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Memory in Becoming

**Investigating how the *memorial landscape architecture* affects memory
through the lens of *affordance***

A Master's Thesis for the Degree of Master of Arts (120 credits) in Visual Culture

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Abstract

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Investigating how the *memorial landscape architecture* affects memory through the lens of *affordance*

Chenglan Jin

This paper attempt to explore how memories are affected by memorial landscape architecture through a psychological perspective, known as the *affordance*.

In order to conduct this interdisciplinary research including design, psychology and memory studies, this research project is grounded in a case study of the Tsunami Memorial *Gravitational Ripples* in Stockholm. By using a phenomenological approach, and combining the empirical material with environmental psychology and neuro-cognitive psychology, the thesis examines how the movements and natural elements in this memorial affect personal memories and social memories.

Throughout the thesis, the argumentation moves away from a static point of understanding memories, instead, argues that the memories in the Tsunami Memorial are indeed a processual memory, in which its nature is the continuity of internalisation and exchange. Towards the end, it also points out that the limitation of solely using psychological knowledge to analyse the memories might lead to a simplified and shallow understanding of human memory.

Keywords: Memorial landscape architecture, Tsunami Memorial *Gravitational Ripples*, Environmental psychology, Space of memory, Phenomenological method.

Table of Contents

List of Figures	v
Introduction	01
Background and relevance	01
Aim and research question	02
Empirical material	03
Previous research	05
Theory	06
Method	08
Disposition of the thesis	10
Chapter 1: The pre-fieldwork	11
1.1. The concept of affordance	11
1.2. Why studying affordance should conduct fieldwork	12
1.3. The phenomenological approach to the fieldwork	14
1.3.1 Phenomenology as philosophy and method	14
1.3.2 Fieldwork Plan	16
Chapter 2: The way of moving – Commemorative landscape	18
2.1 Fieldwork – A description of the Tsunami Memorial	18
2.1.1 Introducing the Tsunami Memorial	18
2.1.2 Fieldwork Day One – The changing viewpoint	20
2.2 Fieldwork – Meaning re-collection	25
2.3 Analysing Day One’s fieldwork	27
2.3.1 Step design in the garden	27
2.3.2 Rhythmic walking - One’s own body	28
2.3.3 Physiological aesthetics - Consciousness in body movement	30
2.3.4 The extended memory	31
2.3.5 Conclusion for the section	34
2.4 Analysing Day Two’s fieldwork	35
2.4.1 Fieldwork Day Two - The footprint on the snow	35
2.4.2 Rhythmic walking - Time and space	36
2.4.3 Flow in the space	37
2.4.4 A memorial with multiple voices	39
2.4.5 Conclusion of the section	40
2.5 Reflection of my role in the fieldwork	41
2.5.1 Post-fieldwork - Reflection of my role	41
2.5.2 A reflection on designed space	42

Chapter 3: The way of feeling – Therapeutic landscape	45
3.1 Fieldwork and reflection on the Tsunami Memorial	45
3.1.1 Memorial as a nature-based landscape	45
3.1.2 Synesthetic character of the memorial	47
3.2 The aesthetic appreciation - Positive emotion	48
3.2.1 Disinterested delight in the beauty	48
3.2.2 Involuntary fascination	49
3.3 Therapeutic potential - A healing space	51
3.3.1 Birdsong as a healing tool	51
3.3.2 Planting Seeds - A nature-related metaphor	52
3.4 The exchanged memory	53
3.4.1 The exchanged memory	53
3.4.2 Contextualist psychology in memory	54
3.5 A continued reflection on designed space – A message to the future	57
Conclusion	58
Bibliography	60

List of Figures

Fig. 1: *Gravitational Ripples*, Memorial for those affected by the 2004 tsunami, by Lea Porsager. Image © Ricard Estay. (p. 20)

Fig. 2: *Double spiral earthen walls*, fieldwork sketch, Image © author. (p. 21)

Fig. 3: *The choreography of the memorial*, fieldwork sketch, Image © author. (p. 22)

Fig. 4: *The changing viewpoint*, fieldwork sketch, Image © author. (p. 23)

Fig. 5: *The coupled cognitive system*, research sketch, Image © author. (p. 33)

Fig. 6: *The footprints on the snow*, fieldwork sketch, Image © author. (p. 35)

Fig. 7: *The diagram of research thinking*, research sketch, Image © author. (p. 42)

Fig. 8: *The visual and audio characters of the Tsunami Memorial*, fieldwork sketch, Image © author. (p. 46)

Introduction

Background and relevance

The beginning of this thesis starts with a simple yet fascinating question: How can designers translate memories of human loss into a designed space and create a memorial site for mourning? This question was a creative challenge that has been faced by the landscape architect, Lilia Coelho, when she was responsible for designing Oslo's new government quarter. This new neighbourhood was previously damaged in the 2011 terror attack.¹

In an episode from the podcast, *Monocle on Design*, Lilia Coelho has been interviewed by the team behind *Monocle on Design* and discussed with them about how she approached this national tragedy in the redesign project of Oslo's new government quarter. The way in which Lilia Coelho and her team approached this site is to replace this neighbourhood into a recreational and memorial park and provide a calm, greenery environment for mourning.² Coelho said to the interviewer that: '[...] it is a national scar that is here, and we want to mark it [in a positive way], and we want to move on.'³

What caught my thought in this newly designed neighbourhood is that the form of the memorial has been transformed from an object/sculpture into a place/space. Consequently, this changing discourse of memorial design inevitably requires a design of movements in the memorial space. In terms of materiality, the use of natural elements in Oslo's memorial park also plays a significant role in this transformation.

With this in mind, it is not difficult to notice that this redesigned neighbourhood appears as an invisible memorial space, not a traditionally tangible structure, such as a vertical monument. The mark of a memorial becomes invisible. However, Oslo's new government quarter was not the first memorial that marked this shifting discourse in memorial design. Maya Lin's 1982 *Vietnam Veterans Memorial* could be seen as a mark that contemporary commemorative design started to move away from a symbolic and figurative form. The memorial design started to build a processual space in which it could afford multiple types of experiences for the visitors, such as the walking experience.⁴

¹ 'Extra: City security: Oslo's new neighbourhood', *Monocle on Design* [podcast], Monocle, 14 Nov. 2019, <<https://monocle.com/radio/shows/monocle-on-design/extra-167/>>, accessed 4 June 2020.

² *Monocle on Design*.

³ *Monocle on Design*.

⁴ E. Rosenberg, 'The Geography of Memory: Walking as Remembrance', *The Hedgehog Review*, vol. 9, no. 2, 2007, p. 58.

Vietnam Veterans Memorial is essentially a retaining wall that has been built into the ground. It is a v-shaped walking path with a wall that is filled with the name of the dead soldier in the Vietnam War.⁵ Therefore, Maya Lin's *Vietnam Veterans Memorial* could also be viewed as a mark in memorial design, symbolising the design of the memorial has shifted from vertical to horizontal.

Unquestionably, this changing discourse in memorial design practice makes me consider what kind of memories could be afforded by the horizontal memorial space. Often, a symbolic and vertical memorial resembles a story, which is also a single fixed narrative that is articulated by an authority's voice. Traditionally, a storytelling memorial would more fit the shape of human's memories as they are used to approach a history through a linear narrative way. In contrast, an invisible and horizontal memorial space often does not have a *pre-made* storyline that is fixed for the visitors. Therefore, the following question goes: what kind of story does the horizontal memorial space want to tell? How does the horizontal memorial space affect visitors' memories of specific historical events? Those are the questions that will be elaborated in the next section.

Aim and research question

The very first question that I have presented at the beginning of the introduction is what makes me interested in the field of memorial design. It is a question that is more focused on the design process of the memorial from a designer's perspective. Yet, this research paper will not focus on discussing or explaining memorial from designer's position. Instead, this paper is more concentrated on the *afterlife* of those horizontal memorials in real-life, in which their appearances are often integrated with movements and nature-based landscapes. Moreover, the creators of those memorials is expanded into the field of landscape architecture, rather than the traditional sculptor.

Hence, the central research object of this research project is the *memorial landscape architecture*. This study investigates how memorial landscape architecture could affect memories. In order to conduct this interdisciplinary research project which combines memorial landscape architecture and memory studies, I plan to bridge the gap between these two fields by using a psychological concept, *affordance*, as an agency to explore design's influence on the transmission of memory. Therefore, this research is mainly focused on three fields, memorial landscape architecture, psychology and memory studies.

⁵ Rosenberg, 'The Geography of Memory: Walking as Remembrance', p. 58.

The concept of *affordance* is a term that was coined by American psychologist James Gibson. It means and I quote: ‘the ecological equivalent of the meaning of any human's external designed artefacts environment.’⁶ Those external designed artifacts could be a place, a building or a product. What Gibson means by that is an object or a place can tell us, as humans, what we could do to these objects or places. By using the concept of *affordance*, the main research question of this paper is: What kind of memory or memory process has been afforded by the memorial landscape architecture?

As this research project continuously developed into a case study on the Tsunami Memorial in Stockholm (which I will explain the case study a bit more in the next section), the research question also developed with the following one, correspondingly: How does movements and natural elements in the Tsunami Memorial affect personal memory and social memory? This case study focuses on two main aspects of the *affordance* of the Tsunami Memorial, including the movements and the aesthetics experiences of it.

This research paper aims to take a closer look at the *afterlife* of memorial landscape architecture, and try to explain how memory works from a perspective of psychology. Therefore, this paper is not aiming to provide a singular narrative of the memory; instead, it is keener on understanding the dialectical relationship between human beings and the space of memory. The procedure of conducting this research project is more similar to a *journey of discovery*, trying to erase a pre-made hypothesis that is grounded in my mind. Furthermore, by studying the relationship between people and the space of memory, this paper adds a psychological perspective into the initial design framework for future memorial design projects.

Empirical material

In order to study how memory works in the memorial landscape architecture, I conducted a case study of the Tsunami Memorial, *Gravitational Ripples*, in Stockholm, Sweden. It is a memorial that is created by the Danish artist Lea Porsager, aiming to commemorate 543 Swedes that died during the 2004 tsunami disaster.

There are two reasons for me to choose this particular memorial over others. One is that the designed structure and the use of natural elements in the Tsunami Memorial fits the changing discourse in memorial design that I have mentioned before. The double spiral earthen walls provides walking paths for visitors to move around in this memorial space. It is a memorial that provides both movements and natural elements. The other reason is the

⁶ M. Krampen, ‘Semiotics in Architecture and Industrial/Product Design’, in V. Margolin and R. Buchanan eds., *The Idea of Design*, The MIT Press, Massachusetts, 1996, p. 90.

accessibility of the Tsunami Memorial makes this case study more feasible over others. It was finished in 2018 and opens to the general public all year round, while the memorial park in Oslo's new government quarter was estimated to end its construction in 2029.⁷

To see how the memory would be processed in the Tsunami Memorial, I focus on the following question (that I mentioned before): How does movements and natural elements in the Tsunami Memorial affect personal memory and social memory? In order to be more specific, the studied object would be eliminated into the second generation, whose memories and personal experience have no direct connection with the 2004 tsunami disaster. The second generation or even the third generation would be the leading targeted group in commemorating this historical event for an extended period. Furthermore, the Tsunami Memorial, as a medium for externalisation of memories, has the ability to influence what those second generation remember in the present and in the future.⁸

Even though the case study of the Tsunami Memorial would be the central part of this paper, it does not automatically mean that the empirical material that I will analyse is merely and always focused on the physical features of the memorial space. The empirical materials would be transformed from the tangible structure into the invisible material during the different stage of analysing the relationship between people's experience and the space of memory. For example, when I tried to build a connection between bodily movements and one's memory, the empirical material has shifted from the design of the ramps to the walking rhythms, which the latter one is something that people can not see in the real world. It is a movement pattern that could be experienced only through the individual body or group experience. Apart from that, the empirical materials in chapter three also go from the natural elements to the emotional feelings. The latter has been generated by the Tsunami Memorial, which are also an invisible empirical material.

In short, the visible and invisible empirical materials are both crucial in the process of linking memorial landscape architecture and memory, since the memory itself is a bodily yet mentally processed recollection of human consciousness.

⁷ Statsbygg, 'Nytt regjeringskvartal', *Statsbygg* [website], 2019, <<https://www.statsbygg.no/Prosjekter-og-eiendommer/Byggeprosjekter/Regjeringskvartal-nytt/>>, accessed 4 June 2020.

This information of the construction plan is published in the above website.

⁸ S. Tanović, *Designing Memory: The Architecture of Commemoration in Europe, 1914 to the Present*, 1st edn, Cambridge University Press, Cambridge, 2019, p. 233.

Previous research

As I have stated in the previous section, this paper presents an interdisciplinary research which has covered three main subfields, naming *memorial landscape architecture* (nature-based memorial), *psychology* and *memory studies*. The unique point of this interdisciplinary research project is that lots of research have been done in one subfield or the combination of two subfields. Yet, not too much attention has been paid in those three subfields as a whole in the previous research. Therefore, I have sorted out the relevant previous literature into three categories.

The first category of previous research contains some of the literature that paid attention to the *invisibility* of contemporary commemoration design. For example, Tanja Schult's 2009 book, *A Hero's Many Faces*, noticed that since the 1980s, some monuments created by artists are turned toward *invisibility*.⁹ Similarly, in Rosalind Krauss's 1979 article, *Sculpture in The Expanded Field*, the absence and the negative condition in contemporary sculpture also has been discussed as pure negativity by the author.¹⁰ Both of those two texts present a cultural and historical point of view in studying the monuments, and use a hermeneutic way to explain this phenomenon.

What those two authors studied are more of neighbouring fields, monument and sculpture, which is not precisely the nature-based memorial space. However, if we see them both as a commemorative representation, they show a similar trend, the invisibility of the memorial in the contemporary commemorative representation.

Another category of previous research could be identified as the study of environmental psychology and natural landscape, which excludes the subfield of memory studies. Often, the approach of those studies is landed in the concept of *affordance*, exploring what people can perceive in the natural landscape. Sometimes it would go further to study the psychological reason behind natural landscape and health. In a 2016 article, *Landscape and Health: Connecting Psychology, Aesthetics, and Philosophy through the Concept of Affordance*, the authors offer several psychological theories in linking natural landscape and human's well-being. As the Stress Reduction theory suggested that the non-threatening character of nature could reduce one's blood pressure and heart rate.¹¹ Those are the critical pieces of research results that could benefit my further analysis in the body chapters.

⁹ T. Schult, *A Hero's Many Faces: Raoul Wallenberg in Contemporary Monuments*, 1st edn, Palgrave Macmillan, Stockholm, 2009. p. 16.

¹⁰ R. Krauss, 'Sculpture in the Expanded Field', *October*, vol. 8, 1979, p. 36.

¹¹ L. Manetti, and A. Casado da Rocha, 'Landscape and Health: Connecting Psychology, Aesthetics, and Philosophy through the Concept of Affordance', *Frontiers in Psychology* [online journal], no. 7: 571, May 2016, p. 3, <<https://www.frontiersin.org/articles/10.3389/fpsyg.2016.00571/full>>, accessed 4 June 2020.

The third category is the most resembling research project compared to this paper, which contains memorial design, psychology and memory studies. Moreover, it is also a newly developed research field, since the existing research result that I could find was published in 2019. It is a book that was written by Sabina Tanović, named *Designing Memory: The Architecture of Commemoration in Europe, 1914 to the Present*. This book is different from my research project, because its research object is primarily focused on commemorative architecture. By contrast, the research objectivity of this paper is more focused on commemorative landscapes that are filled with natural elements. In that book, Sabina Tanović, as an architect, is more interested in finding innovative design solutions of memorial architecture that could support memory and commemoration from a designer's perspective.¹²

To sum up, the previous literature has touched upon some of the subfields of my research project, and contribute to this research topic (design and memory) with rich knowledge from a cultural-historical perspective and a designer's point of view. Yet, what I want to achieve in this research topic is to add a psychological perspective in understanding how memory works in the memorial landscape architecture.

Theory

The whole research project is grounded in a case study of the Tsunami Memorial, as I mentioned before, which contains fieldwork in that designed space through a phenomenological approach. Hence, the theories that I have been using in this paper could be divided into two parts, and one is for the pre-fieldwork planning, the other is for the post-fieldwork analysis. However, it is worth noting that during the post-fieldwork stage, the analysis of the material is not starting with a pre-dominant yet fixed theoretical framework. Instead, the theoretical framework for post-fieldwork is continuously developed in corresponding with the changing empirical materials.

The pre-fieldwork stage is primarily focused on phenomenology, presenting a changing discourse in the fields of phenomenological philosophy and phenomenological method. There are two main reasons for using phenomenological philosophy in the pre-fieldwork stage. Firstly, the origin of phenomenology indicates a common theoretical foundation between phenomenology and affordance. They are both derived from the study of psychology,

¹² Tanović, *Designing Memory*, p. 10.

specifically the study of perceiver's experience and consciousness.¹³ Therefore, phenomenological philosophy endorses the method for fieldwork, which is the phenomenological approach/method.

