

Spirituality, void and shadows

a spiritual path in place in Pretoria Inner City

tian hui kim guan

university of pretoria
department of architecture

2020



*In my ten-foot bamboo hut this spring,
There is nothing: there is everything.*

- Sodo, translated by Stewart (1963)

I did not do this alone...

爸爸妈妈,

谢谢你树立了一份努力工作的榜样, 并不断推动
我改善自己。我将永远记住这一点。

My Lulu, my master builder, thank you for your incomparable love and support. You've taught me to trust as well as forgive myself. Together, we will grow.

Mummy, Daddy, Bradley, Robin, my other master builders, thank you for your warmth and the reminders of the power of prayer. You are my place of refuge.

Johan, thank you for your unwavering belief in me. I am grateful for your guidance, patience and time. You have supported me ways which words cannot express.

Martin and Chantal, thank you for your support and providing me with the real-world experience and encouraging me to dream.

Frampton, Hayley, Miliswa, Thelma, Yan, Yj, thank you for sharing this journey with me. My heart is full knowing that I have you for life. This is for us.

*The will of God will not take you to where
the grace of God will not protect you.*

Boineelo, Marwa, Santhuri, Shakira, Tumi, thank you for being the glimmers of light through the dark nights.

All glory to God.

Thank you.

Spirituality, void and shadows

a spiritual path and place in Pretoria Inner City



Declaration

In accordance with Regulation 4[e] of the General Regulations [G.57] for dissertations and theses, I, Tian Hui Kim Guan, declare that this thesis, which is hereby submitted forth degree Masters of Architecture (Professional) at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution. I further state that no part of my thesis has already been, or is currently being, submitted for any such degree, diploma or any other qualification.

I further declare that this thesis is substantially my own work. Where reference is made to the works of others, the extent to which that work has been used is indicated and fully acknowledged in the text and list of references.



Tian Hui Kim Guan

13035381

2020

study leader: Johan Swart
year co-ordinator: Arthur Barker

Submitted in fulfilment of part of the requirements
for the degree of Magister of Architecture, MArch(Prof)
to the Faculty of Engineering, Built Environment and
Information Technology.

University of Pretoria
Pretoria, South Africa

2020

abstract

The dissertation is an investigation of the potential inherent in creating a spiritually experiential and ritualistic path and place within Pretoria Central. It challenges the conventional typology of religious spaces and their engagement with the city and its inhabitants, reasserting the role of spiritual practice amongst everyday activities.

As a result of rapid and poor urban planning, our cities are faced with an increase in lost spaces and a lack of open lots that can be developed. If we do not address these issues when designing within the city the current conditions will be further exacerbated, leaving more voids within the urban grain. The intention is to rehabilitate the existing voids by turning them into places that nurture human consciousness and provide an opportunity for reflection, thereby adding purpose and exposure to spaces that are often unseen or overlooked.

The experience of spirituality and the void will be enhanced by the play of shadows, owing to their qualitative and temporal attributes, which will assist the visitors embarking on a spiritual path to connect with themselves, others, the environment, and the beyond.

The three themes; spirituality, the void and the shadows, form a conceptual framework to initiate a ritualistic path and place as expressed through architecture.

Site:

*Pretoria Central Buisness District
Queen Street interstitial
Pretoria Central
Erf 3492, R/2896, 2/2896
S25.745579, E28.191029*

Programme:

Spiritual space in the interstitial, integrating with the everyday activities of Pretoria inner city

Research Fieds:

Heritage and Cultural Landscapes,

contents

1 introduction

page no. content

- 3 1-1 a threefold purpose
- 4 1-2 the queen street void
- 5 1-3 uncovering: spirituality, void, and shadows
- 6 1-4 problem and intention
- 7 1-5 methodology

2 spirituality

page no. content

- 11 part 1: the sacred past
- 16 2-1 decline in religiosity
- 17 2-2 typological challenges
- 18 2-3 towards a spiritual city
- 19 part 2: spirituality and place
- 21 2-2-2 path and place
- 27 concl: towards a spiritual path and place

3 void

page no. content

- 31 part 1: understanding the void
- 32 3-1-1 the urban gaps
- 35 3-1-2 pretoria inner city change
- 37 3-1-3 potential in voids
- 38 3-1-4 the search for a suitable void
- 43 part 2: the queen street void
- 47 3-2-1 the physical fabric
- 49 3-2-2 the historic fabric
- 51 3-2-3 the city characters
- 53 3-2-4 the anchor: queen street mosque
- 57 concl: towards a spiritual path and place in the city

4 shadows

page no. content

- 61 part 1: a study of the darkness
- 63 4-1 from darkness to light
- 65 4-2 contribution to spirituality and the void
- 67 part 2: dwelling within the shadows
- 69 4-2-1 containment of the shadow: place-making
- 71 4-2-2 shadow as mass: form-making
- 73 4-2-3 shadow as threshold: spatial transitions
- 75 concl: towards a spiritual path and place in the city's shadows

5 executing spirituality, void, and shadows

page no. content

- 79 part 1: concept development
- 83 5-1-1 massing
- 84 5-1-2 geometry
- 93 part 2: the journey through the spiritual path and place
- 95 5-2-1 the urban courtyards
- 101 5-2-2 the core
- 103 5-2-3 the community

6 technification

page no. content

- 115 part 1: technical concept

7 conclusion

page no. content

- 125 conclusion

8 references

page no. content

- 127 references

figures

Figure 1: Light, dark and textures (Swart, 2019).	2	Figure 17: Images of transititons based on semgments (Barrie, 1996)	23	Figure 35: (bottom left) Heritage layer (Author, 2019).	39	Figure 52: Signiture Norman Eaton water fountain (Author, 2019). 49	
Figure 2: Image depicting site location and it's proximity to Church Square (Author, 2019).	4	Figure 18: Plan illustrating positions of semgments (Barrie, 1996) .24		Figure 36: (bottom right) Padestrian density, public transport, and the red square as the demarcated zone (Author, 2019).. . . .	39	Figure 53: The city block demarcated with its various uses (Author, 2019).	51
Figure 3: Blurry bodies (Swart, 2019)..	10	Figure 19: (left) Axonometric illustrating the pure geometric forms of the building. Available at: http://oharchitecture.blogspot.com/2015/01/norbert-rozendal.html . [Accessed May 2019].	25	Figure 37: Map indicating Pretoria central business district with identified interstitial spaces. (Author, 2019).	40	Figure 54: Collage of users and signs of use (Author, 2019)..	52
Figure 4: Duality between the sacred and the everyday. The boundaries are broken to become more integrated (Author, 2019).	12	Figure 20: (right) Plan of new dynamic cathedral in relation to the rigid surrounding context. Available at: http://oharchitecture.blogspot.com/2015/01/norbert-rozendal.html . [Accessed May 2019].	25	Figure 38: (opposite page) Matrix indicating categories of the interstices in relation to their scale, form and adaptation (Author, 2019)..	42	Figure 55: Collage of mosque textures and details (Author, 2019). .53	
Figure 5: Medina of Fez, depicting the central water fountain feature at the centre of the courtyard. Available at: whc.unesco.org/en/documents/108822 . [Accessed: May 2019]. .13		Figure 21: (left) The meeting of the old and new churches (Theron, 2015).	26	Figure 39: (above) Matrix locating the abstract qualities of the site (Author, 2019)..	42	Figure 56: Schematic representation of a mosque and its parts (le Roux, 2007).	54
Figure 6: (left) House of Faun plan. Available at: https://www.thoughtco.com/house-of-the-faun-at-pompeii-169650 . [Accessed: May 2019].	14	Figure 22: (right) The light quality coming through between the two pure forms, the square and the circle (Theron, 2015).26		Figure 40: Aerial clipping of research area, obtained from Google Earth (2019)	43	Figure 57: Schematic overview of the four types of mosques (Stegers, 2019).	55
Figure 7: (right) Peristyle Garden. Available at: https://www.thoughtco.com/house-of-the-faun-at-pompeii-169650 . [Accessed: May 2019].	14	Figure 23: Components of a spiritual journey ordered in a matrix..27		Figure 41: Aerial clipping of city block with site nestled within, obtained from Google Earth (2019).	44	Figure 58: The Arab Hypostyle mosque - The Great Mosque of Qairawan, Tunisia is used to illustrate the typological intentions. Available from: https://www.slideshare.net/sadsaint/islamic-art-5523032 [Accessed: September 2019]. .56	
Figure 8: (top) Market Square with the first Durtch Reformed Church (Liebenberg, 2015: 11).	15	Figure 24: Blurry voids (Swart, 2019).	30	Figure 42: Map depicting progression through site (2019).	45	Figure 59: Defragmentation of spirituality into various spaces spread across the site (Author, 2019).	58
Figure 9: (right) The second Dutch Reformed Church, demolished in 1902. (Liebenberg, 2015: 11)	15	Figure 25: Diagrams illustrating the built fabric, with emphasis of the resultant left-over spaces and its possibilities for a new interventon (Author, 2019).	31	Figure 43: Block development over time (Author, 2019).	47	Figure 60: Waves of light (2019).	60
Figure 10: Religiosity statistics translated into infographic. (2012 WIN-Gallup International Global Index of Religiosity and Atheism, 2012:3)	16	Figure 26: (left) The vertical city of towers (Trancik, 1986).. . . .	32	Figure 44: The two realms compared in scale (Author, 2019).	48	Figure 61: An engraving depicting man dwelling within the shadows. Available at: http://utpictura18.univ-montp3.fr/GenerateurNotice.php?numnotice=A8580 . [Accessed: July 2019].	62
Figure 11: Diagrams illustrating the existing religious buildings in Pretoria Central. It is clear they exist as islands on their respective sites (Author, 2019).	17	Figure 27: The cartesian grid used as an ordering system for city planning (Trancik, 1986).	32	Figure 45: Mosque before enveloped by new developments (Le Roux, 2007).	49	Figure 62: (left) Shadows as remembrance of the object which it was cast from. Seen as a true form from its object. Available at: https://en.artsdot.com/@/Joseph-Benoit-Suvee . [Accessed: July 2019]	63
Figure 12: Maslow's hierarchy of needs, pedpicting the sixth tier. Available at: https://www.simplypsychology.org/maslow.html . [Accessed on: September 2019].	18	Figure 28: The urban morphology of Rome (Trancik, 1986).	33	Figure 46: The embellished minaret (Author, 2019).	49	Figure 63: (middle) Shadow as symbolism for meaning and presence of its own, detached from the object. Available at: http://www.cabinetmagazine.org/issues/24/stoichita.php . [Accessed: July 2019].	63
Figure 13: Re-worked framework for spirituality in space and place (Birch & Sinclair, 2013).	19	Figure 29: (top) Le Corbusier, Plan Voisin, Paris, France. 1925. . . .	34	Figure 47: Prayer space (Le Roux, 2007).	49	Figure 64: (right) The obeck is not seen, but the shadows allures a sense of mystery and fear in anticipation for what it might be. Available at: https://www.toperfect.com/mystery-and-melancholy-of-a-street-1914-Giorgio-de-Chirico-Metaphysical-surrealism.html . [Accessed: July 2019] . .63	
Figure 14: (top) Linear path (Barrie, 1996).	21	Figure 30: (right) Excerpt of a military map of pretoria (Liebenberg, 2015).. . . .	34	Figure 48: Libri Building Art Deco facade. Available at: https://images.app.goo.gl/zNQxnB4hV3EZoyg17 . [Accessed on: October 2019].	49	Figure 65: Leonardo de Vinci's shadow analysis Available at: https://www.leonardodavinci.net/study-of-the-graduations-of-shadows-on-spheres.jsp . [Accessed: October 2019].66	
Figure 15: (bottom) Segmented path (Barrie, 1996).	21	Figure 31: The Pretoria heritage Post Office, visible through a slither created by other developments (2019).	35	Figure 49: Libri Building facade now (Author, 2019).	49		
Figure 16: Defragmented programme (Author, 2019)	22	Figure 32: Footprints of potential voids (Author, 2019).	38	Figure 50: Netherlands Bank building. Available at: https://mdc.arq.br/2011/03/29/a-quatro-maos-arquitetura-moderna-brasileira-1978-82/11-norman-eaton-netherlands-bank-pretoria-1953-marc-charles-jooste-can-you-see-the-music-2007-p-84/ . [Accessed on: October 2019].	49		
Figure 17: Images of transititons based on semgments (Barrie, 1996)	23	Figure 33: (top left) Built fabric in density, in relation to landscape elements (Author, 2019).	39	Figure 51: Modular, textured facade. Available at: https://www.flickr.com/photos/tylermyeo/16869473940 . [Accessed on: October 2019].	49		
Figure 18: Plan illustrating positions of semgments (Barrie, 1996) .24		Figure 34: (top right) Land use layer (Author, 2019).	39				

Figure 66: Collage depicting the different shadow and light qualities (Author, 2019). 68

Figure 67: The large overhangs over deep thresholds create a depth of shadow quality. It shows similar qualities to Wright’s later work, Fallingwater. Available at: <https://www.flickr.com/photos/52011756@N02/6126928731/in/photostream/>. [Accessed: September 2019]. 70

Figure 68: (left) The play on light, shadow and materiality is considered to create the atmosphere. Available at: <https://www.archdaily.com/13358/the-therme-vals/500f245628ba0d0cc7001d3e-the-therme-vals-image>. [Accessed: September 2019]. 72

Figure 69: (top right) Conceptual drawing for the masses of shadow in contrast to soft elements such as light and water. Available at: <https://hal.archives-ouvertes.fr/hal-01275083/document>. [Accessed: September 2019]. 72

Figure 70: (bottom right) Slits to let light in. Available at: <https://www.archdaily.com/13358/the-therme-vals/500f245628ba0d0cc7001d3e-the-therme-vals-image>. [Accessed: September 2019]. 72

Figure 71: (left) The casements of shadows. Available at: <https://www.slideshare.net/NinditoNondito/fisher-house-96294677>. [Accessed: September 2019]. 74

Figure 72: (right) The dynamic play of light and shadow achieved through the connection between architecture and nature. Available at: <https://www.archdaily.com/499363/9-architects-reflect-on-the-homes-that-most-inspired-them/53550e34c07a80133b00000a-9-architects-reflect-on-the-homes-that-most-inspired-them-photo>. [Accessed: September 2019]. 74

Figure 73: Shadow form around corners (Swart, 2019). 78

Figure 74: Concept drawing (Author, 2019). 80

Figure 75: Massing models (Author, 2019). 83

Figure 76: Site with projected geometry from surrounding context (Author, 2019). 84

Figure 77: views and focal points of the site (Author, 2019). 85

Figure 78: Conceptual water element running through the site (Author, 2019). 86

Figure 79: (left) Existing summer cast shadow pattern (Author, 2019). 87

Figure 80: (right) Existing winter cast shadow pattern (Author, 2019). 87

Figure 81: Conceptual section depicting different spaces and their respective shadow quality (Author, 2019). 92

Figure 82: Site key (Author, 2019). 93

Figure 83: Vignettes depicting quality of mystery for the intimate entry through Queen Street (Author, 2019). 94

Figure 84: Site key (Author, 2019). 95

Figure 85: Conceptual section (Author, 2019). 95

Figure 86: Series of photographs of maquette (Author, 2019) 96

Figure 87: Plan iterations (Author, 2019). 97

Figure 88: (opp. page) Plan iteration in consideration of sun angles (Author, 2019). 97

Figure 89: Site key (Author, 2019). 99

Figure 90: Conceptual section (Author, 2019). 99

Figure 91: Series of photographs of maquette (Author, 2019) 100

Figure 92: Site key (Author, 2019). 101

Figure 93: Conceptual section (Author, 2019). 101

Figure 94: Stills from video capturing shadow and light movement (Author, 2019). 102

Figure 95: (opp. page) Plan iterations (Author, 2019). 104

Figure 96: Conceptual section (Author, 2019). 104

Figure 97: Plan iteration (Author, 2019). 105

Figure 98: Model iteration (Author, 2019). 106

Figure 99: Lower ground floor plan (Author, 2019). 107

Figure 100: round floor plan (Author, 2019). 107

Figure 101: Shadow form around corners (Swart, 2019). 110

Figure 102: Technical concept (Author, 2019). 112

Figure 103: Concrete samples (Author, 2019). 113

Figure 104: Technical concept exploded (Author, 2019). 114

Figure 105: Section A-A (Author, 2019). 117

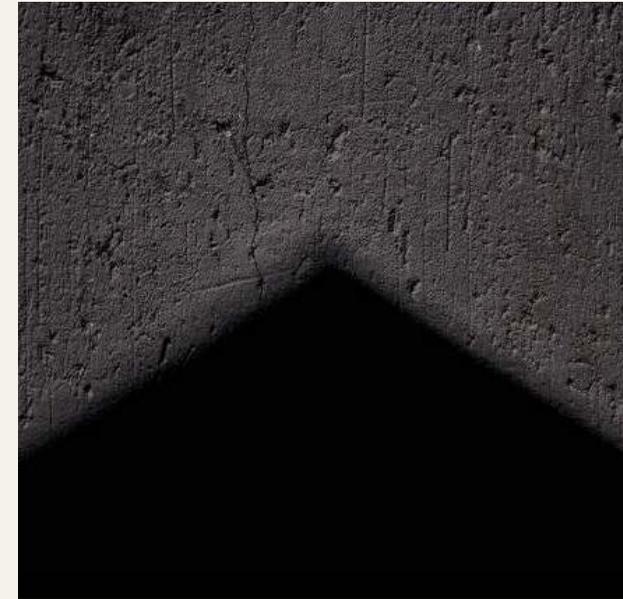
Figure 106: Section A-A (Author, 2019). 119

Figure 107: Section A-A (Author, 2019). 121

introduction

1

Chapter 1 provides a brief overview of the three themes; spirituality, voids, and shadows, and mentions the issues and research focus. The themes constitute the overarching architectural problem and intention that frame the dissertation.



*without a sound, the white camellia fell
to sound the darkness of the deep stone well*

- Buson, translated by Stewart (1963)

Figure 1: Light, dark and textures (Swart, 2019).

1-1 a threefold purpose

*A vessel, a void,
occupied by the shadows,
occupied by divinity.
It is empty,
but it is full and heavy.
Within its shadows,
we dwell,
it dwells.*

Religion has continuously shaped city life and urban form and thus – owing to its significant role – requires great sensibility in the interface of its religious practices with urban public space (Mazumdar, 2013). Spiritual attributions of belonging, meaning and well-being provide a support system to navigate urban Africa’s uncertainties and insecurities (Winkler, 2014). Post-apartheid South Africa manifests a multi-ethnic society, encompassing a wide variety of cultures, languages and religions (Clarke and Kuipers, 2015). Religious pluralism, through the introduction of spirituality, is required in order to practice inclusivity.

On the other hand –

Interstitial spaces are present in any given city. Rapid growth and the lack of consideration for the development patterns within cities have resulted in voids within the urban framework (Trancik, 1986). These voids, which present empty spaces, give rise to the ad-hoc appropriation that very often results in ill-suited applications (Bertram et al., 2003). Regardless of a new democratic government having been instated, the City of Pretoria is still displaying the negative impacts of Apartheid-orientated spatial planning schemes.

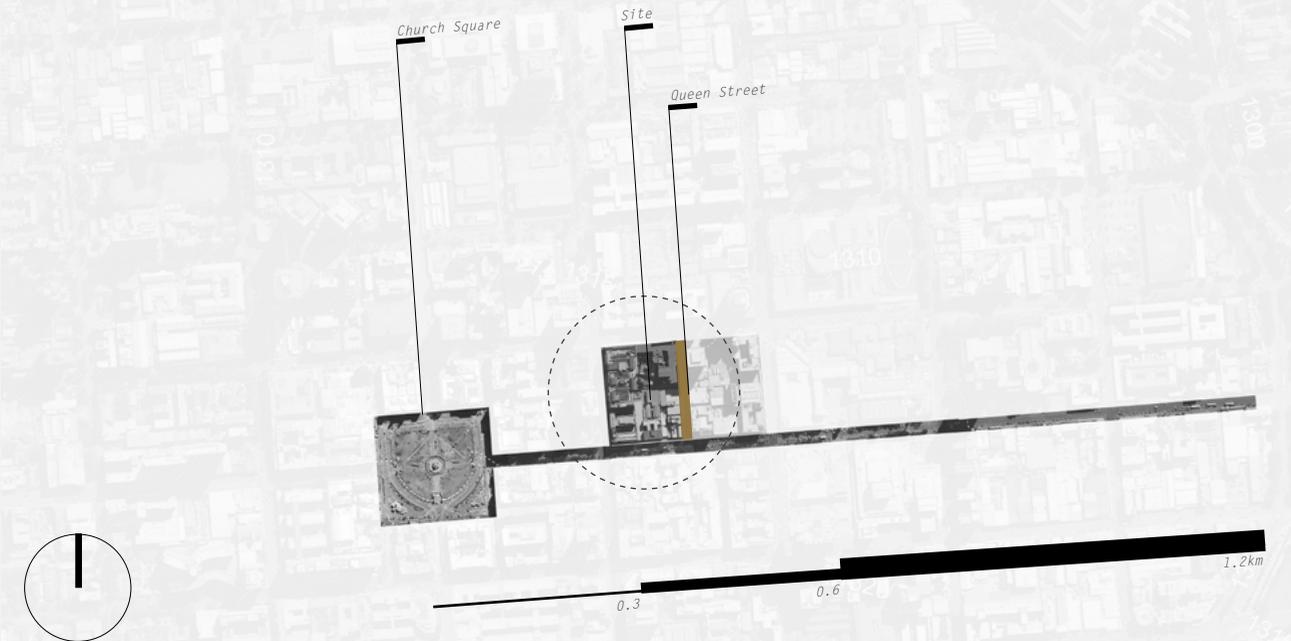
The dissertation is a study of these interstices within the city as a platform on which spirituality can be (re)introduced and (re)integrated. The natures of the voids that exist between places provide the desired site conditions on which a socially responsible, multi-faith approach to religion or spirituality can be introduced. A new typology that breaks away from insular qualities via better integration with the urban fabric and the everyday activities of the city is required.

The element which link the themes: spirituality and the void, is the natural phenomena of shadows –

Fuelled by Modernism, the quality of the shadow is often perceived to be secondary to light, and its value and contributions to sensory experience are often overlooked (Tanizaki, 2001). The void is frequently perceived as being in-between two or more spatial or temporal things. The void is not empty, however, but rather exists as space where the shadows and divinity dwell (Nitschke, 1993). The shadow is a conceptual departure from spirituality and the void.

The experiential qualities of the shadow will be studied as a design tool that responds to contextual and programmatic needs. The investigation will take part in a theoretical departure for which an appropriate void was selected and analysed. The void will be used as a platform to explore spirituality and the shadows.

1-2 the queen street void



A well-integrated context with diverse functions and users plays a vital role in sustaining a healthy city environment and in meeting the everyday requirements of the population in a considered and convenient way. For this dissertation, a site that provides the social and cultural richness that is necessary to establish a spiritual enclave as a ‘centre’ of the everyday had to be selected through a theoretical and programmatic understanding. In addition, the chosen site had to be a void within the urban landscape since lost spaces are a crucial aspect to be addressed on our way forward in developing our cities.

The site is located on Queen Street, one block east of Church Square, in Pretoria’s inner city and can be accessed from one of the city arcades. Dense urban fabric engulfs the site that is flooded with commercial activity, business and municipal institutions and residential blocks. Diverse users occupy the area for different reasons.

Figure 2: Image depicting site location and its proximity to Church Square (Author, 2019).

1-3

uncovering: spirituality, void, and shadows

The three themes that govern the dissertation are uncovered through theory and the architectural implications that frame the design thinking. The theory is a departure from an interest in the poetic literature of the terms ‘spirituality’, ‘void’ and ‘shadows’, each addressing general, urban and architectural issues as well as the programmatic, contextual and conceptual components of the dissertation.

Functional Theme 1: Spirituality

The theme primarily relates to the lack of consideration regarding spirituality in the urban environment, despite its contributions to people’s general wellbeing. The research focuses on challenging conventional religious typologies by investigating:

How a spiritual place can be better connected to an urban environment like the inner city of Pretoria.

How architecture can transcend religion’s typological confines.

