

# The Tao of Home

by

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## *Abstract*

In the act of dwelling, the human intimately navigates the realms of psychology and architecture. This thesis considers architecture's psychophysical effects on its users through a "Glossary for the Meaningful design of Atmospheres" and Taoism. The "Glossary" reconciles psychological reactions with architectural elements through an interdisciplinary analysis of psychology and architecture, and Taoism is an ancient Chinese philosophy that dissolves the human into the universe, unifying them. Architectural precedents including the Japanese tea ceremony, Eileen Gray's E-1027, and Snøhetta's Oslo Opera House, an example of Scandinavian architecture, provide inspirational foundations and illuminate a set of fundamental design ideas at their

overlays: "Paradox," "Physical" and "Now." The resulting design of the rituals, and a home on a site near Stockholm follows the guidelines suggested in this thesis and thus exemplifies how reconciling paradox, honouring physicality and elevating the present moment can guide architectural design.

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## *Introduction*

Architecture is only useful once it has been inhabited. Architecture's constant context is human psychology, and vice versa: modern humans spend 90% of their time indoors and thus architecture becomes the constant context of human thinking, working and emotional reactions. Studies such as Ellard's "Psychological Study on City Spaces and How They Affect our Body and Mind" affirm that architecture can have a direct effect on how people move, behave, and feel.<sup>1</sup> The dialogue between the inhabitant and the architecture creates an infinitely unique atmosphere: "the shared reality of the

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<sup>1</sup> Colin Ellard and Charles Montgomery, "A Psychological Study on City Spaces and How They Affect Our Bodies and Minds," *BMW Guggenheim Lab*, [http://cdn.bmwguggenheimlab.org/TESTING\\_TESTING\\_BMW\\_GUGGENHEIM\\_LAB\\_2013\\_2.pdf](http://cdn.bmwguggenheimlab.org/TESTING_TESTING_BMW_GUGGENHEIM_LAB_2013_2.pdf).

perceiver and the perceived."<sup>2</sup> This reality is often rationalised through convention rather than human psychology, unknowingly creating draining atmospheres. Through meaningful design our everyday atmospheres could instead become the foundation of a delightful life.

An atmosphere is first justified through the human perception of the atmosphere itself and can then be quantified through the atmosphere's elements. Light, which sets the boundaries of sight and captures the present moment, acts as a "driver of cognitive, emotional and behavioural responses" and influences "psychophysical wellbeing."<sup>3</sup> Colour, a conveyor of mood, simultaneously an indicator and influence to the perception of an atmosphere and a thing. Space, the

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<sup>2</sup> Gernot Böhme, *Atmospheric Architectures : The Aesthetics of Felt Spaces* (London: Bloomsbury Publishing Plc, 2017), 23.

<sup>3</sup> Tomassoni, Rosella, Giuseppe Galetta and Eugenia Treglia, "Psychology of Light: How Light Influences the Health and Psyche," *Psychology*. 6 (2015): 1216.

atmosphere's physical limits. And materiality, The layers of change, time, and personal perception. Psychological studies prove that the manipulation of these four elements can affect us drastically. They influence the body's internal processes, thus evoking a range of emotion. The "Glossary for the Meaningful Design of Atmospheres" records these effects through an interdisciplinary analysis of psychology and architecture.<sup>4</sup> This glossary documents human psychological reactions to the eccentricities of the atmosphere's elements. It is intended for use in architectural design.

The Japanese Tea Ceremony matches the "Glossary" in its emphasis on the importance of the inhabitant's psyche. "In the tea room it is left for each guest in imagination to complete the total effect in relation to himself."<sup>5</sup> The human inhabitant

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<sup>4</sup> See Appendix 1

<sup>5</sup> Kakuzo Okakura, *The book of tea* (Penguin Classics: London, 1906), .

thus connects space and time; their presence contributes to the ephemeral moment, the atmosphere.

Psychologically positive space should be accessible; to be affective, it needs to surround, to be used; it needs to be there. As much as possible. The home is universal. While our lives are filled with different jobs, hobbies, people, we all come back home. It is our base; our foundation. It is where we build our lives, and develop relationships. It is sacred. With the hopes of reaching everyone, the research in conclusion suggests a psychologically positive design for a home based on the "Glossary" and Taoist principles. Like Taoism, "founded on the adoration of the beautiful among the sordid facts of everyday existence," the psychologically positive Home will turn everyday life into beautiful rituals.<sup>6</sup>

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<sup>6</sup> Ibid, 3.

## *Foreword*

Combining architecture and psychology. My first memory of this took place in my grade 12 portfolio art class at 17 years old. My teacher sat me down for a practice interview for architecture school admissions. “Why do you want to design architecture?” We spend all our time in buildings. If these spaces could make us happier, that is what I want to be doing. So much of the population seems to be unhappy, how can I help with that?

In that same class I created an installation titled Abstraction: “the state of being lost in thought.” It was a seemingly solid, although transparent wall made of paper hung from the ceiling in the school’s entrance. On it the thoughts of the school were made anonymously public. The things people

didn’t tell anyone, their feelings, regrets or advice. The wall’s construction demonstrated how not everything is truly what it looks like from a distance: the wall, and similarly people who are made up of delicate thoughts. People were diverted from their usual paths by this new wall. They paused and, for a moment, were entranced by the secret lives of their peers. The architecture of our surroundings is directly associated with our thoughts and feelings. As a new wall is built in a hallway, the function of this space changes. Passersby are forced to alter their usual paths to contour the new wall, thus inflicting a change in their habits and allowing a new way of thinking into their minds.

In my first year Introduction to Architecture course I was asked: What is architecture? To me, architecture is everywhere, and it is everything. It is the way I feel when I

walk into a room and the story behind its organisation, and every memory I've had that goes along with it. Even nature has a way of building its own architecture. Light has a way of diffracting around the simplest objects and creating a contrast in a space, illuminating some elements and casting others into dark shadows. Light creates an immaterial kind of architecture that only appears when a space is seen in its habitat. It is not only the formal architecture of a house, its design, but also the architecture that is created after it has supported life within it.

I have always considered myself to be an emotional person. I feel through my body's response. When I am sad, I feel a heaviness in my chest. When I am happy, my chest tingles. It spreads through my arms and legs and my fingers and toes lose sense. I am no longer defined, I just am. I am at peace. I sense these things when they are happening and try to

lose myself in them. This is only possible in a moment of conscious pause. Happiness is in your head, I tell myself. The mind is a tool that our conscious selves can control.

All of this to say that this thesis, beyond providing meaningful design directives, advocates for an appreciation and awareness of the life that takes place in architecture. I hope that next time you climb the stairs in your home you will appreciate every step. Feel yourself breathe in and out rhythmically. Notice the texture of the handrail, how your hand moulds itself to it. Appreciate the movement of your ankles and toes. How they stretch out as they leave the last step behind. How your body responds instinctively to the architecture around you. Bring the unconscious into the conscious, so that for a moment you can appreciate its effect.

### *The Precedents*

The precedents demonstrate how architecture can respond to human psychology. First, in the Japanese Tea Ceremony where the house is measured according to the human size; secondly, through Eileen Gray's E-1027, that glorifies human sensitivity; and finally, in Scandinavian design, that has, through a different journey, arrived at a similar conclusion in design decisions.

### *The Japanese Tea Ceremony*

The Japanese Tea Ceremony is a tradition that is rooted in Zen meditation and the ancient Chinese philosophy of Taoism. Tea drinking was first exercised as a means to stay alert during long meditation sessions, and evolved into a defined ritual.<sup>7</sup> The Tea-room was born; the tea-house grew from the tea-room as an entity independent from the home.

The Japanese Tea Ceremony's tea-house is an embodiment of absolute attention to detail in a human-scaled space, to create an atmosphere that builds from nature and ultimately resonates with its inhabitants. The architecture is perhaps not conventionally perfect but rather it embraces the imperfect details. The wabi philosophy of the Japanese tea

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<sup>7</sup> Helmut Brinker, Hiroshi Kanazawa and Andreas Leisinger, "ZEN Masters of Meditation in Images and Writings," *Artibus Asiae. Supplementum* 40 (1996): 65.

house is “an abode of the unsymmetrical inasmuch as it is consecrated to the worship of the imperfect, purposely leaving something unfinished for the play of the imagination to complete.”<sup>8</sup> The primary planar unit used for the construction of the tea house, the jo, is based on the size of the tatami mat which is made to sit on. The measure of the sitting human becomes the basis for the dimensions of space such as ceiling heights and openings. The construction thus inherently responds to us. The space similarly suggests action in us, whether as a guest or a host, from the first encounter with the tea house; “To access the tea room from the outside, there is a door of normal height for guests of special honour which can be passed by walking upright or with slightly lowered head, and a crawling entrance.”<sup>9</sup> This crawling entrance forces any

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<sup>8</sup> Okakura, *The book of tea*, 52.

<sup>9</sup> M. Holl, “Architectural principles of traditional Japanese teahouses,” Doctoral dissertation, Wien, Austria, 2020, 53.

guest to reduce themselves down to their limits, initiating an awareness of their physical extents.

The guest silently approach[es] the sanctuary... bend[s] low and creep[s] into the room through a small door not more than three feet in height. This proceeding [is] ... intended to inculcate humility... The guests one by one enter noiselessly and take their seats, first making obeisance to the picture or flower arrangement on the tokonoma. The host will not enter the room until all the guests have seated themselves and quiet reigns with nothing to break the silence save the note of the boiling water in the iron kettle... Even in the daytime the light in the room is subdued, for the low eaves of the slanting roof admit but few of the sun’s rays. Everything is sober in tint from the ceiling to the floor; the guests themselves have carefully chosen garments of unobtrusive colours.<sup>10</sup>

We are in a conversation with the architecture. How can architecture turn mundane routine into beautiful ritual?

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<sup>10</sup> Okakura, *The book of tea*, 58-9.



Figure 1: Approaching the Japanese Tea House. Patrick Vierthaler. Flickr CC License.



Figure 2: Approaching E-1027. Jpmm. Flickr CC License.

### *E-1027*

Eileen Gray (1878-1976), designer and architect, lived through the shift in design from the extravagant Art deco to the starkly simplistic modernism exemplified by Le Corbusier. While she appreciated the functionalism of Modernism, she advocated that architecture was about much more than simply function. It was also about the human; their needs and sensitivities. Eileen Gray was taught lacquer by Seizo Sugawara early in her design career. He becomes her enduring collaborator. His own teacher was close with Kakuzo Okakura, author of *The Book of Tea*, a detailed account of the Japanese Tea Ceremony. Sugawara therefore imparts to Gray, whether consciously or not, the ideals of the Japanese Tea Ceremony. So she is inspired by and echoes these ideals, and exhibits the

architectural consequences in her first and last complete architectural build, E-1027.

E-1027, designed by Eileen Gray, was built between 1926 and 1929 with the technical help of her friend Jean Badovici. The design was a reaction to the modernist style that was taking over at the time. While Eileen Gray embraced Modernism's necessary reaction to the overly ornamented Art Nouveau and Art Deco styles, she insisted that a complete mechanisation of architecture would not be sufficient for the human inhabitant to be satisfied. The human with its sensitivities, sensations and emotions, its spirit, could not be reduced to a cog in a machine. Architecture should act as one with the inhabitant. Unity between the spirit of the human and the architecture is paramount. It is within this relationship that the atmosphere exists. Gray advocated that modernist

technique overpowered the final goal, overpowered the need for spirit, and modernist technique should thus be pushed to embrace the human spirit.<sup>11</sup> Through this thesis I revive Eileen Gray's motives. Human psychology becomes the technique and Taoism the spirit.

E-1027 is a small villa situated on the French Côte d'Azur in Roquebrune-Cap-Martin on a small piece of land that Gray stumbled upon while on holiday in the south of France. The secluded villa was to be her own secret garden, her escape. The villa sits on pilotis that balance the building on the uneven rocks. This hints to the way in which E-1027 not only responds to the inhabitant but also to the natural environment. The building grows out of the rocky topography, shaped by it, clinging to it, and anchored in it. The building then opens up

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<sup>11</sup> Eileen Gray and Jean Badovici, "E-1027 maison en bord de mer," trans. Rachel Stella, *L'architecture Vivante* (1929).

towards the sea creating a balanced relationship between the interior of the villa and the exterior environment. Gray analyses the villa according to both the inhabitant and the environment, the sun. The drawing shows consideration for the movement of the inhabitant and servants through the building. She points to the moments of pause and of action. She overlays the sunlight in the morning, during the day and in the evening. She shows how the villa is designed in a way that embraces sunlight in the places that are most populated at that time of day: the morning sun shines in the bedroom, the daytime sun in the office and the evening sun in the living and dining room.<sup>12</sup>

My analysis of the Home is done in the same spirit.

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<sup>12</sup> Mark Cooper et al., "Movement of People and the Sun through E 1027," *Blogspot.com*, December 09, 2012, <http://arch100-e1027.blogspot.com/2012/12/movement-of-people-and-sun-through-e.html>.

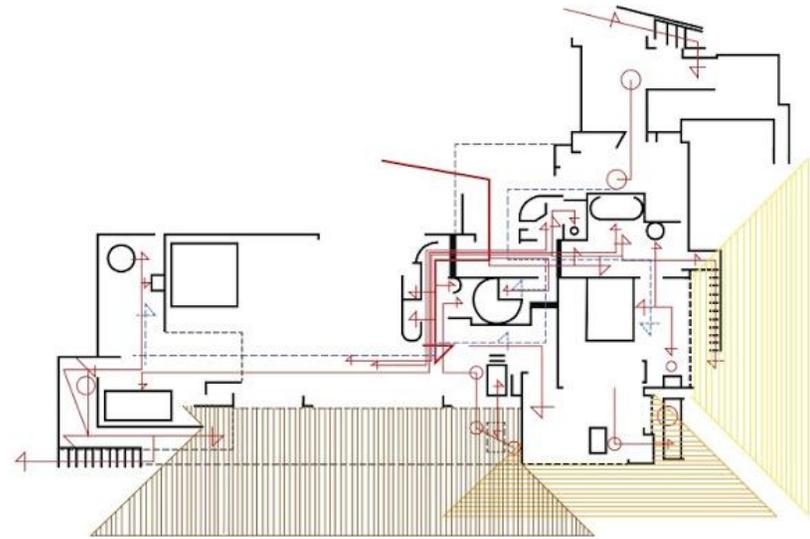


Figure 3: Eileen Gray's Analysis of E-1027. See note 10.



Figure 4: E-1027. Manuel Bougot. Flickr CC License

## *Scandinavian Architecture*

Scandinavian architecture is founded on a history of minimal resources, local practices, and hygge, contentment and wellbeing within architecture, on unforgiving stone sites. These influences led to an architecture that embraces the relationship between nature, building and inhabitant. In Scandinavia the environment is the first foundation of architecture.

“Scandinavian architecture is informed, inspired and conceived in relationship with nature and often wonderfully situated in ideal natural sites.” It becomes “a seemingly natural response to the rough wilderness of the far north.”<sup>13</sup> The geography is primarily composed of stone landscapes. Architecture thus had

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<sup>13</sup> William Charles Miller and Juhani Pallasmaa, *Nordic Modernism : Scandinavian Architecture, 1890-2015* (Ramsbury, Marlborough, Wiltshire: The Crowood Press Ltd, 2016), 39.

to conform to it. To emphasise its connection to nature, Scandinavian design features a neutral colour palette, pure materials and a resulting minimalistic design. The architecture also exhibits odd shapes that reflect nature. The embrace of innovation in sustainable systems reflects the importance and protection of the environment. Due to location, light is scarce during Scandinavian winters. “No doubt the character and dynamics of light are tangible; the night-less summer as well as the day-less winter, when light seems to radiate from below, as snow picks up the slightest source of light from the firmament and reflects it back, are special conditions of northern illumination.”<sup>14</sup> Architecture is therefore designed to collect and embrace light. It also takes into account the opposite situation in the summer and design shutters into homes.

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<sup>14</sup> Ibid, 9.

Accordingly, thick walls and low ceilings create spaces that are easier to heat and cool. The sites' tough environmental situations, especially during the cold dark winters, initiated the concept of hygge. Hygge exemplifies the importance of the human inhabitant through its promotion of comfort. This is often shown through soft materials and lighting.<sup>15</sup>

Snøhetta is an architecture firm whose designs could be considered the pinnacle of contemporary Scandinavian design. Snøhetta is originally a Norwegian, trans-disciplinary landscape and architecture firm whose "work strives to enhance our sense of surroundings, identity and relationship to others and the physical spaces we inhabit, whether feral or human-made."<sup>16</sup>

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<sup>15</sup> Lauren Thomann, "What is Scandinavian Architecture?," *The spruce*, February 10, 2022, <https://www.thespruce.com/scandinavian-architecture-5070203>; Ashley Knierim, "What is Hygge?," *The spruce*, February 1, 2022, <https://www.thespruce.com/what-is-hygge-4798043>.

<sup>16</sup> Snøhetta, "Projects," <https://www.snohetta.com/projects>

The Oslo Opera House in Norway was designed and built between 2000 and 2008. It is built on piers in the Oslo Fjord and thus rejuvenates Oslo's coast, giving it back to the public after its extended use by industries. The fully accessible construction smoothly drops down into the water allowing a direct connection from the building's peak to the water. The building grows out of the topography.<sup>17</sup>

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<sup>17</sup> Ibid.



Figure 5: The Oslo Opera House. Michael Zeising. Flickr CC License.

## *The Foundations*

The Japanese Tea Ceremony shows the beauty in a routine of daily life. Its essence, “Teaism, is a cult founded on the adoration of the beautiful among the sordid facts of everyday existence.”<sup>18</sup> The “Art of Life” it represents could thus be applied to all aspects of daily life.<sup>19</sup> It is intimately associated with Taoism, founded by Laotse, author of the *Tao Teh Ching*, and its descendant, Zennism. “All the great tea-masters were students of Zen and attempted to introduce [their] spirit [...] into the actualities of life.”<sup>20</sup> Art of this kind “forms a spiritual technique, as its aim is obtaining “the Nirvana experience” in everyday life.”<sup>21</sup> Haiku maintains a

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<sup>18</sup> Okakura, *The book of tea*, 3.

<sup>19</sup> Ibid, 6.

<sup>20</sup> Ibid, 56.

<sup>21</sup> Gabriel Rosenstock, *Haiku Enlightenment* (Newcastle-upon-Tyne: Cambridge Scholars Publisher, 2009), 16.

similar aim. It enlightens and allows for the disappearance of self within the environment.

“We live in a world obsessed with profit and loss, a world in which our actions are expected to show some gain, some material usefulness. Disappearing in the [...] moment might seem, therefore, to be a form of sacrilege.”<sup>22</sup> Do not let the norm of passivity stop you. Let yourself be absorbed by the beautiful. Realise that your environment affects you. Make it beautiful; take control of your life.

Through daily life, the Japanese Tea Ceremony worships and represents individualism, Laotse’s vacuum, relativity, and simplicity. The analysis of the Japanese Tea Ceremony in relation to Taoism, Zennism and Haiku builds a framework founded on the human’s relationship to the world,

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<sup>22</sup> Gabriel Rosenstock, *Haiku : The Gentle Art of Disappearing* (Newcastle-upon-Tyne: Cambridge Scholars Publisher, 2009), 32.

expressed in Taoist architecture through Feng Shui, depicted in Eileen Grey's work, and mirrored in Scandinavian Architecture.

The foundations informing the precedents are Taoism, Zenism, and Haiku. And light, colour, space and materiality can be considered the foundations of the "Glossary for the Meaningful Design of Atmospheres." The practice of Feng Shui applies Taoist principles to architecture, and becomes a link between the foundations of the precedents and the foundations of the glossary. Its principles are informed by Ying Yang theory, which represents the harmony and motion of nature through opposition, interdependence and a dynamic balance. Feng Shui looks to nature and the human as a guide for building and designs on the path of least resistance. "The efficiency of Wu Wei," a Taoist principle meaning 'actionless

action,' "is like that of water flowing over and around the rocks in its path - not the mechanical, straight-line approach that usually ends up short-circuiting natural laws, but one that evolves from an inner sensitivity to the natural rhythm of things."<sup>23</sup> Streets are equated to waterways to illustrate the flow of movement and buildings are seen as the extension of the topography. Feng Shui sees the Home and the human as a momentary and terrestrially situated reflection of the universe. The practice is conducted through an analysis of the site and architecture as they relate to each other in shape and form, their role in the environment, and their relationship to the human inhabitant.<sup>24</sup>

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<sup>23</sup> Benjamin Hoff, *The Tao of Pooh* (Harmondsworth, England: Penguin Books, 1983), 68.

<sup>24</sup> Cate Bramble, *Architect's Guide to Feng Shui : Exploding the Myth* (Jordan Hill: Taylor & Francis Group, 2003).

It is in the everyday that we build our characters, our inevitabilities, our lives.

Taoism, Zennism and Haiku find importance in everyday life. “Let them not thoughtlessly indulge themselves in their ordinary life,” asserts Laotse, indicating a necessary awareness of the beauty in it. Zen thus searches for satori, ‘awakening’ or ‘enlightenment,’ in “every-day consciousness”;<sup>25</sup> “Ultimate religious enlightenment [is] to be attained in the context of one's daily life.”<sup>26</sup> Haiku invites this appreciation of one’s environment at any moment. “Haiku is an ardent, inspired and inspiring engagement with everyday life, an intercourse with [...] events that are happening around us all of the time.”<sup>27</sup> These moments are ephemeral and unique;<sup>28</sup>

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<sup>25</sup> Brinker, Hiroshi and Leisinger, “ZEN Masters of Meditation in Images and Writings,” 12.

<sup>26</sup> Ibid, 90.

<sup>27</sup> Rosenstock, *Haiku : The Gentle Art of Disappearing*, 1.

