosity.

- Facade

Staying and looking around the facade and material of the chapel, the sense of becoming a small-scale of being compared to the chapel, the effect of shadow and form of the chapel, recalling the image of ancient building likeness, encountering the sense of suspense and unfamiliarity of the façade.

- Main Entrance

Opening the heavy door, the feeling of gravity from the weight of door; entering into a new world, encountering inner silence; crossing over the boundary between outside and inside, a big contrast between inside and outside in terms of scent, sound, vision, touching, and scale.

- Vestibule

Being in shelter (floor, walls, structure, and a roof), generating moderate scale of space; being in the darkness, feeling of silence, increasing the sense of mystery and unclearness; suppressed vision due to maximum darkness, activating other senses, recalling memory of darkness; hanging outer cloth, the sense of texture; smelling the sense of snug scent of wall; preparing and moving toward light, directing to reach the altar, recognizing depth of space, having the sense of imagination.

- Corridor

Stepping into the narrow corridor with slope and wooden wall, generating a great intimacy with resonated sound and touching floor, handrails, and walls, sensing textural of materials, the sense of navigating under maximum darkness, directing of the lightness, the sense of rite of passage, the scale of crowdedness; seeing the colour of space and feeling air, the senses of warmth of space.

- Hall

Going out of the narrowness and entering the next phase, the sense of transition, releasing the sense of narrowness and having the sense of openness; being in wider space, noticing being in the emptiness, the sense of measurement of width, depth, and height; generating sound and reducing movement, the tension between sound and space and

movement, the sense of changing intimacy; walking in the rhythm of architectural gradation, recognizing the structure of chapel with light and shadow.

- Nave and Aisle Seats

Stepping in the middle of nave, the sense of orientation, the sense of moderate scale; Sitting on seats, the sense of togetherness, the sense of listening, the sense of texture, the sense of comfort intimacy and familiarity; Perceiving sound with reflection of light and shadow on the structure, renewing the sense of time, the sense of slowness.

- Altar

Touching the wall and religious furniture, recognizing detail of the architectural body, being in the influence of intimate materiality, of indeterminate lightness and scale of wall, the sense of warmth, clearness and security; achieving fulfilment, realising eternity of being, the sense of stillness, losing the sense of mundane time, the sense of staying and inhabiting; looking at window, the finding origin of lightness and connection with outside.

2) Leaving from Inside to Outside of Chapel

- Altar

Transitioning direction, seeing the changing influence of the architectural body, being with clear light and depth of space, moderating the sense of scale, the sense of closeness; staying with hesitation of next step toward entrance, the sense of confliction between memory and reality.

- Nave and Aisle Seats

Sitting and staying temporally to see the infinite light, the sense of remembrance, the sense of touching with texture, the sense of solitude; stepping toward the end of nave, the entering into shadow, the sense of leaving.

- Hall

Walking faster than before, the sense of familiarity, the sense of being underneath the structure; looking back, the sense of missing; stepping slowly down near the corridor, the sense of preparation.

- Corridor

Stepping down under darkness, the expectation of outside.

- Vestibule

Wearing outer clothing, the sense of leaving and preparation; looking inside again, the remembering of silence.

- Main Entrance

Opening door, departure from the influence of inner territory, the maximum contrast between darkness and lightness; stepping out door, entering another new world, smelling, hearing, and touching of outside; being unsheltered, having the sense of routine time.

- Slope & Path

Walking and looking around on the path, the sense of downwardness, approaching beginning of exploring, escalating the kinesthesia sense, the sense of farewell.

Moreover, as the silence is the way to show the existential meaning of the horizontal void in the chapel, other respondents (the experiencer, architectural body, and architectural experience) are also different types of modality of existence. The four existential modalities are vibrating with each other. Although there is no hierarchy between them, with the mutual response of

silence, the experiencer realizes that each modality is cause and result of others as is the rhizome structure of botanical plants.

