

Light, Threshold and the Numinous

A Design Methodology for Light at the Moment of Crossing

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A thesis

submitted in partial fulfillment of the
requirements for the degree of

Master of Architecture

University of Washington

2026

Committee:

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Program Authorized to Offer Degree:

Architecture

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Abstract

Light, Threshold and the Numinous:

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This thesis examines how light can shape numinous experience at architectural thresholds. Contemporary lighting practice often treats light as a technical variable measured through illumination, glare, energy, and daylight performance. While these metrics are necessary, they rarely address the felt power of light in moments of crossing: the shift from compression to release, darkness to luminosity, enclosure to openness, or ordinary perception to heightened awareness. Drawing from theories of the numinous, liminality, phenomenology, architectural light, pattern language, and awe, the thesis develops a six-quality framework for threshold lighting: compression and release, shadow and luminosity, directionality, materiality, temporal change, and inside-outside tension. The design project, an artist retreat center on Hood Canal in Port Ludlow, Washington, tests this framework through site strategy, spatial sequence, renderings, and physical light-study models. Rather than treating the retreat as a collection of rooms, the project understands it as a sequence of crossings, using light as the primary medium through which arrival, contemplation, and transformation are experienced. The thesis concludes that the framework is most useful not as a checklist, but as a set of experiential questions that can guide design decisions across site, section, material, and atmosphere.

University of Washington · M.Arch Thesis · 2026

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Committee: Robert Peña (Chair) · Brian McLaren

*In memory of Zavi,
bringer of light, opener of the way.*

Acknowledgements

This thesis was completed during a period of profound grief, transition, and love. I want to acknowledge my committee, Robert Peña and Brian McLaren, for their guidance, patience, and encouragement throughout the process. Their questions helped sharpen the work and kept the project grounded as it moved between theory, design, and personal meaning.

I am grateful to the faculty, staff, and classmates in the University of Washington Department of Architecture who supported this work, especially those who helped me think through light, threshold, material, and site. I also want to thank my family and friends for carrying me through a difficult year with care and steadiness.

Most of all, this thesis is dedicated to my beloved son Zavi, bringer of light, opener of the way. His life shaped the spirit of this work. The project's concern with crossing, presence, and the fragile power of light comes from him.

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Chapter One

Introduction

The problem of light, and the question of the threshold

1.1: The Problem

Contemporary architecture tends to treat light as a technical variable. Lighting design is governed by quantitative metrics, including lumens, lux, color temperature, and daylight autonomy, and is evaluated primarily in terms of energy performance, visual comfort, and glare control. The discipline has developed sophisticated tools for measuring how much light enters a space, but has largely abandoned the question of what that light does to the people who stand within it. In the process, architecture has lost sight of light as a primary medium through which space can produce numinous experience: awe, trembling, and the felt presence of something beyond the ordinary.

This is not a new problem, but it has deepened. Richard Kelly, writing in 1952, observed that the purposeful and accidental action of light in creating visual perception determines the vast majority of the total impact of architectural work.¹ Kelly proposed three elemental kinds of light effect (focal glow, ambient luminescence, and play of brilliants) and argued that architects must learn to compose with these as deliberately as painters compose with color and value.² Yet more than seven decades later, Kelly's framework remains largely confined to the technical literature of lighting design, disconnected from the phenomenological and experiential questions that give it its deepest significance.

Architects often talk about “good daylighting,” but rarely ask what makes light feel sacred, or how the quality of light at a threshold can transform perception and meaning. Design education trains students to run solar studies and daylight autonomy simulations, yet provides little framework for understanding why certain light conditions move people so deeply. Peter Zumthor has noted that “architecture is experienced through emotional sensibility, a form of perception that works incredibly quickly, one we evidently need to help us survive.”³ Yet this sensibility, which registers atmosphere almost before conscious thought begins, has no established place in the design process.

The result is a gap between technical performance and human experience. Spaces that could foster contemplation, wonder, or collective meaning often feel neutral or purely functional. Buildings intended for gathering, remembrance, or transformation frequently fail to produce the atmospheric conditions those experiences require. At the same time, as religious institutions decline and civic spaces become increasingly commodified, places that carry the charge of the numinous are becoming rare. Existing scholarship reflects this

1. Richard Kelly, “Lighting as an Integral Part of Architecture,” *College Art Journal* 12, no. 1 (Autumn 1952): 26.

2. Kelly, “Lighting as an Integral Part of Architecture,” 24–26.

3. Peter Zumthor, *Atmospheres: Architectural Environments, Surrounding Objects* (Basel: Birkhäuser, 2006), 13.

1.1 The Problem (continued)

divide. Phenomenological writers such as Juhani Pallasmaa and Peter Zumthor describe atmosphere with great sensitivity but offer few actionable design tools. Technical lighting literature, by contrast, focuses on measurable performance while largely ignoring experiential and spiritual dimensions. Between these two domains there is little practical bridge.

1.2: Thesis Argument

The fundamental question of this thesis is this: how can architects and lighting designers intentionally produce numinous experience at architectural thresholds, and what spatial and luminous qualities make that experience possible? This thesis argues that the numinous emerges most powerfully at the threshold, not within the room itself, but in the moment of crossing. Light is the primary medium that makes this crossing perceptible and meaningful. A threshold, as understood here, is not simply a doorway or boundary but a spatial condition of transition: a zone with thickness, depth, and duration where perception, orientation, and meaning shift. Arnold van Gennep identified this tripartite structure (separation, transition, incorporation) as the fundamental schema of ritual passage.⁴ Victor Turner deepened this insight by focusing on the liminal phase itself, the in-between condition where ordinary structures are suspended and transformation becomes possible. Turner describes liminality as an in-between condition where ordinary positions and structures are suspended.⁵ This thesis extends the concept of liminality from ritual into architecture, arguing that spatial thresholds can produce analogous conditions of perceptual and affective suspension.

Drawing from Rudolf Otto's phenomenology of the numinous, Christopher Alexander's concept of the quality without a name, Richard Kelly's tripartite theory of architectural light, contemporary research on awe, and spatial theories of liminality, this thesis develops a design framework for threshold lighting. The framework identifies six interrelated experiential qualities (compression and release, shadow and luminosity, directionality, materiality, temporal change, and inside-outside tension) that structure numinous experience at architectural thresholds. It is intended as a practical analytical and generative guide that architects and lighting designers can use to plan spatial sequencing, material decisions, and lighting strategies.

The design project, an artist retreat center on Hood Canal, Washington, serves as both proof of concept and working laboratory. Rather than treating light as a programmatic subject to be manufactured and displayed, the building treats light as the medium that organizes the entire experience of arrival, dwelling, and departure. Its program (workshop and fabrication studio, gallery, contemplative cabins, gathering hall, and pool pavilion) is arranged as a sequence of crossings, so that the thesis can test how the six qualities operate when threshold experience, rather than any single room, becomes the primary architectural material.

4. Arnold van Gennep, *The Rites of Passage*, trans. Monika B. Vizedom and Gabrielle L. Caffee (Chicago: University of Chicago Press, 1960), 11.

5. Victor Turner, *The Ritual Process: Structure and Anti-Structure* (Ithaca, NY: Cornell University Press, 1969), 95.

1.3: Why This Matters

This thesis proposes a methodology that does not currently exist in architectural discourse. It translates phenomenological and spiritual concepts into concrete design variables, creating a bridge between theory and practice, between Otto's description of the numinous as *mysterium tremendum et fascinans* and the architect's decisions about aperture size, wall depth, and material finish.⁶ It also integrates Kelly's largely forgotten perceptual framework into a phenomenological context where it gains new force: focal glow, ambient luminescence, and play of brilliants "are not merely visual effects but modes through which light acts on the body and the spirit."⁷

The framework can be applied to building types where threshold experience matters: memorials, museums, places of worship, contemplative gardens, civic gathering spaces, schools, and libraries. It is not limited to sacred architecture. The methodology is transferable across programs and contexts. As communities lose traditional gathering places and shared spaces of meaning, architecture faces the challenge of creating new ones. This thesis addresses that need by exploring how secular buildings might produce the depth of experience historically associated with religious architecture, without requiring religious content.

This research also emerges from lived experience. The inquiry is grounded in the archetype of the threshold figure, the one who stands at the crossing and makes passage possible. It honors a life that opened the way.

6. Rudolf Otto, *The Idea of the Holy*, trans. John W. Harvey (London: Oxford University Press, 1923), 12–40.

7. Kelly, "Lighting as an Integral Part of Architecture," 25.

1.4: Scope and Delimitations

This thesis includes a theoretical framework grounded in phenomenology, liminality theory, lighting theory, and contemporary research on awe; analysis of six precedent case studies through the proposed framework; a site-specific design project of approximately 17,000 square feet plus a threshold garden; a design methodology applicable to other projects and building types; and a Pacific Northwest regional context that addresses the specific light conditions, forest ecology, and cultural setting of the Olympic Peninsula.

This thesis does not include a comprehensive history of sacred architecture, a quantitative empirical study with human subjects, technical photometric analysis or advanced daylight simulation, a cross-cultural comparative study, or construction documentation. The framework is qualitative and phenomenological. The design is developed to schematic design level.

1.5: Thesis Overview

Chapter 1 establishes the problem, the central question, and the thesis argument. Chapter 2 develops the theoretical framework by synthesizing literature on the numinous, liminality, phenomenology, architectural lighting, and pattern theory, then applies that framework to six precedent buildings. Chapter 3 describes the site selection process, site analysis, program development, and design methods, explaining how the framework informs the design project and how the project is evaluated. Chapter 4 presents the design of the artist retreat center, moving from site strategy and parti through a sequence of threshold renders and a set of physical study models, demonstrating the framework in action. Chapter 5 reflects on the design outcomes, evaluates what the framework can and cannot do, and proposes directions for future research and practice.

Chapter Two

Theoretical Framework

Six thinkers, one phenomenology of crossing

This chapter develops the theoretical foundation of the thesis in three movements. The first reviews the key concepts from phenomenology, liminality theory, the study of the numinous, and lighting theory that inform the inquiry. The second introduces the six-quality framework derived from this research and carefully positions it in relation to Christopher Alexander's pattern language, an important precedent that operates at a different register. The third applies the framework to a series of precedent buildings to examine recurring spatial and luminous conditions that afford numinous experience at thresholds.

2.1: Key Concepts

The concepts that follow are not treated as separate or self-contained theories. Each one helps define a different aspect of the same architectural question: how a person experiences a threshold, and how light can intensify that moment of crossing. Phenomenology establishes the importance of embodied perception. Liminality gives language to the transitional condition between one state and another. The numinous describes the feeling of presence, mystery, and awe that can emerge when ordinary experience becomes charged. Lighting theory provides the architectural means through which these experiences can be shaped spatially.

Together, these concepts form the basis for the thesis framework. The goal is not to explain numinous experience as a predictable effect, or to reduce it to a formula. Rather, the theories clarify the conditions that may make such experience more possible. They shift attention away from light as a purely technical or decorative element and toward light as a medium of perception, transition, and atmosphere. In this sense, theory becomes a design tool: a way to identify what matters at the threshold before translating those ideas into spatial strategies.



Figure 2.1. Rudolf Otto portrait / theory background image for the numinous section.
Source: Editrice Queriniana, "Rudolf Otto, 1917," published November 22, 2017.

2.1.1: The Numinous: Rudolf Otto

The non-rational core of the holy.

Rudolf Otto's *The Idea of the Holy* (1923) provides the foundational concept for this thesis. Otto argues that the category of the holy contains a "quite specific element" that sets it apart from the rational, an element that "remains inexpressible."⁸ He names this non-rational core the numinous, from the Latin *numen*.⁹ The numinous cannot be grasped through moral reasoning or theological argument. Its nature, Otto writes, "is such that it grips or stirs the human mind with this and that determinate affective state."¹⁰ It can only be approached indirectly, through analogy, metaphor, and, most importantly, through the feelings it provokes.

8. Rudolf Otto, *The Idea of the Holy*, trans. John W. Harvey (London: Oxford University Press, 1923), 5–6. Otto introduces the numinous in Chapter I, "The Rational and the Non-Rational," identifying within the category of the holy a non-rational "moment" that cannot be reduced to ethical or rational content.

9. Otto, *The Idea of the Holy*, 6–7. The translator's preface notes that "numinous" derives from *numen*, "the most general Latin word for supernatural divine power."

10. Otto, *The Idea of the Holy*, 12–13. Chapter IV, "Mysterium Tremendum," opens with this formulation.

Otto's analysis unfolds through the compound formula *mysterium tremendum et fascinans*. The *mysterium* names the encounter with the fundamentally unknowable. Otto calls this the "wholly other": "that which is quite beyond the sphere of the usual, the intelligible, and the familiar, which therefore falls quite outside the limits of the 'canny,' and is contrasted with it, filling the mind with blank wonder and astonishment."¹¹ The *tremendum* describes the element of awe and overwhelming dread. Otto introduces it through a famous invitation: "The reader is invited to direct his mind to a moment of deeply-felt religious experience, as little as possible qualified by other forms of consciousness."¹² What emerges from this self-examination is what Otto calls "creature-feeling," the sense of one's own nothingness before that which is supreme above all creatures. He further analyzes the *tremendum* into three sub-elements: awefulness, a dread with "something spectral in it" that no natural threat can produce; overpoweringness or majestas, which Otto summarizes as "absolute unapproachability" and "absolute overpoweringness"; and energy or urgency, a quality of "vitality, passion, emotional temper, will, force, movement, excitement, activity, impetus."¹³

The *fascinans* names the third and paradoxical aspect. The numinous object, Otto writes, "may appear to the mind an object of horror and dread, but at the same time it is no less something that allures with a potent charm, and the creature, who trembles before it, utterly cowed and cast down, has always at the same time the impulse to turn to it."¹⁴ Otto calls the daunting and the fascinating a "strange harmony of contrasts," and identifies this dual character as "the strangest and most noteworthy phenomenon in the whole history of religion."¹⁵

For this thesis, the critical insight is that the numinous is not a property of buildings. It is a possibility that certain spatial conditions can afford. Architecture cannot represent the numinous symbolically. It can only create conditions where numinous encounter becomes possible through space, light, material, sound, and sequence. Otto's compound structure provides a vocabulary for understanding what might happen at an architectural threshold: the encounter with something beyond ordinary comprehension (*mysterium*), the bodily response of awe that stops movement and heightens awareness (*tremendum*), and the pull deeper into the space despite, or because of, that awe (*fascinans*). The threshold, as this thesis argues, is where these forces converge.