Secondly, by explaining the development of phenomenological philosophy, it also heavily influenced how I planned the fieldwork and post-fieldwork. For example, the debate regarding whether people could gain an objective and true knowledge has developed from Husserl's purely description of the experience to Gadamer's self-reflection of the experience.¹⁴ This changing idea in phenomenological philosophy also informed my fieldwork plan with both description and recognition of my own biases in the fieldwork. And I will explain this theoretical shifting in detail later in chapter One.

The theories used in the pre-fieldwork stage stay in the field of phenomenology with different theoretical debates. However, in the post-fieldwork stage, each theory that I have chosen works as rings on a chain, in order to link the two distinct fields, memorial landscape architecture and memory studies. In this stage, I mainly explored two theoretical chains to bridge design and memory, naming movements and natural elements.

When studying the movements in the memorial space, the theories were started with step design in the early garden design, which indicates the form and structure of the memorial space has generated the walking rhythm both in a single body and space. Following up with Henri Lefebvre's concept of *rhythm*, I critically discuss that the rhythmic walking in the Tsunami Memorial is not merely a repetition from a passive body in Lefebvre's view.¹⁵ Instead, I argued that the walking rhythm is a processual rhythm that is produced by an active body.

In order to move from the walking body to embodied memory, I introduced physiological psychology to further state the walking rhythm can constitute an unconscious bodily habit in one's mind.¹⁶ The theory of physiological psychology does help this theory chain reaching to the study of mind, but also showing an uniformed understanding of those habitual bodies. Therefore, I employ extended mind theory and neuro-cognitive science to study the working process of memory at a micro-level. Those two theories inspire me to view

¹³ A. S. Davidsen, 'Phenomenological Approaches in Psychology and Health Sciences', *Qualitative Research in Psychology* [online journal], no. 10, March 2013, p. 320,

<<https://www.tandfonline.com/doi/full/10.1080/14780887.2011.608466>>, accessed 4 June 2020.

¹⁴ Davidsen, 'Phenomenological Approaches in Psychology and Health Sciences', p. 324.

¹⁵ T. Edensor, 'Walking in rhythms: place, regulation, style and the flow of experience', *Visual Studies*, vol. 25, no. 1, 2010, p. 71.

¹⁶ R. Veder, *The Living Line: Modern Art and the Economy of Energy*, 1st edn, Dartmouth College Press, New Hampshire, 2015, p. 18.

one's embodied memory and the memorial as a coupled cognitive system.¹⁷ They also help me to further infer the argument that the personal memory in the memorial is continuously being made and remade through one's re-enaction with the memorial. The memories are processual.

Although the use of theory chains might give the impression that those theories are separate from each other, what brings them together is the various/changing empirical materials from memorial design to memory. Those theories are, in fact, interconnected and correspond with the empirical materials at each different stage.

In terms of another two theory chains in the post-fieldwork stage, I also take the same logic to incorporate different theories into the different stages of the analysis. In the analysis of walking rhythm between human flow and memorial space, I drew upon the concept of *flow* from Deleuze and Guattari to study the footprints in the Tsunami Memorial.¹⁸ As for studying the relationship between natural elements and memory, I used the theory of mood-congruent memory to analyse how memory works in a nature-based memorial.¹⁹

Yet, this does not mean that I agree or accept all the theories in order to make this theory chains work. From those two main theory chains, movements, and natural elements, the use of neuro-cognitive psychology has always played a crucial role in connecting the walking rhythm/emotion with the memory. However, as this research towards the end, this psychological approach also showed its limit in understanding human memory in a reductive way. It is a critic both for the theory and for the use of psychology as a method in analysing the memorial.

Method

Similar to the categories of the theory, the method of this paper is classified into three stages, known as pre-fieldwork, fieldwork and post-fieldwork. In contrast to the use of theories, the model of method for the fieldwork, also known as *Interpretative Phenomenological Analysis* (IPA) will be explained in detail in the fieldwork plan as a whole, not separately described in different chapters. Therefore, I will briefly introduce some of the key steps in this phenomenological approach, as well as the strength and limitation of this approach.

¹⁷ A. Clark and D. Chalmers, 'The Extended Mind', *Analysis*, vol. 58, no. 1, 1998, p. 16.

¹⁸ R. Shields, 'Flow as a New Paradigm', *Space and Culture*, vol. 1, no. 1, 1997, p. 4.

¹⁹ A. M. Isen, T. E. Shalcker, M. Clark, and L. Karp, 'Affect, accessibility of material in memory, and behavior: A cognitive loop?', *Journal of Personality and Social Psychology*, vol. 36, no. 1, 1978, p. 2.

As I have mentioned in the previous section, the methodology for conducting the fieldwork is a phenomenological approach, in which it focuses on studying the experience of the perceiver. In doing so, I have planned several ways to collect various forms of data in the Tsunami Memorial. In the pre-fieldwork stage, the method primarily deals with preparation, including reading the existing information about the Tsunami Memorial and drawing a map of this memorial to identify each path.

During the fieldwork in Stockholm, there are three types of data, including measurement data, image data and text data. By using a tape measure and note-taking, I collected some necessary length, width and height data of the Tsunami Memorial. Furthermore, I also used my own body as a tool to experience this space, combining with observation and reflection at the same time. Apart from that, I also draw several fieldwork sketches as a way to document my experience in the memorial. Later they become part of my empirical material for analysis.

As for the post-fieldwork stage, it starts with a description and reflection of the fieldwork. And then I connected external theories with empirical data from the fieldwork to analysing the memorial in a hermeneutic way. The last step in this analytical stage is to reflect my role and my biases in the fieldwork in order to critically point out the limitation of this method in the initial fieldwork plan.

The strength in using a phenomenological approach to conduct the fieldwork is that it allows me to acquire multiple forms of first-hand data of the Tsunami Memorial. This advantage of this methodology adds more layers to my later analysis, which is not merely staying the analysis of the visual side, but also expands to the natural sound and emotion.

Nevertheless, one of the limits of using this phenomenology approach is my personal biases would inevitably be involved in the fieldwork plan. This will be discussed in detail in chapter two. Another limitation comes from phenomenology itself. Its intrinsic nature is that all human knowledge and science are only subjected to a specific period. Gadamer points out that this intrinsic limit in understanding a phenomenon, which contains interpretation and perspectivism.²⁰ Furthermore, he refers this limitation into the field of science, suggesting that all science is historical and interpretive.²¹ It means that those scientific theories that I have used to support my arguments are also subjected to a specific period and from a particular perspective. It also implies that the biases that carried out by those scientific theories would also be a part of the biases of my research project.

²⁰ Davidsen, 'Phenomenological Approaches in Psychology and Health Sciences', p. 324.

²¹ Davidsen, p. 325.

Disposition of the thesis

The first chapter begins with an explanation of the concept of *affordance* and then follows with the reason for conducting fieldwork in the memorial. These two sections also explained why the *affordance* of the memorial could be applied to analyse the movements and the natural elements. This chapter also presents a brief historical overview of the development of phenomenology, which shapes the phenomenological method that I adopted in the fieldwork plan. Hence, chapter one is finished with a detailed fieldwork plan for the Tsunami Memorial.

The second chapter, *The way of moving - The commemorative landscape*, is focused on the analysis of the movement patterns that afford by the memorial space. This chapter examined two types of walking rhythms. One is between individual human body and the memorial; the other is between the human flow and space. Following the development of embodied memory from the movement pattern, this paper goes further to explore the cognitive process of how memory works between one's mind, body and the surrounding environment. Moving on to the rhythm of the memorial space, it analyses how collective memories could process in a given space and time by comparing it with the traffic flow in a city. This analysis also further infers my personal biases in planning the fieldwork.

In the third chapter, the discussion starts with how the natural elements in the Tsunami Memorial affects visitors' mood/emotion by looking into two different aspects. One is the aesthetic value of being exposed in the nature-based memorial; another one is the therapeutic potential from those natural elements, such as birdsongs. By building on the analysis of emotion, this paper continues to explore the working process of memory in a nature-based memorial. At the same time, it also pointed out the concern of homogeneous social memories. This concern also expose a limitation of using psychological theory to approach memory, which might produce a simplified understanding of human memory.

This research concludes with the statement that memory in the Tsunami Memorial is indeed a processual memory, in which its nature is the continuity of internalization and exchange. By moving away from a static point of analysing the memory, the research of this unique genre of memorial landscape architecture starts with using psychological theory as a tool to bridge the field of design and memory. Later on, it ends with taking this psychological approach with a pinch of salt as indicating its limitation on the memory studies.

Chapter 1: The pre-fieldwork

1.1 The concept of affordance

If I have to pinpoint a specific moment to show where the use of *affordance* is started, it would be the one simple question: How to imagine a place or space that could contain social memories? In particular, it is a space that functions as a memorial. It is a question that would often be faced by artist/designer at a very early design stage. In an interview that Statens konstråd (Public Art Agency Sweden) did with the artist Lea Porsager from 2017, Lea said that the very first question that she had in her mind when she was thinking about a memorial for the 2004 Tsunami was: ‘How can you translate that into something that can contain all this pain?’²²

Therefore, the importance of studying the relationship between *Design* and *Memory* is critical for the following two reasons. One is that the designer’s thought process on how to translate such pain into a designed space. The other one is that this designed space could fulfil individual memories and social memories. It is all about thinking a space which has not been built yet. That is why I want to use a psychological concept, *affordance*, to bridge those two fields (*design* and *memory*) and explore how a memorial space could affect memories?

The term, *affordance*, was introduced by American psychologist James J. Gibson in his 1979 book, *The Ecological Approach to Visual Perception*. In that book, Gibson defines the concept of *affordance* as following: ‘What the environment offers the animal, what it provides or furnishes, [...] something that refers to both environment and the animal in a way that no existing term does. It implies the complementarity of the animal and the environment.’²³

Initially, this term was used by Gibson to study the reciprocal relationship between the environment and animals, in terms of what the environment could afford animals.²⁴ However, in order to understand how the idea of *affordance* is related to the study of memorial landscape architecture, it is useful to revisit some of the ideas from the German psychologist Kurt Koffka. Koffka also inspires Gibson on his later development on *affordance*.

²² R. Estay, ‘Interview with winner Lea Porsager - Memorial for the victims of the Tsunami 2004’, *Statens konstråd/kopenhagen.dk* [website], 2017, < <http://kopenhagen.dk/magasin/magazine-single/article/lea-porsager-vinder-konkurrence-om-mindesmaerke-for-svenske-tsunami-ofre/>>, accessed 5 June 2020.

²³ J. J. Gibson, *The Ecological Approach to Visual Perception*, 1st edn, Houghton Mifflin Harcourt, Boston, 1979, p. 127; Manetti, and Casado da Rocha, ‘Landscape and Health’, p. 11.

²⁴ Manetti, and Casado da Rocha, ‘Landscape and Health’, p. 11.

From Koffka's 1935 book, *Principles of Gestalt Psychology*, he presents a vivid and relatable metaphor to describe a prescientific behaviour. This prescientific behaviour is written as: 'fruit says eat me; water says drink me; thunder says fear me [...] the things in our environment tell us what to do with them.'²⁵ Koffka names this prescientific behaviour as the *demand character* of things. Eating is an action that is afforded by fruit; drinking is an action that is afforded by water. Therefore, the term *affordance* means the possible perceptions and actions that are supported by the environment or things. In Gibson's view, the central research object of *affordance* is to understand the interactive relationship between agents' actions and their environments.²⁶

Gibson's way of describing *affordance* is still a quite broad model in relation to the ecosystem. Considering the main research object of this paper is memorial landscape architecture, it is necessary to narrow down the concept of *affordance* into Tsunami Memorial. Therefore, questions will be narrow down as: What is the nature of one's experience in the Tsunami memorial?; How to approach the *affordance* of the natural landscape in the memorial? In the field of environmental psychology, one dominating way to approach landscape (including natural landscape) is through visual perception, concerning the nature of aesthetic experience in the nature-based landscape.²⁷ This visual perception approach also brings the role of perceiver into the frontline in order to be analysed.²⁸ This is something that will be further discussed in the next section.

1.2 Why studying affordance should conduct fieldwork

The way to approach the natural landscape has not always focused on the role of the perceiver. The research of affordance has changed its direction from studying the features of natural landscape into studying the actions and behaviors of the perceivers. Moreover, this changing approach of affordance is also the main reason for me to conduct a fieldwork in the Tsunami Memorial. Traditionally, the way to approach the nature-based memorial could be a first-hand and detailed description of the memorial.²⁹ However, this idea later has been

²⁵ K. Koffka, *Gestalt Psychology*, Houghton Mifflin Harcourt, New York, 1935, p. 353.

²⁶ J. Greeno, 'Gibson's Affordances', *Psychological Review*, vol. 101, no. 2, 1994, p. 341.

²⁷ H. Heft, 'Affordances and the perception of landscape: An inquiry into environmental perception and aesthetics', in C. W. Thompson, P. Aspinall and S. Bell eds., *Innovative Approaches to Researching Landscape and Health: Open Space: People Space 2*, Routledge, UK, 2010, p. 9.

²⁸ Heft, 'Affordances and the perception of landscape', p. 9.i

²⁹ Heft, 'Affordances and the perception of landscape', p. 9.

challenged by a relational approach. This approach states that affordance of nature-based memorial is related to particular human skills or sociocultural practices.³⁰

In other words, studying the affordance of the Tsunami Memorial means studying the possibilities of perceptions and actions that are afforded by the memorial. Thus, the nature of studying affordance is to study the nature of perceiving.³¹ By adopting this relational perspective, it leads this research of affordance to consider the movements, activities that are generated in the memorial. When it comes to the aesthetic of this nature-based memorial, this approach also inspires me to engage with the memorial in the course of action.³² Therefore, it is crucial to conduct a fieldwork in the Tsunami memorial in order to grasp a perspective from the perceiver, including both the movements and the aesthetic experience. To briefly summarize, the affordance of the Tsunami memorial, as relational property, contains both material aspects of it and the movements in that space.³³

The theoretical debate of how to approach *affordance* also implies an inner-relationship between two main parts of this research project, knowing as pre-fieldwork and the analysis of fieldwork (fieldwork and post-fieldwork). In Part One, I present an overview of what is affordance and how to approach it in fieldwork. In the same part, it also states the importance of studying the movements, activities and aesthetics experience in the recent environmental psychology field. In response to this theoretical development, I focus on the analysis of the movements and aesthetics experiences in the Tsunami Memorial in the Part Two. The affordance and movement/aesthetic experience are like two sides of one coin, formulates a reciprocate relationship.

To explain this relationship a bit more in detail in regarding to the Tsunami Memorial and social memories, I incorporate some research literatures from the field of environmental psychology and neuro-cognitive psychology. It is a way to understand that how particular memorial landscape architecture is utilized and experienced by the perceivers. The first aspect of analysing the fieldwork is focused on the phenomenon of movements in order to explore how the rhythmic walking affects the personal memories and social memories. The second aspect of analysing the fieldwork is focused on the aesthetics experiences in this nature-based memorial, as well as its therapeutic potential. Moreover, it also goes on to explore how a nature-based memorial could function as a bodily psychotherapy, and affects one's embodied memories. In doing so, in the fieldwork analysis stage, theories and ideas from both neuro-cognitive psychology and environmental psychology is discussed in detail in the next two chapters, in order to build a bridge between *memorial landscape architecture* and *memory*

³⁰ Manetti, and Casado da Rocha, 'Landscape and Health', p. 11.

³¹ Heft, 'Affordances and the perception of landscape', p. 14.

³² Heft, 'Affordances and the perception of landscape', p. 26.

³³ Manetti, and Casado da Rocha, 'Landscape and Health', p. 12.

studies. Therefore, in the next section, I present a detailed theoretical and methodological foundation of the pre-fieldwork plan.

1.3. The phenomenological approach to the fieldwork

1.3.1 Phenomenology as philosophy and method

The phenomenological approach is a qualitative method that has a deep root in phenomenological philosophy. In Annette Sofie Davidsen's 2013 article, *Phenomenological Approaches in Psychology and Health Sciences*, she points out that the phenomenological method has a rich focus on the aspect of the experience. It is one of the reasons for choosing a phenomenological approach to study the Tsunami memorial. This method facilitates the current research direction in *affordance*, which is to study the experience from the perceiver.

In addition to this similarity on research direction between phenomenological method and affordance; another common ground could be found on the theoretical side between phenomenological philosophy and psychology. In Davidsen's article, she pointed out that phenomenological philosophy was firstly known as phenomenological psychology.³⁴ Phenomenological psychology is derived from the German psychologist Franz Brentano's 1874 work, *Psychology from an Empirical Standpoint*. Many of his ideas in that book are viewed as the sources of phenomenology. Later, Brentano's work is developed by Edmund Husserl, who establishes the school of phenomenology.³⁵ Due to this deep root of empirical psychology, phenomenology is concerned with the study of consciousness. For example, Husserl's work is primarily focused on how human consciousness formulates the phenomena in the world.³⁶ As for using the *affordance* to study the Tsunami memorial, it also emphasizes the consciousness of the perceiver. Therefore, choosing this phenomenological approach is due to this common foundation between phenomenology and affordance.

Considering phenomenological philosophy has a significant influence on the changing development of phenomenological approach, it is worth revisiting some of the key ideas from phenomenological philosophy. The way to conduct a phenomenological approach is changed from description to interpretation. It also reflects the changing discourse in phenomenological philosophy. In the early stage of phenomenological philosophy, it tends to focus on a detailed

³⁴ Davidsen, 'Phenomenological Approaches in Psychology and Health Sciences', p. 320.