In conclusion, the phenomenological interpretation shows the existential meaning of architectural silence as the following features:

1. While it is hard to define the effect of the nexus between each modality, their relationship reveals the experience is a spatio-temporal structure.
2. The architectural body-experiencer unity is the experiencer's mind-body unity, and the unity reveals their relationship with the empathic moment. The moment of realization is the empathic moment of all the modalities which has an existential meaning.
3. The moments are encountering the interaction between bodily experience, memory, imagination, space, place, architecture, time, and silence: the experiencer meets one's own inner silence in the silence of the chapel.
4. The moment manifests the symbiotic connection between each of the modalities.
5. The story of experience of this chapel is of encountering various silences and of generating the experiencer's own story with the interaction between architectural body and experience.

V CONCLUSION

After the experiencer comes back to mundane life, the memory of the first-hand experience of architectural silence is continuously effecting the experiencer's life, even though the life is surrounded fully by the noise of the contemporary built environment which is homogenized and commercialized. These aspects shows the objectification of a relationship between being and architecture which is partly influenced by Le Corbusier and Descartes.

The initial hypothesis argument of this paper is that architectural silence triggers people to become aware of the modern problem and reconcile the relationship between architecture and human beings by creating lived experience as the argument of phenomenology. Thus the main research intent searches for the meaning of architectural silence, and how that silence is connected with architectural body and experience.

In order to examine the argument, the phenomenology of Merleau-Ponty has been studied in which his mind-body unity gives a different point view of the relationship; lived body, lived space, live world, lived silence. In particular, the feature of lived relationship reveals when the bodily experience of being feels the lived space and world in the silent situation. Thus based on the relationship, the relationship between architectural body and architectural experiencer is architectural body-experience unity, because the connection between being and architecture is fundamentally inseparable.

With the “*Step-by-Step*” (phenomenological method), the inseparable relationship was investigated using the first-hand experience of St. Henry's Ecumenical Art Chapel which has a silent atmosphere. The investigation has been conducted by studying the relationship between architectural body and architectural experience according to the method.

The first-hand experience, firstly, describes according to the journey of the exploration of the experiencer. Based on the description, 6 essences have been selected: Sequence of Movement, Light and Shadow, Scent of Space, Touching Space, Sound of Space, and Scale. The distilled essences of first-hand experience, secondly, examine the relationship with a rule: comparing between essences with the necessity, possibility or impossibility character of combination in the nexus of essences. The relationship of distilled essences are not only self-generative with each other, but also they fundamentally appear in silence.

Thirdly, with the relationship between distilled essences and silence, the silence has three meanings: ① Silence is a triggering psychic state with the architectural body-experience unity, ② Silence encourages the experiencer to feel several empathic moments and the symbiotic relationship between Being and architecture, and ③ Silence is an emptiness constructed of sensory equality which has a flexible relationship between modalities according to the phase of sequential movement.

To sum up the phenomenological investigation, architectural silence is:

- revealing the experience as a spatio-temporal structure with the relationship between modalities (the experiencer, architectural body, and architectural experience);
- several empathetic moments of architectural body-experiencer unity is as in mind-body of Merleau-Ponty;
- the moment to meet one's own inner silence with the silence of architecture, and is encountering the interaction between bodily experience, memory, imagination, space, place, architecture and time;
- an existential moment with an empathic moment and symbiotic connection of all the modalities;
- a creating one's own story of architectural body-experience, and encountering various types of silence which are interactions between architectural body-experience.

There are several inquiries unearthed to be studied in the future. How is the phenomenological investigation of architectural silence, firstly, transformed into design, especially design for disabled people? Secondly, how can architectural silence intervene in the existing built environments which are full of noise? Thirdly, how can abandoned architecture, which has a strong silent atmosphere, be revived?

“Buildings tell the stories of our lives in built form... We walk through and feel spaces with our whole bodies and our senses, not just with our eyes and with our minds. We are fully involved in the experience; this is what makes us human.”