<sup>28</sup> Ibid, 18.

they happen in an instant, but are palpably timeless;<sup>29</sup> their “microscopic focus [...] reveals the inner order and beauty of existence, over and over again.”<sup>30</sup> Haiku advocates that the “consciousness [it entails] makes the world bearable and [...] lives liveable.”<sup>31</sup>

Feng Shui is seen in everyday life due to its infusion in architecture, which surrounds us for more than 90% of our lives.

Our experience of the present is profoundly influenced by our environment and therefore architecture. We thus have the power to shape it positively.

Through her architecture, Eileen Gray’s “pleasure in the habits of contemplative work became pleasure in the habits of

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<sup>29</sup> Ibid, 40.

<sup>30</sup> Rosenstock, *Haiku Enlightenment*, 4.

<sup>31</sup> Rosenstock, *Haiku : The Gentle Art of Disappearing*, 31.

contemplative living.”<sup>32</sup> Her designs “engage the body materially, in the habits of daily life.”<sup>33</sup> In E-1027 she designs a home that invigorates her everyday life.

Scandinavian architecture, through *hygge*, similarly dedicates itself to the comfort of the inhabitant in daily life.

We are autonomous. I think therefore I am.

Taoism and Zennism exist through individualism.

“Nothing is real except that which concerns the working [of one’s] own mind.”<sup>34</sup> Yeno, the sixth patriarch of Zen, explains the movement of a flag, not as a product of the wind or the flag itself, but rather a movement within the mind.<sup>35</sup> The effectiveness of word or action is thus negated. “The sage

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<sup>32</sup> Gray Read, “Eileen Gray and the Slow Craft of Lacquer,” *Urushi Recipes*, WordPress, May 16, 2011, <https://urushidoc.wordpress.com/2011/05/16/eileen-gray-and-the-slow-craft-of-lacquer/>.

<sup>33</sup> Ibid.

<sup>34</sup> Okakura, *The book of tea*, 44.

<sup>35</sup> Ibid, 45.

manages affairs without doing anything, and conveys his instructions without the use of speech.”<sup>36</sup> Accordingly, “Zen can neither be taught nor transmitted. [...] In the invisible, wordless “transmission” of the most profound religious experiences, Zen reduces its communication to the extreme of the “thundering silence.””<sup>37</sup> Personal experience, the pure antecedent of the word and thought, becomes the sole vehicle for satori. Through “meditative empathy [...] the viewer and viewed object [...] fuse into one.”<sup>38</sup> In daily life, everything is thus absorbed, experienced and understood from within.<sup>39</sup> Meditative immersion into one’s inner self is necessary for

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<sup>36</sup> Laozi and James Legge, *The Tao Teh King, or, The Tao and Its Characteristics* (Champaign, Ill: Project Gutenberg, 1995), 3.

<sup>37</sup> Brinker, Hiroshi and Leisinger, “ZEN Masters of Meditation in Images and Writings,” 13.

<sup>38</sup> Brinker, Hiroshi and Leisinger, “ZEN Masters of Meditation in Images and Writings,” 38.

<sup>39</sup> Ibid, 11.

absolute transcendence.<sup>40</sup> Haiku focusses on these moments of absorption, and encourages the disappearance of self into the experience.<sup>41</sup> The inherent necessity of the self reflects individualistic ideals.

One of the primary foundations of Feng Shui is the human. “Feng Shui’s ideal conditions for human happiness and well-being are programmed into [human] genes.”<sup>42</sup> Feng Shui’s design directives are derived from innate human needs. This is evident first in the design of natural views. Humans are aided by nature. Views of nature, whether animal or plant, boost the immune system and reduce stress. Feng Shui advocates for nature through the concealment of artificial elements. The colour palette of a building is also a reflection of nature’s

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<sup>40</sup> Ibid, 11-13; Sōsei Kuzunishi and Kōji Satō, *The Zen Life*, 1st English ed. (New York: Weatherhill, 1972).

<sup>41</sup> Rosenstock, *Haiku Enlightenment*, 7.

<sup>42</sup> Bramble, *Architect's Guide to Feng Shui : Exploding the Myth*, 13.

colours, suggested because humans retain biological expectations of a thing based on its colour. The Biophilia hypothesis, the theory that humans live optimally with a close relationship to nature because that is where they evolved, is thus expressed in Feng Shui; the relationship is fundamental. Feng Shui design principles continue to be grounded in human history in the placement of a building. Mirroring the human ancestors, early hominids, who chose to live in areas that faced water and backed up against natural topographic elements such as hillsides or caves, Feng Shui advocates the front should face onto water and the back should reside against natural topography. “To the ancients, subtly persuading humans to be their best meant creating habitations in harmony with nature.”<sup>43</sup>

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<sup>43</sup> Ibid, 8.

“A haiku moment can happen at any time. But it will not happen without you. You must be there for it to happen. You must be there, before you disappear. It takes two to haiku, you and the witnessed phenomenon in a unifying embrace.”<sup>44</sup> Atmospheres embody the same origins. “We create reality as we go through space.”<sup>45</sup> So, there is no atmosphere until we are present. Olafur Eliasson demonstrates this in his 1993 installation *Beauty*, where he shows that without a viewer there is no rainbow. Thus human perception is a primary pillar of the atmosphere.

Eileen Gray echoes the importance of the individual human mind in design. She reflects on human psychological needs and designs for the personal experience of use. Her architecture “create[s an atmosphere] in which the spirit of the

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<sup>44</sup> Rosenstock, *Haiku Enlightenment*, 10.

<sup>45</sup> Abstract: The Art of Design, “Olafur Eliasson: The Design of Art,” *Netflix*, 2019.

inhabitant can extend, both in company and solitude.”<sup>46</sup> It is “a form of journey, an accompaniment for the body and mind of its inhabitant.” The entry sequence to E-1027 creates this journey through the design of turns and therefore screened views around eased corners along the exterior wall. “The eye follows the surface like a hand.”<sup>47</sup> Gray’s furniture is equally affective. By initiating a lying back pose the transat chair aims to instil sensualism and relaxation into its user.<sup>48</sup>

The comfort seeking concept of hygge innate to Scandinavian architecture exemplifies the built-in importance of the inhabitant. Its definition lies in the emotion of the human in relation to the design.<sup>49</sup>

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<sup>46</sup> Read, “Eileen Gray and the Slow Craft of Lacquer.”

<sup>47</sup> Ibid.

<sup>48</sup> Lindsay Baker, “A Home 'Where Body and Soul Can Rest',” *BBC Culture*, BBC, April 1, 2020, <https://www.bbc.com/culture/article/20200331-designer-eileen-grays-home-where-body-and-soul-can-rest>.

<sup>49</sup> Meik Wiking, *The little book of hygge: The Danish way to live well* (Penguin UK, 2016).

Colour is one way “of exercising direct influence upon the soul. Colour harmony can rest only on the principle of the corresponding vibration of the human soul.”<sup>50</sup> Gernot Böhme introduces colour as one of ‘the ecstasies of the thing’. It is a way in which something steps out of itself, and presents itself to us.

When we say, for instance, that a cup is blue, we think of a thing that is determined by the colour blue, and thereby distinguished from others. This colour is something that the thing possesses... the being blue of the cup could be... a way in which the cup is present in space, how it makes its presence felt. The being blue of the cup is then no longer thought as something that is in some way limited to the cup and adheres to it but, quite to the contrary, as something that radiates out into the cup’s surroundings and in a certain way colours and ‘tinges’ it... The cup’s existence is already included in this view of the quality blue, for being blue is after all one mode of the cup’s existence, an articulation of its visibility or its way of being present. Thus, the thing is

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<sup>50</sup> Wassily Kandinsky, *On the Spiritual in Art* (1946), 43.

no longer thought through its distinction from something other, through its delimitation and unity. Rather, it is thought through the ways in which it steps out of itself, which I propose to call ‘the ecstasies of the thing’. It should not be difficult to think colours, scents, and the way a thing sounds as ecstasies.<sup>51</sup>

In this way colour does not have to be widespread to have an overall effect on the atmosphere.

Colours... before being perceived as properties of the objects, are perceived in their interaction with the colour of the contiguous objects and even with the air interposed between our eye and the perceived, to the point that they ‘are no longer condensed into surface colours, but are diffused round about objects and become atmospheric colours’: it is ‘as if the thing is thrust outside itself;’... [an] ecstasy of coexistence or communion.<sup>52</sup>

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<sup>51</sup> Böhme, *Atmospheric Architectures : The Aesthetics of Felt Spaces*, 22.

<sup>52</sup> Tonino Griffero, *Atmospheres: Aesthetics of Emotional Spaces*, 1st ed. (Routledge, 2010), 32-3.

The atmosphere has as much of an impact on the perception of colour, as the colour itself has on the perception of the atmosphere. It is for this reason that “color deceives continually... One and the same color evokes innumerable readings.”<sup>53</sup>

In the design of Therme Vals, Peter Zumthor uses colour as a medium of mood. The journey to the baths starts with a cleansing black hallway that intends to “disengage [us] from [our] previous concerns.”<sup>54</sup> The baths are primarily a grey concrete; a neutralizing colour. Individual deep red changerooms then bring a striking sensuality. They “offer a warmer alternative, an invitation [where] the richness of such

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<sup>53</sup> Nur Ayalp, “Cultural Identity and Place Identity in House Environment : Traditional Turkish House Interiors,” TOBB ETU University, Turkey, 2011, 1.

<sup>54</sup> Afsaneh Ardehali, "Mood-Consciousness and Architecture: A Phenomenological Investigation of Therme Vals by Way of Martin Heidegger's Interpretation of Mood," Order No. 1500434, University of Cincinnati (2011), 61.

intensity in color embraces [us] in its deep intimacy.”<sup>55</sup> Small openings to coloured intimate baths appear against the neutral grey concrete. Each of these embodies an experience. Among these, heat creates a red envelope to hold the 42C water, and cold introduces a blue, 14C, bath.<sup>56</sup>

The importance of the atmosphere is manifested in Laotse’s metaphor of the vacuum: “Only in the vacuum lay the truth essential. The reality of a room [is] to be found in the vacant space enclosed by the roof and walls. Not in the roof and walls themselves.”<sup>57</sup> This vacant space becomes the antithesis of the object. It eludes sight and touch, and “things’ essences all there endure;”<sup>58</sup> It is an active force. The nature of the Tao establishes that “it is so with all the beauties of existing

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<sup>55</sup> Ibid, 67.

<sup>56</sup> Csxlab, *Peter Zumthor - The Thermae of Stone - Val's*, Youtube, 2012.

<https://www.youtube.com/watch?v=gap-ydGEAJQ>

<sup>57</sup> Okakura, *The book of tea*, 41.

<sup>58</sup> Laozi and Legge, *The Tao Teh King, or, The Tao and Its Characteristics*, 21.

things.”<sup>59</sup> Eileen Gray describes the vacant space as “a symphony in which all inner forms of life are expressed.”<sup>60</sup> It is a “union of the [human] with all existence.”<sup>61</sup> Therefore, Like haiku, its experience as an atmosphere is within a moment where “the unity of all realities” is perceived.<sup>62</sup> It thus connects space and time. Gray acknowledges this higher dimension through the development of architecture from two to three dimensions, and beyond.<sup>63</sup> It is the dimension into which one dissolves through haiku.<sup>64</sup>

A similar appreciation of the atmosphere within design is exhibited in the Scandinavian concept of *hygge*. *Hygge* is about an atmosphere and an experience, rather than about

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<sup>59</sup> Ibid.

<sup>60</sup> Read, “Eileen Gray and the Slow Craft of Lacquer.”

<sup>61</sup> Rosenstock, *Haiku Enlightenment*, 11.

<sup>62</sup> Ibid.

<sup>63</sup> Hinako Kawakami, “The Impact of Collaboration between Modern Japanese Artists and Eileen Gray on European Art,” *Impact* 2021, no. 3 (March 29, 2021): 92.

<sup>64</sup> Rosenstock, *Haiku : The Gentle Art of Disappearing*, 13.

things. It is about being with the people we love; a feeling of home; a feeling that we are safe, that we are shielded from the world and can allow ourselves to let our guards down. You may be having an endless conversation about the small or big things in life - or just be comfortable in each other’s silent company - or simply just be by yourself enjoying a cup of tea.<sup>65</sup>

As architects we are given a great responsibility; one that allows us to build the context within which humanity functions. “The impulse to development and vital expansion runs up against something external in which life finds its confines, a resistance that thwarts and limits it...; a reality external to us.”<sup>66</sup> This external reality is that of the atmosphere: “the shared reality of the perceiver and the perceived.”<sup>67</sup> While

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<sup>65</sup> Wiking, *The little book of hygge: The Danish way to live well*, 1.

<sup>66</sup> Griffero, *Atmospheres: Aesthetics of Emotional Spaces*, 20.

<sup>67</sup> Böhme, *Atmospheric Architectures : The Aesthetics of Felt Spaces*, 23.

humans are the perceivers, architecture is, in the built environment, the perceived.

The beauty in a home is in its ability to hold our lives. It is the vacuum into which we can infuse ourselves. This “vacuum is all potent because [it is] all containing”<sup>68</sup> The vacuum thus becomes an atmosphere as soon as we interact with it.

Loatse’s vacuum also inherently intimates the beauty in the undesigned: “A vacuum is there for [one] to enter and fill up to the measure of [one’s] aesthetic emotion.”<sup>69</sup> The haiku moment is similarly “foiled by intentionality; [...] Beauty is a free spirit and will not be trapped within the grid of

intentionality.”<sup>70</sup> Becoming a part of the moment is conditional on completing it.<sup>71</sup>

Our imagination is so powerful that it allows us to experience situations as if they were real. By allowing for this imagination art, renderings, architecture can all enthrall us into their atmospheres.

This sensibility, inherent to the Japanese Tea Ceremony, is demonstrated in Eileen Gray’s design through the inclusion of blanks and voids to be completed by the involvement of humans and nature.<sup>72</sup> Gray creates furniture and spaces that are flexible and can be adjusted according to the needs of the inhabitant. Her tables twist and slide. In E-1027 she allows the manipulation of light through a system of sliding shutters.<sup>73</sup>

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<sup>68</sup> Okakura, *The book of tea*, 41.

<sup>69</sup> *Ibid*, 42.

<sup>70</sup> Rosenstock, *Haiku : The Gentle Art of Disappearing*, 44.

<sup>71</sup> Okakura, *The book of tea*, 42.

<sup>72</sup> Kawakami, “The Impact of Collaboration between Modern Japanese Artists and Eileen Gray on European Art,” 93.

<sup>73</sup> Baker, “A Home 'Where Body and Soul Can Rest'.”

The way natural light comes into a space is never exactly the same. It enlivens a space in the way it bounces off of the walls, dissipates into the distance, curves around corners, and drags shadows across the floor. Due to this, the light's intensity at a given moment tells a story. "We delight in the mere sight of the delicate flow of fading rays clinging to the surface of a dusky wall, there to live out what little life remains to them. We never tire of the sight, for to us this pale glow and these dim shadows far surpass any ornament."<sup>74</sup> Light projects movement through shadows. Light brings energy to the space through its warmth. We are tempted to run around and reflect the energy that it gives us. A secret space is created in its absence. It is here that our whispers are engulfed and disappear.

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<sup>74</sup> Junichiro Tanizaki, *In Praise of Shadows* (Leete's Island Books, 1977), 8-9.

Light is of particular importance for hygge. Here it insists that a cosy space is created in candlelight. Similarly if artificial light is used it should be at the lowest temperature to recreate the warm soft lighting of sunsets and candles and spread out into smaller points to create caves of light. "It is precisely light that defines the Nordic worlds and it fuses all things with mood."<sup>75</sup>

Light is that which allows us to see everything else. It sets the boundaries of sight. This is made clear in Eliasson's 1997 *Room for One Colour*. Here, the light restricts the colours that we can see in the room. Eliasson continues to use light to manipulate the human experience in his 2011 *Model for a Timeless Garden*. In a dark room, Eliasson uses stroboscopic light to capture a fountain's continuous movement in singular

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<sup>75</sup> Christian Norberg-Schulz quoted in Miller and Pallasmaa, *Nordic Modernism : Scandinavian Architecture, 1890-2015*, 9.

frames, thus controlling the experience of time. “The water, usually experienced as continuous flow under ordinary light conditions, [is] transformed into lines of movement composed of diamonds and jewels, suspended in mid flow, facilitating a unique perception of water beyond the usual human visual capacities.”<sup>76</sup> The contrast between the non continuous visual and the sound of the continuous waterfall plays with the relationship of human perception and expectation, and engineers a moment “which is both exciting - quite lovely actually - and also somewhat threatening.”<sup>77</sup>

“By disassembling various components of the architecture and furniture,” Gray encourages “the human form

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<sup>76</sup> Tim Edensor, “Light Art, Perception, and Sensation,” *The senses & society* 10, no. 2 (2015): 138–157.

<sup>77</sup> Olafur Eliasson as quoted in “Olafur Eliasson’s Strobe-lit Fountains Come to London,” *Phaidon*, 2013, <http://au.phaidon.com/agenda/art/articles/2013/january/29/olafur-eliassons-strobe-lit-fountains-come-to-london/>.

and spirit to pass through her buildings and create different spaces.”<sup>78</sup> Snohetta’s design of the Oslo Opera House exemplifies a similar flexibility in space. The standard planes are bent down to invite the public to occupy them as they please through the different levels.

“True beauty [can] be discovered only by one who complete[s] the incomplete. The virility of life and art [lies] in its possibilities for growth.”<sup>79</sup>

Taoism and Zennism preach relativity. They assert that “truth can be reached only through the comprehension of opposites.”<sup>80</sup> Laotse observes the importance of opposites in the duality of happiness and misery in human psychology and in the laws of nature; “Constant action overcomes cold; being

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<sup>78</sup> Kawakami, “The Impact of Collaboration between Modern Japanese Artists and Eileen Gray on European Art,” 92.

<sup>79</sup> Okakura, *The book of tea*, 65.

<sup>80</sup> *Ibid*, 44.

still overcomes heat.”<sup>81</sup> He advocates that the principle should thus be reflected in one’s character; the Zen and Tao maintain a gentle boldness.<sup>82</sup>

Feng Shui’s Yin Yang theory is at heart a theory of relativity. It is first defined through the opposition of yin and yang. Their properties are wave-like and transform into each other. So, while together they are unity, their relationship is dynamic, and the tension between the two creates a constant energy. Yin and Yang thus explain the paradox; the “intrinsic contradictions of natural objects or phenomena.”<sup>83</sup>

The human visual system is based on contrast. This is the principle of induction; our understanding of and reaction to

life is based on the difference between elements of our experience.

Relativity is equally vindicated in Zen and Taoist artistic endeavours through asymmetry and an “unworldly” quality.<sup>84</sup> Eileen Gray exhibits the same unworldly quality in her studio. It becomes “an adventure, an experience with the unheard of, a sojourn into the never-before-seen.”<sup>85</sup> She continues to appeal to the contrast-seeking user through the use of materials in her designs. She plays with the balance of opposing qualities; “rough versus smooth, polished versus matte, deep versus shallow, metallic planes against fur.”<sup>86</sup>

Through the contrast of the smooth stucco walls to the rocky landscape upon which it sits, E-1027 continues to exhibit this

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<sup>81</sup> Laozi and Legge, *The Tao Teh King, or, The Tao and Its Characteristics*, 58.1; Ibid, 45.2.

<sup>82</sup> Ibid, 58.3.

<sup>83</sup> Bramble, *Architect's Guide to Feng Shui : Exploding the Myth*, 19.

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<sup>84</sup> Brinker, Hiroshi and Leisinger, “ZEN Masters of Meditation in Images and Writings,” 37-38.

<sup>85</sup> Baker, “A Home 'Where Body and Soul Can Rest'.”

<sup>86</sup> Read, “Eileen Gray and the Slow Craft of Lacquer.”

relativity at the large scale.<sup>87</sup> This relativity in materials may also be seen in Snøhetta's design for the Oslo Opera House. In the public halls, the contrast of the linear glass panels looking out to the curved wood slats that line the main interior spaces creates a dialogue that is connected by the movement of people in between.

Taoism and Zennism advocate simplicity and purity. The Tao "does nothing for the sake of doing it," and Zen Buddhists lead modest lives.<sup>88</sup> Zen arts value the "consciously imperfect," and "are striking for their elementary sense of artless simplicity, objectivity, and purity, for their natural unbridled-ness and arresting directness, as well as for their deep respect for nature."<sup>89</sup> Similarly the "eloquence" of haiku

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<sup>87</sup> Ibid.

<sup>88</sup> Laozi and Legge, *The Tao Teh King, or, The Tao and Its Characteristics*, 37.1.

<sup>89</sup> Brinker, Hiroshi and Leisinger, "ZEN Masters of Meditation in Images and Writings," 37.

"does not arise from a laboured and farfetched elocution, but from a surprising mixture of simplicity and majesty."<sup>90</sup> The simple and purist qualities of the Zen monastery is emulated in the Japanese Tea Ceremony's tea-room at the scale of the materials and the room.<sup>91</sup> The materials are left in their natural state to "inspire introspective viewing [...] and help [...] gain deeper insights into the essence of nature and life."<sup>92</sup> Their "selection [and] workmanship, - no less delicate than that of the makers of lacquer cabinets - requires immense care and precision."<sup>93</sup>

There are materials that capture movement; the way weathering steel records touch over time through colour, how the movement of water over concrete draws lines across it. And

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<sup>90</sup> Rosenstock, *Haiku : The Gentle Art of Disappearing*, 16.

<sup>91</sup> Okakura, *The Book of Tea*, 55.

<sup>92</sup> Brinker, Hiroshi and Leisinger, "ZEN Masters of Meditation in Images and Writings," 66.