³⁵ Davidsen, p. 319-320.

³⁶ Davidsen, p. 319-320.

description of the experience.³⁷ This notion of treating the experience as a source of knowledge has been explored in a great length by Edmund Husserl. Husserl tends to believe that the human experience and intuition could be a new way to understand the phenomena fundamentally, as it could reduce the preconceived knowledge from the past. The goal of Husserl's perspective on phenomenological philosophy is to reach a universal understanding of the essences of phenomena from a *God's eye view*.³⁸ Consequently, in the early stage of phenomenological approach, a detailed description could be considered a valid method. Therefore, I adapt this descriptive method into the fieldwork plan as a very first step to approach the Tsunami Memorial.

However, Husserl's idealistic idea of phenomenology is challenged by Heidegger and Merleau-Ponty, as the later one states that it is never entirely possible to diminish all the preconceptions and reach to the nature of the phenomena by just doing description.³⁹ Moreover, Heidegger attempts to reject Husserl's idea by introducing the issue of *time*. He suggests a hermeneutic way to approach phenomenological philosophy, which involves interpretation. Heidegger points out that human experiences are inevitably understood in a temporal context because of the era that we are situated.⁴⁰ Therefore, the description of the phenomena could never be fully objective and non-preconception as it always include the element of interpretation.⁴¹ This changing direction in phenomenological philosophy has a significant influence on the phenomenological method. For example, the method, Interpretative Phenomenological Analysis (IPA) is also the model of method that I adopt in my fieldwork plan. It is a form of analysis that similar to a form of *detective work* and always involves interpretation.⁴² I will explain how I adapt this IPA method with the fieldwork plan a bit more in detail in the next section.

Later on, Hans-Georg Gadamer develops Heidegger's notion of *time* through the discussion of prejudices and biases of interpretation. Gadamer claims that the past has a great impact on interpreting and understanding the phenomena.⁴³ The prejudices and biases that one have are often generated from a past view of the phenomena. It is the historical context that sets the limit in understanding the essence of things. Gadamer's main idea as Davidsen summarize it as: 'This understanding is both conditioned and limited by an always already linguistically and historically promoted understanding which we take for granted.'⁴⁴

³⁷ Davidsen, 'Phenomenological Approaches in Psychology and Health Sciences', p. 318.

³⁸ M. Merleau-Ponty, *Signs*, Northwestern University Press, Evanston, 1964; Davidsen, 'Phenomenological Approaches in Psychology and Health Sciences', p. 321.

³⁹ Davidsen, 'Phenomenological Approaches in Psychology and Health Sciences', p. 321.

⁴⁰ Davidsen, p. 323.

⁴¹ Davidsen, p. 323.

⁴² Davidsen, p. 329.

⁴³ Davidsen, p. 324.

⁴⁴ Davidsen, p. 324.

Therefore, a reflection of one's own role or biases is also included in the IPA method. And I adopt this analytical method as a final step for the fieldwork plan.

To briefly summarize the changing discourse in phenomenological philosophy, it starts with Husserl's idea that the reduction of one's natural attitude and preconception is a way to reach the essence of phenomena. However, this idea of freeing people from their presuppositions is rejected by Heidegger and Gadamer. They question the possibility of entirely diminishing one's preconception by identifying the significant influence from one's past knowledge in relation to the interpretations of the phenomena. Moreover, those interpretations are always historically contingent subjects, in which their biases are from history and culture. Biases are also a problem that I have encountered during the fieldwork, and this problem will be further discussed in the next chapter.

1.3.2 Fieldwork Plan

The model of method that I adapt for the fieldwork plan is Interpretative Phenomenological Analysis (IPA).⁴⁵ It is a hermeneutic approach to phenomena and requires interpretation from a personal perspective and a distance perspective. To explain it a bit more specifically, those perspectives could be from the artist's intention, an external research field and a reflection of the researcher's own biases and preconceptions. Moreover, the reason to use this analytical method is because of its *detective* quality, trying to explore the process of understanding a phenomenon and give it an explanation. This quality of IPA fits the Tsunami Memorial project since this project attempts to explain how this memorial space could be experienced from the perspective of psychology.

I also incorporate the original descriptive phenomenological method as a very first step in the fieldwork plan, which is a detailed description of my personal experience in the Tsunami Memorial. Moreover, the information that I grasped from describing the experience of the fieldwork could also be the base material for my later analysis with external theories. It is worth pointing out that the form of a detailed description expands into two distinctive forms, including written texts and hand-drawing sketches. The way to describe a phenomenon is developed from an original linguistically point of view to a visual documentation. The drawing process of those sketches also becomes a part of my experience in the fieldwork.

In short, the overall plan for the fieldwork could be articulated into four steps, following with the description, meaning re-collection, engaging with external theories and a reflection on my role. Besides these four steps, I also formulate a preliminary question for the fieldwork

⁴⁵ Davidsen, 'Phenomenological Approaches in Psychology and Health Sciences', p. 329.

in order to guide the whole process. Before conducting the fieldwork, the questions that I am interested in is what kind of memories and social identity could be constituted from the ever going circular walking that is afforded by the Tsunami Memorial. However, this fieldwork question has later on been exposed as my bias or preconception in planning the fieldwork. The bias that I had could not only appear in the interpretation/analysis part as Gadamer states in his theory, but also inherited in the very beginning of planning the fieldwork. Moreover, it is something that I take for granted, without noticing my framework of thinking could affect the research results methodologically. This meta-reflection from the fieldwork will be explained a bit more in the following chapter.

Chapter 2: The way of moving – Commemorative landscape

2.1 Fieldwork – A description of the Tsunami Memorial

2.1.1 Introducing the Tsunami Memorial

The main memorial landscape architecture that I focus on is named *Gravitational Ripples*, a memorial in Stockholm, Sweden. It is a memorial in a form of Land Art that is created by a Danish artist Lea Porsager in 2017. This memorial is created for an international competition named *Swedish Memorial for those affected by the Tsunami of 2004*.⁴⁶ The National Property Board (SFV) initiated this project in collaborating with the Public Art Agency Sweden and Royal Djurgården Administration (KDF).⁴⁷

The competition is officially started from August 2016, more than ten years after the 2004 Tsunami that happened in Southeast Asia.⁴⁸ The Indian Ocean Tsunami in 2004 is known as the largest natural disaster of modern time, and it takes a quarter of a million people's lives. Among those lost people, there are 543 Swedes. Therefore, the purpose of this competition is to create a memorial service in connection with the commemoration of Tsunami disaster.⁴⁹

According to the artist, Lea Porsager's notes on the process of creating this nature-based memorial, the concept of *Gravitational Ripple* is inspired by a cosmic phenomenon named *gravitational waves*. These waves arise when two celestial bodies orbit each other. At the same time, it releases powerful energy that could affect the time and space, and creates ripples in space-time.⁵⁰ Lea Porsager uses the shape of this phenomenon, a double spiral waves, as a foundational source of the structure of the Tsunami Memorial, and integrates this design model carefully into the existing landscape. The reason for this design plan is that Porsager wants to situate visitors' own experiences into a broader context, the cosmos, in order to

⁴⁶ L. Porsager, 'The nature of Gravitational Ripples — artist's notes on the process' in N. Faria et al. eds., *Caress. A Candid Approach*, 1st edn, Department of Culture and Aesthetics at Stockholm University, Stockholm, 2018, p. 42.

⁴⁷ Porsager, *Caress. A Candid Approach*, p. 42.

⁴⁸ Statens konstråd, *COMPETITION PROGRAM Tsunami of 2004 memorial* [webpage], 22 August, 2016, <<https://www.arkitekt.se/app/uploads/2016/01/Competition-program-Memorial.pdf>>, accessed 5 June 2020, p. 9.

⁴⁹ L. Porsager, 'About Gravitational Ripples', *Statens konstråd* [website],

<<https://statenskonstrad.se/konst/gravitational-ripples/>>, accessed 5 June 2020.

⁵⁰ Porsager, 'About Gravitational Ripples', *Statens konstråd* [website]; Porsager, *Caress. A Candid Approach*, p. 39.

provide a potential healing ability from this memorial.⁵¹ In an interview, the artist said that: ‘ the aspects of life and death in this cosmic phenomenon, somehow, has its healing potential.’⁵²

In my view, the artist wants to make the idea of interconnectedness and complementarity speaks to visitors who are suffered from the aftermath of this natural disaster. And the idea of everything is intertwined with each other could give a room for them to slowly digest the sadness, loneliness and the lack of togetherness.⁵³

Meanwhile, physicist Rainer Weiss made another point regarding the similarity between the cosmic phenomenon and the 2004 Tsunami disaster. After he visited the site of *Gravitational Ripples* in Stockholm, he noted that:

The sculpture reminds us of two dramatic events in nature. Both are the result of the release of an enormous amount of energy. [...] The first generated a tsunami with heights as large as 30 meters. The other came from the collision of two black holes, each weighing about 30 times the mass of our sun.⁵⁴

Weiss’s reflection of this memorial is focused on the causes of these two enormous amounts of energy, one is caused by an earthquake, and another one is caused by a quake in the space. Furthermore, Weiss concluded with the statement that these sculptures are an embodiment of our fragility and our curiosity of the universe.⁵⁵ This could also be seen as an echo with the idea of interconnectedness from Porsager.

Although they both started out from different aspect of the memorial, they ended up coming to reach a similar position, which is linking the cosmic phenomenon with the pain of those lost lives and positioning visitors’ own experience into a much bigger context. The purpose of creating this memorial is to provide a healing space for the general public. Nevertheless, much attention has been paid on the conceptual level of the memorial; not much attention has been paid on the present experience in encountering with this designed space. Therefore, in this paper, I aim to explore how one's body is moved and felt in this nature-

⁵¹ Porsager, ‘About Gravitational Ripples’, *Statens konstråd* [website]; Porsager, *Caress. A Candid Approach*, p. 39.

⁵² Estay, ‘Interview with winner Lea Porsager - Memorial for the victims of the Tsunami 2004’, *Statens konstråd/kopenhagen.dk* [website].

⁵³ Porsager, *Caress. A Candid Approach*, p. 39; TT, ‘So does the memorial honoring the victims of the tsunami’, *Svenska Dagbladet*, Art, 3 April 2017, <<https://www.svd.se/gravitational-waves-blir-tsunamimonument>>, accessed 5 June 2020.

⁵⁴ L. Porsager, ‘A small note from physicist Rainer Weiss’, *Public Art Agency Sweden* [website], June 2019, <<https://publicartagencySweden.com/konst/gravitational-ripples/lea-porsager-on-the-artistic-process-of-gravitational-ripples/>>, accessed 5 June 2020.

⁵⁵ Porsager, ‘A small note from physicist Rainer Weiss’, *Public Art Agency Sweden* [website].

based memorial space. In doing so, a descriptive analysis and a reflection of my fieldwork of Day One is presented in the following section.

2.1.2 Fieldwork day One – The changing viewpoint



Fig. 1: *Gravitational Ripples*, Memorial for those affected by the 2004 tsunami, by Lea Porsager. Photo by Ricard Estay.

February 26, 2020, was the day that I came to conduct the first-day fieldwork of *Gravitational Ripples* in Stockholm (**Fig. 1**). The memorial is situated on the very end of an island, named Djurgården. As I got off the bus at around 11 am, there were only two cars parked in the parking lot and two older adults walking inside this memorial. It is a remote area during the wintertime, the weather on that day was super windy. It made this place much colder for people who came to this memorial park.

The Tsunami Memorial can be seen as a round-shaped Land Art that is placed at the edge of Djurgården island. Lea Porsager carefully integrates these double spiral earthen walls into the surrounding environment.⁵⁶ The memorial is surrounded by four different kinds of environments, which include a lake, a forest, a small hill and the side road. From my earlier

⁵⁶ Porsager, 'About Gravitational Ripples', *Statens konstråd* [website].

observation through the bus stop, the double spiral earthen walls have been cut into several parts/pieces in order to make room for the existing tree, hill and parking lot.⁵⁷ Moreover, two shortcuts have been made for visitors to access the memorial from the parking lot and bus stop more quickly.

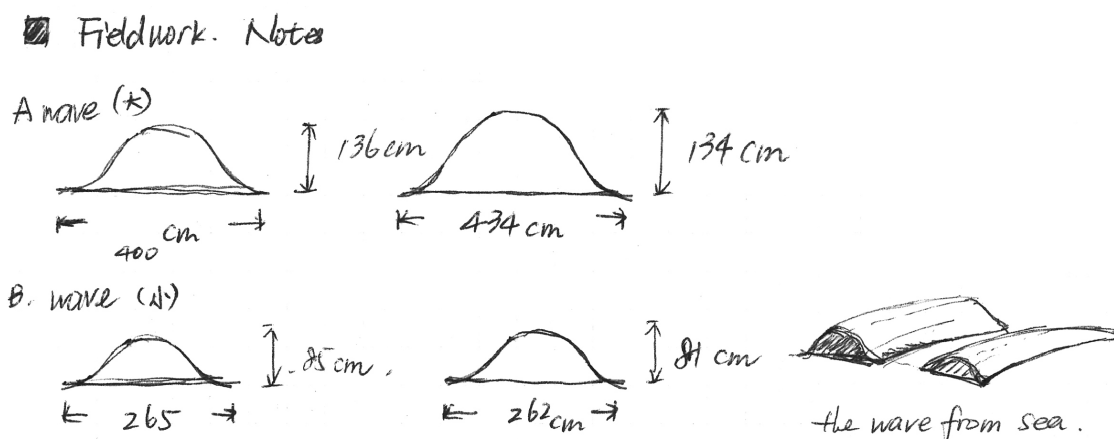


Fig. 2: Double spiral earthen walls, fieldwork sketch, by author.

I walked into the memorial space from one shortcut that near the bus stop. The first thing that I noticed is the differences between those semicircular cut surfaces from earthen wall A and earthen wall B (**Fig. 2**). The cut surfaces of earthen wall A are broader and taller than the other, with roughly 420-centimetre width and 135-centimetre height. By contrast, the average size of earthen wall B is around 265-centimetre width and 85-centimetre height. This measurement data later helped me to explain why I had experienced different viewpoints through the whole walking journey in this space.

Besides the size matter, another thing that needs to mention is the materiality of those earthen walls. The double spiral walls are primarily made by soil, and covered entirely by grass and tiny flowers. The artist believes that it is crucial to add biodiversity into this Land Art by adding different layers on those earthen walls each year. Because one of the purposes of this memorial is to make it grow up within times, said by Lea Porsager in her notes.⁵⁸

⁵⁷ Porsager, *Caress. A Candid Approach*, p. 41.

⁵⁸ Porsager, p. 41.

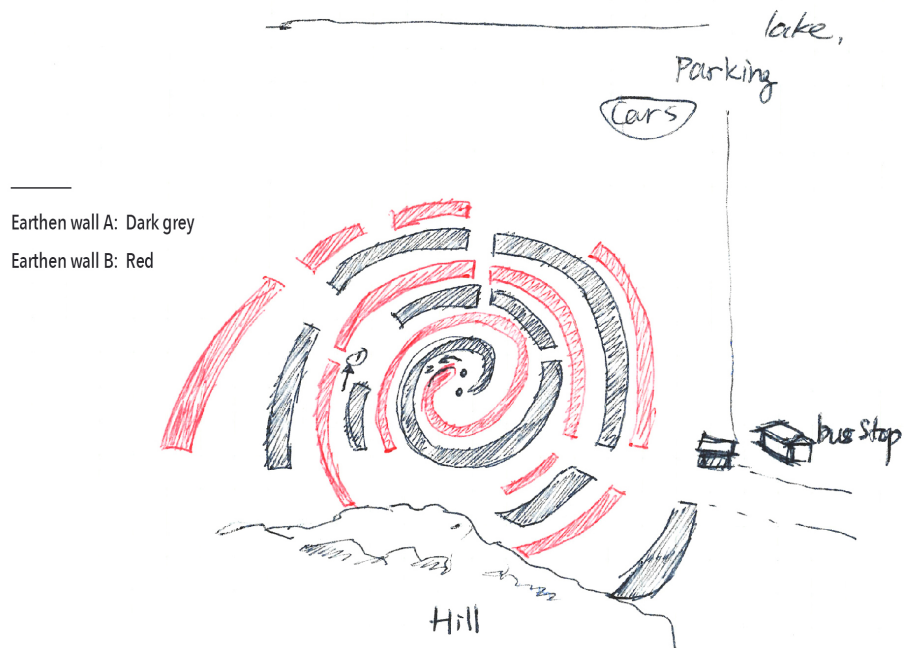
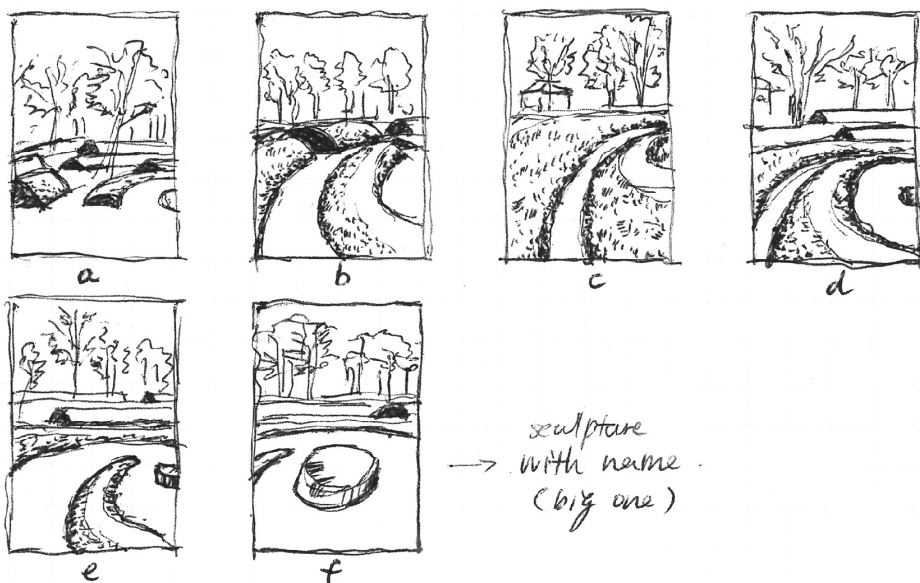


Fig. 3: *The choreography of the memorial*, fieldwork sketch, by author.