11. Otto, *The Idea of the Holy*, 24–26. Otto defines the *mysterium* as the "wholly other" in Chapter V.

12. Otto, *The Idea of the Holy*, 8.

13. Otto, *The Idea of the Holy*, 21.

14. Otto, *The Idea of the Holy*, 29.

15. Otto, *The Idea of the Holy*, 30.

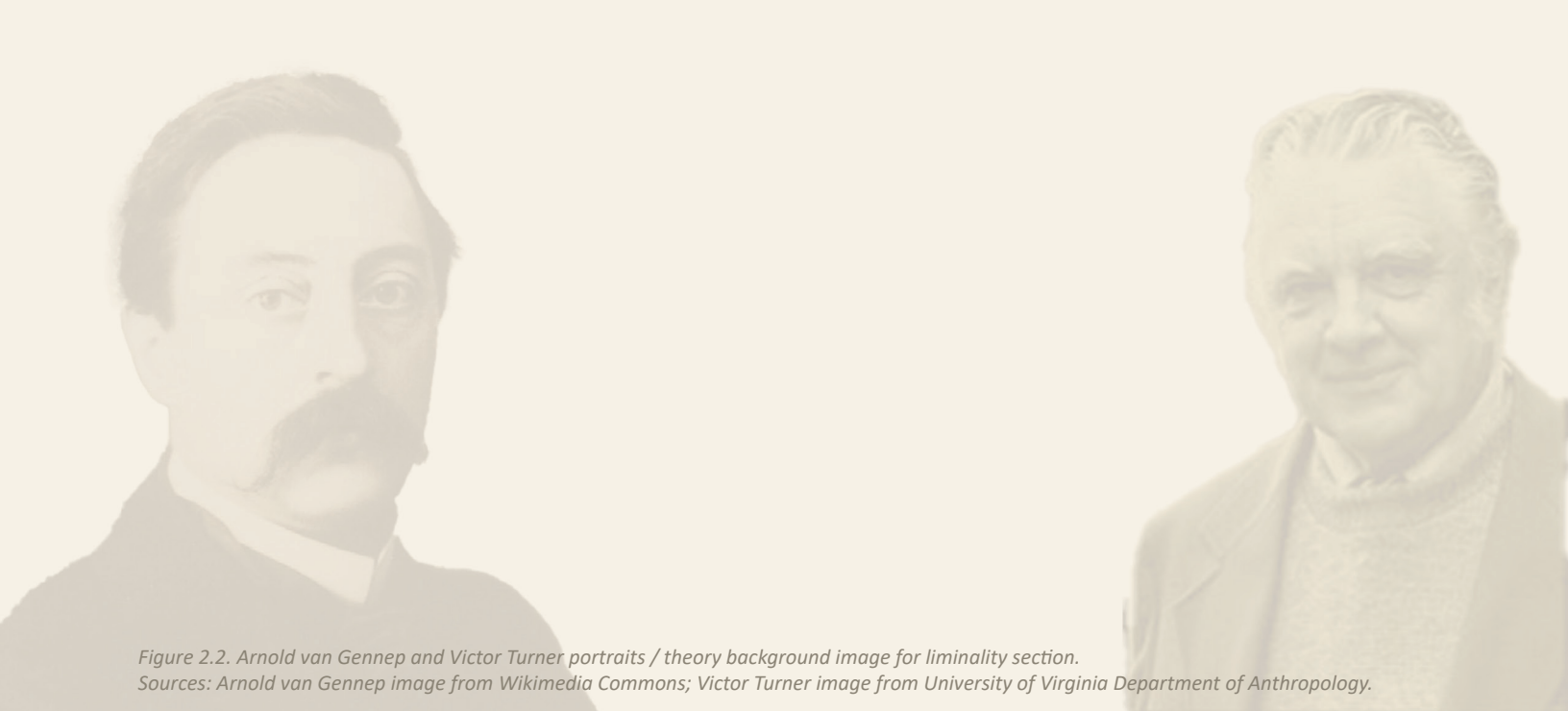


Figure 2.2. Arnold van Gennep and Victor Turner portraits / theory background image for liminality section.

Sources: Arnold van Gennep image from Wikimedia Commons; Victor Turner image from University of Virginia Department of Anthropology.

2.1.2: Threshold and Liminality: Van Gennep and Turner

The threshold is not a line but a zone.

Arnold van Gennep's *The Rites of Passage* (1909) identifies a three-phase structure common to all ritual transitions: separation (séparation), transition (marge), and incorporation (agrégation).¹⁶ Van Gennep observed that rites marking birth, initiation, marriage, and death all follow this schema, and that the middle phase, the liminal period, is the most charged and consequential. The threshold is not a line but a zone, and passage through it takes time. Van Gennep understood this spatially: boundaries are marked by objects ("a stake, portal, or upright rock") whose installation is accompanied by "rites of consecration." The spatial dimension of the threshold is literal: doors, gates, and porticos are not merely functional elements but ritual instruments. Van Gennep writes that "whoever passes through the various positions of a lifetime one day sees the sacred where before he has seen the profane, or vice versa."¹⁷

16. Arnold van Gennep, *The Rites of Passage*, trans. Monika B. Vizedom and Gabrielle L. Caffee (Chicago: University of Chicago Press, 1960), vii.

17. Van Gennep, *The Rites of Passage*, 10–20 (territorial passage and portal).

2.1.2 Threshold and Liminality: Van Gennep and Turner (continued)

Victor Turner's *The Ritual Process* (1969) expands van Gennep's schema by concentrating on the liminal phase itself. Turner's key passage is precise: "Liminal entities are neither here nor there; they are betwixt and between the positions assigned and arrayed by law, custom, convention, and ceremonial." Their attributes are expressed through symbols of negation and ambiguity: "liminality is frequently likened to death, to being in the womb, to invisibility, to darkness, to bisexuality, to the wilderness, and to an eclipse of the sun or moon."¹⁸ In the liminal condition, ordinary social structures are suspended. Hierarchies dissolve. A different kind of solidarity emerges, what Turner calls *communitas*, an unstructured community of equals.¹⁹ The liminal phase is dangerous and generative in equal measure: it is the space where transformation actually happens.

For this thesis, liminality provides a spatial and temporal framework for understanding the threshold as an architectural condition. A threshold is not a simple boundary or doorway but a condition with thickness, depth, and duration. Crossing a threshold is not an instant but a short spatial experience in which perception, orientation, and meaning shift. Numinous experience often emerges in these moments of crossing, when conditions change from darkness to light, compression to release, or enclosure to openness. These shifts disrupt ordinary perception and create the possibility for heightened awareness. Turner's concept of liminality also suggests why the threshold itself, rather than the destination room, may be the primary site of numinous experience: it is in the in-between condition that the ordinary falls away and something else becomes possible.

18. Victor Turner, *The Ritual Process: Structure and Anti-Structure* (Ithaca, NY: Cornell University Press, 1969), 95.

19. Turner, *The Ritual Process*, 95–97.

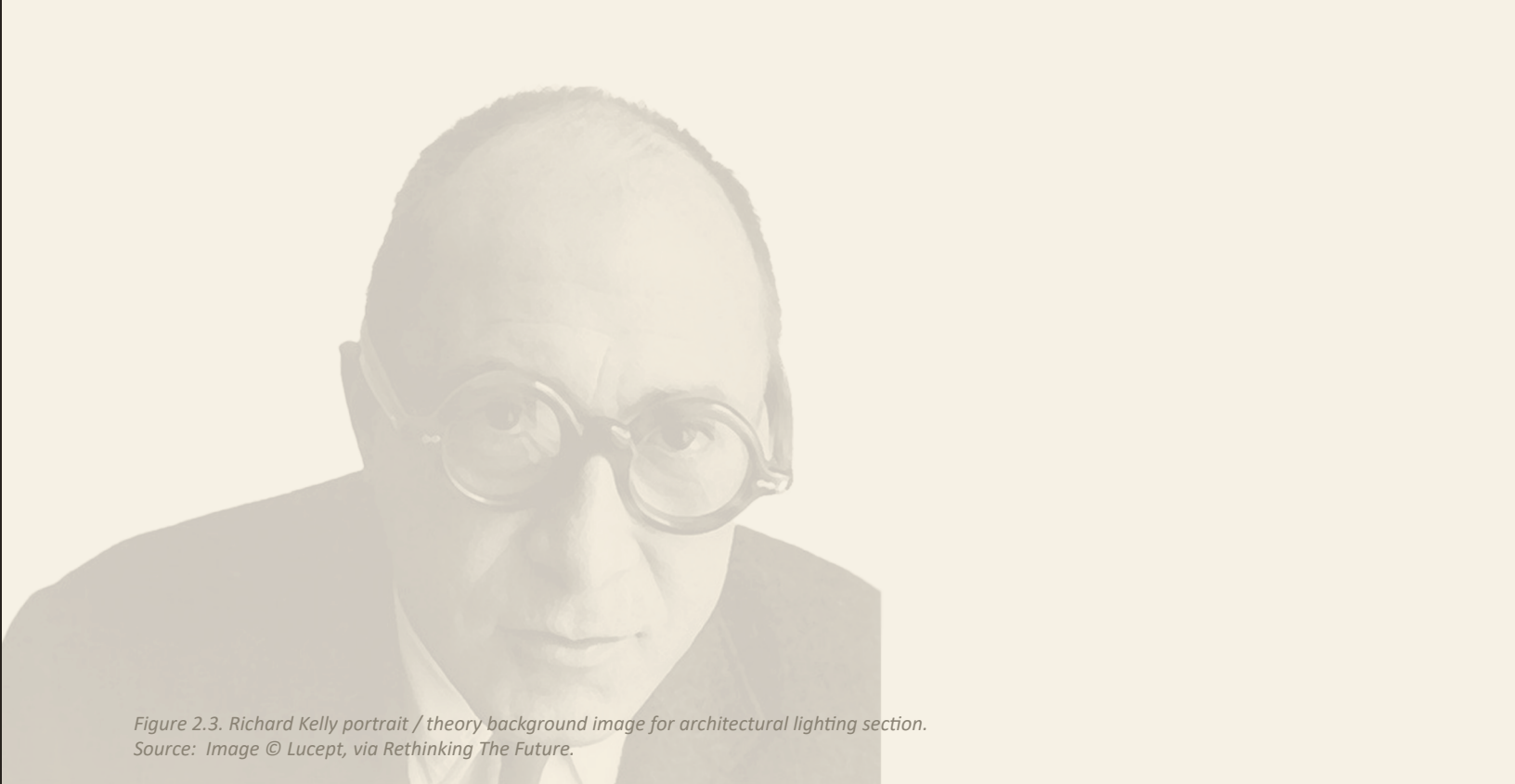


Figure 2.3. Richard Kelly portrait / theory background image for architectural lighting section.
Source: Image © Lucept, via Rethinking The Future.

2.1.3: Light as Architectural Medium: Richard Kelly

Focal glow. Ambient luminescence. Play of brilliants.

Richard Kelly's 1952 essay "*Lighting as an Integral Part of Architecture*" provides a perceptual framework for understanding how light acts within space. Kelly identifies three elemental kinds of light effect that together constitute the full range of visual experience in architecture: focal glow, ambient luminescence, and play of brilliants.²⁰

20. Richard Kelly, "Lighting as an Integral Part of Architecture," *College Art Journal* 12, no. 1 (Autumn 1952): 24–25.

Focal glow, which Kelly calls “the campfire of all time,” is concentrated light that “draws attention, pulls together diverse parts, sells merchandise, separates the important from the unimportant, helps people see.”²¹ His examples are vivid and precise: “It is the pool of light at your favorite reading chair. It is the shaft of sunshine that warms the end of the valley. It is candlelight on the face, and a flashlight on a stair.” Ambient luminescence is diffuse, shadowless illumination: “the uninterrupted light of a snowy morning in the open country,” “foglight at sea in a small boat.” Kelly writes that it “minimizes form and bulk,” “suggests the freedom of space and can suggest infinity,” and “quiets the nerves and is restful.”²² Play of brilliants is the sparkle and animation of multiple light points: “Times Square at night,” “sunlight on a fountain,” “the rose window of Chartres.” Kelly writes that it “excites the optic nerves, and in turn stimulates the body and spirit, quickens the appetite, awakens curiosity, sharpens the wit.”²³

Kelly’s framework is essential to this thesis for two reasons. First, it establishes that light is not a single phenomenon but a composite of distinct perceptual modes, each with different effects on the body and the mind. “Visual beauty is perceived by an interplay of all three kinds of light, though one is usually dominant,” Kelly writes.²⁴ Second, Kelly insists that lighting must be planned as deliberately as spatial form, that the purposeful action of light determines the vast majority of architecture’s total impact.²⁵ This thesis extends Kelly’s perceptual framework into phenomenological territory. Focal glow, ambient luminescence, and play of brilliants are not merely visual categories but modes through which light acts on the threshold: focal glow can guide the body through a sequence of crossings; ambient luminescence can dissolve spatial boundaries at the liminal moment; play of brilliants can produce the trembling, sparkling quality that Otto associates with the fascinans. Kelly provides the how of threshold lighting, the perceptual mechanics, while Otto, Turner, and Alexander provide the what and why.

21. Kelly, “Lighting as an Integral Part of Architecture,” 25.

22. Kelly, “Lighting as an Integral Part of Architecture,” 25.

23. Kelly, “Lighting as an Integral Part of Architecture,” 25.

24. Kelly, “Lighting as an Integral Part of Architecture,” 26.

25. Kelly, “Lighting as an Integral Part of Architecture,” 24.



Figure 2.4. Christopher Alexander portrait / theory background image for pattern language section.
Source: UC Berkeley College of Environmental Design, "In Memoriam: Christopher Alexander."

2.1.4: The Quality Without a Name: Christopher Alexander

Self-maintaining fire, which is the quality without a name.