<sup>93</sup> Okakura, *The Book of Tea*, 54.

similarly, there are materials that capture time in themselves; the way concrete holds onto the traces of its formwork, the way wood grains show its growth, and the knots; its branches, and the way stone is rough where it was severed and inherently portrays time in its layers of sediment.

There are materials that reflect a changing light; “Lacquerware decorated in gold is not something to be seen in a brilliant light, to be taken in at a single glance; it should be left in the dark, a part here and a part there picked up by a faint light.”<sup>94</sup> A conversation is thus created between material and light. Interrelationships such as these are the soul of architecture.

Carlo Scarpa records the traces of time through a layering of materials. In his restoration of the Querini

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<sup>94</sup> Tanizaki, *In Praise of Shadows*, 6.

Stampalia Foundation between 1961 and 1963, “Scarpa articulates every element of the palazzo’s construction and history through slight misalignments and reveals;”<sup>95</sup> from the rail of the bridge which seems to be suspended above the canal, to the “layers of... brick, concrete, and plaster, [that] each slip about the next without closing at the corners.”<sup>96</sup> Scarpa’s mastery of materials allows him to create a space in which materials and elements hover beside each other. Carlo Scarpa’s language; his interpretation of the architectural reveal, “elaborates the fragment, and the junctures of the new and old.”<sup>97</sup> This can be seen first in the doubling and separation of the initial floor plate; a move first conducted in the spirit of protecting the main walkway from floods, effectively creating

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<sup>95</sup> Micheal Cadwell, *Strange Details* (Cambridge, MA: MIT Press, [1952] 2007), 7.

<sup>96</sup> Ibid, 30.

<sup>97</sup> Stephen Kite, *Shadow-Makers: A Cultural History of Shadows in Architecture* (London, UK; New York, NY, USA;: Bloomsbury Academic, an imprint of Bloomsbury Publishing Plc, 2017), 291.

an interior ‘pier’. The corridors are thus held above the first floor plate, hovering not only above the floor, but also against the walls and between each arched entryway. Rather than connecting the corridor’s floor plate to the walls, Scarpa implements a separate guard at its edges, allowing it to act independently from the original structure. The concrete structure for the second floor plate is pulled back from the floor’s edge to create a shadow below it and give the illusion of a floating floor. Scarpa establishes a similar reveal between different architectural components, forcing a shadow between each step of the stairs connecting the first and second floor plates, between the walls, floors and ceilings, and around every door. At this scale, Scarpa continues to create a reveal between materials with the implementation of a shadow. Where Scarpa covers the original walls with brick, concrete or plaster he

creates a reveal between the new and old material, thus preserving the integrity of the original structure. The sheathing hovers against the wall and is pulled back from the entry arches, and at its joints, from itself.

Eileen Gray’s similar attention to materiality is revealed in her lacquer work. Seizo Sugawara imparts to her the long and arduous process of polishing lacquer and supports her loyal adherence to the practice.<sup>98</sup> At the scale of the room the tea-house continues to exhibit simplicity and purism through its aesthetic organisation. It is left “empty, except for what may be placed there temporarily to satisfy some aesthetic mood [...] the beautiful being possible only through concentration upon some central motive.”<sup>99</sup>

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<sup>98</sup> *Seizo Sugawara, Eileen Gray's Enduring Collaborator, YouTube, bardgradcenter, 2021, [https://www.youtube.com/watch?v=RL6scxbJMMM&ab\\_channel=bardgradcenter](https://www.youtube.com/watch?v=RL6scxbJMMM&ab_channel=bardgradcenter).*

<sup>99</sup> Okakura, *The Book of Tea*, 64.

Scandinavian architecture employs a purity in materials in its relation to nature, often seeming to “grow naturally from the native soil and translate local forces and qualities into physical form.”<sup>100</sup> Scandinavian design demonstrates a similar simplicity in its minimalism. It “traditionally favoured an architectural expression of simple volumes. The buildings have a sense of tranquillity and quiet dignity through the use of unadorned materials, direct volumetric expression and removal of unnecessary decoration.”<sup>101</sup> The Oslo Opera House uses only the natural qualities of the materials themselves, of wood and stone, rather than ornament.

Eileen Grey’s work demonstrates how the ideas of Taoism, Zennism and Haiku, inherent to the Japanese Tea Ceremony, can be appropriated by architecture to induce a

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<sup>100</sup> Miller and Pallasmaa, *Nordic Modernism : Scandinavian Architecture, 1890-2015*, 39.

<sup>101</sup> Ibid, 40.

human sensibility and sensuality. The importance of human psychology is thus manifested. Within the same framework “architecture [...] rediscover[s] [...] “An emotion purified by [psychological] knowledge and enriched by [philosophical] ideas.””<sup>102</sup> The meaningful design of rituals is the epitome.

The “Glossary for the Meaningful Design of Atmospheres,” which measures the atmosphere through human psychology, light, colour, space and materiality, can be used as a guide towards psychologically positive design. Applying the “Glossary” to tangible construction entails responsibly designing the eccentricities of light, colour, space and materiality as they relate to the atmosphere’s three key sets of elements; surrounding elements, interior elements, and quasi elements. The surrounding elements are related to the program

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<sup>102</sup> Eileen Gray quoted in Read, “Eileen Gray and the Slow Craft of Lacquer.”

of the space outside the atmosphere. They are the journey to the atmosphere; the context within which the atmosphere is placed, and they therefore influence the psychological state that we are in upon entering the atmosphere. Are we escaping into the atmosphere dramatically, or are we gently drawn into it? Does the atmosphere leak out of its room or is it hermetically sealed? Is the atmosphere one that builds upon the atmosphere of its surroundings, or does it contrast it? The interior elements are those related to the interior construction and arrangement of the atmosphere. They are the tangible elements that we experience directly when in the atmosphere. The quasi elements are the non-tangible elements associated with the atmosphere; natural phenomenon, people, activities. These often change over the lifetime of the atmosphere. How does the

atmosphere's tangible design regulate these quasi elements?

How does the atmosphere respond to various quasi elements?

Psychologically positive design should be an integral part of our everyday architecture. I start here with the most personal of architecture, the home, and through the framework of the Japanese Tea Ceremony, I design the moments within.

## *The Importance of Taoism in Design*

The human is not purely scientific. “The senses are not merely passive receptors of stimuli, and the body is not only a point of viewing the world from a central perspective... The human body is a knowing entity. Our entire being in the world is a sensuous and embodied mode of being.”<sup>103</sup> Because of this “architectural problems are, indeed, far too complex and deeply existential to be dealt with in a solely conceptualised and rational manner.”<sup>104</sup> So, while the “Glossary for the Meaningful Design of Atmospheres,” with its scientific proof, details the quantifiable design elements, Taoism instils the necessary layer of human existence. The Taoist principle of Tz’u, meaning

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<sup>103</sup> Juhani Pallasmaa, *The Thinking Hand* (Chichester, United Kingdom: John Wiley & Sons Inc, 2009), 6.

<sup>104</sup> *Ibid*, 8.

‘caring’ or ‘compassion,’ is an integral part of this layer. From it come courage and wisdom. “Those who have no compassion have no wisdom. Knowledge, yes; cleverness, maybe; wisdom, no. A clever mind is not a heart. Knowledge doesn’t really care. Wisdom does.”<sup>105</sup>

Claude Lévi-Strauss anticipated that science would eventually be sophisticated enough to explain the validity of mythological thinking and help us to close the gap between our mindset and the rest of the universe. Science can explain how much of what makes us human is built on metaphors for our experience of the natural world. Now we have a better understanding of why myth cannot and should not be eradicated. It is time to engage the natural world and ancient traditions before they disappear and humanity goes completely insane.<sup>106</sup>

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<sup>105</sup> Hoff, *The Tao of Pooh*, 128.

<sup>106</sup> Bramble, *Architect's Guide to Feng Shui : Exploding the Myth*, 12.

### *The overlay of Taoism and Western philosophy*

“I forget my body and senses, and leave all appearance and information behind. In the middle of Nothing, I join the Source of All Things.” - An Eastern Teaching<sup>107</sup>

“Living a human life is a philosophical endeavour. Every thought we have, every decision we make, and every act we perform is based upon philosophical assumptions so numerous we couldn't possibly list them all [...] It is through our conceptual systems that we are able to make sense of everyday life, and our everyday metaphysics is embodied in those conceptual systems.” - A Western Philosophy<sup>108</sup>

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<sup>107</sup> Chuang-tse quoted in Hoff, *The Tao of Pooh*, 149.

<sup>108</sup> George Lakoff and Mark Johnson *Philosophy in the Flesh* quoted in Pallasmaa, *The Thinking Hand*, 5.

The Precedents and Foundations presented so far reflect two very different philosophies; an Eastern philosophy of Taoism and a Western philosophy. These contradict each other. Eastern philosophy advocates the losing of one's self in order to find their connection to the world, while Western philosophy places the human mind at the centre of the world. Their inherent hierarchies place nature above the human and vice versa, the human above nature, respectively. At their overlay the philosophy of this thesis becomes one that levels the human and the world, nature. "There is a complex interaction between a person and a space. The person defines the space, the space defines the person; the person gives meaning to the space, the space gives meaning to the person. In other words, there is a complex and bilateral interaction between the person and the space in its cultural, psychological, economic and physical

dimensions."<sup>109</sup> The thesis adopts the interdependent values of Yin and Yang and advocates that nature and the human are connected in their origins and evolve based on their relationship. Architecture should work in this same manner, as a component and intermediary, of and between both. This creates the definition of the ritual; the relationship of the human and nature in the present moment, and becomes the Tao of Home.

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<sup>109</sup> Ayalp, "Cultural Identity and Place Identity in House Environment : Traditional Turkish House Interiors."

## *The Fundamentals*

The Fundamentals, principles derived equally from human and natural phenomena, should be applied to all elements and design decisions. They conceptually link the foundations of the Japanese Tea Ceremony and of the “Glossary” together. The Fundamentals thus explain the relationship of Human and Nature in the context of architecture.

“The teacher and the taught together create the teaching.” - An Eastern Saying<sup>110</sup>

Architecture is the meeting place of Human and Nature; incomplete and nonsensical without both. Humans have an affinity to nature. We are predisposed to it by our evolution.

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<sup>110</sup> Eckhart Tolle, *The Power of Now* (Vancouver, Canada: Namaste Publishing Inc, 2004), 103.

We come from nature. We are a phenomenon of nature and thus are connected to the phenomenon of life that surrounds us.

Nature brings us health. This became obvious during the Industrial Revolution. Cities were booming with new factories and technologies, growing so fast as to eradicate any nature present. Activities were conducted without consideration of the consequences for nature. The resulting effects on the humans present were devastating. Historically nature was used as medicine. Nature provides us with plants that help us survive. We are part of their cycle. Chinese medicine, which uses primarily the fruits of nature, is still practised around the world today.

Our psychology is thus shaped through nature. In the “Glossary” we can see this in the way in which dappled light, mimicking light coming through tree leaves, is relaxing.

Similarly the colours of nature, green, blue, brown, are stress reducing, relaxing and comforting, respectively. We are thus rejuvenated by nature. The psychology of refuge and prospect is drawn from our historical homes in nature. The cave was our refuge, and the look out through the entrance, our prospect. There we felt safe. We are thus comforted in a small space with lower ceilings that looks out onto a bigger space with higher ceilings. It is the same reason why in public places we pause with our backs against a wall. By mimicking these natural conditions, indirect connections to nature are psychologically positive. Architecture can simulate nature through individual elements such as natural materials, wood, earth, brick; colours that reflect the nature; diffused or dappled light; and in space, through soft edges, curvilinear lines, evolving patterns and the simulation of refuge and prospect.

Nature should then seep into the architecture directly. Architecture and nature should further be unified through the architecture's systems. Nature can help to heat and ventilate buildings. By creating a cycle of life through the architecture, architecture and nature act as one, support and amplify each other.

“‘A fly can't bird, but a bird can fly.’ Very simple. It's obvious isn't it? And yet, you'd be surprised how many people violate this simple principle every day of their lives and try to fit square pegs into round holes, ignoring the clear reality that Things Are As They Are.”<sup>111</sup> Let architecture mould itself to nature so that it may act in harmony with natural phenomena.

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<sup>111</sup> Hoff, *The Tao of Pooh*, 39.

## *Paradox*

“And so all of the things which come out of nature are contraries or things which come to be out of contraries.” - Aristotle<sup>112</sup>

Taoism appreciates contrast through paradoxes. Laozi explains the beauty of the worldly phenomenon through paradoxes, and attests that nature is in itself a paradox. “Constant action overcomes cold; being still overcomes heat. Purity and stillness give the correct law to all under heaven.”<sup>113</sup> It is under this law that “with that gentleness I can be bold; with that economy I can be liberal; shrinking from taking precedence of others, I can become a vessel of the highest honour. Nowadays they give up gentleness and are all for being

bold; economy, and are all for being liberal; the hind most place, and seek only to be foremost;(of all which the end is) death.”<sup>114</sup> Life is a study of contrasts. “Misery! Happiness is to be found by its side! Happiness! Misery lurks beneath it! Who knows what either will come to in the end?”<sup>115</sup> And the appreciation of each is only possible by the other. “If there were nothing but silence, it wouldn’t exist for you; you wouldn’t know what it is. Only when sound appears does silence come into being.”<sup>116</sup> We only have life because we have death. “Man at his birth is supple and weak; at his death, firm and strong. (So it is with) all things. Trees and plants, in their early growth, are soft and brittle; at their death, dry and withered. Thus it is that firmness and strength are the

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<sup>112</sup> Aristotle, *Physics* (Librivox, 2013).

<sup>113</sup> Laozi and Legge, *The Tao Teh King, or, The Tao and Its Characteristics*, 45.2.

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<sup>114</sup> Ibid, 67.3.

<sup>115</sup> Ibid, 58.1.

<sup>116</sup> Tolle, *The Power of Now*, 140.

concomitants of death; softness and weakness, the  
concomitants of life.”<sup>117</sup>

Like Laotse’s vacuum, things are paradoxes in the way  
that it is the non-things that are useful. Atmospheres are found  
in the non-built space, in the nothingness contained by the  
architecture.

The thirty spokes unite in the one nave; but it is on the  
emptyspace (for the axle) that the use of the wheel  
depends. Clay is fashioned into vessels; but it is on their  
empty hollowness that their use depends. The door and  
windows are cut from the walls to form an apartment;  
but it is on the empty space (within) that its use  
depends. Therefore, what has a (positive) existence  
serves for profitable adaptation, and what has not that  
for (actual) usefulness.<sup>118</sup>

The honey doesn’t taste so good once it is being eaten;  
the goal doesn’t mean so much once it is reached; the  
reward is not so rewarding once it has been given. If we

add up all the rewards in our lives, we won’t have very  
much. But if we add up the spaces between the rewards,  
we’ll come up with quite a bit... it’s the process that  
make us wise, happy, or whatever.<sup>119</sup>

The more you think, the less you are. “The mind will  
always try to squeeze [Being] into a little box and then put a  
label on it. It cannot be done. It cannot become an object of  
knowledge. In Being, subject and object merge into one.”<sup>120</sup>  
What may be called the fallacy of human knowledge, I call,  
through this thesis, Tao, and thus deem it beautiful. “A  
well-frog cannot imagine the ocean, nor can a summer insect  
conceive of ice. How then can a scholar understand the Tao?  
He is restricted by his own learning.”<sup>121</sup> Tao allows things to  
just be. In this way paradoxes must not be confusing.

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<sup>117</sup> Laozi and Legge, *The Tao Teh King, or, The Tao and Its Characteristics*, 76.1.

<sup>118</sup> *Ibid*, 11.

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<sup>119</sup> Hoff, *The Tao of Pooh*, 111.

<sup>120</sup> Tolle, *The Power of Now*, 107.

<sup>121</sup> Chuang-tse quoted in Hoff, *The Tao of Pooh*, 24.

The human visual system works through induction: we understand colours in relation to other colours, the contrast between the two is the basis of our understanding. The difference between the atmospheres of our spaces needs to be evident so that we can feel the change through contrast. “Where everything is beautiful, nothing is beautiful any more. Continued excitement leads to indifference.”<sup>122</sup> Contrast is necessary for a deepened understanding of our world.

By designing to a given set of standards, our reactions to the created atmosphere easily become the result of classical conditioning. Our reaction to a hospital’s atmosphere is based on the reactions we had in earlier hospital settings, usually depressing ones due to the nature of the building’s function, because hospitals are all fundamentally the same: clean white

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<sup>122</sup> Wolfgang Welsch as quoted in Griffero, *Atmospheres: Aesthetics of Emotional Spaces*, 16.

walls, a hard floor that echoes our footsteps, bright white lights, and long straight hallways. We learn to expect these atmospheres, negating any effect.

With the average person, the impression caused by familiar objects will be purely superficial. However, those objects which we encounter for the first time at once impress us deeply. Thus, a child, to whom everything is new, experiences the world. Attracted by light it grasps the fire only to burn its fingers and so learns to respect and fear the flame. The child also learns the friendly side of light which drives away darkness, prolongs the day, cooks, warms, and brightens the hours of gaiety. After collecting these experiences, a Familiarity with light has been established, and the knowledge is then stored in the mind. The strong, intense interest disappears and the entertainment offered by the flame is replaced by an ever-growing indifference. In this way, the world gradually loses its enchantment. We know, as a matter of fact, that trees give shade, horses can run fast and automobiles still faster, dogs bite, the moon is far away, or figures seen in the mirror are not real.<sup>123</sup>

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<sup>123</sup> Kandinsky, *On the Spiritual in Art*, 40.

Thus constant change is necessary. We need to be surprised. This surprise does not have to be an exciting one. It can be a calming one, or a motivating one. Surprise can be engineered through the manipulation of the eccentricities of the atmosphere's elements. The difference between the atmospheres of our spaces needs to be evident so that we can feel this change. If everything is always as it is expected to be, this is not necessarily comforting, rather it is boring; it is pacifying and deadening. If atmospheres are always as expected, our souls adjust to them, like white noise. This is the same in physical health; pushing your body to the extremes, even for short periods of time, builds strength. If we do not push ourselves, we do not grow.

Through contrast we can also understand the importance of psychologically positive architecture. What

happens when psychologically negative spaces are designed and built? When the decision is conscious we end up with Stalinist architecture that reduces the observer to a speck in the sand. Stalinist architecture emerged under Stalin's rule in the Soviet Union between 1922 and 1952. It serves the glorification of the government and elite classes and ultimately the degradation of the working class in their shadow. The architecture is characterised by grand proportions, and stern facades. Its massiveness, in contrast to the homes of the working class that were built with a shortage of materials and were often inadequate for basic living standards, stood for the glory of the nation. During this time, in market squares, the lower class stood in lines to buy food for their families from government run shops. The small exchange windows were situated above the consumer and hid from view any stocks, in

an attempt to remind them in everyday life that the government was in control. This architecture played on the psychology of the population, making them feel small and insignificant in comparison to the state.<sup>124</sup>

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<sup>124</sup> David Juliao, "Stalinist Architecture: Style, Characteristics & Buildings," Study.com, August 25, 2017, <https://study.com/academy/lesson/stalinist-architecture-style-characteristics-buildings.html>.

## *Physical*

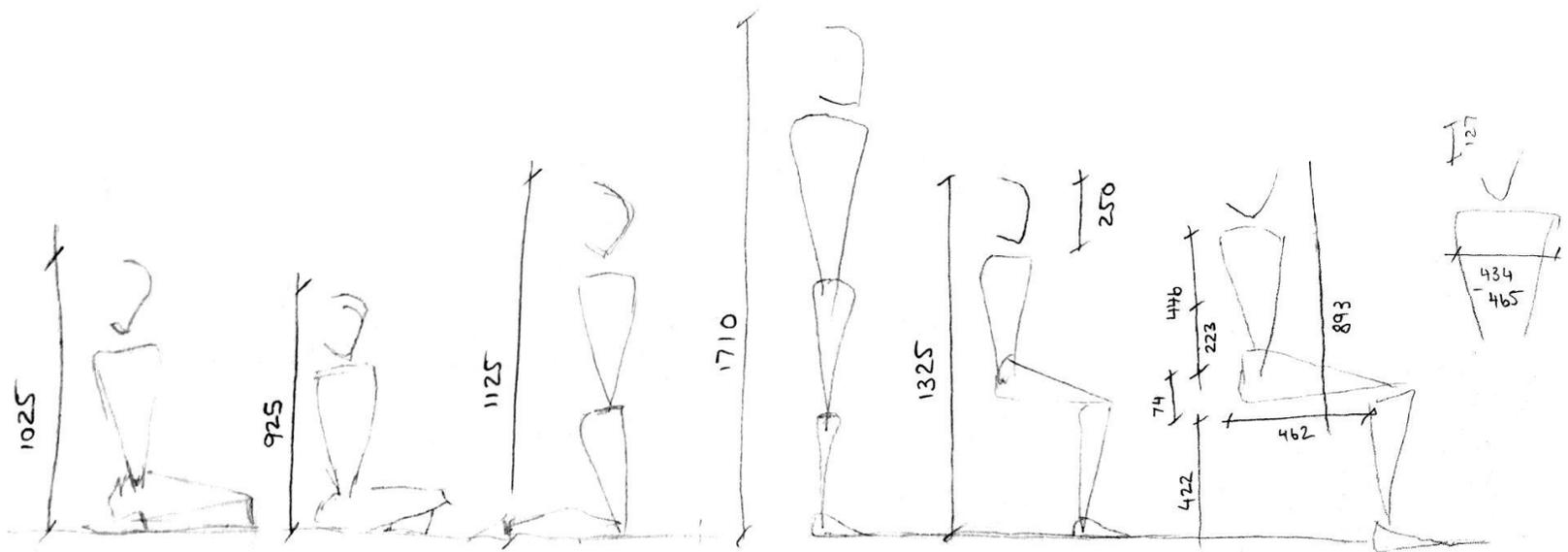
While the majority of this thesis relates to the human psyche, the non-physical aspects of the human, the physical aspects are just as important. They first relate to the psyche through the senses: touch, smell, taste, hearing and sight. Further removed we find the physical dimensions of the human. The measures depicted on the next page show the human kneeling, sitting, standing, such that they can be used to design spaces that are being occupied in different manners.<sup>125</sup>

Human scale can continue to be relatable in materials. Materials that are sized by the human hand, such as bricks, or sized to be carried by a human, stones, allow us to relate to the

story behind the material. It follows from this phenomenon that traced narratives in materials or in systems are psychologically entrancing. “When a building’s surfaces advertise the traces of their construction, they elicit palpable, intersensory engagement in another way as well: by offering opportunities to mentally simulate the process of their making... We unconsciously identify ourselves with their makers: We seem to vicariously follow the imagined muscular exertion in the nervous experience of the craftsman, as if experiencing it ourselves.” Canonical and mirror neurons stimulate the process by which human made surfaces were crafted. This Chameleon effect creates an emotional rapport with the architecture.