After I passed the shortcut, the task for me is to choose the right direction. From my previous drawing experience⁵⁹ on the choreography of this space, this memorial is composed with two walks (**Fig. 3**). One is to walk clockwise along the earthen wall, and it could lead the visitors into the centre; the other is to walk counterclockwise along the earthen wall, which could lead the opposite way.

⁵⁹ This map sketch of the Tsunami memorial was drawn before I visited it as preparation.

1.1. as you walking into the centre. of this memorial



1.2. as you walking out of this memorial.

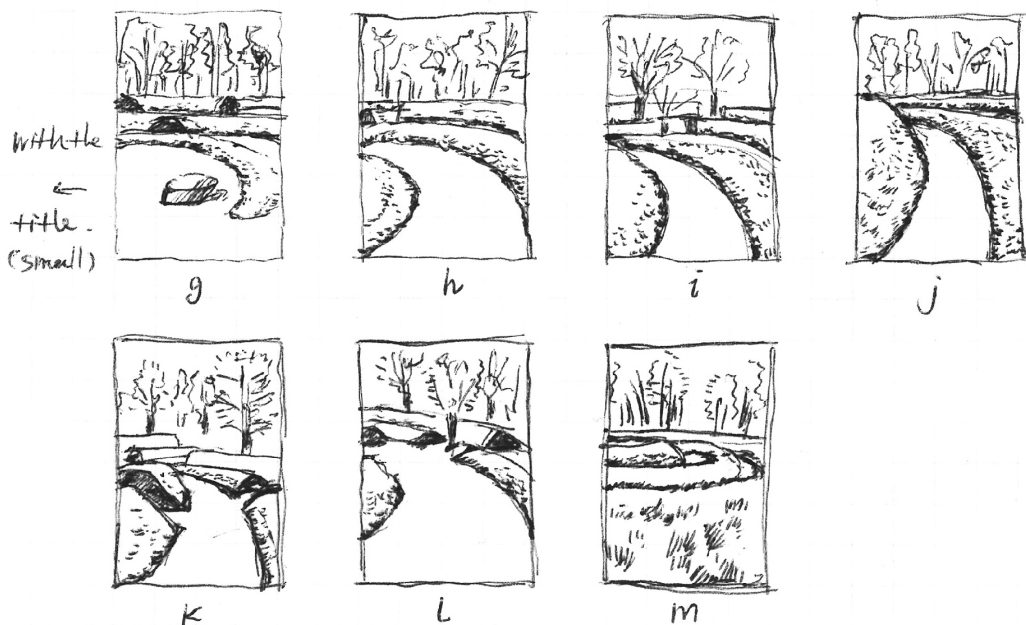


Fig. 4: The changing viewpoint, fieldwork sketch, by author.

The first walk draws me from a relatively wider path into a narrow path gradually. Initially, the earthen walls around me were untouchable because the width of the path is around 200-centimetre in most cases, which could contain one or two persons walking at the same time. In this part of the path, the memorial gave me quite a lot of space to move around

during the walk, and the parallel horizontal line of the trees was quite low, see sketch (a) and (b) in **fig.4**.

As I moved forward towards the centre of the memorial, the width of the path gradually turned into a narrow space or a half tunnel space. The narrowest path is roughly about 30-centimetre compared to the broadest path that could up to 500-centimetre. By entering this half tunnel-like space, a part of my front view was blocked by the higher earthen wall, and the horizontal line was moved up a bit. Apart from the change of viewpoint, the invisible space became to allow only one person to pass this path each time. It gave me a profound sense of *no exit*, which could be read as an invisible force to keep pushing me going forward. It is a moment where the feeling of being enclosed by the Land Art became intensive as you could see in sketch (c) and (d) in **fig. 4**.

From this point, I continued walking along the path and entered the centre of this memorial. At the same time, the space between the two earthen walls has become much wider than before. In the middle of the memorial, two oval bronze sculptures symbolised the two orbiting celestial bodies/black holes from a cosmic phenomenon named *gravitational waves*.⁶⁰ One sculpture contains the name of Swedes who died in the Tsunami disaster and the other contains the name of this memorial, *Gravitational Ripples*.⁶¹

The second walk was going counterclockwise along the earthen wall, and it could lead me out of the memorial. I chose a different path this time and the average width of the path could contain two or three people, which made the whole walking experience quite relaxing. Apart from enough space that I had during the second walk, I was also the only person in this memorial. I began to notice that the choreography in this memorial has been designed in a circular way, which means once I began to walk along the earthen wall, the only direction for me seemed to be moving forward.

The designed circular path has the ability to train my body to walk circularly. To some extent, I felt a deep sense of disorientation in which the walking experience could become a mindless practice. I closed my eyes for a while when I was walking towards the forest side, and I was still on the right track after I opened my eyes. The reason for that is when there was only one direction for me to choose, somehow, space has taken away a part of the autonomy of my body. At the same, my body has been trained in a situation where keep moving forward is a situated normativity.⁶²

⁶⁰ The artist adopted the overall structure from gravitational waves and placing it in this memorial space. There is a video link of the gravitational waves shows its structure. <https://www.youtube.com/watch?v=zLAmFOH-FTM&feature=emb_title>. accessed 5 June 2020.

⁶¹ Porsager, 'About Gravitational Ripples', *Statens konstråd* [website].

⁶² E. Rietveld, and J. Kiverstein, 'A Rich Landscape of Affordances', *Ecological Psychology* [online journal], vol. 26, no. 4, October 2014, p. 332, 335.

From sketch (i), (j), (k) and (l) in **fig. 4**, the front views of each path are roughly the same even from different parts of the memorial. Those images capture the illusory sense of orientation in moving towards the edge of the memorial, echoing with the sense of disorientation in the Indian ocean in 2004. Here, the sense of movement was perceived as a mystical force that was formed by the double spiral waves. As I remembered in the artist's note, this designed memorial space aims to respond to not only the aftermath of the Tsunami disaster itself, but also to those who lost their loved ones in this event.⁶³

Lea Porsager integrates the idea from a cosmic phenomenon into the landscape, and creates a unique way in which walking could connect visitors with this natural tragedy.⁶⁴ Walking becomes a central commemorative practice, and thus one's body becomes an individual agency.⁶⁵

2.2 Fieldwork – Meaning re-collection

After finishing the fieldwork, it is worth for me to re-think about the Tsunami Memorial from its creator's perspective. By re-visiting the interview about Lea Porsager, I found a central idea that the artist holds is *time*. There are two questions that were said by Porsager in that interview:

How can you translate a memorial into something that can contain all this pain?
Where do you go when you experience something like this [the aftermath of the 2004 Tsunami disaster]?⁶⁶

It is a task that requires engaging with the loss and absence and offering potential healing capacity. The idea of *time* in the memorial could unfold into two aspects, one is a conceptual level of *time*, the other one is that *time* could be experienced within the memorial.

From my understanding, a memorial that grows with time could be read as an extension of the lost lives. That is also a way to show this Land Art could go through time similar to the *gravitational wave*. This sense of continuing to *grow* might serve a capacity to potentially heal those people who lost their loved ones in that natural disaster. This Tsunami Memorial is

<<https://www.tandfonline.com/doi/full/10.1080/10407413.2014.958035>>, accessed 5 June 2020; Manetti, and Casado da Rocha, 'Landscape and Health', p. 11.

⁶³ Porsager, *Caress. A Candid Approach*, p. 40.

⁶⁴ Rosenberg, 'The Geography of Memory: Walking as Remembrance', p. 55.

⁶⁵ Rosenberg, 'The Geography of Memory: Walking as Remembrance', p. 57.

⁶⁶ Estay, 'Interview with winner Lea Porsager - Memorial for the victims of the Tsunami 2004', *Statens konstråd/kopenhagen.dk* [website].

covered by layers of grass and flowers, symbolizing the lifetime of those lost lives are not just stopped by the tragedy, but re-started through another form of life.

In short, the ability of healing from this memorial is crucial for those visitors who have been directly touched by the 2004 Tsunami. They could be the one that has been survived from it; the one that has lost loved ones from it. In this paper, I am not going to explore how these groups of people (the first generation) experience the memorial space since I do not have direct access to this tragedy. Instead, I am going to explore how the second generation experience this memorial space, especially those who have not have been directly affected by the tragedy.

For the first generation, this memorial could be a place that connects the lost lives with their relatives and friends. As for the second generation, it is also a place that reflects people's past impression or memories of that tragedy. For example, my impression of the 2004 Tsunami was an opening scene from a tsunami-related TV series, in which it depicts a teenager struggling in the undulating waves. During my first-day fieldwork, that image about the ocean wave heats my brain when I saw those cross-section of earthen walls. Thus, the memory that I had about the Tsunami disaster has re-framed my experience in the Tsunami memorial. As Owain Jones noted, and I quote here: 'memory is not just a retrieval of the past from the past, it is always a fresh, new creation where memories are retrieved into the conscious realm and something new is created in that context.'⁶⁷

For those second generation who have not been directly touched by the 2004 Tsunami, which is a historical tragedy that I could not access through my memory reserves, the Tsunami memorial served as a bridge to an inaccessible past for them to understand the past through their present experience. For the second generation, memories are grounded in the present in which the meanings of experiencing this memorial are made and remade through the time.⁶⁸ This is another aspect of the notion of *time* in a sense that the memorial was also subjected to the second generation. Compared with the previous two aspects of *time*, in which the idea of experiencing *time* is within the memorial itself.

Therefore, I will explore a bit more in-depth on the relationship between bodily movement and memory regarding the second generation in the following sections.

⁶⁷ O. Jones, "“Endlessly revisited and forever gone”: on memory, reverie and emotional imagination in doing children's geographies", *Children's Geographies*, vol. 1, 2003, p. 27.

⁶⁸ Rosenberg, 'The Geography of Memory: Walking as Remembrance', p. 60.

2.3 Analysing Day One's fieldwork

2.3.1 Step design in the garden

For the second generation who have not been touched by the Tsunami disaster, their memories of this historical event were partly evoked and mediated by encountering with this memorial space. In the Tsunami Memorial, the bodily movement that is afforded by the space is the act of walking, precisely, *circular walking*. Therefore, the commemorative practice or the ritual of mourning here becomes a visual and kinetic phenomenon, in which the sense of remembrance is integrated by the way moving.

This commemorative practice in the Tsunami Memorial is largely channeled by the design of the memorial in which its form has transformed into a park-like or a garden-like space. As Elissa Rosenberg points out in the very beginning of her essay, '[...] the design of the memorial has shifted from the making of objects to the making of place.'⁶⁹ Rosenberg appears to believe that this changing discourse in memorial design also reflects the longstanding relationship between memorial and garden.⁷⁰ This idea is also defended by the French philosopher Sébastien Marot in the book, *Sub-Urbanism and the Art of Memory*. Marot states that the garden has functioned as a cultural memory theatre through its underlying narrative ever since ancient times.⁷¹

Therefore, it is worth re-visiting Robin Veder's essay, *Garden Walks: Physical Mobility and Social Identity at Dumbarton Oaks*. In that essay, Veder takes the act of walking as the central study subject, unfolding the reciprocal relationship between the garden design/landscape architecture and social-cultural identity.

A central idea that Veder holds is that the walking body in a garden is primarily a historical and contingent subject.⁷² The author identifies that designed space such as garden/landscape architecture is functioning as a neuromuscular program in order to train bodies into habitual movement patterns.⁷³ In her essay, Veder goes on with a detailed analysis of how the stairs in the Dumbarton Oaks Garden have been designed to form a specific body-inflected aesthetics of the walking people. She explains as I quote: '[Those

⁶⁹ Rosenberg, 'The Geography of Memory: Walking as Remembrance', p. 54.

⁷⁰ Rosenberg, p. 54.

⁷¹ S. Marot, *Sub-Urbanism and the Art of Memory*, Architectural Association, London, 2003; Rosenberg, 'The Geography of Memory: Walking as Remembrance', p. 54.

⁷² R. Veder, 'Garden Walks: Physical Mobility and Social Identity at Dumbarton Oaks', in S. Schrank and D. Ekici eds., *Healing Spaces, Modern Architecture, and the Body*, 1st edn, Routledge, London, 2016, p. 122.

⁷³ Veder, *Healing Spaces, Modern Architecture, and the Body*, p. 134.

stairs were intentionally designed to] direct the length of the walker's stride and facilitate a pattern of initiating movement with the same foot. [...] Most of the stairs at Dumbarton Oaks have 6-inch (15cm) risers and 15-inch (38cm) treads.'⁷⁴ Rules for step design are played a significant role in setting the walking rhythm of walkers since they are likely taking one stepping stone at a time.

Through the analysis of stairs, Veder goes on to point out that there is a number of researches regarding stairs, steps and ramps that have been published by the journal, *Landscape Architecture* during the 1910s and 1920s. An argument that those writers hold is that most people prefer ramps over stairs.⁷⁵ Among other writers, an insightful and inspiring explanation for ramp-preference is offered by Frederick Law Olmsted Jr., who states that 'ramps do not assume or enforce a uniform stride.'⁷⁶ As in the case of the Tsunami Memorial, the paths are designed as ramps with one side of the terrain slightly higher than another. In result, my walking stride was relatively flexible during the fieldwork.

There is no such an enforced and uniform stride that is placed in the Tsunami Memorial, the invisible force in that space comes from the circular choreography of the paths. In this case, my repeated and routinely engagement with the memorial is a linear cyclical movement pattern. Furthermore, such movement pattern of a walking body could eventually formulate a specific walking rhythm, which will be discussed further in detail in the next section.

2.3.2 Rhythmic walking - One's own body

During the first day of fieldwork, as I presented in my sketches before, the double spiral earthen walls are the main features of this memorial space. It affords a specific walking style. The movement pattern that I have is walking in a round way with one single direction. The walking body is guided by a particular route, performing a repeated walking style along with the footpath. In this way, the repetition of the walking pattern produces a situated rhythm in the memorial.⁷⁷

The field of *rhythm* has been famously studied by the French philosopher and sociologist Henri Lefebvre. Lefebvre defined the term, *rhythm* as a temporal movement that interacts with the place and time.⁷⁸ What he means by that is the walking rhythm in the Tsunami

⁷⁴ Veder, *Healing Spaces, Modern Architecture, and the Body*, p. 126.

⁷⁵ Veder, p. 127.

⁷⁶ Veder, p. 127.

⁷⁷ Edensor, 'Walking in rhythm', p. 70.

⁷⁸ Edensor, 'Walking in rhythm', p. 69.

Memorial is conditioned by its material affordance. The memorial space encourage bodies to perform a particular procedure at each given time and place.⁷⁹

Lefebvre's work on rhythm provides a set of approaches to understand rhythms that have been produced in everyday life. Rather than sense those rhythms as something that people take for granted, he claims to understand rhythms as a type of knowledge by proposing a method called *rhythm analysis*.⁸⁰ In undertaking such methodology, Lefebvre goes on to state that the body is a critical tool in understanding the rhythms. He believes that the rhythms exist within the body. It affiliates with the idea of embodiment.⁸¹

Taking inspiration from Lefebvre, the walking rhythms in the memorial space could be divided into two types. One is the *personal walking rhythm* in which it focuses on the relationship between one single walking body and the given space. Another one is the *spatial rhythm* that is derived from the constant interaction between human flow and the memorial space. The *spatial rhythm* will be explained a bit more in detail in the later section.

In order to understand the personal walking rhythm in the Tsunami Memorial, it is useful to acknowledge a central debate of whether the rhythmic body is a passive body or an active body. The notion of *Dressage* is introduced by Lefebvre, which is a concept that affiliates with the idea of passive body. He uses this term to describe a situation where the body is being trained to perform a particular rhythm, producing an automatism of repetitions.⁸² In addition, Robin Veder also concludes in her essay, *Garden Walks*, with a similar statement, in which the garden/landscape architecture is a sophisticated site for disciplining bodies into habitual walking patterns.⁸³ Therefore, through Lefebvre and Veder's perspective, the personal walking rhythm in the Tsunami memorial is mainly produced and controlled by memorial's physical features. Hence, the movement pattern is understood as a programmed and repetitive walking.