Christopher Alexander's *The Timeless Way of Building* (1979) and *A Pattern Language* (1977) describe a quality present in certain places that makes them feel alive, whole, and deeply right. Alexander calls this the quality without a name. He writes: "There is a central quality which is the root criterion of life and spirit in a man, a town, a building, or a wilderness. This quality is objective and precise, but it cannot be named."²⁶ Alexander circles the quality through a series of approximations (alive, whole, comfortable, free, exact, egoless, eternal) and finds each word inadequate on its own. "The quality without a name is never calculated, never perfect," he writes; "that subtle balance of forces only happens when the ideas and images are left behind; and created with abandon." When a place possesses enough living patterns, it achieves what Alexander calls a "self-maintaining fire, which is the quality without a name."²⁷

26. Christopher Alexander, *The Timeless Way of Building* (New York: Oxford University Press, 1979), 19.

27. Alexander, *The Timeless Way of Building*, 25–37.

2.1.1.4 The Quality Without a Name: Christopher Alexander (continued)

Alexander connects this experiential quality to actual design strategies through the concept of a pattern language. A pattern language is a structured collection of recurring spatial configurations, or patterns, that tend to produce living environments when used together. Each pattern addresses a specific human problem within a spatial context and proposes a generic solution. Patterns are not rigid prescriptions but flexible relationships that can be adapted to local conditions. Several patterns from *A Pattern Language* are directly relevant to this thesis: *Entrance Transition* (Pattern 112), which describes the need for a transitional space between outside and inside; *Light on Two Sides of Every Room* (Pattern 159), which identifies the quality of daylight that makes rooms feel alive; *Zen View* (Pattern 134), which describes how a carefully framed glimpse of a distant view can produce a moment of heightened awareness; and *Pools of Light* (Pattern 252), which describes how clustered light sources create intimate spatial centers.²⁸

Alexander's *Entrance Transition* is particularly important. He describes arrival as a temporal phenomenon: "The time of arriving, or leaving, seems to swell with respect to the minutes which precede and follow it, and in order to be congruent with the importance of the moment, the space too must follow suit and swell."²⁹ This observation, that the threshold has a felt duration and spatial thickness, is central to the present thesis. Alexander's *Zen View* pattern also anticipates the framework's concern with how spatial sequence produces heightened perception: the monk's courtyard slit that reveals the distant ocean at a single precise moment of crossing is an instance of what this thesis calls compression and release operating through directionality.³⁰

Alexander's work is an essential precedent for the framework proposed here, but the two operate at different registers and serve different purposes. The relationship between them requires careful articulation, which Section 2.2.1 addresses directly.

28. Christopher Alexander, Sara Ishikawa, and Murray Silverstein, *A Pattern Language: Towns, Buildings, Construction* (New York: Oxford University Press, 1977), patterns 112, 134, 159, 252.

29. Alexander, Ishikawa, and Silverstein, *A Pattern Language*, 549–553.

30. Alexander, Ishikawa, and Silverstein, *A Pattern Language*, 641–643.

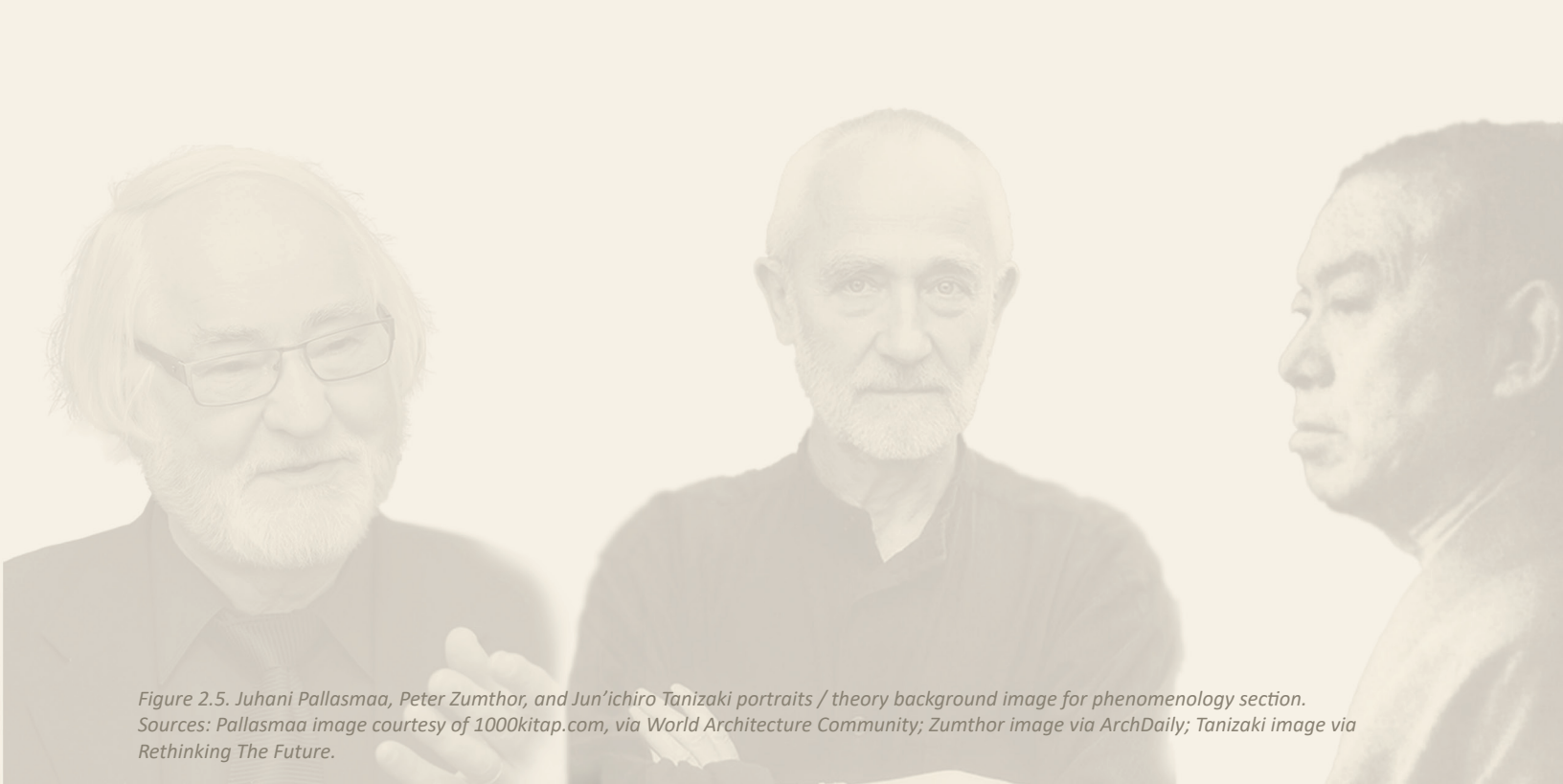


Figure 2.5. Juhani Pallasmaa, Peter Zumthor, and Jun'ichiro Tanizaki portraits / theory background image for phenomenology section.
Sources: Pallasmaa image courtesy of 1000kitap.com, via World Architecture Community; Zumthor image via ArchDaily; Tanizaki image via Rethinking The Future.

2.1.5: Phenomenology of Architecture: Pallasmaa, Zumthor, and Tanizaki

Architecture acts on the body before the mind.

Phenomenological approaches to architecture emphasize that buildings are experienced through the body, not only through visual form. The philosophical foundation for this claim lies in Maurice Merleau-Ponty's *Phenomenology of Perception* (1945), which argues that the body is not “a mere biological or physical unit, but” rather “the body which structures one's situation and experience within the world.”³¹ Perception, for Merleau-Ponty, is not a passive reception of stimuli but an active, embodied engagement with the environment. We do not simply see a room; we inhabit it with our entire sensory and motor apparatus.

31. Maurice Merleau-Ponty, *Phenomenology of Perception*, trans. Donald A. Landes (London: Routledge, 2012). The formulation that the body “structures one's situation and experience within the world” is from Landes's translator's introduction, lxxiv, summarizing Merleau-Ponty's central argument developed across Part I.

2.1.5 Phenomenology of Architecture: Pallasmaa, Zumthor, and Tanizaki (continued)

Juhani Pallasmaa's *The Eyes of the Skin* (2005) translates Merleau-Ponty's philosophy into architectural terms. Pallasmaa critiques the dominance of vision, or ocularcentrism, arguing that modern architecture has become overly retinal and image based, while real spatial experience is multisensory and embodied. Touch, sound, temperature, texture, and movement shape architectural perception. A crucial distinction for this thesis is his observation that "focused vision confronts us with the world whereas peripheral vision envelops us in the flesh of the world."³² At the threshold, peripheral vision registers shifts in spatial condition before conscious analysis begins. Pallasmaa also argues that "deep shadows and darkness are essential, because they dim the sharpness of vision, make depth and distance ambiguous, and invite unconscious peripheral vision and tactile fantasy." Shadow is therefore not a deficit of illumination but a positive architectural condition. He asks: "How much more mysterious and inviting is the street of an old town with its alternating realms of darkness and light than are the brightly and evenly lit streets of today!"³³

Peter Zumthor explores similar ideas in *Thinking Architecture* (1998) and *Atmospheres* (2006). He examines how materials, light, sound, proportion, and temperature combine to create atmosphere, the emotional charge of a place. Recalling childhood spaces, he writes: "Sometimes I can almost feel a particular door handle in my hand, a piece of metal shaped like the back of a spoon." He continues: "I remember the sound of the gravel under my feet, the soft gleam of the waxed oak staircase, I can hear the heavy front door closing behind me."³⁴ For Zumthor, atmosphere can be intentionally shaped. In *Atmospheres*, he describes entering a building and, "in the fraction of a second," having a feeling about it: "We perceive atmosphere through our emotional sensibility, a form of perception that works incredibly quickly, and which we humans evidently need to help us survive."³⁵ Architecture, in this account, acts on the body before it acts on the mind.

Zumthor also emphasizes the primacy of materials. He praises "the precise and sensuous way" certain artists use materials, describing it as "anchored in an ancient, elemental knowledge about man's use of materials, and at the same time" exposing "the very essence of these materials which is beyond all culturally conveyed meaning."³⁶ Materials actively shape how light behaves and therefore the atmosphere of a space.

Jun'ichirō Tanizaki's *In Praise of Shadows* (1933) is a meditation on traditional Japanese aesthetics and the beauty that emerges in the gradient between darkness and light. Tanizaki argues that shadow is not absence but presence; it gives depth, mystery, and meaning to light. His central claim is stated plainly: "The beauty

32. Juhani Pallasmaa, *The Eyes of the Skin: Architecture and the Senses*, 3rd ed. (Chichester: John Wiley & Sons, 2012), 10.

33. Pallasmaa, *The Eyes of the Skin*, 46.

34. Peter Zumthor, *Thinking Architecture*, 2nd ed. (Basel: Birkhäuser, 2006), 9–10.

35. Peter Zumthor, *Atmospheres: Architectural Environments, Surrounding Objects* (Basel: Birkhäuser, 2006), 13.

36. Zumthor, *Thinking Architecture*, 10.

2.1.5 Phenomenology of Architecture: Pallasmaa, Zumthor, and Tanizaki (continued)

of a Japanese room depends on a variation of shadows, heavy shadows against light shadows—it has nothing else.” Western observers, he writes, are “amazed at the simplicity of Japanese rooms, perceiving in them no more than ashen walls bereft of ornament. Their reaction is understandable, but it betrays a failure to comprehend the mystery of shadows.”³⁷

Tanizaki’s account of lacquerware is particularly revealing. He describes a moment of discovery: “In the gloss of this lacquerware,” he writes, he found “a depth and richness like that of a still, dark pond, a beauty I had not before seen.”³⁸ The material does not merely reflect light; it receives it, holds it, and returns it transformed. Gold leaf, Tanizaki observes, acquires its full beauty only in dim light, where it catches and magnifies whatever faint illumination reaches it. In bright light, gold is merely garish; in shadow, it glows.

Tanizaki provides an essential counterweight to Western assumptions about light. Western architecture tends to privilege brightness, transparency, and clarity. Tanizaki demonstrates that luminosity is heightened by shadow, that beauty emerges in restraint, and that the numinous often resides in dimness rather than brilliance. His sensitivity to the relationship between material surface and light quality, the way lacquer, paper, gold, and stone each interact differently with shadow, directly informs the framework’s quality of materiality.

Together, these authors ground the thesis in lived experience rather than abstraction. They provide a language for describing how spatial qualities are felt by the body and affirm atmosphere as a legitimate object of architectural design.

37. Jun’ichirō Tanizaki, *In Praise of Shadows*, trans. Thomas J. Harper and Edward G. Seidensticker (Stony Creek, CT: Leete’s Island Books, 1977), 19.

38. Tanizaki, *In Praise of Shadows*, 13.



Figure 2.6. Dacher Keltner and Jonathan Haidt portraits / theory background image for psychology of awe section.
Sources: Dacher Keltner image from Dacher Keltner official bio page; Jonathan Haidt image from Social Psychology Network profile page.

2.1.6: The Psychology of Awe: Keltner and Haidt

Vastness plus accommodation equals awe.

Dacher Keltner and Jonathan Haidt's *"Approaching Awe, a Moral, Spiritual, and Aesthetic Emotion"* (2003) provides empirical grounding for the phenomenological and spiritual concepts discussed above. They define awe through "two features that are central": "that the stimulus is vast and that it requires accommodation."³⁹ Accommodation, in their usage, means a fundamental restructuring of one's existing mental frameworks, encountering something so large or complex that current categories of understanding cannot contain it. Awe, they write, "is felt about diverse events and objects, from waterfalls to childbirth to scenes of devastation," and is "central to the experience of religion, politics, nature, and art." They add: "Fleeting and rare, experiences of awe can change the course of a life in profound and permanent ways."⁴⁰

39. Dacher Keltner and Jonathan Haidt, "Approaching Awe, a Moral, Spiritual, and Aesthetic Emotion," *Cognition and Emotion* 17, no. 2 (2003): 297–314.

40. Keltner and Haidt, "Approaching Awe," 297.

2.1.6 The Psychology of Awe: Keltner and Haidt (continued)

Keltner and Haidt's two-factor model parallels Otto's structure in striking ways. Perceived vastness corresponds to Otto's *tremendum*, the experience of something overwhelmingly greater than oneself. The need for accommodation corresponds to *mysterium*, the encounter with something that cannot be assimilated into existing categories of understanding. The positive dimension of awe (wonder, attraction, elevation) corresponds to *fascinans*. This convergence between empirical psychology and phenomenology suggests that the numinous is not merely a theological concept but a recognizable human experience with identifiable perceptual triggers.