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<sup>125</sup> Alvin R. Tilley and Henry Dreyfuss Associates, *The Measure of Man and Woman: Human Factors in Design* (The Whitney Library of Design, 1993); Holl, “Architectural principles of traditional Japanese teahouses.”



## *Now*

When we use our imagination we can throw ourselves into situations. We can feel the emotions of the situation without it being physically present. It is in this way that the Japanese Tea Ceremony and similarly, all architecture can enthrall their users into their atmosphere. In homes architecture can allow its inhabitants to take part in its conception through imagination and control. Flexibility in walls, furniture and spaces allows for the inhabitants to change the space limited only by their imaginations.

On a larger scale, while our psychology can be quantified as a standard, as individuals we are all different. We have different preferences, different ways of conducting our lives, different decorations to hang. Architecture should

embrace these differences. It should not be so pure as to be destroyed by individual input and change, but rather it should be completed by it. “Things just happen in the right way, at the right time. At least they do when you let them, when you work with circumstances instead of saying, “This isn’t supposed to be happening this way,” and trying hard to make it happen some other way.”<sup>126</sup>

Eckhart Tolle's writings depict the relationship between the individual, nature and the present in the Now.<sup>127</sup> The Now is the only time that is important. It is the only time that exists. It is in the Now that we live and feel. It is in the Now that we are happy or sad. To truly appreciate it we must become self aware. “What could we call that moment before we begin to eat the honey? Some would call it anticipation, but we think it’s

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<sup>126</sup> Hoff, *The Tao of Pooh*, 80.

<sup>127</sup> Tolle, *The Power of Now*.

more than that. We would call it awareness. It's when we become happy and realise it, if only from an instant. By Enjoying the Process, we can stretch that awareness out so that it's no longer only a moment, but covers the whole thing."<sup>128</sup> We too easily get lost in the illusion of time. We worry about the past and are anxious about the future.

Architecture can help to remind us of the Now by initiating self awareness. This can be done through allowance of control. When we have control over our surroundings we can immediately appreciate how we are affecting our environment. We see our actions being. Without our action in the Now, nothing would be occurring. Similarly, when there is a change in our environment, we notice it. We pause for a moment to recalibrate our bodies to our new surroundings. We

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<sup>128</sup> Ibid, 112.

become self aware in this moment. Just like our brains, our senses need to be used to grow strong. When we get too used to a movement, it is no longer challenging. We do it without thinking. In order to be self aware, we must consciously remind ourselves to think about it. Architecture reminds us through change. When the next step is not how we expect it to be we are thrown into the Now. Like when we are rushing down the stairs and miss the last one. We feel a rush of power through our bodies. Everything buzzes. We remember that we are alive. It is within this being alive, now, that we can feel. Collin Ellard's study documents this phenomenon in relation to architectural facades. The results show that people are stimulated when they move through spaces that are not monotonous.<sup>129</sup> Tolle preaches acceptance and appreciation of

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<sup>129</sup> Ellard and Montgomery, "A Psychological Study on City Spaces and How They Affect Our Bodies and Minds."

the present moment, the Now, in the same way that the Tao glorifies P'u, the uncarved block.<sup>130</sup> The uncarved block is that which is untouched and unaltered. It simply is, now. The ritual is in the Now.

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<sup>130</sup> Hoff, *The Tao of Pooh*, 10.

## *The Rituals*

### *Coming Home*

All you see are trees. As you get closer a dark steel gate appears. Every day its orange hues develop. Vines creep up the metal sheet, winding themselves through the hinge's gaps. It becomes part of the forest. You pull the latch up and it clicks into its open position. The door feels heavy, and you need to plant your feet on the ground and use your body to push it open. It crackles on its hinges. You step down onto the first stone. The bright white ridges of the stone stand out against the soft bed of moss it lies on. You hear the gate close behind you and the latch falling shut. You watch the ground as you proceed forward, placing your feet deliberately on the stones. In the

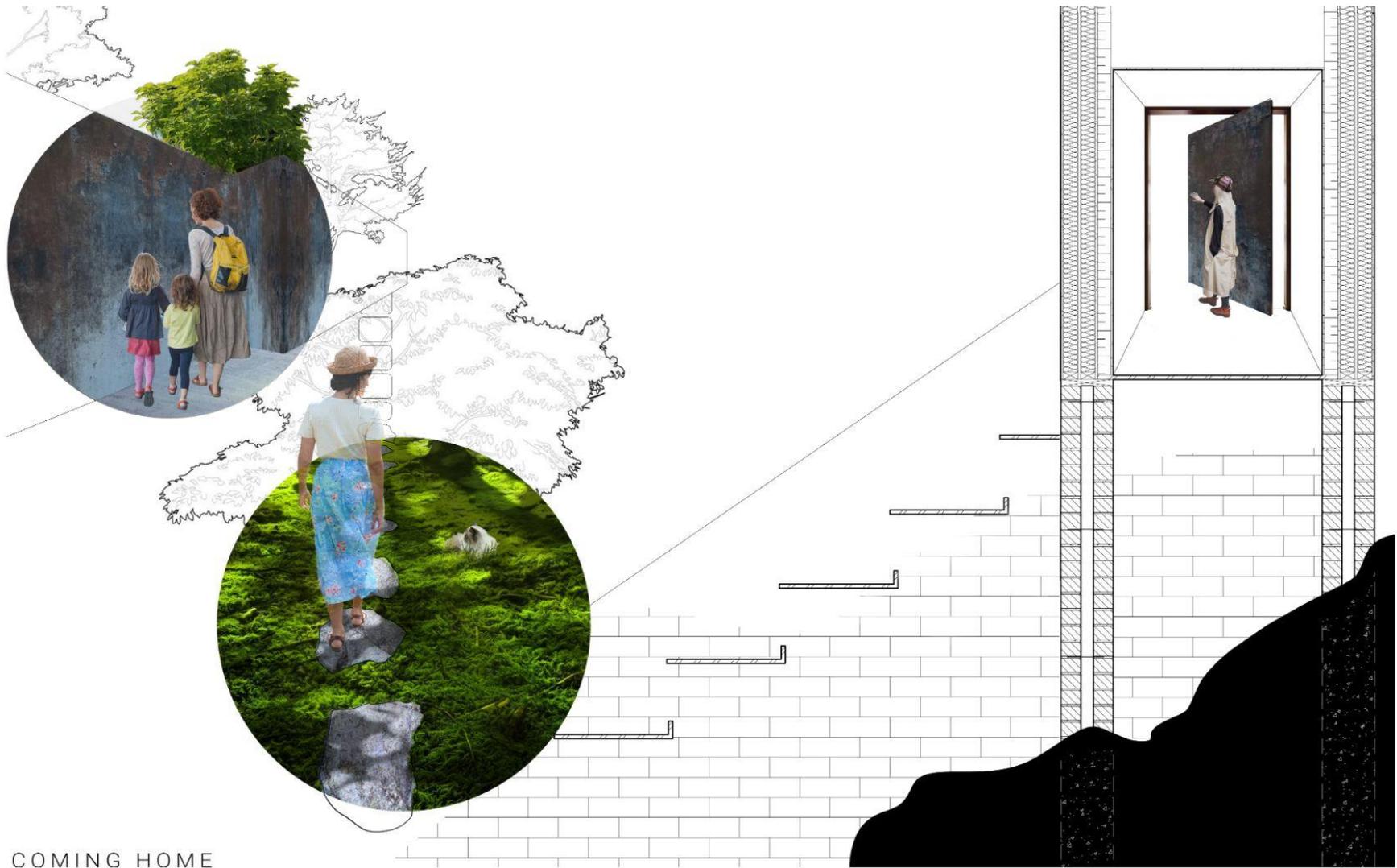
summer only dapples of light make their way through the leaves, but now, the leaves have all fallen and it is bright. They are irregularly spaced at first and gradually even out. Your pace quickens in anticipation of your arrival. The trees clear and your eyes take a second to adjust the sunlight. An expanse of sky and sea appears before you. You scan the horizon from left to right. In the last moment you see a glimpse of construction in your peripheral vision. You turn towards it, following the path past the brick wall that you didn't notice appearing beside you. You head toward the steps that were hiding against the the wall. As you make your way up the steps, the enclosure folds in around you. It is dark and you can't see the end of it. Your footsteps on the steel runs echo in the tunnel, announcing your presence. You use the wall to stabilize yourself, grabbing onto the indented corner, and notice the smoothness of the plaster

that has crept down from the top. It incites your movement.

The tunnel reaches an end. The door appears on your left, just one more step up. The door swings into the home, its tail end swinging towards you as if ushering you in. You are once again in the light. The large space initiates deeper breaths, you relax.

## Rationale

The initiation of this ritual is done in a green atmosphere which is calming and stress reducing. The dappled light coming through is relaxing. The materiality of the steel in the gate, stairs and front door show the change over time reflecting the way in which the nature changes. The procession of stones and bricks from rough to smooth requires self awareness, and the contrast in the spacial quality of the open path, closed stairway and large entrance increases this self awareness.



COMING HOME

## Applied Psychological Considerations (See Appendix 1)

### Light

Dappled Light: Relaxing

### Colour

Green: Calming + stress reducing

Orange: Stimulating + earthy

### Materiality

Induction: Contrast of materials

Human-scale materials: Brick + stones

Change: Through seasons - Over time: Steel

### Space

Soft Shapes: To be in

Hard Shapes: To do

Personal Space: 460 - 1220mm

Level change: Down to enclosure - Up to light

Defensible Space: Continuum of spaces from public to semi-public to semi-private to private

## *Cooking Dinner*

You stand at the tall circular table to prepare the dinner. You pull the light over the chopping board. The smell of cooking wafts in the space. It attracts everyone. They join you around the table and conversation flows; stories of the day. Some are helping with dinner, others working on a different task, and simply listening. Regardless, everyone's presence fills the atmosphere with energy.

### Rationale

In this ritual hard shapes initiate productivity. The circle of the table encourages discussion\* and its expanded size reflects this social space. The adjustable task light enhances focus and for the same reason high lighting and cool colours

should be implemented. The orange of the brick is stimulating and balanced, to encourage health in eating.

\*In order to encourage discussion the circle must be at the scale of the individual human, abide by the social category of space, and face inward. That is it must contain the users, pull them or push them closer together, like a table or a small circular room respectively. A circle that pushes the majority of its users out to its edges will initiate a hierarchy between the centre and the perimeter and thus a constant surveillance rather than communication, as demonstrated by Michel Foucault's Panopticon.

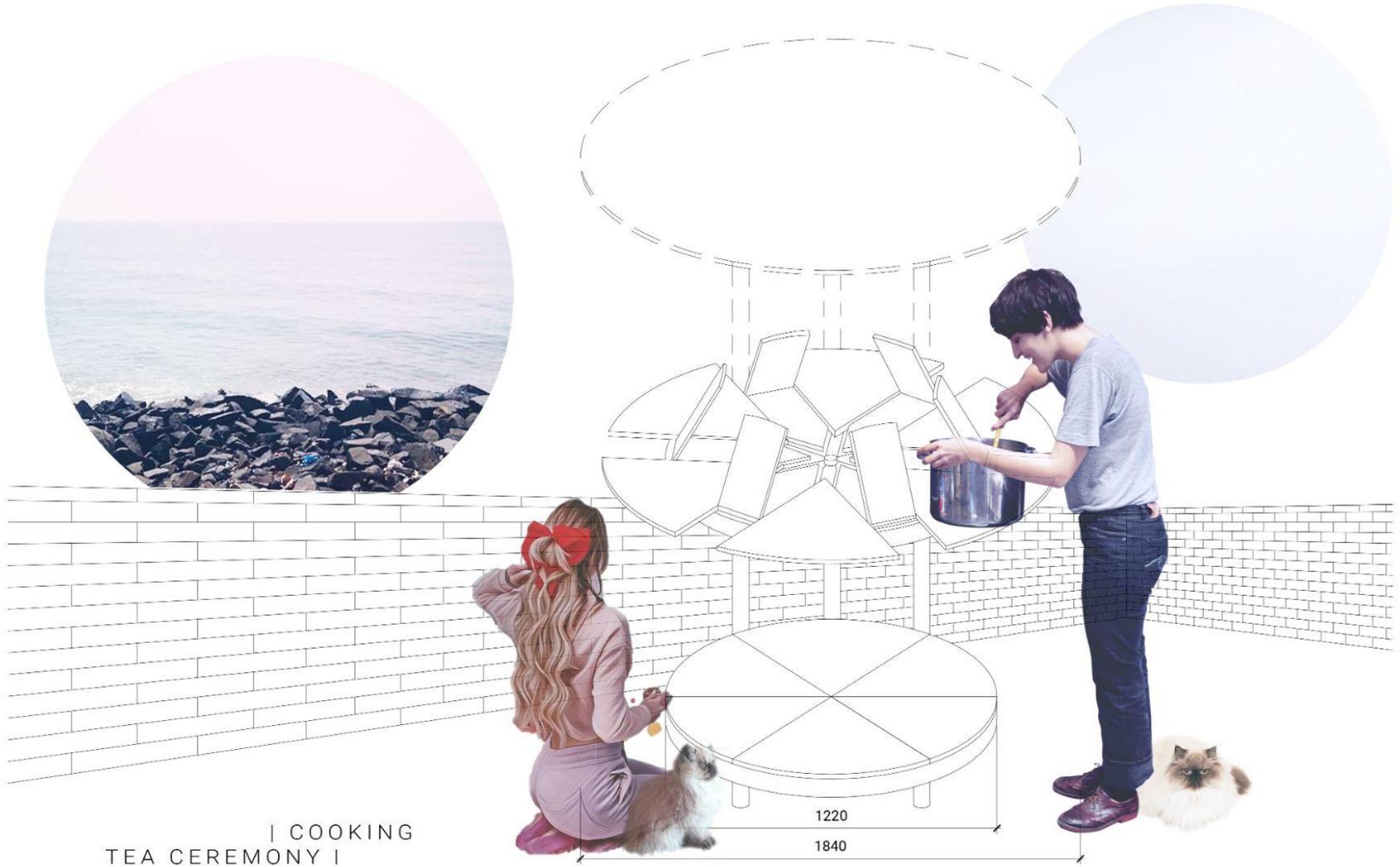
## *The Tea Ceremony*

The day is coming to an end. You close up your home with it. You drag the heavy curtains across the glass and fold out the wall in the openings. These are the last efforts of the day. The bubbling water echoing in the tea pot indicates the time. The steam has filled the vacuum that you closed off . You feel relieved when your bare toes sink into the soft carpet and the warmth of it spreads up your legs. As you kneel you pull the table down and it lets out a similar sigh. The outside moves with you and you are left seeing only the expanse of sky. But at this height you are protected by a wall of stable brick. The sun is setting, spreading warm colours across your western view. The fading light echoes on your lacquer tea cup. You are at peace.

## Rationale

The circle continues to invite discussion and emphasize equality, but the reduced scale of the table creates a personal space and thus the discussion is hushed. The contrast of the roughness of the brick, the softness of the carpet and the smoothness of the tea cup creates increased appreciation and awareness of each. Low lighting and warm colours should be implemented for relaxation and protection. The brown of the bricks is comforting and the blue of the lacquer tea cup is relaxing. The brick height is measured in accordance with the human and its human scale and the carpet invite a comfortable stay. This reflects the importance of human scale. The Home is created specifically for the human. The Home reflects this through its choice of materials. Brick, and glass block, sized by

human hands, create a dynamism at the human scale. In space, similarly to the Japanese Tea House, the Home responds to the size of the human; kneeling, sitting, standing.



| COOKING  
TEA CEREMONY I

## Applied Psychological Considerations (See Appendix 1)

### Light

High Lighting Levels + Cool Colours over counter

Low Lighting Levels + Warm Colours: Relaxation + protection

Adjustable Task Lighting

### Colour

Orange: Stimulating + Balanced

Blue: Relaxing

Brown: Comforting

### Space

Hard Shapes: To do

Soft Shapes: To be in

Circle: Discussion

Personal Space: 460 - 1220mm

Social Space: 1220 - 3660mm

Kneeling Person Height: 1025mm

Flexibility: Rising + Expanding table

### Materiality

Induction: Contrast of materials

Human Scaled Materials: Brick

Change: Views over brick horizon

## *Evening Bath*

You have been guided into the night by the sun, that now has left the sky dark. You make your way down into your enclosure. You are surrounded by brick, safe. You run your hand along the wall as you descend to stabilize yourself. You are slowed down by its roughness. You follow the wall past the door, around the soft bend, to the alcove. You kneel beside the hollow, to turn the tap's smooth knobs. You listen as the water rises into the copper tap and out into the void. With your eyes you follow the copper pipe up to the ceiling and imagine the water continuing on to feed the rest of the house. You sit on the edge and lower yourself into the water. Your body molds to the round shape. Your eyes close.

## Rationale

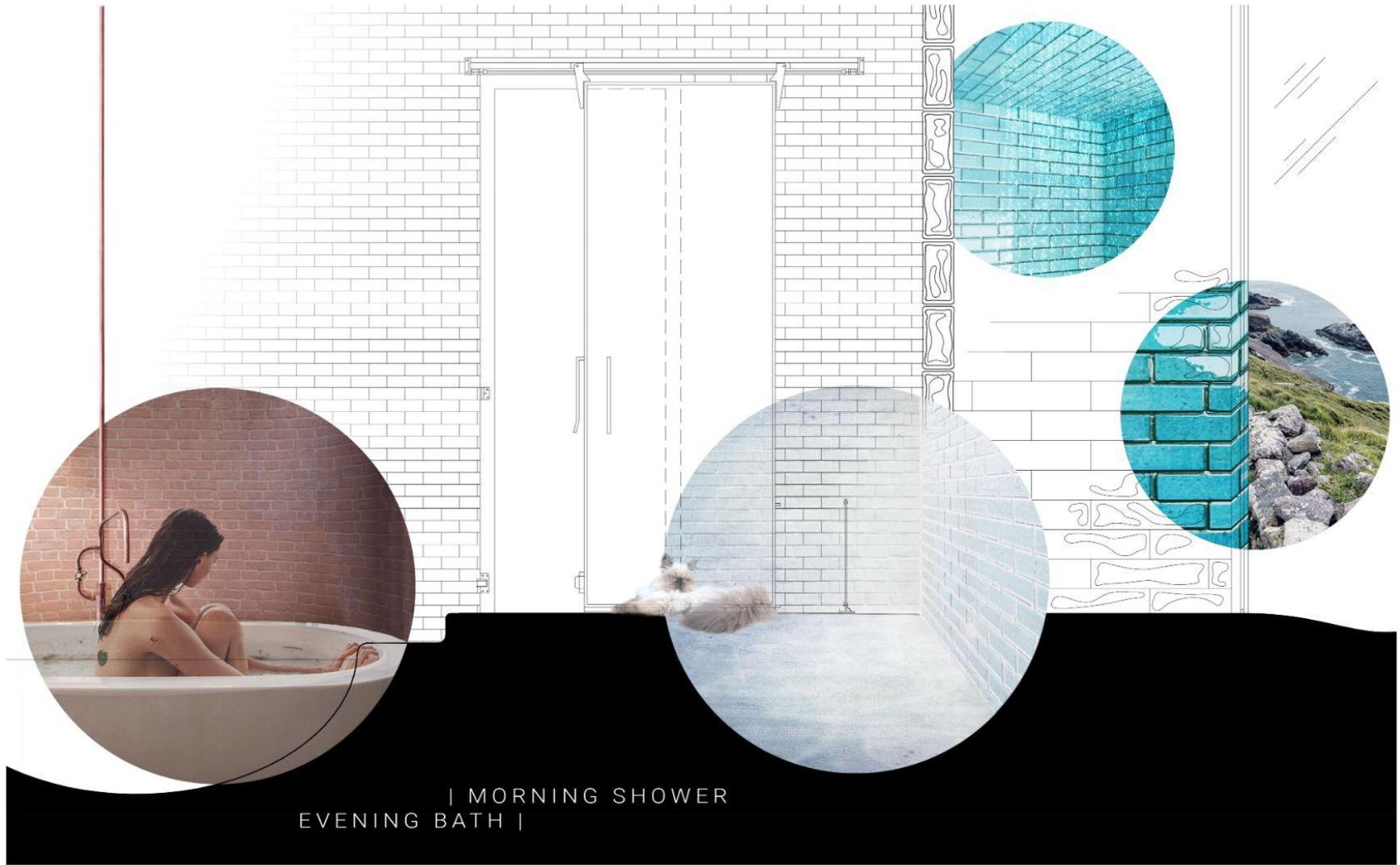
The stairs where the ritual begins are sized to a personal width, and enclosed. The journey down these stairs and down into the bath gives a sense of enclosure. The ritual is centered around a soft alcove, made of brick; a human scaled material. Its brown hues are comforting. Low lighting levels and warm colours should be implemented to create a sense of relaxation and protection. The exposed copper systems create a narrative that should continue through the home.

