

THE UNSEEN WILDERNESS
- Reconnecting Humans with Nature in Interior Spaces

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Abstract

In response to the challenges related to implementing natural objects in architectural designs, this practicum proposes recreating the Wildness (Cronon 1996), which means the experience of nature, as an alternative way to connect humans with nature in the built environment. Reviewing Wildness through the lenses of Martin Heidegger's *Being-in-the-World* and Maurice Merleau-Ponty's *Phenomenology*, nature is not perceived by preserving and observing natural objects like plants and water but by the embodied experience. Edmund Burke's *Sublime* and Stephen Kellert's *Biophilia* theories are examined through the idea of Wildness to identify common spatial characteristics of nature. Adopting Peter Zumthor and Juhani Pallasmaa's phenomenological design approach that recreates the embodied experience of a place through architectural elements that constitute a building, this practicum tests identifying the Wildness in different natural settings with specific senses, feelings, and spatial conditions to inform the designs of materials, light, scale, movement, and details in three hypothetical interior spaces. The investigation also considers how the design elements may evoke the memory and imagination of nature to deepen the embodied experience and connect humans with nature.

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CHAPTER I
Introduction

1.1 Chapter Introduction

Humans possess an innate demand to connect with nature (Wilson 1984). Contemporary designs related to nature often introduce natural features like plants and water into interior spaces. This chapter investigates the challenges facing such a design approach to introduce an alternative way to integrate nature. William Cronon argues that Wilderness treats nature as the object to be framed and isolated in our built environment, whereas Wildness emphasizes the experience of nature (1996). According to Cronon, the Wildness connects humans with nature despite the absence of nature and natural elements (1996). Inspired by this notion, the following chapter initiates investigations regarding how the Wildness of nature can be implemented as a methodology in Interior Design to connect humans with nature. The structure of the practicum document will be discussed at the end of the chapter.

1.2 Context & Project Rationale

The Biophilia Hypothesis indicates that humans possess an innate need to connect with nature (Wilson 1984). Although living close to nature became rare in most Americans' daily experience by the mid-20th century due to urbanization and industrialization (Merchant 2007, 110), people have sought ways to compensate and create opportunities to contact nature. During the nineteenth and twentieth centuries, wild landscapes were preserved for people to visit (Merchant 2007, 148). For example, the Glacier National Park was established in 1910 for its scenery of mountain ranges and lakes. Nevertheless, people who live far away from the parks have to travel a long distance to get close to nature and enjoy the picturesque view. What is worse, visiting parks hardly meets contemporary Americans' need for exposure to nature as they

spend nearly 90% of their time living indoors (Klepeis et al. 2001, 239). Thus, modern designers try to introduce nature into the architecture domain and reconnect people with nature in the built environment (Zhong 2021, 117). For example, large windows enable the occupants to see nature outside the building. However, in high-density areas like downtown New York, placing windows is not optimal for connecting people with nature because the views are blocked by concrete buildings outside. In addition, architectural designs related to nature are often criticized for “green-washing” the living space (Zhong 2021, 117). In the architectural design realm, “green-washing” refers to design strategies that selectively emphasize the positive effects of their environmental performances while withholding the associated drawbacks, which results in misleading information to the public (de Freitas Netto et al. 2020). For instance, although introducing plants and water could improve air quality and evoke a sense of living close to nature, they may require intensive maintenance and energy consumption (Zhong 2021, 126–127). More importantly, the isolated garden and water features have a limited impact on eliciting a sense of connection with nature because the majority of interior spaces lack such features (Zhong 2021, 126–127). It is not viable to replicate the physical objects of a natural environment in architecture because interior spaces have to meet functional requirements. The limited access to landscapes, modern Americans’ indoor lifestyle, and critiques about isolating natural objects in indoor spaces drive me to investigate alternative ways in Interior Design to meet modern Americans’ demand of connecting with nature.

The environmental historian William Cronon coins the term Wilderness to describe the action of preserving and chasing natural landscapes in North America (1996). For Cronon, Wilderness connects people with nature through encountering

natural objects like stones and trees, something other than humans (Cronon 1996, 8). Wilderness highlights landscapes as objects to be framed and discovered in cities. In this sense, introducing indoor gardens and water features becomes another form of Wilderness since it elicits a sense of connection with nature through isolating natural elements. Landscapes are framed on the city scale, just as green walls and water fountains are isolated in interior spaces. Cronon believes Wilderness brings “trouble” because it drives people to pursue natural objects and ignore the daily built environment they live in (1996, 21–24). In interior spaces, isolating natural features, as a form of Wilderness, declassifies the rest of the spaces because people’s “love of nature” can only be satisfied by getting close to places with natural objects (Wilson 1984). On the other hand, Cronon claims that it is the Wildness rather than the Wilderness that matters when contacting nature. Cronon uses Wildness to describe the experience of nature (1996). For example, the sense of awe in a mountain can represent the Wildness of nature. He further states that people are connected with nature as long as they find the Wildness in any place they occupy, “in the cracks of a Manhattan sidewalk, even in the cells of our own bodies” (1996, 24–25). In Cronon’s view, Wildness has nothing to do with nature as an object but emphasizes the experience one receives in nature, which could come from places other than nature. For instance, although the sublime is a typical experience of nature, architecture that possesses spatial characteristics like vastness and infinity also evokes a sense of the sublime (Burke 1998). Through the lens of Cronon’s Wildness, we are in nature once we experience the sublime in architecture. As mentioned, modern Americans spend the majority of their time living indoors. Instead of isolating plants and water, which requires maintenance while having limited impact on perceiving a connection with nature, Cronon’s idea inspires providing Wildness in interior spaces as a new

approach to reconnect people with nature. Since the experience varies in different natural settings, this practicum chooses three scenarios and conducts a series of design experiments to test how the Wildness in these settings can be represented through Interior Design to help people perceive being in nature without introducing objects like plants and water. Thus, the project design in this practicum contains no specific site, nor does it reappropriate a comprehensive building, but proposes interior spaces that could be integrated with the identified Wildness to meet their functions while strengthening the sense of connection with nature, such as an atrium, meditation room, and corridor.

1.3 Research Objectives

As mentioned, this practicum investigates an alternative way of implementing nature instead of isolating natural objects to connect humans with nature in interior spaces. The overall research goals and objectives of this practicum are listed below:

- 1) To propose recreating the Wildness of nature through Interior Design. This will be achieved by exploring how traditional design elements can offer the senses, feelings, and associated spatial qualities of nature.
- 2) To experiment with a variety of ways Wildness is expressed in interior spaces to connect the users with nature and thus avoid relying on natural features like plants and water.

1.4 Research Questions

This practicum answers the following research questions:

- 1) How does the difference between Wildness and Wilderness affect the way people perceive a connection with nature and thus inspire designers to alternatively incorporate nature in interior spaces?
- 2) Since Cronon argues Wildness exists outside of natural features, what design elements used in Interior Design can provide Wildness to potentially reconnect the occupants with nature?

1.5 Research Methodology

This project uses the following research methods to answer the earlier research questions and guide the design process:

- **Literature Review:** The Literature Review investigates theories related to human perception and ways of integrating nature with architecture to explore Interior Design's potential to help people perceive being in nature without isolating natural features. It concludes that the bodily engagement with architectural tectonics and materiality, once resonating with the Wildness of nature, shapes people's perception towards a natural environment. The analysis in this chapter sets criteria for analyzing architectural design precedents and guides the project design concept and aesthetic decisions.
- **Precedent Analysis:** Since Wildness emphasizes the experience of nature, the analysis of design precedents examines how three different architects and interior designers managed to recreate the experience of a place through the design of architectural tectonics and materiality. The immersive experience alters the users' perception of an interior space. The precedent studies in this chapter showcase successful translations from experiences of

places to the designs of traditional Interior Design elements and thus inspire the design strategies of this project.

- Design Experiment: The Design Experiment presents a series of photographs and descriptions that document the sensory and psychological experiences when immersed in several natural settings. These documents are essential in identifying specific spatial qualities as the expression of Wildness to inform the project's design concept and language development.

1.6 Limitations

This practicum is driven by the critiques regarding implementing nature in interior spaces. The research conducted leads to hypothetical experiments to test recreating the Wildness of nature through Interior elements in potentially reconnecting people with nature. However, the user feedback regarding whether the experiments successfully help perceive a connection with nature is beyond the scope of this practicum. Moreover, the comparison between Wilderness and Wildness helps examine Biophilic strategies that focus on the experiential qualities of nature and thus does not cover the physiological responses from biophilia-based experiences, such as improving stress relief (Kellert 2018, 32).

1.7 Practicum Organization

This practicum explores research on human perception, the relationship between humans and nature, and related architectural theories to propose recreating the Wildness, meaning the experience of nature, in interior spaces to connect people

with nature. The framework of this practicum is showcased in the visual graphic on page 9 (Figure 1).

Chapter I is an introduction that presents the practicum's rationale, which centers on William Cronon's idea of Wildness to inform the research questions, objectives and methodologies. Chapter II examines Wilderness and Wildness through the lenses of Cartesian Dualism, Martin Heidegger's Being-in-the-World, and Maurice Merleau-Ponty's phenomenology to argue that humans perceive a natural environment not through the natural objects but associated senses and feelings. It reviews common expressions of Wildness, such as the sublime by Edmund Burke and the Biophilia-based experiences defined by Stephen Kellert, to help identify the Wildness in different natural scenarios in Chapter IV. In addition, Chapter II analyzes architectural theories related to a phenomenological approach, such as those from Peter Zumthor and Juhani Pallasmaa, to explore how the design of architectural tectonics and materiality provide a particular experience to shape one's perception. This section sets criteria for selecting precedent studies and inspires strategies that could be applied to projecting the Wildness of nature in interior spaces. Since providing Wildness in interior spaces is to recreate the experience of nature, Chapter III investigates three design precedents that represent an experience through the design of architectural tectonics and materiality. The bodily engagement within these architectural spaces allows the occupants to resonate with the experience that inspired the designer and thus alters their perception of the interior environment. Informed by the aforementioned theories and design solutions, Chapter IV conducts spatial design experiments to recreate the Wildness of chosen natural settings in helping perceive a connection with nature.

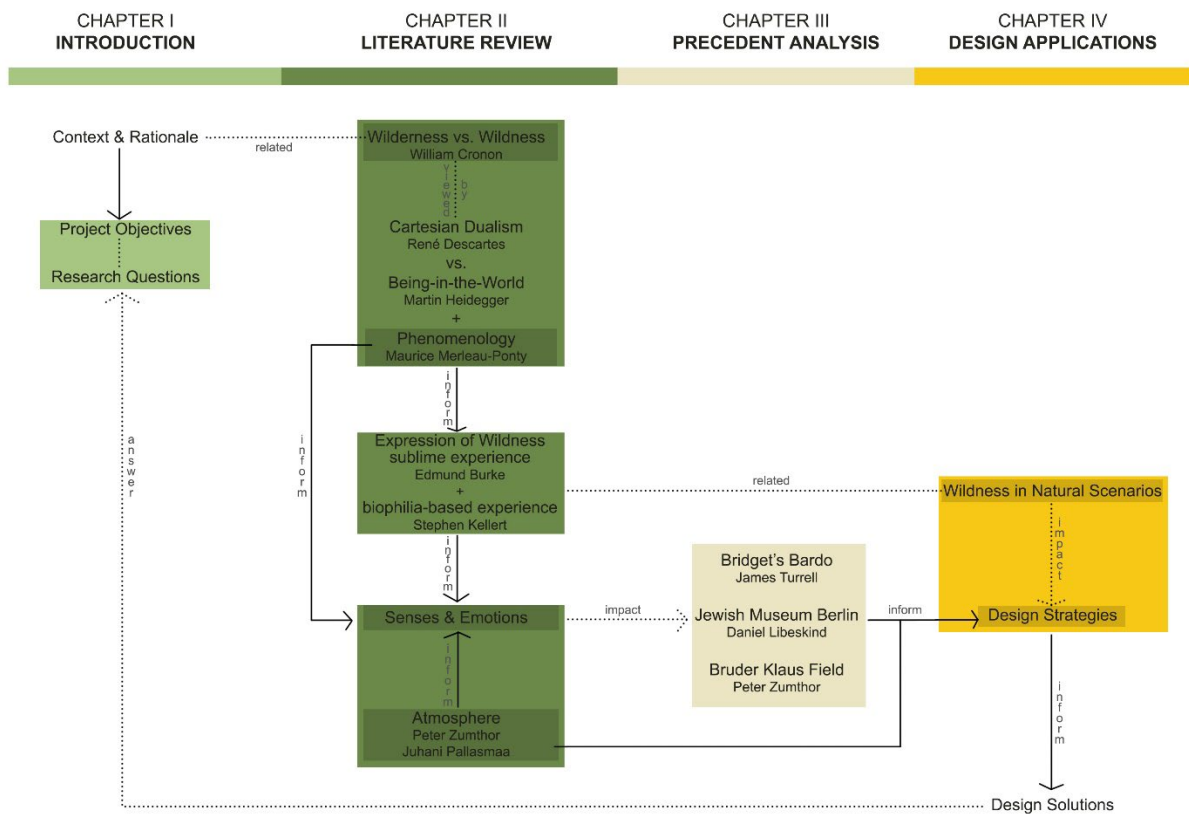


Figure 1. The overview of how this practicum will proceed

1.8 Summary

In responding to the critiques regarding nature-related architectural design, this chapter introduces providing the Wildness of nature to alternatively integrate nature with interior spaces. The research methodology and limitations are identified. The whole document reflects on the distinctions between Wildness and Wilderness in incorporating nature in interior spaces. The next chapter reviews the distinctions between Wilderness and Wildness through the ontological, phenomenological, and architectural design perspectives, which helps select the design precedents and design experiments in the following chapters.

CHAPTER II
Literature Review

2.1 Chapter Introduction

In this chapter, I employ William Cronon's idea regarding the distinctions between Wilderness and Wildness to argue that being in natural environments is perceived not necessarily through visiting Wilderness, which requires contacting nature itself, but through finding the Wildness, meaning the experiential qualities of nature, from the interior spaces we occupy. As mentioned, this practicum pursues recreating the experience of nature rather than implementing natural objects in interior spaces. The goal is to test how traditional interior design elements can project Wildness to help people perceive being in nature. Thus, analyzing the spatial qualities of Wildness, how the experience can shape one's perception of an environment, and how Interior Design can recreate the Wildness of nature are essential in this chapter.

The first section of this chapter chooses to compare the Cartesian Body-Mind Dualism with Martin Heidegger's Being-in-the-World in perceiving the world. The Cartesian Dualism values the mind's reasoning over senses from the body in understanding the world, whereas Heidegger believes the body that manifests our "being", which emphasizes the engagement between our body and the world, is how we exist in and interpret the world. Maurice Merleau-Ponty further developed the idea of Being-in-the-World and argued that our mind and body are interrelated in shaping one's perception. The distinctions in the Body-Mind Dualism versus Heidegger's bodily engagement as "being" in the world and Merleau-Ponty's reconciliation of body and mind are critical components in understanding Cronon's definitions of Wilderness and Wildness in the following section.

In the second section of this chapter, I argue that Wilderness is a manifestation of Descartes's legacy because it appeals to the mind's reflection over body sensations. Wilderness is a "state of mind" that requires us to see natural elements that refer to objects other than humans (Cronon 1996, 23). Conversely, Wildness can exist outside wild landscapes because Wildness values our sensory experiences and feelings of nature rather than the objects in nature. Wildness exhibits the philosophy of Being-in-the-World by emphasizing one's embodied relationship with the surroundings. The experience we get from nature, which mediates through our body, is how we exist in and understand nature. The theory of Merleau-Ponty's bodily engagement in shaping one's perception of the world further supports experiencing Wildness rather than natural elements in perceiving being in nature.

The third section explores common expressions of Wildness and decodes them into the physical and spatial qualities that could be applied in Interior Design. I utilized the difference between Wildness and Wilderness to examine Biophilic Design and filter those describing the common physical and spatial qualities people value in nature. Edmund Burke's idea regarding the sublime is also reviewed to uncover the spatial characteristics that provide a sublime experience.

The fourth section involves designers such as Juhani Pallasmaa and Peter Zumthor, who adopted Merleau-Ponty's phenomenological approach to practicing architectural design. The theory of atmospheric architecture investigates how the embodied experience of a place informs the design elements in architectural spaces. I link the expressions of Wildness in architecture with atmospheric architecture

because, like Wilderness represents the senses and feelings of nature, Zumthor identified the atmosphere of a place as its experiential qualities. According to Zumthor and Pallasmaa, architectural spaces can recreate the atmosphere of a place, resonating with memory and stimulating the imagination to colour people’s spatial perceptions. Since the expressions reviewed in the former section only present vital features in Wilderness instead of “telling designers what to do” (Kellert 2018, 25), Zumthor and Pallasmaa’s design philosophy inspires helping people perceive being in a natural environment by identifying its specific expression of Wilderness and recreating the associated embodied experience through interior elements, which guides the design of this project in later chapters.

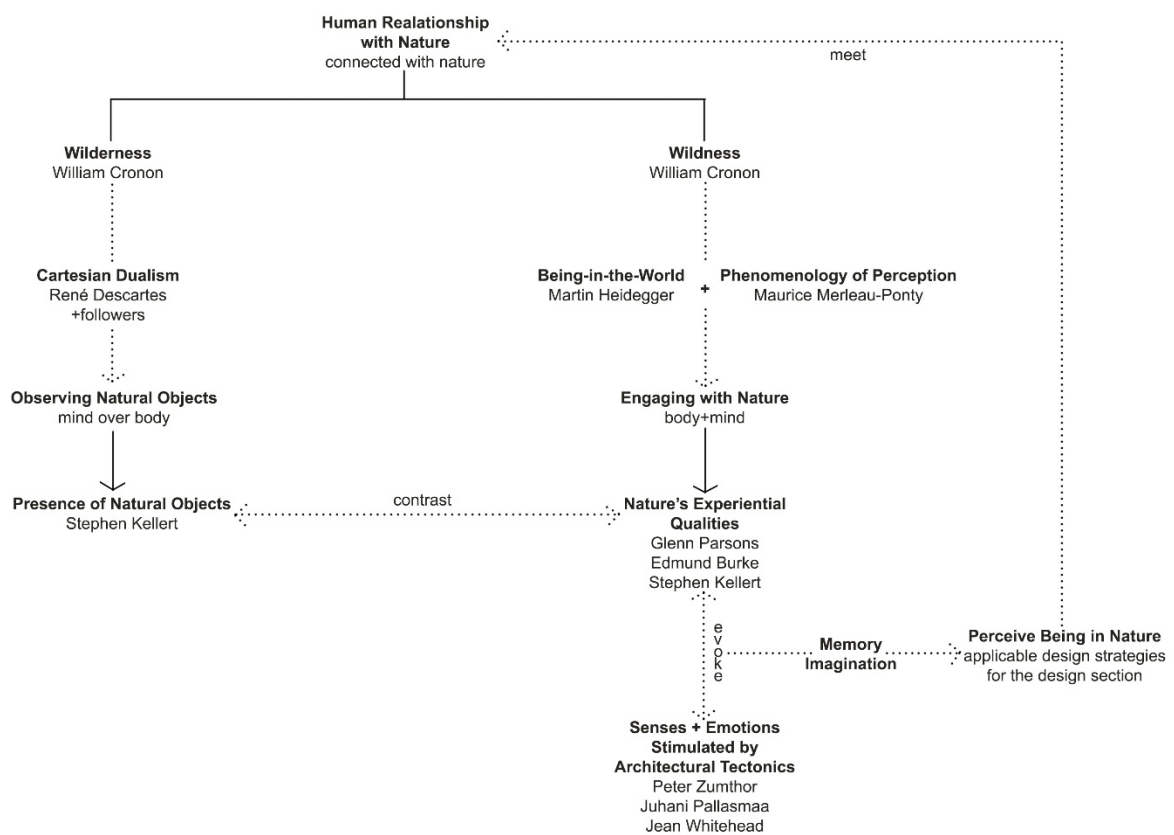


Figure 2. The theoretical framework of the Literature Review will be discussed throughout the chapter.

2.2 Body and Mind in Perception

Body-Mind Dualism

René Descartes explores the distinct functions of our body and mind in perceiving the world. In the book *Meditations on First Philosophy*, Descartes argues that the body and senses can sometimes be tricked, and only through reason and logic exercised by the intellect can we ever achieve true knowledge of things (Descartes 2008, 76–78). For example, the wax's colour, shape, and size are clearly visible when removed from a honeycomb, whereas he sees an irregularly shaped liquid when bringing the wax close to the fire. A piece of wax provides different sensory experiences to the body depending on the wax's physical form. However, Descartes still recognizes it as the same wax because he interprets it only with his mind (Descartes 2008, 76). Another example is that Descartes perceives it as people walking on the street when having a glance at hats and coats moving outside the window. Hats and coats are objects presented in Descartes's eyes, but his mind processes the visual information to perceive people walking (Descartes 2008, 77). For Descartes, the mind judges the body's sensory information. The true knowing of the world is perceived through questioning and thinking in the mind. His emphasis on intellectual rationality over body senses sets the world as something to be observed and understood through the lens of the mind.

Informed by Descartes' philosophy, the Cartesian dualism further addresses the dichotomy of the mind and body by claiming that "the mind and its processes" like logic, cognition, and judgement are "both separate from and more important than the body and physical sensations" (Acolin 2019, 41). The body is like clockwork that provides

raw sensory data of an object, whereas the mind represents our consciousness that interprets and gives meanings to these data (Baker and Morris 2005, 24–39). In the process of perceiving the world, the Cartesian dualism regards our body as a medium that solely transmits sensory information from the world, waiting for the mind to understand through reasoning, reflection, and conceptualization. From an ontological perspective, self-consciousness becomes the accessor of existence as it explores the world outside itself in models of rational knowing (Steiner 1978, 36). The existences of the world and ourselves are tested and validated by the mind.