How a spiritual space can be reconfigured and reintroduced as central to the everyday.

Contextual Theme 2: Void

This theme is mainly concerned with understanding the lost spaces within the city as voids, which fail to positively contribute to the surrounding urban context. The voids are analysed and one was appropriated to become a spiritual enclave while investigating:

How empty spaces such as the Queen Street void can be reintegrated as part of the urban landscape.

How various void characteristics can influence architectural intervention.

Conceptual Theme 3: Shadows

The theme is principally about the use of shadows as a conceptual connection between spirituality, the programme and the void – the context. It questions Modernity’s focus on light, shifting to the qualitative merits of shadow in investigating:

How shadows can be utilized as a design tool to express spirituality and complement the void.

1-4

problem and intention

The architectural problem predominantly pertains to the shortcomings of conventional sacred architecture’s customary purposing of a singular building dedicated to the functioning of a singular religion. The intervention aspires to generate meaningful architecture by focusing on the expression of spiritual experience through the functioning of each space and encourages public understanding of the value of spirituality in our everyday lives.

Furthermore, the architectural problem explores how design may utilize the urban void’s latent potential and how it could be reintegrated with the physical and social urban context by means of spirituality. The strategy aims to reintroduce these hidden spaces to the public with enhanced identity and meaning.

Finally, the spatial experience of spirituality and the void is expressed as a temporal encounter. Time becomes the design tool – through the play of shadows and light – and the perception is meant to change through different daily phases and seasonal cycles.

1-5

methodology

The research study starts with a programme to describe, explore and interpret a spiritual enclave within a void in the urban context of Pretoria's central business district, and suggests an enquiry that is explorative and problem-solving. The focus is on investigating the various ways in which the research questions could be answered and how the diverse approaches may lead to different outcomes. The review will be conducted through the following research methodology, adapted from Kothari (2004):

First, a theoretical premise – through which existing concepts may be understood and new concepts can be formed – will be generated for the three themes. The new concepts will frame the research focus and application that drive the design process.

Second, applied research on precedent and case studies will be undertaken in order to investigate how other projects have resolved similar issues. A related solution process could be adopted.

Third, qualitative and quantitative phenomenological site studies will be done on identified urban voids within the city. The study will be based on a set criterion generated by the above process. The best-suited site was selected dependent on comparisons and synthesis.

With an aim to achieving an understanding of the narrative and its characters, existing networks will simultaneously be mapped via interviews and visualisation to guide the exploration of different environments, enriching and contextualizing the selected programme.

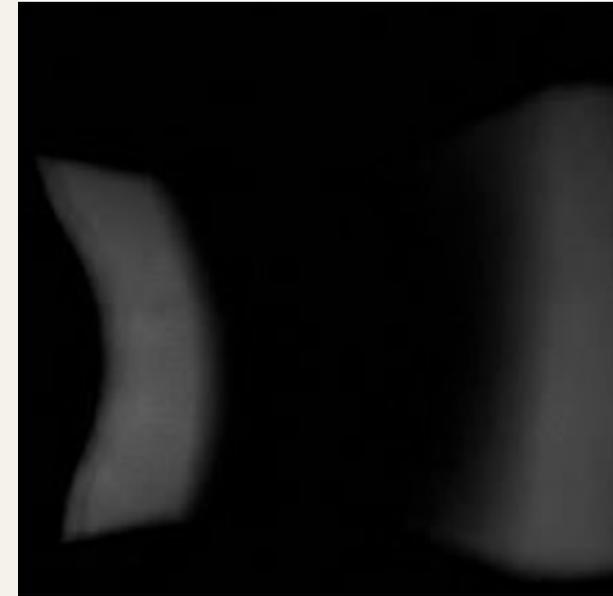
Design iterations will be undertaken to discover and test concepts through various explorative methods and mediums such as model making, diagramming and sketching. Relationships between the variables will become apparent through the process of discovering, exploring and testing, and the outcomes will be compared to each other and/or with the case studies.

The design methodology aspires to uncover and understand the nature of the problem without offering a set solution. The solution is to take shape by means of the development of ideas that unfold as the investigation deepens. This process, which will take place by way of a phenomenological lens, focuses on the evolution of exploration rather than on an outcome, enriching the solution to a problem.

spirituality

2

Chapter 2 discusses the chosen programme – a spiritual path and place. Part I is a theoretical background investigation that is used to frame the programmatic intentions of the research. Part II explains the different modes of spirituality and its spatial implications.



*retiring into the shadows, i bestow
my guest-room on the moon's approaching glow*

- Seibi, translated by Stewart (1963)

Figure 3: Blurry bodies (Swart, 2019).

part 1:
the sacred past

The entrance to the sacred shares a qualitatively distinct space from the street in which it stands.

The door represents the passage to another place and the corridor that is crossed is a threshold that distinguishes the sacred from the profane.

Once the centre has been reached one connects to the higher being through openings that symbolize the door to the above or, in some cases, the door to within.

Paraphrased text from The Sacred and the Profane by Mircea Eliade

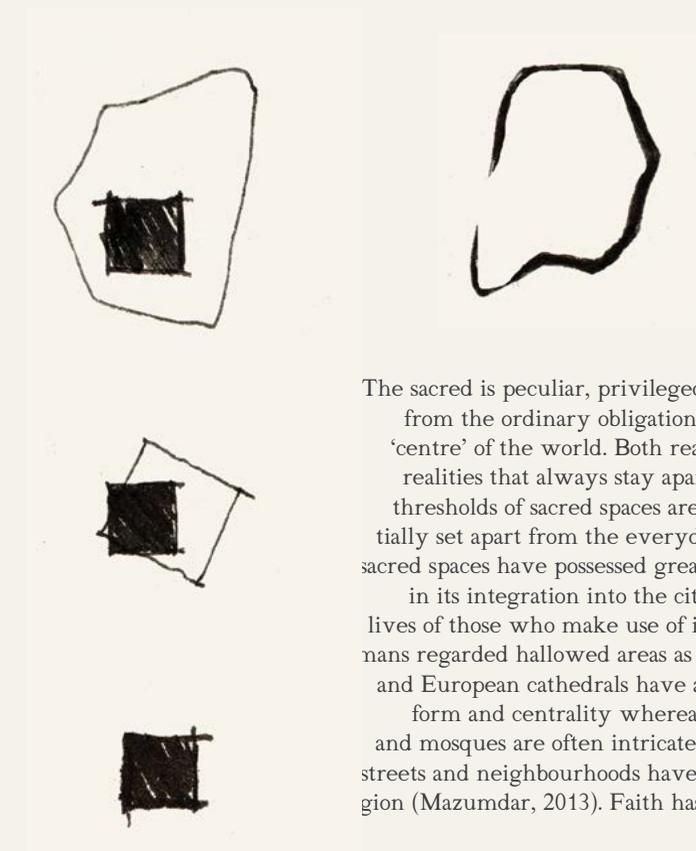
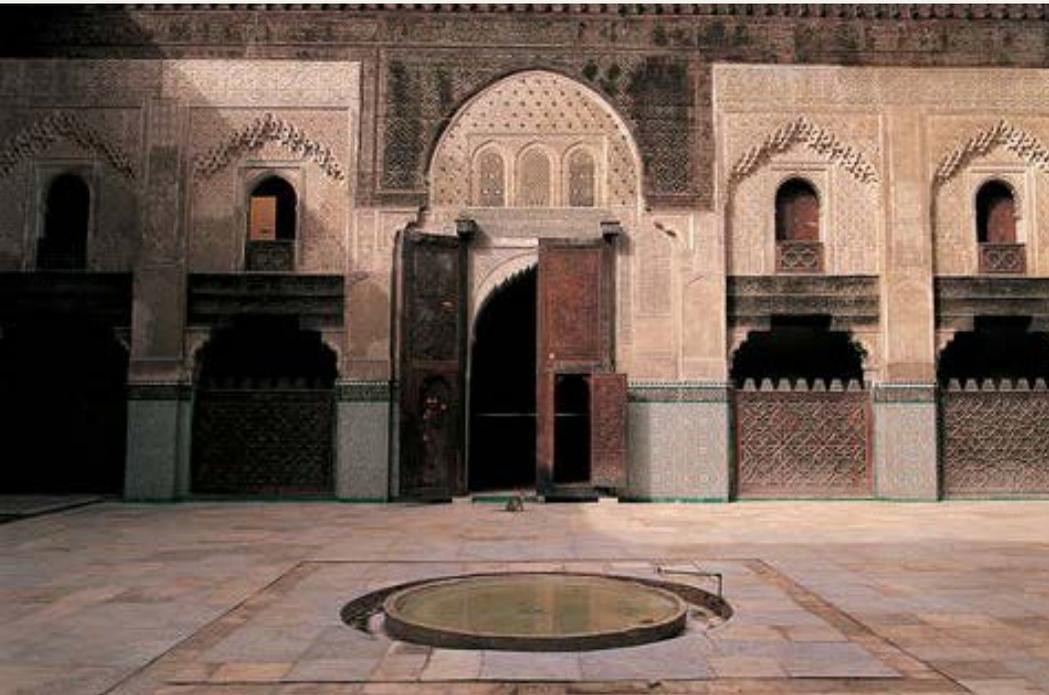


Figure 4: Duality between the sacred and the everyday. The boundaries are broken to become more integrated (Author, 2019).

The sacred is peculiar, privileged and qualitatively distinct from the ordinary obligations of the everyday; it is the 'centre' of the world. Both realms co-exist, creating dual realities that always stay apart (Eliade, 1987). The deep thresholds of sacred spaces are characteristically and spatially set apart from the everyday. Historically, however, sacred spaces have possessed great importance, as is evident in its integration into the city fabric and the everyday lives of those who make use of it. Ancient Greeks and Romans regarded hallowed areas as an extension of the family and European cathedrals have asserted their role through form and centrality whereas Eastern temples, pagodas and mosques are often intricately embellished. Many city streets and neighbourhoods have been centred around religion (Mazumdar, 2013). Faith has played a unifying role in urban form and city life.

case study 1:
Fez, Morocco

case study 2:
The Roman House



The Medina of Fez, a medieval town founded in the 9th century, is the cultural and spiritual centre of Morocco. The original town integrates religious activities with the city – that transformed around it over time as community enclaves were created. The Medina of Fez is regarded as one of the most extensive and best conserved historic sites in the Arab-Muslim world, preserving many of the city’s forms and original functions. Its ancient and fragmented unpaved streets lead to a network of high density religious, suburban and military identities, demonstrating a diversity of population and culture (UNESCO Centre, n.d). From the 12th to the 15th centuries the city exerted much influence regarding architectural development and urban planning. Mosques were placed in the centre of neighbourhoods, often embedded within the city fabric, with a modicum of conspicuous external architecture (Kuban, 1985). The urban form was subordinate to a more powerfully collective and sacred realm within traditional cities, demonstrating what Trancik (1986) believes to be a role in creating a collective sense of meaning within public spaces.

Figure 5: Medina of Fez, depicting the central water fountain feature at the centre of the courtyard. Available at: whc.unesco.org/en/documents/108822. [Accessed: May 2019].

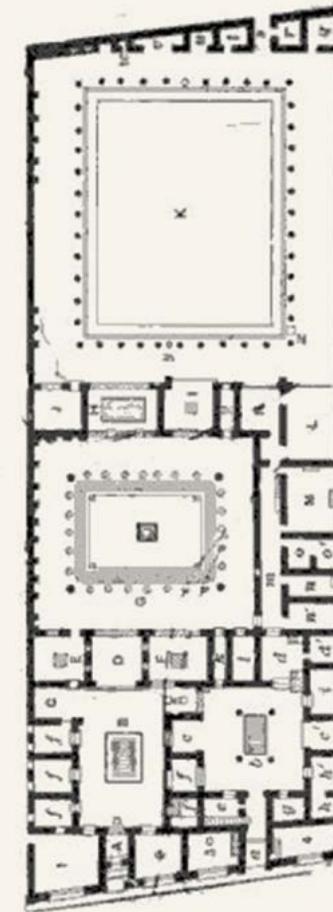


Figure 6: (left) House of Faun plan. Available at: <https://www.thoughtco.com/house-of-the-faun-at-pompeii-169650>. [Accessed: May 2019].
Figure 7: (right) Peristyle Garden. Available at: <https://www.thoughtco.com/house-of-the-faun-at-pompeii-169650>. [Accessed: May 2019].



The sacred has also been incorporated into everyday life on a more intimate level, as is evident in Roman houses where the consecrated was considered to be part of daily life. The houses were layered with thresholds that progressed from the public to private and the important holy space faced the largest courtyard, where early Christian meetings were held (Cianca, 1978). The progression moves from a dark narrow space that opens up into a wide light area. The axis, both physical and visual, points towards the house’s most valued locale – the largest courtyard. The courtyard would have functioned as a diurnal distinction in spatial use; as a gathering space for religious, social and household activities, creating a duality between the sacred and the profane.

case study 3:
Pretoria's Religious Core



A religious core was established at the centre of the town. Church Square, originally called Market Square, was built in 1855 and has always been the heart of Pretoria. The first church that was built here burnt down in 1882, after which a more impressive structure was constructed to replace it (Liebenberg, 2015; Pretoria.co.za, 2017).

The original religious space at the central unifying gathering point in Pretoria has now been replaced with a public square. Currently, different religious spaces are dotted around the city with a minimum of physical integration.



The case studies reveal that sacred spaces were historically integrated with its urban and intimate settings. The central positioning of places of worship within the community expressed an interdependent relationship, which emphasized their unifying role through architecture. Pretoria's founding conveyed a similar value but its importance has declined over time and there seems to be a disconnection with its surroundings.

Pretoria started off as a church farm that was transformed into a city over time. The first farmhouse was built in Pretoria's Fountains Valley in 1840. Other Boer families followed and settled in the Elandsport area. In 1854, these residents declared the Elandsport village the 'kerkplaas' (church farm) for central Transvaal, which included the four fledgling towns of Potchefstroom, Rustenburg, Lydenburg, and Zoutpansberg – making it the focal point for communions, baptisms and weddings. On 1 May 1860, Pretoria – which was established by the Voortrekker leader Marthinus Pretorius in 1855 – became the capital of the South African Republic (ZAR) and the centre of governmental, religious and social activities, marking the completion of the Great Trek.

Figure 8: (top) Market Square with the first Dutch Reformed Church (Liebenberg, 2015: 11)
Figure 9: (right) The second Dutch Reformed Church, demolished in 1902. (Liebenberg, 2015: 11)

2-1
decline in religiosity

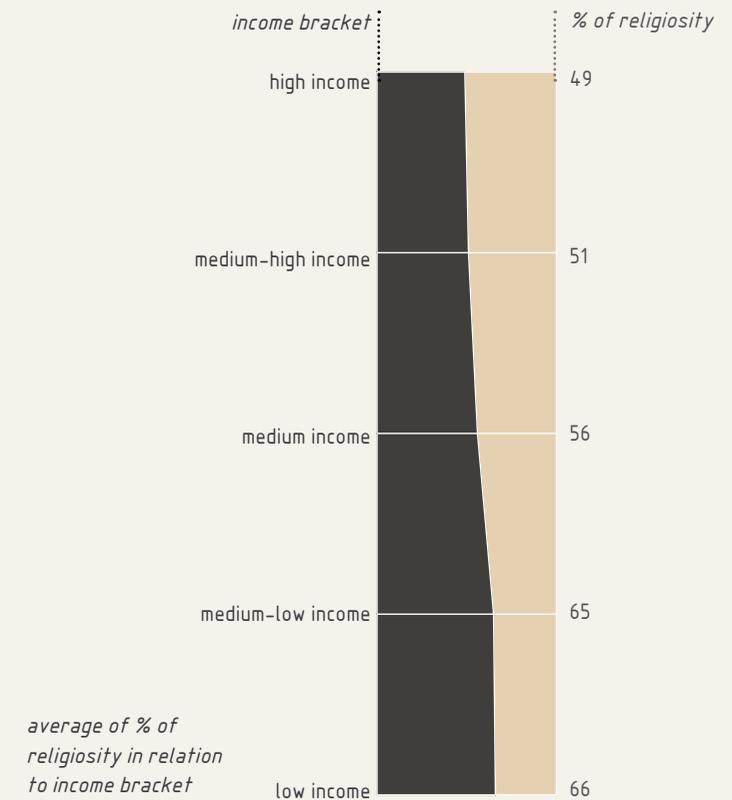
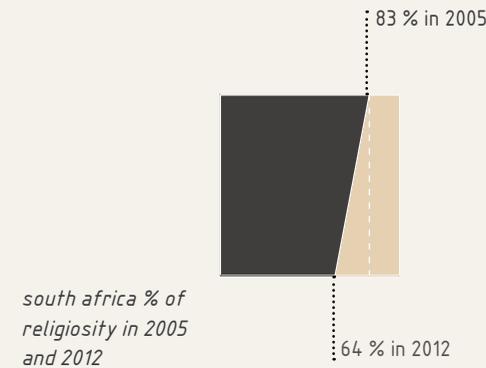
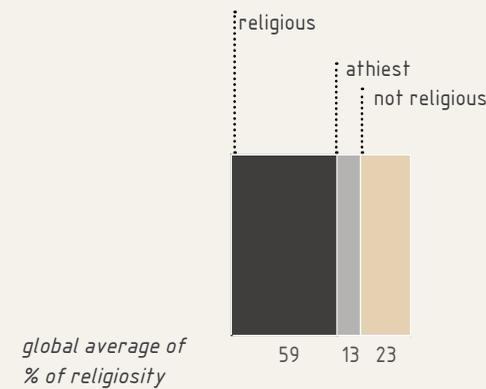


Figure 10: Religiosity statistics translated into infographic. (2012 WIN-Gallup International Global Index of Religiosity and Atheism, 2012:3)

Beyond providing a place to worship, religious organizations offer assistance, hope and survival by creating a sense of belonging and meaning within the community, affording the much needed social aspects required to navigate the everyday uncertainties and insecurities in the urban landscape (Winkler, 2014). Despite its importance to our communities, the 2012 WIN-Gallup International Global Index of Religiosity and Atheism revealed that South Africa has shown a significant decline in religiosity in recent years and that it decreases as prosperity rises. The waning of spirituality is not only a local issue but is reflected globally.

2-2 typological challenges

The Modernist ideologies of promoting industrialization, secularization and urbanization are believed to escalate the condition, pushing aside old traditions in favour of a rationalized and progressive value (Bermudez, 2016). The rate at which cities are developing requires urban design and development that take a more sustainable, ethical and meaningful way of life into account. In an effort to mitigate the further decline of religiosity, the Modern movement's design implications should be addressed. These include:

1. *The impulse to clear the ground by separating functions that had previously been integrated, resulting in negligible physical and social diversity.*
2. *The celebration of monumentality that occasions stand-alone objects overlooking the city and insufficient assimilation within the context.*
3. *The desire for an enclosed environment that is removed from street life results in the loss of a collective sense of meaning in the shared realm.*

Sacred spaces have, consequently, become insular and disconnected from their surroundings. The condition is worsened by the lack of research focus on the influence of religion on the use and design of public spaces (Bermudez, 2016; Mazumdar, 2013; Birch & Sinclair, 2013). With the intent to mitigate the above-mentioned issues, the programme will address:

1. *The current typology of religious spaces and its –*
 - a. *integration with the surrounding physical and social context, and*
 - b. *a lesser division between the sacred and the profane which is generally caused by internalizing the programme.*
2. *Repositioning the sacred as the centre of everyday life by situating it within a strategically chosen site in the city that contains varying aspects of everyday existence.*

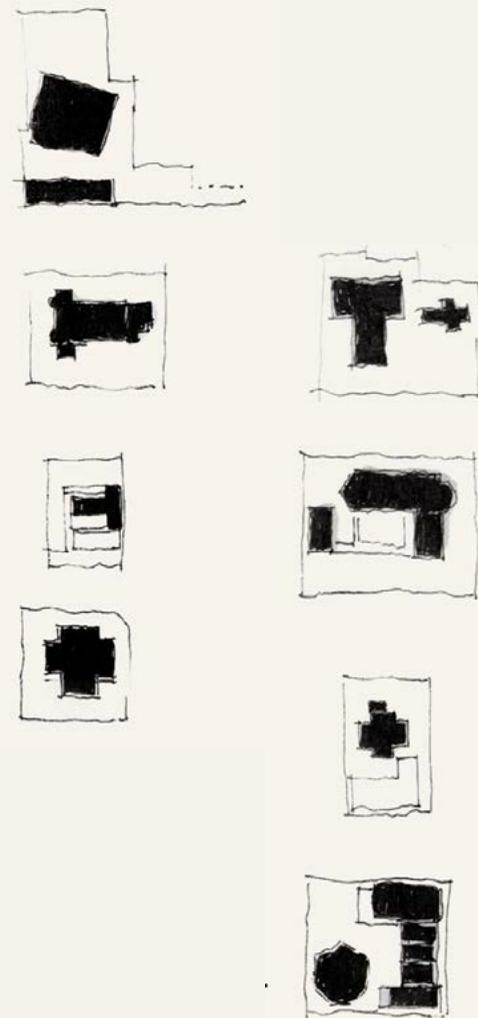


Figure 11: Diagrams illustrating the existing religious buildings in Pretoria Central. It is clear they exist as islands on their respective sites (Author, 2019).

2-3 towards a spiritual city

South Africa has a wide range of demographic and many religious denominations. When giving thought to our multi-cultural background, one questions whether a sacred space should only shed light on a specific religious entity or include all. By shifting the focus to spirituality a universal sacred experience without specific religious institutional ties can be celebrated, allowing diverging religious values and practices to be experienced. A multi-cultural approach acknowledges different cultures and world views (Bermudez, 2016, Birch and Sinclair, 2013, Mazumdar, 2013). Religious pluralism and inclusivity would create a spiritual space where everyone can practice their religious rituals.

Maslow's hierarchy of human needs – which was created between 1943 and 1954 – provides a valuable starting point in situating the spirituality investigation. According to Maslow five hierarchical basic needs; the physiological, safety, love, esteem, and self-actualization frame a conscious life. When one need is fairly well satisfied, the next higher need emerges. It was discovered three decades later that Maslow had determined the sixth level of motivation – self-transcendence – to be achieved through service to others, devotion to an ideal or a cause and the desire for divinity. This discovery contributed to compelling arguments for the committed pursuit of spirituality in city planning and architectural design (Birch and Sinclair, 2013). However, spiritual development demands active and continuous engagement that goes beyond traditional religious observances (Bermudez, 2016). Creating a spiritual city requires a meaningful relationship between architecture, people and the environment.