## *Morning Shower*

It is morning. You step up onto the polished stone floor. The door glides on its tracks. It clicks shut. You are unaware of where the light originates until you turn past the angled glass block wall to see the lively scenery through a clear window. You run your hand up the brick wall, sliding the metal lever along. Rain appears from above, distorting your view of the outside. As you step under, everything is blurry. Looking east, you awaken along with the sun and the birds. The rain slows to a dribble, the last drops echoing on the hard floor as you reach for your towel. It slips off the metal bar. It folds in around you and as you step out the sunlight filters through the glass block behind you. The space softens. You are a clean slate, ready for the day that comes.

## Rationale

The step up to the space initiates the ritual to one of light. The shape of the space is orthogonal to encourage productivity for the day and its size is related to a personal space. The view through the glass changes every day and allows for prospect. The blue - green of the brick is symbolic of life, and stress reducing.



| MORNING SHOWER  
EVENING BATH |

## Applied Psychological Considerations (See Appendix 1)

### Space

Hard Shapes: To do

Soft Shapes: To be in

Personal Space: 460 - 1220mm

Level change: Down to enclosure - Up to light

Refuge + Prospect

### Materiality

Induction: Contrast of materials

Human Scaled Materials: Brick + glass block

Change: View

Exposed Copper Systems: Narrative

### Light

Dappled Light: Relaxing

High Lighting Levels + Cool Colours: Stimulating

Low Lighting Levels + Warm Colours: Relaxation + protection

### Colour

Green: Calming + stress reducing. Symbolic of life

Blue: Expansive + cool

White: Refreshing

Brown: Comforting

## *Meditation*

From your enclosure, you make your way up towards the sky. With each step up the space lightens, structure and walls dissolve and staircases disintegrate. For a moment you are hidden away between two walls; you are accessing a space that only you know about. Ahead the outside is blurred through a glass brick wall. You reach the first step of the final staircase and are turned around on yourself as you ascend, giving you the chance to see the familiar surroundings of your home before emerging into the cosmos. Your bare toes land on blue bricks that echo the colours of the sky. You can feel the rough surface beneath your feet. The scale of the pattern mimics the soft sea of creeping thyme in which it sits. Standing, you see sky and tree tops around you; you are in nature. As you sit

down the ground disappears behind the solid brick of your home; your attention is turned upwards and inwards. With your eyes closed your surroundings dissolve into the sound of waving plants and the smell of flowers.

## Rationale

The journey up from the base of the Home to its apex reflects the lightness of the final space. The evolution of space from heavy to light is done through the contrast of the brick at the base, to steel beams and trusses. The contrast of the outside to the small corridor and staircase, sized to a personal space, emphasises the vastness of the cosmos and the continuum of space from semi-private to private is reassuring. The blue colour of the stone, along with the sky is immersively relaxing, and its pattern is human scaled. Its roughness is understood in relation to the soft bed of plants, the green stress reducing. The brown of the brick walls is comforting.

## *Gardening*

You stand at the top of your home where the blanket of plants returns the Home to nature. You stray from the blue brick path and find yourself surrounded. You lean against the brick wall to steady yourself, wrap your hands around a steel handle that sits against the wall beside you. You pull it up and push it down repeatedly. You can hear water rush up the pipe running up the wall. You follow the sound with your eyes and you see water bubbling out from the tap against the wall. It pours into the watering can. It smells like rain. You walk along the steel planters, leaving behind a trail of water. You return the rain water, collected below over the last week, to its home: the earth, thus becoming a facilitator for the natural cycle and growth around you. You can feel it growing between your toes,

the plants absorbing each step and bounding back up behind you. You reach the end of the brick path, your duty complete. You lift your eyes and see the expanse of tree tops and water. You pause and take a breath. It is all connected. You turn around and as you retrace your steps you gently pick a selection of mature plants that will aid your health. Creeping Charlie, little blue flowers sitting on soft green leaves, attracts bumblebees and is a historically medicinal plant. You will eventually soak its green leaves, fresh or dried, in hot water for 10 minutes, add a small spoonful of honey and a splash of lemon, and drink it as a tea to help your sore throat.<sup>131</sup>

Chamomile: you pick the white and yellow flowers off their green stems. You will make a similar tea out of the handful of

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<sup>131</sup> Laurie Neverman, "Creeping Charlie - Use and Control of the Shade Loving Groundcover," *Common Sense Home*, April 24, 2019, <https://commonsensehome.com/creeping-charlie/#:~:text=improve%20storage%20life.-,Medicinal%20Use,diuretic%2C%20vulnerary%20and%20stimulant%E2%80%9D>.

fresh flowers. You will drink it this evening to soothe any anxiety and help you to sleep.<sup>132</sup> And finally Creeping Red Thyme; its purple and pink flowers cover the ground. Coming from the mint family, the pieces you pick will be used to make a tea or burned as incense with energising and anti-depression results.<sup>133</sup> These plants grow out of their own volition with your home as their foundation. And like that the nature that you support gives back. The cycle of life.

## Rationale

At the top of your home this ritual is one of light. It is connected with the cosmos. The connections continue in the pipes, they trace the Home's water narrative. The natural surroundings and green colours are stress relieving. The planters are linear and angled, emphasising action. The orange hues of the steel and brick are earthy and stimulating.

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<sup>132</sup> Zawn Villines, "What are the benefits of chamomile tea?," *Medical News Today*, January 6, 2020, <https://www.medicalnewstoday.com/articles/320031#benefits-of-chamomile-tea>.

<sup>133</sup> Jo Cosgrove, "Creeping Thyme for Sale - Buying and Growing Guide," *trees.com*, December 2, 2021, <https://www.trees.com/house-plants/creeping-thyme>.



MEDITATION | GARDENING

## Applied Psychological Considerations (See Appendix 1)

### Colour

Blue: Relaxing + Retiring

Green: Calming + stress reducing

Orange: Stimulating + earthy

Brown: Comforting

### Materiality

Induction: Contrast of materials

Human Scaled Materials: Brick + stones

Change: Through seasons - Over time: Steel

Plants: Creeping Red Thyme, Chamomile, Creeping Charlie

### Light

Dappled Light: Relaxing

### Space

Soft Shapes: To be in

Hard Shapes: To do

Personal Space: 460 - 1220mm

Level change: Up to light

Defensible Space: Continuum of spaces from public to semi-public to semi-private to private

Curvilinear lines: life and freedom

Evolving rhythm: rhythm of life

These Rituals, in the spirit of Tao, are not confined. They are the things that happen in your day without thinking. The places your body takes you without direction. They are freedom, they are nature, they are now. The traditional rules of ritual have no place here. Embrace instead what happens in the nothing and lose yourself in the everything.

This is a non exhaustive list of rituals. It is rather a sample, or example. What are your daily rituals? If you close your eyes and imagine them in the same manner what stands out to you? Is it the way the water falls across your hands, the way your fingers intertwine in each other, everytime you wash them in your kitchen sink? Is it sitting down on your patio stones still cool from the night, first thing in the morning, with a hot cup of coffee, letting the sun wash itself on your face? Or

pulling the curtains open to finally let the outside light pour into your home, awakening the space?

How can the architecture of your rituals emphasise them so you can lose yourself in them, if only for a moment.

*Home*

Peace.



Moving parts.

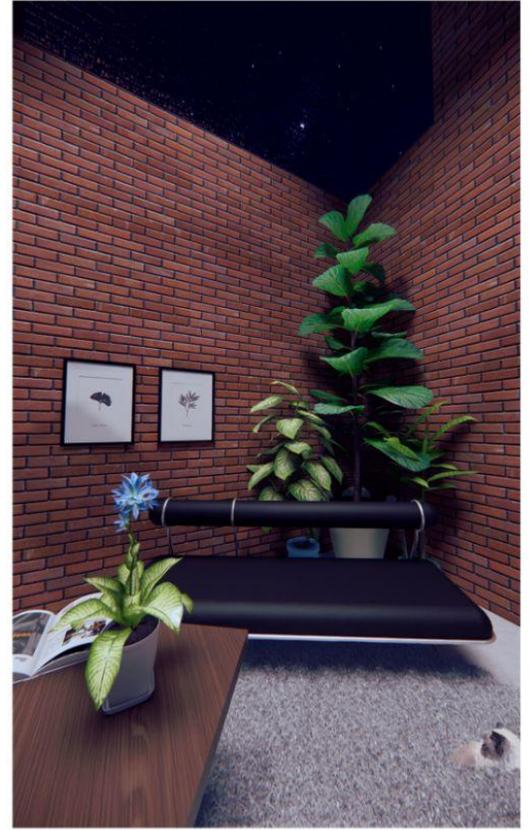
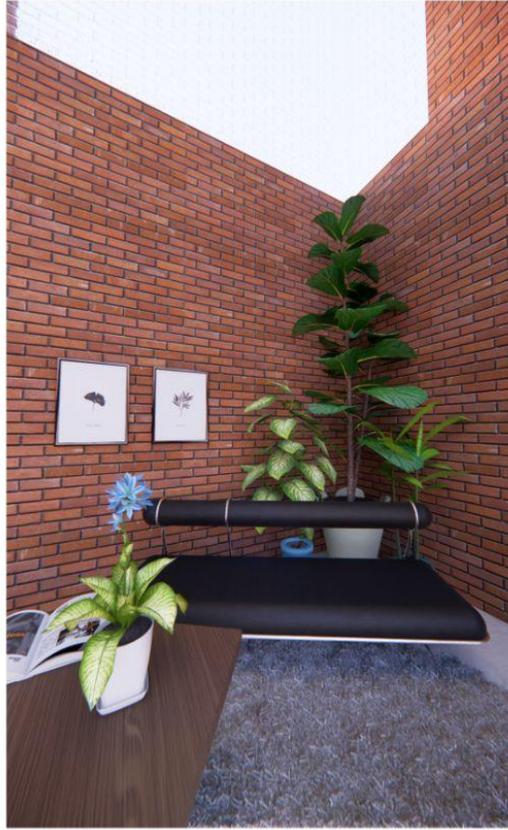


A symphony of voices rings through the Home.



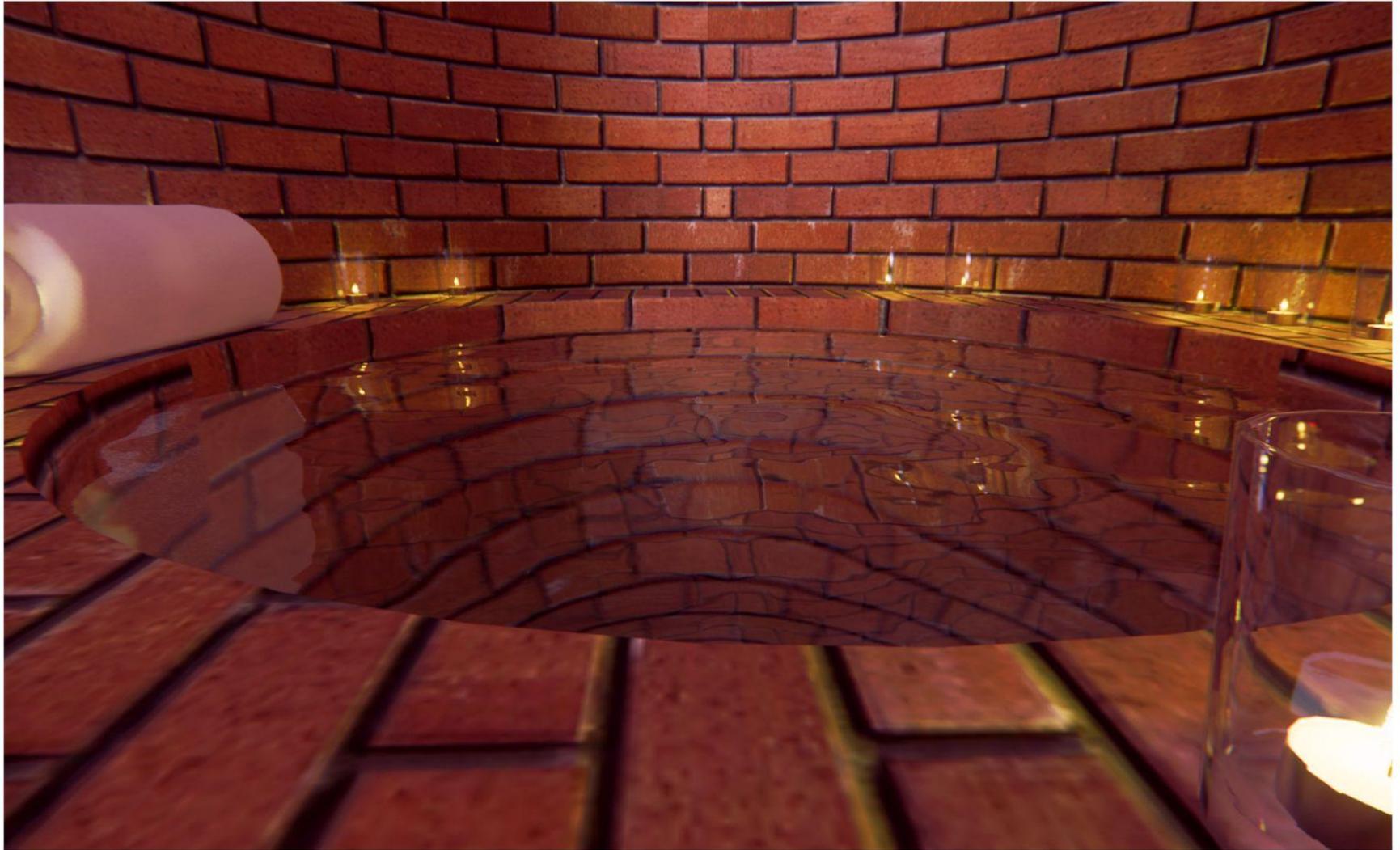
It dissolves into murmuring waves and rustling branches.





The sun moves around the Home, the soft curtain of shadows gliding behind.

The last drop echoes leaving behind a soft silence.



Birds are singing excitement for the new day.



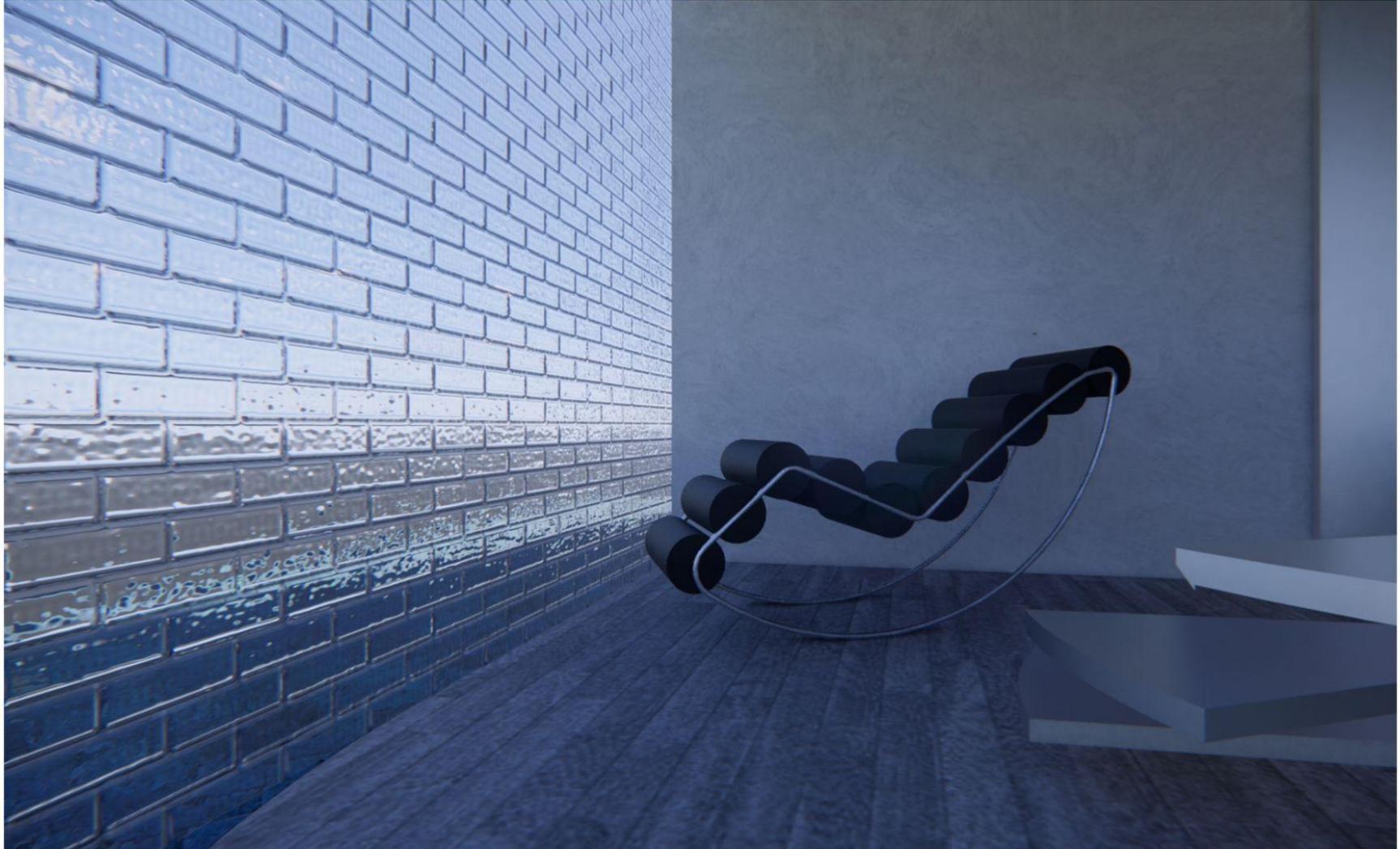


Droplets dance on your skin.

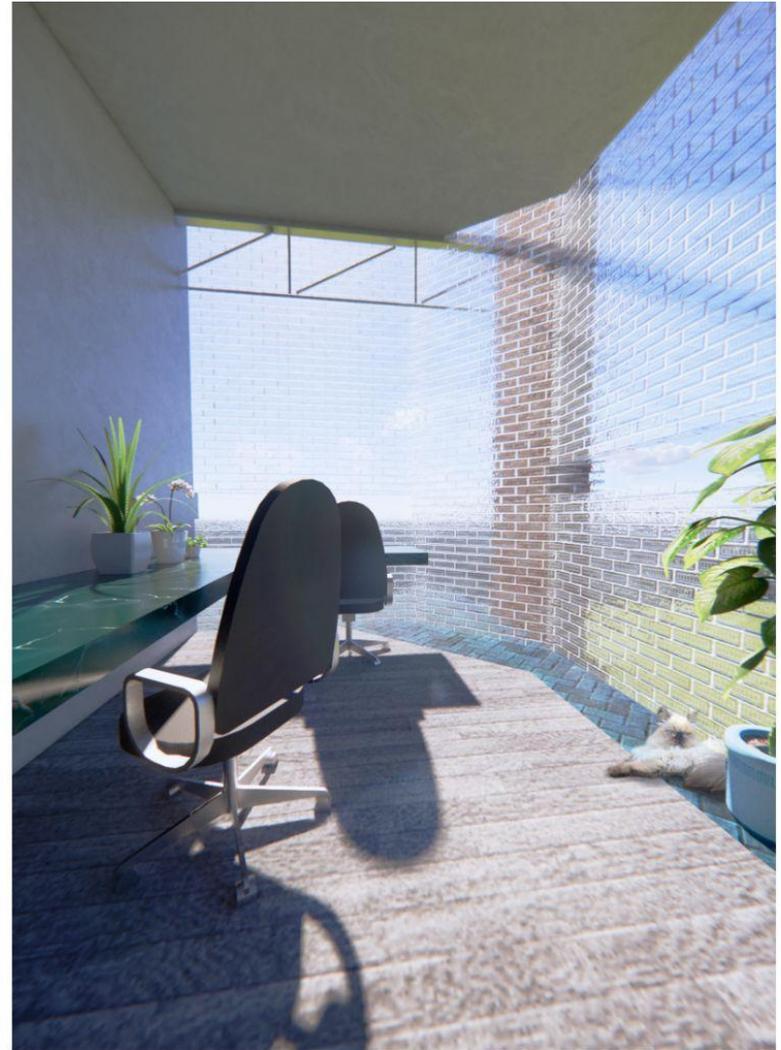
“Consider the significance of silence.”<sup>134</sup>

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<sup>134</sup> Thomas Carlyle as quoted in Josephine Turck Baker, *Art of Conversation: Twelve Golden Rules* (Librivox, 2021).



Focus.



Connected to the earth, at one with Nature.



### *The Video*

The Video that accompanies this thesis follows the depicted rituals through the Home on April 20th 2022, in Stockholm Sweden. It expresses the key ideas of the thesis while framing them in the Home. Clips of the Home in different phases, with its moved walls and furniture, were meshed together to show the Home's changes through the day. The sun moves around the Home, portraying time. Its slow pace and accompanying narrative portrays an atmosphere in itself. One of calmness and serenity. Imagine yourself looking through the camera lens, stepping out from behind the camera, and inhabiting the spaces. Feel the warmth of the sun, or the cool evening breeze. Invite your friends to sit with you around the dining table or on the long couches, sink down into the bath, lay down gently on

the lounge chair and sit quietly to absorb the nature around you in the secret garden. Imagine the Home becoming your own.

Where would you hang your pictures? What would you cook in the kitchen? Where would you drag the furniture to? Would you paint the blank walls? What colour? Who would be there with you?