Being-in-the-World

Martin Heidegger disagrees with the Cartesian's elevation of the self above the world because he sees the world as something we encounter and live in (Steiner 1978, 81–82). He introduces the idea of Being-in-the-World, in which our relationship with the world is not determined by conscious reflection but by actively engaging with the objects around us (Heidegger 1962). George Steiner argues that Heidegger's "being" reveals the dimension of time by emphasizing the engagement we are having with the world at the moment (1978, 85–87). Thus, Being-in-the-World, according to Steiner, allows us to meaningfully exist in and understand the world by engaging and experiencing the world (1978, 85–99). In the case of using a hammer, the Cartesian approach would interpret a hammer through information passively mediated by the body, such as weight, colour, and shape. However, for Heidegger, the Cartesian's conceptual abstraction can never express the existence of the hammer and the man because it does not address their relationship, meaning how they engage with each other at the moment. It is this engagement, the act of hammering, that allows the man

to understand a hammer and what a hammer is for (Steiner 1978, 86–88). In other words, the Cartesian way of reflecting on the appearance of a hammer is too abstract and generic to truly understand what a hammer is because it captures no “being” of the hammer. A hammer is perceived through hammering, which is the bodily engagement that the man is having with the object at the moment. Moreover, hammering reveals the hammer’s “referential totality,” such as using nails and wood (Heidegger 1962, 98–99). The relationship between the hammer, nails, wood, and the man is revealed through their “being” – the hammering, which is mediated through the body and deepens the man’s understanding of the hammer. Thus, compared to the Cartesian philosophy that regards the world as something external to be understood through reasoning, Being-in-the-World suggests that humans are always “in and of the world” (Suddick et al. 2021, 2) by engaging with the world. The body that carries the “being,” the engagement at the moment, is how we exist in and understand the world.

Maurice Merleau-Ponty continues the critique about prioritizing the mind and further addresses the idea of “being-in-the-world.” In the *Phenomenology of Perception*, Merleau-Ponty states that “the body is the vehicle of being in the world” (Merleau-Ponty 2011, 111). Merleau-Ponty counters the Cartesian dualism’s over-reliance on the mind’s reflection through the example of perceiving the phantom limb. The phantom limb is used to describe the phenomenon that an amputee experiences sensations in the missing limb. Patients with a phantom limb may feel moving or using the absent limb as if it were still there (Chahine and Kanazi 2007, 345–346). Merleau-Ponty points out that for the Cartesian dualism, the amputee continues to feel the presence of the missing limb only because he consciously thinks that way in his mind (Merleau-Ponty 2011, 110). However, he claims that “to have a phantom limb is to

remain open to all of the actions of which the arm alone is capable and to stay within the practical field that one had prior to the mutilation” (Merleau-Ponty 2011, 111). Merleau-Ponty regards the limb’s actions as continuations of the amputee’s bodily interactions with the world. In addition, Merleau-Ponty believes that through the impulse of the missing arm’s movement, the patient feels the integrity of his body in his mind because his bodily engagement with the world helps sense the completeness of his body (Merleau-Ponty 2011, 111–118). The amputee still feels he can perform actions like playing the piano, not because he consciously believes he can, as the Cartesian would argue, but because the limb’s immediate experience within the world is pre-reflective, shaping his instant understanding of the body’s integrity.

According to Merleau-Ponty, the case of the phantom limb uncovers that “I am conscious of the world by means of my body” (Merleau-Ponty 2011, 111). For Merleau-Ponty, our perception of the world is “contingent on our bodily experience” (Cimini 2012, 355). The phantom limb demonstrates the amputee’s “being” because of the engagement through his missing limb. Merleau-Ponty further argues that this bodily engagement shapes his perception of the completeness of his body. For Merleau-Ponty, we perceive the world through the interweaving of our body and mind. Adopting this idea, when touching ice, the coldness of ice will be perceived differently depending on whether we touch it with our hands, feet, or face because of their different tolerance and sensitivity to temperature. The bodily experience provides direct knowledge that shapes our perception of the ice. Similarly, when climbing a staircase, the bodily experiences, such as the legs’ exertion, the hand’s instinctive reach to the handrail, and the body’s balance in navigating the ascent, contain an immediate interpretation of the stair’s steepness, which precedes our conscious reflection. Our body’s sense of

effort, balance, movement, and temperature are experiences that situate us in the world and impact our understanding, whereas for Cartesian dualism, these bodily experiences are merely raw data from the body, waiting for the reflective judgment in the intellect. Therefore, compared to Cartesian body-mind dualism, which underestimates the body and puts the mind as the basis for true knowing, Merleau-Ponty's emphasis on the interrelationship between body senses and the mind enables us to have a more comprehensive and immediate perception of the world.

The Unity of the Perceived

Merleau-Ponty believes that within the bodily engagement of the world, sensory experiences come as an integrated whole rather than aggregated information to shape our perception (Merleau-Ponty 2011, 375–377). He explains this idea through the perception of an extremely hot object, saying that we do not experience temperature, red colour, and vibration sound as separate qualities. Instead, these sensory experiences merge into a holistic knowledge that shapes our interpretation of the object (Merleau-Ponty 2011, 375). We perceive an object with its fullness. Sensory information like sight, hearing, touch, taste, and smell are neither independent nor accumulative data but come as a whole during our bodily engagement. As discussed before, our body and mind are interrelated in processing and comprehending these sensory experiences during perception.

Memory and Perception

When analyzing memory's function in perception through Merleau-Ponty's phenomenological approach, Sara Heinämaa points out that the present experience

of perceiving an object is directly connected to our past bodily engagement (Heinämaa 2015, 133–138). Merleau-Ponty states that the hardness and softness, coarseness and smoothness, and moonlight and sunlight in our memory are stored not as sensory contents but as ways of relating to the perceived world (Merleau-Ponty 2011, 45–46). As forms of “being”, our experiences in the world are always embodied. Sensory qualities like light and sound in our memory relate us back to their broader context, in which we once engaged with our body and mind. Merleau-Ponty further argues that memory is a “framework of perception from which it was born” because to remember is to “plunge into” the past until the experiences are “as if lived anew” (Merleau-Ponty 2011, 46). For Merleau-Ponty, memory shapes our perception by getting recalled and re-interpreted through current experience. When an environment recalls our memory, it is not because of the overall picture of the environment but because the bodily engagement we are having at the moment resonates with past experiences. Our current experience in a new context enables memory to be dynamically constructed. This process blurs the boundary between the past and present, acting as a “framework” to shape our intellectual understanding of the current world.

Besides memory, Merleau-Ponty introduces a layer of imagination in his later work *The Visible and the Invisible*. He argues that the imaginary is not a pure nihilation in mind but an extended experience triggered by our body senses (Merleau-Ponty 1968, 262). For Merleau-Ponty, imagination deepens our existence, our experience of “being” (Mazis 1988, 41). For example, the red colour can be perceived as a flag during the revolution, the tile on the rooftop, or the essence of femininity depending on individual engagement and interpretation (Merleau-Ponty 1968, 132). During this process, memory and imagination are interconnected in shaping our perception (Mazis 1988, 39). One may have seen a red flag before, but the imagined revolutionary spirit

stimulated by our current engagement with the colour introduces a new interpretation of memory and thus deepens our perceptual experience. Therefore, the imaginary does not escape from reality but is interrelated with memory to actively shape our existential experience.

The Cartesian Dualism prioritizes the mind's reflection over our body senses in interpreting the world. Instead, Being-in-the-World advocates that the bodily engagement is how we exist in and understand the world. Maurice Merleau-Ponty further expanded the idea of Being-in-the-World to argue that our mind and body are interrelated in perceiving the world. The interplay of memory and imagination further shapes our perception as it deepens our existential experience. The next section reviews Willaim Cronon's Wilderness and Wildness through the lenses of Cartesian dualism, Heidegger's Being-in-the-World and Merleau-Ponty's phenomenology to point out that it is the Wildness rather than Wilderness of nature that is essential in perceiving a connection with nature in the built environment we live in.

2.3 A Shift from Wilderness to Wildness in Perceiving Nature

Due to urbanization and industrialization, living close to nature became rare in most Americans' daily experience by the mid-20th century (Merchant 2007, 110). Thus, during the nineteenth and twentieth centuries, wild landscapes were preserved for people to visit (Merchant 2007, 148). For example, the Glacier National Park was established in 1910 for its scenery of mountain ranges and lakes. William Cronon coins the action of preserving and chasing natural environments as Wilderness (Cronon 1996, 7–15). He claims that "wilderness stands as the last remaining place where

civilization has not fully infected the earth” (Cronon 1996, 7). Wilderness requires geographical locations untamed by humans. Cronon believes modern people are obsessed with Wilderness because it offers a sense of otherness (Cronon 1996, 23). He uses the moment in the trail to explain that the smell of pines, the sandstone ledge, and the wild animals offer “something irreducibly nonhuman, something other than yourself,” which is what modern people are seeking for in Wilderness (Cronon 1996, 8). For Cronon, Wilderness is a cultural construct representing people’s desire to escape from the built environment because only in wild landscapes can they get a sense of being away from humans. In this regard, Wilderness becomes, through the lens of the body-mind dualism, a conscious reflection in mind: we experience something nonhuman in nature and thus understand we are not in the man-made world.

However, Cronon argues that Wilderness brings trouble because it drives people to ignore their relationship with nature: if Wilderness suggests a natural land untamed by humans, then our presence in it “represents its fall” (Cronon 1996, 17). For Cronon, Wilderness does not admit humans as part of nature since it requires a landscape untouched by humans. As Cronon calls “wilderness more a state of mind than a fact of nature” (Cronon 1996, 23), Wilderness relies on the mind’s interpretation and sets humans as observers outside of nature. Instead, Cronon asserts that we need to find the Wilderness that represents the qualities and characteristics of nature in our daily lives (Cronon 1996, 21–24). What he values is not nature itself but the experience of it. Wilderness emphasizes the experiential effects in nature, for example, the vastness and awe of mountains. Cronon uses Henry David Thoreau’s *1846 Climb of Mount Katahdin*, William Wordsworth’s *The Prelude*, and John Muir’s *North Dome in*

Yosemite Valley as evidence to illustrate that it was the vastness of those mountains and the sense of sublime that the authors sought to experience in “Wilderness,” although they used different words to describe their feeling of insignificance in front of nature, as Thoreau felt lonely while bewilderment and ecstasy came into Wordsworth and Miur’s minds, respectively (Cronon 1996, 8–12). Glenn Parsons also claims that besides the physical experience, there are associated feelings or desires when we appreciate the power of nature, such as senses of grace and sublime. Although the feelings among individuals may vary, they come from an immersed experience in nature (Parsons 2008, 86). In addition, Cronon points out that the tree in our backyard is “no less other, no less worthy of our wonder and respect than the tree in an ancient forest” if only we can appreciate the experience it offers rather than its geographical location (Cronon 1996, 24). Both trees can have the same texture, offer shade in the summer, produce a rustling sound, and evoke joy. Both Parsons and Cronon urge a shift from treating nature as an object to the sensory experiences and feelings we can get in nature.

In the book *A Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful*, Edmund Burke argues that obscurity, vastness, and infinity are qualities of nature that offer a sense of sublime, which relates to feelings like awe, terror, and amazement (1998). Any object with characteristics of obscurity, infinity, and magnificence can invoke sublime feelings (Burke 1998, 55–56). For example, a mountain with large dimensions evokes a sense of sublime. Yet, immersing in a tower hundreds of yards high can also elicit such feelings (Burke 1998, 66). The artificial world can share the same experiential qualities as wild landscapes. Similarly, Cronon argues that “wildness can be found everywhere: in the seemingly tame fields and woodlots in Massachusetts, in the cracks of a Manhattan sidewalk, even in the cells

of our own bodies” (Cronon 1996, 24–25). Wildness is not limited to natural elements themselves. Cronon tries to broaden our perception of nature by emphasizing the Wildness we receive from our surroundings. As Cronon states, Wildness situates humans as part of nature since it “dwells everywhere within and around us” (Cronon 1996, 25). We are connected with nature as long as we find the Wildness around us. Viewing this through Heidegger’s Being-in-the-World, Wildness manifests our relationship with nature by targeting the engagement between nature and ourselves. We exist in nature not through consciously reflecting on seeing natural elements but through the experience of nature. Merleau-Ponty’s phenomenological theory further supports Cronon’s argument because the senses and emotions we have outside nature can resonate with the Wildness of nature and trigger our imagination to deepen our existential experience in nature. Thus, being in natural environments is perceived not necessarily through visiting nature itself but through getting the Wildness, namely the experiences of nature, from the world we live in.

Wilderness, like the Cartesian approach, relies on the state of mind by visiting natural objects. On the contrary, Wildness focuses on the sensory and psychological experiences we have with nature. From Heidegger’s ontological perspective, engaging with Wildness is how we exist in and understand nature. From the lens of Merleau-Ponty’s phenomenology, the embodied engagement with Wildness actively shapes our perception of an environment. However, specific Wildness in different natural settings remains unclear. The next section explores those that researchers have identified as typical experiences in nature and investigates their spatial qualities to clarify the expressions of Wildness for this practicum.

2.4 Expressions of Wildness

Sublime

As mentioned, Edmund Burke defines the sublime as a common aesthetic experience in nature, which often evokes intense feelings like awe, astonishment, and terror (Burke 1998). Rather than investigating natural objects, Burke highlights the senses and feelings they offer in an immersive experience. From Heidegger's ontological and Merleau-Ponty's existential perspectives, the bodily engagement in a sublime experience is how we perceive being in nature. Therefore, the sublime can be a representation of the Wildness of nature. Burke further uncovers the sublime by exploring spatial characteristics like vastness and infinity. According to Burke, vastness can be understood as extensions in length, height, or depth (Burke 1998, 66). For example, the ocean that stretches endlessly to the horizon is perceived as vast. The vastness of extent overwhelms our senses to evoke a sublime feeling (Burke 1998, 66). Similarly, infinity comes when the eye can not perceive the bounds of an object or space (Burke 1998, 67). Infinity can also refer to the limitless quantity of objects (Burke 1998, 67). Burke uses the case of stars during the night to argue that it is the inability to grasp the entirety of countless lighting dots that elicits the sense of sublime (Burke 1998, 71). Instead of focusing on the Wilderness, which represents the physical objects that one can observe in nature, such as the wild animals in mountains or the stars themselves, Burke's illustrations of the vastness and infinity can be the spatial expressions of Wildness as he highlights the extension of space and quantity of objects in a sublime experience. Thus, when referring Wildness to the sublime, for example, the Wildness of woods, it is not the trees themselves, nor is the colours of leaves and barks, or the shape of branches, but the endless depth of the environment and countless trunks that provide the sublime experience (Figures 3–5). The Wildness

of a natural environment can be defined as the vastness of dimensions and infinite quantity of objects.

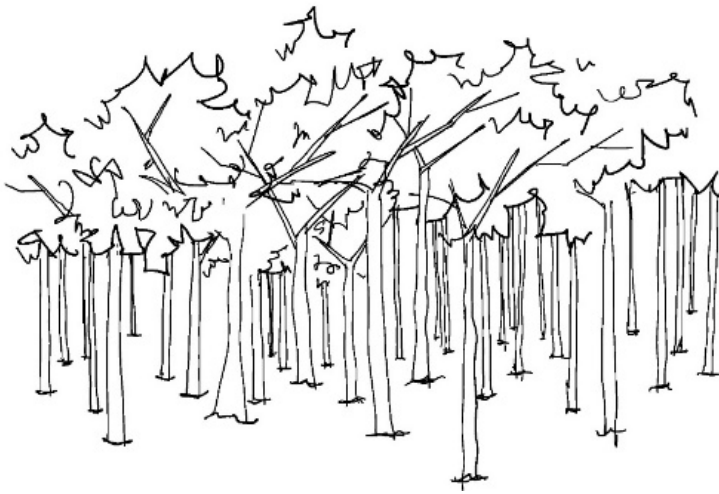


Figure 3. Woods (natural setting)

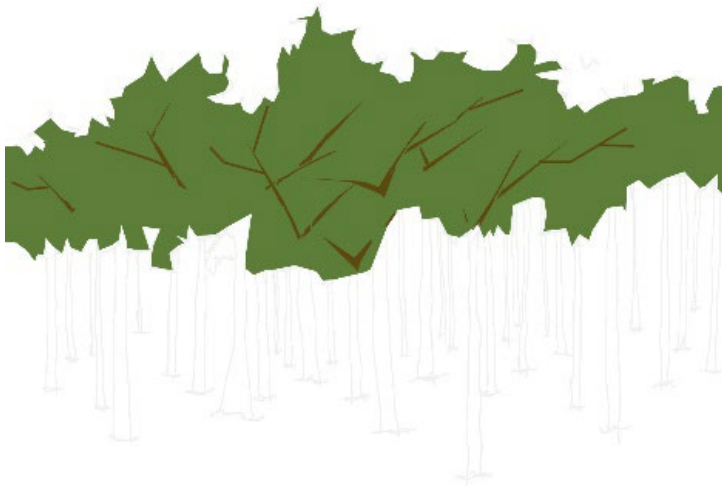


Figure 4. Colour and shape of the woods



Figure 5. Depth and quantity of the woods

Biophilia-Based Experiences

The naturalist Edward Wilson proposed the Biophilia Hypothesis to argue that the affiliation with life and life-like process is conserved after human migration from natural environments to the built environment (Wilson 1984). Humans possess an innate love of nature. Since rapid urbanization makes it hard for humans to contact natural environments in modern cities, Stephen Kellert developed Biophilic Design to integrate nature within the built environment (Kellert 2005, 1–3). He later identified 25 design attributes into three categories as guidance for architectural designers (Kellert 2018, 24–25): *Direct Experience of Nature* (direct contact with natural features), *Indirect Experience of Nature* (representations of nature), and *Experience of Space and Place* (spatial settings in nature) (Table 1).

| I. Direct Experience of Nature | II. Indirect Experience of Nature | III. Experience of Space and Place |
|--------------------------------|---|--|
| 1. Light | 10. Images | 20. Prospect and refuge |
| 2. Air | 11. Materials | 21. Organized Complexity |
| 3. Water | 12. Texture | 22. Mobility |
| 4. Plants | 13. Colour | 23. Transitional spaces |
| 5. Animals | 14. Shapes and forms | 24. Place |
| 6. Landscapes | 15. Information richness | 25. Integrating parts to create wholes |
| 7. Weather | 16. Change, age, and the patina of time | |
| 8. Views | 17. Natural geometries | |
| 9. Fire | 18. Simulated natural light and air | |
| | 19. Biomimicry | |

Table 1. Biophilic Design attributes identified by Stephen Kellert. Source: Stephen Kellert, *Nature by Design, The Practice of Biophilic Design* (New Haven and London: Yale University Press, 2018).

Unlike Burke who treated nature’s value in a subjective manner, Kellert’s strategies revealed nature’s features through their significance during human evolution history (Kellert 2018, 24–25). In other words, interacting with the Biophilic Design features is appealing to most people. However, designs related to nature are often criticized for “green-washing” the living space (Zhong 2021, 117). Features such as

plants and water may require intensive maintenance and energy consumption (Zhong 2021, 126–127). What is worse, although one of the principles of Biophilic Design is to “enhance the sense of connection with nature” (Kellert 2018, 20), the isolated garden and water features have limited impact on eliciting such feeling because the majority of interior spaces lack such features (Zhong 2021, 126–127). It is not viable to replicate the physical objects of a natural environment in architecture because interior spaces have to meet functional requirements. Since Wilderness requires humans to observe objects that exist in nature, whereas Wilderness emphasizes the experiences of nature to connect humans with nature, here I highlight the attributes that focus on the Biophilia-based spatial qualities of nature in performing the Wilderness of nature (Table 2). As forms of Wilderness, attributes that mainly rely on implementing the objects in nature are presented in a light colour.

| I. Direct Experience of Nature | II. Indirect Experience of Nature | III. Experience of Space and Place |
|--------------------------------|---|--|
| 1. Light | 10. Images | 20. Prospect and refuge |
| 2. Air | 11. Materials | 21. Organized Complexity |
| 3. Water | 12. Texture | 22. Mobility |
| 4. Plants | 13. Colour | 23. Transitional spaces |
| 5. Animals | 14. Shapes and forms | 24. Place |
| 6. Landscapes | 15. Information richness | 25. Integrating parts to create wholes |
| 7. Weather | 16. Change, age, and the patina of time | |
| 8. Views | 17. Natural geometries | |
| 9. Fire | 18. Simulated natural light and air | |
| | 19. Biomimicry | |

Table 2. Biophilic Design attributes that directly address the spatial qualities of nature are highlighted. Adapted from Stephen Kellert, *Nature by Design, The Practice of Biophilic Design* (New Haven and London: Yale University Press, 2018).

Taking the same example of immersing in the woods, when referring Wilderness to Biophilia-based experiences, it could be the “texture of light” (Kellert 2018, 62) created by the leaves, the “mobility” organized by tree trunks (Kellert 2018, 95), or the “refuge spaces” (Kellert 2018, 90) sheltered by lower branches and leaves that

constitute the Wildness of woods (Figures 6 and 7). The Wildness of a natural environment is depicted by the Biophilia-based spatial characteristics.

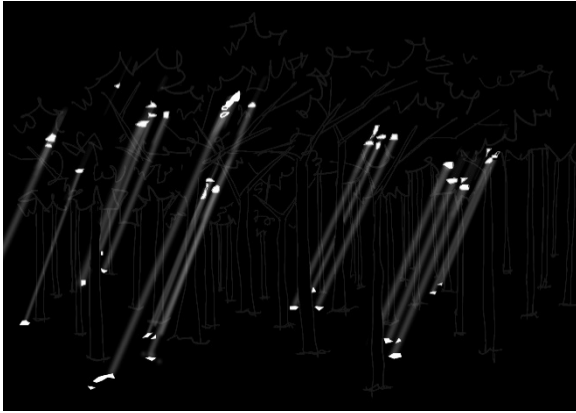


Figure 6. Light texture in the woods

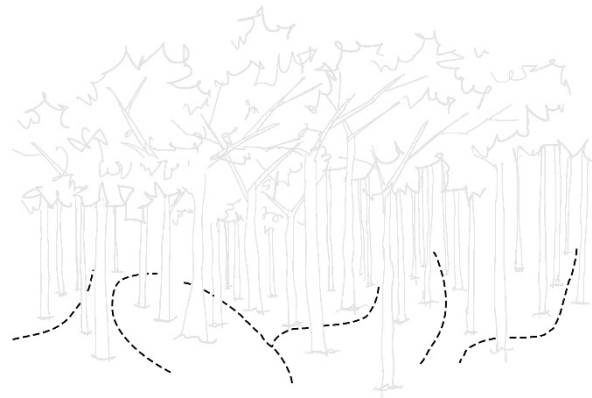


Figure 7. Circulation in the woods

The exploration of the sublime and Biophilia-based experiences uncovers potentially universal expressions of Wildness in nature. Through Heidegger's ontological perspective, engaging with Wildness is the "being" of nature and ourselves. In other words, experiential qualities like the vastness and mobility manifest the true relationship between humans and nature, which is how we exist in and perceive nature. However, the exploration only identifies what is important instead of "telling designers what to do" (Kellert 2018, 25). Since Wildness can exist anywhere we live (Cronon 1996), the following section investigates how traditional Interior Design elements like materiality and architectural tectonics may provide Wildness to connect people with nature in interior spaces.