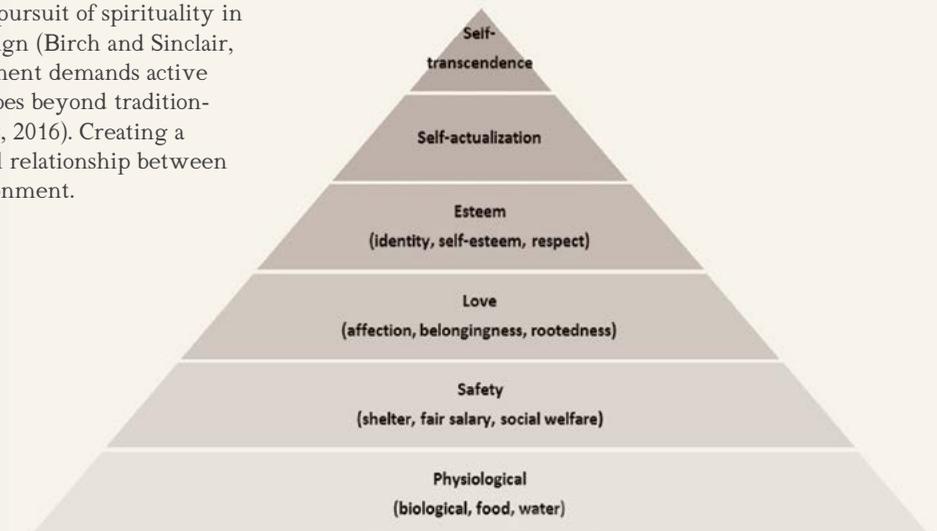
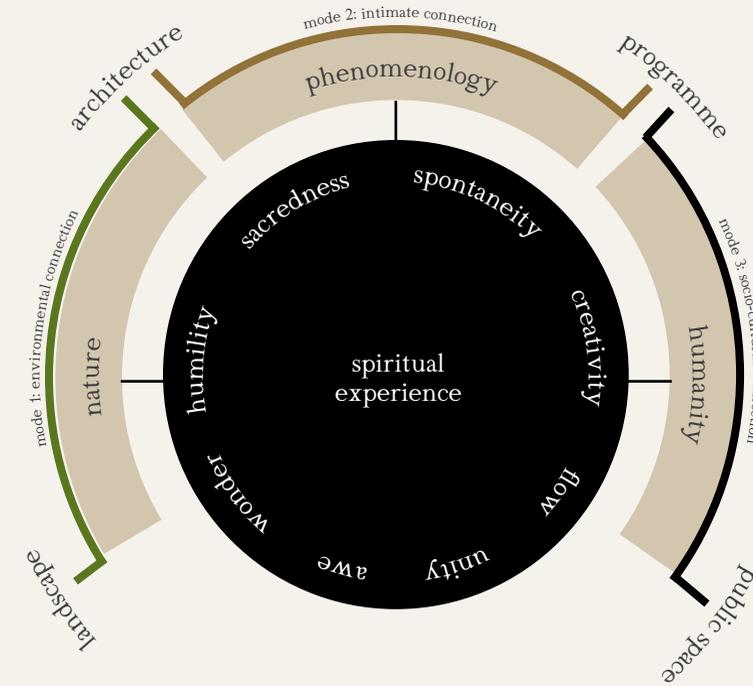


Figure 12: Maslow's hierarchy of needs, depicting the sixth tier. Available at: <https://www.simplypsychology.org/maslow.html>. [Accessed on: September 2019].

part 2: spirituality and place

It has been proven that spiritual experience is encouraged through external stimulation methods such as iconography, artefacts, architecture, and gardens, which exceeds faithfully assisting in religious activities. Spiritual development can be externally induced by way of architecture that is influenced by both tangible and intangible culture, therefore, which requires urban consideration (Bermudez, 2016). The objective involves connecting individuals to themselves and the environment. Birch and Sinclair (2013) have identified three inter-related themes that could be understood as modes of spirituality expressed through architecture to facilitate more meaningful experiences.



Mode 1: The Environmental Connection

Submerging oneself in an environment requires a close and integrated connection with the natural order of things that serves the consciousness of impermanence. For instance, the fleeting sunlight or the “variation of shadows, heavy shadows against light shadows – it has nothing else” (Tanizaki, 1977:29). The functionality of the space should also echo transience, allowing different uses for varying environmental conditions.

Mode 3: The Intimate Connection

Pallasmaa (2005) believes that we rely on our senses for the possibility and impact of a spiritual experience. Vision was not as important as hearing and touch until the 20th century. Pallasmaa (2005:25) states: “The gradually growing hegemony of the eye seems to be parallel with the development of Western ego-consciousness and the gradually increasing separation of the self and the world; vision separates us from the world whereas the other senses unite us with it.” The “hegemony of the eye” (Pallasmaa, 2005:25) does, however, provide a reason to focus on the other physical sensations that may have a profound impact on spiritual experience. Creating a fuller and richer sensual experience by way of design fosters awareness (conscious or subconscious) and takes the individual on the path toward an awakening (Birch and Sinclair, 2013).

Mode 2: The Socio-Cultural Connection

When one engages with a site and its history a social and cultural context that reveals a set of values and ideals is conveyed. Since spirituality and the built environment attune to a sense of humanity, the places and spaces we inhabit should promote life, communication and collaboration. The sacredness of a place derives from the significance attached to its history (Birch and Sinclair, 2013)

Different spiritual modes define the spatial functioning, characteristics and experience of space in distinctive ways. These aspects will be utilized to form the programmatic requirements to be applied to the selected site.

Figure 13: Re-worked framework for spirituality in space and place (Birch & Sinclair, 2013). ▶

2-2-2
path and place

The progression through various spiritual places should be carefully considered as it provides a link to the overall experience and could be interpreted as a path that symbolizes the route one takes to a sacred place. Paths can be categorized by their linear or segmented organization. The linear route is a sequential experience that depends on the configuration of the sacred spaces and enables a direct progression through them. The segmented course is a multi-directional yet connected series of paths that connect with various sacred places that are independently experienced in no particular order (Barrie, 1996). The aforementioned programmatic intentions are best suited to a segmented trail as it would add fluidity to the spatial arrangement, which will benefit the non-specific modes of spirituality. The segmented path provides variation in a journey, which can add dynamicity to the everyday experience.

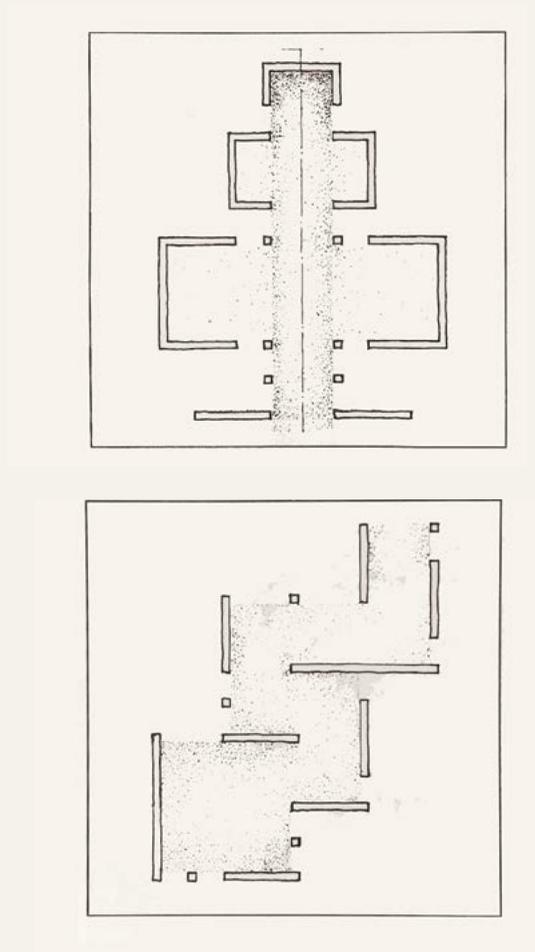
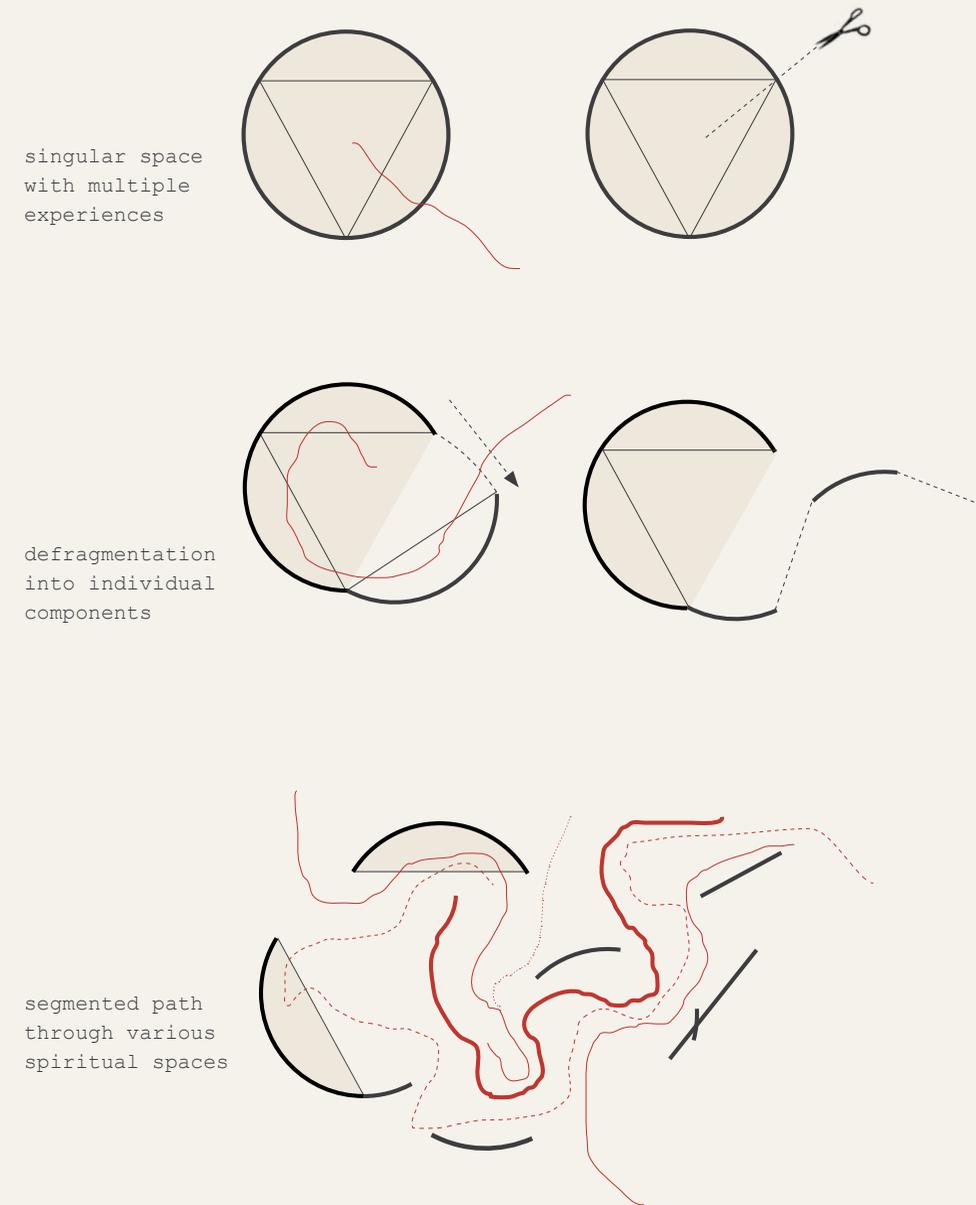


Figure 14: (top) Linear path (Barrie, 1996).
Figure 15: (bottom) Segmented path (Barrie, 1996).



singular space
with multiple
experiences

defragmentation
into individual
components

segmented path
through various
spiritual spaces

The programme is intended to be defragmented into the various modes of spirituality. This process allows a multi-level experience. Due to the defragmentation, it puts more emphasis on the execution of each space.

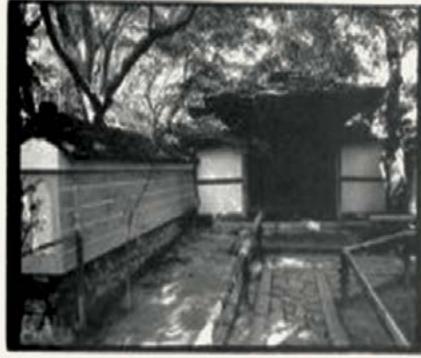
Figure 16: Defragmented programme (Author, 2019)

functional precedent 1:
Koto-In Temple

Kyoto, Japan
1601



segment 1.



segment 3.



segment 6.



segment 2.



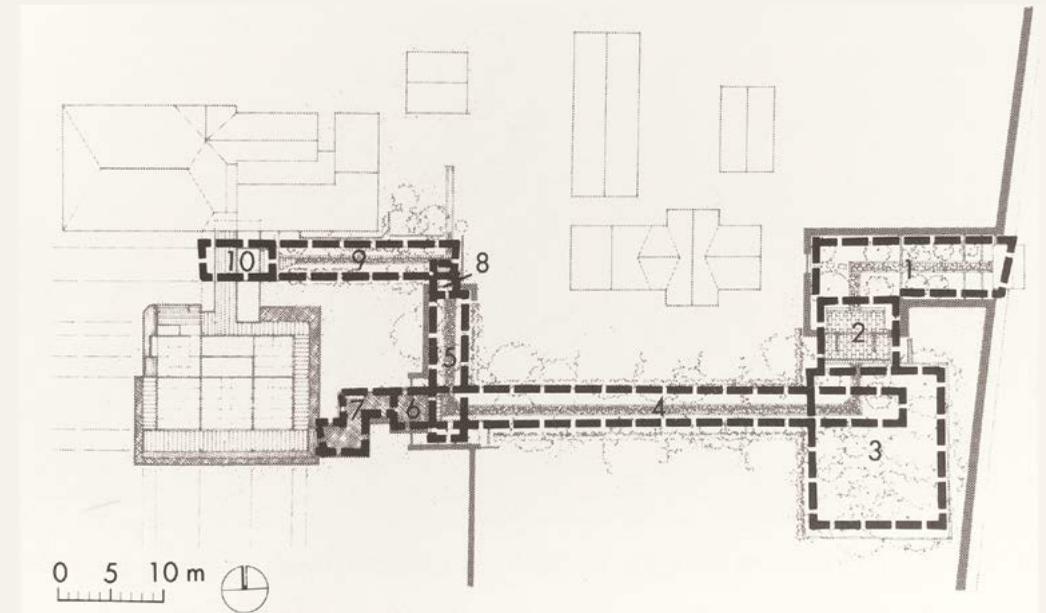
segment 4.



segment 7.

The Koto-In Temple is a Buddhist sanctuary situated in Kyoto that is known for its tearoom. The path to the temple traditionally symbolizes a spiritual journey and the approach to and through the temple is segmented into ten volumetric sequences with each successive space being uniquely proportioned. The identity of each segment is defined by a variety of walls, edges and paving. As you progress, the holy space becomes increasingly sacred and private via the rhythmic manipulation of open and closed spaces – compression and expansion resulting in a short ten-minute walk that feels much longer (Barrie, 1996). The path is on a human scale and leads individuals to different spots where they can make their own discoveries. The trail culminates at a principle and a secondary building that are connected by a covered linkage and surrounded by a series of gardens. The sacred place is clearly marked with a walled enclosure.

Figure 17: Images of transitions based on segments (Barrie, 1996)



The segments appear as follows:

1. The entry court has high clay walls but remains welcoming with low bamboo railings and vegetation. The path makes a ninety-degree turn to approach the partially visible main gate.

2. The main gate is large and deep with a roof overhang, signifying a destination of its own. The route flows through from there.

3. The opening is clear and framed by a line of trees. Another ninety-degree turn leads to the next segment.

4. A long narrow path – defined by bamboo railings and low shrubbery – leads to another gateway on a smaller scale and with an unobstructed view. While one assumes it to be similar to the previous gateway, the play in scale makes the path seem much bigger than it really is.

5. The walls on two sides and plant life on another signify an entrance and a track leading to another gateway. The continuity of the path and the gateway language create identifiable navigation through the areas.

6. A constricted space defined by a roof and walls – with a restricted view of the temple beyond – contrasts sharply with the open linear path in the previous segments and denotes arrival at a different place.

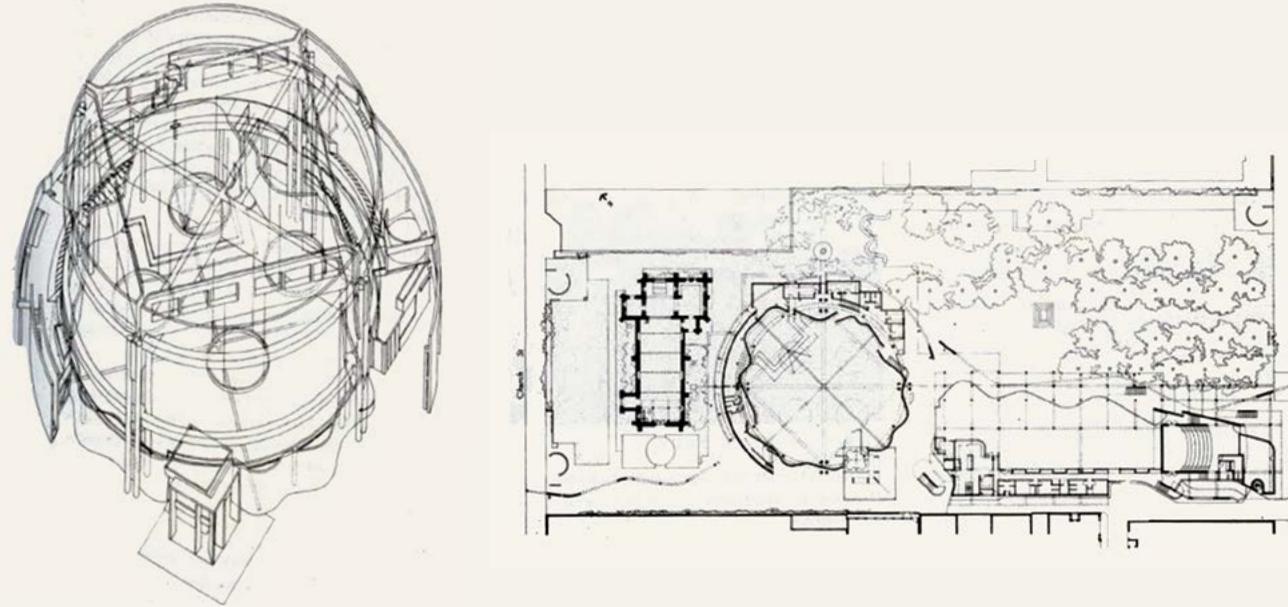
7. The turns to the left and right lead you directly to the tearoom veranda. The obscured approach and direct arrival at the temple entrance create a sense of spatial intimacy in contrast to seeing and approaching the temple as a whole.

The segments generate an ever-changing environment, experienced through the sensory act of walking. The journey's dichotomies and the entrance both contribute to a meaningful experience.

Figure 18: Plan illustrating positions of segments (Barrie, 1996)

functional precedent 2:
Cathedral of Holy Nativity

Pietermaritzburg, South Africa
1983



If the exploration of the spiritual is intended to be executed in an urban void, it is important to find a precedent which acknowledges the existing patterns of the city for a well-integrated intervention. The architecture of the Cathedral of the Holy Nativity presents a successful translation of the project's intentions.

The cathedral is situated behind the 120-year old St. Peter's Church. Existing movement patterns on the site were carefully considered as the intervention was to be located in a pedestrianized zone. The architects saw an opportunity for the integration of the urban cathedral's functions and the lively public life that surrounds it (Theron, 2015). Free movement – that corresponds with different degrees of involvement – is encouraged through the site.

The cathedral's design respects the heritage of St. Peter's Church by adhering to the same height to avoid outshining the church when viewed from the street. The other side of the cathedral is masked by yellowwood trees. One needs to go onto the site to see the cathedral (Theron, 2015). The progress towards the cathedral is complex and meaningful.

Figure 19: (left) Axonometric illustrating the pure geometric forms of the building. Available at: <http://oharchitecture.blogspot.com/2015/01/norbert-rozendal.html>. [Accessed May 2019].

Figure 20: (right) Plan of new dynamic cathedral in relation to the rigid surrounding context. Available at: <http://oharchitecture.blogspot.com/2015/01/norbert-rozendal.html>. [Accessed May 2019].



Figure 21: (left) The meeting of the old and new churches (Theron, 2015).

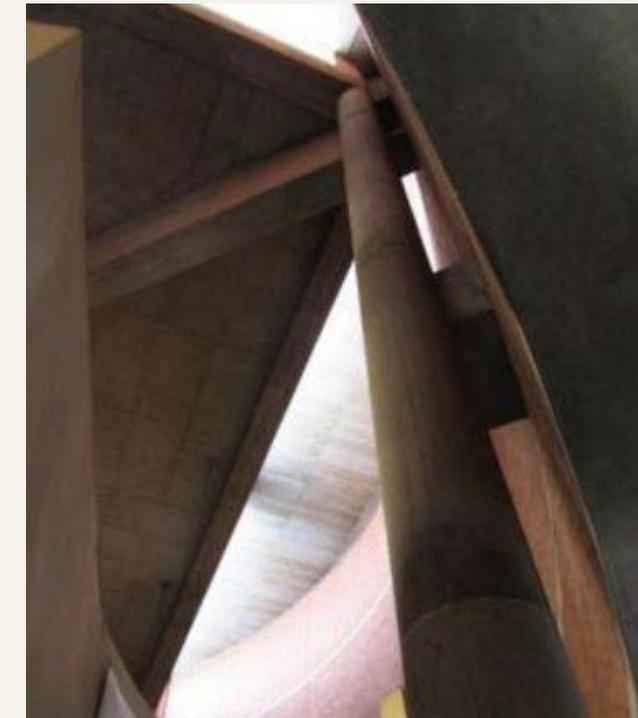


Figure 22: (right) The light quality coming through between the two pure forms, the square and the circle (Theron, 2015).

The architecture is on a super-human scale, emphasizing absence and void. While density is encouraged in the city, the cathedral is large and mainly consists of empty space, giving breathing room back to the people. The building's geometric form is pure and simple but filled with symbolic meaning (Theron, 2015). The path taken to the cathedral from the outside is complex, however. In contrast with the pure form, surrounding curvilinear walls relate back to the city and the pedestrian experience. The walls provide a soft edge that advances towards the volume of the edifice (Theron, 2015). The contrasting hard and soft edges are reiterated in the choice of materials – the warm brick used on the hard edges and the stern concrete used on the soft curvilinear walls.

The curvilinear walls add a sense of both intimacy and dynamicity through the play of light and shadow, making the visitor aware of the surroundings anew each time they call. Windows modulate the light, which creates a language of its own.

conclusion:
towards a spiritual path and place

The research study aims to tackle the adverse influences of Modernity that have contributed to the decline in interest with regard to religiosity in Pretoria Central. The application of theory, case studies and precedents prompts a defragmentation approach to the typology of religious spaces, which separates the various modes of spirituality into individual experiences, placing an isolated focus on the observation of each. The various modes result in a dispersal of the spaces that accommodate spiritual practice.

Executed on a suitable urban void, interdependence with the context is to be created through the physical realm – in response to urban and social morphology – to express unity and identity within the community.

**environmental connection
(mode 1)**

sacred | *profane*

spiritual journey	walk
contemplation	sit
points of interest	see
pause	stand and stay

**intimate connection
(mode 2)**

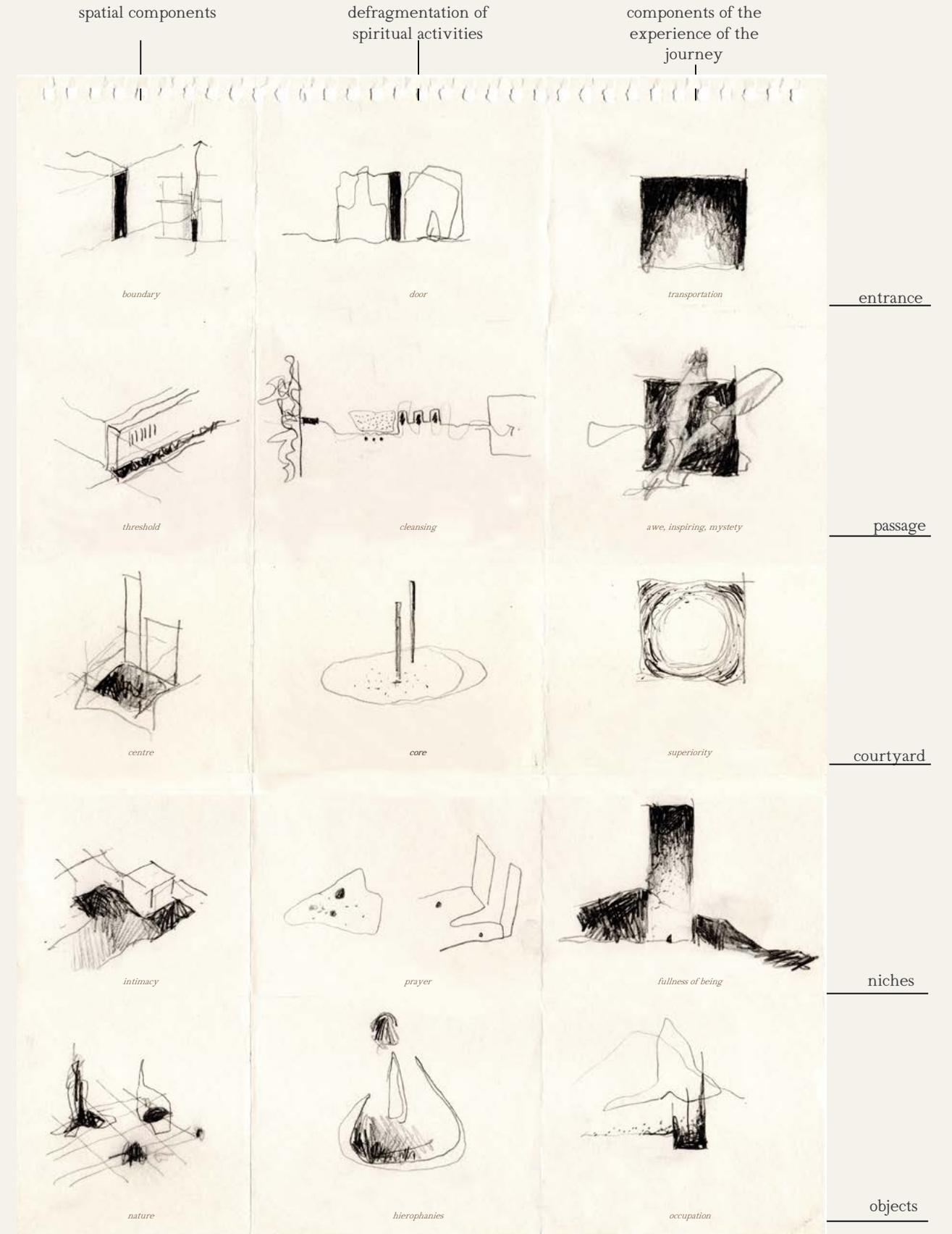
sacred | *profane*

rest	rest
intimacy	escape
prayer	reflection

**socio-cultural connection
(mode 3)**

sacred | *profane*

purification	public ablutions
congregation	community



The chapter's theory is summarized into a matrix which will be used as a guide to find the appropriate site that has the following components met best.