This research validates architecture's capacity to produce profound emotional and cognitive effects. It also suggests that the framework qualities developed in this thesis (compression and release, shadow and luminosity, directionality, and inside-outside tension) may correspond to specific mechanisms by which spaces produce perceived vastness and the need for accommodation. A sudden release from spatial compression into a light-filled volume may trigger the perception of vastness. An encounter with shadow that gives way to luminosity may produce the need for accommodation, a perceptual shift that existing frameworks cannot easily absorb.

2.2: The Six-Quality Framework

The literature review revealed six recurring qualities through which light contributes to numinous experience in architecture. These qualities are not intended as fixed design rules or stylistic prescriptions. Rather, they describe experiential conditions that repeatedly appear in spaces associated with awe, contemplation, transcendence, and threshold crossing. Together they form a framework for understanding how light can shape human perception and support encounters with the numinous. The six qualities are compression and release, shadow and luminosity, directionality, materiality, temporal change, and inside-outside tension. Each emerged through the intersection of theory and precedent analysis, and each provides a lens through which light can be understood not simply as illumination, but as a medium of experience.

2.2.1: Positioning the Framework: Patterns, Qualities, and Their Differences

Before presenting the six qualities, it is necessary to address the relationship between this framework and Christopher Alexander's pattern language, an important precedent that has shaped the methodology of this thesis but that operates in a fundamentally different register.

Alexander's pattern language is a generative spatial grammar. Each pattern identifies a recurring problem in the built environment, describes the field of forces that produce it, and proposes a generic spatial configuration that resolves those forces. Patterns are concrete, physical, and compositional: *Entrance Transition* specifies a change of surface, a change of level, a change of direction, and a partial enclosure between the street and the front door.⁴¹ *Light on Two Sides* specifies that rooms should receive daylight from at least two directions to avoid the flat, dead quality of single-source illumination.⁴² *Zen View* specifies a narrow opening placed so that a distant landscape is revealed at a single moment of passage.⁴³ These patterns are spatial recipes: they describe what to build and where to put it. Their power lies in their specificity. They tell the designer: make a path that turns; make a room with two windows; cut a slit in a wall.

The framework proposed in this thesis is not a pattern language. It does not prescribe spatial configurations. It identifies experiential qualities, perceptual and affective conditions, that emerge at thresholds and afford numinous experience. Where Alexander asks, "What spatial configuration makes a place feel alive?" this thesis asks, "What luminous and perceptual conditions make a threshold feel numinous?" The distinction is between a grammar of spatial wholeness and a phenomenology of threshold crossing.

The difference can be illustrated precisely. Alexander's *Entrance Transition* pattern specifies that a transitional space should exist between street and building, and suggests physical means (a change of level, a gate, a path that turns) for producing that transition. The framework quality of compression and release describes what happens experientially when a transition is crossed: the body registers constriction, movement slows, attention heightens, and then the sudden opening produces relief, perceptual expansion, and a felt shift in spatial condition. The pattern tells the designer what to build; the quality tells the designer what to aim for, what the occupant should feel. A designer might achieve compression and release through an entrance

41. Alexander, Ishikawa, and Silverstein, *A Pattern Language*, 549–553.

42. Alexander, Ishikawa, and Silverstein, *A Pattern Language*, 746–751.

43. Alexander, Ishikawa, and Silverstein, *A Pattern Language*, 641–643.

2.2.1 Positioning the Framework: Patterns, Qualities, and Their Differences (continued)

transition, but also through a forest canopy opening to a meadow, a narrow corridor expanding into a tall nave, or a dark passage giving way to a light-filled room. The quality is medium-independent; the pattern is medium specific.

Similarly, Alexander's *Light on Two Sides* is a spatial prescription about window placement. The framework quality of directionality describes the perceptual effect of light's orientation and vector, how light from above, from the side, or from below produces different bodily responses and guides attention in different ways. A room with light on two sides may or may not exhibit strong directionality; a room with light on one side may exhibit very strong directionality if that light enters through a deep reveal at a specific angle. The quality describes a perceptual condition; the pattern describes a spatial configuration that sometimes produces it.

This distinction matters because it determines what the framework can do that a pattern language cannot. A pattern language generates spatial form. The six-quality framework evaluates and guides experience. It can be used analytically, to study why certain existing thresholds produce numinous effects, and generatively, to establish experiential targets for new designs. It is compatible with Alexander's patterns (many of Alexander's patterns produce one or more of the six qualities) but it is not derived from them, and it operates at the level of perception and affect rather than spatial configuration.

The framework also integrates Richard Kelly's three modes of light (focal glow, ambient luminescence, and play of brilliants) as the means through which the six qualities are achieved in practice. Alexander's pattern language does not address light as a designed medium with distinct perceptual modes; it treats light as a spatial fact (windows, orientation, room depth) rather than as a compositional material with its own grammar. Kelly's framework fills this gap. Where Alexander provides the spatial logic and Kelly provides the lighting logic, the six-quality framework provides the experiential logic that connects both to the numinous.



Figure 2.7. Compression and release background image. Source: ArchDaily, “AD Classics: Church of the Light / Tadao Ando Architect & Associates.”

2.2.2: Compression and Release

Spatial constriction followed by sudden opening. Compression heightens bodily awareness, slows movement, and focuses attention inward. The body registers the enclosure through lowered ceilings, narrowed walls, and reduced light, responding with increased alertness. Release produces relief, perceptual expansion, and a felt shift in spatial condition. The contrast between the two states intensifies the experience of crossing. In Kelly’s terms, the compressed passage may be characterized by reduced ambient luminescence, while the moment of release may introduce focal glow or a sudden increase in ambient light that produces the sense of spatial infinity Kelly describes.⁴⁴

This quality draws on Turner’s understanding of liminality as a condition of constriction that precedes transformation. It also reflects Alexander’s observation that the experience of arriving or leaving swells in relation to the moments surrounding it.⁴⁵ Otto’s *tremendum*, the sense of being overwhelmed, often requires a preceding condition of containment to produce its full force. Without compression, release is merely openness. Without release, compression is merely confinement. It is the sequence, the crossing from one to the other, that produces the numinous charge.

44. Kelly, “Lighting as an Integral Part of Architecture,” 25.

45. Alexander, Ishikawa, and Silverstein, *A Pattern Language*, 549.



Figure 2.8. Shadow and luminosity background image. Source: Salk Institute, via Carolina A. Miranda, “Louis Kahn’s Salk Institute, the building that guesses tomorrow, is aging — very, very gracefully,” *Los Angeles Times*, November 22, 2016.

2.2.3: Shadow and Luminosity

Shadow and Luminosity describes the interplay between darkness and light. Shadow is not the absence of light but its essential complement, the condition that gives light depth, intensity, and meaning. Tanizaki’s observation that the beauty of a Japanese room depends entirely on a variation of shadows is perhaps the most concise expression of this principle.⁴⁶ Pallasmaa reinforces this from a phenomenological perspective: deep shadows and darkness diminish the sharpness of vision and activate peripheral perception, drawing the body into the space rather than allowing it to remain a detached spectator.⁴⁷ Luminosity is heightened by contrast rather than by the quantity of light. A narrow beam entering a dark space carries greater experiential force than even illumination distributed across a bright room.

This quality operates through Kelly’s entire framework simultaneously. Focal glow gains its power from surrounding shadow. Ambient luminescence produces its effect of spatial dissolution precisely when it emerges from darkness. Play of brilliants, the sparkle of reflected light, is visible only against a ground of relative darkness. Otto’s paired concepts of *tremendum* and *fascinans* find their spatial analogue here: shadow is the architectural *tremendum* (dread, concealment, the unknown), while luminosity is the *fascinans* (attraction, revelation, the beautiful). The threshold between them is where the numinous emerges.

46. Tanizaki, *In Praise of Shadows*, 18.

47. Pallasmaa, *The Eyes of the Skin*, 46.



Figure 2.9. Directionality background image. Source: Arkkitehtitoimisto Arco, “Myyrmäen kirkko.”

2.2.4: Directionality

Directionality describes the orientation and vector of light within space. Light from above carries associations with the celestial and the transcendent. Light from the side sculpts form and creates depth. Light from below unsettles and defamiliarizes. The direction from which light enters a threshold shapes the body’s orientation, guides the eyes, and produces distinct emotional registers. Directionality is how light becomes a spatial force, not merely illuminating a space but organizing movement and attention within it.

Kelly’s concept of focal glow is inherently directional: it draws attention along a vector, separating figure from ground and guiding the eye toward what matters.⁴⁸ Alexander’s *Zen View* pattern demonstrates directionality at its most precise: a narrow slit in a wall that aligns the eye with a distant view at a single moment of passage.⁴⁹ In the precedent buildings examined later in this chapter, directionality operates as a primary mechanism of threshold experience: Ando’s cross of light enters from a single direction, Kahn’s courtyard at the Salk Institute directs attention toward the horizon, and Leiviskä’s clerestory windows at Myyrmäki Church create layered planes of illumination that guide the eye upward.

48. Kelly, “Lighting as an Integral Part of Architecture,” 25.

49. Alexander, Ishikawa, and Silverstein, *A Pattern Language*, 549.



Figure 2.10. Materiality background image. Source: Christopher Karlson, “Vignettes / The Therme Vals.” Image © Christopher Karlson.

2.2.5: Materiality

Materiality describes how surfaces receive, absorb, reflect, and transmit light. Materials are not passive backgrounds for illumination; they are active participants in how light behaves. Rough concrete scatters light and produces soft gradients. Polished stone reflects it sharply. Wood absorbs light, deepens shadow, and conveys warmth. Glass transmits, filters, and refracts illumination. Gold, as Tanizaki demonstrates, catches and magnifies even the faintest light in dim conditions.⁵⁰ The thickness, texture, porosity, and surface finish of materials determine whether light is softened, absorbed, directed, or allowed to glow.

Zumthor’s insistence on the sensuous precision of materials is central to this quality. He describes being impressed by the way certain artists use materials with an ancient, elemental knowledge.⁵¹ In architectural terms, materiality determines the specific character of light within a threshold: the matte glow of quartzite at Therme Vals, the sharp contrast of concrete at Brion Cemetery, the diffuse radiance of white surfaces at Myyrmäki Church. Materiality is also where Kelly’s three modes of light become tangible. Focal glow on a rough stone wall produces a different atmosphere than focal glow on polished marble, even if the light source is identical.

50. Tanizaki, *In Praise of Shadows*, 23–24.

51. Zumthor, *Thinking Architecture*, 10.



Figure 2.11. Temporal change background image. Source: Helen Frankenthaler Foundation Climate Initiative, *The East Portal through Alpha Tunnel*. Photograph by Klaus Brasch.

2.2.6: Temporal Change

Temporal Change recognizes that light is never static. Solar movement across the day, seasonal shifts in angle and duration, weather conditions, and the slow aging of materials all introduce a temporal dimension to spatial experience. A threshold crossed at dawn produces a different experience than the same threshold crossed at dusk. The awareness of time passing, of light changing even as one stands within it, often intensifies numinous experience by connecting the individual moment to larger cycles of cosmic and ecological time.

This quality draws on Zumthor's understanding of buildings as instruments of time, and on Alexander's observation that pools of light change through the day as the sun moves.⁵² It finds its most radical expression in James Turrell's Roden Crater, where architectural apertures are aligned with celestial cycles so that the space itself becomes a register of planetary movement. Otto's concept of the numinous as a rupture in ordinary time is also relevant here: temporal change can produce moments when the normal flow of experience is interrupted and something larger becomes perceptible.

52. Alexander, Ishikawa, and Silverstein, *A Pattern Language*, pattern 252.



Figure 2.12. Inside-outside tension background image. Source: Veneto Secrets, “Tomba Brion: Carlo Scarpa’s Masterpiece.”

2.2.7: Inside-Outside Tension

Inside-Outside Tension describes the simultaneous awareness of two opposed spatial conditions: interior enclosure and exterior vastness. This quality is not simply about having a view; it is about the felt tension between the contained space of the body and the unbounded space beyond. The threshold between inside and outside is where this tension becomes most acute, where the occupant is neither fully sheltered nor fully exposed, but suspended between both conditions at once.

Alexander’s *Zen View* pattern captures one dimension of this quality: the carefully framed glimpse of a distant landscape that produces a moment of heightened awareness precisely because it sets interior enclosure against exterior infinity.⁵³ Tanizaki’s observation that interior shadow intensifies the exterior view operates by the same logic: the dark room makes the bright garden more luminous by contrast.⁵⁴ At the Salk Institute, Kahn achieves inside-outside tension at monumental scale: the enclosed travertine courtyard opens to the Pacific horizon through a narrow water channel, holding architectural containment and oceanic vastness in a single spatial composition. Keltner and Haidt’s concept of perceived vastness is directly relevant here: inside-outside tension is one of the primary architectural mechanisms by which the perception of vastness, and therefore awe, is produced.⁵⁵

53. Alexander, Ishikawa, and Silverstein, *A Pattern Language*, 641–643.

54. Tanizaki, *In Praise of Shadows*, 18–20.

55. Keltner and Haidt, “Approaching Awe,” 303–305.

2.3: Precedent Analysis

Six buildings are examined through the framework. Each demonstrates several qualities operating together rather than independently. The precedents vary in scale, climate, program, and architectural strategy, showing that the framework applies across different spatial and lighting conditions. The analysis is organized not as a comprehensive monograph on each building but as a focused reading through the lens of the six qualities, with particular attention to how each building produces numinous experience at its thresholds.