However, Hallam and Ingold argue that the walking body has its autonomy to adapt to urban space, which subverts Lefebvre's idea of repetitive in walking. They tend to view each step of walking as a part of a fluid dance rather than a repetitiveness of sameness.⁸⁴ Taking inspiration from their perspective, the personal walking rhythm in the Tsunami Memorial is not merely from a passive body that is trained by the surrounding space. Instead, the personal walking rhythm is co-produced by an active body and the memorial space. Yet, because the body and its outside space could overlap with each other, the walking body, hence, could

⁷⁹ Edensor, 'Walking in rhythm', p. 70.

⁸⁰ *What is rhythm analysis?* by Dr Dawn Lyon [video], YouTube 'NCRMUK', 31 March 2015,

<<https://www.youtube.com/watch?v=dZC0ra-HE&t=990s>>, accessed 5 June 2020.

⁸¹ *What is rhythm analysis?* by Dr Dawn Lyon [video], YouTube 'NCRMUK'.

⁸² Edensor, 'Walking in rhythm', p. 71.

⁸³ Veder, *Healing Spaces, Modern Architecture, and the Body*, p. 134.

⁸⁴ Edensor, 'Walking in rhythm', p. 72.

continuously adapt to the materiality, in order to produce a form of *processual rhythm* in the Tsunami Memorial.

2.3.3 *Physiological aesthetics - Consciousness in body movement*

In the previous section, I have explored the theoretical debate of the walking rhythm, and analysed how one's body could move in the memorial space. Furthermore, it raises the question, how does such movement affect one's psychological aesthetics and emotional feelings? Therefore, in this section, I want to push the question a bit further by seeking the relationship between external stimulus, consciousness and body movement.⁸⁵

One way to answer this question is by taking a look at *physiological aesthetics*, which is a theory that emerged from the field of physiological psychology. The study of physiological aesthetics offers another context in understanding the rhythmic action through the physical processes of sensation and perception. This set of study was first formulated by German experimental physiological psychologists and philosophers in the 1870s.⁸⁶

One of the big questions in the field of physiological psychology is 'How is one's external movement in relation to the internal consciousness?' This is the mind and body problem. The detained lab test procedure of physiological responses such as muscle action will not be discussed here in the paper, as I do not have the equivalent experimental condition to conduct this scientific experiment. However, what is valuable from this field of study is that those repeated muscle actions would become an unconscious bodily habit, and eventually shape the body culture.⁸⁷

To further explore the idea of shaped body culture, it is useful to revisit the essay, *Garden Walks*. What Robin Veder was trying to cover in her 2015 book, *The Living Line*, as well as that essay, are essentially the same statement. She claims that the body-movement habits such as walking are learned and specific to time, place, and culture. In addition, those categorized movements styles could further become the marker of social identities.⁸⁸

French sociologist Marcel Mauss firstly defended the idea of socially constructed *embodied identity* in 1934.⁸⁹ And later, anthropologist Pierre Bourdieu built upon Mauss' idea to further identify that those movement patterns and gestures were formed as *rituals* for

⁸⁵ Veder, *The Living Line*, p. 17.

⁸⁶ Veder, p. 16.

⁸⁷ Veder, p. 18.

⁸⁸ Veder, *Healing Spaces, Modern Architecture, and the Body*, p. 129.

⁸⁹ Veder, *The Living Line*, p. 26.

people to participate.⁹⁰ In short, those body-movement habits are embodied *cultural capital*.⁹¹ By taking inspiration from the idea of embodied social identities, it asks the question of whether the mourning body with a habitual movement pattern could be a socially constructed subject. This idea also assumes that the Tsunami Memorial has the potential to collectively transform an embodied walking habit into a collective social identity.

This uniform logic of thinking from embodied walking habits to collective social identities, seems to be an unbreakable statement. Yet, what I find missing here is the lack of acknowledgement among each individual body as a unique agency in this embodied experience. Each mourning body is ideally grouped as a universal subject. In addition, American pragmatist philosopher Richard Shusterman has criticised Bourdieu's notion of a socially constructed body by pointing out the gap between embodied experience and social identity is the neglect of the individual agency.⁹² In doing so, I will build my argument upon the idea of *extended mind* to unfold how the body and mind relate in the memorial space.

2.3.4 *The extended memory*

In the notion of memory, Thomas Fuchs makes a statement about memory in his essay, *The phenomenology of body memory*, in which he claims that memory is not merely from a recollection of the past but also embedded in one's present behavior and experience. The habitual movement from the body influences those implicit memories.⁹³ The term, *memory*, in Fuchs' sense, is coupled with the *biological memory* and the *embodied present memory*. Therefore, the second generation's memory about the 2004 Tsunami disaster, partially are influenced by their experience in the Tsunami Memorial. In this case, to unmask this body (habitual movement) and mind (memory) problem, it is worth borrowing some of the ideas from a field which is known as the philosophy of mind.

The idea of *extended mind / extended cognition* is one of the perspectives in the philosophy of mind. This idea is primarily championed by Andy Clark and David Chalmers in their co-written essay, *The Extended Mind*. Arguably, one's habitual movement is not just a response to the environment, but also could generate a particular thinking process.⁹⁴ In that

⁹⁰ Veder, *The Living Line*, p. 27.

⁹¹ Veder, *The Living Line*, p. 27.

⁹² Veder, *The Living Line*, p. 27.

⁹³ T. Fuchs, 'The phenomenology of body memory', in S. C. Koch et al. eds., *Body Memory, Metaphor and Movement*, John Benjamins Publishing Company, Amsterdam, 2012, p. 9.

⁹⁴ Edensor, 'Walking in rhythm', p. 72.

essay, the central thesis goes a step further. It asks a question: if the mind can extend to the body, can it extend further into the environment.⁹⁵

In the work of Andy Clark and David Chalmers, they proposed an example, Inga and Otto, arguing that the cognitive process could be partly constituted within the environment. Both Inga and Otto plan to see an exhibition at the Museum of Modern Art, separately. Inga recalls the address of the museum by using her biological memory, in which it tells her this museum is located on 53rd Street.⁹⁶ However, Otto has Alzheimer's disease, and he carries a notebook with him every day as an information container. Otto finds the same correct address of the Museum of Modern Art by consulting his notebook.⁹⁷

In the case of Inga, the cognitive process is mainly produced within Inga's biological memory. As for Otto, his consciousness about where he could find the address of MoMA is embedded in his notebook. Otto and his notebook constitute a coupled system, in which this system determines his cognitive process.⁹⁸ It does not mean that Otto's notebook itself is mental. Instead, it means that this notebook could only become the extended mind when it is coupled with Otto's brain.

With this example in mind, it raises a question to consider how the cognitive process is constituted in the Tsunami Memorial. The memorial space itself cannot be cognitive on its own. It is not the double spiral earthen walls and brass sculptures that constitute visitors' memories of that tragedy. Instead, each visitor's memory is constituted by a coupled system that exists between their movement and the memorial.

To further understand the idea of the coupled system, it is worth visiting an explanation of embodied cognition from the neuroscientist Karl Friston. Friston tends to believe that the brain is not a merely passive filter, receiving all the outside information within a coupled cognitive system.⁹⁹ Instead, he states that the brain is actively going out and sampling the input by using the body. Beyond this, Friston goes further to claim that everything is in the coupling of the body and its surrounding environment.¹⁰⁰ The exchange of the information between one's internal state and external state is formed as an actual perceptual circle. The brain is not just a bank to store all the information from the outside environment. The brain

⁹⁵ Clark and Chalmers, 'The Extended Mind', p. 7.

⁹⁶ Clark and Chalmers, 'The Extended Mind', pp. 12-13.

⁹⁷ Clark and Chalmers, pp. 12-13.

⁹⁸ Clark and Chalmers, p. 16.

⁹⁹ *Embodied Cognition Karl Friston* [video], YouTube 'Serious Science', 1 June 2018, <<https://www.youtube.com/watch?v=HW0JnjgCO3o>>, accessed 5 June 2020.

¹⁰⁰ *Embodied Cognition Karl Friston* [video], YouTube 'Serious Science'.

can also recycle those outside pieces of information as inputs to improve cognitive activity.¹⁰¹ There is an ongoing dialogue between the brain and the outside environment.¹⁰²

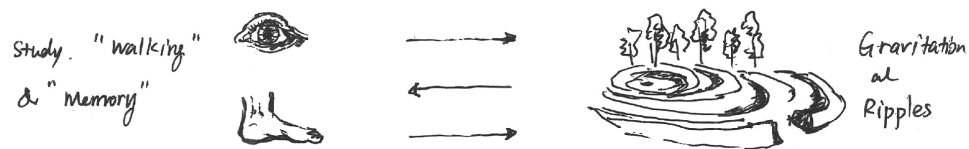


Fig. 5: *The coupled cognitive system*, research sketch, by author.

Friston also points out that this notion of embodied cognition is largely inherited from scholar like psychologist James Gibson, who claims that the way people perceive things is only in the service of how they can act upon them. In this coupled cognitive system, the sensation goes in one direction, and the action goes in another direction (**Fig. 5**). Friston claims that this circular structure, mathematically, can be turned around.¹⁰³ It means when the environment is acting upon you, at the same time, you are acting upon the environment as well.

This mathematical model raises the attention to consider how one's memory is structured in the Tsunami Memorial. What kind of memory that is afforded by the memorial is actually depending on one's action of the memorial space. The memory that is influenced by the memorial is generated through one's perception of this memorial space. In this case, part of the action is constant of the processual rhythmic walking, which is an argument in the previous section. As for the memory, Fuchs also identifies a similar circular system regarding implicit memory and I quote, '[...] implicit memory does not represent the past, but re-enacts it through the body's present performance.'¹⁰⁴

The Tsunami memorial is not just a container that provides memory for visitors. Moreover, those visitors are not merely a passive body to filter the *existed* memory. In my opinion, memory is functioning as a circular flow, which could constantly be made and remade through the coupled cognitive system between one's movement and the memorial. In short, the personal memory in the Tsunami Memorial is a form of *processual memory*, in which it is constantly altered and re-formed from the present experience.

¹⁰¹ Clark and Chalmers, 'The Extended Mind', p. 16.

¹⁰² *Embodied Cognition Karl Friston* [video], YouTube 'Serious Science'.

¹⁰³ *Embodied Cognition Karl Friston* [video], YouTube 'Serious Science'.

¹⁰⁴ Fuchs, *Body Memory, Metaphor and Movement*, p. 11.

2.3.5 Conclusion for the section

This section begins with Robin Veder's historical point of view on how the designed garden/landscape architecture could train the walking bodies. Later, Veder goes on to further state that those habitual bodies and their trained movement styles could become a maker of social identities. This historical perspective on the walking body acknowledges the influence of the outside designed environment. Moreover, she views the walking bodies as a *grouped* period body from a *steady* point of view, which neglects each individual's dynamic role in this grouped period body.

In the part of the walking rhythm, I have presented two different views in understanding the rhythmic walking. One is defined by Henri Lefebvre, which he believes that the rhythmic walking is mainly constituted by the physical feature of the designed space. Another view acknowledges the body's ability in adapting to the designed space, which is also a point that has been neglected from the grouped period body point of view.¹⁰⁵ Hence, my argument about the processual walking rhythm is built upon the second point of view.

To further analyse the relationship between the walking body, memory and designed space, I borrowed the embodied cognition theory to unmask this internal system. The memory in the Tsunami Memorial could be viewed as an extended memory out of one's biological memory. Moreover, this extended memory is continuously framed and re-framed by one's present interaction with the memorial. In brief, the personal memory in the memorial is a personal processual memory.

In conclusion, the phenomenon that those theories are engaged with is a personal relationship/situation between the memory and the memorial. It means the experience of the first-day fieldwork is to let myself be grasped by this designed space. However, in the following section, the analysed phenomenon is mainly focused on the second-day fieldwork, which means I will have a critical distance from the memorial space. This observation strategy could allow me to look at the memorial as an outside person, and notice the moving pattern between the human flow and space in a given time. On the second-day fieldwork, even though I will not be able to get as much detail as I had during the first-day fieldwork, I got the chances to see a different pattern of body movement.

¹⁰⁵ Veder, *Healing Spaces, Modern Architecture, and the Body*, p. 124.

Veder articulated the term, 'period body' as the body management and representation (e.g. costume, posture and gesture) can be recognizable and categorizable in different time period.

2.4 Analysing Day Two's fieldwork

2.4.1 Fieldwork Day Two - The footprint on the snow

The footprints on the snow.

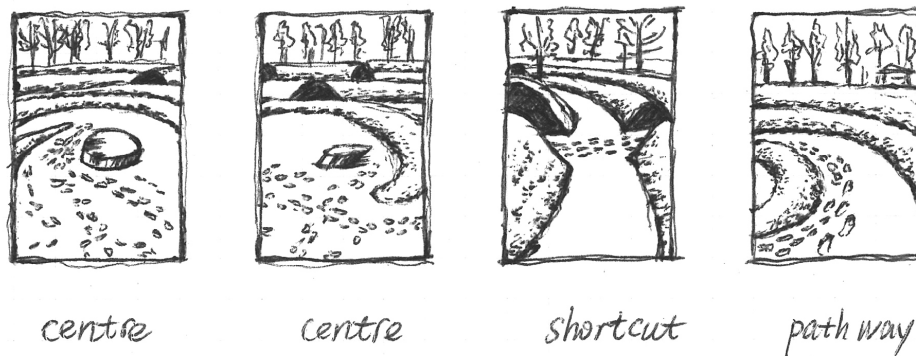


Fig. 6: *The footprints on the snow*, fieldwork sketch, by author.

After finishing the notes of my fieldwork on Day One, I decided to conduct a second fieldwork on the next day to collect some of the data that I missed. On February 27, the Tsunami Memorial was fully covered with snow, and it presented a whole different atmosphere in that space. The colour of this space has transformed into a unique chromatography, in which it mainly contained the colour of black, grey and white. Consequently, the contrast in this pictorial space was enhanced by the snow, which gave the structure of this space more definition.

I walked along with the circular path that is placed by the earthen walls. Before I entered into the centre of this memorial, there was no footprint on the snow. As I gradually walked towards the centre, footprints that were left on the snow became noticeable (**Fig. 6**). Those left footprints on the snow could be seen as a tool to track the walking path from other visitors. From what I saw during the fieldwork, most footprints are emerged in the centre of the Tsunami Memorial, along multiple walking paths. Each pair of footprints was the mirror image of one's shoes, which showed the direction of the walking path. In short, those footprints could tell the past story of this memorial space.

Often, several footprints came from different directions. And then they reached to the same location which is on the one side of a bronze sculpture with the names of the victims. In this area, the footprints often overlapped with each other. Furthermore, on the one side of the

bronze sculpture that is near those footprints, a small part of the snow has been wiped away by someone, which showed the names under the snow. A part from that, the directions of those footprints were not always the same; more often, those lines of footprints were crossed with each other. Besides the centre of this memorial, footprints could also be found on shortcuts that linked with the Tsunami memorial with the parking lot/hill. This phenomenon showed that the walking paths that happened in this space from a short period were mostly chaos.

During my first-day fieldwork, the sketches that I presented before were mainly showed a regulated circular walking experience. However, my second-day fieldwork sketches have showed that an irregular walking rhythm also existed in this designed space, even though the double spiral earthen walls have afforded a regular walking rhythm. It is something that is acknowledged by Lefebvre. He opens with the argument that the systematic ordering of a space could produce both regular and irregular rhythms.¹⁰⁶ It means that the walking rhythm between the human flow and the memorial space is not always an identical pattern. The walking rhythm could be interrupted and always in the process of changes.¹⁰⁷ The walking rhythm on the first-day fieldwork is more focused on the rhythm that is generated from a singular walking body. There is a difference between the studied subjects of these two fieldworks.

In order to understand a bit more on the footprints, it is useful to mention a method that is explored in a great length by Lefebvre, which is called *rhythmanalysis*.

2.4.2 Rhythmic walking - Time and space

Rhythmanalysis is an analytical method that is used to study how time-space is experienced in a given period. This method is related to *time-geography*¹⁰⁸, and this concept was initiated by the Swedish geographer, Torsten Hägerstrand in the mid-1960s.¹⁰⁹ In the case of the Tsunami Memorial, the overlapped walking paths (footprints) from represent the time-geography in this space. Those footprints could be seen as the human trace, and allow researchers to track temporal patterns of the body movements. It is a way of mapping the space in which the time and space are integrated together, in order to produce a situated rhythm in the memorial space.

¹⁰⁶ Edensor, 'Walking in rhythm', p. 71.

¹⁰⁷ *What is rhythmanalysis?* by Dr Dawn Lyon [video], YouTube 'NCRMUK'.

¹⁰⁸ Time-geography is a framework of thinking to understand spatial and time-based processes and events, such as human interaction with the environment.

¹⁰⁹ A. Pred, 'The Choreography of Existence: Comments on Hägerstrand's Time-Geography and Its Usefulness', *Economic Geography*, vol. 53, no. 2, 1977, p. 208; Edensor, 'Walking in rhythm', p. 70.