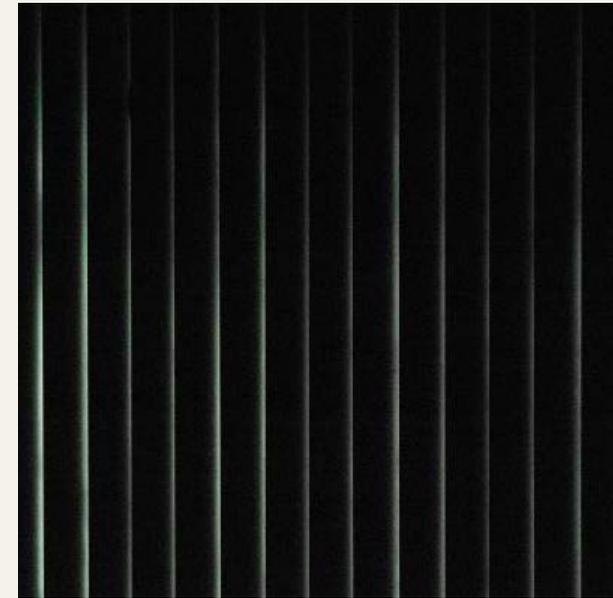
Figure 23: Components of a spiritual journey ordered in a matrix. ▶

void

3

Part I of chapter 3 discusses a theoretical urban departure on the void which, together with the understanding of the programme, assists in locating an appropriate site for the proposed programme.

Part II discusses the chosen site's historical, physical, social, and cultural environments. A contextually relevant spiritual vision is created after the background is fully grasped.



*everyday is a journey,
and the journey itself is home*

- from basho, translated by Stewart (1963)

Figure 24: Blurry voids (Swart, 2019).

part 1:
understanding the void

Regarding the urban scale, Roger Trancik (1986) explains the phenomenon of gaps in our urban fabric as leftover unstructured landscapes that have little to no coherent connections to their surroundings. These gaps disrupt the overall continuity of the city form, creating voids within the urban grain.

On a smaller scale, the voids between building and street or building and building give rise to the ad-hoc appropriation that, in turn, reflects the internal networks and physical image of its context.

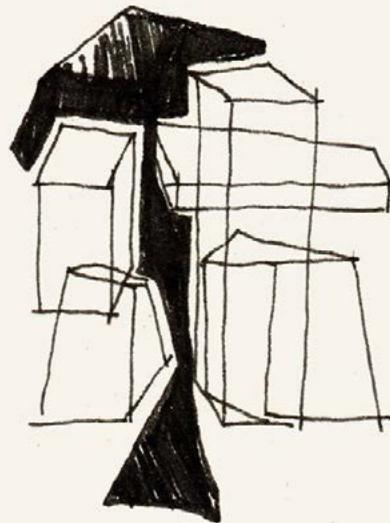


Figure 25: Diagrams illustrating the built fabric, with emphasis of the resultant left-over spaces and its possibilities for a new intervention (Author, 2019).

3-1-1
the urban gaps

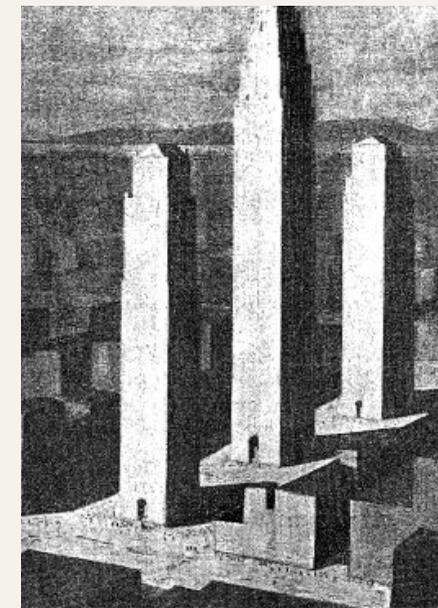
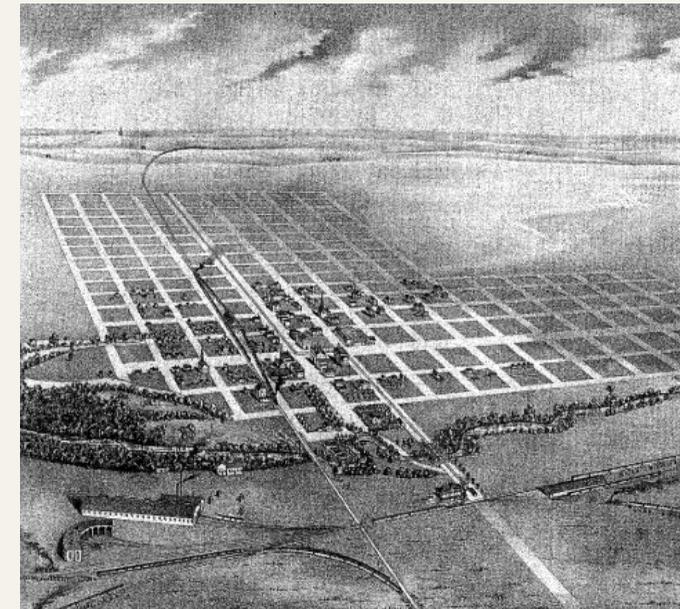


Figure 26: (left) The vertical city of towers (Trancik, 1986).
Figure 27: The cartesian grid used as an ordering system for city planning (Trancik, 1986).



Interstitial spaces are present in any given city. Poorly planned and radically changing economic, industrial and employment patterns have resulted in the creation of lost space – voids in the urban core. A lack of consideration vis-à-vis the three-dimensional relationship between buildings, spaces and human behaviour has resulted in an unstructured landscape that provides little to no positive contribution to the surroundings or those who use it (Trancik, 1986, Peng and Park, 2013).

In order to study the conditions of lost spaces, the causes need to be understood. As a result of the acceptance of the ‘functionalist’ approach and guided by a number of theoreticians, the Modern movement has played a major role in shaping urban space in the 20th century. The Modern urban principles that were formed include the functionalist grid; modern streets and squares; verticality; sunken plazas; internalized malls, and suburbia. In addition to changing land use, infrastructure, zoning, urban renewal, and the privatization of urban space became important Modernist characteristics, which resulted in insular and isolated spaces that have a negligible relationship with their context, thus reducing the dynamic environment (Trancik, 1986).

case study 1:
Rome



Urban city spaces are carved out of the building mass, formally fashioning a physical connection with the context and creating both small breakaway areas and significant larger spaces within the centre. Such organic and well-integrated city blocks embody a unified urban image with interconnected communities and facilities. The buildings are subordinate to the powerful collective realm that controls the larger order of things and epitomize the meaningful centre.

Figure 28: The urban morphology of Rome (Trancik, 1986).

case study 2:
Pretoria



Figure 29: (top) Le Corbusier, Plan Voisin, Paris, France. 1925.

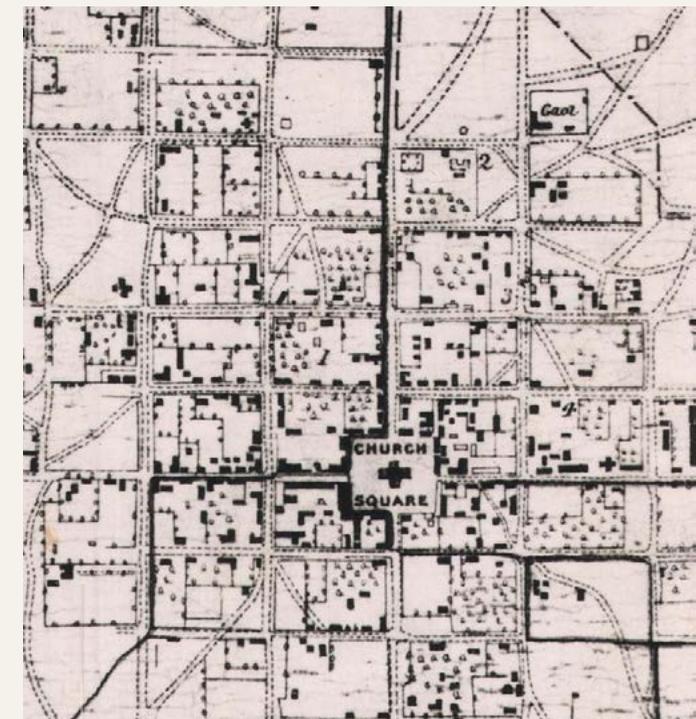


Figure 30: (right) Excerpt of a military map of Pretoria (Liebenberg, 2015).

The urban decay within Pretoria's inner city is rooted in Modernist town planning principles that shaped mono-functional spaces founded on a utopian belief that liveable suburbs can be created on the city's outskirts (Donaldson et al., 2003, Trancik, 1986). The increased dependence on vehicular transportation has caused an identifiable ring of lost space around the urban core, further separating the city from its surrounding suburban areas. Insular high-rise buildings with poor response to the context have arisen on the landscape within this ring, resulting in a city filled with private icons versus collective space, image and identity (Trancik, 1986). The grid of large city blocks provides few breakaway spaces and a loss of street quality. The addition of arcades has assisted in providing a more pleasant and shorter route through the city blocks. The arcades are often flooded with commercial activity, however, causing a lack of diversity in these public pockets (Breytenbach, 2015).

3-1-2 pretoria's inner city change



Pretoria inner city reflects its rich history as an Apartheid state operated to its first steps into democracy, currently, the city is still battling with the remnants of the Apartheid legacy. Racial segregation have placed exclusivity on its economic, spatial, social and political factors, displacing and fragmenting the possible unity (Clarke and Kuipers, 2015). After the rise of the new democratic government, the city saw massive development decline, the condition is exacerbated by a shift in focus to the provision of infrastructure and housing needs of the disenfranchised and poor in the townships and rural areas (Clarke and Kuipers, 2015).

The international trend of employing the aforementioned Modernist planning principles has had an impact on the city's development. Different inner-city areas, however, present with diverse change characteristics. Pretoria's inner city development processes can be organized into decentralization, deconcentration, intensification, and management strategies (Donaldson et al., 2003).

Decentralization

New developments within the metropolitan area are increasingly difficult to achieve because of a lack of space. Since office buildings in the central business district (CBD) can no longer house the increasing government department sizes decentralization to surrounding areas has resulted, leaving large office buildings abandoned and vacant (Donaldson et al., 2003). The current focus is on brownfield development, clearance, and redevelopment.

Deconcentration

Spatial fragmentation and low-density automobile-oriented development have shifted away from established centres towards a more dispersed kind of expansion, as can be seen in the vehicular arterials which frame the city.

Intensification

There is a lack of vacant space to promote the intensification of new developments on undeveloped land. There is a need for the intensification of activity, increased usage of existing buildings and changes in land-use patterns in order to promote densification and mixed land use.

Management Strategies

Poor urban management results in problems with regard to revitalization and re-urbanization, causing the city's image and identity to decay. Improvements in terms of cleaning, maintenance and the safety of public spaces have remained an elusive goal.

The case studies and the abovementioned development processes for Pretoria demonstrate that there is a lack of connective and collective images when considering the city's expansion, and that lost spaces have been created as a result. These areas are often poorly used as they generally weren't designed for any suitable purpose. The lots do, however, provide opportunities for the renewal of parts of, or the entire city's, identity. Future development will require ingenuity, taking the current users into consideration and planning for the future to implement the previously mentioned transformation processes in the city.

Figure 31: The Pretoria heritage Post Office, visible through a slither created by other developments (2019).

3-1-3 potential in the voids

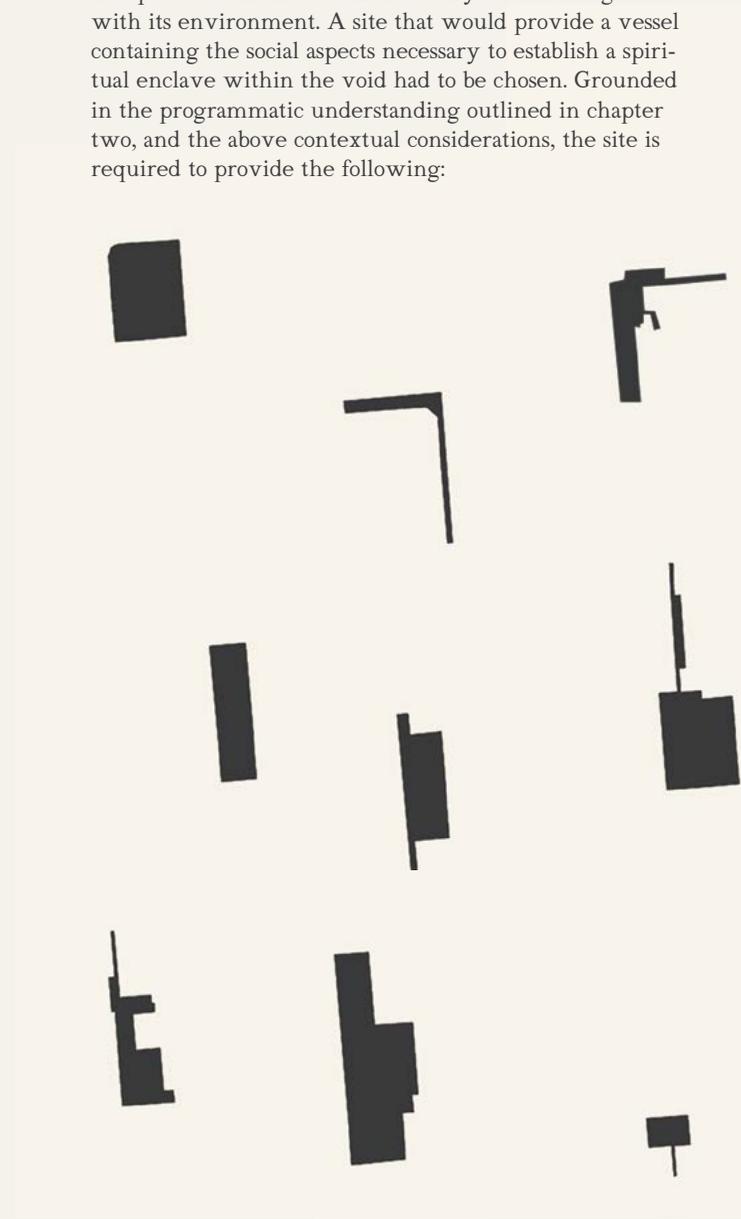
Leftover land or voids between building and street or building and building result in a range of semi-public interfaces. The empty areas are often used for electrical and mechanical services, parking, storage, or light wells into dark spaces. These unplanned gaps give rise to ad-hoc appropriation (Bertram et al., 2003). Value and potential are, likewise, simultaneously revealed and create an opening for new interventions. The appropriations could be categorized according to:

1. *The convenience fit: a singular aim produces a surplus of space that is somehow appropriated to perfectly fit into the conditions and physical situation.*
2. *The temporary fit: the temporary occupation of space owing to matching the required conditions.*
3. *The overlap/messy fit: the overlap of conditions where two or more exist but are blind to one another.*

Understanding the above levels of appropriation can assist in documenting and organizing the city's leftover spaces to assess the best intervention choice. An intimate ground study avoids two-dimensional, rudimentary and single explanatory understandings of the context (Murray, 2008). In order to attain a detailed richness and insight into the heterogeneous nature of the urban experience – and how things work between people and things – these aspects must be understood as they constitute an explanation of the environment and its meaningful characteristics towards the creation of detail (Bertram, 2013, Norberg-Schulz, 1980, Malcomess and Kreutzfeldt, 2013).

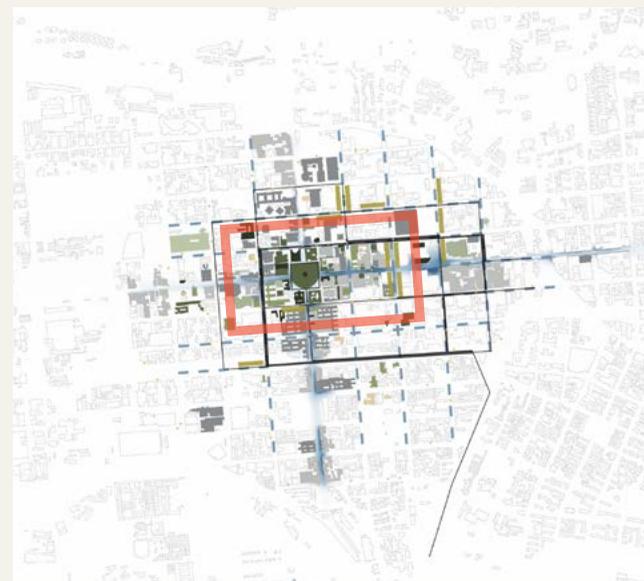
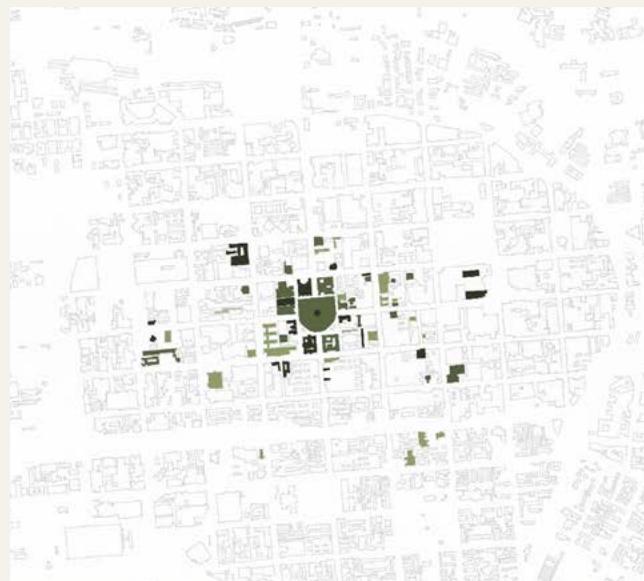
3-1-4 the search for a suitable void

Context plays a vital role in the design of a spiritual place as it provides the networks necessary for the integration with its environment. A site that would provide a vessel containing the social aspects necessary to establish a spiritual enclave within the void had to be chosen. Grounded in the programmatic understanding outlined in chapter two, and the above contextual considerations, the site is required to provide the following:



1. **Density:**
the voids created by the verticality of buildings tend to be lost spaces with slight interface regarding the surroundings – which results in a potential entry point that also provides secluded and intimate spaces – a quality which enhances the spiritual experience.
2. **Small in scale:**
providing the intimacy that is required when the nature of a spiritual enclave is considered.
3. **Foot traffic:**
increased awareness and exposure to the programme are necessities and pedestrian movement provides the site and the interventions inside with wider accessibility.
4. **Diverse users and functions:**
providing the mediation with the multi-cultural and social contributions needed since a spiritual enclave excels when a variety pertaining to background and knowledge is available to create a meaningful interaction.
5. **Diverse current purposes:**
to better integrate spirituality into the everyday.
6. **A messy fit/appropriation:**
identifying a void which does not currently make a positive contribution to its context since the programme aims to influence the surroundings for the better.
7. **A range of thresholds and voids within:**
which the proposed architectural intervention can foster with programmatic intentions.

Figure 32: Footprints of potential voids (Author, 2019).



A selection of voids was examined, based on the above criteria, and a suitable location was chosen for the intervention. General mapping demarcated a search focus in a zone of six blocks down the decumanus, with Church Square at its centre.

Figure 33: (top left) Built fabric in density, in relation to landscape elements (Author, 2019).
 Figure 34: (top right) Land use layer (Author, 2019).
 Figure 35: (bottom left) Heritage layer (Author, 2019).
 Figure 36: (bottom right) Pedestrian density, public transport, and the red square as the demarcated zone (Author, 2019).