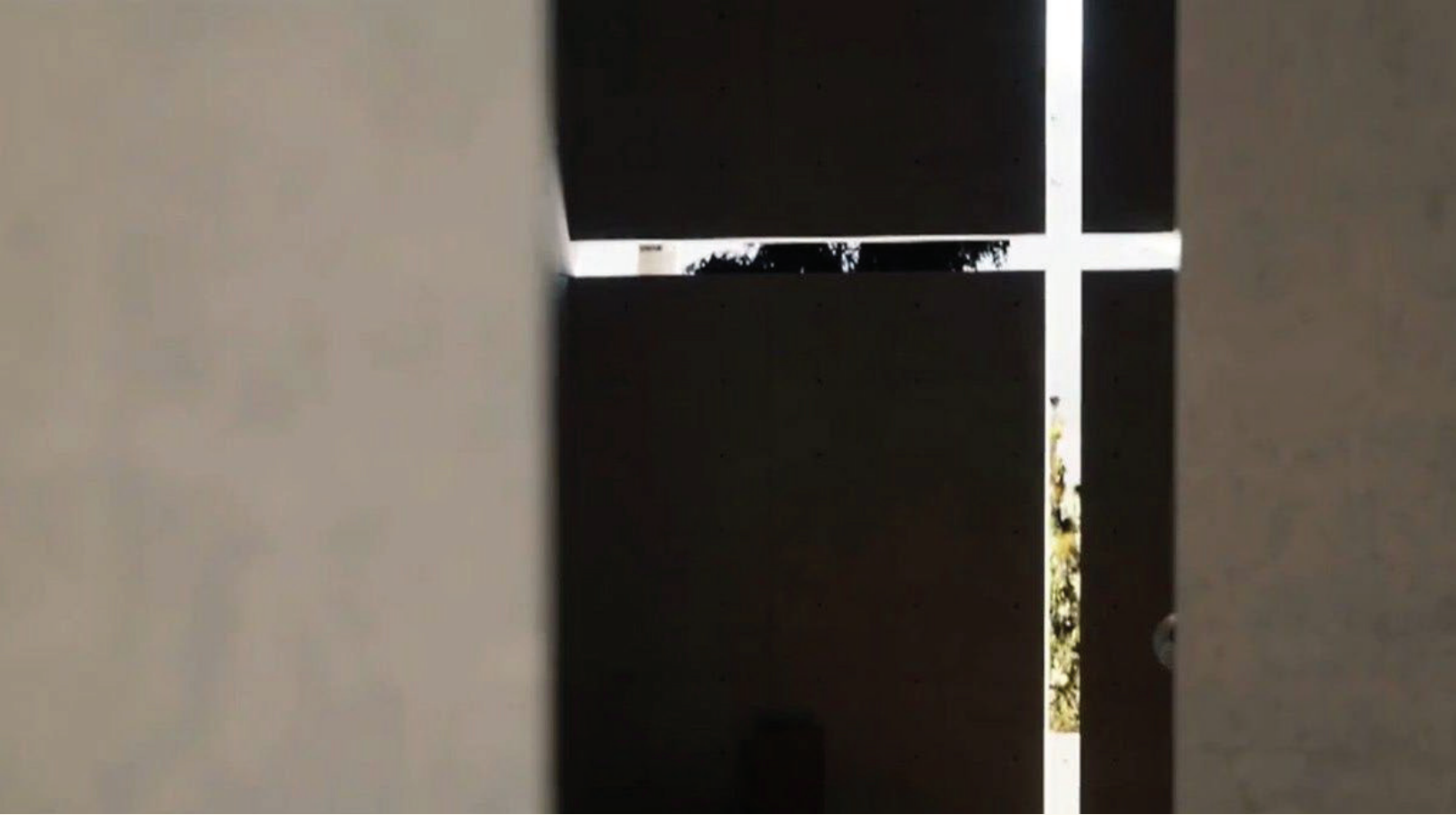


Figure 2.13. Tadao Ando, *Church of the Light*, Ibaraki, Osaka, 1989. Source: [loftcn.com](https://loftcn.com/archives/216497.html), <https://loftcn.com/archives/216497.html>.

2.3.1: Church of the Light — Tadao Ando (Ibaraki, Osaka, 1989)

Ando's Church of the Light is organized around a single threshold moment. The entry sequence compresses the visitor through a narrow, dark passage before releasing them into the nave, where a cruciform aperture cut through the full height of the concrete wall admits a blade of daylight into the otherwise dark interior. The building centers on the contrast between shadow and luminosity: the concrete absorbs nearly all ambient light, so that the cross of light becomes the only source of focal glow in the space. Kelly's categories are operating here with extreme economy: a single focal glow against near-total darkness, with no ambient luminescence and no play of brilliants. The result is a space that produces compression and release, shadow and luminosity, and directionality simultaneously, through minimal means.

The Church of the Light demonstrates that numinous experience can emerge from the most restrained architectural vocabulary: concrete, geometry, and a single cut of light. It also demonstrates the primacy of the threshold: the numinous charge of the space depends entirely on the sequence of compression and release that precedes the encounter with the luminous cross.



Figure 2.14. Peter Zumthor, *Therme Vals*, Vals, Switzerland, 1996. Photograph © Fabrice Fouillet, via ArchEyes, <https://archeyes.com/peter-zumthors-therme-vals-sensory-architecture-in-an-alpine-retreat/>.

2.3.2: Therme Vals — Peter Zumthor (Vals, Switzerland, 1996)

Therme Vals is organized as a series of stone chambers connected by a sequence of compression and release. Light enters through narrow roof apertures and washes across layered quartzite surfaces that absorb and diffuse it, producing a soft matte glow rather than direct illumination. The building's primary qualities are materiality, compression and release, and shadow and luminosity. The quartzite is not a backdrop for light; it is part of the lighting strategy. The stone mass absorbs, warms, and returns light in a way that produces the specific atmospheric quality Zumthor describes as the body of architecture, a quality inseparable from the material's physical presence.⁵⁶

In Kelly's terms, Therme Vals operates primarily through ambient luminescence modulated by material surface. There is little focal glow and little play of brilliants. The result is an atmosphere of immersion and dissolution, the kind of shadowless, boundary-dissolving light that Kelly associates with reassurance and spatial freedom. The numinous here is not dramatic but immersive: the occupant is enveloped rather than confronted.

56. Peter Zumthor, *Thinking Architecture*, 2nd ed. (Basel: Birkhäuser, 2006), 49–56.



Figure 2.15. James Turrell, Roden Crater (Crater's Eye), near Flagstaff, Arizona, 1979-present. Photograph courtesy of the Roden Crater project, <https://roden crater.com/spaces/craters-eye/>.

2.3.3: Roden Crater — James Turrell (Flagstaff, Arizona, 1979–present)

Turrell's Roden Crater reduces architecture to earth, sky, and light. Long dark passages through the volcanic crater lead to viewing chambers where apertures are aligned with celestial events, including solstices, equinoxes, and lunar standstills. The building's primary qualities are temporal change, compression and release, and shadow and luminosity. Light shifts continuously with planetary and solar cycles; no two visits produce the same experience. The compression of the dark passage and the release into the sky viewing chamber produce the most extreme version of the threshold crossing examined in this thesis: the occupant moves from darkness to a direct encounter with the sky itself.

Roden Crater demonstrates that numinous experience can emerge from pure light phenomena with minimal architectural intervention. It also demonstrates temporal change as a primary quality. The space is designed not for a single lighting condition but for the full range of celestial variation across hours, days, and years.



Figure 2.16. Louis Kahn, Salk Institute, La Jolla, California, 1965. Photograph by Codera23, Wikimedia Commons, https://commons.wikimedia.org/wiki/File:Salk_Institute_2.jpg.

2.3.4: Salk Institute — Louis Kahn (La Jolla, California, 1965)

Kahn's Salk Institute achieves numinous experience within a functional research complex through spatial orientation and horizon alignment. The travertine courtyard, framed by laboratory wings, is oriented due west toward the Pacific Ocean. A narrow water channel bisects the courtyard and directs attention toward the horizon, where sky and ocean merge. The primary qualities are inside-outside tension, directionality, and temporal change. The courtyard holds architectural containment and oceanic vastness in a single composition. The occupant is simultaneously enclosed and exposed to infinity.

In Kelly's terms, the Salk courtyard operates through ambient luminescence (the open sky) modulated by the strong directionality of the water channel's focal line. At sunset, the courtyard transforms: the travertine surfaces catch warm light and the water channel becomes a luminous axis. This temporal change, from the even light of midday to the dramatic glow of sunset, demonstrates how the same space can move through different experiential registers across the course of a day.



Figure 2.17. Carlo Scarpa, Brion Cemetery, San Vito d'Altivole, Italy, 1978. Source: Veneto Secrets, <https://venetosecrets.com/en/art-style/tomba-brion-carlo-scarpas-masterpiece/>.

2.3.5: Brion Cemetery — Carlo Scarpa (San Vito d'Altivole, Italy, 1978)

Scarpa's Brion Cemetery structures movement through a sequence of small threshold crossings: through walls, over bridges, along water channels, and past light apertures. The site is organized as a ritual progression rather than a single destination. Light enters through deep concrete reveals, producing sharp contrasts between shadow, reflection, and illumination. The primary qualities are shadow and luminosity, compression and release, and directionality. Each crossing produces a distinct shift in light condition: from diffuse to focused, from bright to dark, from open to enclosed.

Brion Cemetery demonstrates that numinous conditions can emerge through intimate and carefully detailed transitions rather than monumental space. The play of brilliants is present here in the reflections off water and the glint of metal and colored glass set into concrete, small, precise moments of sparkle that animate the otherwise heavy material palette. Scarpa's approach suggests that the numinous is available at the scale of the detail, not only at the scale of the room.



Figure 2.18. Juha Leiviskä, Myyrmäki Church, Vantaa, Finland, 1984. Photograph © Arno de la Chapelle, courtesy of the Museum of Finnish Architecture, via World-Architects, <https://world-architects.com/en/architecture-news/found/total-works-of-art>.

2.3.6: Myyrmäki Church — Juha Leiviskä (Vantaa, Finland, 1984)

Leiviskä's Myyrmäki Church fills its white interior with layered clerestory light. Illumination arrives from multiple directions and accumulates gradually within the space, reflected and re-reflected by suspended wall planes and ceiling elements. The primary qualities are directionality, shadow and luminosity, and materiality. The white surfaces do not merely reflect light; they multiply it, producing a luminous atmosphere that shifts continuously as the Nordic sun moves.

Myyrmäki Church demonstrates that numinous atmosphere can emerge from subtle, diffuse light conditions rather than dramatic contrast. Where Ando achieves the numinous through a single blade of focal glow against darkness, Leiviskä achieves it through the accumulation of ambient luminescence across layered reflective surfaces. In Kelly's terms, the church operates primarily through ambient luminescence with a gentle play of brilliants produced by the shifting angles of reflected light. The result is an atmosphere of quiet radiance rather than dramatic revelation, a numinous condition closer to *fascinans* than to *tremendum*.

2.4: Framework Summary

This chapter has developed the theoretical framework for the thesis by synthesizing phenomenology (Otto, Merleau-Ponty, Pallasmaa, Zumthor), liminality theory (van Gennep, Turner), lighting theory (Kelly), spatial theory (Alexander), aesthetic theory (Tanizaki), and research on awe (Keltner and Haidt). From these sources, six qualities are identified that structure numinous experience at architectural thresholds: compression and release, shadow and luminosity, directionality, materiality, temporal change, and inside-outside tension.

The framework is distinguished from Alexander’s pattern language by its register and purpose. Alexander’s patterns are generative spatial recipes that prescribe specific configurations. The six qualities are experiential conditions that describe what the occupant should feel at a threshold, independent of the specific spatial means used to produce that feeling. The framework integrates Kelly’s three modes of light (focal glow, ambient luminescence, and play of brilliants) as the perceptual mechanics through which the six qualities are realized in practice. Together, Alexander provides the spatial logic, Kelly provides the lighting logic, and the six-quality framework provides the experiential logic that connects both to the numinous.

Precedent analysis demonstrates that these qualities appear across diverse buildings and lighting strategies, from the minimal concrete and single cut of light at the Church of the Light to the layered diffusion of Myyrmäki Church, from the immersive materiality of Therme Vals to the cosmic temporality of Roden Crater. No precedent uses all six qualities. Each uses several. Read together, the matrix shows the working range of the framework. The framework functions both as an analytical tool for studying existing architecture and as a generative tool for design. Chapters 3 and 4 apply this framework to a specific site and program.

	C + R	S + L	DIR	MAT	TEMP	I / O
<i>Ando — Church of the Light</i>	●	●	●	○	—	—
<i>Zumthor — Therme Vals</i>	●	●	○	●	○	—
<i>Turrell — Roden Crater</i>	●	○	—	—	●	●
<i>Kahn — Salk Institute</i>	—	—	●	○	●	●
<i>Scarpa — Brion Cemetery</i>	●	●	●	●	○	—
<i>Leiviskä — Myyrmäki Church</i>	—	○	●	●	●	—
	● primary	○ secondary	— absent			

Figure 2.19. Precedent matrix: the six qualities mapped across the six precedent buildings, scored as primary, secondary, or absent. No precedent uses all six; read together, the matrix shows the working range of the framework. Diagram by author.

Chapter Three

Methodology

Testing the framework through design

3.1: Introduction

This chapter describes how the theoretical framework developed in Chapter 2 is tested through design. The project functions as both an architectural proposal and a research method. A site is selected for its existing threshold conditions, a program is developed around the experience of arrival and contemplation, and the six-quality framework is applied across multiple spatial scales. The goal is to evaluate whether the framework can guide design decisions that produce numinous threshold experiences in a secular building.

The methodology is qualitative and phenomenological rather than quantitative. It does not attempt to measure numinous experience through surveys or physiological instruments. Instead, it uses design itself as the primary research tool: the framework generates spatial decisions, those decisions are tested through drawings and models, and the results are evaluated through critical reflection and review. This approach is consistent with the tradition of design-based research in architecture, where the design project is both the outcome and the instrument of inquiry.

3.2: Research Design

The research proceeds in three phases. The first phase, completed in Chapters 1 and 2, develops the theoretical framework through literature review, synthesis, and precedent analysis. The second phase, described in this chapter, selects a site, develops a program, and establishes the design methods and evaluation criteria through which the framework is tested. The third phase, presented in Chapter 4, applies the framework to produce a design project and evaluates the results.

The framework is tested at four spatial scales. At the site scale, the design identifies and amplifies existing landscape thresholds (the transitions from road to forest, forest to meadow, meadow to water's edge) that already exhibit qualities of compression and release, shadow and luminosity, and inside-outside tension. At the building scale, entry sequences, circulation paths, and spatial transitions are designed to produce specific combinations of the six qualities. At the room scale, individual spatial conditions (study rooms, workshop areas, the gallery) are shaped to test how the framework operates within contained volumes. At the detail scale, apertures, fixtures, and material assemblies are designed to control the specific character of light at each threshold.