## *A Detailed Account of the Home*

### *The Site*

The Home regardless of specific site sits in an ever changing context. From day to day, and one season merging into the next. Gaston Bachelard speaks of winter profoundly. “Dreamers like a severe winter. [...] Their own nests will be all the warmer, all the downier, all the better beloved.”<sup>135</sup>

Stockholm, Sweden is the place where I have lived and felt the effect of the changing seasons and their effect on the individual day, most profoundly. I sensed the “increased intimacy of the home when it is besieged by winter. [...] Isn't it true that a pleasant house makes winter more poetic, and

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<sup>135</sup> Gaston Bachelard, *The Poetics of Space*, trans. Maria Jolas (Penguin Books, 2014), 39.

doesn't winter add to the poetry of a house?”<sup>136</sup> Due to its location, during the winter the sun only peeks over the horizon, extending the sunrise and set to the point of touching. The contrast of this day with a summer day, when the sun never truly sets, makes it all the more affective. The city reacts to this phenomenon with a beautiful display of lights. This city also sees the duality of earth and water in its foundations, the qualities of each are enforced by the other. Standing on the land, looking at the water, you start to drift, and finally appreciate the solidity of the ground beneath your feet.

“Everything comes alive when contradictions accumulate.”<sup>137</sup>

The site is at the point of connection between earth, water and sky.

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<sup>136</sup> Ibid, 38.

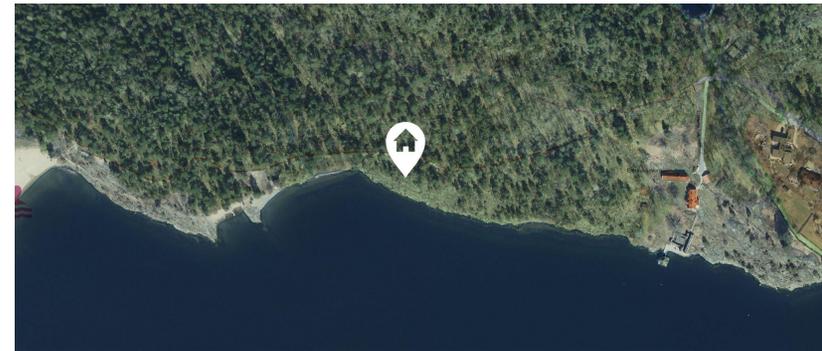
<sup>137</sup> Ibid, 39.

The Site for this thesis is pinpointed in Solsidan, a small residential community in Saltsjöbaden, in the Stockholm County in Sweden. This place is situated south-east of Stockholm, adjacent to a protected green area, connected to the city by a train whose final destination is Solsidan. The town is surrounded by waterways connected to the Stockholm archipelago. It is thus simultaneously connected and separated. The community sustains a kindergarten and high school. The town of Saltsjöbaden is 5.23km<sup>2</sup> and currently has about 9,500 inhabitants.<sup>138</sup> The site is located on the outskirts of the Solsidan residential boundary, past the end of the street Erstaviks kvarnväg, a 250m, 3 minute walk down a pedestrian pathway. It is protected by a forest of trees and encompasses a downward slope towards the water's edge. The topography of

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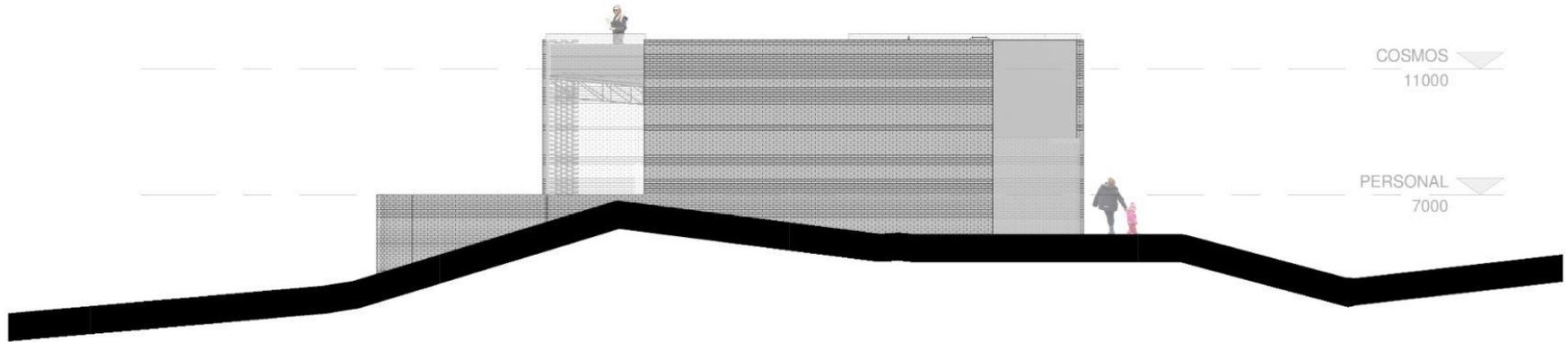
<sup>138</sup> "Solsidan," Mapcarta, <https://mapcarta.com/17696446>.

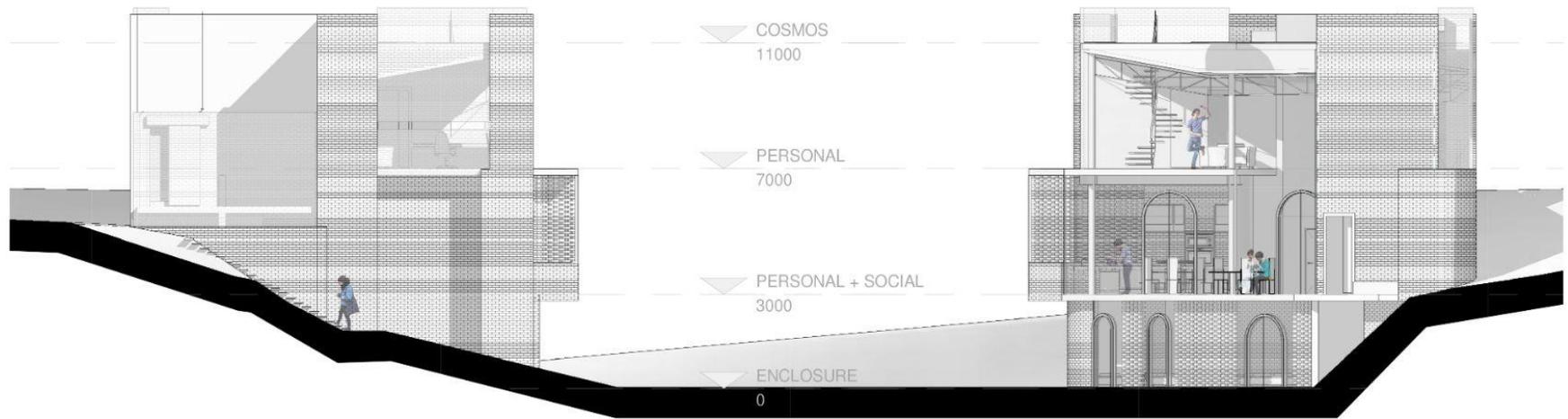
the area surrounding the site protects it from the winter's westerly winds, while allowing the summer southern winds over the water.<sup>139</sup> Figures 6+7: Solsidan. See note 130.



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<sup>139</sup> "Min Karta," Lantmateriet, <https://minkarta.lantmateriet.se/>; "Climate and Average Weather Year Round in Stockholm Sweden," Weather Spark, <https://weatherspark.com/y/84156/Average-Weather-in-Stockholm-Sweden-Year-Round#Figures-WindDirection>.





## *Plans + Analysis*

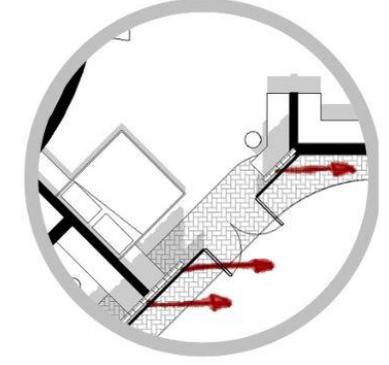
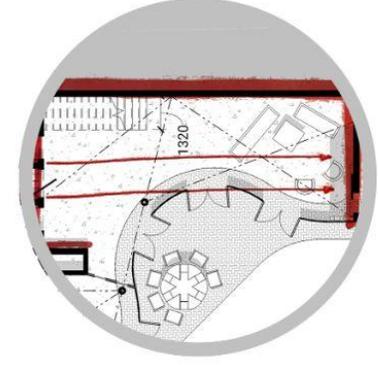
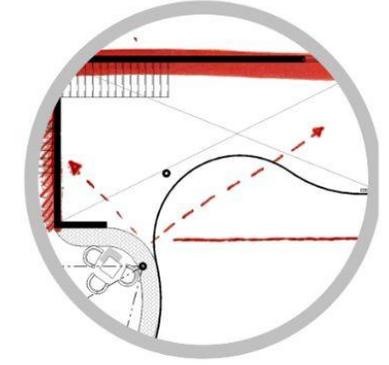
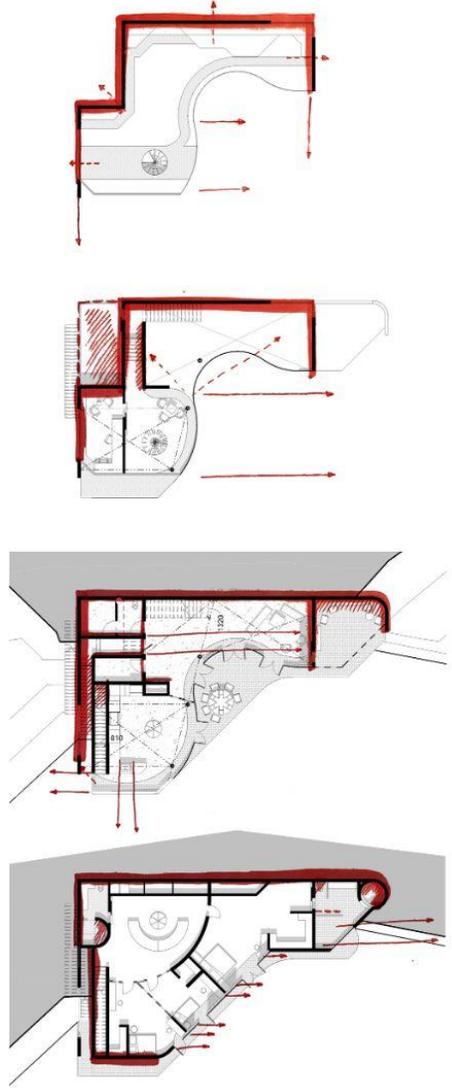
Based on the precedents, foundations and fundamentals, I present the Home. The north and south elevations depict its solidity in the back and openness to the front. The east and west elevations depict the dissolving corners and entry way.

In the spirit of Feng Shui I analyse the Home in its site. This analysis of the Home, with layers describing privacy and views, vegetation, natural and mechanical systems, and movement, of both building and inhabitant, exemplifies the fluid and interwoven relationship between architecture, environment and human.

The first layer documents the solid construction as it relates to privacy and views. The Home is grounded by the solid brick walls that wrap around from the rocks on the north

side, drawing its stability from the hillside as suggested in Feng Shui. Privacy screens of glass brick dissolve the north-west corner to create a smooth transition between the Home and the environment. Feng Shui practices also inform the direct and indirect views. The entry is in line with a solid brick wall, and private spaces within the bathrooms are enclosed by solid walls. The direct views out follow the sun's path; views of the rising sun are drawn from the head of each bed, from the primary shower, and from the meditation spaces on the personal and cosmos levels, and a discrete view of the setting sun peaks out at the corner above the stairs down to the enclosure on the middle level. Surveillance views, denoted by dashed arrows, allow discrete views to entry ways from above.

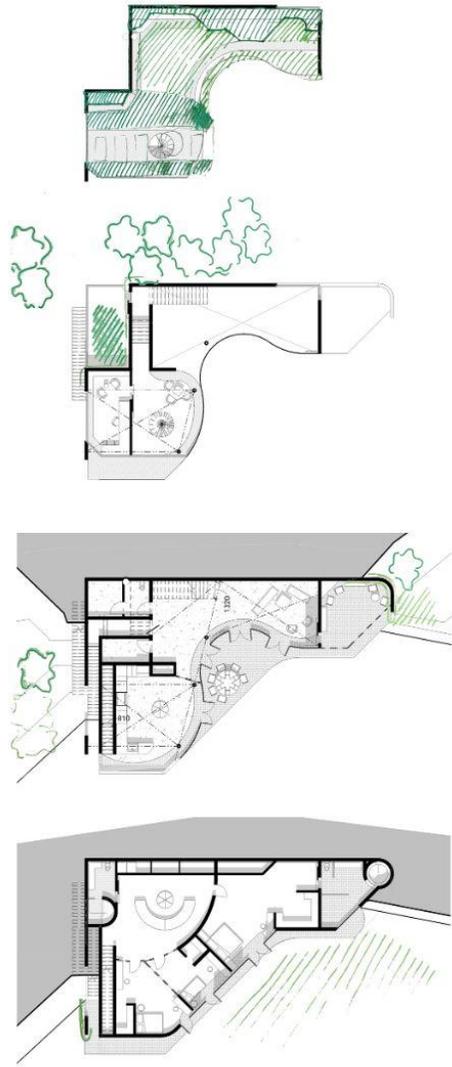
-  Direct views
-  Surveillance
-  Blocked Views
-  Privacy Walls
-  Interior Walls
-  Privacy Screen



The next layer shows the involvement of nature around and into the Home. There are existing coniferous trees about the Home on the north side while coniferous trees and fruit trees are planted near the entry stairs on the west side. Their leafy summertime appearance helps to shadow the surroundings of the Home while their lack of definition in the winter allows the small amount of sunlight to reach the Home. Vines start to grow up the brick walls of the Home at the corners, dissolving the extents of the Home into nature. The Home thus becomes a support for these plants. The ground cover is left in pre-construction condition where possible. The rest is populated by plants that require no intervention. Mosses cover the shadowed, private areas and wildflowers take over the brightly lit areas, their placement dictated by their heights; shorter plants, Creeping Charlie and Creeping Red Thyme in

the roof planters and on the roof around the meditation area to allow for unobstructed views over them, and mainly the taller plants, Chamomile, on the north side of the roof to help enclose the meditation area, and on the lowest levels, up the natural hill to naturally contour the Home. Planters and pots line the exterior walls of the south side of the Home, on both the exterior and interior, where the herringbone brick paving creeps in from the outside spaces. Unlike the ground covers, these are the plants that require maintenance from the inhabitant. Large orthogonal planters would accommodate vegetables, while smaller round ones would house herbs and a variety of flowers and plants, exotic succulents on the inside, perennials on the outside.

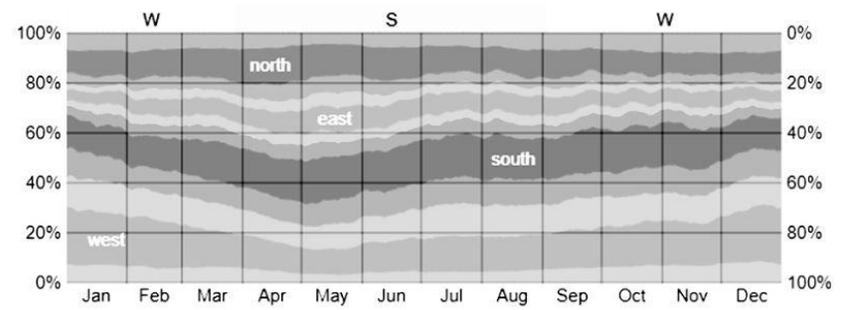
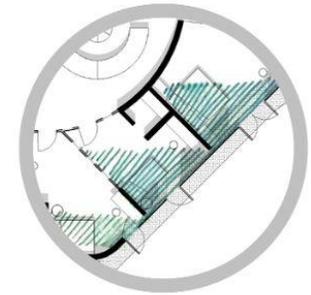
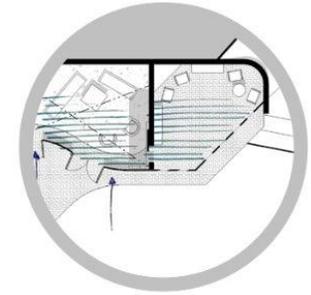
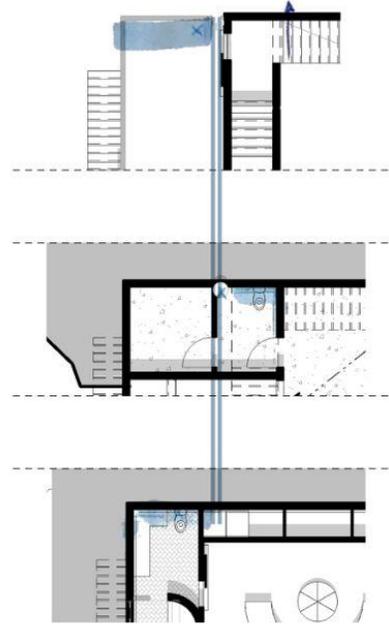
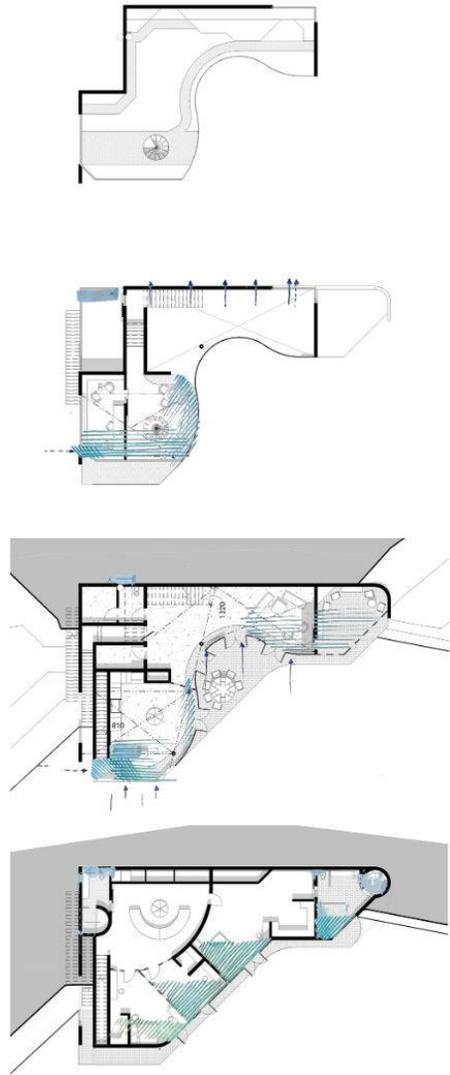
-  Coniferous
-  Deciduous
-  Mosses
-  Grasses + Wildflowers
-  Vines
-  Potted Plants



The following layer depicts the Home's natural and mechanical systems. First, the sun; a natural heating and lighting system. The blue lines show where the sun comes into the Home in the morning from the east, during the day, from the south, and in the evening, from the west. The sun is invited into the more densely occupied portions of the Home, and the heavy brick walls that eventually inhibit its projection collect its energy during the day to be released overnight. The house is designed to take advantage of prevailing winds for natural ventilation and cooling. Since heat rises the entry points are located at the base of the walls that the winds hit first. The fresh outside air blows through the Home and pushes the hot air out at the top of the walls on the opposite side of the Home. In the summertime this occurs along the lines of the southern prevailing winds, and in the winter from the west. The water

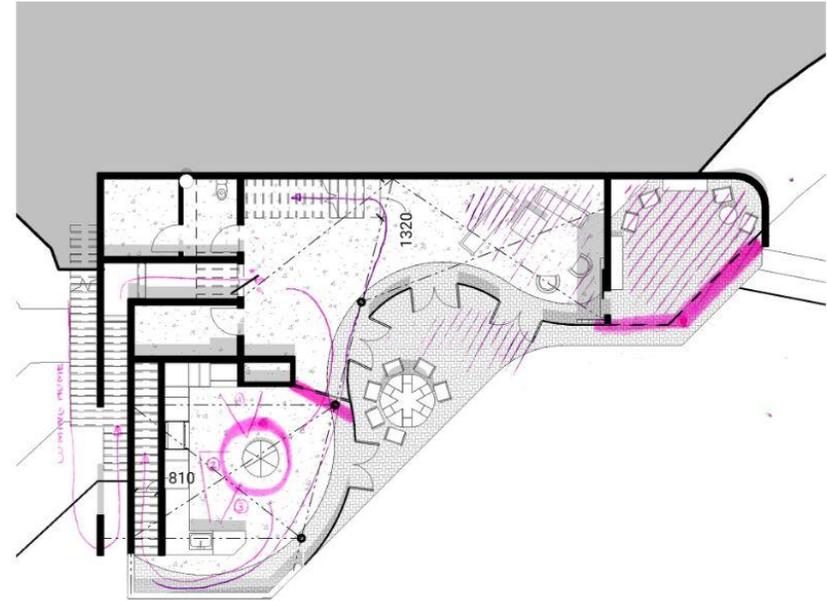
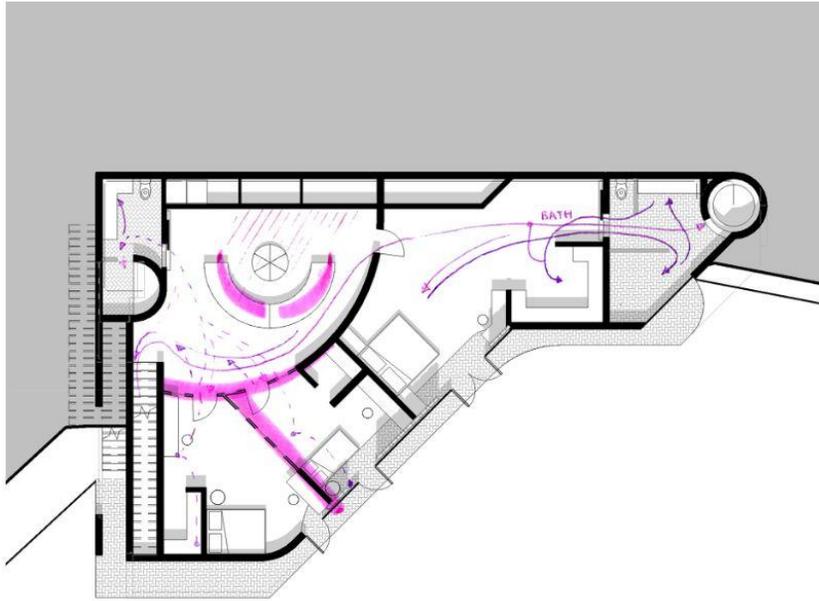
systems connect the rain water collection area in the north-west corner to the plumbing fixtures through the Home by means of pipes that run along the primary walls of the Home.