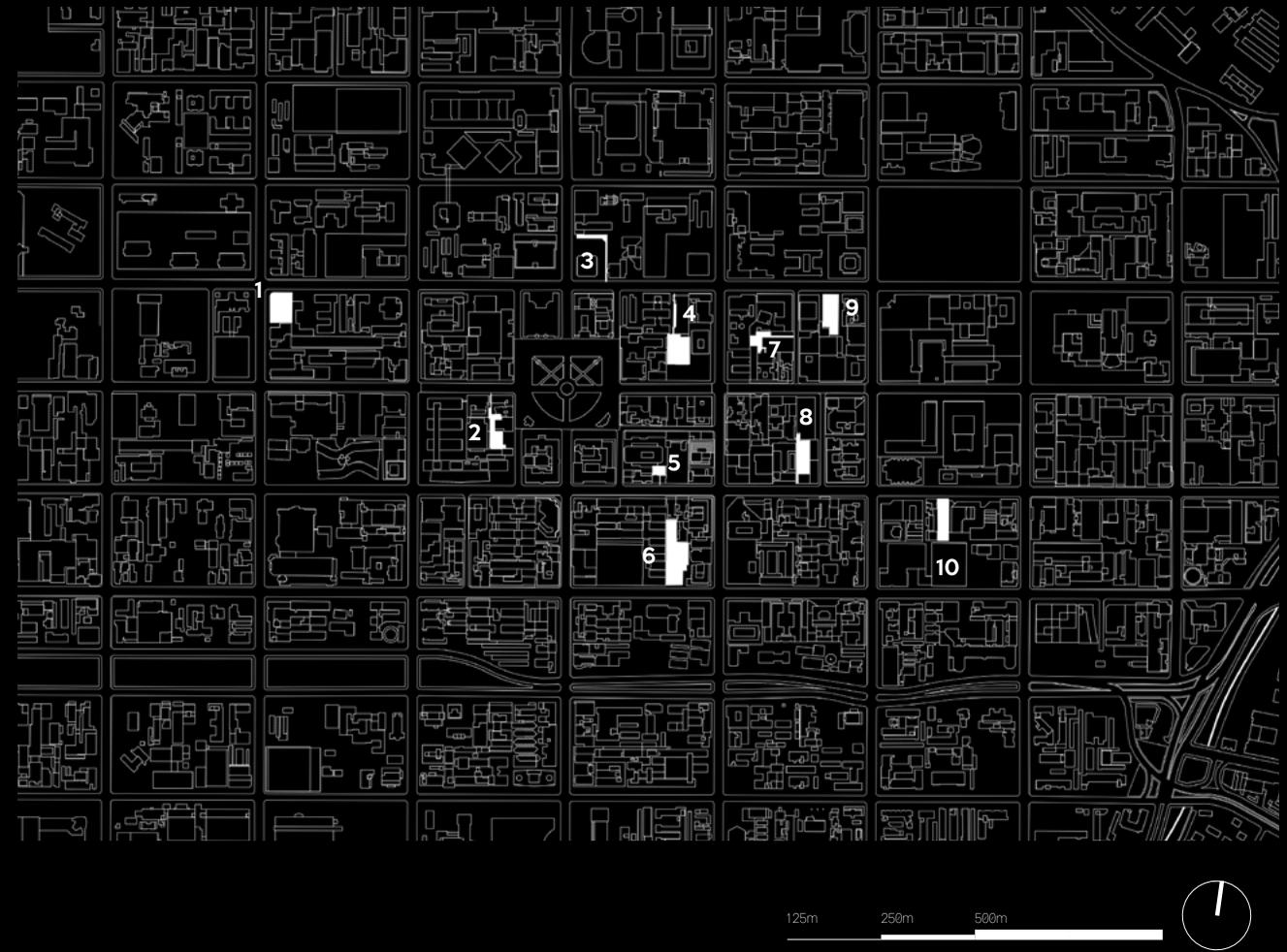
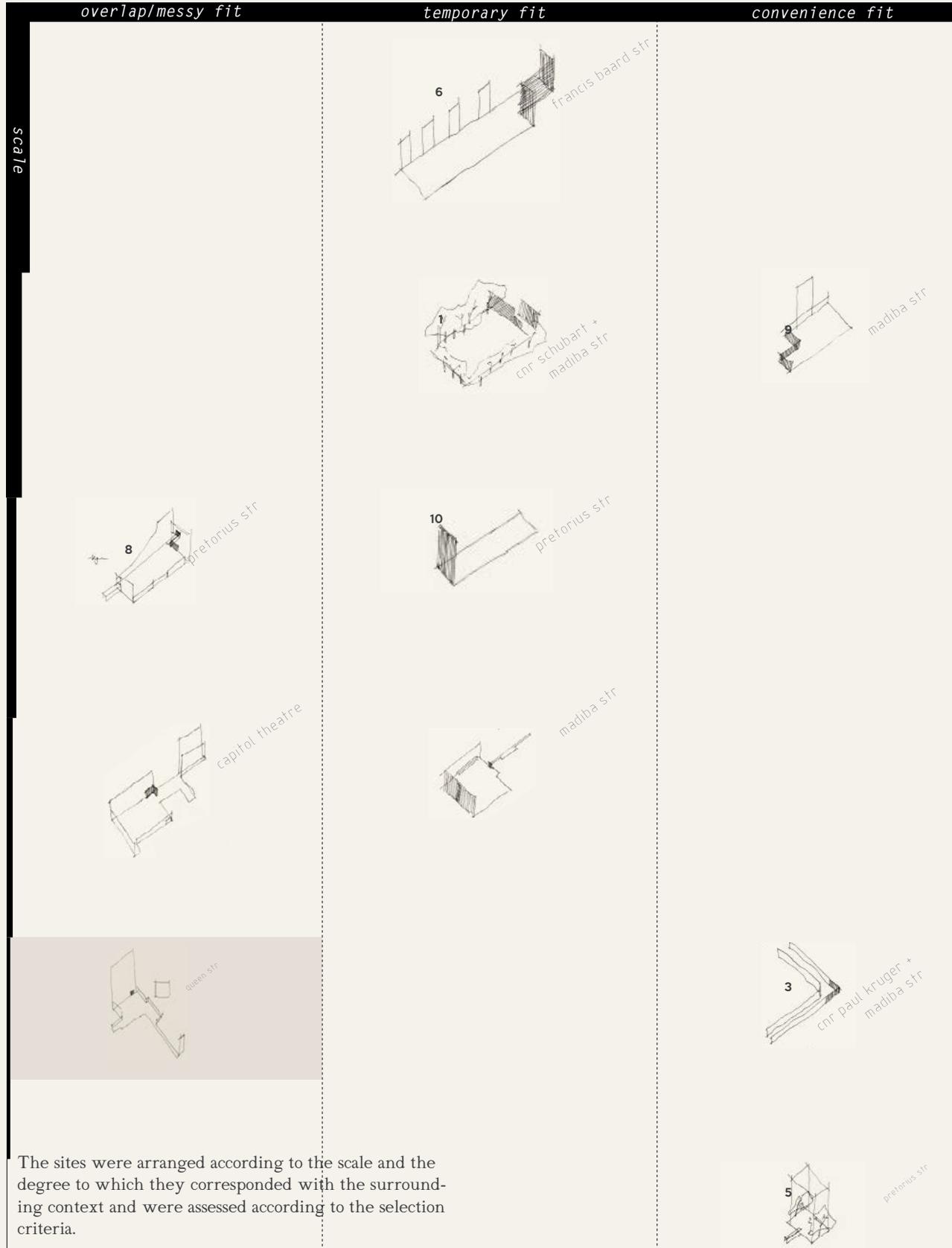


Figure 37: Map indicating Pretoria central business district with identified interstitial spaces. (Author, 2019).

Within the demarcated zone, ten potential sites were identified and observed for their physical and abstract qualities. Mapping tools such as observation, photography and sketching were used, and the ubiquitous was noted before it became familiar.



The sites were arranged according to the scale and the degree to which they corresponded with the surrounding context and were assessed according to the selection criteria.



Figure 38: (opposite page) Matrix indicating categories of the interstices in relation to their scale, form and adaptation (Author, 2019).

Figure 39: (above) Matrix locating the abstract qualities of the site (Author, 2019).

The process culminated in choosing the Queen Street void as the best site, due to its scale and overlap/messy fit. Thereafter, the physical, historical, social, and cultural layers were uncovered to serve as appropriate design informants.

part 2:
the queen street void

The process culminated in choosing the Queen Street void as the best site. Thereafter, the physical, historical, social, and cultural layers were uncovered to serve as appropriate design informants.

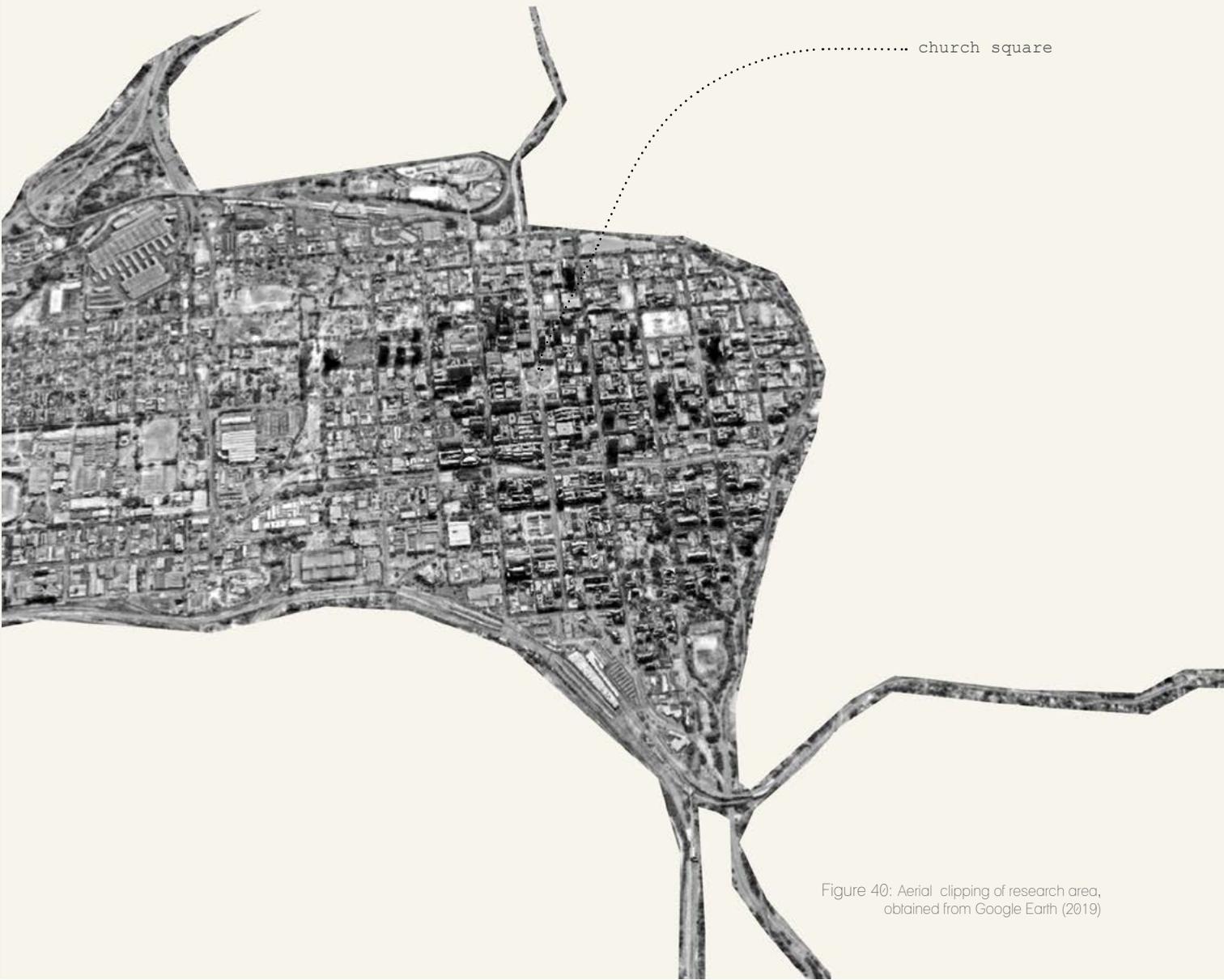
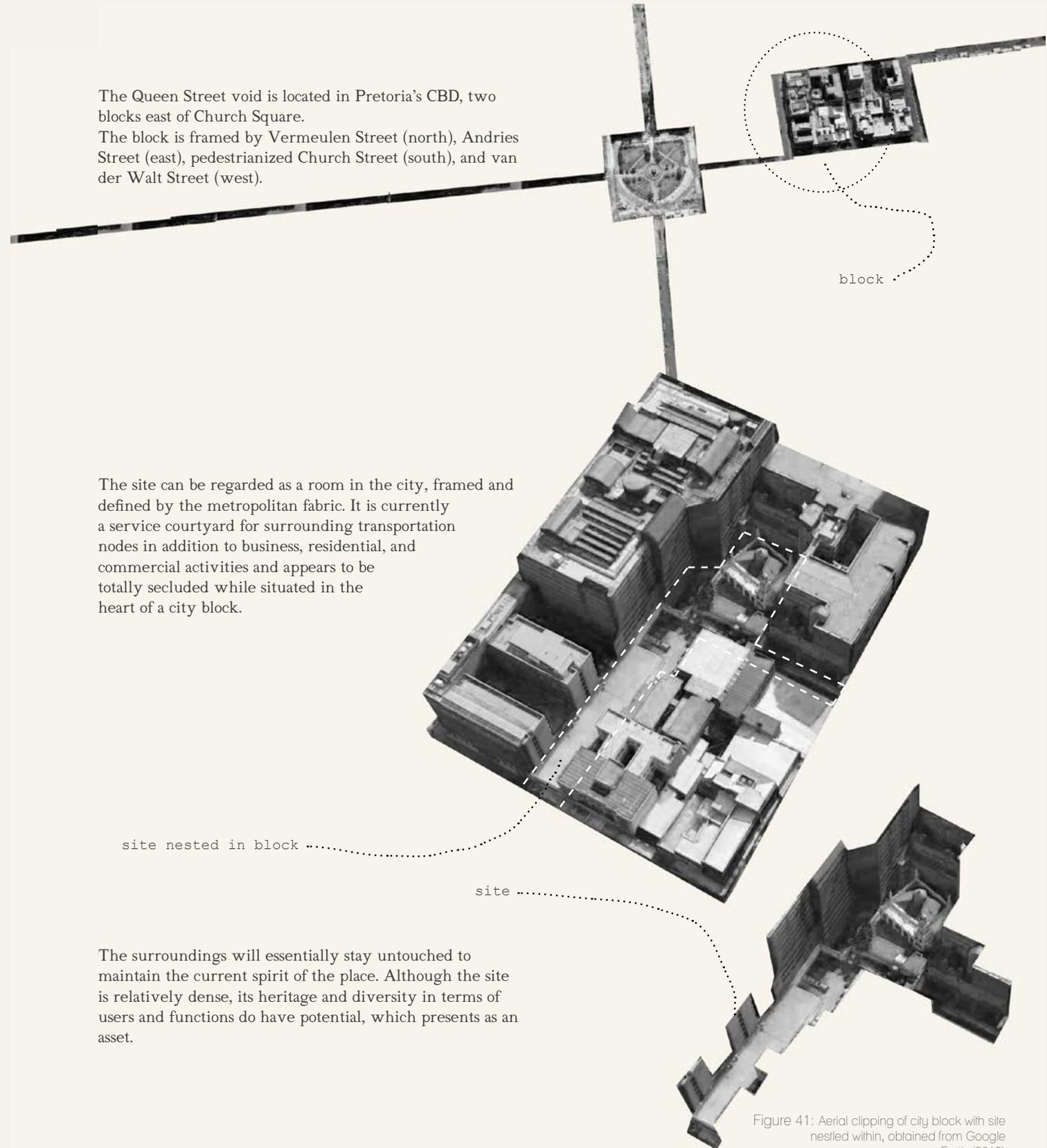


Figure 40: Aerial clipping of research area, obtained from Google Earth (2019)

The Queen Street void is located in Pretoria's CBD, two blocks east of Church Square. The block is framed by Vermeulen Street (north), Andries Street (east), pedestrianized Church Street (south), and van der Walt Street (west).



The site can be regarded as a room in the city, framed and defined by the metropolitan fabric. It is currently a service courtyard for surrounding transportation nodes in addition to business, residential, and commercial activities and appears to be totally secluded while situated in the heart of a city block.

The surroundings will essentially stay untouched to maintain the current spirit of the place. Although the site is relatively dense, its heritage and diversity in terms of users and functions do have potential, which presents as an asset.

Figure 41: Aerial clipping of city block with site nested within, obtained from Google Earth (2019)

Journey to and through the site:

The site is entered via a narrow alley off the busy Queen Street, which is used by residents to enter the surrounding housing blocks. The alley ends at an open courtyard that is framed by surrounding buildings. The Queen Street Mosque to the right is currently blocked off by its ablution facility. Towards the left is the back of Mr Price Home, with its storage space opening onto the quad. A separate alley that flows through the residential area connects the entrances and leads to the courtyard. The surrounding spaces all directly or indirectly spill into this open area, providing a wonderful opportunity.

This secret location is steeped in contrasts; noise and silence, swift and slow, busy and inactive, on a large and intimate scale.



Figure 42: Map depicting progression through site (2019)



3-2-1: the physical fabric

After years of additions and changes, the site presents as dense and cluttered with poorly considered voids allocated to back-of-site access, ventilation and light, which have now been appropriated as parking spaces. Charting the development on a timeline provides evidence of how the block has developed and by what means the progression contributed to the formation of leftover spaces.

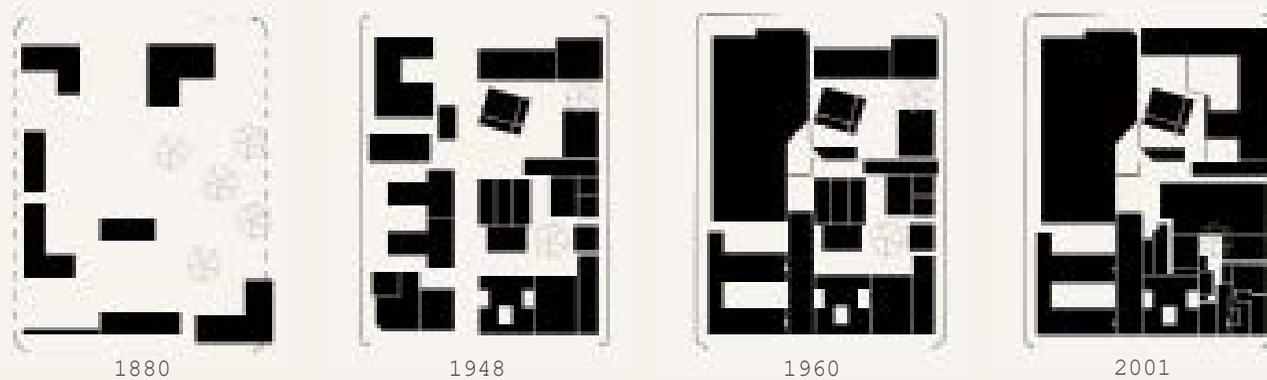


Figure 43: Block development over time (Author, 2019).



The site can be framed by two scales, the larger grain and the finer grain.

The Larger Grain:

The larger grain frames the north and west wings owing to the surrounding large-scale office blocks. This locale is commonly lined with commercial activity and access to parking on the ground floor, with offices upstairs. The buildings form the street edge with slight dynamicity/undulation in the façade –which creates a harsh edge – whereas internal edges are more dynamic, presenting terraced interiors for ventilation and light.

The De Bruyn Park office building is currently vacant, which is a common problem faced by the municipality because department sizes have grown to such an extent that accommodation is no longer sufficient. Consequently, the departments decentralize, leaving large office blocks vacant (Clarke and Kuipers, 2015).

The Finer Grain:

The finer grain frames the east and south wings and houses smaller residential, commercial and business activities. Small pocket spaces left after development differentiate it from the large grain. The plots are significantly reduced in scale and mostly contain double-storey buildings. This realm has a lot more character due to it being a more 'lived in' space that was filled with modified layers over time.

The site is located where these two realms converge, creating an interesting opportunity for response.

Figure 44: The two realms compared in scale (Author, 2019).

3-2-2: the historical fabric

Queen Street Mosque - est. 1928

The mosque acts as a powerful anchor on the block where the site is located. As a result of urban development, in response to a Modernist urban grid, the mosque stands askew to the adjacent multi-storey buildings.

The building is a square bed under a tiled roof with a copper onion central roof dome. The porches extend along the south and east wings, converging with a four-storey corner minaret crowned with a copper onion dome. The walls are plastered and painted white with prefabricated ornamental jars and balustrades. The interior is laid out with floor mats for prayers and the windows have wooden frames with stained glass infill (le Roux and Botes, 1991).

Libri Building - est. 1935

This four-storey residential building has a plastered symmetrical façade that is divided into three parts. The second floor has a balcony which extends over the pavement below, creating a roof structure. The plastered walls, art decoettes, curved balconies, and functional treatment of the façade is a prime example of Pretoria Art Deco (le Roux and Botes, 1991).

Netherlands Bank Building, Norman Eaton - est. 1953

This Modernist building occupies the street corner, showcasing an example of superior craftsmanship with attention to detail. The seven-storey building consists of a banking hall with office wings to the north and south, services to the west and a roof garden on top of the southern block. Travertine was used on the floor plinth and custom-made bricks clad the walls with windows that are deeply recessed between vertical stone bands (ground) and horizontal bands (above) (le Roux and Botes, 1991). The entrance is marked by a break in rhythm and contains large bronze doors. An intricately designed drinking water fountain is located on the south-east corner of the bank.

The architectural characteristics of historic buildings should be carefully considered. Special attention will be paid to the intricacies of the façades that serve as a historical canvas for the new intervention.



46



47



48



49



50

Figure 45: Mosque before enveloped by new developments (Le Roux, 2007).

Figure 46: The embellished minaret (Author, 2019).

Figure 47: Prayer space (Le Roux, 2007).

Figure 48: Libri Building Art Deco facade. Available at: <https://images.app.goo.gl/zNQxnB4h-V3EZoyg17>. [Accessed on: October 2019].

Figure 49: Libri Building facade now (Author, 2019).

Figure 50: Netherlands Bank building. Available at: <https://mdc.arq.br/2011/03/29/a-quatro-maas-arquitetura-moderna-brasileira-1978-82/11-norman-eaton-netherlands-bank-pretoria-1953-marc-charles-jooste-can-you-see-the-music-2007-p-84/>. [Accessed on: October 2019].

Figure 51: Modular, textured facade. Available at: <https://www.flickr.com/photos/tylermyeo/16869473940>. [Accessed on: October 2019].

Figure 52: Signature Norman Eaton water fountain (Author, 2019).



51



52



53

3-2-3:
the city characters



Figure 53: The city block demarcated with its various uses (Author, 2019).

Figure 54: Collage of users and signs of use (Author, 2019).

The site is a destination for a variety of people; Muslims that visit the Queen Street Mosque daily, residents of the housing facilities, traders and shoppers along Queen and Church Streets, and many workers employed at the surrounding offices.

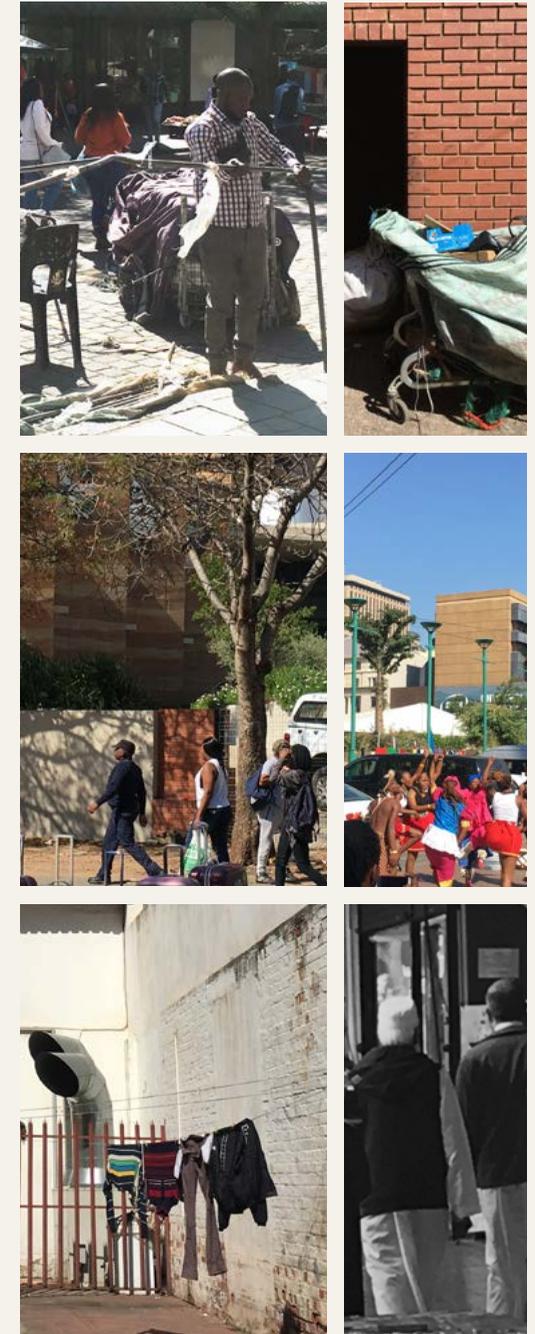
The traders occupy the site from 05:00, setting up their spots to be ready for the morning rush. They occupy the site during most hours of the day, rarely leaving their trading locations. The merchants pack up to leave at approximately 18:00 as there are no street lights to show the way during the early evening. Set up and pack up times depend on the season and whether it is a weekday or weekend.

The residents' occupation of the site varies and it has been observed that there is a steady flow in and out during the course of the day. Inhabitants seem to live here because of the close proximity to basic facilities. Muslims have relocated to the area to be close to the mosque for their daily prayers.

Office employees mainly visit the site at regular times, depending on their work hours. Due to pendulum migration, most of the wage earners within the city reside elsewhere, generating an influx of people during hours of operation and a drop towards the evening.

Muslims visit the mosque for their daily prayers and a larger group gathers for the Friday Prayer. The mosque is also frequently visited by the non-Islamic community as it has outreach programmes which assist with donations to people in need. Shop owners and workers in close proximity frequent the mosque to use their ablution facility.

Pedestrians give the site life. With Queen and Church Streets pedestrianized and lined with informal traders and trees, a pleasant route to surrounding basic facilities is provided. Movement down these streets that offer small breakaway spaces in which to pause is constant and linear. The new intervention is intended for anyone who is seeking a spiritual break. The current workers, shoppers, residents, and passers-by on the block are the potential users. Consideration regarding their on-site actions will create a welcome intervention.