In brief, *rhythmanalysis* was introduced by Henri Lefebvre as a new field of knowledge/science to analyse the rhythms in the space. The importance of Lefebvre's concept as Dr. Dawn Lyon summarize is that: 'It also gives an inside view of the order of the space and the trajectory that people take from the social space.'¹¹⁰ Even though Lefebvre's short book, *Rhythmanalysis* has been criticized as being merely a research idea or concept. His concept has a significant influence among the field of geography, in which geographers have presented several ways to apply this concept in investigating social life.

An excellent example of conducting *rhythmanalysis* in an actual space could be the study of a fish market space by Dr. Dawn Lyon. In her research project, Lyon used *time-lapse photography* as a tool to document the trajectory of movement that happened in this market.¹¹¹ She explained that the method is to take a photograph every ten seconds and then make it into a film documentary by speeding it up.¹¹²

This visual strategy, *time-lapse photography*, have a significant influence on me in planning the third fieldwork in the Tsunami Memorial. Because it produces data that is different from my first fieldwork, which mainly uses walking as a method. This new way of documenting the space can present how the memorial space is unfolding in real-time. However, in this paper, I am not going to explain the actual method of conducting a rhythmanalysis in my third fieldwork.¹¹³ Instead, I am interested in considering those footprints as raw and temporal data of the rhythm in that space, showing that the memorial space is always in the process of becoming. Even though the empirical data of rhythms in the memorial space was not sufficient enough, yet, I do not think it could preclude me from connecting the footprints with Deleuze's perspective on the social phenomenon in the following section.

2.4.3 Flow in the space

The idea of seeing a space or social phenomenon as a process of becoming is something that has been explored in great length by Gilles Deleuze and Felix Guattari in their co-written book, *Anti-Oedipus: Capitalism and Schizophrenia*. In that book, Deleuze and Guattari attempt to propose a different way of analysing and understanding the social phenomenon by

¹¹⁰ *What is rhythmanalysis? by Dr Dawn Lyon* [video], YouTube 'NCRMUK'.

¹¹¹ The link of Lyon's documentary of a fish market in UK. The actual content of her documentary is from 10:55 to 16:30. <<https://www.youtube.com/watch?v=dZC0ra-HE&t=143s>>.

¹¹² *What is rhythmanalysis? by Dr Dawn Lyon* [video], YouTube 'NCRMUK'.

¹¹³ The current circumstance is not suitable for me to travel to Stockholm due to the COVID-19 pandemic.

introducing the concept of *flow*.¹¹⁴ To Deleuze and Guattari, the notion of *flow* is a type of movement with no specific point of origin or destination.¹¹⁵ Their main focus of this notion is its transformative qualities that could infect the direction of the flow.¹¹⁶ One way of understanding the notion of *flow* is to view it as a machine that is continuously in motion.

The existing perspective of explaining social phenomena is either making a universal explanation or giving answers through the lens of individuality. For example, the argument that I made from the first-day fieldwork was through the perspective of individuality. However, Deleuze and Guattari identifies the lack of acknowledgement of *something in between*. In the Tsunami memorial, those footprints from human flow could be seen as a metaphor of the flow. The traditional way to understand those footprints is to break them into the centre part and the shortcut part, describing and analysing the meanings of all those parts as I did in the previous section. However, this way of seeing footprints from different parts could miss an entire hidden layer in understanding the walking rhythm as a whole.

In order to understand this underlying layer a bit further, it is worth borrowing an example that is presented by Stephen West. In his reading of Deleuze and Guattari, West uses a case of urban renewal city planning in the US, which is originally written by American-Canadian journalist, Jane Jacobs in her book named *The Death and Life of Great American Cities*. During the following decade after World War Two, there was quite a lot of crime, poverty and anti-social behavior that emerged around the big cities in the US. Therefore, the solution is to get everything organised by dividing the city into several areas with specific functions.¹¹⁷ Each city contains a shopping district, working district and living district, in which those areas are separated from each other. Ideally, this solution was supposed to reduce the chaos in those big cities.¹¹⁸ However, the consequences of this renewal city planning was the opposite to the initial intention. The city could not function well as the traffic flow has been designed to the working district at the same time.¹¹⁹ The system of the city starts to collapse.

From a Deleuze and Guattari's perspective, the problem of those cities as Stephen West explained was that the identities/needs of a city could not be pre-planned and signed to the

¹¹⁴ G. Deleuze & F. Guattari, *Anti-Oedipus: Capitalism and Schizophrenia*, tr. R. Hurley, M. Seem & H.R. Lane, Bloomsbury Academic, London, 2013, p. 50; Shields, 'Flow as a New Paradigm', p. 4.

¹¹⁵ Deleuze & Guattari, *Anti-Oedipus: Capitalism and Schizophrenia*, p. 50; Shields, 'Flow as a New Paradigm', p. 3.

¹¹⁶ Shields, 'Flow as a New Paradigm', p. 3.

¹¹⁷ Jacobs, J., *The Death and Life of Great American Cities*, Random House, New York, 1961.

¹¹⁸ 'Episode 129 – Deleuze pt. 5 – Differences', *Philosophize This!* [podcast], Stephen West, 23 May 2019, <<http://philosophizethis.org/category/episode/page/2/>>, accessed 5 June 2020.

¹¹⁹ 'Episode 129 – Deleuze pt. 5 – Differences', *Philosophize This!*.

city, since the very fact is that the *identity of a city* is not merely a static thing that could be pre-designed by the city planner. The identity of a city is unfolding through the connections that are made within the city.¹²⁰ This notion of connection also asks the question of how the *flow* is functioning in other social spaces such as the Tsunami Memorial.

The Tsunami Memorial is essentially a place for generating social phenomenon, including the bodily movement from visitors. Each footprint on the snow leaves a mark for the constant interaction between the human body and this space. By viewing those connections in the memorial space through the lens of *flow*, the memory of the whole space was constituted within those connections.¹²¹ It means that the memory of this space is not a static statement that is signed from an outside force. Instead, the memory is defined at the moment where those connections take place. For example, the memory that I had from first-day fieldwork was different from the one from the second-day fieldwork, that is something caused by the different walking experience of mine. It shows that one's memory is formed and reformed in a given moment in relation to the connections that the person had with this space.

Therefore, I argue that the memory that is generated in the memorial space is essentially a *processual memory*, in which its nature is always in the process of *becoming*. This notion of *becoming* is also a part of the central thesis in philosophy, which is the debate about *being* versus *becoming*.¹²² To think this idea of *becoming* a step further, it also indicates that the memory of the Tsunami Memorial is not a fixed linear narrative that comes from an authoritative voice. Instead, this memorial space has the ability to tell its story with multiple voices at each different moment. And this idea will be further explained in the next section.

2.4.4 A memorial with multiple voices

Through the analysis of footprints in the Tsunami Memorial, this social phenomenon also invites me to take a step back to consider the material side of this space. The Tsunami Memorial is a place that could continuously generate multiple and dynamic narratives of memory through the perspective of Deleuze and Guattari. In addition, C. Nadia Seremetakis also points out a similar idea about *material culture* in her 1994 work, *The Senses Still: Perception and Memory as Material Culture in Modernity*. Seremetakis views the *material*

¹²⁰ 'Episode 129 – Deleuze pt. 5 – Differences', *Philosophize This!*.

¹²¹ 'Episode 129 – Deleuze pt. 5 – Differences', *Philosophize This!*.

¹²² 'Episode 129 – Deleuze pt. 5 – Differences', *Philosophize This!*.

culture as something that is demanding connection with the *perceiver*, in which the very nature of it is neither stable nor fixed narrative, but rather is *dynamic* and *chaotic*.¹²³

It is the material environment that provoked those dynamic experiences in the memorial space. Mental and physical experiences are not created in a straightforward manner.¹²⁴ In my view, it is worth acknowledging that the design discourse of memorial design has changed from making an object to making a space/place. Those created memorial spaces give a room for an intimate engagement between visitors and memorials. This processual aspect of one's experience is claimed as a *journey* by American architectural designer Maya Lin. She opens with an argument to describe the work of the *Vietnam Veterans Memorial* as: 'The memorial is composed not as an unchanging monument, but as a moving composition to be understood as we move into and out of it.'¹²⁵ This notion of a *journey* could also be seen as in echoing with the result of those experiences, which is the *processual memory* of space.

In the previous sections, I have presented the notion of processual memory, both individually and collectively. Moreover, this dynamic view of memory suggests that the memorial space is no longer a container for a single historical narrative.¹²⁶ Besides the multiple narratives that is formed in the memorial, this space also has the room for people to reach a *turning point* of their thoughts. Even for the very same person, the idea or memory that one holds does not come from a fixed mindset but instead come from the present interaction and connection within the memorial space. What is critical to stress here is to understand memories through a pluralistic perspective, in which the memorial tells its story with multiple voices.¹²⁷ Because the very fact is that if a memory could only be made through one single fixed voice, ultimately, there would be no voice.

2.4.5 Conclusion of the section

In this section, I begin with the description and analysis of the footprints that appear on the snow. Those footprints were viewed as a trace of the walking rhythm that happened in the memorial space during a given time. I have drawn a great deal upon Lefebvre's *rhythmanalysis* in exploring this new movement pattern from second-day fieldwork. The rhythmic walking that I focused on in this section is a different pattern from the one in first-

¹²³ C. N. Seremetakis, *The Senses Still: Perception and Memory as Material Culture in Modernity*, Chicago, The University of Chicago Press, 1994, p. 7; Degen and Rose, 'The Sensory Experiencing of Urban Design', p. 3280.

¹²⁴ Degen and Rose, 'The Sensory Experiencing of Urban Design', p. 3280.

¹²⁵ Rosenberg, 'The Geography of Memory: Walking as Remembrance', p. 59.

¹²⁶ Rosenberg, p. 56.

¹²⁷ Rosenberg, p. 56.

day fieldwork. It invites me to understand the interaction between human flow and its surrounding environment in a distant way.

Later on, I incorporated the notion of *flow* that was developed by Gilles Deleuze and Felix Guattari to build my argument that the memories in a space is also processual. This idea of processual memory suggests that memory is always in the process of *becoming*, contrasting with the traditional view of memory as a stable identity.

Besides this, the footprints are also something that is unpredictable from my original fieldwork plan. It raises the attention that my existing design thinking is deeply rooted in my mind, and further along, becomes one of the limitations of the fieldwork plan. This aspect of the fieldwork will be discussed further in the next section.

2.5 Reflection of my own role in the fieldwork

2.5.1 Post-fieldwork - Reflection of my role

The very first time that I realised my role or my personal biases of design, has played a significant role in regarding how I view my project would go and how I would design my fieldwork plan. Those footprints that left on the snow were a big weakening point or a significant turning point in terms of how I understand the whole Tsunami Memorial. Before that, the very first thing that I wanted to find in this fieldwork was a powerful, single, fixed narrative regarding how the choreography in this memorial space could give visitors physiological effect, by altering their ways of walking through this space. However, the entire fieldwork plan was designed under my perceived agenda of design in general, which is a form of *good design* that can directly affect people's experience of this space in a way that the designer wants it to be.

It is not something that I have in my mind, personally. This *good design agenda* is also rooted in the whole design industry and design education. Let us take an example of the British 'urban renaissance' agenda, which was an example that has been mentioned in the 2012 Urban Study article, *The Sensory Experiencing of Urban Design: The Role of Walking and Perceptual Memory*. The agenda of *design excellence* has been emphasised by the government and it pointed out that *good design* can create a unique identity of a place, and the designers' imagination and sensitivity mainly inspired this identity.¹²⁸ In the same article, the

¹²⁸ Degen and Rose, 'The Sensory Experiencing of Urban Design', p. 3272.

author also addressed that many academic commentators assume that the urban built environment could also alter people’s everyday experience of urban space.

Yet, this assumption of putting the environmental feature over one's experience was what I initially planned in my first-day fieldwork. On day One, I was primarily focusing on the circular walking in the memorial space; and the following analysis was also based on this particular form of walking. It is because I had already pre-assumed that people would walk along the circular paths that have been afforded by the double earthen walls. Moreover, it leads to a narrow understanding of the visitors as a merely passive body, in which the character of the outside environment largely guides their experience.

In the previous sections, I have explored the meaning of those footprints as a reflection of how this memorial space could afford multiple ways of experiencing it. However, my very first response to the footprint was a bit upset about it. Very soon, this response turns into the question, ‘Why would I be upset about a phenomenon that tells the reality?’ Because of this meta-reflection, I started to notice that my rooted thinking framework of design (in which it is a plan of organisation) has become the limitation of this fieldwork.¹²⁹

2.5.2 A reflection on designed space

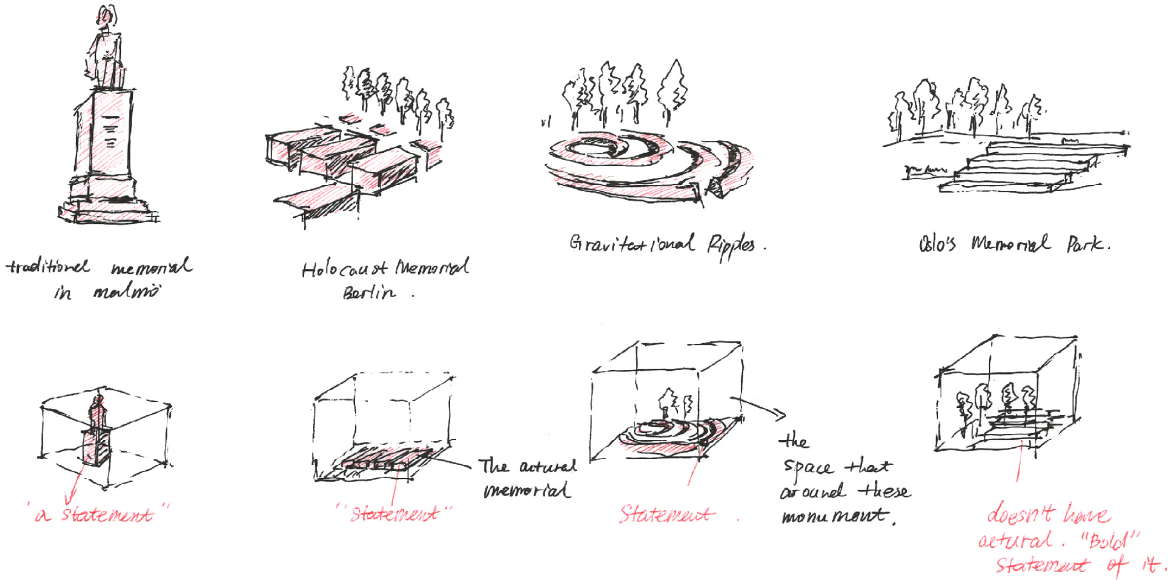


Fig. 7: The diagram of research thinking, research sketch, by author.

¹²⁹ G. Deleuze, ‘Spinoza and Us’, in A. M. Wills ed., *The Design Philosophy Reader*, Bloomsbury, London, 2019, p. 287.

In the very beginning of Elissa Rosenberg's 2007 essay, *The Geography of Memory: Walking as Remembrance*. She brought the changing discourse in the memorial design, in which the form of a memorial has been shifted from an object into space.¹³⁰ This transformation in design has also been noticed by Henri Lefebvre in his work, *The production of space*. Lefebvre argues that modernity has mostly reduced the signs and symbols that traditionally exist in architecture. This phenomenon leads to the loss of *characters* of space. It shows that the designed space is melted into transparency, in which its character has become *indistinguishable*.¹³¹

From the research sketch of memorials in **Fig. 7**, the Tsunami Memorial could be considered as a part of this changing discourse in memorial design, in which the memorial itself is essentially a place or space. In similar with the memorial park in Oslo's government district, the Tsunami Memorial is primarily a public park that does not occupy its surrounding space with bold signs and markers. By contrast, the traditional statue-like memorial is represented as a *bold statement/marker* to space, in which its surrounding negative space is hardly interchangeable with the statue itself.

Those two different approaches in memorial design could be traced back to two modes of planning in philosophical thinking. Deleuze has explained this philosophical mode in his essay, *Spinoza and Us*. One is a plan of organization, in which the role of design is referred to as the *mind of God*. The other is a plan of *immanence* or a plan of *composition*.¹³² Traditional design practice has always affiliated with the first mode of planning. However, it raises the question in terms of how design could be practiced in the second way of planning?¹³³

In order to explore the alternative possibility of design practice, it is useful to consider the Tsunami Memorial as a mean to discuss Deleuze's essential idea, *immanence*. As well as to consider how memory is functioning through a slightly Deleuzian interpretation.

The central idea of Deleuze's *immanence* is to disagree with the long traditional ontological system, in which its philosophical thought is structured primarily filtered by *transcendentalism*.¹³⁴ This transcendent way of thinking has also primarily embedded in the traditional design practice, in which the design project could be viewed as a god's plan under a particular circumstance. Throughout history, philosophers have linked the stability of their concepts to the identity of substance in order to create a *stable identity*. Yet, Deleuze argued

¹³⁰ Rosenberg, 'The Geography of Memory: Walking as Remembrance', p. 54.

¹³¹ H. Lefebvre, 'The production of space', in A. M. Wills ed., *The Design Philosophy Reader*, Bloomsbury, London, 2019, p. 243.

¹³² Deleuze, *The Design Philosophy Reader*, p. 287.