3.3: Site Selection Criteria

The site selection process prioritized locations that already contained multiple threshold conditions at different scales, allowing the framework to be tested comprehensively. The criteria included: an urban-forest edge condition providing transition from developed to natural landscape; multiple micro-thresholds within the site, such as forest canopy, meadow clearing, and water edge; Pacific Northwest regional context with its specific light conditions (overcast dominance, seasonal extremes, forest filtration); accessibility for documentation and construction feasibility; site scale appropriate for a 17,000-square-foot building program; and existing cleared areas with southern solar exposure.

Multiple candidate sites were evaluated during site selection. Site A and Site B met some of the criteria, but neither offered the combination of threshold conditions, forest context, solar exposure, and accessibility found at the selected site.



Figure 3.1. Site selection matrix: three candidate sites compared against threshold diversity, forest context, solar access, and accessibility. The selected site was the only one to satisfy all four criteria. Diagram by author.

3.3.1: Site Context and Description

The selected site is a 13.5 acre forested waterfront property located at 131 Linda View Drive in Port Ludlow, Washington, on Hood Canal near the Hood Canal Floating Bridge. Situated on the Olympic Peninsula, the site occupies a transitional landscape between dense forest and open water, combining conditions of enclosure and exposure that align closely with the concerns of this thesis.



Figure 3.2. Location and shoreline context. Imagery ©2026 Google, Maxar Technologies; annotation by author.

The property assembles seven tax parcels and includes approximately 700 feet of shoreline. Across the site, bluff, forest, meadow, and shoreline environments unfold through nearly 190 feet of elevation change documented by two foot contour intervals. A 200 foot shoreline setback establishes the primary development constraint, pushing the buildable area back toward the bluff edge and reinforcing the site's role as an intermediary condition between forest and water.

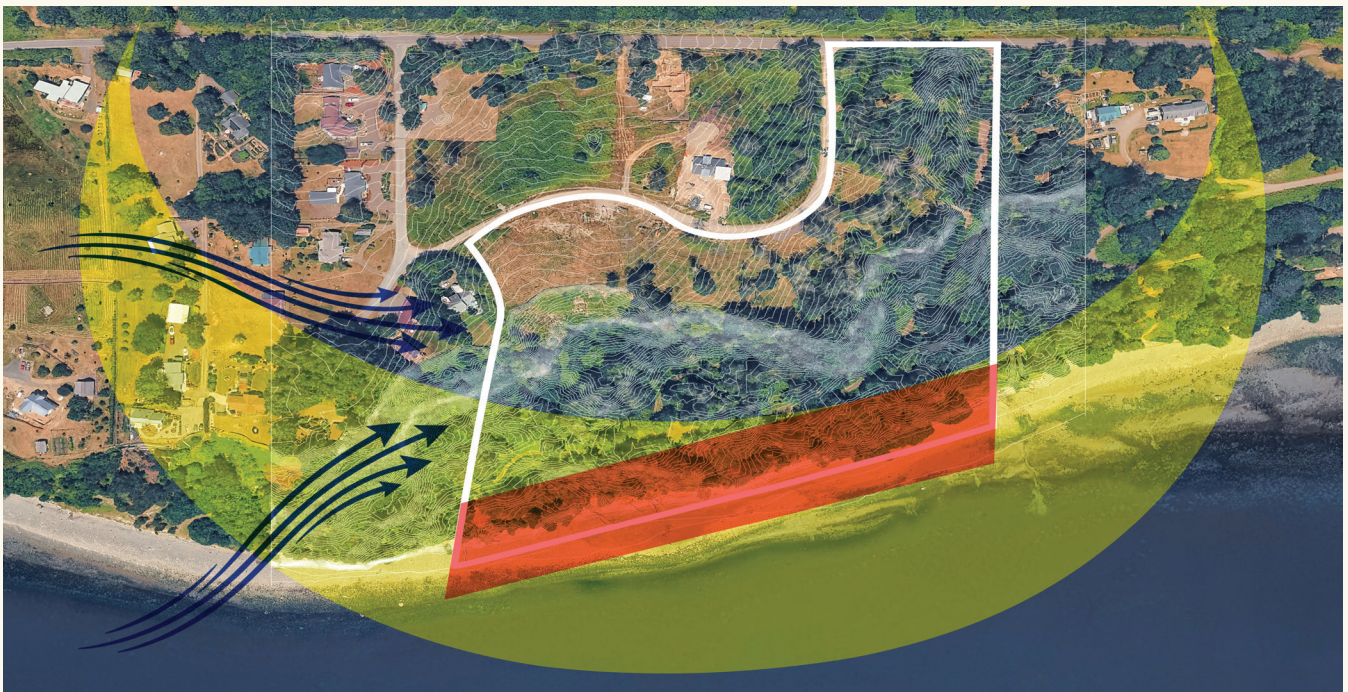


Figure 3.3. Site analysis: property boundary. Imagery ©2026 Google, Maxar Technologies; annotation by author.

3.3.1 Site Context and Description (continued)

The site experiences a relatively mild maritime climate shaped by Hood Canal. Winter and summer design temperatures range from approximately 25°F to 78°F, while prevailing winds shift seasonally from the west and northwest during summer to the southwest during winter. These atmospheric conditions influence not only thermal comfort but also the character of light itself. The frequent marine cloud cover of the Pacific Northwest produces extended periods of diffuse illumination, punctuated by intermittent moments of direct sunlight that transform the landscape through contrast and shadow.

The site's significance to this investigation lies not only in its physical characteristics but in the sequence of landscape experiences it already contains. Movement through the site involves a progression from road to forest, forest to meadow, and meadow to shoreline. Each transition alters the experience of enclosure, light, horizon, and orientation. Before any architectural intervention, the site already presents a series of threshold conditions that correspond closely to the experiential qualities identified in the framework.



Figure 3.4. Movement and threshold sequence. Base imagery from author drone footage; overlay by author.

3.3.2: Threshold Conditions Present on Site

Site analysis identified five primary threshold conditions that informed the design process.

Road to Forest: The transition from public road into dense coniferous forest produces compression through enclosure and reduced ambient light.

Forest Interior: Filtered daylight creates sustained conditions of shadow and luminosity, with shifting patterns of brightness and darkness throughout the day and across the seasons.

Forest to Meadow: The emergence into the central meadow produces release through increased solar access, expanded views, and greater spatial openness.

Meadow to Water: The descent toward Hood Canal creates inside-outside tension as foreground enclosure gives way to expansive views of water and the Olympic Mountains.

Temporal Change: Seasonal shifts in sun angle, weather, and canopy conditions continually transform the site’s lighting environment.

Together, these conditions demonstrate that the site already contains many of the experiential qualities identified in the framework. The design project therefore focuses on amplifying and choreographing qualities already present within the landscape.

FROM	TO	QUALITY ACTIVATED	PERCEPTUAL CONDITION
Road	→ Forest	Compression · Shadow	Spatial enclosure, reduced light
Forest	→ Forest	Shadow · Directionality	Filtered canopy light, shifting vectors
Forest	→ Meadow	Release · Ambient Luminescence	Sudden opening, increased ambient light
Meadow	→ Water	Inside / Outside	Containment meets the long view
Water	→ Horizon	Temporal Change	Tides, weather, the Olympic range

Figure 3.5. Existing threshold conditions on the site. Diagram by author.

3.4: Site as Framework Testing Ground

The site was selected not only because it satisfied practical criteria but because it already embodied many of the threshold conditions identified through the literature review and precedent analysis. Compression and release, shadow and luminosity, temporal change, directionality, and inside-outside tension are present in the landscape before any architectural intervention occurs.

This condition made the site particularly valuable as a testing ground for the framework. Rather than imposing abstract concepts onto a neutral setting, the design process began with qualities already latent within the landscape. The project therefore investigates how architecture can amplify, refine, and choreograph these existing conditions through the deliberate use of light, material, and spatial sequence. The site becomes both subject and laboratory: a place where the framework can be tested through design while remaining grounded in real environmental and experiential conditions.



Figure 3.6. Building placement: the retreat center set along the bluff edge and held behind the forest. Imagery ©2026 Google, Maxar Technologies; site plan overlay by author.

3.4.1: The Existing Thresholds Documented



Figure 3.7. Site photography: the existing landscape thresholds the building amplifies, including the road approach, forest edges, paths through the grove, the meadow clearing. Photographs by author, Winter 2026.

3.4.1 The Existing Thresholds Documented (continued)

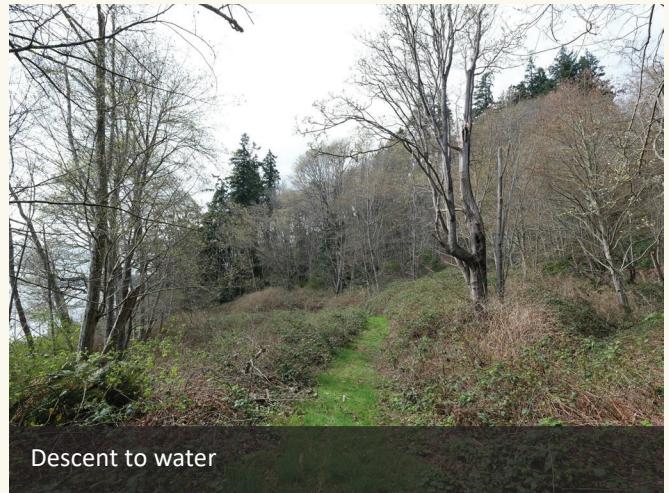


Figure 3.8. Site photography: interior groves, transition zones, and the layered forest depth of the lower site. Photographs by author, Winter 2026.

3.4.1 The Existing Thresholds Documented (continued)



Figure 3.9. Bluff-to-beach panorama from the shoreline edge, looking out across Hood Canal toward the Olympic range. Composite photograph by author, Winter 2026.

3.5: Design Methods and Tools

The design process applies the six-quality framework as both an analytical and generative tool. Analytically, the framework is used to identify threshold conditions already present on the site and to determine which qualities are already active and which must be amplified through architectural intervention. Generatively, the framework establishes experiential goals for each threshold: what combination of compression and release, shadow and luminosity, directionality, materiality, temporal change, and inside-outside tension should the occupant experience at this crossing?

Richard Kelly's three modes of light, focal glow, ambient luminescence, and play of brilliants, provide the practical means through which the framework qualities are realized. For each threshold, the design process considers which mode of light should be dominant and how it can support the intended experience. Together, the framework and Kelly's vocabulary translate experiential qualities into specific lighting strategies.

The design process began with hand sketching, site analysis, and early massing studies to explore threshold sequences and building placement. As the project developed, three dimensional modeling became increasingly important because the qualities examined in this thesis are body scale and experiential. Plans and sections can describe the geometry that produces an effect, but they cannot fully convey how light changes as the body moves through space. For this reason, modeling became a primary design tool rather than a later representational exercise.

The bulk of the design work was carried out in Revit, with Enscape used for real time rendering and walkthroughs. This allowed threshold conditions to be evaluated under different times of day and seasonal lighting conditions while moving through the project from the perspective of an occupant. Section drawings remained important for understanding aperture placement, wall depth, ceiling height, and other relationships that shape the behavior of light. Physical study models, discussed in Chapter 4, provided an additional method for testing individual qualities under controlled conditions. Together, these tools allowed the framework to be evaluated through both representation and experience throughout the design process.

3.6: Program Development

The project is an artist retreat center. The program emerged from both the research questions of the thesis and my own interests in retreat environments, contemplative spaces, and hospitality design. I have spent time in meditation centers and retreat settings, and I wanted a building type in which threshold was not merely an entrance condition but the central experience of the project.

The program totals approximately seventeen thousand square feet of enclosed space plus a threshold garden. Major elements include a workshop and fabrication studio, a gallery for installations, contemplative cabins, a public gathering hall, a pool pavilion, and support spaces. The parti organizes active and contemplative programs along a threshold spine, creating a sequence of crossings between making and reflection, public gathering and solitude, and enclosure and landscape.

This made the retreat center a useful test case for the framework because retreat itself can be understood as a threshold condition. Participants temporarily leave ordinary life, enter a different rhythm of experience, and eventually return changed. The project therefore investigates threshold at two scales simultaneously: within the architecture itself and within the larger experience of retreat.

PROGRAM	
<i>≈ 17,000 sq ft + threshold garden</i>	
Workshop & Fabrication Studio	<i>≈ 5,000 sf</i>
Gallery for Installations	<i>≈ 2,500 sf</i>
Contemplative Cabins	<i>≈ 4,000 sf</i>
Public Gathering Hall	<i>≈ 1,500 sf</i>
Pool House	<i>≈ 2,500 sf</i>
Support	<i>≈ 1,500 sf</i>

Figure 3.10. Program table showing square footage broken down by major categories. *Diagram by author.*

3.7: Evaluation Criteria

The design project is evaluated against four criteria. The first is phenomenological quality: do the proposed spaces support experiences of awe, contemplation, and separation from ordinary experience? The second is framework transferability: can the six-quality framework be applied systematically across multiple thresholds and spatial scales? The third is social accessibility: does the project remain welcoming and publicly accessible rather than becoming an exclusive retreat? The fourth is constructability: does the proposal demonstrate reasonable structural, material, and environmental feasibility?

These criteria are assessed through drawings, models, renderings, and critical review. Because the investigation is phenomenological, evaluation depends primarily on interpretive judgment rather than quantitative measurement. The thesis does not include post occupancy evaluation or empirical testing with human subjects, and the framework is examined through a single design project on a single site. Its contribution is therefore conceptual and methodological rather than empirical: the development and testing of a framework for understanding the relationship between light, threshold, and the numinous.

3.8: Limitations of the Investigation

This research is limited by the inherent subjectivity of phenomenological inquiry. The evaluation of numinous experience depends on interpretive judgment rather than measurement. The thesis does not include a post-occupancy evaluation or empirical study with human subjects, and its findings are not statistically generalizable. The design is developed to schematic design level; it does not include construction documentation or detailed engineering. The framework is tested through a single design project on a single site; further testing across different programs, climates, and cultural contexts would strengthen its claims to transferability.