3-2-4:
**the anchor:
Queen Street Mosque**

The Queen Street Mosque has held its position as the anchor of the site throughout the various block developments. The building's geometric rotation towards Mecca contrasts the Cartesian city grid that created pockets of open spaces around it. The large surrounding developments have contributed to establishing an intimate sanctuary for the Muslims' daily visits to their place of worship. The surrounding secular development of formal and informal infrastructure and service provision has created other small social groupings that envelop the Muslim community. The edifice's raised roof and arches create controlled views from the neighbouring offices. Because of the mosque's historical importance, the intervention must carefully consider its influence.

An interview with Imam revealed that the mosque and its Muslim community wish to expose the surrounding communities to their religion and culture. This is evident in their open facility that welcomes all those from diverse backgrounds, and the assistance provided to the needy via their outreach programmes. The lack of considered development in terms of the surrounding buildings has left the mosque with minimal courtyard space, resulting in congested Friday Prayers. The new intervention is required to consider the above and assist.

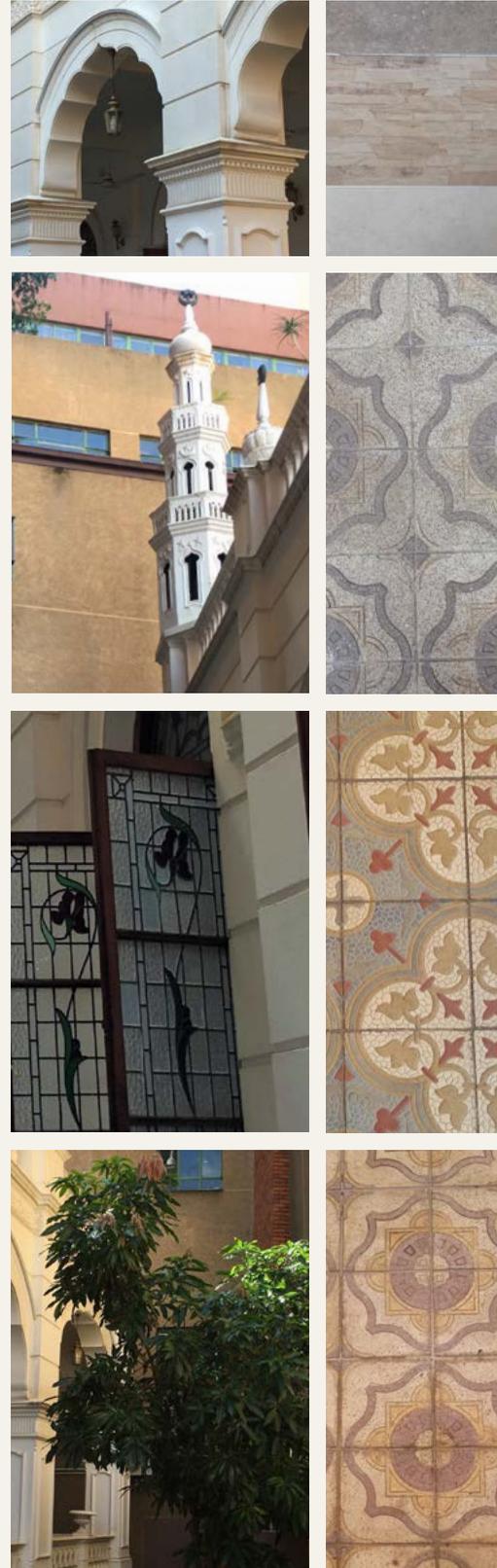


Figure 55: Collage of mosque textures and details (Author, 2019).

Rituals of the Mosque

Upon approach, the visitor passes through a minaret - a high tower which the call for prayer is directed. A series of fountains in the forecourt prompts a ritualistic purification before prayer. The main body of the mosque is primarily a hall which both men and women kneel in rows for prayer, facing the direction of Mecca. The prayer is directed towards the mihrab, a niche which the Imam lead prayers from (Stegers, 2008).

The typical mosque functions both as a religious space as well as frequented for social and family occasions.

When intervening with the mosque, it is important to acknowledge the mosque as the centre of religious life for Muslims. Its rituals should be understood and respected.

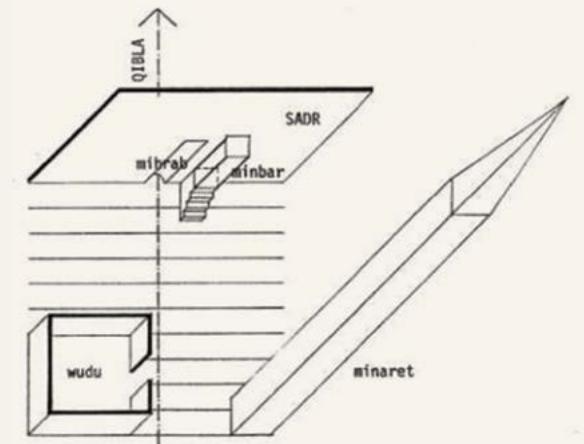


Figure 56: Schematic representation of a mosque and its parts (le Roux, 2007).

Challenging the Mosque typology

Throughout history, four types of mosques have risen in North Africa and western and central Asia.

Prevalent in all four types is the centrality and importance placed on the courtyard. The dualism between the inner courtyard and the prayer hall was maintained (Stegers, 2008). As explained in the Fez, Morocco case study, the tight knit city morphology also responds to the mosque courtyards – leaving them as the only large open spaces in the densely populated city. These courtyards are seen as social spaces through the function of ritualistic purification before entering the prayer hall. The mosque architecture responds to the function of the courtyard by wrapping around it, creating a sense of unity

This typology is challenged in the design intention for the Queen Street Mosque. The local Muslim community acknowledge the benefits of exposing the culture to varying users with various backgrounds, resulting in the insular traditional mosque typologies inappropriate. The courtyard typology is then re-evaluated to make it more welcoming and accessible to all.

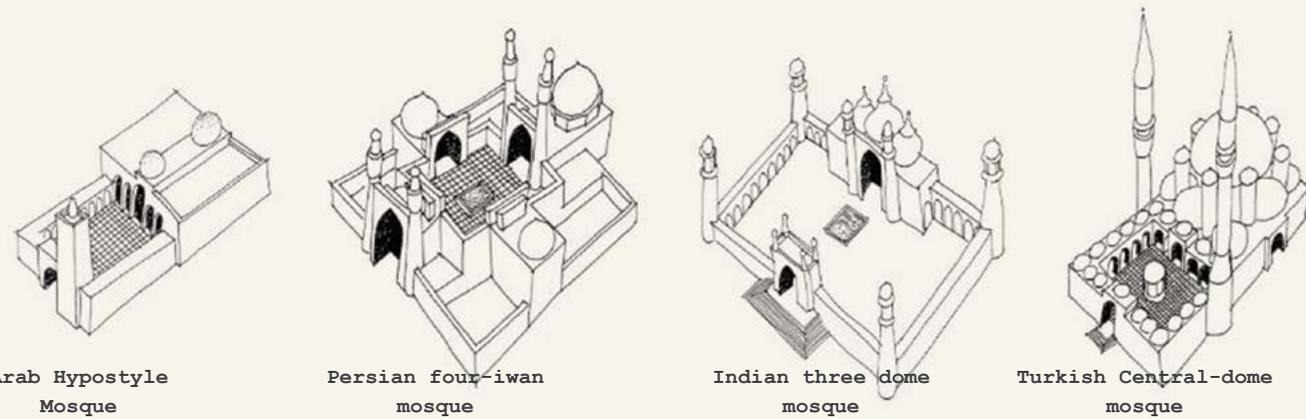
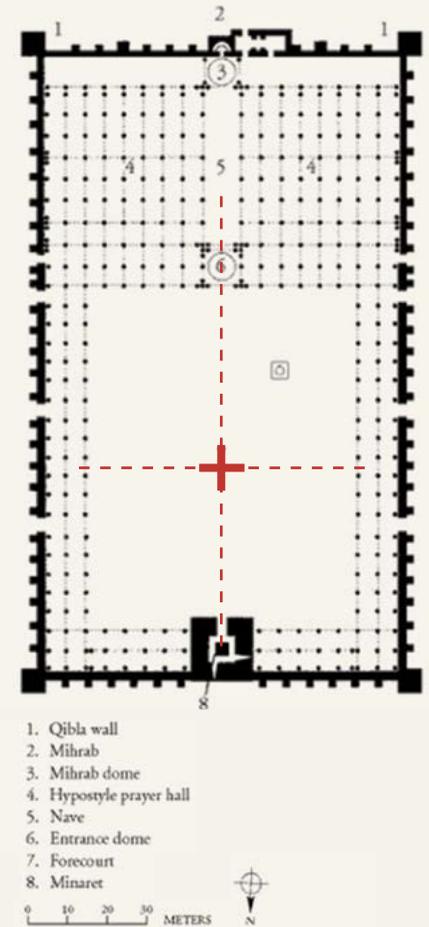


Figure 57: Schematic overview of the four types of mosques (Stegers, 2019).



dualism between the courtyard and the prayer hall

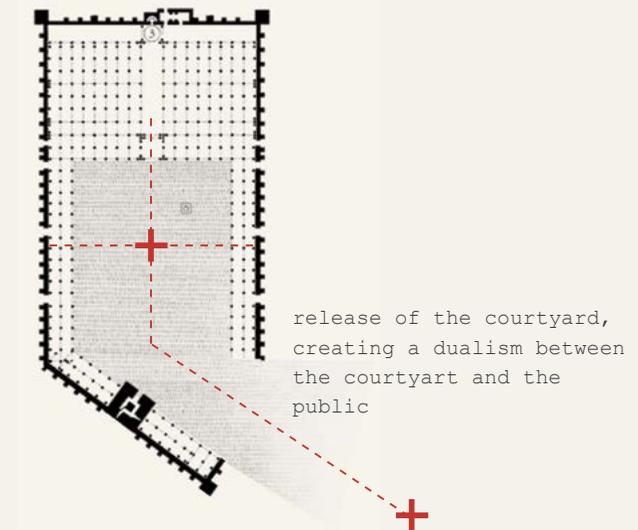
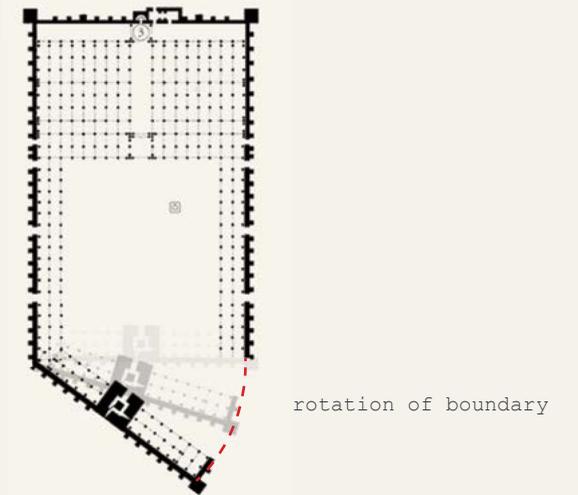
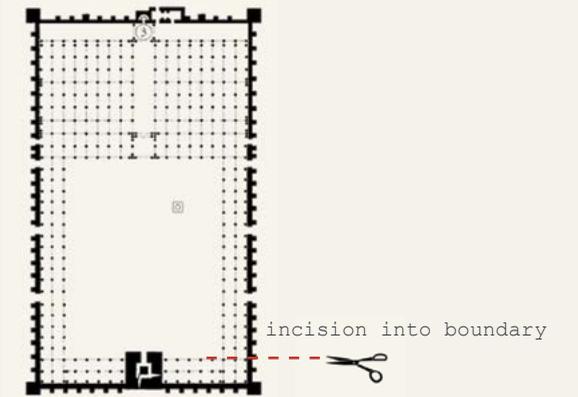


Figure 58: The Arab Hypostyle mosque - The Great Mosque of Qairawan, Tunisia is used to illustrate the typological intentions. Available from: <https://www.slideshare.net/sadsaint/islamic-art-5523032> [Accessed: September 2019].

conclusion:
**towards a spiritual path
and place in the city**

Urban

Following Pretoria's current urban planning strategies, the intervention addresses the brownfield site via improved integration with the existing street patterns and uses. The mediation puts effort into regenerating the block in the hope that it will prove to be a successful precedent for re-imagining other lost spaces within Pretoria Central. Trancik (1986) has provided general urban design principles to guide positive development, the implementation of which ought to avoid the further creation of lost spaces, namely:

1. The integration of the building with the public environment.
2. An enclosure that defines open space yet creates links between spaces.
3. Historical and contextual understanding.
4. Considered urban landscaping.
5. Streets and squares as a social discourse.

Programme

The context adds physical, social and cultural layers to the programme. The intervention will be grounded within its context if these layers are taken into account. The three modes of spirituality (explained in Chapter 2) are to be re-assessed to find its contextual application. The mosque's important role on the block in question has prompted programmatic considerations to ensure that its function is not hindered by the new intervention. The amalgamation of the programmes – the mosque, the different modes of spirituality and the context – will assist in creating a ritualistic core.

Context

The above principles will be applied to the vision of a spiritual path and place for the block while considering a contextual response to:

1. The micro-urban grains present on the site.
2. The various void types.
3. The heritage buildings – two of which frame the entrance onto the site – which the design of the elevation, materiality and technology should respond to carefully.
4. While opening up the mosque to the intended spiritual enclave, the threshold needs to be carefully considered and focus on the current sanctity of the site should be maintained.
5. A larger courtyard space should be provided for the mosque to facilitate gatherings.

A block vision was created by taking the abovementioned principles, the programmatic intentions and contextual informants into account. The three aspects –urban, programme and context – shape the informants for the intervention.

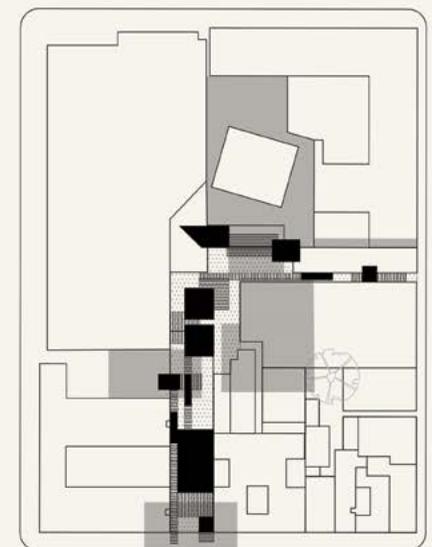
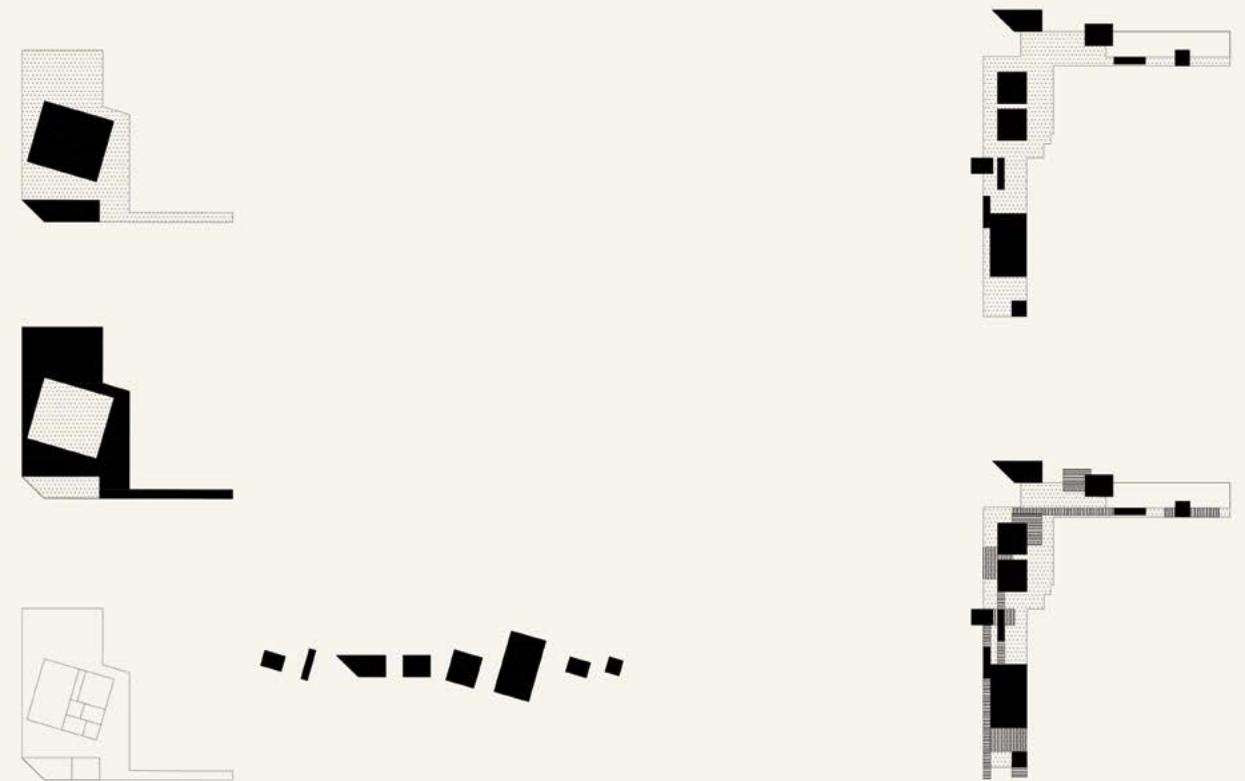


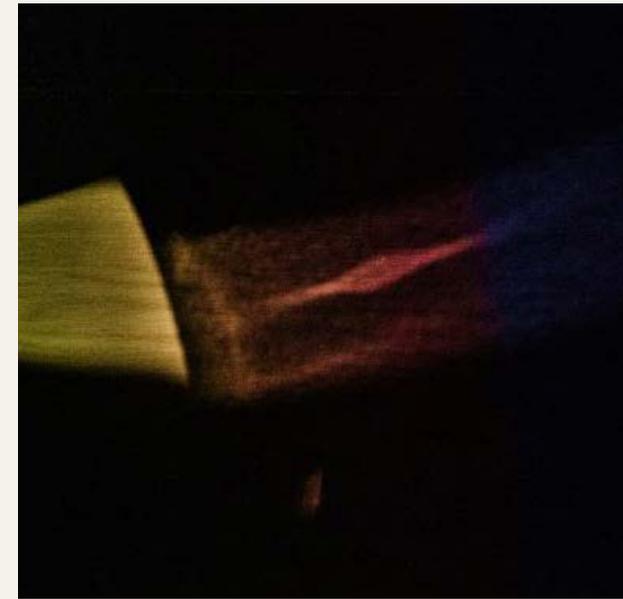
Figure 59: Defragmentation of spirituality into various spaces spread across the site (Author, 2019).

shadows

4

Chapter 4 discusses the conceptual stance taken on spirituality and the void through their relationship with shadows.

Part I demystifies the application of shadows through time. Part II aims to unravel the potential of shadows via an understanding of background, precedents and their application to the site.



*wearied, and seeking shelter for the night
ah, these wistaria flowers refresh the sight*

- from Basho, translated by Stewart (1965)

Figure 60: Waves of light (2019).

part 1:
a study of the darkness

“One of the basic human requirements is the need to dwell, and one of the central human acts is the act of inhabiting, of connecting ourselves, however temporarily, with a place on the planet which belongs to us, and to which we belong. This is not, especially in the tumultuous present, an easy act (as is attested by the uninhabited and the uninhabitable no-places in cities everywhere), and it requires help: we need allies in inhabitation.”

“Musicians everywhere make their sounds to capture silence and architects develop complex shapes just to envelop empty space.”

Excerpts are taken from Charles Moore’s foreword to Jun’ichiro Tanizaki’s ‘In Praise of Shadows’ (2001), signifying the preference to dwell within the shadows. These shadows are created through what architecture envelopes.

“... space was believed to be fundamentally void. Even solid objects were thought to contain voids capable of receiving divinity that descends at certain moments to fill such spaces with the spiritual power of the soul.”

Excerpt from Arata Isozaki’s stance on the void in ‘Intervals (“Ma”) in Space and Time’ (1986). The empty spaces – voids – are conceptually thought to be a vessel which contains the mass of shadows and divinity.

Claudine Bouzonnet Jacques Stella
La veillée à la ferme pendant l’hiver
1661 - 7



Figure 62: An engraving depicting man dwelling within the shadows. Available at: <http://ui.pictura18.univ-montp3.fr/GenerateurNotice.php?numnotice=A8580>. [Accessed: July 2019].

The role of dwelling within the shadows with a centred hearth, provides a dim intimacy, the depths of spaces create shadowy nooks that allow for varying function. The women weaving flax at the fire, men drinking around a dimly lit candle and a couple exchange searching gaze around a dark nook.

During the prehistoric times, there was an elemental joy in residing in a dimly lit space, an area of peace, calm and security, space which signified protection and homeliness (Kite, 2017). When one makes a place to live, a parasol is used to throw a shadow on the earth, and within the shadow, a house is built. The darkness was a ruling force that was only relieved by the hearth, candle or oil lamp. People were enshadowed from the outside world because the shade is our inhabitation ally.

4-1: from darkness to light

Leonardo de Vinci used three key terms to describe the shadow; cast shadows – those that are thrown beneath by a projection blocking the light; attached shadows –that belong to surfaces facing away from the light, and shading – the infinitesimal gradations of light (Kite, 2017). Within architecture, the three shadow characteristics are phenomenally interrelated to create form, depth and texture. The shadows and shades of architectural objects are living architectural entities – masses and shapes of the dark (Mc-Goodwin, 1904).

Figure 63: (left) Shadows as remembrance of the object which it was cast from. Seen as a true form from its object. Available at: <https://en.artsdot.com/@/Joseph-Benoit-Suvee>. [Accessed: July 2019]

Pliny the Elder's first century AD statement that "all agree that painting began with the outlining of a man's shadow".

Reviving Pliny the Elder's belief, the painting depicts a woman in love with a man, and when he was going abroad, she drew in an outline of the shadow of the man's face thrown by the lamp.

Figure 64: (middle) Shadow as symbolism for meaning and presence of its own, detached from the object. Available at: <http://www.cabinetmagazine.org/issues/24/stoichita.php>. [Accessed: July 2019].

'in the day of evil; he will hide me in the shadow of his tabernacle'

The sick is carried out into the streets, for the chance that Peter's shadow might fall on some of them as he passes by. The sun is the holy spirit and the shadow is portrayed as a positive figure and real presence of healing.

Figure 65: (right) The object is not seen, but the shadows allures a sense of mystery and fear in anticipation for what it might be. Available at: <https://www.loperfect.com/mystery-and-melancholy-of-a-street-1914-Giorgio-de-Chirico-Metaphysical-surrealism.html>. [Accessed: July 2019]

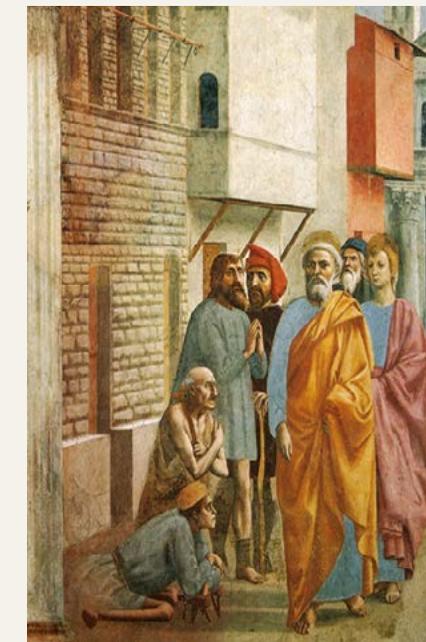
Shadow of the concealed statue that stalks the steeply angle perspective

Negative embodied presence and uncannily disembodied from its hidden source around the corner.