2.5 Recreating the Wildness of Nature through Interior Design

Body-centred Architectural Experience

Following Merleau-Ponty's philosophy that centres the human body of the experiential world, some architectural designers investigate the role of our body senses in experiencing architecture (Pallasmaa 2012, 43–44). In the book *Body, Memory, and Architecture*, Kent C. Bloomer and Charles W. Moore argue that our existential experience in architecture is manifested through the body and senses because the place interacts with our body and generate associations for our personal worlds to hold (Bloomer and Moore 1977, 107). The bodily sensory experiences constitute the human mode of “being” in architecture (Pallasmaa 2012, 44). Thus, how and what people can see, hear, touch, smell, and even taste in architectural spaces actively shape their spatial perceptions.

Atmosphere

According to Merleau-Ponty, our lived experience is immediate and pre-reflective in shaping our intellectual understanding of the world (Merleau-Ponty 2011). This immediate perception through a bodily experience within the world is also acknowledged by Peter Zumthor in the book *Atmospheres: Architectural Environments · Surrounding Objects*, in which he claims that the atmosphere in architecture can be perceived as soon as people engage in the space (Zumthor 2006, 11–13). With a bodily engagement, our perception of an atmosphere precedes our conscious reflection. For Zumthor, architecture with “atmosphere” moves people and evokes their moods and feelings through sensory stimuli like sound, light, colour, form, and texture (Zumthor 2006, 11–13). In his description of the atmosphere of a square:

“Sitting in the sun. A grand arcade – long, tall, beautiful in the sunlight... The opposite side of the square in the shade, pleasantly blue. Wonderful range of noises. Conversations nearby, footsteps on the square, on stone, birds, a gentle murmuring from the crowd... Pleasantly fresh and warm temperature... What moved me? Everything. My mood, my feelings... I take away anything, my feelings are not the same” (Zumthor 2006, 15–17). Zumthor depicts the atmosphere not in terms of the objects themselves but the bodily experiences and feelings they offer. Similar to Merleau-Ponty’s idea, these sensory experiences and emotional responses come as a whole with meanings in shaping his perception of a place. In this sense, when we enter a room, we do not tend to see the furniture and light, feel the temperature, and smell the air as separate experiences. Instead, we perceive the room through feelings and bodily experiences integrated as a whole: a formal classroom, a cozy living room, or an astonishing atrium. Likewise, when engaging in a mountain, we perceive its sublime atmosphere through the unity of the sensory experience and awe feeling. The physical and psychological experiences are integrated as a whole to shape our perception of the atmosphere in a place.

Zumthor further claims that the sensory experiences and associated feelings are concrete qualities of the atmosphere in a place, which can and must be created through architectural elements that constitute a building (Zumthor 2010, 57–59). Design elements like light and scale, as Jean Whitehead asserts, are ingredients that focus on our sensory and psychological awareness of the interior space. It is just a matter of mastering these ingredients to enhance our sensory experience and mood to shape our perception of space (Whitehead 2018, 38). The following part lists Zumthor’s exploration of spatial design elements regarding the sensory experiences

and associated feelings they offer in perceiving an interior space, with some additional suggestions from Juhani Pallasmaa.

- **Scale:** Zumthor asserts that the scale of architecture creates intimacy because our body interprets the sizes and dimensions of architectural tectonics with certain feelings. When experiencing the interior, the huge and monumental columns of Villa Rotonda amplified the distance between human body and architecture, making Zumthor feel larger and freer. In other words, a sublime feeling (Zumthor 2006, 53). The bodily experience with different scales of architectural tectonics offers varied bodily intimacy and emotions.
- **Sound:** According to Zumthor, interiors can collect, transmit, or amplify sound to add a layer of emotional and sensory complexity to the built environment (Zumthor 2006, 29). Pallasmaa also claims that people perceive the intimacy of a space through the sound (Pallasmaa 2005, 53–55). We get a sense of the atmosphere in a place through the sound our body receives: the noise of conversations in a gathering place implies its welcoming atmosphere, whereas the quietness in a museum suggests its calming environment.
- **Temperature:** Zumthor believes architecture can “temper” people like music does in search of the right mood. The temperature of the air, of the surface we touch with our hands or feet, goes beyond a physical reaction and affects how we mentally perceive a place (Zumthor 2006, 33–35). For example, the space of warmth around a fireplace evokes feelings of comfort and home (Pallasmaa 2005, 63). Temperature plays a vital role in shaping our physical and psychological experiences of architectural spaces.

- Light: Zumthor takes light in architecture as a spiritual quality constantly moving him. He emphasizes where and how the light falls and the contrast between light and shadow, invoking certain feelings like pleasure and sublime in architectural experiences (Zumthor 2006, 57–61). Zumthor further states that natural light is far better than artificial light because it is dynamic and works as the track of time (Zumthor 2006, 61). What is more, Pallasmaa points out that the dim light and shadow create the ambiguity of space to provoke people's imagination (Pallasmaa 2005, 50). The design of light orientation and brightness evokes emotions and navigates people's attention in interior spaces.
- Material: Zumthor claims that material has infinite potential because it creates different spatial characteristics depending on its weight, quantity, craft technique, and combination with another material. In addition, Pallasmaa believes that we perceive the history and atmosphere of space through its materials (Pallasmaa 2005, 62). Zumthor also identifies this idea by saying that the materials will be experienced by our body and evoke certain moods that speak to the overall atmosphere in architecture (Zumthor 2006, 23–27). For example, when designing a living room in an exposed concrete building, Zumthor chooses ebony instead of cedar to get enough density, mass, and warmth to offset the heaviness and cold feeling of concrete (Zumthor 2006, 25–27). The choices of materials rely on the feelings and sensory experiences they can provide to strengthen the atmosphere of architecture.
- Circulation: In Zumthor's perspective, architectural designers control people's movements, which further induce certain emotions in a building. An open circulation suggests people stay and explore, giving them a sense of freedom, whereas a narrow corridor directs people and offers a safe and calming

psychological effect (Zumthor 2006, 43–45). Designers should plan the interior circulation based on building typology and people’s emotional needs.

Although the spatial design elements are listed as individual implications, they are interconnected in the actual practice of interior design. For example, material can impact light reflection, temperature insulation, and sound absorption. As Pallasmaa states, “every experience in architecture is multisensory” (Pallasmaa 2006, 30). The engagement with these design elements simultaneously involves various body senses mentioned before (Figure 8). For instance, light delivers its warmth to our skin while enabling us to see other objects. We engage with a concrete surface by seeing its colour, hearing the sound reflection, feeling its temperature, and touching its texture. The sum of the design elements coherently constructs a perceivable architectural atmosphere by enriching our sensory experience and emotions (Zumthor 2006, 69).

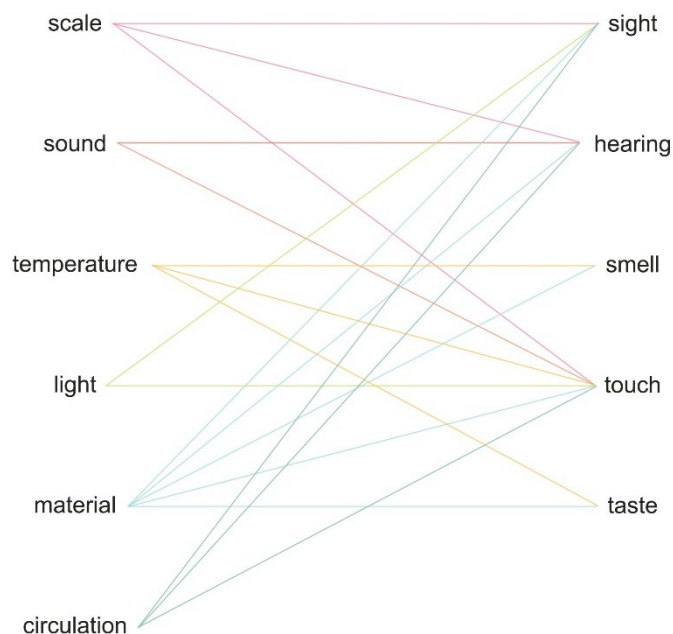


Figure 8. The explored design elements and the associated body senses they may affect.

To Perceive Architecture through Memory and Imagination

Pallasmaa claims that the embodied experience is essential in remembering a space or place (Pallasmaa 2006, 37). Memory situates us back to distant cities through the associated senses and feelings. In addition, architecture evokes imagination by focusing on our existential experience (Pallasmaa 2006, 31). For example, the bodily engagement with Egyptian temples allows us to picture the pharaohs and see the passing of history (Pallasmaa 2006, 31). As Pallasmaa asserts, “The domain of presence fuses into images of memory and fantasy” (2012, 72–74). The interplay of memory and imagination deepens our current embodied experience and thus shapes our perception of an architectural space. In *Thinking Architecture*, Zumthor argues that “It seems impossible to distinguish architecture and life, between spatial situations and the way I experience them... My perception of architecture resonates in what I have experienced and thus colours what I have observed” (Zumthor 2010, 45). Similar to Merleau-Ponty and Pallasmaa’s phenomenological approach, Zumthor values the memory and imagination evoked by current experience in colouring our spatial perception. In Zumthor’s work, he often began by translating the atmosphere of a place into the spatial qualities that moved him and stimulated a unique feeling, then made architecture project the atmosphere for people to appreciate by holding these qualities in its wall, floor, and spaces (Zumthor 2010, 24–25). For example, in the design of Therme Vals, Zumthor was guided by the experience he had visiting the project site. The building creates an environment that resonates with the site’s calming and timeless atmosphere to offer a sense of “being inside mountain” (Zumthor 2009). In the spa rooms (Figure 9), the use of local quartz not only slowly releases heat absorbed from the sun and water to help maintain a stable room temperature but also

silences the indoor environment, amplifying the occasional sound of rippling water and speech (Hawkes 2019, 235–237). The slit opening on the roof creates dynamic patterns of sunlight and shadow that slowly changes with the time of the day and



Figure 9. Interior of the spa room

season. The movement of light makes time visible. On the other hand, the cycle of its movement blurs the concept of past, present, and future, allowing the occupants to focus and reflect more on their senses and surroundings in a timeless environment. The lighting carried by the steam of the water creates an ambient light field to enhance the calming and spiritual environment (Hawkes 2019, 238). The atmosphere echoes the sensations and emotions when immersed in the site, evoking people’s memory and imagination to help perceive a connection with the mountain. Here, architecture does not need to resemble the place in mind physically but to recreate its experiential effects and feelings through engaging with materials, water, light, sound, and temperature. The senses and moods we get in architecture resonate with our memory and trigger our imagination to colour our perception of the space.

Adopting Zumthor’s approach, the sublime of a natural environment could be the atmosphere that Zumthor tries to recreate through the deliberate arrangement of materiality and architectural tectonics. For example, enlarging the scale of architectural tectonics could be an approach to simulating the vastness of nature. When recreating “mobility” as a Biophilia-based experience, how the arrangement of architectural tectonics can simulate a free or organized movement in a natural

environment would be vital in Zumthor's project. These experiential qualities are what William Cronon calls the Wildness outside nature, which still helps people connect with a natural environment (Cronon 1996). Through the lens of Being-in-the-World, engaging with the Wildness in architecture is how we exist in and understand a space. Besides the focus on the physical and psychological experiences, Zumthor and Pallasmaa introduce the layer of memory and imagination: the Wildness in architecture not only situates us in nature but also colours our spatial perception by resonating with our memory and stimulating our imagination. Thus, if an architectural project can recreate expressions of Wildness, specifically the sublime and Biophilia-based experiences in nature, through the design of sound, light, temperature, intimacy, and movement, it is possible to perceive the interior environment as nature.

2.6 Summary and Conclusion

This chapter compares René Descartes's Body-Mind Dualism with Martin Heidegger's Being-in-the-World to examine the relationship between mind and body in interpreting the world. Maurice Merleau-Ponty's phenomenological theory further emphasizes the bodily experience as pre-reflective knowledge in shaping humans' immediate perception. William Cronon's definition of Wildness is reviewed through lenses of Being-in-the-World and Merleau-Ponty's Phenomenology because it also focuses on the sensations and feelings of nature. Since Wildness is essential in perceiving being in nature, common expressions of nature's Wildness, such as the sublime experience and Biophilia-based experiences are investigated to decode their associated spatial characteristics. The exploration of Wildness's universal expressions inspires further investigation into how the Wildness in interior spaces can help shape people's perception of being in a natural environment without the presence of natural elements. More importantly, it sets up the ground for the design experiments conducted in the design chapter because the project design consists of a series of Wildness settings identified in this chapter.

In the architectural design realm, Merleau-Ponty's successors, especially Juhani Pallasmaa and Peter Zumthor, inspire the design strategies of this project in the design chapter. The Wildness of nature could be translated to its atmosphere because both emphasize the spatial qualities. For example, the sublime is both the Wildness and atmosphere of a valley. Thus, the main focus of the project design in this practicum is to recreate the Wildness, meaning the experiential qualities, of a natural environment through traditional Interior Design elements like materials, light and shadows, and

circulation. The integration of memory and imagination plays a vital role in shaping the perception of interior spaces as the present bodily experience resonates with memory and opens up imagination, allowing people to exist in a natural environment and thus colour their perception. Having achieved that, people may perceive being in nature without natural elements.

CHAPTER III
Precedent Analysis

3.1 Chapter Introduction

The following chapter discusses and analyzes three design precedents, Bridget's Bardo (2008), Jewish Museum Berlin (2001), and Bruder Klaus Field Chapel (2007), to further inform the design of *the unseen Wilderness*. Chapter II concludes that Wildness emphasizes the experience in our built environment, which still helps people connect with nature. However, the expression of Wildness varies in different natural settings, which will be identified in Chapter IV based on specific experiences. Thus, these projects are not necessarily nature-related designs but are precedents that utilize an experience to guide their spatial design and alter the occupants' perception. All precedents are investigated through lenses of the ontological, phenomenological, and architectural theories discussed in the previous chapter to test the success of their design approaches. It is the design method, which uses the senses and feelings instead of the physical objects in an experience to inform the choice and design of materials, form, light, movement, and details, that this practicum can borrow to address its design solutions in the experiments. Each precedent study consists of three sections:

1. Project Relevance: Present the project concept and how its design approach relates to recreating the Wildness of nature in interior spaces.
2. Design Analysis: Explore the spatial design solutions informed by an experience, such as lighting, form, materiality, scale, circulation, and furniture design.
3. Theoretical Analysis & Design Implications: Analyze the experience inside the project through Martin Heidegger's Being-in-the-World, Maurice Merleau-Ponty's Phenomenology, and Peter Zumthor's Atmosphere to understand

how architectural design manages to challenge people's perception of an interior space, which informs design approaches in recreating Wildness in *the unseen Wilderness*.

Brief of precedents:

- 1) The Bridget's Bardo is an art installation space inspired by James Turrell's flying experience. How the experience informs Turrell's use of LED lights to alter people's perception of spatial contours will be studied.
- 2) The Jewish Museum Berlin is an architectural project by Daniel Libeskind. The analysis explores how the architectural design solutions represent Jewish history in the context of Germany, especially the Holocaust during World War II. It also investigates in detail how the Holocaust Void space allows visitors to empathize with the traumatic experience.
- 3) Bruder Klaus Field Chapel is an example of atmospheric architecture by Peter Zumthor. The spiritual atmosphere during worship guides the design of this chapel. The investigation focuses on how the construction of architectural tectonics and materiality are executed in a holistic way and complement each other in helping people perceive the sacredness of the space.

3.2 Bridget's Bardo

Location: Wolfsburg, Germany

Year: 2008

Typology: Light Installation Artwork

Designer: James Turrell

Topic of Interest: Light design in eliminating the sense of spatial depth; Light as a spatial quality rather than object; Immersive experience; Sensations as the basis of perception

Project Relevance

The *Bridget's Bardo* is one of James Turrell's *Ganzfelds* projects. The *Ganzfelds* are a series of light installations that use homogeneous light to stimulate people's retinas and alter their spatial perceptions (Beveridge 2000, 313). Turrell's previous experience as a pilot inspired the lighting design in *Ganzfelds* (Lawrence 2013, 730), which is similar to Peter Zumthor's approach that utilizes past experiences of a place to guide the spatial design. The seemingly boundless space and homogeneous light in the *Ganzfelds* are evident in Turrell's flying experiences (Lawrence 2013, 730), such as flying through dense fog or clouds. As mentioned in Chapter II, we perceive a place, such as a natural environment, through its experience. Decoding flying through associated experiential qualities of light allows Turrell to design a perceived boundless interior space. The intention of revealing light's experiential qualities instead of merely treating light as a tool in illuminating other objects (King 2002, 27), as well as the success of using light's sensory qualities to shift people's perception (Peifer 2013, 70) inspire focusing on the experiential qualities rather than the physical appearance of objects in nature to guide the spatial design in the design experiments.

Design Analysis

The *Bridget's Bardo* contains an 11-metre-high structure that is located in the Kunstmuseum at Wolfsburg. Since numerous LED lights are invisibly installed, people cannot see the light source but the effects they create. The occupants are directed to move from point 1 to 2 by a slope (Figure 10). Although this slope offers a general direction,

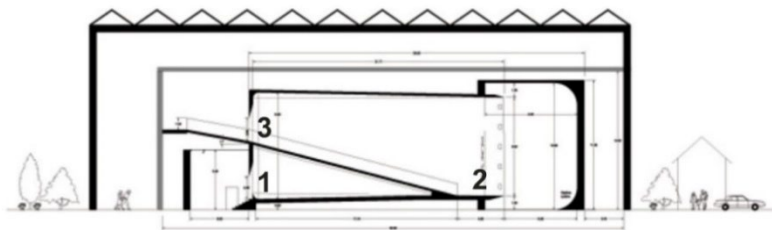


Figure 10. Section of the Bridget's Bardo

it does not encourage people to move too fast because it is too wide to create a clear path. The lack of furniture further highlights the unorganized pathway. Thus, people are slowly immersed in the space as they wander from point 1 to point 2. When they arrive at point 2 and look backward, the room is perceived as infinitely large because the *Ganzfeld* created by the ambient light dissolves the room edges and makes it impossible for people to locate the ceiling and walls (Figure 11).



Figure 11. View of the entrance

The only object that people can pinpoint around them is a ramp, inviting them to climb up and reach point 3 (Figure 10). If people look down along the way climbing the ramp, the wall in the back seems infinitely distant as its boundary disappears in the homogeneous light (Figure 12). In addition, the ramp looks endless because

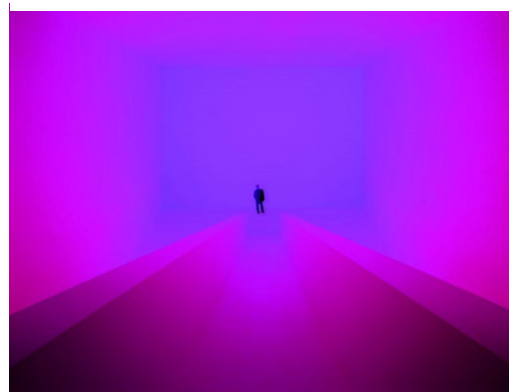


Figure 12. View of the ramp

the LED lights create a structureless visual field that prevents people from perceiving where the ramp meets the floor (Figure 12). The light colour contrast between red and purple allows people to differentiate guiding objects like the ramp and entrance while evoking pleasant emotions (Valdez and Mehrabian 2014). Thus, the Ganzfeld created by light's experiential qualities enriches people's embodied experience to challenge their spatial and visual perception.

Theoretical Analysis & Design Implications

In the *Bridget's Bardo*, light is not a tool to illuminate a room. Instead, Turrell immerses people in light, using the quality of light to “erase” spatial contours (Lawrence 2013, 730). The active engagement with the homogeneous light allows people to perceive a boundless space. As Turrell noted in an interview: “This direct experience of light is the difference between watching football and playing it” (2002, 26). This direct engagement with light, from Martin Heidegger's point of view, is how we manifest our “being” with light. Experiencing light's quality during flying allows us to exist in and understand flying. In addition, the use of light's quality instead of light as an isolated object demonstrates that the pure experiences like impressions and sensations are the basis of perception, which aligns with Maurice Merleau-Ponty's phenomenological theory (Beveridge 2000, 309–310). The sensory and psychological experiences offered by light actively shape people's understanding of the *Bridget's Bardo*, enabling the space to be perceived as boundless as the sky. If we rely solely on our intellectual reflection, we know the ramp is short, and the room has boundaries. However, our bodily experience with the light constitutes a pre-reflective knowledge beyond conscious questioning, allowing us to perceive the infinity of the ramp and

room. The bodily experience in shaping spatial perception guides the later design experiments to focus on the experiential qualities rather than the objects themselves. Moreover, the *Bridget's Bardo* inspires utilizing the Ganzfeld as a design strategy to eliminate the spatial contour, which could be applied to the design experiments. For example, one of the spatial conditions of the sublime experience in nature is the vast dimensions, which allow the environment to be perceived as infinite. Instead of enlarging the scale of architectural tectonics, the Ganzfeld created by light's experiential quality can challenge people's perception of spatial boundaries to recreate the sublime experience in a limit-sized interior space.

3.3 Jewish Museum Berlin

Location: Berlin, Germany

Year: 2001

Typology: Experiential Museum

Designer: Daniel Libeskind

Topic of Interest: Representing an experience through architectural design; Spatial design in evoking psychological responses; Active engagement with Interior spaces

Project Relevance

The Jewish Museum Berlin by Daniel Libeskind records the Jewish history in the context of Germany, especially the Holocaust of the Jews during World War II. Instead of simply displaying collections and historical documents, the Jewish Museum Berlin requires visitors to actively engage with its depth, height, weight, form, light, texture, and material density (Oliver 2020, 27). As discussed in Chapter II, the bodily engagement with architectural tectonics and materiality evokes certain emotions, which in this case are the feelings of loss, emptiness, and even horror (Ionescu 2017, 106). During an interview, Libeskind claimed that “it's important not to repress the trauma, it's important to express it and sometimes the building is not something comforting” (2015). The Holocaust is translated and represented in the museum's spatial qualities, allowing the visitors to perceive and resonate with the traumatic experience. Similarly, the goal of this practicum is to recreate the Wildness, which means the experience of nature, in interior spaces. Thus, exploring the Interior Design of the Jewish Museum Berlin can guide how light and material qualities can enable people to experience and resonate with the experience of nature.