These limitations are acknowledged but accepted as inherent to the methodology. The thesis seeks to develop a new way of thinking about threshold lighting, not to produce empirical proof. Its contribution is conceptual and methodological: a framework that architects and lighting designers can use to ask better questions about light, threshold, and the numinous, and to make more intentional design decisions in response.

Chapter Four

Design

The artist retreat center on Hood Canal

4.1: Introduction

This chapter presents the design of the artist retreat center on Hood Canal and reads it through the six-quality framework developed in Chapter 2. The design is not offered as a finished building, but as the working laboratory the methodology called for: a place where the framework is put to use, where its experiential targets are translated into spatial and luminous decisions, and where its limits begin to show. The chapter begins with the physical study models, which test individual qualities under controlled light before those lessons are carried into the larger architectural proposal.

From there, the chapter turns to the strategy for placing the building on the site, the organizing section that gives the project its character, and the principal sequence of crossings developed through plan, section, material atmosphere, and rendered views. This order moves from focused light studies to a situated architectural proposal, showing how the framework operates first as a tool for observation and then as a tool for design. Throughout, the aim is to show the framework operating, not to illustrate it after the fact.



Figure 4.1. The retreat center seen from the grove at arrival, the building held among the preserved trees rather than clearing them. Author's rendering (Revit, Enscape, and Photoshop).

4.2: Study Models: Testing the Framework Under Controlled Light

Alongside the design, a set of physical study models tested individual qualities under controlled light. Five cardboard chambers were built, each isolating a single quality through aperture, enclosure, surface, or solar alignment: Chamber I for compression and release, Chamber II for shadow and luminosity, Chamber III for directionality, Chamber IV for materiality, and Chamber V for temporal change. Each was tested under the heliodon at the University of Washington MADLab, which allowed the sun's position to be set for any hour and season so that the chambers' light could be observed across time rather than at a single instant.

It is equally important to be clear about what the models could not do. A viewport model cannot reproduce threshold experience. Movement, peripheral vision, and duration, the very things the framework treats as central, fall outside what a small chamber viewed through an opening can hold. This is a limit of scale, not a limit of the framework, and naming it precisely turned out to be the most useful result of the exercise.

The testing produced a clear division between two kinds of qualities. Some are optical variables that can be tested honestly at viewport scale. Shadow and luminosity is one: the chambers confirmed that perceived brightness depends on surrounding darkness rather than on the quantity of light, and that the sharpness of an aperture controls the precision of the effect. Materiality is the other: identical apertures produced different atmospheres depending on the surface, with plywood diffusing the light, metal reflecting it, and gold catching even very faint illumination, exactly as Tanizaki describes. These qualities live in the geometry and the surface, and a small model holds them faithfully.

The remaining qualities are body-scale conditions that require architectural scale to be felt. Compression and release, directionality, temporal change, and inside-outside tension all depend on movement, peripheral vision, and duration. A model can produce the optical condition that underlies them, the changing aperture, the raking vector, the shifting solar angle, but only a building at full scale produces the experience, because the experience is inseparable from a body moving through it over time. The division is useful in itself: it tells the designer which qualities can be resolved on the desk and which must wait for the section and, ultimately, the building.

4.2.1: Study Chambers under the Heliodon

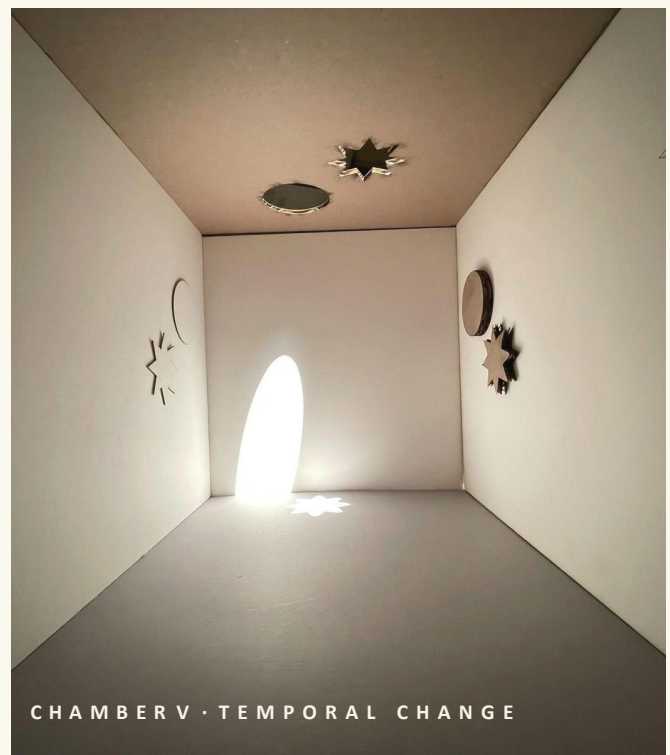
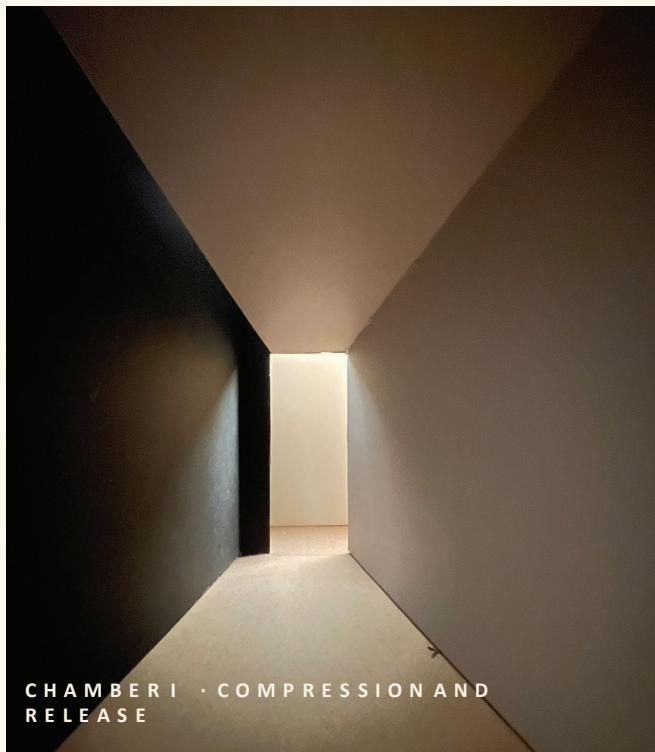


Figure 4.2. Study chambers under the heliodon at the UW MADLab. Four of the five cardboard chambers, each isolating a single quality through aperture, enclosure, and surface. Photographs by author.

4.3: Site Strategy

The first design decision was where not to build. The meadow opens at the center of the site with the full view of Hood Canal and the Olympic range, and the obvious move would have been to place the building there, looking out. The framework argued against it. A building at the center of the meadow would consume the release that the meadow already produces, turning the site's most charged threshold into a foreground for architecture. It would also collapse the approach: the view would be given all at once, from the parking area, before the body had crossed anything.

Instead the building is set along the edge, where the meadow meets the bluff, and it is held back behind the forest so that it is not seen on arrival. The approach runs from the road, through the compression of the forest, and the building reveals itself only at the last turn. This places the architecture at the hinge of the existing threshold sequence rather than at its destination. The meadow keeps its release; the bluff keeps its drop; and the building becomes the instrument through which both are crossed rather than the object that ends them. The 200-foot shoreline setback reinforced this strategy rather than fighting it, pushing the footprint back toward the bluff edge and away from the water it frames.



Figure 4.3. Site plan: the building set along the bluff edge, parallel to the shoreline, revealed only at the last turn of the approach. Drawing by author.

4.4: Parti: Organized by Arrival, Not by Form

The building is organized as a single linear bar running parallel to the bluff edge. A bar, rather than a cluster or courtyard scheme, was chosen because it transforms circulation into a processional spine. The primary corridor runs the length of the building, organizing the major program elements along a single line and creating a sequence of threshold experiences from arrival to water's edge.

Program is arranged as a gradient from active making to contemplation. Workshop and fabrication occupy the northeast end, where noise and activity can occur without disturbing quieter spaces. Moving southward, the building transitions through gallery and gathering spaces before arriving at the reception hall overlooking Hood Canal. Rather than treating each room as an isolated destination, the plan emphasizes movement between spaces, reinforcing the thesis's interest in threshold as a condition of transition rather than a fixed boundary.

The plan also responds directly to the site's landscape structure. The linear form preserves the central grove of mature trees, allowing the building to frame and inhabit the forest rather than clear it away. Exterior terraces extend into the meadow while maintaining visual connections to the water beyond. The building therefore occupies a position between forest and shoreline, functioning as an inhabited threshold within the larger sequence of road, forest, meadow, and water already present on the site.

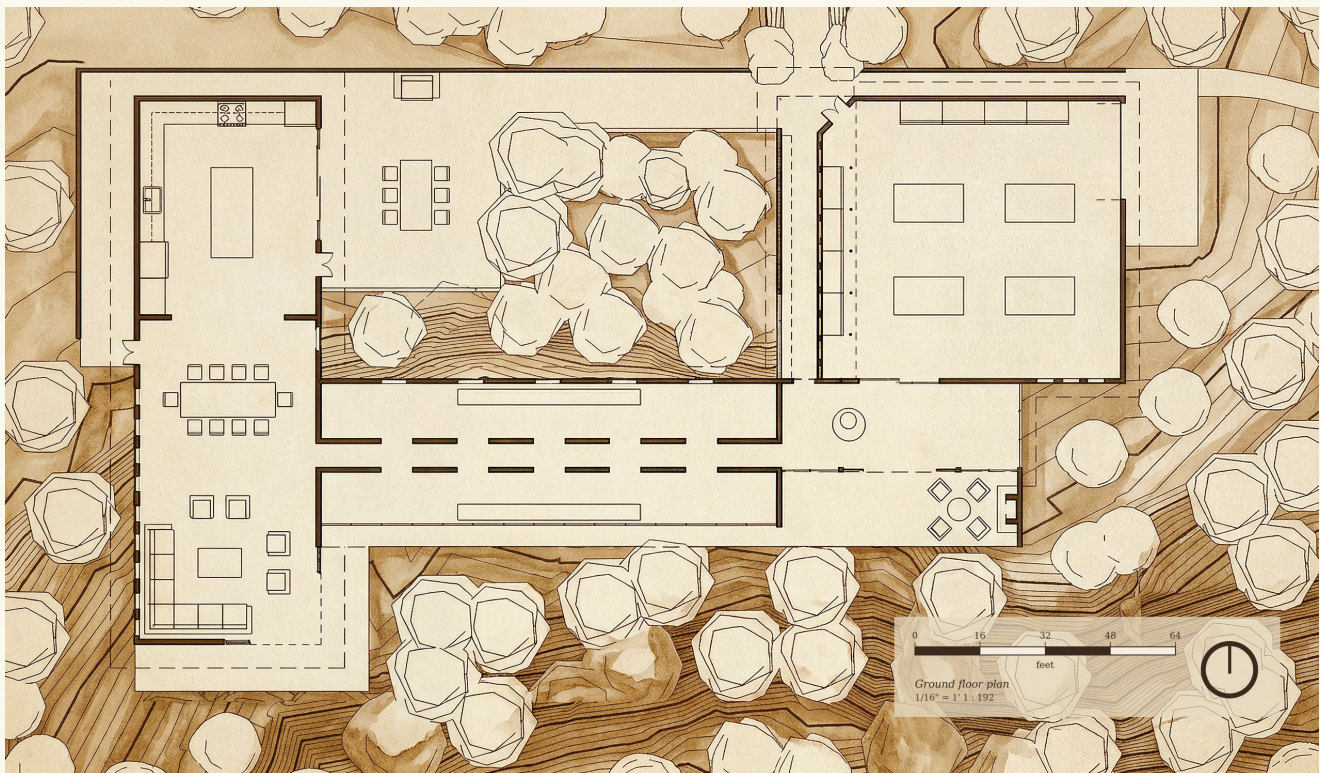


Figure 4.4. Ground floor plan: a single linear bar parallel to the bluff, organized as a processional spine from arrival to water's edge. Drawing by author.

4.5: The Sequence of Crossings

The defining move of the section is a diagonal soffit that descends as the visitor advances, lowering both the ceiling and the light. Compression intensifies until the bluff below comes into view and the tension peaks. At that moment, the soffit lifts and the corridor releases into the double height foyer and expansive view beyond. Compression and release are therefore embedded directly into the building's section rather than applied as a separate design gesture.

The building meets the ground in two ways simultaneously. On the meadow side it sits at grade, while on the water side it projects from the bluff on steel columns. Rooted on one edge and suspended on the other, the building creates a condition of inside-outside tension at the scale of the whole structure, extending the occupant's experience beyond enclosure and into the landscape.