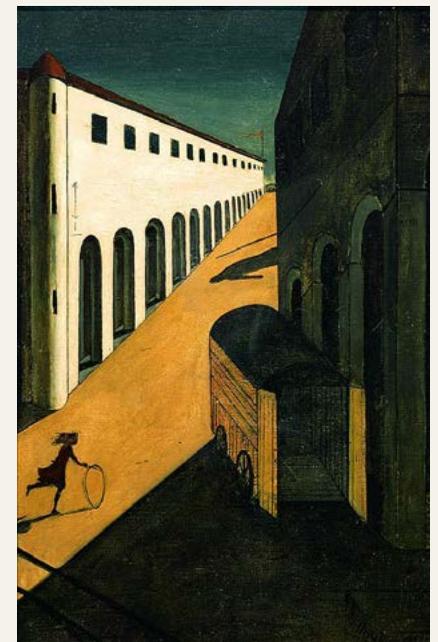
Shadow and Art

Joseph-Benoit Suvee
The Invention of Drawing
circa 1791



Shadow and Presence

Masaccio
St Peter Healing the Sick
1427-80



Shadow and Mood

Giorgio de Chirico
The Mystery and Melancholy of a Street
1914

It is believed that the beginning understanding of shadow was expressed through paintings. The silhouette's form derived from the object that casts it (Kite, 2017). Shadows also have their own meaning and symbolism, which is separate from the objects they are attached to. In some cases, shadows can portray feelings. A dark mass can have different connotations based on the play on its form, proportion, positioning, and can create different experiences when manipulated.

Modernism crudely divided the world into good-bad, bright-dark, light-heavy, and transparent-secret; dissolving interior and exterior in the pursuit of evermore brightness within ever greater depths (Kite, 2017). Modernity's 'liberation of space' challenged the idea of architecture as a box, introducing glass walls to release the shadow and bring in the light to where it never reached before, directing vision to the outside of the box (Kite, 2017). As a result, the west regards light as the staunchest inhabitation ally, thus removing enclosures that shape a dwelling. However, "Even the window curtains which close off the space, above all at night, have a meaningful function here." (Tanizaki, 2001). No matter to what extent light is praised; we have an innate and unavoidable desire to dwell within the shadows.

4-2:
**contribution to
spirituality and the void**

Shadows express mystery and secrecy (Tanizaki, 2001). We tend to close off by distancing the sense of vision during overpowering emotional experiences. Deep shadows and darkness dull the sharpness of sight and invite unconscious peripheral vision, encouraging thoughts to travel with an absent-minded, unfocused gaze that creates a sense of solidarity (Pallasmaa, 2005).

Shadow and light are inseparable; the shadow gives shape and life to the illuminated object. Our treatment of light has turned into a quantitative matter and the window has lost its significance as the mediator between two worlds. Intimacy is created through the effects of shadow and atmosphere (Pallasmaa, 2005; Tanizaki, 2001). Environmentally, shadows contribute to the quality of the natural phenomenon of time as an order of phenomenological succession. Gloom can portray rhythm, movement and direction – a set of temporal structures that can concretize the passage of time (Norberg-Schulz, 1980).

The experiential and environmental qualities of shadows could be used to express a meaningful spiritual space within the urban cavity of Pretoria Central.

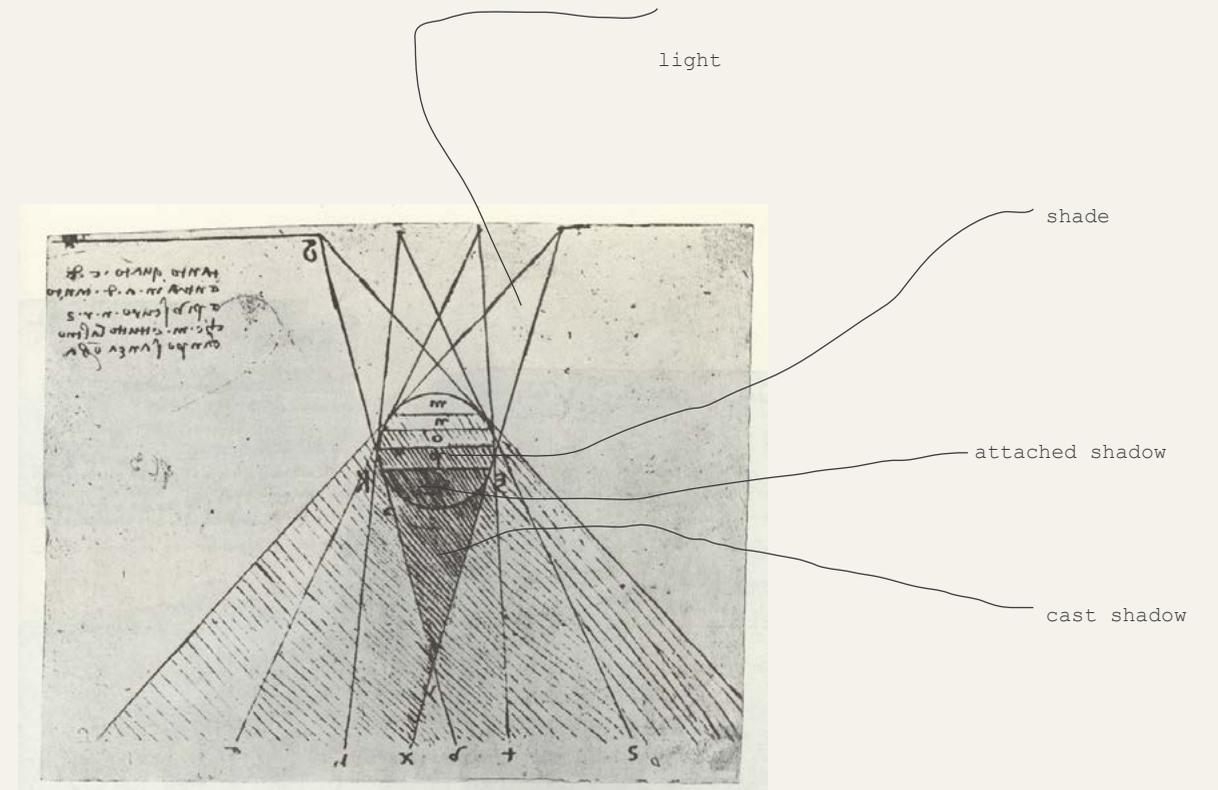


Figure 66: Leonardo de Vinci's shadow analysis Available at: <https://www.leonardodavinci.net/study-of-the-graduations-of-shadows-on-spheres.jsp>. [Accessed: October 2019].

part 2:
dwelling within the shadows

Light has been regarded as immaterial but, when seen together with a play of shadows, brightness takes on a surprisingly physical presence. The two elements manipulate our perception of space; the shadow is a declaration of place while light guides our vision to selected views, prompting movement. The light that penetrates the same space from different openings at different times of the day creates interior layers, fluidity in time and spatial experiences, producing a dynamic quality in an area. Shadows are also place-making and form-making tools that assist in spatial transitions.

[shadow]



1. cast shadow

the shadow which falls out of the object



2. attached shadow

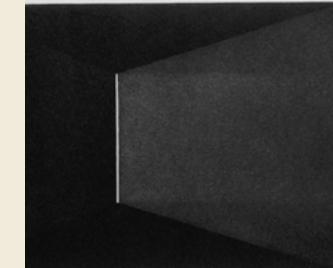
the shadow which is contained within the object



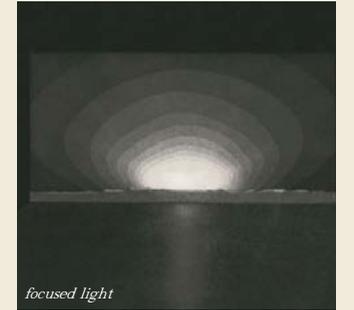
3. shade

the shadow which falls on textures

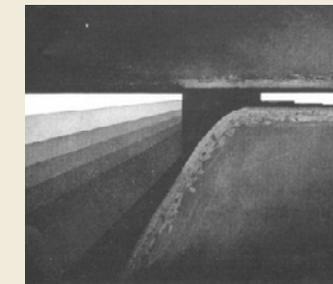
[light]



pristine light



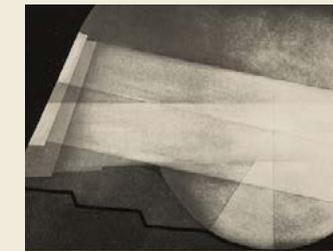
focused light



inner light



shared light



cyclic light

4-2-1:
**containment of the shadow:
place-making**

The roofs of houses in the west are meant to keep the elements out while creating as few shadows as possible and exposing the interior to as much light as can be managed (Kite, 2017). The roof acts as a cap rather than a parasol.

The commended shadow is not etched out by light but rather by the dimness that envelopes the entire place; it is a grey space, a symbiosis of light and darkness. In Japanese architecture, devices and mediums such as the veranda, the shoji screens and the dark post and beam structure that carry a heavy, deep roof, are used for this symbiosis. A room is similar to an ink wash painting; the shoji screens being the expanse where the ink is the thinnest and the alcove where it is the darkest (Tanizaki, 2001). A room is a sensitive containment of the shadow.

As a result of the influence of Japanese architecture, Frank Lloyd Wright utilized the roof to define a residence as a space made by shadows on the earth. The shadows are cast by the large overhanging roofs and deep-set piers that produce a dimly lit interior despite the large windows – an increase in openness without a simultaneous increase in the level of light.

conceptual precedent 1:
William R. Heath House

Frank Lloyd Wright
1904-5



An appreciation of human requisites and habitat are qualities in Wright's architecture that are clearly evident in the William R. Heath House. Encapsulating a 'mood of refuge' with its large roof overhangs and the house being fixed around the half-ingenook fireplace, relates back to the primitive hut where the centre shed a circle of light used to nurture the family. Recessed bands of glinting windows and the cave-like anchoring of chimney masses denote an invitation to the subdued light of a sanctuary

Figure 68: The large overhangs over deep thresholds create a depth of shadow quality. It shows similar qualities to Wright's later work, Fallingwater. Available at: <https://www.flickr.com/photos/52011756@N02/6126928731/in/photostream/>. [Accessed: September 2019].

4-2-2:
**shadow as mass:
form-making**

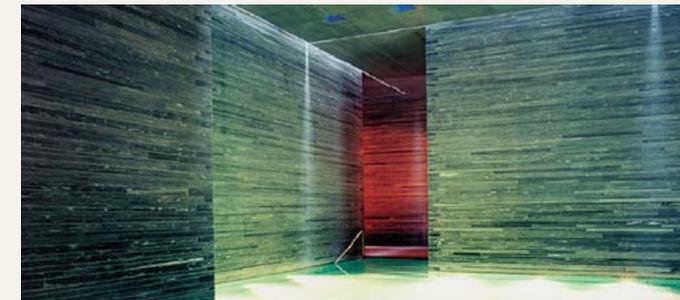
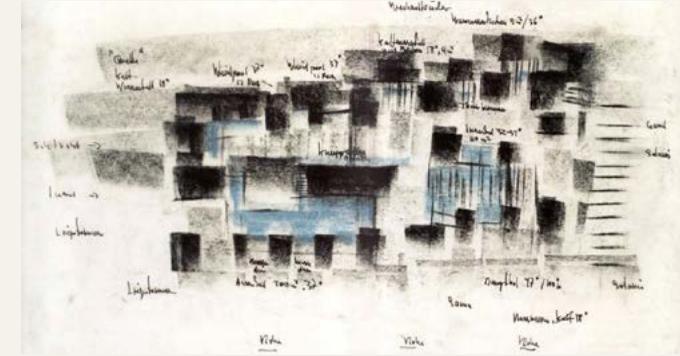
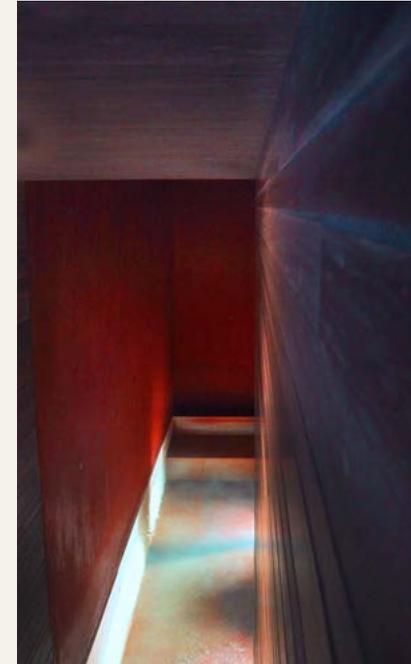
conceptual precedent 2:
Therme Vals

Peter Zumthor
1996

“... the first of my favourite ideas is this: to plan the building as a pure mass of shadow then, afterwards, to put in light as if you were hollowing out the darkness, as if the light were a new mass seeping in.”

Extracted from Peter Zumthor's Atmospheres (2006).

A conceptual departure on the shadow as a mass can assist with form-making. Once the desired character of space is understood, the shadow mass and its light piercings are explored to best portray the experiential and atmospheric qualities.



Peter Zumthor's thermal baths employ the concept of shadow and light. The architecture portrays a stereotomic sensibility towards shadow play and recruits shadows that are made palpable by light. The carved out light openings probe various types of light – bright light, darkness and twilight. The spatial experience is like standing within the shadows and looking into the brightness of a colourful illuminated landscape, and of natural light that only trickles into the mass of a shadow – through narrow slits or the gaps left open between the stone slabs of the ceiling.

Figure 69: (left) The play on light, shadow and materiality is considered to create the atmosphere. Available at: <https://www.archdaily.com/13358/the-therme-vals/500f245628ba0d0cc7001d3e-the-therme-vals-image>. [Accessed: September 2019].

Figure 70: (top right) Conceptual drawing for the masses of shadow in contrast to soft elements such as light and water. Available at: <https://hal.archives-ouvertes.fr/hal-01275083/document>. [Accessed: September 2019].

Figure 71: (bottom right) Slits to let light in. Available at: <https://www.archdaily.com/13358/the-therme-vals/500f245628ba0d0cc7001d3e-the-therme-vals-image>. [Accessed: September 2019].

4-2-3:
**shadow as threshold:
spatial transitions**

Arcades, porticoes, verandas, balconies, overhanging eaves, exterior staircases, and recesses of all kinds render the separation of the indoors and outdoors less absolute to some degree. If they do no more than cast shadows they will have begun to suggest a transition zone between bright light and open air, the expanse of exposure and the subdued light of the interior, the tract of concealment (Kite, 2017). It represents the choreography of darkness and space transitioning into another space.

conceptual precedent 3:
Fisher House

Louis Kahn
1961



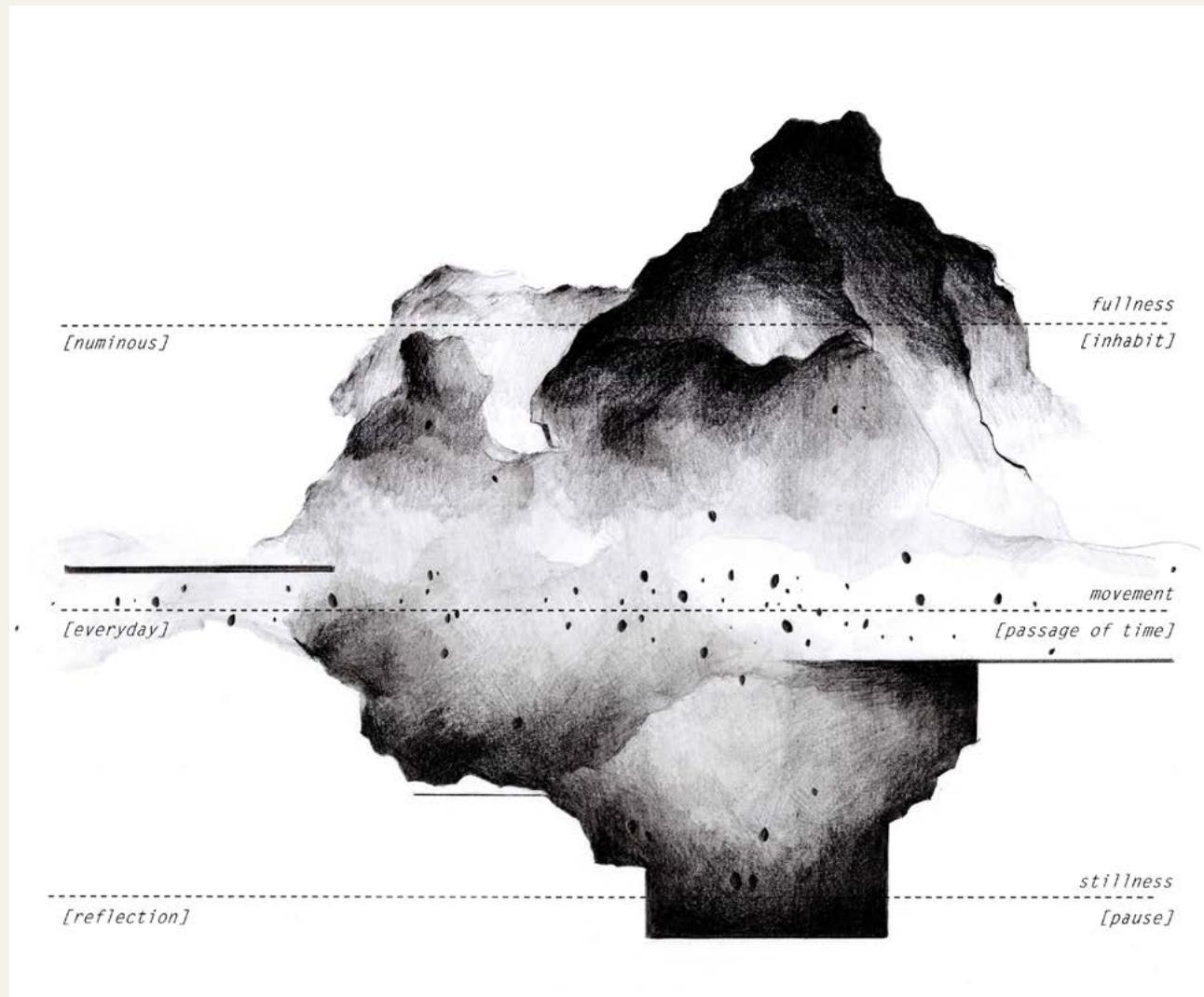
Figure 72: (left) The casements of shadows.
Available at: <https://www.slideshare.net/NinditoNandito/fisher-house-96294677>.
[Accessed: September 2019].

Figure 73: (right) The dynamic play of light and shadow achieved through the connection between architecture and nature.
Available at: <https://www.archdaily.com/499363/9-architects-reflect-on-the-homes-that-most-inspired-them/53550e34c07a80133b00000a-9-architects-reflect-on-the-homes-that-most-inspired-them-photo>. [Accessed: September 2019].

The casements do not only consist of glazing but appear in various forms – doors, windows, screens, and shutters. The house presents with a hierarchy of shadow details – deep window alcoves regulate sunlight and aeration; whereas a number of small portholes provide ventilation, large windows – some of which stretch from floor to ceiling – cannot open but contain shutters that can be opened and closed in varying configurations, and the back wall of the house appears to vanish when all the windows and shutters onto the garden at the back of the house are open. The hierarchy is not only portrayed in scale but also through the transitioning of the thresholds. Kahn describes the ambient threshold as an existence between silence and light, silence being contained in the shadows.

The three methods of using shadow as a design tool – as discussed above – form a conceptual basis for the development of the envisioned spiritual path and place with regard to this dissertation.

translation of the three shadow types and its relation to architectural elements



executing spirituality, void, and shadows

5

Chapter 5 explores the development of design based on theoretical, contextual, programmatic and experiential contributions towards a spiritual path and place. The design is then unpacked for technification.



*moonlight has sketched the shadow from pine
how elegant its pose, compared to mine*

- from baishitsu, translated by Stewart (1965)

Figure 74: Shadow form around corners
(Swart, 2019).

part 1:
concept development

The concept is informed by the three theoretical themes; spirituality, void, and shadows, and its application to programme, site, and experience respectively. The three themes have generated informants for the design, illustrated in a form of a matrix.

Each segment responds to spirituality, void, and the shadows differently. The response toward the three themes are successive, starting with:

Spirituality is a programmatic response to the identified three modes of spirituality – environmental, intimate, and socio-cultural. It addresses both the practical and poetic. The intention is to create a parallel between the everyday and the sacred.

Different parts of the **void** is filled with an appropriate mode of spirituality based on its practical relationship to its surroundings. Each pavilion space sits uniquely within the void and the movement thereof.

The form, thresholds and experience of these pavilions are then determined by the play of **shadows** – how it is encased, the rhythm of shadows cast, as well as the shading casted on textures of materials.

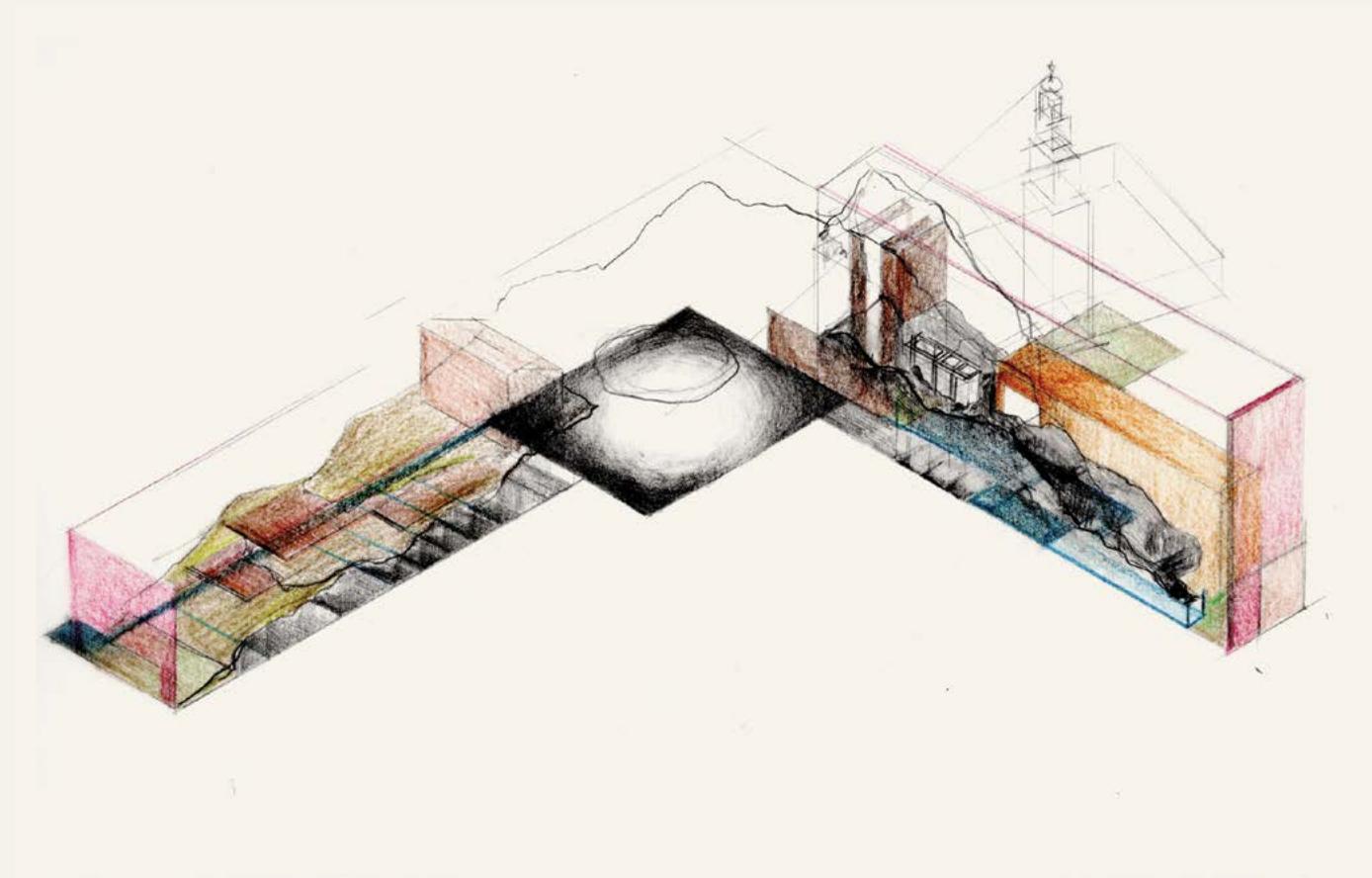
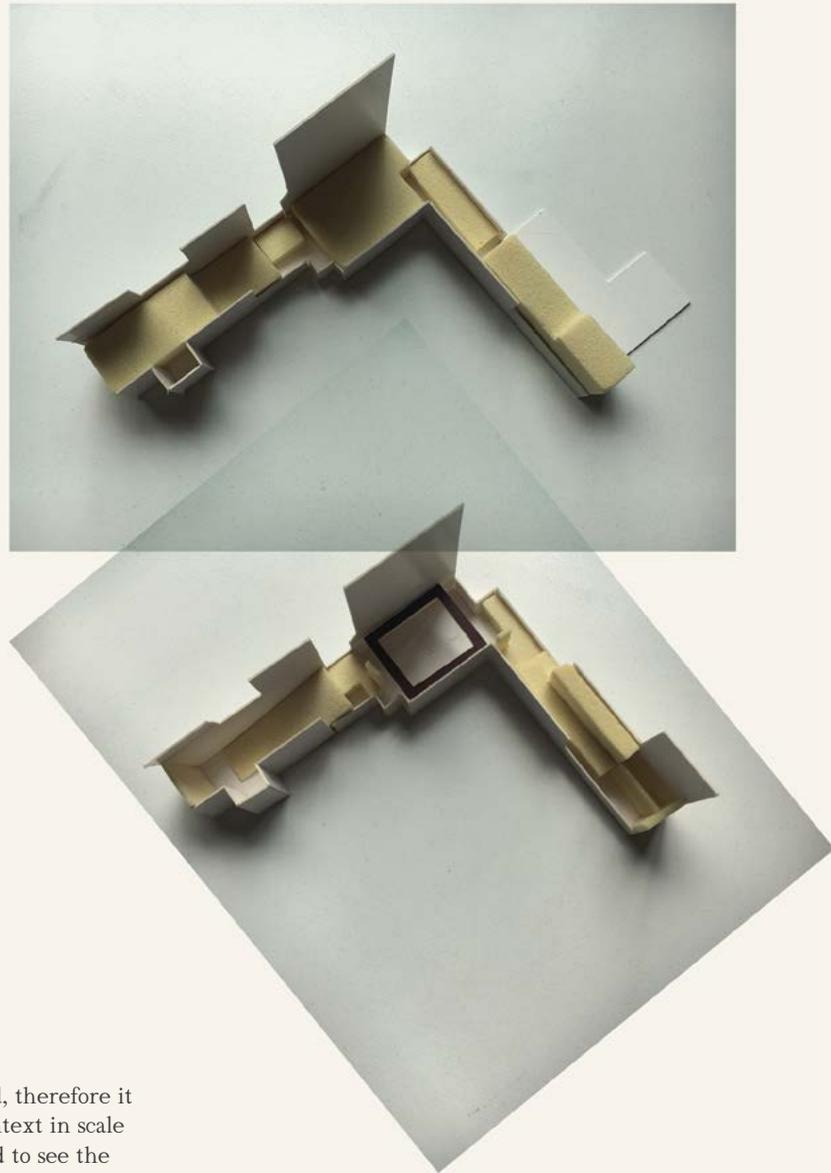


Figure 75: Concept drawing (Author, 2019).