-  Sun
-  Summer Ventilation
-  Winter Ventilation
-  Water
-  Plumbing Lines
-  Plumbing Stacks



Movement then enlivens the Home. First by the movement of the inhabitant through the Home. Coming home: the inhabitant circles around the Home's north side to find the break in the solid brick wall that invites them to pierce into the Home, within the Home's protective shell. By creating this journey to the entry it mirrors Feng Shui principles, by entering the Home towards the hill. The stairs lead the inhabitant to the front door. Cooking dinner: for efficiency, movement is reduced here to three steps; preparation, the movement between the food storage areas, fridge, and preparation surface; cooking, movement between the preparation surface and the cooking appliances; and cleaning, movement between the eating table and cooking area to the sink and dishwasher. From here a movement line follows the inhabitant down to the bath, and into bed. The morning sees movement from the beds to the

showers and up to the meditation spaces. Hatches designate the places to be in, the moments of pause in contrast to the lines of movement. Their colour shows the private and public areas of this sort. This distinction depicts the smooth transition from public to semi-public to semi-private to private areas. The movements of the inhabitants are enriched by the responsive movement of the Home. In the evening walls close in around the cooking, eating and tea area. The table and chairs move in response to the activities. In the enclosure, the moving bedroom walls allow the space to open up during the day. And finally the private garden closes up during the winter to create an indoor solarium.



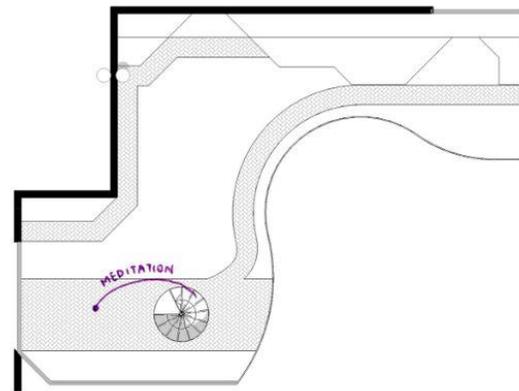
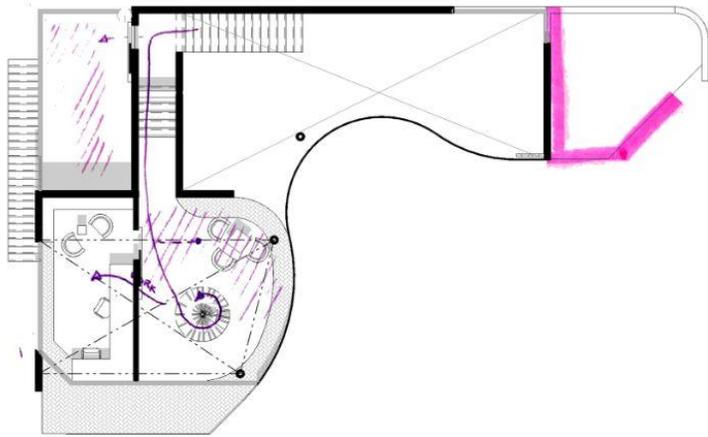
① ④ ⑤ COOKING  
② ③ TEA CEREMONY

-  Evening Movement
-  Alternate Movement
-  Morning Movement
-  Alternate Movement
-  Architecture + Furniture Movement
-  Private Spaces to be in
-  Public Spaces to be in



ENCLOSURE

PERSONAL + SOCIAL

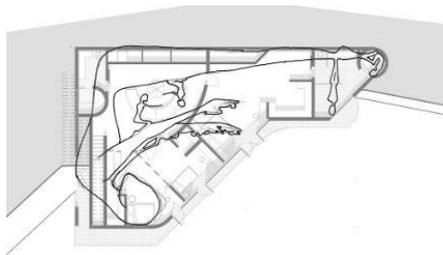
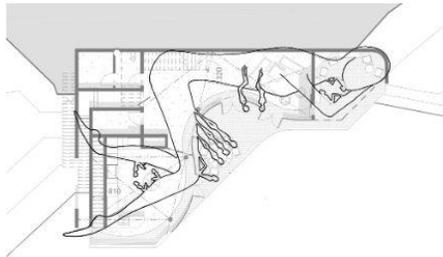
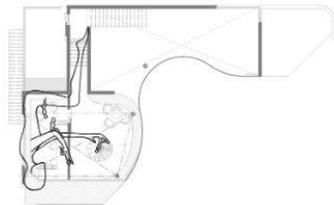
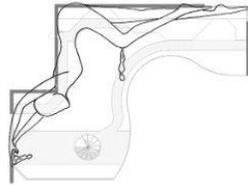


-  Evening Movement
-  Alternate Movement
-  Morning Movement
-  Alternate Movement
-  Architecture + Furniture Movement
-  Private Spaces to be in
-  Public Spaces to be in

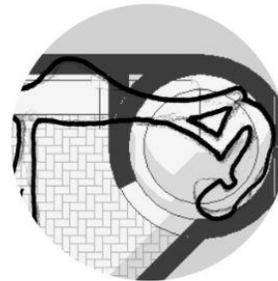
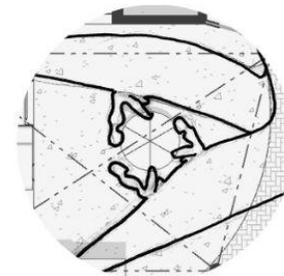
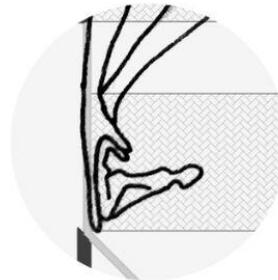


PERSONAL

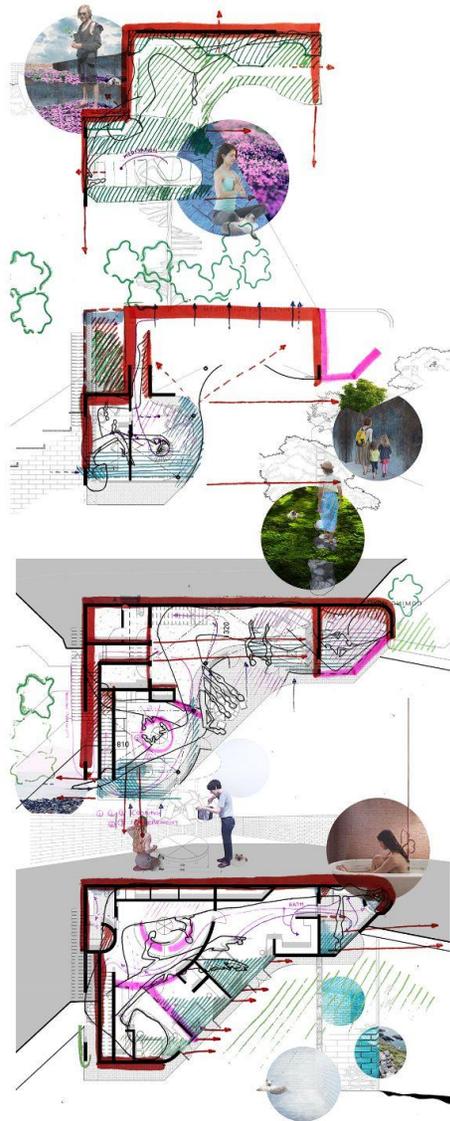
COSMOS



The final layer depicts the Home as human. This mirrors the way in which the human is an essential part of the Home. The Home is nothing without the human. The atmosphere, the experience of the Home, can only occur with the human. In this way the human completes the Home.



-  Direct views
  -  Surveillance
  -  Blocked Views
  -  Privacy Walls
  -  Interior Walls
  -  Privacy Screen
  -  Coniferous
  -  Deciduous
  -  Mosses
  -  Grasses + Wildflowers
  -  Vines
  -  Potted Plants
  -  Sun
  -  Summer Ventilation
  -  Winter Ventilation
  -  Water
  -  Plumbing Lines
  -  Plumbing Stacks
  -  Evening Movement
  -  Alternate Movement
  -  Morning Movement
  -  Alternate Movement
  -  Architecture + Furniture Movement
  -  Private Spaces to be in
  -  Public Spaces to be in
- 



Finally, the renderings of the rituals within the Home unify the layers.

## *Elements*

### Brick + Light

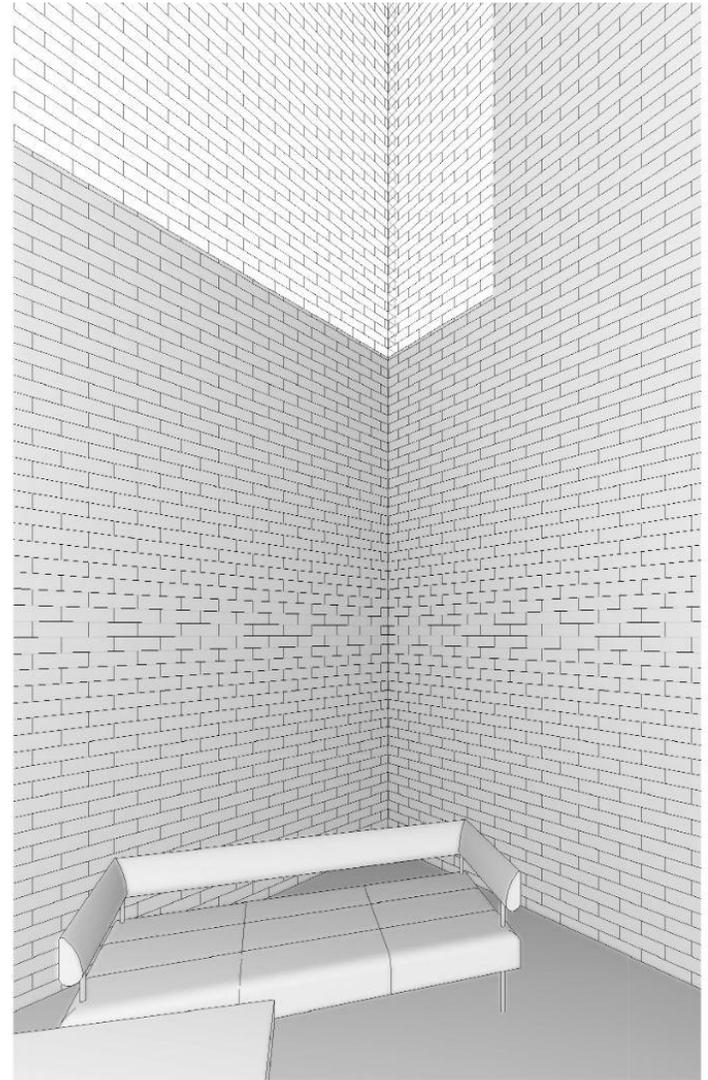
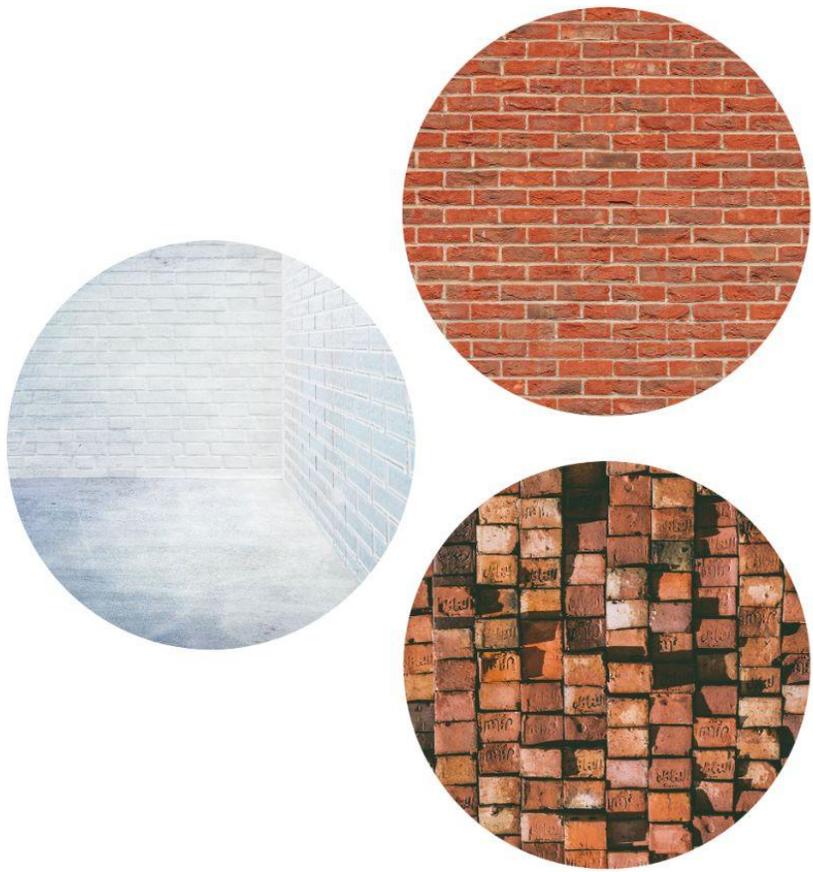
One material, brick, metamorphosizes through the Home to create different conditions. These conditions mature from the relationship between the brick material and light medium. Like humans, it is simultaneously simple and complex. The different types of brick and ways in which it plays with light are used to communicate the Home's status as an intermediary between earth and sky and to fulfill its role as a creator of spaces designed for a variety of activities.

Solid brick is the first standard. Its opaqueness signifies stability, and inhibits both light and view through it. Solid brick is used as a structural and privacy element. It wraps the Home

from the north and around its edges. The solid brick is most prominent where the Home touches the earth, and dissolves as the Home reaches towards the sky and no longer requires the structural support of the earth.

Offset brick, similar to solid brick, is opaque to both light and views. Its irregular surface plays with sunlight in the shadows it casts, creating a greater sense of heaviness. It is used at the base of the Home where it is anchored in the earth.

Glass brick is translucent to light and opaque to views. Dappled light and only vague silhouettes and colours pass through it. Its liquid materiality reminds of water so it is used in the water places where privacy is beneficial and light is celebrated. It encases the showers, and appears at the north-western corner to protect the natural water system. Here it drops below the floor level to let light into the bathroom.

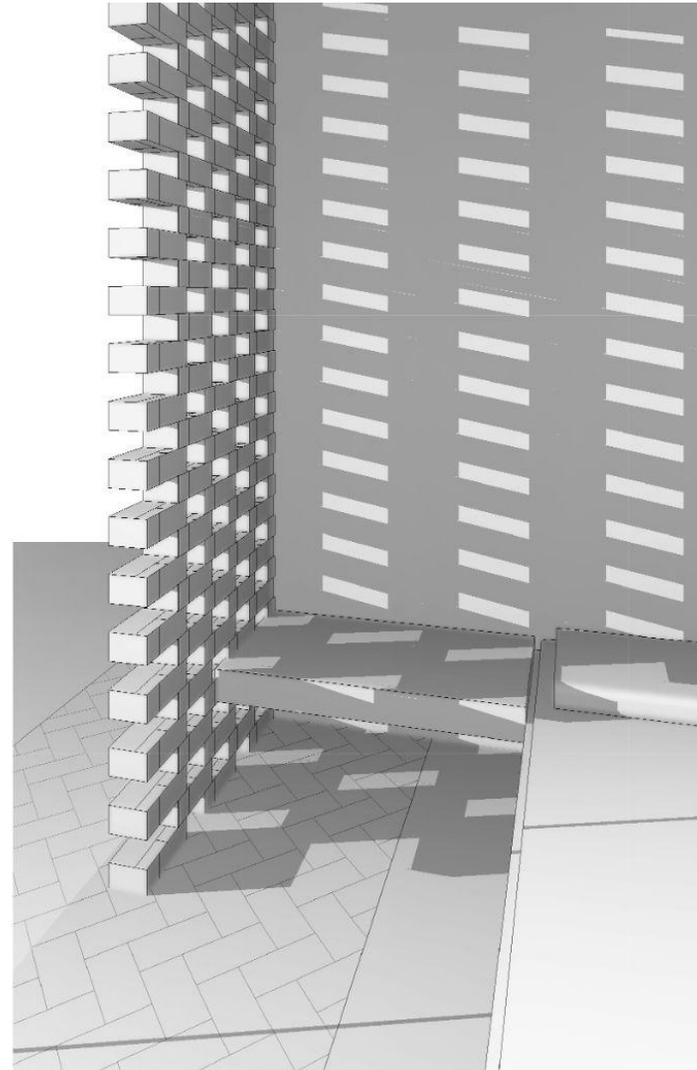
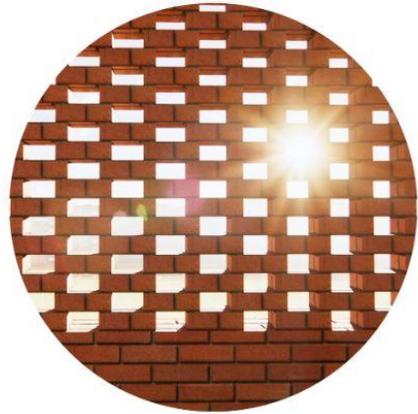


The glass brick appears also where solid brick dissolves into the sky, allowing a light connection between the inside and outside. This occurs around the working area, where specific views out are controlled by the measurements of the sitting and standing human and the dissolved walls allow maximum diffused light into the space for optimal working conditions. Glass brick finally drops down from the cosmos at the north-eastern corner to bring dappled light into the living space without sacrificing the protection of the northern privacy wall.

Staggered brick, often against glass, allows dashed views in and out, and allows sunlight to piece through unevenly, broken up by the pattern of opaqueness and transparency. Its materiality suggests that it grows out of the earth and therefore appears in the enclosure and personal + social levels where the relaxing dappled light and enhanced

enclosure, without complete segregation from the outside, is beneficial, such as in the bedrooms and surrounding the kitchen. It also curls around the south-eastern corner of the Home where a public space to be in, the living room, and a private space to be in, the enclosed garden, meet.

Coloured brick appears in blue hues as a direct contrast to the red brick of the Home. Its colour is chosen in correspondence with its psychological effect, blue being calming and refreshing. Blue herringbone brick paving therefore appears as an intermediary between the outside and inside, breaking down the boundary of the Home and extending the stress relieving aspects of nature into the Home. Blue glass brick occupies the showers as a refreshing element.



## Structure

Structure echoes a similar process. At the enclosure level the Home is grounded and supported by the solid brick. As the structural brick dissolves towards the cosmos, the structure becomes lightweight steel, carried through solid I beams at the intermediary level, and thin trusses at the highest level.



## Water

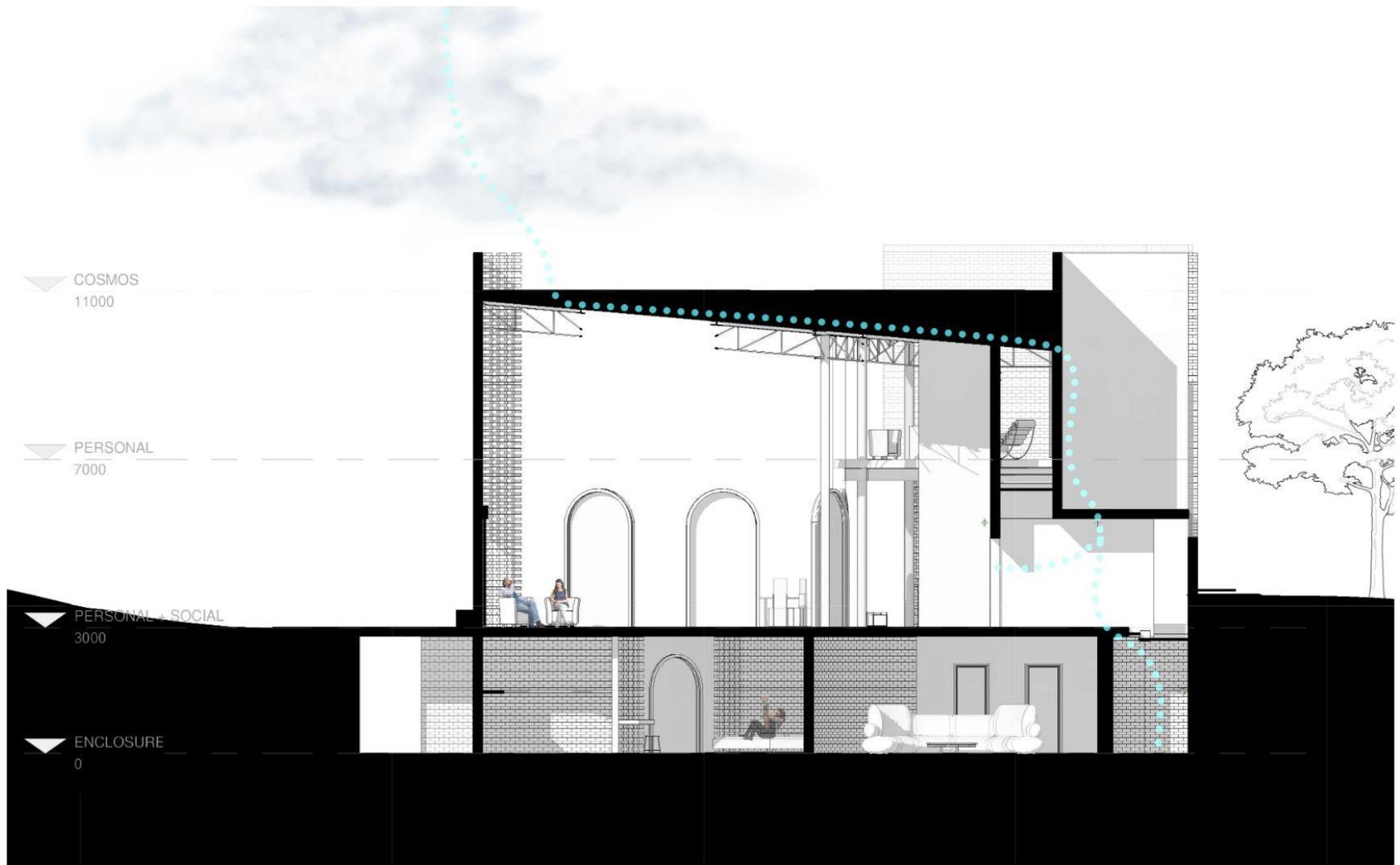
The Home's water narrative is celebrated. Materials in the water places, blue and glass brick, reflect water qualities and exposed piping tracks water through the Home. This narrative begins in nature. Water rains down onto the roof of the Home. It is first absorbed as needed by the plants that cover the roof. The remainder seeps down through layers of earth, sand, wood chips and stones, and runs



down the sloped base to the collection pipes that run the water down the walls of the Home to the quantum disinfection and storage area in the north-west corner of the Home.<sup>140</sup> From here the water runs into the Home and down to the taps in the bathrooms and kitchen. Water that is used then runs into the toilets before being discarded. By creating a cycle of life through the water system, architecture and nature act as one; they support and amplify each other.