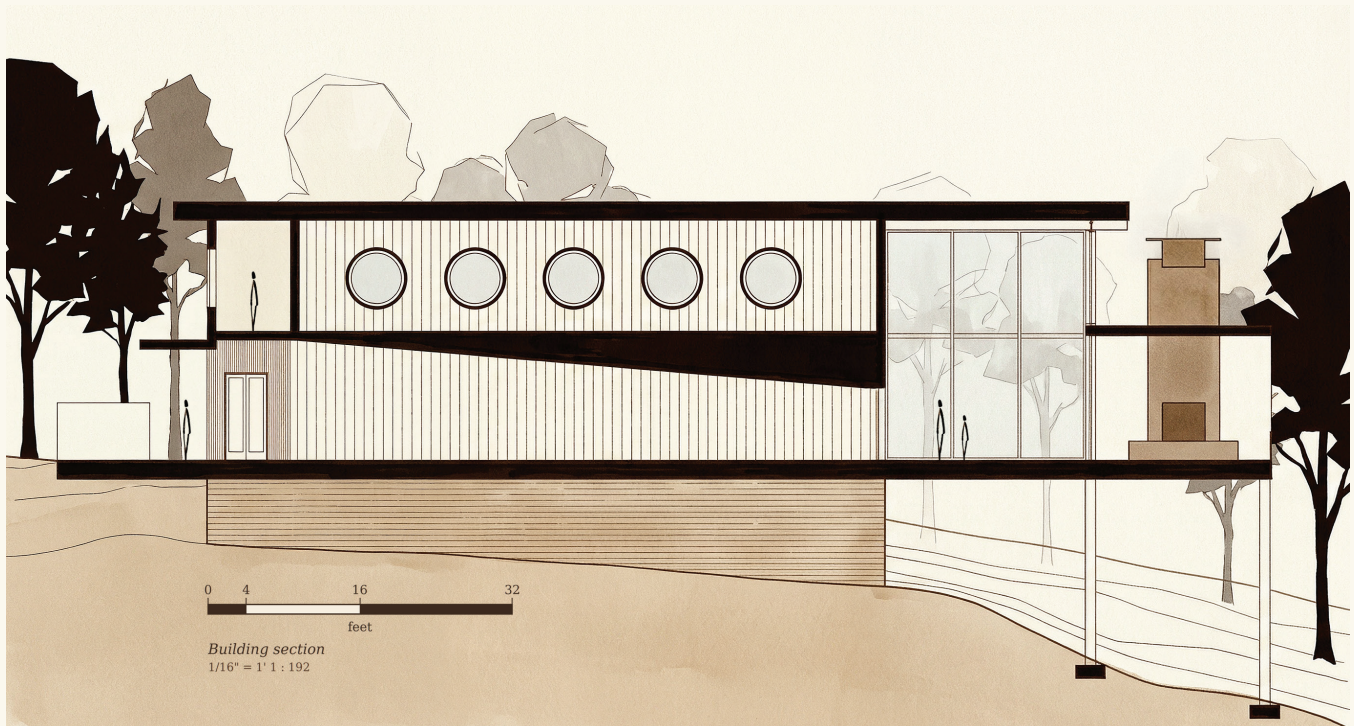


Figure 4.5. Building section: the diagonal soffit compressing the entry corridor before the release into the foyer, and the building stepping off the bluff on steel columns. Drawing by author.

The principal test of the framework is the sequence a visitor moves through from the grove to the water. Six conditions along that sequence are examined here, each developed as a designed threshold and read through the qualities it activates and the mode of light, in Kelly's terms, that carries it. The order is the order of the walk.



Figure 4.6. Approach Through the Grove: grass berms compress the path while the corridor reads as a single warm focal glow held just out of reach. Author's rendering (Revit, Enscape, and Photoshop).

4.5.1: Approach Through the Grove

QUALITIES ACTIVATED

Compression and Release · Shadow and Luminosity

KELLY

Focal glow — corridor as a singular warm light at the end of a compressed passage

MATERIAL

Western red cedar · black steel · board-formed concrete · interlocking pavers

The path cuts into the hillside on its way to the entry. Grass berms rise on both sides, compressing the approach, and the V of the slope draws the body downward and forward. At the vanishing point the corridor glows warmly, a single point of warm light held just out of reach, so that the destination is felt before it is seen. The qualities at work are compression and release and shadow and luminosity. In Kelly's terms the corridor reads as focal glow, a singular warm light at the end of a compressed passage, doing exactly what Kelly says focal glow does: separating the important from the unimportant and pulling the body toward it. The material palette is western red cedar, black steel, a board-formed concrete retaining wall, and interlocking pavers underfoot.



Figure 4.7. The Compressed Entry Corridor: the passage narrows to darkness, compression, and one glowing door, focal glow pushed to its limit. Author's rendering (Revit, Enscape, and Photoshop).

4.5.2: The Compressed Entry Corridor

QUALITIES ACTIVATED

Compression and Release · Shadow and Luminosity

KELLY

Focal glow — one luminous threshold against surrounding darkness

MATERIAL

Western red cedar · charred wood fins · river gravel · travertine · Venetian plaster

Inside, the corridor narrows further. It is lined in cedar, with a gravel channel running its length and a single glowing door at the far end. The door glows like a shoji lamp, a warm light breathing around a solid panel. The condition is reduced to its essentials: darkness, compression, and one warm point of light, the whole of it suspended on the edge of the bluff. The qualities are again compression and release and shadow and luminosity, and the light is again focal glow, but here it is pushed to its limit, one luminous threshold held against surrounding darkness. The palette adds charred wood fins, river gravel, travertine, and Venetian plaster to the cedar, materials chosen for how they hold and release dim light rather than how they look in full illumination, in the spirit of Tanizaki's account of surfaces that glow only in shadow.



Figure 4.8. The Expansive Foyer and Lounge: the long-withheld release, where ambient daylight floods the volume and the patio fire holds a single focal point against the view. Author's rendering (Revit, Enscape, and Photoshop).

4.5.3: The Expansive Foyer and Lounge

QUALITIES ACTIVATED

Compression and Release · Inside-Outside Tension

KELLY

Ambient luminescence meeting play of brilliants

MATERIAL

CLT ceiling · full-height cedar glazing · travertine · patio fireplace

The foyer is the first full breath. After the grove, the liminal passage, and the suspended corridor, the building opens completely: full height, tall glazing, Hood Canal and the mountains framed without apology. A fireplace on the patio marks the outer edge of shelter, and people gather around it without being directed to. This is the release the entire approach has been withholding. The qualities are compression and release, now resolved, and inside-outside tension, now made the subject of the room. In Kelly's terms the foyer is ambient luminescence meeting play of brilliants: the flat winter light floods the volume and dissolves its boundaries, while the fireplace holds a single focal point against the view. The palette is a CLT ceiling, full-height cedar glazing frames, and travertine, with the patio fireplace and the mountains beyond completing the room.



Figure 4.9. The Living Room and Gallery Hall: raking clerestory light from one direction orders the room, doing the work that walls usually do. Author's rendering (Revit, Enscape, and Photoshop).

4.5.4: The Living Room and Gallery Hall

QUALITIES ACTIVATED

Shadow and Luminosity · Directionality

KELLY

Ambient luminescence — raking clerestory light from a single direction

MATERIAL

CLT ceiling · exposed beams · Venetian plaster · travertine · clerestory glazing

Here light becomes the only organizer. Structural shadows rake across the floor in defined bars, and the corridor recedes to the left in a diminishing rhythm. A figure stands at the opening; the mountains lie beyond. No walls divide living from dining; the room is given its order entirely by the direction and rhythm of light. The qualities are shadow and luminosity and directionality. In Kelly's terms this is ambient luminescence with a strong vector, raking clerestory light filling the room from a single direction while the corridor beyond dissolves into shadow. The palette is a CLT ceiling with exposed beams, Venetian plaster, travertine, and clerestory glazing, with Hood Canal beyond. This room is the clearest demonstration in the project that directionality can do the work that walls usually do.



Figure 4.10. *The Contemplative Study*: a withheld source rakes a burnished plaster wall, showing that luminosity is heightened by concealment rather than quantity. Author's rendering (Revit, Enscape, and Photoshop).

4.5.5: The Contemplative Study

QUALITIES ACTIVATED

Shadow and Luminosity · Materiality

KELLY

Ambient luminescence — sourceless diffuse light as pure presence

MATERIAL

Cedar casing · Venetian plaster · CLT ceiling · travertine · quartzite vanity

The study is a single room of attention, and it is the room the thesis has been aiming at from the beginning. Clerestory light rakes across a burnished Venetian plaster wall, but the light source itself is withheld; only its effect is visible. A figure sits at the desk, and the forest is framed as a picture beyond the window. This is the numinous interior in its quiet register: not vast, not sublime, but present. The qualities are shadow and luminosity and materiality, the two qualities that the study models confirmed can be tested as pure optical conditions. In Kelly's terms the room is ambient luminescence at its most refined, sourceless diffuse light filling the room as pure presence. The palette is cedar casing, Venetian plaster, a CLT ceiling, travertine, and a quartzite vanity. The withheld source is the whole point: the room demonstrates that luminosity is heightened by concealment and contrast, not by quantity, which is the principle Tanizaki and Pallasmaa both insist on.



Figure 4.11. The Pool Pavilion: caustic reflections animate the amber ceiling and coastal fog dissolves the world beyond, the play of brilliants that closes the sequence. Author's rendering (Revit, Enscape, and Photoshop).

4.5.6: The Pool Pavilion

QUALITIES ACTIVATED

Shadow and Luminosity · Inside-Outside Tension

KELLY

Play of brilliants — caustic water light on the ceiling

MATERIAL

CLT ceiling · Venetian plaster · travertine · teak · pool water · Pacific fog

The sequence ends at the water with the pool pavilion, the most atmospheric room in the project. Warm enclosure sits above, cool water below, and coastal fog dissolves the world beyond. Caustic reflections from the pool animate the amber ceiling, and each oculus frames a disc of silver-white fog. A figure stands at the open end, at the exact boundary between interior warmth and dissolved exterior. The qualities are shadow and luminosity and inside-outside tension, and the light is play of brilliants, the caustic water light moving on the ceiling and the deep-reveal skylights projected onto the floor and the pool surface. The palette is a CLT ceiling, Venetian plaster, travertine, teak, the pool water itself, and the Pacific fog that completes it. The pavilion is where all three of Kelly's modes have been used across the sequence: focal glow at the approach, ambient luminescence in the interior rooms, and play of brilliants here at the end.

Chapter Five

Reflection

What the framework can do, and what it cannot

5.1: Conclusions

This thesis began with the observation that contemporary architecture often treats light primarily as a technical variable. While lighting design has developed sophisticated methods for measuring illumination, energy performance, and visual comfort, it has largely neglected the question of how light contributes to experiences of awe, contemplation, and transcendence. In response, this investigation proposed that the numinous emerges most powerfully at moments of threshold crossing and that light can be understood as a primary medium through which those experiences are shaped.

Through literature review, precedent analysis, and design investigation, six recurring qualities were identified: compression and release, shadow and luminosity, directionality, materiality, temporal change, and inside-outside tension. Together, these qualities formed a framework for understanding and designing threshold experiences. The framework was then tested through the design of an artist retreat center on Hood Canal, where the site, building organization, section, and lighting strategies were developed in response to these qualities.

The completed project does not prove that architecture can produce the numinous. No building can guarantee awe, reverence, or transformation. What it demonstrates is that light can function as an intentional design medium capable of organizing movement, shaping perception, and giving spatial form to moments of transition. The thesis therefore contributes a methodology for thinking about light not only as illumination, but as a generator of experience.

5.2: Findings

Several findings emerged from the investigation. The clearest is that the six qualities do not operate equally across all forms of representation. Shadow and luminosity, along with materiality, can be studied effectively through physical models and controlled lighting experiments, because they live in the geometry of an aperture and the surface the light falls upon. Compression and release, directionality, temporal change, and inside-outside tension depend far more heavily on body-scale experience: on movement, duration, and peripheral perception. This distinction became apparent during the model studies and ultimately shaped the methods used throughout the design process.

Equally important was the discovery that the framework proved most useful at moments of transition rather than within individual rooms. While the qualities can be observed in static spaces, they become most powerful when occupants move between conditions. The thresholds between forest and meadow, darkness and light, compression and openness, or enclosure and landscape consistently produced the richest opportunities for design exploration. The framework therefore functioned less as a method for designing rooms and more as a method for designing crossings.

Finally, the investigation revealed that many threshold conditions already existed within the landscape before any architectural intervention. The selected site contained natural sequences of compression, release, shadow, openness, and temporal change, so that the architecture amplified, framed, and choreographed conditions already present rather than creating them from nothing. This suggests that threshold design may be most effective when it works with the latent qualities of a place rather than imposing entirely new experiences upon it.

5.3: Reflections on the Design Process

One of the central questions raised during the thesis review was how the framework actually informed design decisions. In practice, the framework did not operate as a checklist applied after the fact. Instead, it functioned as a set of questions that guided decisions throughout the design process.

The site was selected because it already contained multiple threshold conditions. The parti emerged from the desire to create a processional sequence rather than a collection of isolated rooms. The section was developed to produce compression and release through changes in ceiling height, light, and view. Material choices were evaluated according to their interaction with light. Openings were positioned to reinforce directionality, frame views, and support temporal change. At each stage of the project, the framework provided a way to evaluate whether a design move strengthened or weakened the intended experience.

Perhaps the most significant outcome of the investigation was the realization that the framework operates simultaneously across multiple scales. Threshold exists at the scale of a doorway, a room, a building, a landscape sequence, and even a retreat itself. The artist retreat center became an appropriate vehicle for testing the framework because retreat can be understood as a threshold condition in its own right: a temporary departure from ordinary life, entry into a different rhythm of experience, and eventual return with a changed perspective.

5.4: Limitations

Several limitations should be acknowledged.

The first is the inherently subjective nature of phenomenological inquiry. Experiences of awe, contemplation, and transcendence cannot be measured with the same precision as illumination levels or energy performance. The framework was developed through interpretation of literature, precedent analysis, and design exploration rather than through controlled experimentation.

Second, the project was evaluated primarily through drawings, models, renderings, and critical review. While these tools provide valuable insight into spatial and lighting conditions, they cannot fully replicate lived experience. The renderings presented in this thesis represent selected moments and conditions rather than the complete range of weather, seasons, and occupancy patterns that would occur in a constructed building.

Finally, the framework was tested through a single project on a single site. Although the findings suggest broader applicability, additional testing across different climates, building types, and cultural contexts would strengthen claims regarding transferability.

5.5: Future Research

Several opportunities for future research emerged from this investigation.

The most significant is empirical testing. While the thesis proposes that certain lighting and spatial conditions contribute to numinous experience, it does not measure whether occupants actually experience them as intended. Future studies could use virtual reality environments, full scale mockups, or built installations to evaluate participant responses to different threshold conditions. Such research could help clarify whether the six qualities consistently influence perception across different users and contexts.

A second area for investigation involves temporal variation. The design presented in this thesis focuses primarily on selected daylight conditions. Future work could examine how the framework performs across seasons, weather patterns, and times of day. Time lapse studies, seasonal simulations, and long duration occupancy observations could reveal how threshold experiences evolve under changing environmental conditions.

A third opportunity concerns artificial lighting. This investigation focused primarily on daylight as the medium of threshold experience. Future research could explore how electric lighting might reinforce, extend, or reinterpret the six qualities when daylight is unavailable. Such work would be particularly relevant for climates, programs, and occupancy patterns in which much of the building's use occurs after sunset.

Ultimately, the next step is not simply to design another building. It is to investigate whether the framework can be observed, tested, and refined through lived experience. If this thesis demonstrates a method for designing with light at moments of crossing, future research may determine whether those crossings consistently produce the kinds of experiences the framework seeks to support.

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