(Grafton Architects, 2012)

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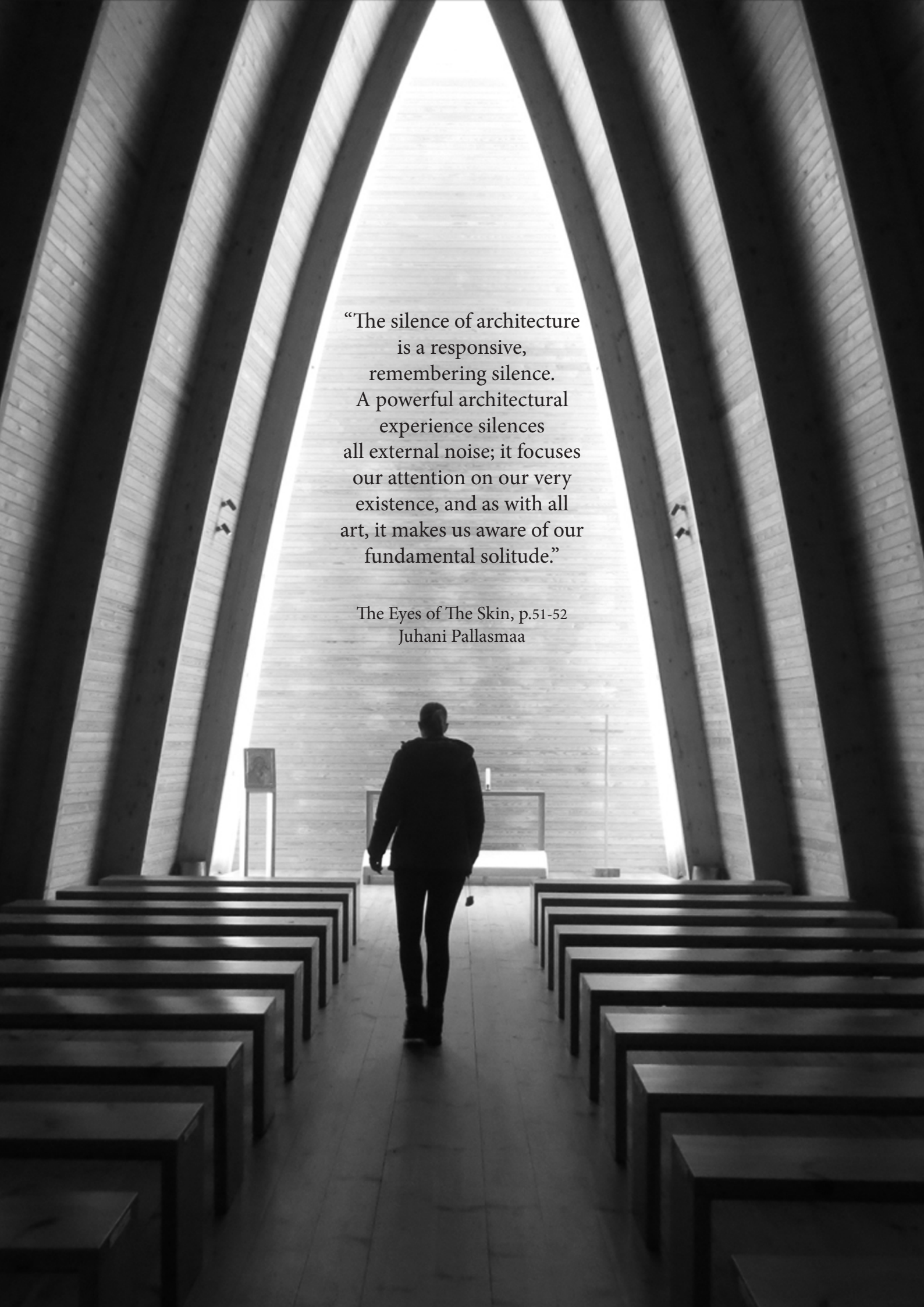
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“The silence of architecture
is a responsive,
remembering silence.
A powerful architectural
experience silences
all external noise; it focuses
our attention on our very
existence, and as with all
art, it makes us aware of our
fundamental solitude.”

The Eyes of The Skin, p.51-52
Juhani Pallasmaa