Design Analysis

The zig-zag form, which reflects the Jews' tortuous history, is articulated in plans, details, walls, and window openings to construct a holistic design language (Figures 13–16). The unusual and sharp angles dominate the interior spaces, evoking an uncomfortable feeling.

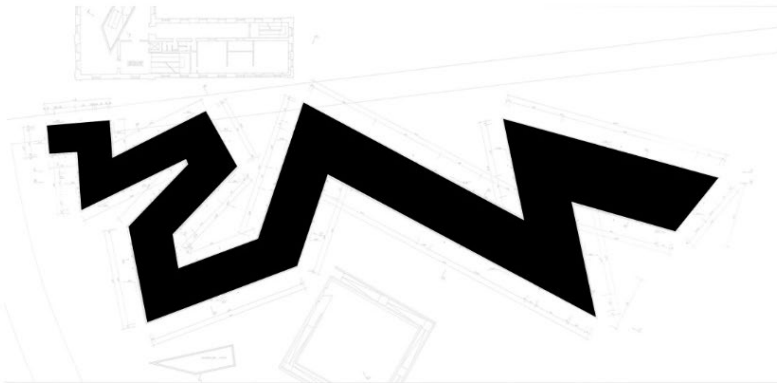


Figure 13. Zig-zag plan



Figure 14. Zig-zag details



Figure 15. Zig-zag walls



Figure 16. Zig-zag window openings

The void areas are the core spaces of the museum, which run through the entire building (Figure 17). They are designed with no furniture or exhibits to help people reflect on the feeling of absence. These spaces are covered with concrete, intensifying the sense of emptiness through the material's darkness and coldness. The minimal light washing down from the tall



Figure 17. Photo of a void space

ceiling further renders the dark and cold atmosphere while allowing people to see interior surfaces.

Besides the zig-zag form and concrete material, the spatial characteristics of the Holocaust Void are unique because it was inspired by the story of a Holocaust survivor who had spent years in the concentration camp (Libeskind 2004, 55). According to Libeskind, the survivor saw a white line across the sky on the way being transported by a boxcar to the concentration camp. And it was the hope and confidence offered by the light that supported the desperate woman to live through the harrowing years (Libeskind 2004, 55–56). On the one hand, Libeskind intentionally left the Holocaust void with no air condition treatment because he wanted the visitors to empathize with the traumatic experience through the hot or cold temperature of Berlin. In addition, 10000 iron faces with painful and twisted looks are put on the path, reminding people of the nameless and countless Jews in the Holocaust as they walk through the space (Figure 18). On the other hand, Libeskind did not want the experience to be too desperate as he lights up the space



Figure 18. Photo of the Holocaust Void

through the slits on the ceiling (Figure 18). The careful manipulation of the form, material, height, temperature, and light in the Holocaust void recreates an isolated but not hopeless atmosphere, allowing visitors to resonate with the Holocaust survivor's experience.

Theoretical Analysis & Design Implications

Presenting the Holocaust does not necessarily require showcasing its documents or footage. Instead, Libeskind achieved that the Holocaust experience could be represented through the design of depth, light, temperature, texture, material, and form. Furthermore, the larger audience can resonate with the experience by actively engaging with the spatial qualities provided by these interior design elements. As mentioned, Martin Heidegger's *Being-in-the-World* highlights the bodily engagement one is having with the environment. Instead of picturing the historical event in mind through reading documents, Libeskind uses the survivor's "being" to guide his design of the Holocaust Void. Experiencing spatial qualities that reflect the traumatic experience, such as the lighting and temperature conditions, manifests our "being" and thus allows us to gain a deeper understanding of the Holocaust. Adopting the phenomenological approach discussed in Chapter II, the body sensations and emotions, such as the rough surface of concrete, the cold temperature, and the isolated feeling, come as a whole to shape our immediate perception of the environment. Immersing in the dark and cold atmosphere recreated by minimal light, sharp angles, and massive concrete, for Peter Zumthor, enables us to resonate with the Holocaust senses and feelings and thus shapes our perception of the space.

As mentioned, this practicum tries to provide the Wildness of nature in interior spaces. Although Wildness is rarely experienced as traumatic as the Holocaust, the Jewish Museum Berlin inspires recreating the sensations and feelings through the design of architectural tectonics and materiality as the key to translating the experience of nature. The bodily engagement with depth, light, temperature, texture,

material, and form manifests our “being” in nature, enabling us to perceive nature in the project of this practicum.

3.4 Bruder Klaus Field Chapel

Location: Eifel, Germany

Year: 2007

Typology: Religious Church

Designer: Peter Zumthor

Topic of Interest: Tectonic design; Interior details; Combination of materials; Sensory impression; Atmosphere

Project Relevance

The Bruder Klaus Field Chapel was dedicated to the Bruder Klaus, who is the patron Saint of Switzerland (Schwartz 2016, 282). In order to evoke a connection between heaven and earth, the architect Peter Zumthor did not imitate the traditional form of a church, nor did he put a statue of the Bruder Klaus, but aimed at rendering the sublime and sacred atmosphere through the design of light, materials, views, movements, and tectonics (Wang & Dai 2023, 1–3). As discussed in Chapter II, the atmosphere of a place, for Zumthor, is deciphered as the sensory experiences and feelings one receives through bodily engagement. The design of Interior Design elements, such as tectonics and materiality, construct an atmosphere to immerse us, shaping our perception of an interior environment. The embodied experience inside the chapel helps people perceive a connection with Bruder Klaus. As mentioned, the Wildness of a natural environment can be understood as its atmosphere because both refer to the physical and psychological experiences of a place. Thus, analyzing how the deliberate architectural design of Bruder Klaus Field Chapel creates an atmosphere to shape people's perception inspires the focus on the experiential qualities of light, materials, views, movements, and tectonics in the later design experiments to help perceive being in nature.

Design Analysis

Unlike the exterior of Bruder Klaus Field Chapel, which possesses a recognizable rectangular form, the interior space was constructed by 112 pine logs arranged in a tent-like structure with an oculus at the highest point (Figure 19). The pine logs connect with the exterior formwork through pouring layers of concrete (Figure 20). After the concrete was dried, the wood logs were burned out, leaving a wave-like texture and natural smell of the pine wood on the concrete surface (Figure 20). The steel ties that once bound the inner and outer formwork were then replaced by glass beads (Figure 20).



Figure 19. Anatomy



Figure 20. Wall construction sequence

People enter the chapel through a door with a triangular shape that echoes the overall shape of the interior space (Figure 21). At the entrance, a narrow hallway

tapers upwards in a dark environment to invite people's exploration (Figure 22). The light transferred by the glass beads on the concrete surface provides basic visibility of the surroundings. People walk slowly, sometimes with their hands on the wall, which leaves opportunities to concentrate and reflect on experiencing the texture, scent and warmth of the concrete walls and lead floor. As they move forward, the hallway widens and twists to reveal the centre of the chapel (Figure 22). The room has minimal furniture, only a wooden bench, a candle

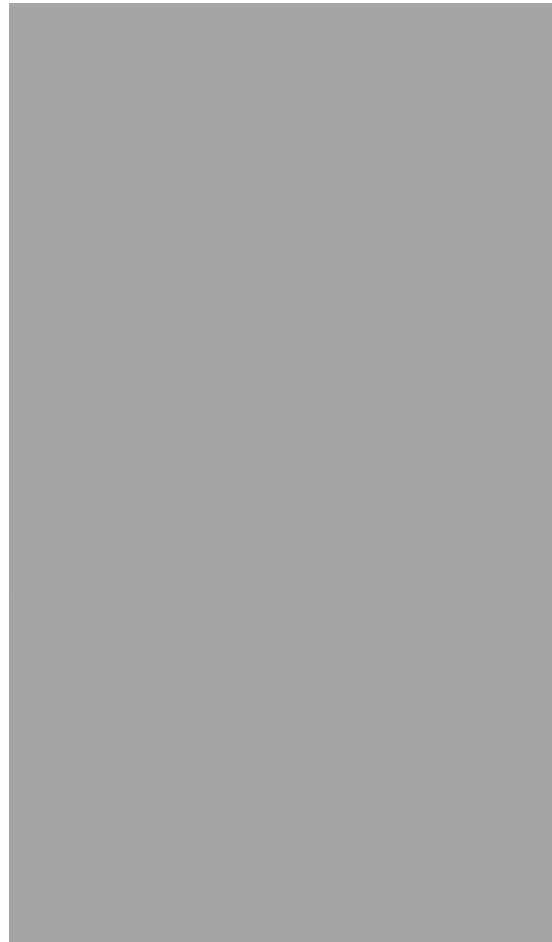


Figure 21. Representational qualities of the entry door



Figure 22. Horizontal to vertical movement

holder, and a wheel-shaped brass ornament that Zumthor found in the image of Klaus' cell (Schwartz 2016, 283), constructing a calming environment that allows people to concentrate on their reflection. On top of the room, the intense daylight from the oculus, in contrast to the dark environment, blurs the contour

of the opening and helps the space to be perceived as infinitely high (Figure 23). The

sparkling glass beads on the walls are perceived as constellations during the night. The light from the oculus and glass beads evokes a spiritual feeling to further help perceive the sacredness of Bruder Klaus. Thus, the calming and spiritual atmosphere inside the chapel shapes people's perception towards a sacred place through interacting with the interior form, material, and light.

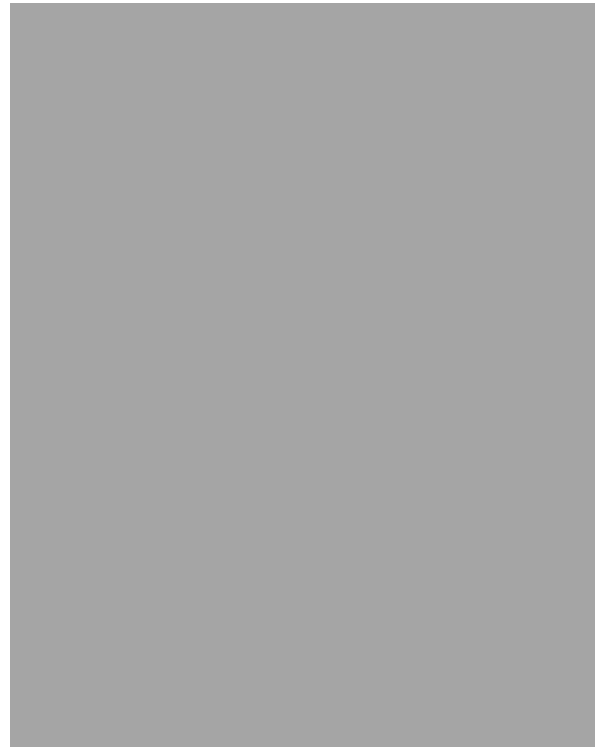


Figure 23. View up towards the chapel oculus

Theoretical Analysis & Design Implications

The Bruder Klaus Field Chapel does not mimic the physical shape of a church, such as the Gothic style that possesses pointed arches. Instead, Zumthor reinterprets the upward movement and the spiritual atmosphere during worship through different forms, materials, and light treatments. As Zumthor points out, architectural elements like materiality and lighting can construct a perceivable atmosphere by enriching our sensory experiences and moods (2006). Therefore, in the design process, the fundamental thing that Zumthor needed to investigate was how people's interaction with materials, forms, circulation, furniture, and lighting can provide experiences that help perceive the chapel's sacredness. From Martin Heidegger's view, the bodily engagement is how people exist in and understand the space. For example, when immersed in the centre of the room, experiencing the light from the oculus and glass beads, the smell of the wood, and the tactile quality of the concrete express our Being-in-the-World. Through the lens of Maurice Merleau-Ponty, these bodily experiences

and spiritual feelings come as a whole in shaping our immediate perception of the chapel. Zumthor's design philosophy showcases that "everything is about existence, perception, and contemplation, integrating experience, perception, and imagination into the atmosphere of the space" (Wang and Dai 2023, 3). As mentioned, atmosphere is about experiential qualities. And the job of architectural designers like Zumthor is to provide the experiential qualities of a place through the design of architectural tectonics, materiality, and even furniture, inviting people to explore their sensory responses, imaginations, and perceptions. Like Wildness emphasizes the senses and feelings of nature, Zumthor targets the remaining scent after burning out the tree logs, using the Wildness of the material to evoke calming and spiritual feelings. In this sense, exploring Interior Design elements like materials, lighting, form, and circulation in creating the Wildness of nature will be essential in the design experiments. Thus, identifying specific senses and moods in different natural settings guides the design strategies in choosing materials, forms, and lighting conditions.

3.5 Summary

This chapter examines three projects that reflect the theories explored in Chapter II. In the Bridget's Bardo, Turrell uses LED lights to create the Ganzfeld effect, a homogenous visual field, to alter people's perception of spatial contours. The sharp angles, deep depth, minimal light, and dark concrete in the Jewish Museum Berlin enable the visitors to resonate with the isolated and desperate experience and thus perceive a deeper understanding of Jewish history. In the Bruder Klaus Field Chapel, Zumthor was not constrained by the shape of a traditional church, nor did he introduce a statue of the Bruder Klaus. The minimal use of furniture, the smell of burned wood, the tactile quality of concrete, and the contrast between light and darkness encourage people to slow down and concentrate on their sensations and imaginations to perceive a connection with God.

Overall, the design solutions of the three precedents were all informed by certain experiences. In addition, they demonstrate that the senses and emotions are the basis of perception. The designers recreate the senses and feelings instead of the physical objects in an experience through the design of form, movement, light, detail, materiality, and furniture. People's bodily engagement with these Interior Design elements shapes their perception of the project's interior space. Therefore, identifying the Wilderness that emphasizes the senses and feelings in a natural environment is crucial in conducting design solutions of *the Unseen Wilderness* in the next chapter. The design of materiality, tectonics, light, and circulation will vary according to the experiential qualities each experiment tries to recreate in shaping people's perceptions.

CHAPTER IV
Design Application

4.1 Chapter Introduction

As discussed in Literature Review and Precedent Analysis, our “being-in-the-world,” which means engaging with the world through our body, prevents us from having an abstract understanding of the world. During an experience, the bodily engagement we have at the moment actively evokes our emotions and shapes our perception of the world. In this sense, any experience can be depicted through body senses and moods. In addition, architectural tectonics and materiality design can recreate an experience by stimulating associated senses and emotions. The embodied experience in architecture can evoke memory and imagination to shape the user’s spatial perception. For example, the Holocaust Void’s interior depth, light, temperature, and materiality allow the visitors to picture and resonate with the survivor’s experience of the Holocaust. “Being” in the traumatic event is manifested by engaging with the surroundings. Moreover, because the experience is described with personal senses and moods, it does not set up an abstract but a specific picture for the designer to recreate in the museum. The more specific the experience is depicted, the more accurately the atmosphere can be recreated in interior spaces. The carefully stimulated senses and feelings, as the basis of perception, enable the occupants to empathize with the associated experience and thus alter their spatial perceptions.

Since Wildness is the experience of nature, this chapter investigates the Wildness in three natural scenarios to guide a series of design experiments. In each design experiment, the design approaches are listed as follows. First, I use photographs, videos, and texts from myself or others found online to describe the senses and feelings when encountering a natural phenomenon. Second, I relate the

experience with the spatial characteristics of Wildness explored in Literature Review to inform the design concept. Third, I explore design strategies; some are based on personal knowledge, and some are inspired by the precedents analyzed in the previous chapter to address the concept. Finally, I propose a hypothetical interior space that could be applied with the design solutions I explored in Step Three to meet its functional requirement while stimulating the senses and moods discussed in Step One. Instead of isolating natural features as objects in interior spaces, the design experiments are means to propose and test an alternative way that focuses on providing the senses and emotions in natural environments to reconnect people with nature.

4.2 Light Slits Clouds (personal)

Description: The photo was taken when I walked down a suburban street, looking up at the sky (Figure 24). The clouds are so vast that they almost cover the sky. Only in places where the clouds are thinner can the sun faintly illuminate them. The closer to the edges of the clouds, the lighter their colour becomes. At a particular gap between the cloud layers, it seemed as if the clouds were torn by the sunlight. Beams of sunlight passed through the crack, casting light pillars toward the ground at different angles. The soundless environment and the astonishing light pushed me to walk faster to experience what it would feel like to step in the piercing rays of sunlight.



Figure 24. Picture of sunlight radiating through the cloud

Components of Wildness & Conceptual Diagrams: In the experience, the vastness of the environment reflects a characteristic of the sublime, evoking a sense of awe (Figure 25); The gap and variations of cloud density in creating light patterns and different light intensities can be identified as Texture and Information Richness in

Biophilia (Figure 26); The light pillars that stimulate a sense of wonder and further movement reveal the Shapes and Forms in Biophilia (Figure 27).



Figure 25. Vast layers of clouds and space

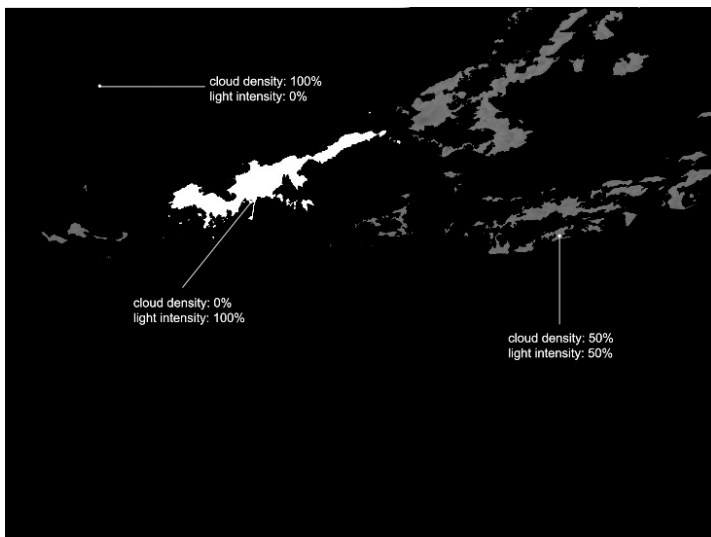


Figure 26. Cloud texture and various densities



Figure 27. Shape of light beams

Design Strategies & Spatial Diagrams: vastness of clouds → continuity of ceiling structures (Figure 28) + high ceiling; different light intensities and patterns + soundless environment → layers of ceiling structures + semi-transparent material with acoustic quality (e.g. acoustic fabrics like polyester) to help silence the environment and enable people to focus on their sensations and imaginations (Figure 28); light beams → particles to reveal light boundaries (e.g. water vapour) (Figures 29–31), or lighting voids enclosed by solid surfaces (e.g. frosted glass) (Figure 32) or metal threads (Figure 33). Figures 34, 35, and 36 show the use of golden threads and light in constructing the lighting volume.

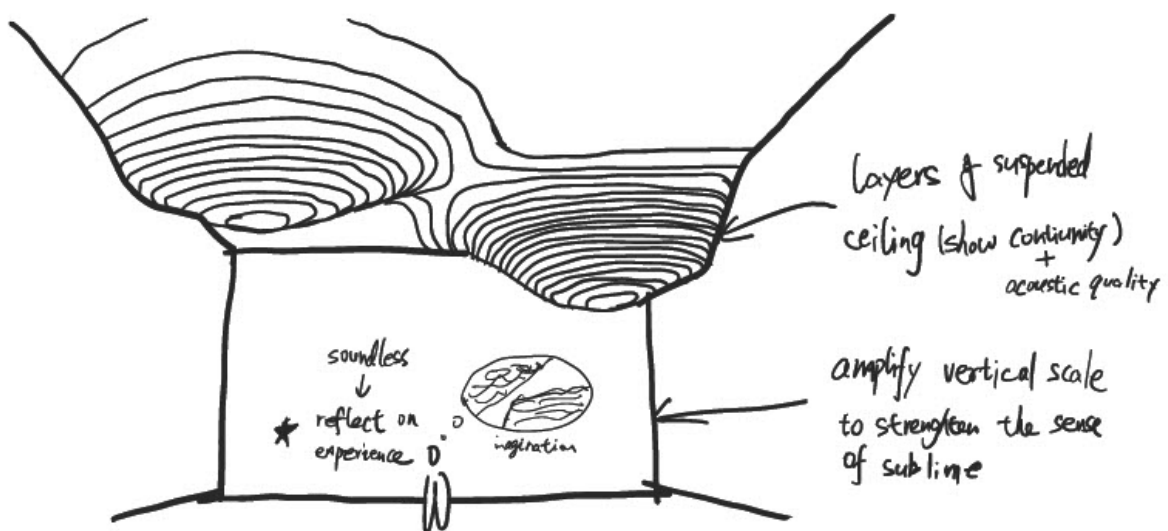


Figure 28. Continuous ceiling with various densities and sound absorption

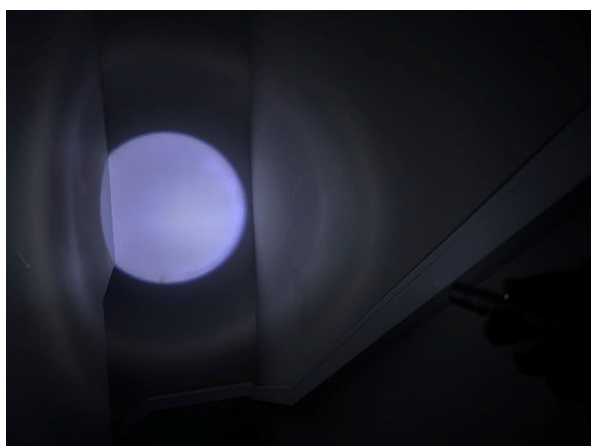


Figure 29. Projecting light in a room



Figure 30. Projecting light with water vapour in a room

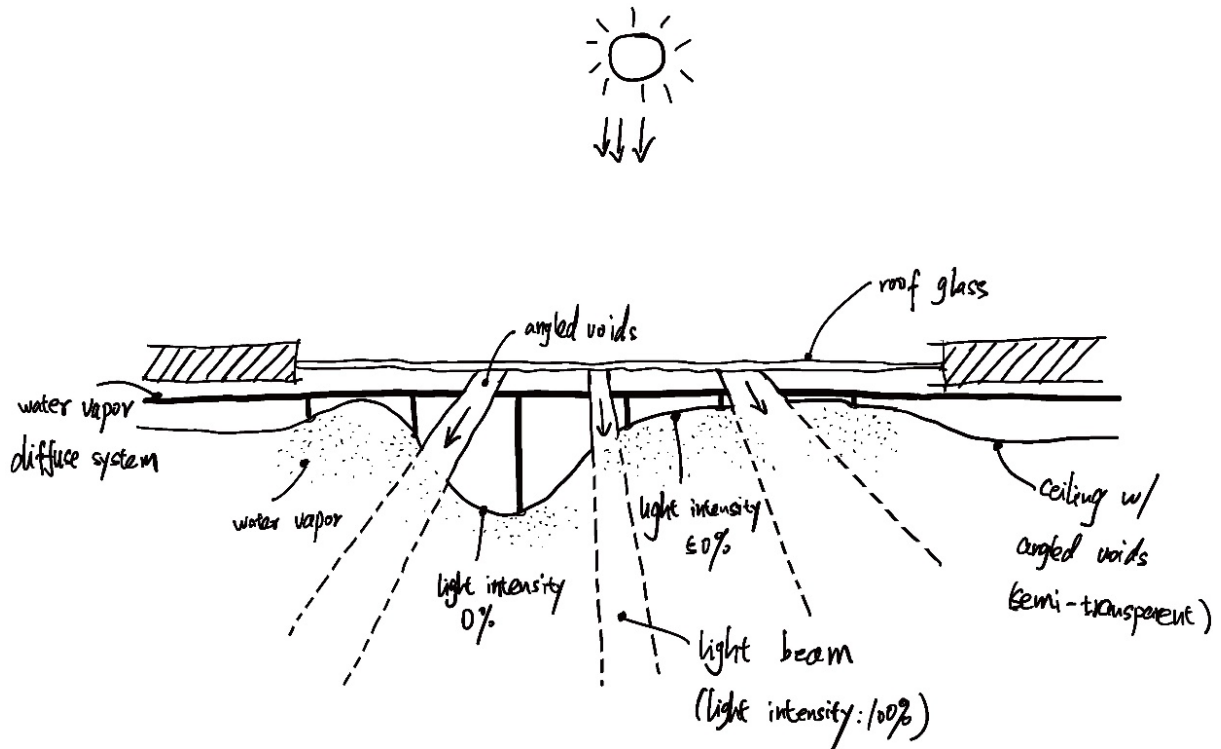


Figure 31. Section of ceiling design that installs a water vapour diffuse system to reveal light boundaries.