¹³³ Deleuze, p. 284.

¹³⁴ 'Episode 126 – Gilles Deleuze pt. 2 – Immanence', *Philosophize This!* [podcast], Stephen West, 22 December 2018, < <http://philosophizethis.org/category/episode/page/2/>>, accessed 5 June 2020.

that the very nature of those ontological systems is to set up and maintain the hierarchy in the thinking framework, rather than pursuing the truth.¹³⁵

Therefore, Deleuze developed the ontology of *immanence*, which is a concept that was first proposed by Dutch philosopher Baruch Spinoza. How to understand the notion of *immanence*? Deleuze suggested that people should think of the world temporarily in the context of *time*.¹³⁶ This new way of thinking is indeed influenced by the French philosopher Henri Bergson's theory of *time*. In that theory, Bergson presented a model of *time* that indicates the present carries things that happened within the past, and it affects the action in the present.¹³⁷ By building upon this model of time, Deleuze goes further to suggest that the ontology of *immanence* is something that happens within, not a creation that comes from an outside force.

What I take from here is the idea of *something in between* from Bergson and Deleuze's theoretical thinking. They tend to understand a phenomenon through a dynamic standpoint of view and highlight the interchangeability that is in between. In my opinion, the idea of *something in between* shares a similar thinking framework with the coupled cognitive system that I presented before. It also aims to study the interchangeability between brain, body and environment scientifically. Moreover, this coupled cognitive system eventually helped me to build an argument about how the memory is functioning in the Tsunami Memorial. The Tsunami Memorial or other space-like memorial, in general, could be seen as an attempt to practice design in a way that is known as a plan of *composition*. A design plan that offers a room for multiple possibilities from the within, and could compromise with the dynamic changes throughout the time.

¹³⁵ 'Episode 126 – Gilles Deleuze pt. 2 – Immanence', *Philosophize This!*.

¹³⁶ 'Episode 126 – Gilles Deleuze pt. 2 – Immanence', *Philosophize This!*.

¹³⁷ 'Episode 126 – Gilles Deleuze pt. 2 – Immanence', *Philosophize This!*.

Chapter 3: The way of feeling – Therapeutic landscape

3.1 Fieldwork and reflection on the Tsunami Memorial

3.1.1 Memorial as a nature-based landscape

In the previous chapter, the analysis of the Tsunami Memorial is primarily focused on a changing discourse that occurs in the memorial design, in which its *form* has changed from making an object into making a space or place. Yet, the *materials* that have been used in memorial design has also gradually shifted from industrial materials into natural elements, such as trees, grass, flowers and so on (e.g. **Fig. 7**). This changing discourse in memorial design also plays a role in transforming the memorial from urban landscape to nature-based landscape, in which its bold statement of being a commemorative statue or sculpture is melted into the nature-based memorial space.

Also in the previous chapter, the analysis of the Tsunami Memorial has mainly focused on the movement that was afforded by this changing design discourse. In particular, the analysis in the previous chapter is about to explore how one's memory and social memory has been affected by the bodily movement, walking in particular, through a psychological perspective. Yet, in this chapter, the main task is to discover how the natural elements in the Tsunami Memorial could affect memories, also through a psychological perspective.

It is natural and also commonly accepted that being involved in a nature-based environment is linked with one's health status, both physically and mentally. There is even a term, *therapeutic landscape*, that was coined by the health geographer Wil Gesler in the early 1990s.¹³⁸ Gesler expanded the definition of landscape and went further to explore the therapeutic potential of nature-based space. Gesler has phrased the concept of *therapeutic landscape* as 'enduring reputation for achieving physical, mental and spiritual healing.'¹³⁹

Therefore, understanding this connection between nature-based landscape and its healing potential is critical for the analysis of the Tsunami Memorial. One way to approach this topic is to employ knowledge from environmental psychology, in order to inform the design of

¹³⁸ W. Gesler, 'Therapeutic landscapes: medical issues in light of the new cultural geography', *Social Science and Medicine*, vol. 34, 1992; M. D. Velarde, G. Fry and M. Tveit, 'Health effects of viewing landscapes – Landscape types in environmental psychology', *Urban Forestry & Urban Greening*, vol. 6, no. 4, 2007, p. 200.

¹³⁹ W. Gesler, 'Therapeutic landscapes: theory and case study of Epidauros, Greece', *Environment and Planning D: Society and Space*, vol. 11, 1993; Velarde, Fry and Tveit, 'Health effects of viewing landscapes', p. 200.

urban space in general. It is a way to provide a better design solution on memorial design in order to improve the health status of the general public.¹⁴⁰

From an environmental psychology perspective, the character of natural landscape is often viewed as sensory stimulation, including the lights, sounds, smells and tactility.¹⁴¹ Thus, those natural elements create bodily involvement and take it as a part of the therapy in the environment.¹⁴² In the case of the Tsunami Memorial, its outdoor landscape could be seen as a therapeutic setting for the healing purpose.

the sound from birds.

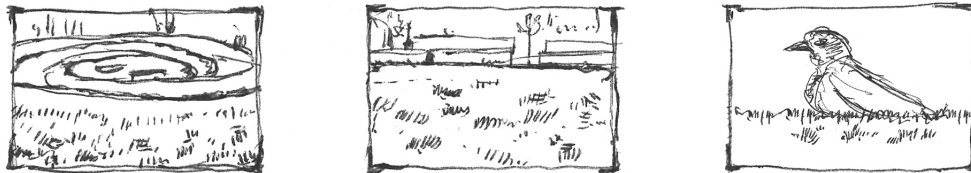


Fig. 8: *The visual and audio characters of the Tsunami Memorial, fieldwork sketch, by author.*

From my previous fieldwork sketch, the map (see **Fig. 3**), the Tsunami Memorial is essentially located in a park-like space, within the forest on its north side and the lake on its east side. Yet, the memorial itself is also a Land Art that is mainly built with soil, grass and flower seeds. During the fieldwork, as I gradually walked along the path inside this memorial, I touched the grass and felt a slight tingling on my hand. Moreover, there is also some purple stamens that popped out in the grass. One thing that particularly memorable from my experience was a bird that stood on the earthen wall for a relatively long time (**Fig. 8**). At that moment, I did not want to interrupt this unexpected moment in sharing this memorial space with this bird, so I stopped and patiently observed it for a couple of minutes. It is a black bird that stood on top of the grass with its head towards the direction of the lake. Therefore, from my fieldwork sketch, what I could see is only the left side of this bird. It indicates that by the

¹⁴⁰ Velarde, Fry and Tveit, 'Health effects of viewing landscapes', p. 200.

¹⁴¹ S. S. Corazon, T. S. S. Schilhab, and U. K. Stigsdotter, 'Developing the therapeutic potential of embodied cognition and metaphors in nature-based therapy: lessons from theory to practice', *Journal of Adventure Education & Outdoor Learning*, vol. 11, no. 2, 2011, pp. 161-162.

¹⁴² Corazon, Schilhab and Stigsdotter, 'Developing the therapeutic potential of embodied cognition and metaphors in nature-based therapy', pp. 161-162.

time when I looked at this bird, it also looked at me back at the same time since the most visually sensitive area of a bird's eyes is on the side.

After a few minutes of looking at each other, I started walking towards the area near the forest. There was a moment where I could hear the birdsong from the forest, and this natural sound of birds lifted the whole atmosphere of the Tsunami Memorial. The thoughts that I have during that moment was a temporary relief or escape from my cautionary investigation in the fieldwork. It is a moment where I felt touched by the atmosphere of the memorial with peaceful emotion.

This birdsong and the peaceful emotion also stayed with me when I recalled the fieldwork experience or when I saw images of the Tsunami Memorial afterwards. This phenomenon of experiencing sound as emotion or visual images as sound is also known as *synesthesia*, and I will explain and incorporate this concept in the analysis of the Tsunami Memorial in the next section.

3.1.2 *Synesthetic character of the memorial*

The definition of the term, *synesthesia*, means someone experiencing some senses in an unusual way. For example, seeing the number 2 as the colour of green, or seeing the colour blue as emotionally sad.¹⁴³ This concept of *synesthesia* has also been explored and developed by some scholars throughout history. The way to approach *Synesthesia* from Aristotle's perspective is to view all the senses as an interconnected combination at some point. He proposed that there is a sense which is existed above all the five senses, including vision, hearing, smell, taste and touch.¹⁴⁴

However, in differences with Aristotle, German Physician Wilhelm Wundt tends to believe that *synesthesia* is something in between those different senses and feelings.¹⁴⁵ In the case of the Tsunami Memorial, my visual image of the memorial was automatically connected with the birdsong. The memory that I had for the fieldwork was essentially a hybrid memory, in which it contains not only the visual image but also the sound and feelings. Drawing on the work of the German philosopher Hermann Schmitz's idea on *emotion*, the character of one's physical feelings could be linked with the experience of specific synesthetic characteristics.¹⁴⁶

¹⁴³ 'synaesthesia', *Cambridge Dictionary* [website],

<<https://dictionary.cambridge.org/dictionary/english/synaesthesia>>, accessed 5 June 2020.

¹⁴⁴ G. Böhme, 'On synesthesia', in J. P. Thibaud ed., *The Aesthetics of Atmospheres*, Routledge, London, 2016, p. 70.

¹⁴⁵ Böhme, *The Aesthetics of Atmospheres*, p. 70.

¹⁴⁶ Böhme, *The Aesthetics of Atmospheres*, p. 72.

By taking inspiration from Schmitz's, it encourages me to view my memory as a *synesthetic memory*. That means the synesthesia is triggered between different senses that I have *recorded* during the fieldwork.

Therefore, when I enter the memorial space, it is not merely a sense of observation of the external thing apart from my body, but also an emotionally influenced atmosphere that was afforded by multiple natural elements. The way I perceived this nature-based memorial is also in some way coloured by the atmosphere in this space.¹⁴⁷ It means that the experience that I had in the memorial is always integrated with my physical feelings of it. In this way, the synesthetic character of the natural environment (physical feelings) becomes a part of one's understanding of the character of the memorial (experience).¹⁴⁸ Therefore, it raises interest to question the authenticity of the memory, especially for the second generation. Because there is a gap between the synesthetic character of the memorial and the historical character of it. As for those people who have not had a direct connection with the 2004 disaster, what would they perceive in this nature-based memorial? How would their memories be affected by those natural elements?

Those questions can be answered through the exploration of the *affordance* of the Tsunami Memorial, and I will explain it in a bit more detail in the following two sections. One is focused on the *affordance* in the present, naming aesthetic appreciation. The other is pointed out the *affordance* in the future, articulating as the therapeutic potential of the memorial space.

3.2 The aesthetic appreciation - Positive emotion

3.2.1 Disinterested delight in the beauty

The Tsunami Memorial could also be viewed as a nature-based commemorative landscape. It is a form of Land Art that draws attention to the landscape and articulates its natural elements in a more expressive way.¹⁴⁹ From the existing research of the landscape, it claims that landscape could trigger a human's aesthetic appreciation when one has been exposed to the

¹⁴⁷ Böhme, *The Aesthetics of Atmospheres*, p. 73.

¹⁴⁸ Böhme, *The Aesthetics of Atmospheres*, p. 74.

¹⁴⁹ G. Böhme, 'Aesthetic knowledge of nature', in J. P. Thibaud ed., *The Aesthetics of Atmospheres*, Routledge, London, 2016. p. 90.

visual landscape.¹⁵⁰ Thus, the question would be why do people experience the natural landscape as something beautiful or aesthetically pleasing?

One way to understand it is through Immanuel Kant's judgement on beautiful, in which he stated that, 'we take pleasure in something because we judge it beautiful, rather than judging it beautiful because we find it pleasurable.'¹⁵¹ What Kant means by that is the beauty in the landscape is *disinterested*. Even though humans have no adaptive value to nature, they could still be emotionally touched by nature.¹⁵² With this in mind, it tells that the bird and the purple flowers that appeared in the Tsunami Memorial are not with the intention for pleasing the human being, but rather existing just as being a bird or a flower. And this is what this memorial could afford for visitors, which is a disinterested delight in the beauty.

This aesthetic knowledge of nature is something that has been explored in a great length by the German philosopher Gernot Böhme in his 2016 book, *The Aesthetics of Atmospheres*. In that book, Böhme tried to connect the *disinterested beauty* with a particular mood by claiming that and I quote: 'But in being emotionally touched by nature it is a matter not simply of beauty and the sublime, nor of a moral feeling, but also of completely different atmospheres.'¹⁵³ Moreover, he goes further to state that the atmosphere emitted by the natural environment could put people in an ecstatic mood.¹⁵⁴ Therefore, in the case of the Tsunami Memorial, its natural elements afford people's aesthetic appreciation from the disinterest atmosphere of the landscape. Moreover, this atmosphere also evokes an ecstatic emotion among the visitors.

3.2.2 Involuntary fascination

In the previous section, I have discussed the aesthetic appreciation of nature-based memorial space through a philosophical eye, in which its beauty is embedded in the disinterested nature of the natural landscape¹⁵⁵ — its natural element act as *being away* from human needs.¹⁵⁶ Yet, this notion has also been explored in the field of environmental psychology. Such character of nature is the core of understanding why those natural elements are aesthetically pleasing to the human being.

¹⁵⁰ Böhme, *The Aesthetics of Atmospheres*, p. 90.

¹⁵¹ 'Immanuel Kant: Aesthetics', *Internet Encyclopedia of Philosophy* [website],

<<https://www.iep.utm.edu/kantaest/#SH2a>>, accessed 5 June 2020.

¹⁵² Böhme, *The Aesthetics of Atmospheres*, p. 97.

¹⁵³ Böhme, p. 97.

¹⁵⁴ Böhme, p. 97.

¹⁵⁵ 'natural landscape' refer to the existing research in landscape, 'nature-based memorial' is the study subject in this chapter. What they shared in common is the natural elements.

¹⁵⁶ Manetti and Casado da Rocha, 'Landscape and Health', p. 3.

Perhaps the most famous and widely acknowledged theory about this notion is the Attention Restoration Theory (ART), which was developed by psychologists, Rachel Kaplan and Stephen Kaplan in their 1989 book, *The Experience of Nature: A Psychological Perspective*. In that book, the Attention Restoration Theory was referred to as one's directed attention that could be restored after experiencing nature.¹⁵⁷ Because human beings are attracted by the involuntary attention of nature when they are exposed in a natural atmosphere. The involuntary attention from nature has the ability to make people escape from their directed attention and gives them some rest.¹⁵⁸

Through such an approach, Kaplan and Kaplan describe the natural environment as: 'attention that requires no attention at all [...]'.¹⁵⁹ Moreover, Kaplan and Kaplan goes further to state that the elimination of one's directed attention also related to the reduction of one's mental stress.¹⁶⁰

Building on the idea from Kaplan and Kaplan, it raises the attention to consider the Tsunami Memorial as a natural environment that could afford a restorative experience on people's mental fatigue. The richness of the natural elements in the memorial space fulfils the role of involuntary fascination, in which this space can affect one's life satisfaction and overall mental health.¹⁶¹ A 1993 study that was done by Kaplan and Kaplan also pointed out that human beings would experience less frustration and gain more patience and enthusiasm in a natural environment.¹⁶²

In short, what the Tsunami Memorial could afford those visitors (second generation) is a positive influence on their mood or emotion through a psychological understanding.

¹⁵⁷ Manetti and Casado da Rocha, 'Landscape and Health', p. 3.

¹⁵⁸ Manetti and Casado da Rocha, p. 3.

¹⁵⁹ R. Kaplan and S. Kaplan, *The Experience of Nature: A Psychological Perspective*, Cambridge University Press, Cambridge, 1989, p. 179; Manetti and Casado da Rocha, 'Landscape and Health', p. 3.

¹⁶⁰ Kaplan and Kaplan, *The Experience of Nature: A Psychological Perspective*, p. 180; Manetti and Casado da Rocha, 'Landscape and Health', p. 3.

¹⁶¹ Velarde, Fry and Tveit, 'Health effects of viewing landscapes', p. 203.

¹⁶² Kaplan, R., 'The role of nature in the context of the workplace', *Landscape and Urban Planning*, vol. 26, 1993, pp. 193-201; Velarde, Fry and Tveit, 'Health effects of viewing landscapes', p. 203.

3.3 Therapeutic potential - A healing space

3.3.1 Birdsong as a healing tool

From the above two sections, I have explained in detail regarding how the natural elements in the Tsunami Memorial could afford people's aesthetics appreciation through both philosophical and psychological perspectives. Apart from this aspect, the natural elements also contain a therapeutic potential in being a healing space for human beings. Therefore, in these two sections, the main focus would be on the therapeutic potential in the memorial space.

The birdsong has the quality of being a marker in my memory, both during the fieldwork and post-fieldwork. Many of the descriptions of the fieldwork are about encountering with one bird and birdsong. Furthermore, I also note that this unexpected birdsong triggered a calm and peaceful feeling for me. Yet, it is worth knowing that this is merely an instant feeling from my personal experience, without other external theory to support this claim. The relationship between natural sound (birdsong) and one's emotion is worth exploring the underlying reason for that. Thus, this section presents on why the natural sound could be a healing tool for mental illness by introducing an experiment that was conducted by Patrik Grahn and Matilda van den Bosch.