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<sup>140</sup> Suditi Bhatt and Akshara Legala, "Natural materials successfully filter greywater." *Society for Science*, July 11, 2017, <https://www.societyforscience.org/blog/natural-materials-successfully-filter-greywater/>; Sean Jennings, "Turning Rainwater into Drinking Water: 3 Ways To Do It." *Homesteadin' Hawai'i*, <https://www.homesteadinhawaii.com/turning-rainwater-into-drinking-water-3-ways-to-do-it/>; "Quantum Disinfection," US Water Systems.com, <https://www.uswatersystems.com/systems/disinfection/quantum-disinfection>.



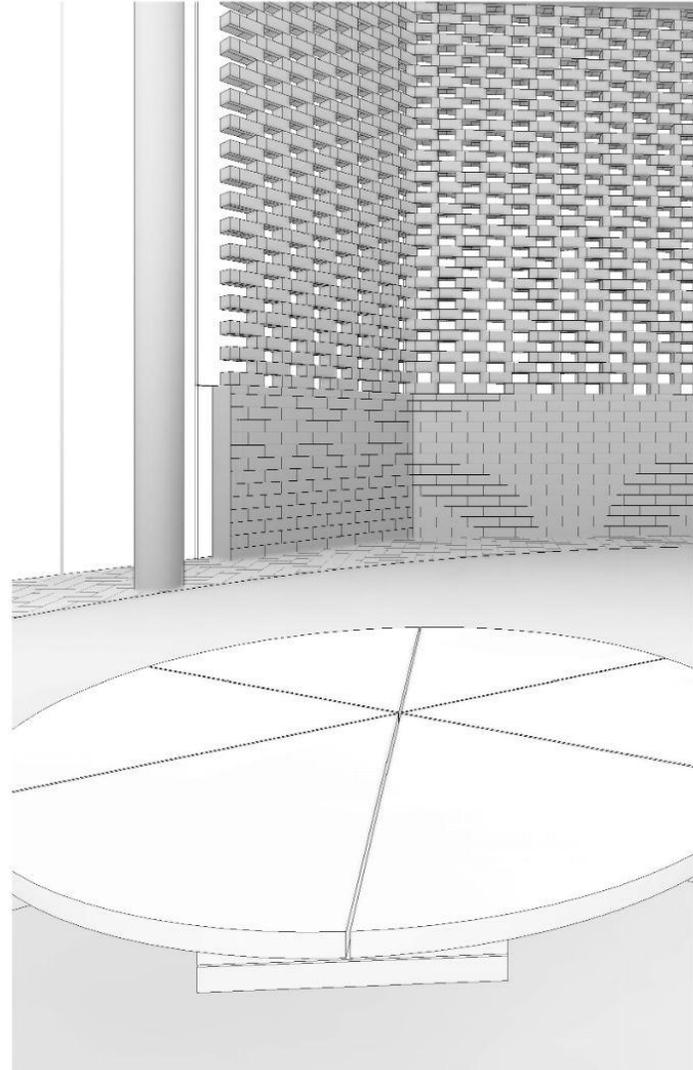
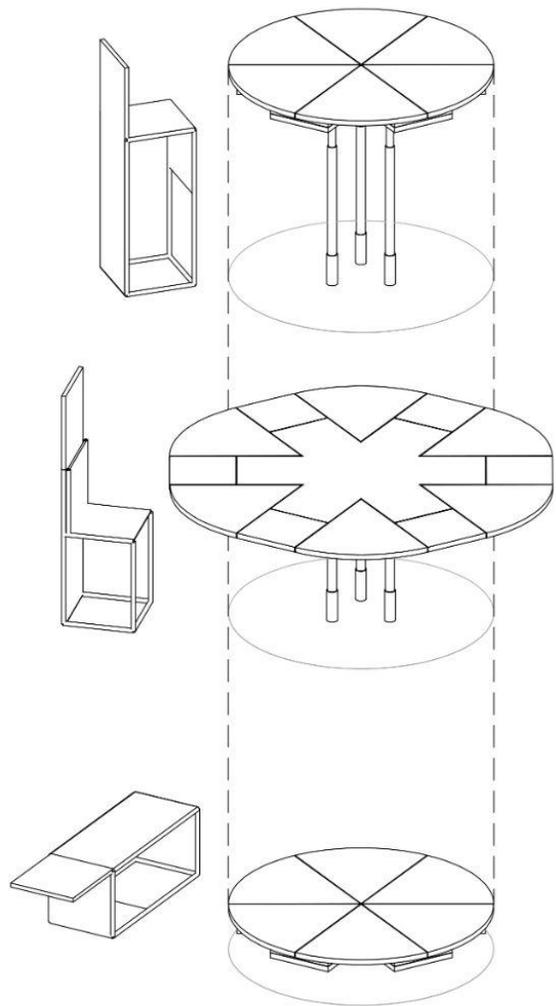
## Furniture

The Home's furniture is designed in tandem with the Home according to the same fundamentals. It is an integral part of the Home's functioning and alters the atmosphere.

The Tea Table is an adjustable table that is the centrepiece of the kitchen. Its collapsable legs, and double table top allow it to be manipulated to suit the desires of the inhabitant in the present moment. During the Tea Ceremony the table drops down to the ground and folds into itself to create an intimate atmosphere at kneeling level. For eating the table sits at mid height and expands to accommodate the whole family in social interaction. Finally it stretches upwards to become a preparation station for cooking. At any level its wings can be deployed individually, as needed. Its wooden

table top is warm to the touch and is supported by delicate steel legs that evoke movement and echo the steel tracks and hinges that allow the table top to breathe.

The kitchen chairs are foldable and turnable to suit the table's movement. At their tallest they act as a bar stool, a seat for use during dinner preparations. Their top corner folds in to create a dining chair with a straight back and seat, and finally, turned on their side they become benches or shelves for the kneeling human.



Darthy

Feng Shui sees the benefit of animals in a human's life. Their presence can lower blood pressure and heart rate. They elicit speech and are conducive to social interactions between humans.<sup>141</sup> Darthy, a small but extremely fluffy persian cat appears throughout the Home's rituals as a personal reflection on the importance of animals in the Home. To me she is an essential part of my Home. She greets me at the front door when I arrive, and runs up the stairs to my bedroom, jumping onto the bed, ready for affection. When I have a shower she waits for me in the bathroom, lying down on the bathmat. I open the shower curtain and she speaks to me expectantly, asking for her daily brush. I talk back to her, assuring her I

haven't forgotten. At night she sleeps beside my head, and during the day on a chair nearby. I need only look at her, comfortably curled up on a permanent bed of fur, to feel instantly more relaxed.

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<sup>141</sup> Bramble, *Architect's Guide to Feng Shui : Exploding the Myth*, 112.

### *Further Work*

Environmental psychology, the primary informant for the “Glossary”, is a relatively new field of psychology. The amount of research conducted is therefore limited. As studies and research papers are published, the “Glossary” should be updated. The “Glossary” and the thesis of the ritual may be continually referred to in future design work as a guide for psychologically positive design.

*Appendix 1: Glossary for the Meaningful Design of  
Atmospheres*

*Light*

Measured as bright/dim, uniform/non-uniform,  
central/perimeter, warm/cool; subjective.<sup>142</sup>

Light Level:

<2000lx: reduced perceived quality, reduced detection rate.

Illumination at 2000lx: greatest perceived quality, good  
detection rate.

>2000lx: reduced perceived quality, increased detection rate.<sup>143</sup>

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<sup>142</sup> Rikard Küller et al., “The Impact of Light and Colour on Psychological Mood: a Cross-Cultural Study of Indoor Work Environments,” *Ergonomics* 49, no. 14 (November 15, 2006): 1496–1507; Tomassoni, Rosella, Giuseppe Galetta and Eugenia Treglia, “Psychology of Light: How Light Influences the Health and Psyche,” *Psychology*. 6 (2015): 1216-1222.

<sup>143</sup> Peter R. Boyce, *Human Factors in Lighting*, 3rd ed. (Boca Raton, Florida: CRC Press, 2015).

Health and safety: “enhance the levels of lighting where needed, it should also be easy to control and adjust... Maximize the daylight availability through opening (windows - doors) dimensions, materials and design.”<sup>144</sup> )

Circadian Rhythm: higher lighting levels; inhibits production of melatonin; higher concentration. Blue light; increases production of melatonin. Red light; inhibits production of melatonin.<sup>145</sup>

Higher intensity; higher level of concentration/attention;  
greater emotional response<sup>146</sup>

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<sup>144</sup> Heba-Talla Hamdy Mahmoud, “Interior Architectural Elements That Affect Human Psychology and Behavior,” *ARChive*, Vol. 1, No. 1, (October 19, 2017).

<sup>145</sup> Tomassoni, Galetta and Treglia, “Psychology of Light: How Light Influences the Health and Psyche.”

<sup>146</sup> Ibid.

Light colour:<sup>147</sup>

Perceived temperature: colored light; warm/cool

Low lighting + warm colours: (lobbies, hospitals) relaxation and evoke a sense of protection and hospitality

High lighting + cool colour: (a production or competitive environment) stimulate a greater work efficiency and productivity, but also aggressiveness and competition

Light System:

Adjustable task lighting: Improves mood and task performance<sup>148</sup>

Controllable light: greater aesthetic appreciation<sup>149</sup>

Lighting system: Electronic ballast, task lighting and direct ambient combination, louvre door type<sup>150</sup>

Dappled light: relaxing<sup>151</sup>

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<sup>147</sup> Ibid.

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<sup>148</sup> Peter R. Boyce, Neil H Eklund and S. Noel Simpson, "Individual Lighting Control: Task Performance, Mood, and Illuminance," *Journal of the Illuminating Engineering Society* 29, no. 1 (January 1, 2000): 131–142.

<sup>149</sup> Tomassoni, Galetta and Treglia, "Psychology of Light: How Light Influences the Health and Psyche."

<sup>150</sup> Jennifer Veitch and G.R. Newsham, "Lighting Quality and Energy-Efficiency Effects on Task Performance, Mood, Health, Satisfaction, and Comfort," *Journal of the Illuminating Engineering Society* 27, no. 1 (January 1, 1998): 107–129.

<sup>151</sup> Sally Augustin, Neil Frankel and Cindy Coleman, *Place advantage: Applied psychology for interior architecture* (John Wiley & Sons, 2009).

## Colour

Measured by a colour's given name.

Colour Table<sup>152</sup>

Hue	Effect	Description
Red	Exciting Less Error in certain tasks Highly distracting Causes avoidance behaviour (when used as warning cue)	- An emphatic colour - Signifies danger and romance - Increases rate of respiration and raises blood pressure - Makes people hungry - Grabs people's attention - Excitement and strength - Courage and conviction
Blue	Relaxing Retiring Highest rating for performing environment Minimizes attention or concentration Drowsy and sleepy effect	- Associated with sky and ocean - Calming, expansive and cool - Helps in deep concentration - Comfort and ease - Slows heart rate, suppresses hunger and reduces blood pressure - Harmony and truthfulness - Appears fresh and unpretentious
Yellow	Cheering	- Most reflective, perceived quickly - Increases cardiopulmonary activity - Cheer, mild stimulation, open, expansive - Wealth,

<sup>152</sup> S.N. Kamaruzzaman and E.M.A. Zawawi, "Influence of Employees' Perceptions of Colour Preferences on Productivity in Malaysia Office Buildings," *Journal of Sustainable Development*, 3(3) (2010); Nurlawati Ab. Jalil, Rodzyah Mohd Yanus and Normahdiah S. Said, "Environmental Colour Impact upon Human Behaviour: A Review," *Procedia - Social and Behavioral Sciences* 35 (2012).

		intelligence, attention getter - Cowardice, weakness - Spiritual enlightenment
Green	Relaxing Retiring Calming Stress Reducing	- Symbolic of life, fertility and rebirth - Relaxes people, good for speech development, good for meditation - Natural colours of grass and trees - Calming and restful to eyes - “Go” signal - Filtering out distraction
Purple	Subduing	- Good for inner thought - Mystical, threatening (deep) - Magical, playful, light (pale) - Luxury, grandeur
Orange	Stimulating	- Happy commercial implications - Restful, earthy, natural, soothing - Radiant, glowing, balanced - Excitement, fire, danger, heat
Brown	Depressing	- Calm, comforting, simple - Depressive, drab - Poverty, nature, stability
White	Neutralizing “The white effect”	- Purity, blankness, boredom - Simplicity, clarity, refreshing, clean - Hope, air, open, spacious feeling - Strain on eyes
Black	Depressing	- Classic - Strength, seriousness, dignity - Depression, fear - Mysterious, sorrowful, mourning - Evil
Grey	Neutralizing Retiring Minimizes attention or concentration	- Neutral - Ominous, depressive - Strong emotions - Respect, stability - Rarely offensive

Working environment: while a colourful work environment can lead to higher emotional status, very strong colours can have undesirable effects.<sup>153</sup>

Age: preference for bright colours decreases with age.<sup>154</sup>

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<sup>153</sup> Rikard Küller et al., "The Impact of Light and Colour on Psychological Mood: a Cross-Cultural Study of Indoor Work Environments," *Ergonomics* 49, no. 14 (November 15, 2006).

<sup>154</sup> Royal W. Van Horn, "Environmental Psychology: Hints of a New Technology?" *The Phi Delta Kappan* 61, no. 10 (1980).

## Space

Measured by dimensions and shapes.

Space should be designed according to “the four categories of space”\*:<sup>155</sup>

- Intimate Space: < 18”
- Personal Space: 1.5 - 4’
- Social Space: 4 - 12’
- Public Space: 12 - 25’

\* The specific dimensions vary with culture.<sup>156</sup>

This “general guidance can be performed through using space sizing and organizing with vertical, horizontal boundaries, partitions and conversation shields.”

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<sup>155</sup> Hamdy Mahmoud, “Interior Architectural Elements That Affect Human Psychology and Behavior.”

<sup>156</sup> Howard Frumkin, “Chapter 9: Environmental Psychology” in *Environmental Health : from Global to Local*, 3rd ed. (San Francisco, California: Jossey-Bass, 2017).

For a sense of health and safety:<sup>157</sup>

- Implement convenient entrances
- Avoid sudden changes of level

Sociopetal configuration: flexible

Sociofugal configuration: fixed<sup>158</sup>

Focal point for social interaction should:<sup>159</sup>

- Be an activity generator
- Be centrally located
- Function as neutral territories
- Include sociopetal furnishing
- Provide a visual prospect

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<sup>157</sup> Hamdy Mahmoud, “Interior Architectural Elements That Affect Human Psychology and Behavior.”

<sup>158</sup> Frumkin, “Chapter 9: Environmental Psychology.”

<sup>159</sup> Ibid.

Open plan layout: increased communication, spontaneous engagement; high levels of distraction<sup>160</sup>

For wayfinding and legibility:<sup>161</sup>

- Simple, regular shapes
- View from interior to exterior
- Interior landmarks at decision points
- Circulation paths aligned with building facades

For defensible space, signals and symbols of territoriality:<sup>162</sup>

- “Enhance a sense of territoriality and create social legibility with communal spaces and entries that are shared by only a few families

- Use environmental design elements to create a continuum of spaces from public to semi-public to semi-private to private.
- Limit the scale of buildings to three to five floors
- Increase visual surveillance
- Foster an ambience of caring”

Refuge space: lower ceiling, dimmer light (refuge), adjacent to brighter light, higher ceiling (prospect)

- Men: prospect > refuge
- Women: refuge < prospect.<sup>163</sup>

For maximum, optimum and continued utilization of a space: the design of the space and furniture in the space should be flexible and changeable.<sup>164</sup>

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<sup>163</sup> Sally Augustin, Neil Frankel and Cindy Coleman, *Place advantage: Applied psychology for interior architecture* (John Wiley & Sons, 2009).

<sup>164</sup> Hamdy Mahmoud, “Interior Architectural Elements That Affect Human Psychology and Behavior;” Augustin, Frankel and Coleman, *Place advantage: Applied psychology for interior architecture*.

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<sup>160</sup> Ibid.

<sup>161</sup> Ibid.

<sup>162</sup> Ibid.

Shapes:<sup>165</sup>

Rectangular grid planning: order

Rectangle: 'life sapping characteristics'

Straight lines: of power, forms of status. Relationship of tension between hard objects

Curvilinear lines: life and freedom

Level changes (ground or ceiling): up to light, down to enclosure

Angles: acute: uncomfortable and confining inside, arrow aggressively outside; obtuse: inviting inside, gentle outside.

For firmness; 1-2 right angles

Soft shapes: to be in

Hard shapes: to do. Firmness is orienting

Ellipse: oneness and twoness: hierarchical with democratic pretensions

Trapezium: power concentrating and practical

Circle: discussion

Segments of circle arc: static

Accelerating decelerating curves: tension between straightness and curve

Catenary curves: grow out of the energy latent in the lines at either end

Unevolving repetition: oppressive

Evolving rhythm: rhythm of life.

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<sup>165</sup> Christopher Day, *Places of the Soul: Architecture and Environmental Design as Healing Art*, 2nd ed. (Burlington: Architectural Press, 2004), 105-140.

## Materiality

Measured by material.

Wood:<sup>166</sup> most beneficial: some degree of homogeneity and

harmony in the structure.

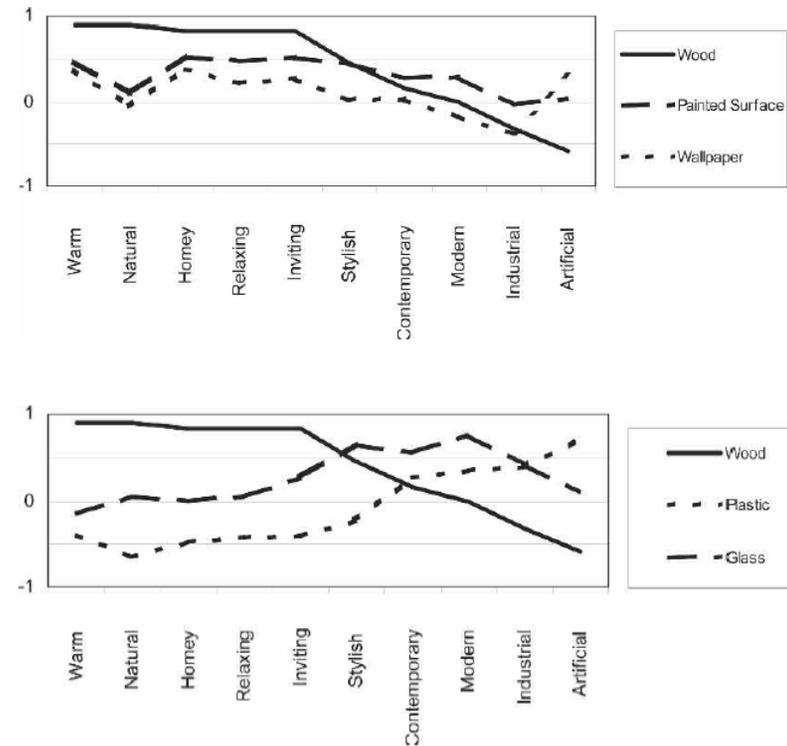
Preferred because of its ‘naturalness’

Nature: incorporate through direct contact, indirect contact, and simulations.<sup>167</sup>

<sup>166</sup> Anders Nyrud and Tina Bringslimark, “Is Interior Wood Use Psychologically Beneficial? Review of Psychological Responses Towards Wood,” *Wood and Fiber Science* (October 2009).

<sup>167</sup> Hamdy Mahmoud, “Interior Architectural Elements That Affect Human Psychology and Behavior.”

Perceived Properties of Materials<sup>168</sup>



<sup>168</sup> J. Rice et al., “Appearance wood products and psychological well-being,” *Wood and Fiber Science* 38(4) (2006).

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