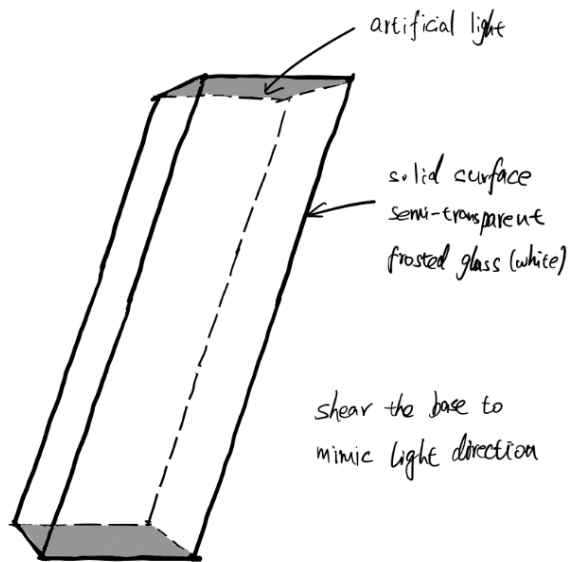


Figure 32. Lighting void detail 1

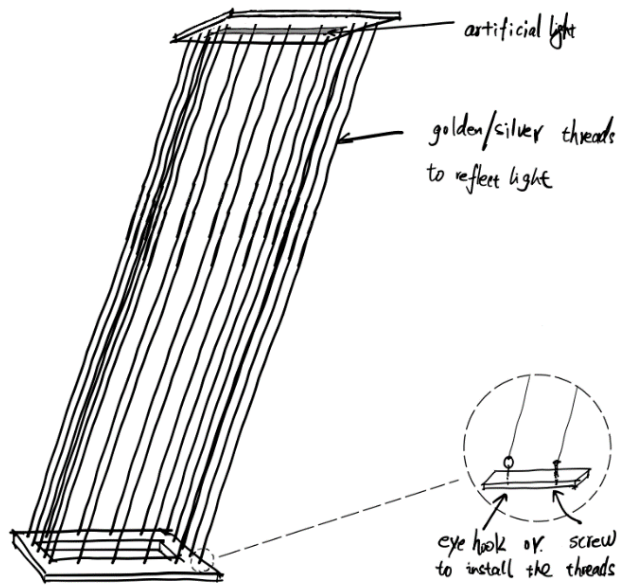


Figure 33. Lighting void detail 2

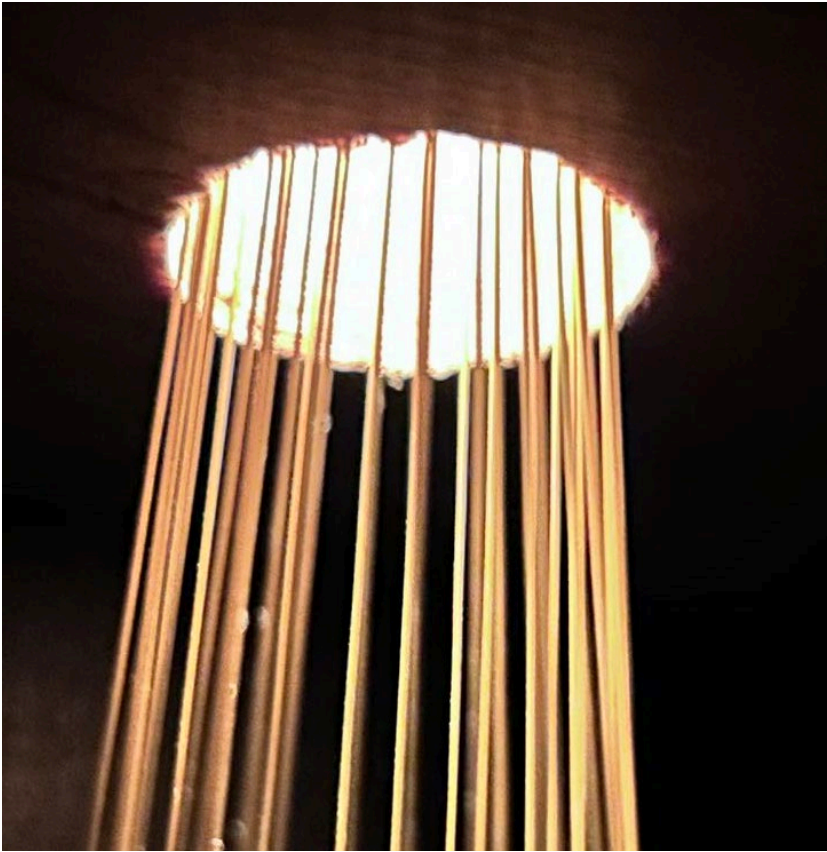


Figure 34. Parti model shows lighting from top of the ceiling

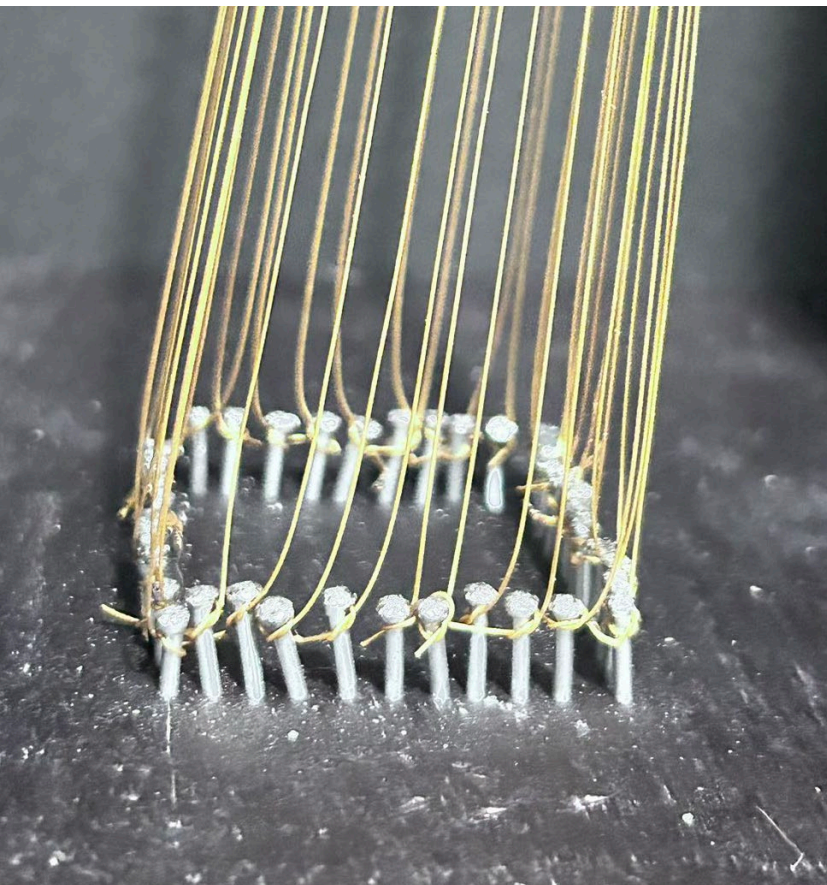


Figure 35. Parti model shows construction details

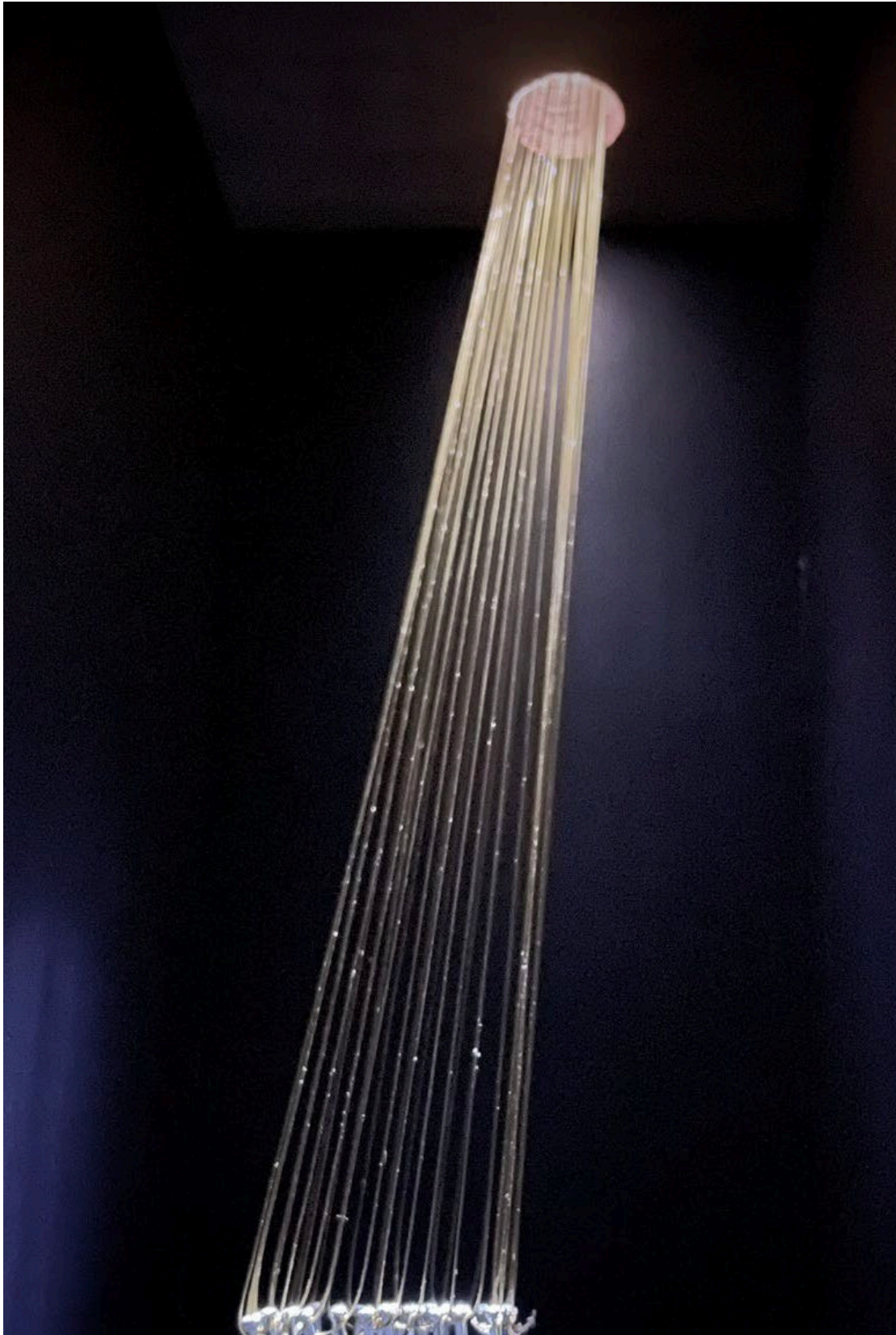


Figure 36. Parti model shows the lighting volume in a dark environment

Design Proposal: Combining the previous design strategies inspired by the experience, a space that utilizes artificial light to evoke a sublime feeling and encourage exploration can be imagined. Figure 37 shows the integration of different spatial components. Figures 38–41 are the renderings of the final proposal.

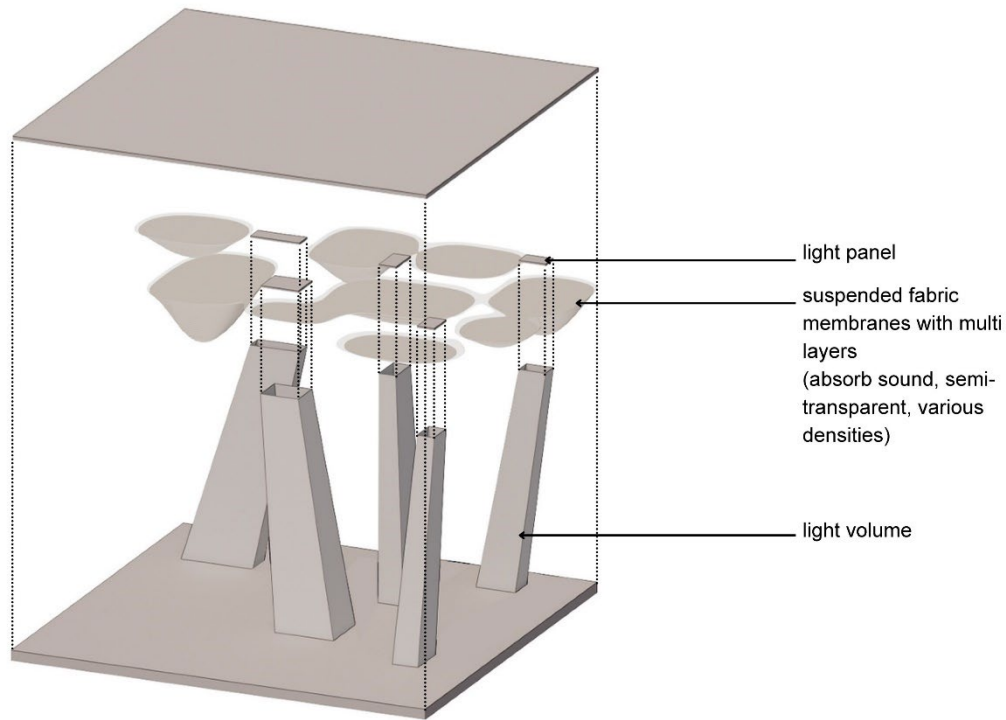


Figure 37. Axonometric drawing of design elements in Light Slits Clouds

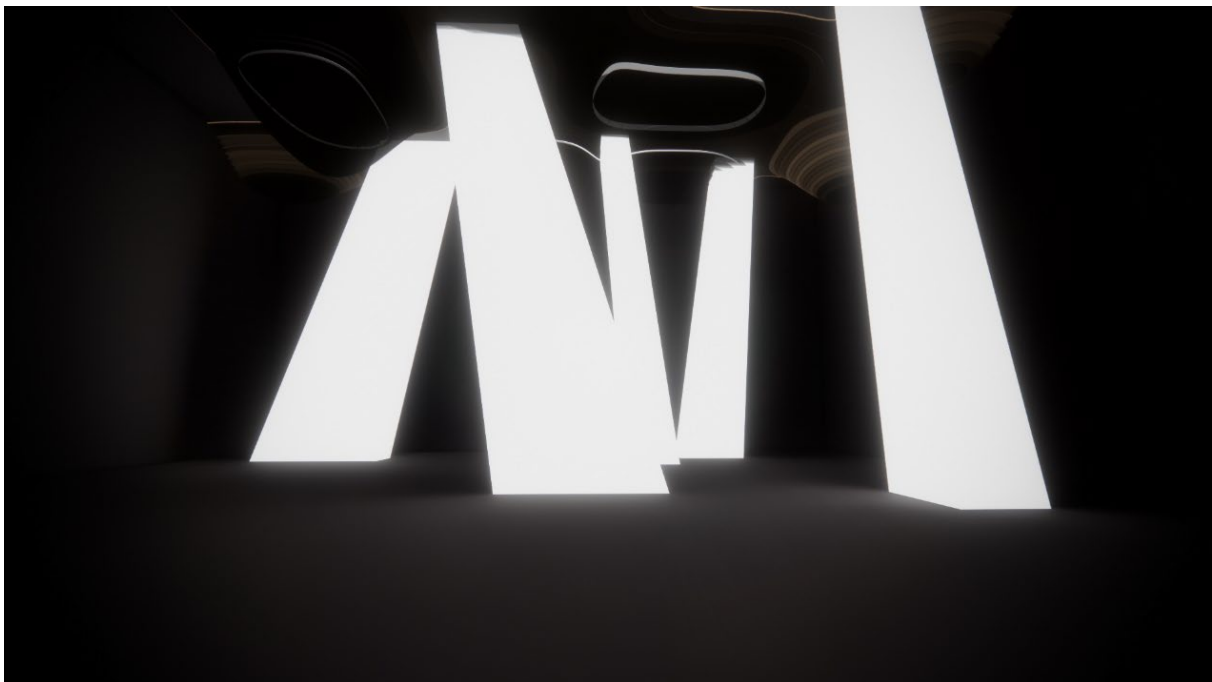


Figure 38. Rendering of solid light void 1



Figure 39. Rendering of solid light void 2



Figure 40. Rendering of lighting void created by golden threads 1



Figure 41. Rendering of lighting void created by golden threads 2

4.3 Trip In The Pinewood (personal)

Description: The experience occurred when I spent my vacation camping in a pinewood with my family. It was a sunny day. By the time we arrived, quite a few people had started camping. Like everyone else, we chose a relatively private ground framed by tree trunks to set up our tent (Figure 42). Only after finishing did I finally have time to walk around and explore the journey this pinewood brought to me. The pine trees here were not as tall as those in primeval forests. Neither were they as short as those found on streets. But they were tall enough to immerse one in a natural world. Occasionally looking up at the sky, I was amazed to see the sun bouncing around the pine needles to create different patterns of the sky (Figures 43 and 44). The subtle smell of the pine trees and the rustling sound of the fallen pine needles enriched my experience as I wander around (Figure 45). When I turned my head towards the other side in the pinewood (Figure 46), where it was more profound, the dense tree trunks with similar shape and height made me lose my sense of space and depth, evoking a sense of awe and wonder. These moments were when I felt and enjoyed being exposed to nature.

Components of Wildness & Conceptual Diagrams: From the depiction of the pinewood experience, the locations of pine trees in encouraging exploration and organizing human circulation and activities reflect the Biophilia characteristics like Mobility (Figure 47); The dynamic patterns of sun and leaves are characterized as Texture in Biophilia (Figures 48 and 49); The tactile and acoustic qualities of the fallen pine needles reveal the Biophilic patterns of Material and Place (Figure 50); The countless tree trunks and vast view depth that evoke an awe feeling can be identified

as Vastness and Infinity in the sublime or as Shapes & Forms and Prospect (the ability to see through in an open area) in Biophilia (Figure 51).