From their 2014 article, *The impact of sound in health-promoting environments*, it states that this experiment aims to measure the evidence of the health benefits that are influenced by the natural sound. The way they conducted this experiment is through a pilot-study in the virtual reality (VR) laboratory of Lund University.¹⁶³ The virtual natural environment contains a natural setting of Scandinavia forest. They use sounds of birdsong and water to match with the visual setting of this environment.¹⁶⁴ The result of this experiment shows that one group's heart rate variability (HRV) increased when they are recovering in a virtual setting with both visual and auditory environment.¹⁶⁵ As the heart rate variability is linked with parasympathetic activity, which is responsible for the stress-relieving activity in a human's body. Therefore, this experiment indicates that stress recovery tends to facilitate the environmental setting with natural sounds stimuli.¹⁶⁶

¹⁶³ P. Grahn and M. van den Bosch, 'The impact of sound in health promoting environments', in F. Mossberg ed., *Care for Sound. Sound Environment, Healing & Health-Care*, Sound Environment Center at Lund University, Lund, 2014, p. 50.

¹⁶⁴ Grahn and van den Bosch, *Care for Sound. Sound Environment, Healing & Health-Care*, pp. 51-52.

¹⁶⁵ Grahn and van den Bosch, p. 54.

¹⁶⁶ Grahn and van den Bosch, p. 54.

To draw inspiration from Patrik Grahn and Matilda van den Bosch's study on natural sounds, it unmask the psychological connection between the birdsong and one's peaceful feeling in the Tsunami Memorial. Thus, this nature-based memorial space contains the ability to function as a healing space in the present moment.

3.3.2 *Planting Seeds - A nature-related metaphor*

Another aspect of the therapeutic potential in the Tsunami Memorial is restoring attention to the future, compared with the last section, which is mainly focused on the healing potential at the present moment.

The Tsunami Memorial is a Land Art that grows with the changing seasons. According to the Artist Lea Porsager's notes, it says that this 'memorial will grow into its being.' Each year, they will add new layers of seeds on the earthen walls, and thus, this nature-based memorial will express itself in its way.¹⁶⁷

Lea Porsager's idea of letting this memorial grow with the time might be in line with the nature of Land Art, in which it seeks to interact with the natural environment as part of the statement for being a Land Art. It is a perspective of understanding the Tsunami Memorial from the Artist's eye. However, in this section, the analysis of the memorial's healing potential will be focused on the side of the perceiver. How could visitors' mood be affected by this ever-growing memorial? What is the psychological reason behind it? These are the questions that I am going to answer in this part.

In a 2011 article, *Developing the therapeutic potential of embodied cognition and metaphors in nature-based therapy: lessons from theory to practice*, the authors provided an example regarding planting seeds in one's mind as a therapeutic tool. What they do with the patients in this therapeutic session is letting them create a metaphorical text in their mind (in this case, planting the seeds) — and then encouraging them to reflect on how these mental seeds would thrive.¹⁶⁸ The results of these therapeutic sessions shows that by using the metaphorical text as a therapeutic tool, this method could create a bodily involvement activity together within their mind. Furthermore, bodily involvement, like planting seeds could evoke one's explicit learning on the growth of those mental seeds, developing more attention for the future in those patients' minds. Therefore, this therapeutic session eventually could add more emotional value for those patients.¹⁶⁹

¹⁶⁷ Porsager, *Caress. A Candid Approach*, p. 41.

¹⁶⁸ Corazon, Schilhab and Stigsdotter, 'Developing the therapeutic potential of embodied cognition and metaphors in nature-based therapy', p, 167.

¹⁶⁹ Corazon, Schilhab and Stigsdotter, p, 168.

What different between planting seeds in one's mind and planting seeds in the memorial is that the first one is a nature-related linguistic metaphor that created by patients themselves. But the latter one is a nature-related message from the Artist (and the actual act of planting seeds every year). However, what is similar between the metaphor and the message is that they both generating one's attention of the future life. The activity of planting seeds (both mentally and physically) implies a *time framework* that they could expect in the future. In the case of the Tsunami Memorial, the 'therapeutic session' is embedded in one's experience in the memorial space, expecting the changes and growth of the memorial. The natural elements are themselves a sensory stimulation, promoting the positive emotional value of the future.

To summarise the affordances of the nature-based landscape, both from the aesthetic appreciation and the therapeutic potential, the Tsunami Memorial tends to evoke one's peaceful and positive mood/emotion in the present and the future. Furthermore, this relationship between natural elements and positive emotion leads to the next question, which is how one's mood could affect his or her memory of this historical event. And this is something that will be addressed in the next section.

3.4 The exchanged memory

3.4.1 The exchanged memory

In the first section, I have drawn upon some of the ideas from the concept of *synesthesia*, which means one's memory of the Tsunami Memorial is not merely a visual record, but rather a combination of multiple senses. Thus, it leads to the claim that the memory I had about the memorial space is indeed a synesthetic memory. Furthermore, those multiple senses, such as vision and natural sounds also play a role in evoking people's positive mood when they are exposed by this nature-based memorial. Beyond this, it also raises the question of how could those positive moods affect one's memory in this nature-based memorial?

In order to build a bridge between positive mood and memory, it is worth bringing the concept of *mood-congruent memory*. The term *mood-congruent memory* was first proposed by the American social psychologist Alice M. Isen.¹⁷⁰ It refers to a 'consistency between one's mood state and the emotional context of memories recalled', according to the APA

¹⁷⁰ 'mood-congruent memory', *American Psychological Association* [website], <<https://dictionary.apa.org/mood-congruent-memory>>, accessed 5 June 2020.

Dictionary of Psychology website.¹⁷¹ This concept indicates that one's positive mood is more likely to retrieve pleasant memories.

Drawing on the work of Alice M. Isen's 1978 co-written article, *Affect, accessibility of material in memory, and behavior: A cognitive loop?*, it suggested that there is a *cognitive loop* in this phenomenon. This article argues that: 'a person in a good mood is more likely to retrieve positive than negative material from memory, in which it creates a cognitive loop in this person's mind.'¹⁷² This cognitive loop is coloured by the accessibility of positive thoughts and memories.¹⁷³ Nevertheless, there is also counter-argument suggests that the mood and the memory are not always correlated in a straightforward way.¹⁷⁴ The unpleasant mood might trigger a pleasant memory in order to overcome the negative emotion.

What I take differently from this theory is that the point of using this mood-congruent memory theory is not landed on the consistent relationship between mood and memory. Instead, this theory shows a phenomenon that the correlate relationship between mood and memory are always happened within a person himself/herself, regardless it is a positive or negative memory.

Therefore, if we take the perspective of mood-congruent memory to view the Tsunami Memorial, the second generation's memories is an exchanged memory, in which their memories are derived more from self-recognition and self-reflection. Rather than the reflection on the historical event that is behind this memorial space.

3.4.2 Contextualist psychology in memory

In the previous section, I have explored the topic of how memory could work in a nature-based memorial through the perspective of mood-congruent memory. It ends with the conclusion that one's memory in a memorial space could be viewed as an exchanged memory, in which the second generation's memory is merely a self-recognition of past memories. This statement raises the question of whether it is ever possible to arrive at an authentic or objective memory for the second generations. Questions regarding authenticity and recognition are also a core subject in the study of memory.¹⁷⁵

¹⁷¹ 'mood-congruent memory', *American Psychological Association* [website].

¹⁷² Isen, Shalke, Clark and Karp, 'Affect, accessibility of material in memory, and behavior: A cognitive loop?', p. 2.

¹⁷³ Isen, Shalke, Clark and Karp, p. 2.

¹⁷⁴ 'mood-congruent memory', *American Psychological Association* [website].

¹⁷⁵ K. Hodgkin, and S. Radstone, 'Introduction', in K. Hodgkin and S. Radstone eds., *Regimes of Memory*, Routledge, London, 2003, p. 12.

In order to study the mode of memory in the second generation's mind, it is useful to look at some of the ideas from *contextualist psychology*. The contextualist perspective was initially adopted by the American social psychologist Kenneth J. Gergen to study the relationship between one's mind and the outside world.¹⁷⁶ He suggests that the knowledge that people gained from the outside world is 'something people do together'.¹⁷⁷ This contextualist perspective of knowledge challenged the traditional understanding of knowledge, which is to view the knowledge as a merely mental representation.¹⁷⁸

To understand this contextualist perspective in the psychology study a bit more, it is worth mentioning an example that is related to the child's development. From a contextual psychological perspective, a child's way of constructing a world is through his or her joint interaction with the person that is around.¹⁷⁹ The way the child's involvement in the interaction is also a form of repetition, which requires a skill of remembering. It means that a child's memory is developed from a network of *actual relations*, consisting of verbal conversation and non-verbal exchanges between child and adults.¹⁸⁰ Thus, the role of a child in the developing process is being a co-regulator.¹⁸¹

By drawing inspiration from this example, it is likely to find that the second generation's experience in the Tsunami Memorial is similar to a child's early development. Because they had no direct link with the historical event, what formed those second generation's memories is indeed from their interaction with the memorial space. Hence, the Tsunami Memorial becomes a *memory prop*¹⁸² for the second generation, in which it continually recalls their personal experience and memories that could match with what they perceive.¹⁸³ This understanding could further post the question regarding the consistency between memory and historical actuality.¹⁸⁴

Even though the case of child development and the case of Tsunami Memorial are two different social activities, there is a same underlying pattern between them, which is the initial missing link to the historical event or the outside world. From a contextualist perspective, the

¹⁷⁶ C. Papoulias, 'From The Agora To The Junkyard: Social memory and psychic materialities', in K. Hodgkin and S. Radstone eds., *Regimes of Memory*, Routledge, London, 2003, p. 119.

¹⁷⁷ Papoulias, *Regimes of Memory*, p. 119.

¹⁷⁸ Papoulias, p. 119.

¹⁷⁹ Papoulias, p. 120.

¹⁸⁰ Papoulias, p. 121.

¹⁸¹ Papoulias, p. 123.

¹⁸² Hodgkin, and Radstone, *Regimes of Memory*, pp. 12-13.

The term 'memory prop' was said by Stephan Feuchtwang when he described people who did not experience the Holocaust directly, the Holocaust becomes a memory prop for those people to recognize their own childhood tragic memory.

¹⁸³ Hodgkin, and Radstone, *Regimes of Memory*, p. 13.

¹⁸⁴ Hodgkin, and Radstone, p. 13.

Tsunami Memorial could be viewed as a space of relationality and exchange. It means the second generation's memory is constituted as a proto memory bond.¹⁸⁵ This nature-based memorial is functioning as a placeholder of visitors' self-reflection and self-possession. Therefore, it is possible to find the fact that the production of the second generation's memory in the memorial space is indeed a closed system in the first place. This process could be understood as a cognitive loop in which memory is founded under the notion of self-recognition.¹⁸⁶

It is also worth knowing that the model of memory in contextualist psychology is a social memory.¹⁸⁷ And thus, memory as part of a social practice becomes indistinguishable in the nature-based memorial space. Because as a nature-based memorial space with its historical statement becomes less and less visible, those natural elements have no direct link with its historical reference. In this way, memories that are generated from those nature-based memorial spaces are essentially a closed system of the natural landscape and one's memories. Moreover, to think about this phenomenon a step further, I tend to believe that it raises the problem of homogenisation of social memory among the second generation.

Beyond this, this concern of homogenisation of social memory also asks whether it is even possible for those second generation to arrive at a historical actuality. The self-recognised memory that produced in the memorial space could shape the second generation's understanding of the historical event too. Nevertheless, it is worth to acknowledge that this critique of nature-based memorial space is solely from a psychological perspective, indicating that social memory is often associated with the practice of the perceiver's early memory. Thus, this result spotlights the limitation in using psychological knowledge to study the memory. Paul Antze has also made his critique of introducing neuro-cognitive psychology in the study of memory. He argues that the neuro-cognitive psychology raises the attention to study memory as embodied practice, instead of studying memory as representation, traditionally.¹⁸⁸ However, this emphasis on memory as an embodied practice would also inevitably reach a so-called: 'reductive and shallow grasp of human psychological life.'¹⁸⁹ In the case of the Tsunami Memorial, the concern that I had about the homogeneous social memory could also be viewed as an outcome of this shallow grasp of human memories.

¹⁸⁵ Papoulias, *Regimes of Memory*, p. 122.

¹⁸⁶ Isen, Shalker, Clark and Karp, 'Affect, accessibility of material in memory, and behavior: A cognitive loop?', p. 2.

¹⁸⁷ Papoulias, *Regimes of Memory*, p. 124.

¹⁸⁸ Hodgkin, and Radstone, *Regimes of Memory*, p. 14.

¹⁸⁹ Hodgkin, and Radstone, p. 14.

To sum up, from the results that I gained in using psychological knowledge to analyse the natural elements in the Tsunami Memorial, I tend to believe that those knowledges are useful in explaining and bridging the working process of memory. However, when it comes to the study of the memory itself, this psychological perspective might show the limitation of understanding human memories.

3.5 A continued reflection on designed space – A message to the future

The reflection on designed space starts in the end of chapter two, with the argument that the design practice of the Tsunami Memorial could be seen as a way to provide multiple voices and interpretations throughout the time. The memory in this memorial is not signed by an outside authoritarian voice, but rather the memory is generated from the interaction between the second generation and the space. However, as this research towards the end of chapter three, it also raises the concern of homogeneous social memory among the second generation.

The reason for studying the second generation is that the memorial is designed not only for the people who live in the present, but also for the further generations to remembrance. In this way, designing a memorial is indeed sending a *message* to the future. How this message would be perceived in the future is depending on what kind of people are interacting with this memorial and what kind of knowledge they are bring with them. Therefore, the memory or the *message* is not existing in the Tsunami Memorial itself or the designer's mind, nor in the further generation themselves. It is only generated at the moment when this memorial is being interacted by the future generation.

Hence, the study of how memory works in the Tsunami Memorial is also a way explore how the future generation would perceive this message. If I continue to adopt a psychological perspective in understanding the memory process of the second generation, the concern of homogeneous social memory would inevitably point out an information gap and understanding gap between the present and the future generation. It is a question about how can designers formulate and send a *message* from present to the future, yet without the equivalent knowledge of how the future generation would perceive this *message*. Or, is it ever possible to grasp this knowledge of future generation? Those are the questions that designers need to keep in mind when they design the memorial. Because, by bringing this aspect into the initial design thinking process, it could make designers think about how they plan the project with the perspective of an after-life of this memorial.

Conclusion

In conclusion, the investigation of the *affordance* in the Tsunami Memorial is primarily focused on two aspects. One is the bodily movements that are afforded by the choreographic design of the memorial; the other is the aesthetic appreciation and therapeutic potential from the use of natural elements in the memorial.

The way of moving

In the part of studying the walking body, memorial space and memory, I began with the analysis of the physical features (e.g. steps and ramps) of the memorial, to state that the form and structure of the Tsunami Memorial do affect the walking body in the first place. And then, following up with a theoretical discussion of the rhythmic walking to further address the idea that the walking body also has the ability to adapt to the environment in its way. Thus, the walking body is not merely a passive body that is regulated by the memorial. Beyond this, in order to bridge the relationship between the walking body and the memory, I took inspiration from embodied cognitive theory to propose an idea, the extended memory. It means that the constant interaction that the walking body had in the memorial space is indeed an extension of one's biological memory. Furthermore, this extended memory is always in the process of making and re-making during one's each encounter with the memorial.

Therefore, the way in which the walking body is perceived from the outside environment is the input of one's memory. Later on, this input could also transform as an output for the person to act upon the environment. This internal cognition system indicates that the making of memory is continually in the process of exchange and progression. In this part, I tend to make the statement that one's memory and social memory in the Tsunami Memorial both work as a processual memory, in which its nature is the continuity of internalization and exchange.

The way of feeling

In the part of studying the relationship between the natural landscape and the memory, I started with the introduction of synesthetic memory, in order to suggest that the memory of the Tsunami Memorial is not just a vision, but also contains natural sounds and personal emotion. And then, the affordances of a nature-based memorial have been explained into two main points, which is the aesthetic appreciation and the therapeutic potential of the memorial

space. Such an explanation leads to the statement that this nature-based memorial is a sensory stimulation, providing a positive mood for visitors, especially for the second generation.

Apart from this, I took a step further to link the positive mood with the memory by using the concept, mood-congruent memory. It means that one's positive mood state is more likely to facilitate a pleasant and positive memory in one's mind. Furthermore, I go on to address the similarity between the second generation's memory and child's early development process, in order to argue that those second generation's memory in a nature-based memorial is essentially a self-recognition of their past memories.

Thus, the memory in the Tsunami Memorial is also an exchanged memory, in which its nature is a closed system in the memory transforming process. To build upon this theoretical finding, I started to raise the concern about the homogeneous social memory in the nature-based memorial, which means memory as a social practice becomes indistinguishable.

In short, this research of the Tsunami Memorial ended with the statement that the working process of memory is indeed a processual memory and an exchange memory, from a psychological perspective. This research did not follow the idea that memory could be merely studied from a static point of view. Instead, I tend to believe that memory is something that is dynamic, constantly in the process of becoming. Yet, I also pointed out the limitation of solely using psychological knowledge to analyse the memory might lead to a simplified and shallow understanding of human memory.

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