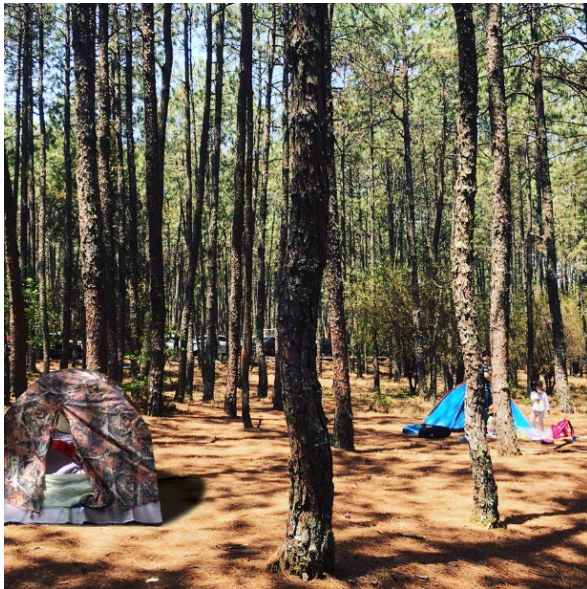


Figure 42. Photo of our tent in the pinewood

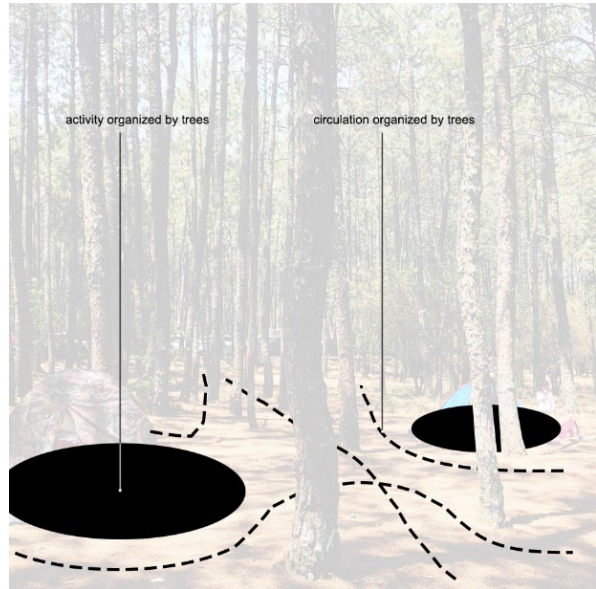


Figure 47. Mobility (Biophilia)



Figure 43. Sun through leaves 1



Figure 48. Texture 1 (Biophilia)



Figure 44. Sun through leaves 2



Figure 49. Texture 2 (Biophilia)



Figure 45. Pine needles on the ground

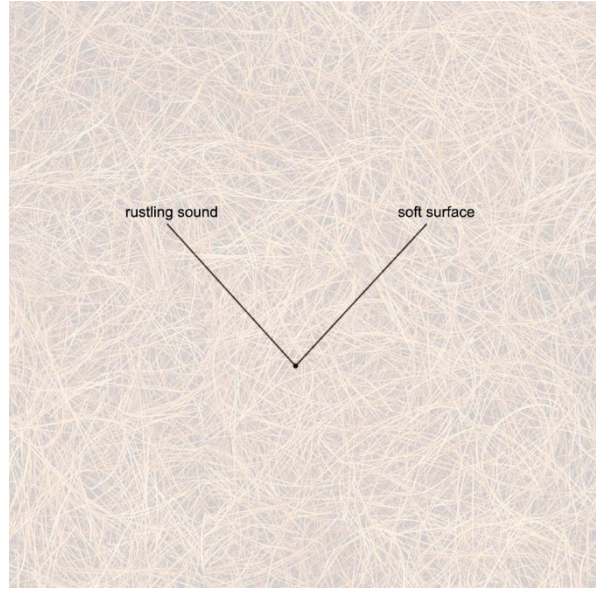


Figure 50. Place and Material (Biophilia)



Figure 46. The other side in the pinewood



Figure 51. Vastness and Infinity (Sublime); Shapes & Forms (Biophilia); Prospect (Biophilia)

Design Strategies & Spatial Diagrams: shape of the pine tree → thin, linear, and fine interior structure (eg. non-structural columns with variations in size, focusing on construction detail to produce a seamless result) (Figure 52); randomness of tree locations → natural circulation and self-making spaces (Figure 53); patterns of sun and leaves → design of lightings and suspended ceiling with multi-layers to create light patterns (Figure 54); smell of the pine trees → the use of pinewood to create suspended components (Figure 54); sound and tactile quality of the leaves → soft floor finish + projected sound of rustling leaves triggered by pressure or motion sensors (Figure 55); vast depth and countless trees → Ganzfeld Effect learned from James Turrell to dissolve spatial contour, high-reflective wall finishes to add spatial depth and column quantity (Figure 56), or glass exterior walls if the building is surrounded by trees, extending the interior to the exterior by sharing similar characteristics (Figure 57).

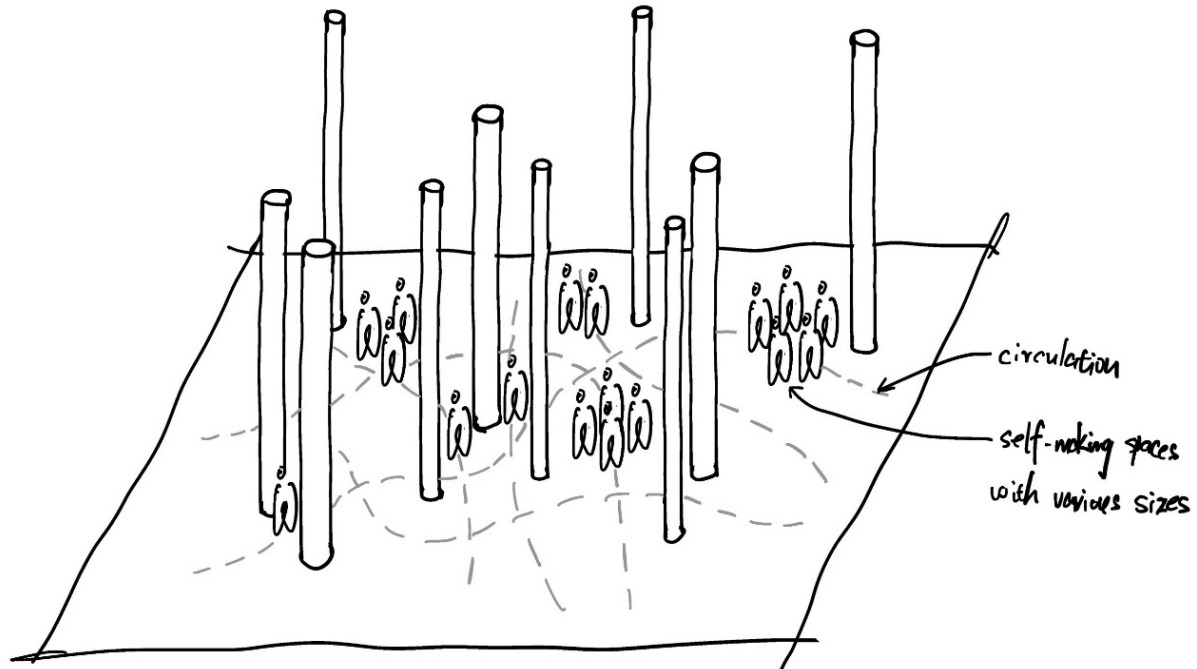


Figure 52. Spaces and circulation organized by random columns

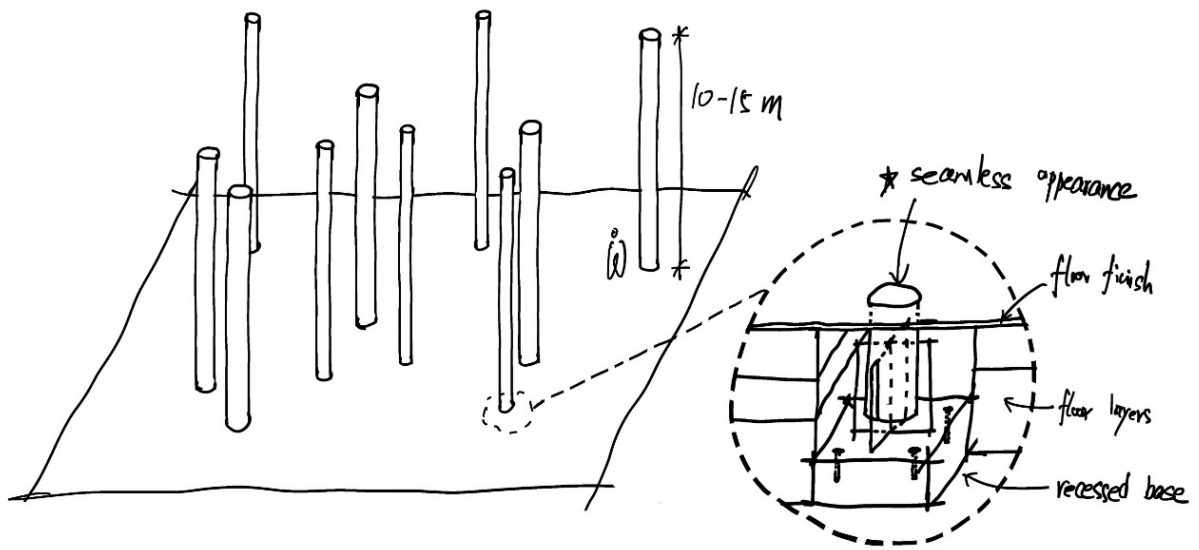


Figure 53. Detailing column base construction to produce a seamless result

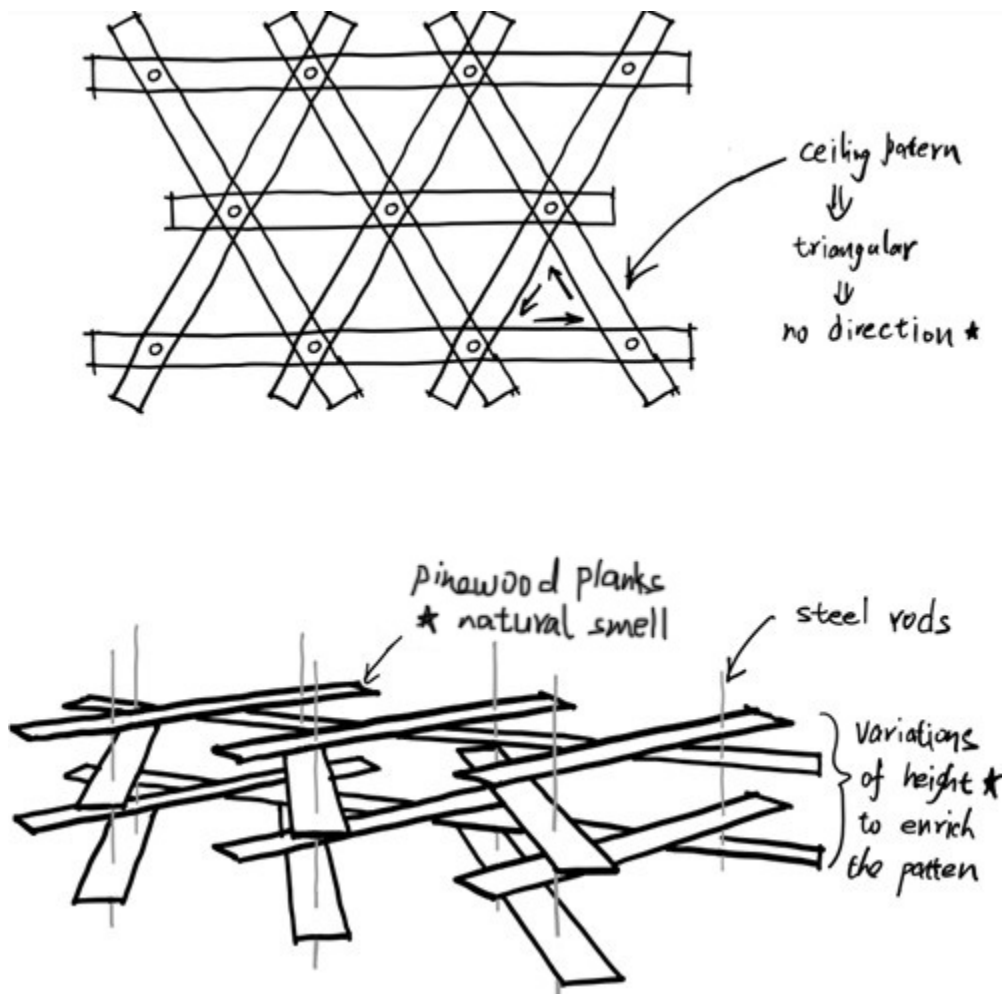


Figure 54. Ceiling design inspired by pine needles (consider construction methods and natural scent)

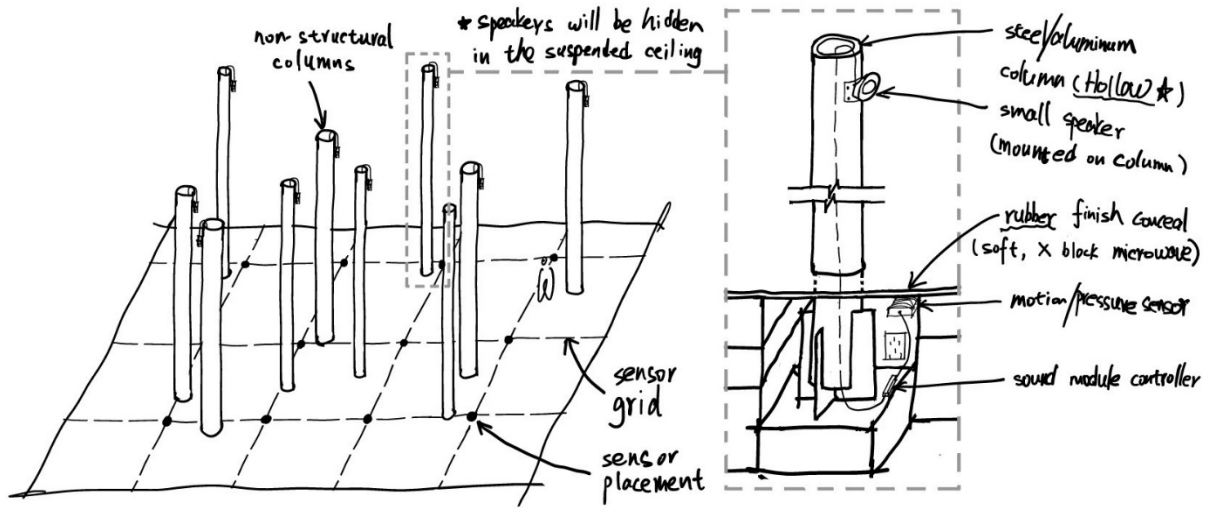


Figure 55. Detail drawing of sensor and sound projector installations

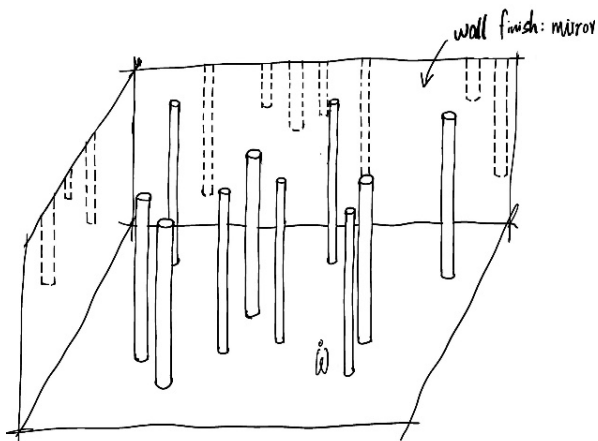


Figure 56. High-reflective wall finish to add spatial depth

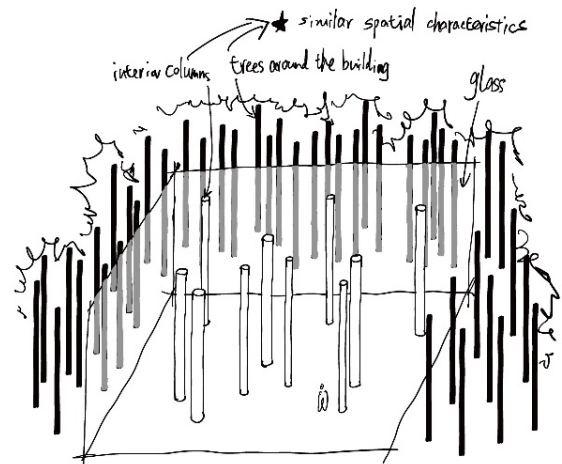


Figure 57. Transparent wall material when surrounded by trees

Design Proposal: The sum of the design strategies creates a self-making interior space that immerses the occupants in woods. Figure 58 illustrates the integration of the explored design solutions. Figures 59 and 60 show a contrast before and after adding mirrors to the wall finish to increase spatial depth. Figure 61 is the final rendering of proposed space.

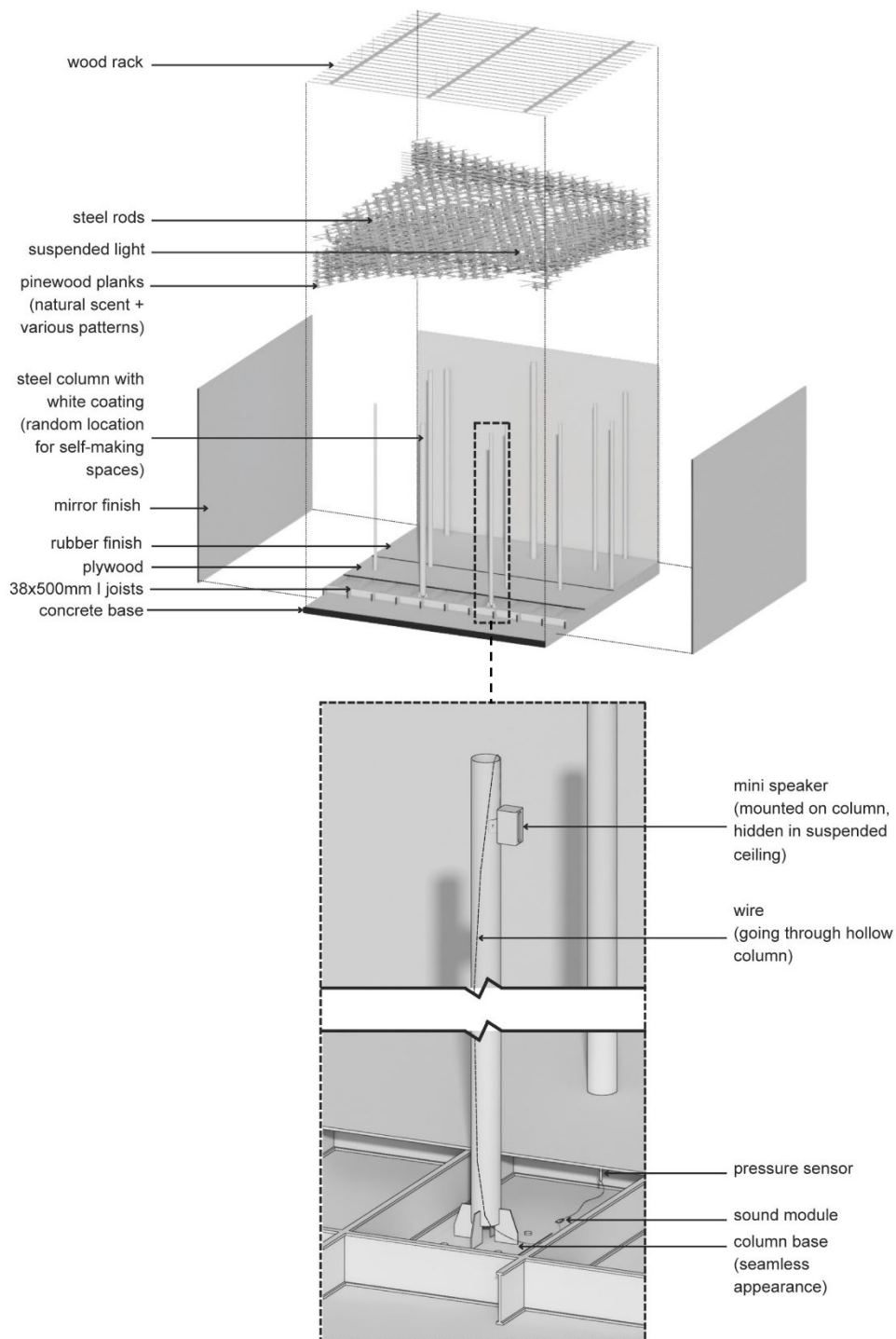


Figure 58. Axonometric drawing of design elements in Trip in the Pinewood

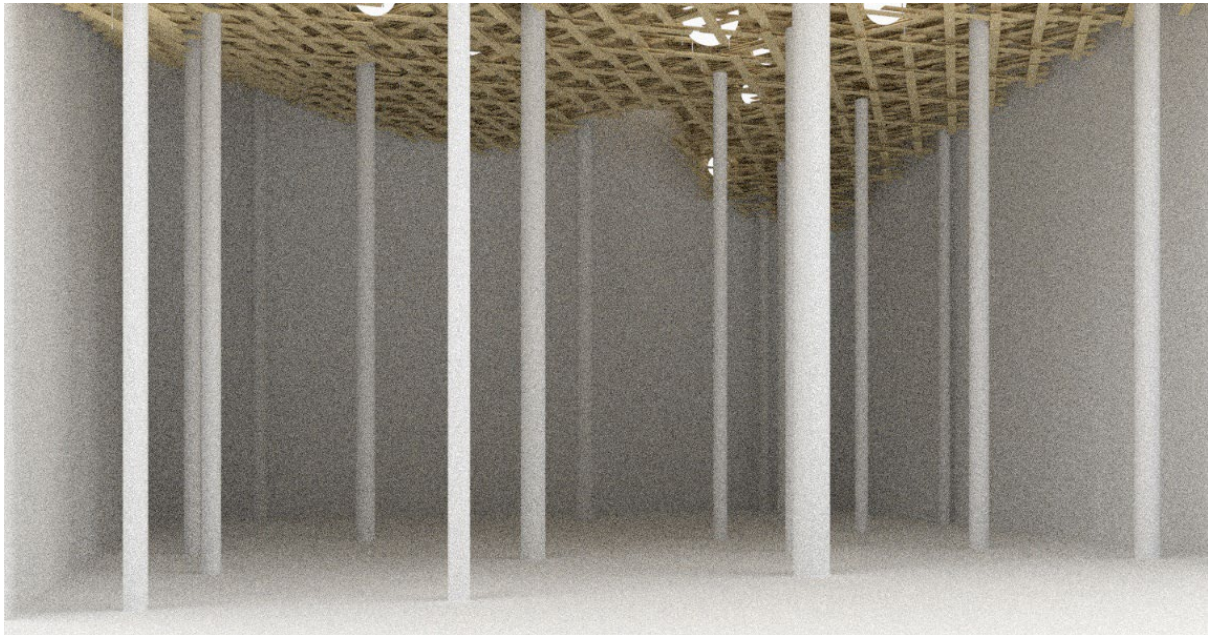


Figure 59. Perspective showing the room with dry walls

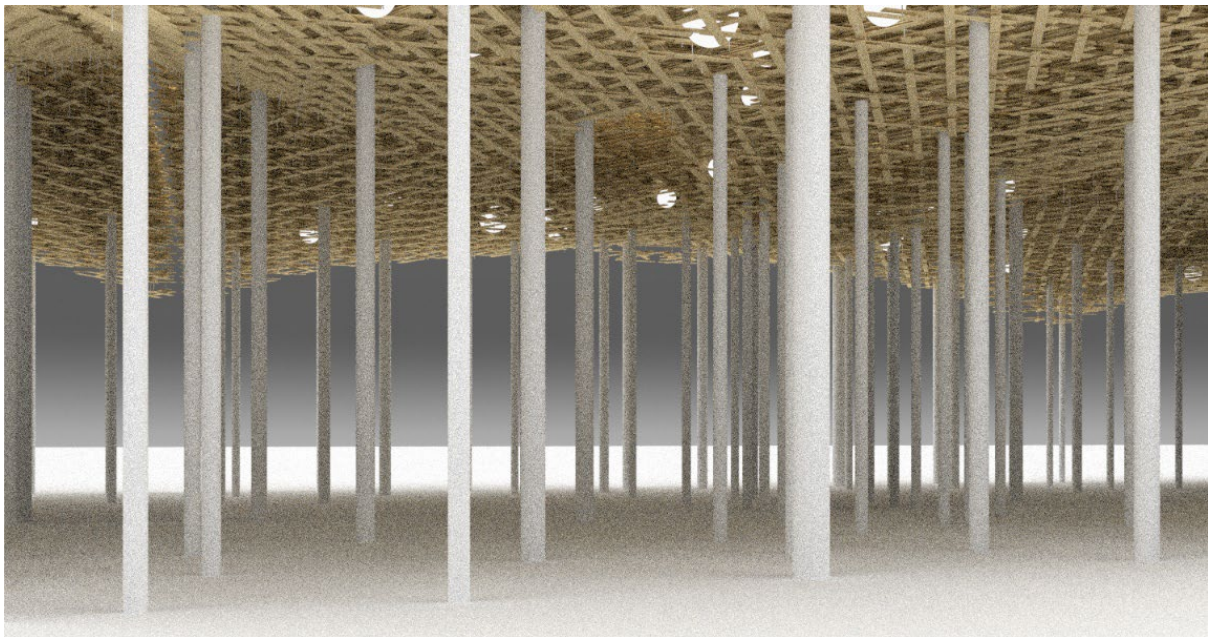


Figure 60. Perspective showing the room wall finish with a high-reflective material



Figure 61. Rendering of the final design solution

4.4 Under Massive Cliffs (John Muir)

The depiction of this experience is taken from John Muir's *My First Summer in the Sierra*: The cliff walls are “sculptured into endless variety of domes and gables, spires and battlements and plain mural of precipices... the most impressive of all the rocks, holding the eye in devout admiration.” The cliffs are “marvellous in sheer dizzy depth and sculpture, types of endurance” (Muir 1911, 154-155). The drawings below are created based on Muir's experience (Figures 62 and 63).



Figure 62. Under massive cliffs (scene 1)



Figure 63. Under massive cliffs (scene 2)

Components of Wildness & Conceptual Diagrams: From the description of immersed under massive cliffs by John Muir, the cliff's great size that evokes an astonishing feeling can be identified as Vastness in sublime (Figure 64). The rocks in different shapes that constitute the cliff's sculptural faces, which elicit a sense of awe, reflect Biophilic patterns like Texture (Figure 66), Natural Geometries (Figure 66), and

Integrating Parts to Create Wholes (Figure 67). These spatial settings reveal an audio component that further strengthens the sublime experience (Figure 68).

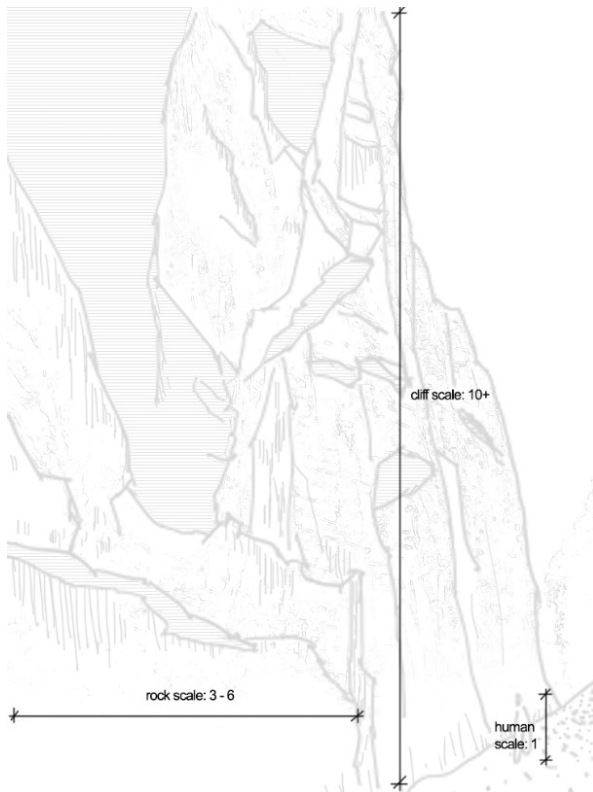


Figure 64. Scale contrast between human and cliff

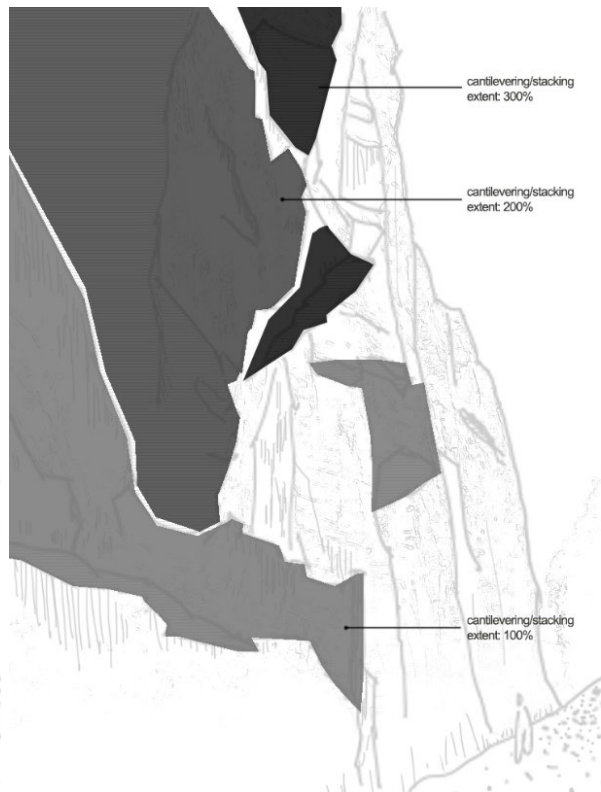


Figure 65. Cliff surface texture created by cantilevered rocks

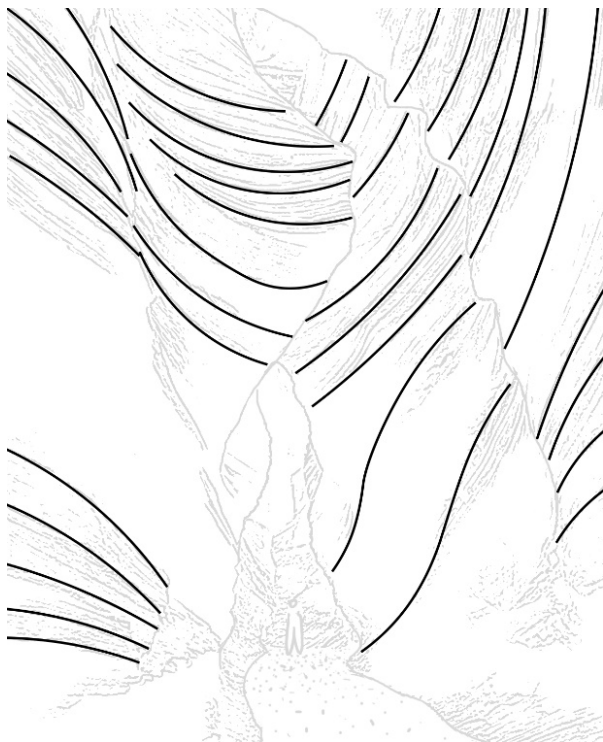


Figure 66. Curvilinear geometry of cliffs



Figure 67. Cliffs composed of layers of rocks

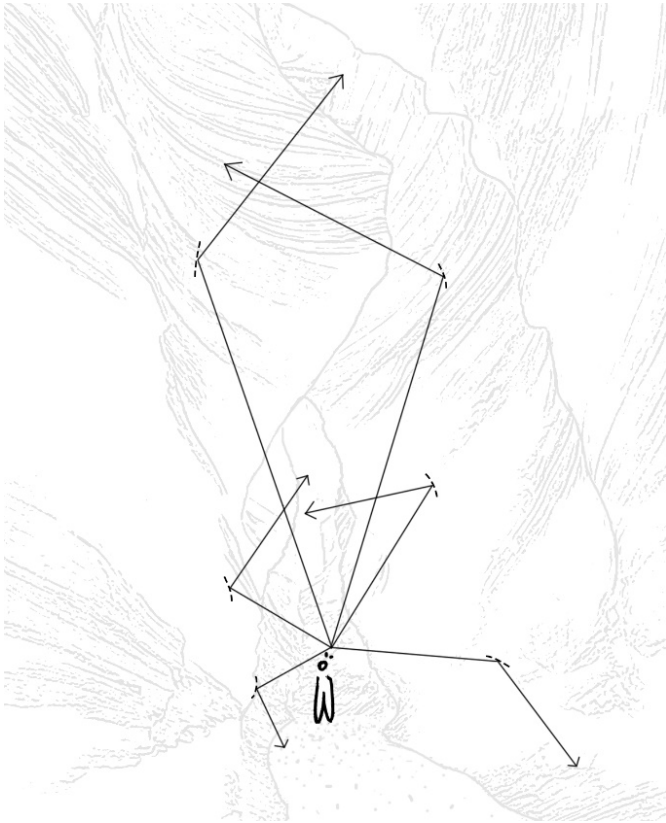


Figure 68. Diagram of sound reverberation under cliffs

Design Strategies & Spatial Diagrams: vast depth of cliffs → towering walls + lighting strategies learned from James Turrell or Peter Zumthor to alter the perception of height (Figure 69); natural geometry of cliffs → intersecting curved walls to create natural circulation while echoing natural geometry (Figure 70); echoes of sound in the sublime experience → enlarge the height/width ratio + wall material that is highly reflective for sound (stone, concrete, or hardwood) to amplify sound reverberations (Figure 71); cliff surface texture + integrating rocks to create cliffs → push and pulls of wall surface (Figure 72) or stack wall materials (Figure 73) to create wall texture, spaces to accommodate programs, and lighting opportunities (material example: granite for linear walls; wood for curvilinear walls).

Figure 69. Contrast between light and darkness to blur the edge

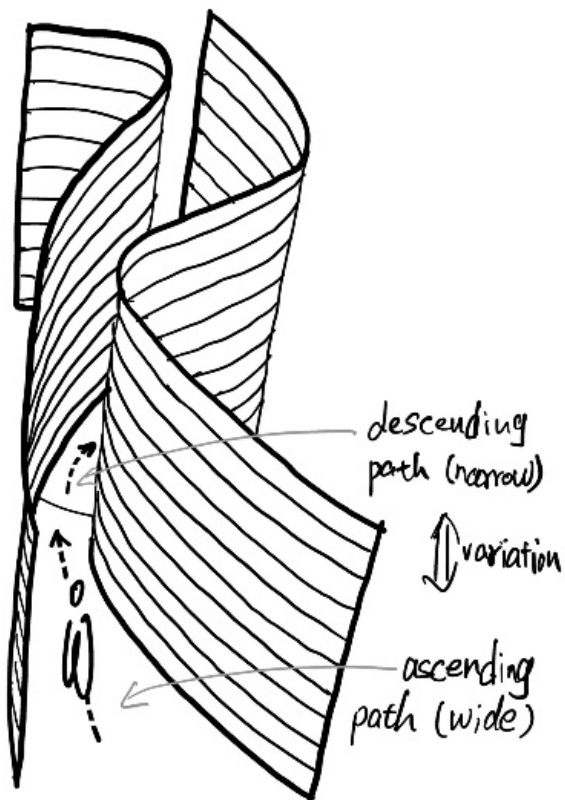
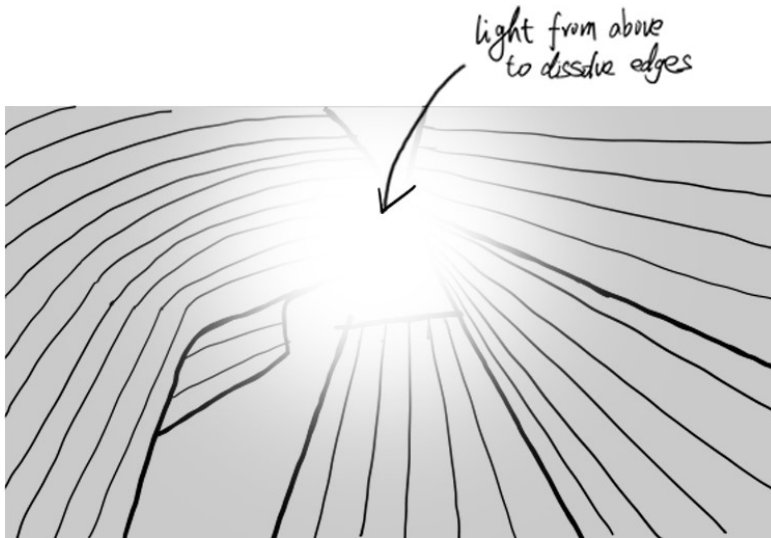


Figure 70. Nature-geometric walls and circulation

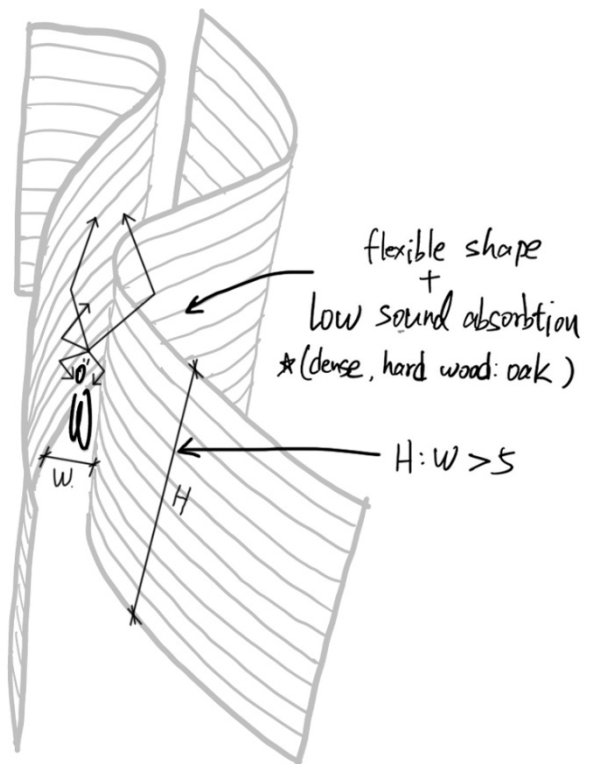


Figure 71. Spatial form and material design for sound reflection

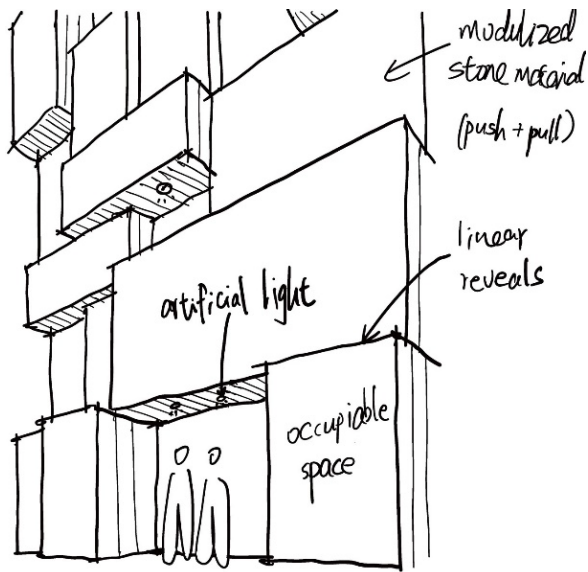


Figure 72. Walls and spaces created by linear members

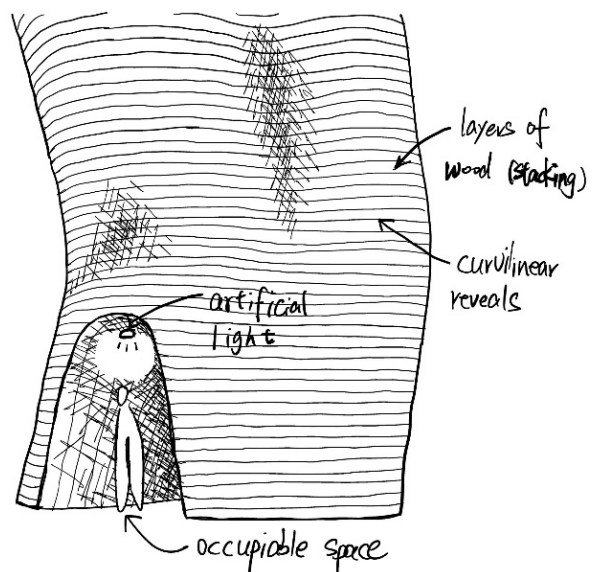


Figure 73. Walls and spaces created by curvilinear members

Design Proposal: Integrating the design strategies explored before, an interior space in which wood slats constitute interior walls with natural geometries and patterns, evoking a sense of sublime while holistically offering lighting and functional spaces is proposed (Figure 74). Figures 75–77 are the final renderings of different perspectives.

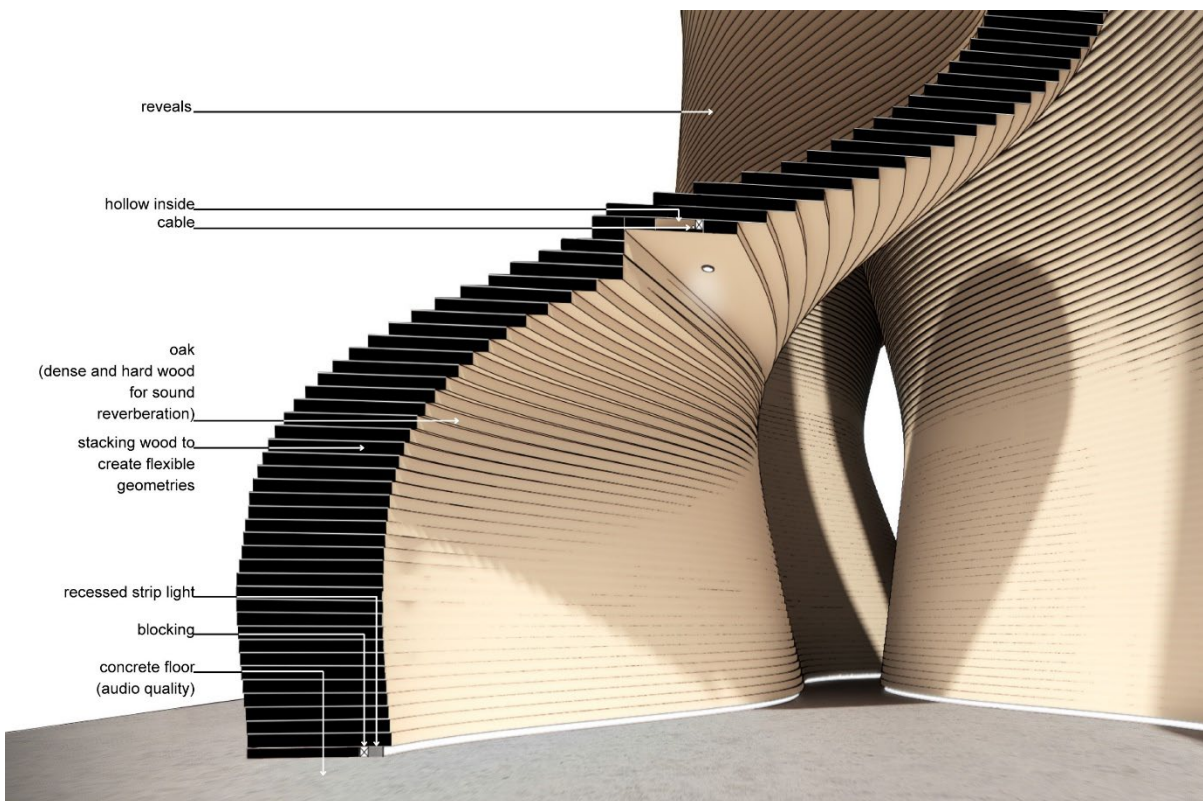


Figure 74. Sectional perspective showing the design elements in Under Massive Cliffs

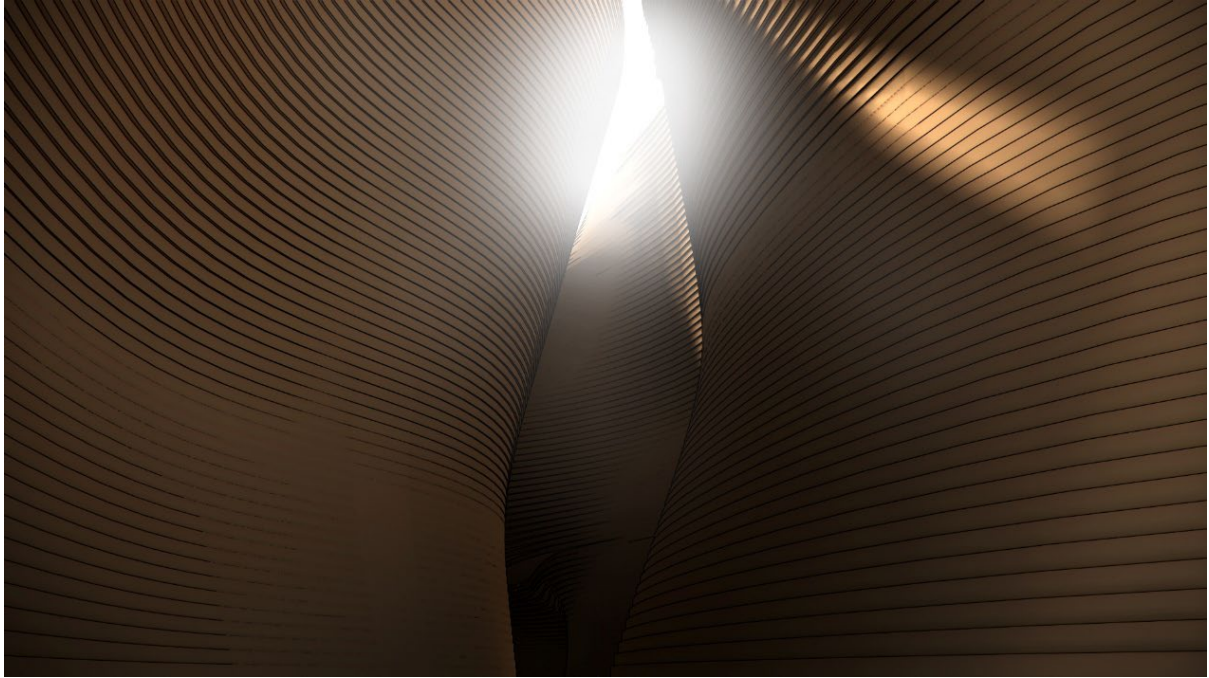


Figure 75. Light coming from above to dissolve the wall edge

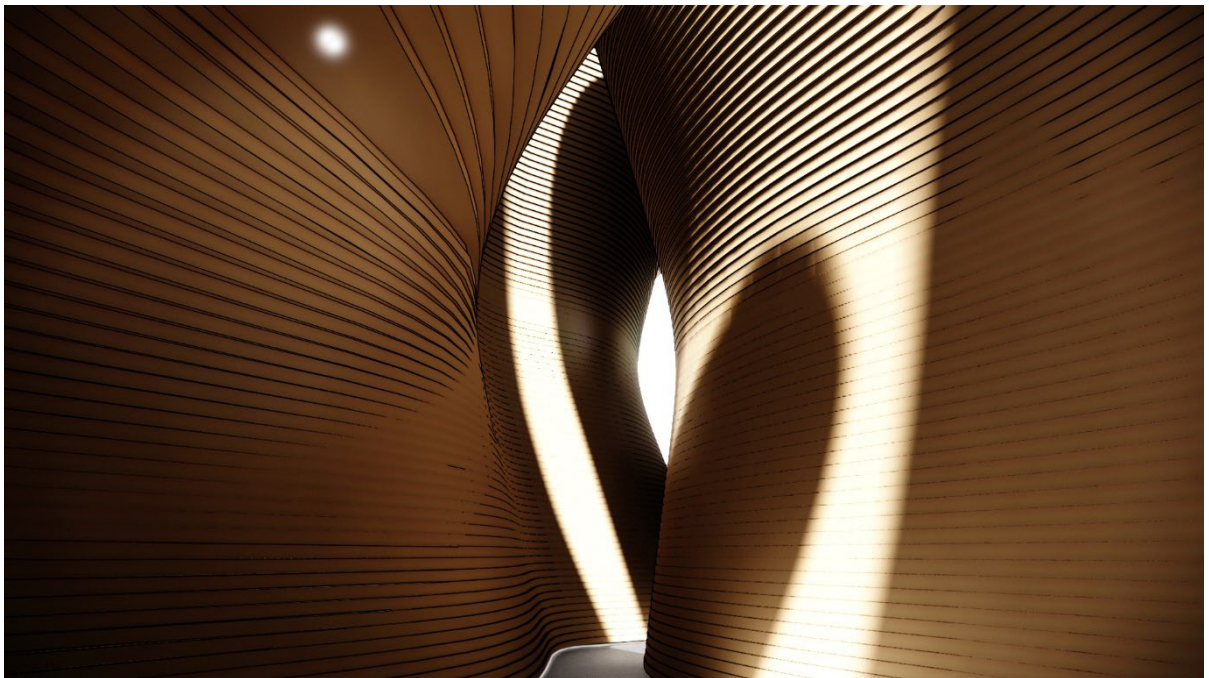


Figure 76. The reveals on the wall resonate with the overall spatial form to encourage engagement.

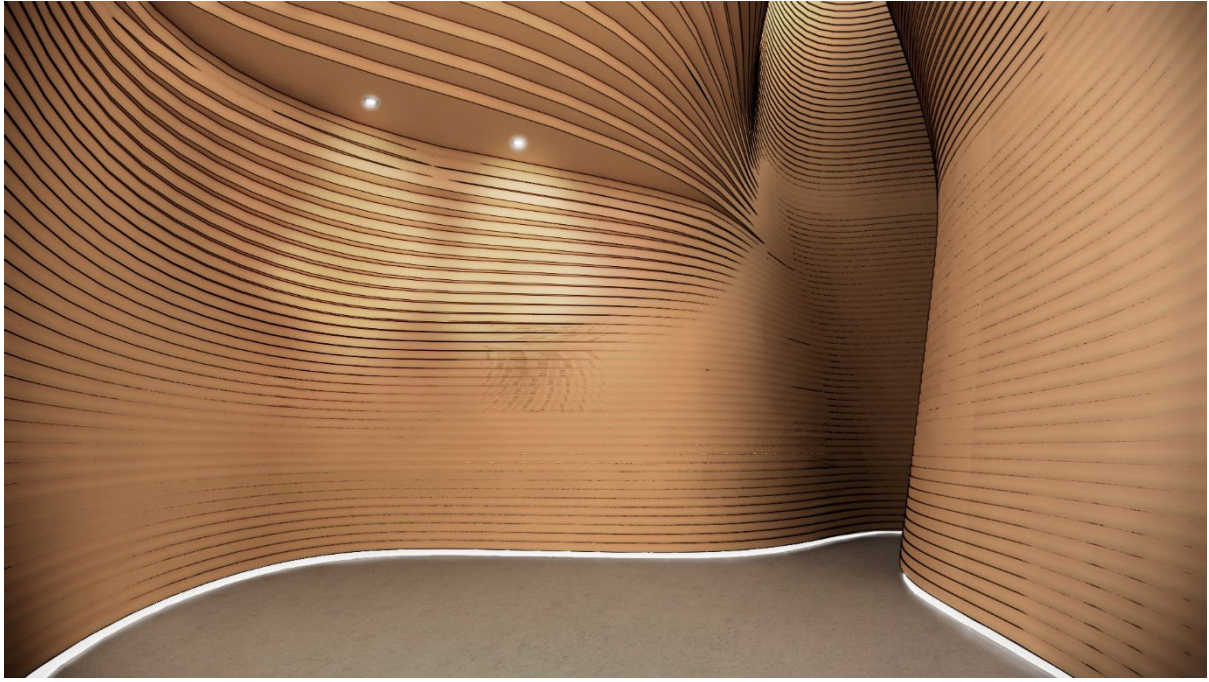


Figure 77. Interior walls naturally provide communal spaces and lighting design opportunities.

4.5 Summary

This chapter delivers three design proposals experimenting with recreating the sublime and Biophilia-based experiences as the Wildness in different natural scenarios. Figures 78–80 illustrate the Wildness, Interior Design elements, and human senses involved in each space. Although the same expression of Wildness could be found in many natural settings, like the sense of awe was identified in all the chosen phenomena, the spatial contexts that stimulated the senses and emotions were unique. Therefore, the senses and feelings of selected natural settings were analyzed through associated spatial conditions to further guide the spatial designs. The recreated senses and feelings of nature in different spatial contexts may evoke associated memories and imaginations and thus alter people’s perceptions.

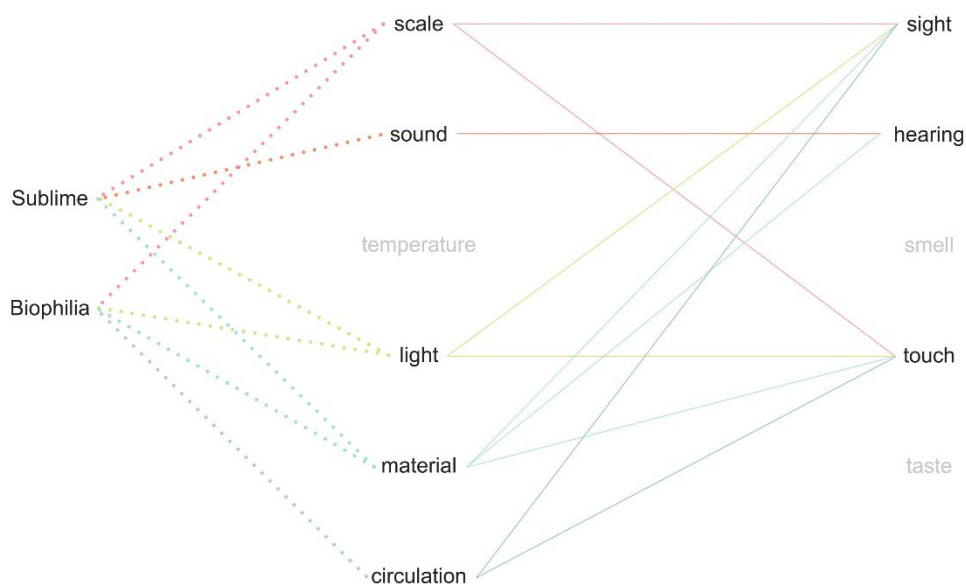


Figure 78. The relationship between Wildness, human senses, and design elements in Light Slits Clouds

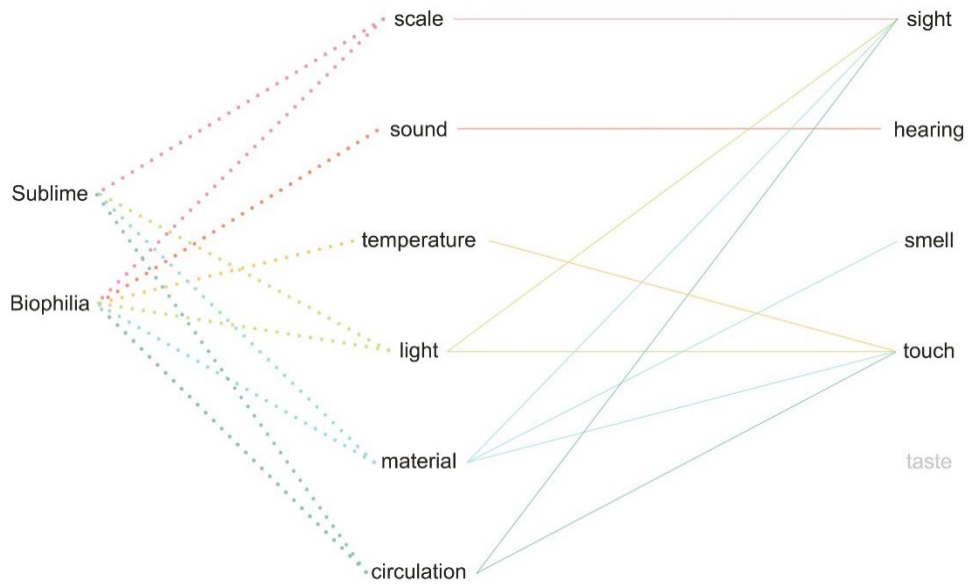


Figure 79. The relationship between Wildness, human senses, and design elements in Trip In The Pinewood

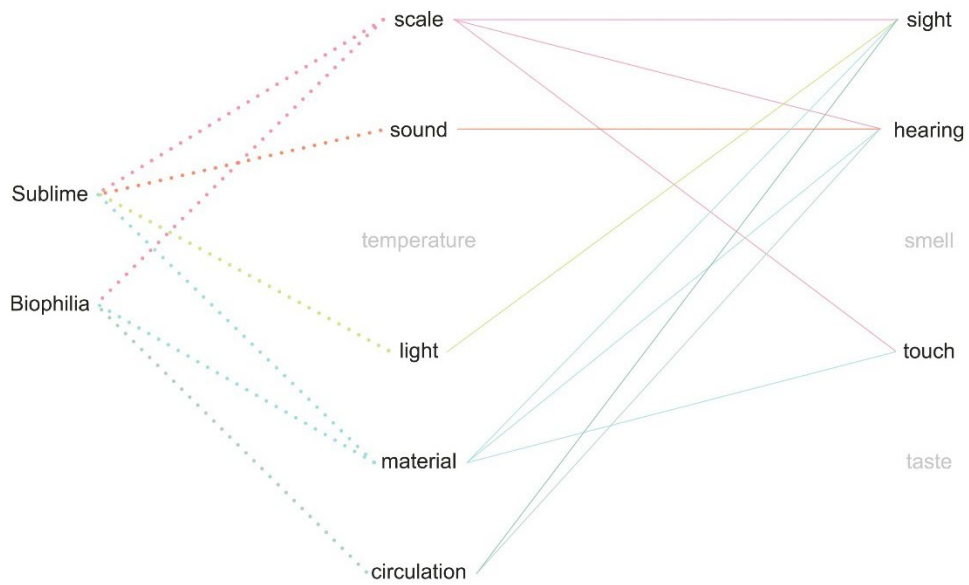


Figure 80. The relationship between Wildness, human senses, and design elements in Under Massive Cliffs

CHAPTER V
Conclusion

In response to the challenges facing architectural design related to nature, this practicum employs William Cronon's idea of Wildness in the context of Interior Design to potentially connect people with nature without isolating natural objects. As a philosophical approach with limited existing studies, I first focused on analyzing Wildness from the ontological and phenomenological perspectives to justify the embodied experience as the true being in nature. After uncovering architectural theories and design precedents recreating the embodied experience of a place in shaping the user's perception of an interior space, I proposed using conventional design elements to recreate Wildness and help the user perceive a connection with nature (Figure 81). Thus, the Design Application acted as a manifestation of this design approach, testing the success of projecting Wildness and connecting with nature. Through the investigations and experiments conducted in previous chapters, the following research questions have been addressed.

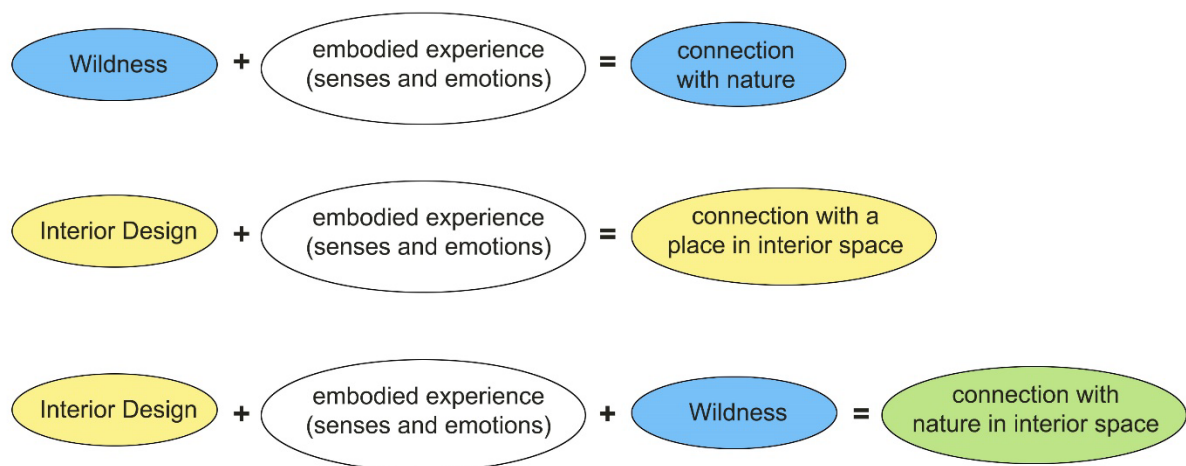


Figure 81. The process of linking Wildness with Interior Design to alternatively integrate nature with the built environment

5.1 Findings for Research Questions

1) How does the difference between Wildness and Wilderness affect the way people perceive a connection with nature and thus inspire designers to alternatively incorporate nature in interior spaces?

William Cronon coins the phenomenon of preserving and chasing nature as Wilderness (1996). He points out that Wilderness values a “sense of otherness” as it requires us to identify something other than the man-made, such as rocks and trees, when contacting nature (Cronon 1996, 23). We understand we are not in the man-made world by discovering something nonhuman in nature. Nature thus becomes an object to be framed and observed. As discussed, Wilderness is a form of Cartesian Dualism, connecting people with nature through consciously reflecting on discovering natural features. In Interior Design, the strategies that emphasize a direct contact with nature, such as introducing plants and water into interior spaces, and offering a view of landscape or image of nature, as listed in Chapter II, can be considered as expressions of Wilderness because they intend to elicit a sense of connection with nature through identifying natural objects. As Zhong argues, this connection is weak as the majority of interior spaces lack natural features (2021). What is worse, Cronon believes Wilderness drives people to ignore the daily built environment they live in (1996). In this sense, design strategies utilizing nature as an object inherently prioritize the nature-occupied space and prevent the occupants from perceiving nature in spaces without natural elements.

Wildness, on the other hand, represents the experience of nature rather than nature itself. Cronon argues that Wildness could be the sense of awe rather than the mountain itself, as Wilderness represents, when immersed in a mountain (1996). He

believes that we are in nature as long as we engage with the Wildness from our daily built environment (1996). Compared to Wilderness, which sets humans as observers outside nature, Wildness manifests Heidegger's Being-in-the-World, allowing humans to be in and part of the natural world by focusing on the bodily engagement with nature. Merleau-Ponty's Phenomenology presents the senses and feelings instead of the physical object as the basis of perception (2011). The interplay of memory and imagination associated with current embodied experience can further shape our perception of the world (Merleau-Ponty 1968). In this sense, Wildness helps people perceive being in nature through the senses, emotions, and associated memory and imagination of nature. Chapter II reviewed the common experiences of nature as expressions of Wildness, such as the sublime and Biophilia-based experiences. The associated spatial characteristics were also investigated to help represent the Wildness of different natural settings in Chapter IV. Thus, instead of recreating natural features in interior spaces, designers can try recreating specific senses and feelings and associated spatial contexts of a natural environment to connect the occupants with nature.

2) Since Cronon argues Wildness exists outside of natural features, what design elements used in Interior Design can provide Wildness to potentially reconnect the occupants with nature?

Architectural designers who adopted Merleau-Ponty's phenomenological approach, such as Juhani Pallasmaa and Peter Zumthor, identify the senses and emotions as concrete qualities of a place, which can be recreated through design elements like sound, scale, temperature, light, material, and circulation. The carefully

manipulated experiential qualities of these elements enrich the occupant's embodied experience with memory and imagination to shape their perception. Following this philosophy, Chapter III analyzed how the precedents used the design of architectural elements to recreate the senses and emotions during an experience and thus altered the user's perception of interior spaces. The architectural theory and precedents were not constrained to recreating the experience of nature but aimed to inspire the design approach for the design experiments. Therefore, Chapter IV experimented with utilizing architectural design elements to recreate the Wildness in different natural settings. It is noteworthy that although all the designs of sound, scale, temperature, light, material, and circulation could shape one's perception, the use of specific elements was flexible in representing the Wildness of a natural environment. For example, "Trip In The Pinewood" focused on wall materials to add an infinite depth, whereas "Light Slits Clouds" mainly explored installation and scale to reveal the sublime light volume. It is the designer's responsibility to analyze the specific Wildness and associated spatial condition to inform the choices and combinations of some or all of the design elements. When experiencing architectural spaces, as Pallasmaa argues, "the domain of presence fuses into images of memory and fantasy" (2012, 72–74). The senses and feelings stimulated by architectural elements may reconnect people with nature by evoking the memory and imagination of a natural environment.

5.2 Reflections and Recommendations for Future Studies

Due to the scope of work of a Master of Interior Design Practicum, there are several limitations of *the Unseen Wilderness*, which are presented below with recommendations for future study.

First and foremost, the perception of being in nature through engaging with the Wilderness in interior spaces can be highly subjective. Although this practicum offers the potential to connect the users with nature through associated senses and feelings because they may evoke the memory and imagination of nature to colour the spatial perception, I understand this may lead to different interpretations of the space because the users' past experiences, cultural backgrounds, and personal preferences are various. However, this does not undermine the research proposal that alternatively integrates nature with interior spaces by using the Wilderness to guide the design elements. Chapter II reviewed the Sublime and Biophilia-based experiences as common expressions of Wilderness because they are likely to be appealing to most people. This investigation helps guide the spatial design in Chapter IV by translating Wilderness from an abstract concept to associated spatial characteristics. The design experiments demonstrated various design applications informed by the expressions of Wilderness in different natural settings. Since the individual perception remains uncertain, future studies may incorporate empirical evidence, such as conducting surveys to document different interior environments and associated design elements' impact on evoking a sense of connection with nature, to further support the outcomes of this practicum.

In addition, the design applications are merely hypothetical interior spaces experimenting with recreating the raw experiences, meaning the senses and emotions in natural environments. The final proposals inherently indicate certain functions and thus may not work for accommodating abundant programs. For example, Light Slits Clouds revealed light volumes in a dark environment, suggesting an exhibition space rather than a reading room. Trip In A Pinewood, with dense columns and random locations, implies a flexible use of the space such as a dining area and children's playground. Under Massive Cliffs explores scale, form, and texture to encourage the occupant's exploration, pointing to a retail space instead of an office area. It is not the specific function but the process of determining the Wildness and associated spatial conditions that is valuable in this practicum. However, designers can get directly inspired by these spatial proposals if they adapt to the program. In terms of reappropriating a space, designers should consider incorporating the proposed design languages with the existing architectural conditions. Due to the time constraint of this practicum, future studies are required to expand the investigations of human senses and the Wildness in natural settings not explored in the design experiments. Moreover, my design proposals are not the only design solutions in representing the natural phenomena explored in the design experiments. Following the design approach of this practicum, future designers are encouraged to develop other design languages as long as they can recreate the same spatial conditions of the natural environment to evoke associated senses and feelings. The inherent functions of the spaces may thus be dynamic according to the proposed design languages.

Although this practicum introduced solely using conventional design elements to recreate the Wildness of nature, it meant to push the boundaries between nature and

our built environment beyond physical barriers rather than to eliminate the potential of implementing both the experience and objects of nature. If engaging with architectural tectonics could already evoke a sense of being in nature, incorporating natural features on top of this approach would probably further strengthen the connection with nature. What is more, the investigations in this practicum mainly focused on the aesthetic quality instead of the physiological benefits of nature. Recreating the Wildness of nature could indeed improve human well-being because the Biophilia-based experience, as one of the identified expressions of Wildness, has addressed such benefits in the Biophilic Design theories. With all these opportunities, future studies may explore ways of integrating the Wildness from natural and architectural elements to reinforce human health and the connection with nature.

Appendix: Video Resource

Since the design experiments in *The Unseen Wilderness* involved massive investigations of body senses besides sight, the visual drawings of the final design solutions may deliver limited envisionment of the immersive experience in the proposed interior spaces. Therefore, the following video clip reflects the spaces' audio and tactile qualities and the change of time to complement the visual presentation and further address the spatial characteristics inspired by the Wilderness of nature.

Video clip name: Feng_The Unseen Wilderness

Access URL: https://umanitoba-my.sharepoint.com/:v/g/personal/fengc1_myumanitoba_ca/EXsazYnFDvIOq6YAhpRBcr4BMEMiRoWjYa6mO7AF0uBdMg?referrer=Outlook.Web&referrerScenario=email-linkwithoutembed.

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