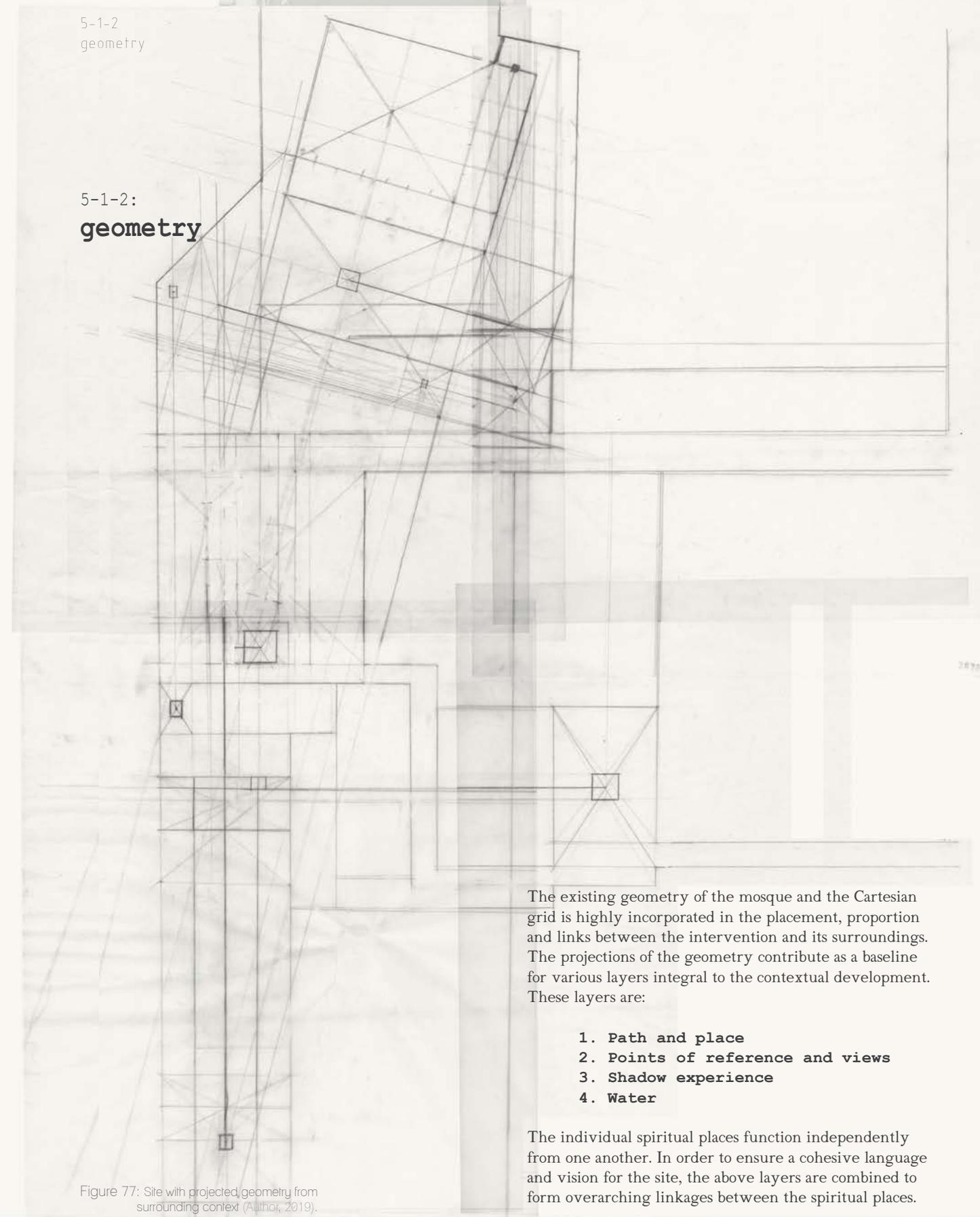
5-1-1:
massing



The intervention is situated within the void, therefore it is important to consider the surrounding context in scale and geometry. Massing models were created to see the relationship between mass and void. It has become clear through the exercise that the void should not be filled completely but still retain its integrity as the void between buildings. In favour of the defragmented approach to spirituality, it seemed more applicable to create a series of standalone pavilions with geometrical relationships to one another.

Figure 76: Massing models (Author, 2019).

5-1-2:
geometry



The existing geometry of the mosque and the Cartesian grid is highly incorporated in the placement, proportion and links between the intervention and its surroundings. The projections of the geometry contribute as a baseline for various layers integral to the contextual development. These layers are:

1. **Path and place**
2. **Points of reference and views**
3. **Shadow experience**
4. **Water**

The individual spiritual places function independently from one another. In order to ensure a cohesive language and vision for the site, the above layers are combined to form overarching linkages between the spiritual places.

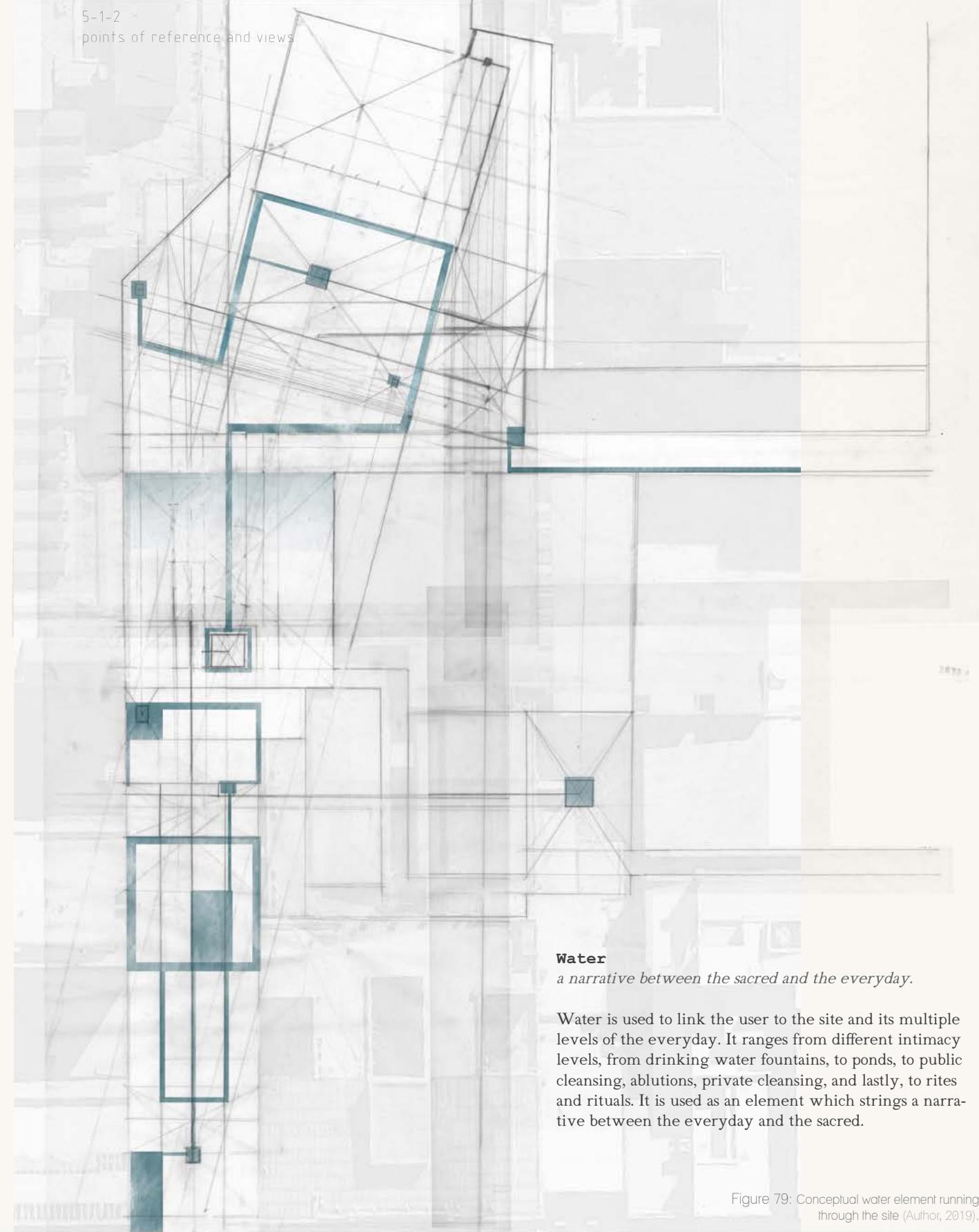
Figure 77: Site with projected geometry from surrounding context (Author, 2019).



Points of reference and views
a method which locates and guides the visitor through the site.

Paired with movement paths, it directly focuses the visitor's vision on selective points of reference and views. The new points of references are geometrically influenced by existing ones, they serve as feature points with scale which could be spotted throughout the site to offer locality and verticality. As the visitor progress on the paths, considered views are framed by the architecture form and openings, subtly encouraging the visitor through the site

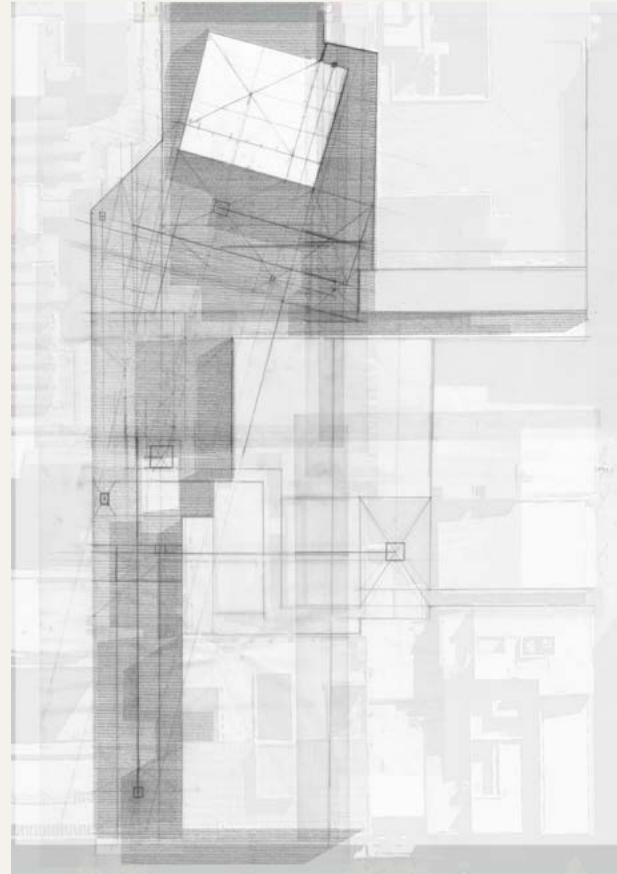
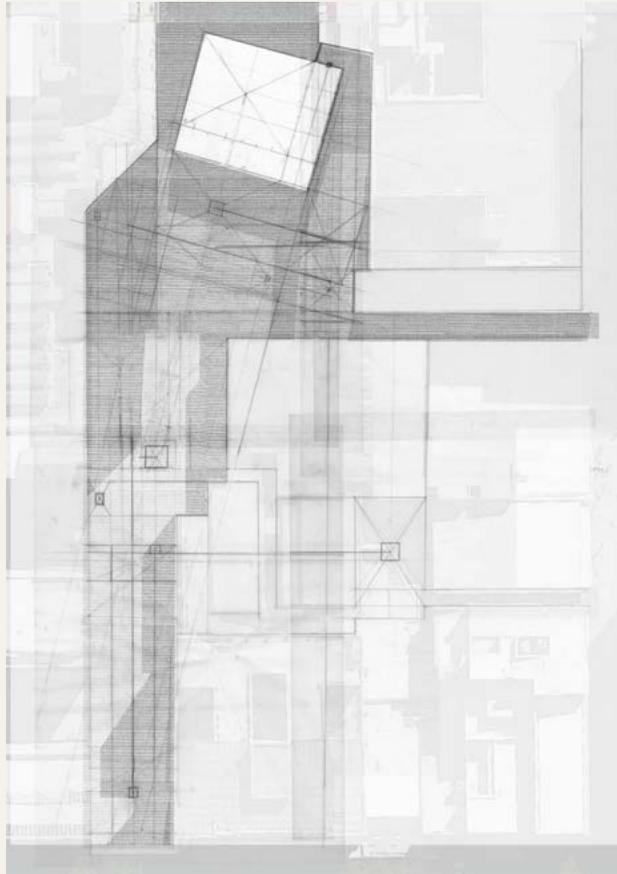
Figure 78: views and focal points of the site
(Author, 2019).



Water
a narrative between the sacred and the everyday.

Water is used to link the user to the site and its multiple levels of the everyday. It ranges from different intimacy levels, from drinking water fountains, to ponds, to public cleansing, ablutions, private cleansing, and lastly, to rites and rituals. It is used as an element which strings a narrative between the everyday and the sacred.

Figure 79: Conceptual water element running through the site
(Author, 2019).



Shadow Experience

the play of light and shadow as one progresses, adding to the sensory experience.

Through the understanding of shade, cast and attached shadows, the shadow experience is an overall interrelated experience of the three. The shadow marks a threshold transition and places to pause and dwell, whereas the light marks views and movement.

The existing shadows casted by surrounding buildings are taken into consideration for the environmental comfort as well as spatial arrangements.

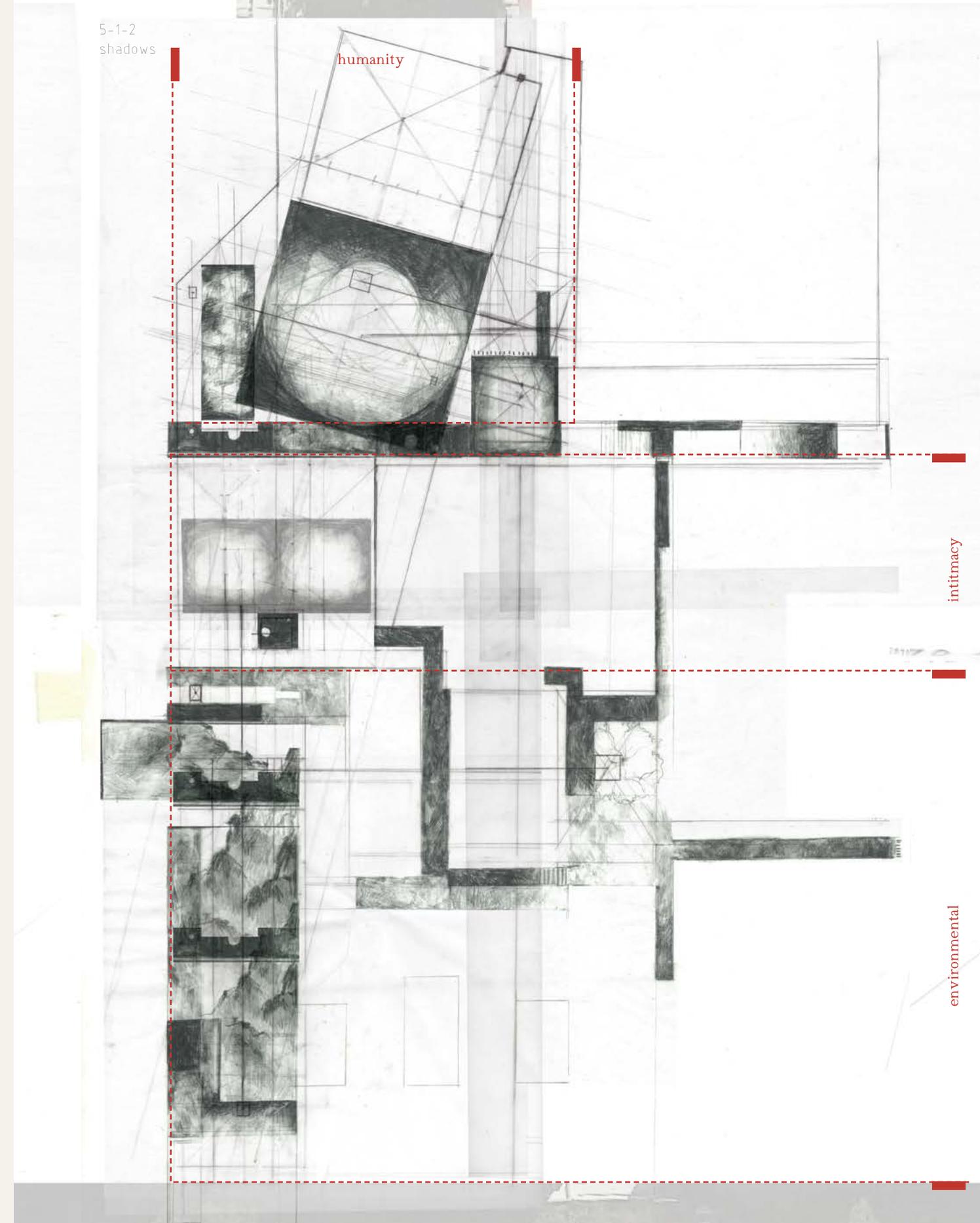
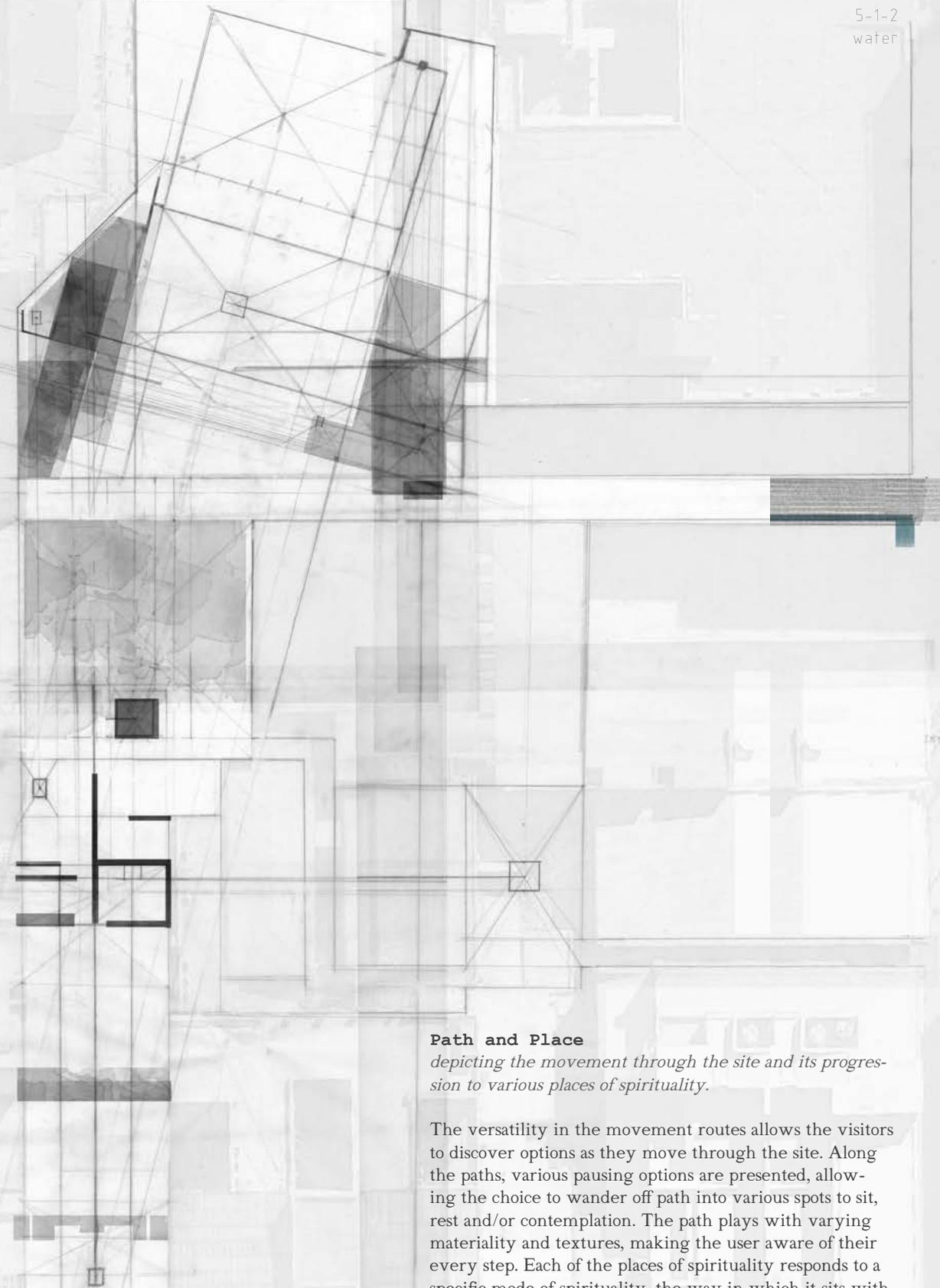


Figure 80: (left) Existing summer cast shadow pattern (Auihor, 2019).

Figure 81: (right) Existing winter cast shadow pattern (Auihor, 2019).

5-1-2
water

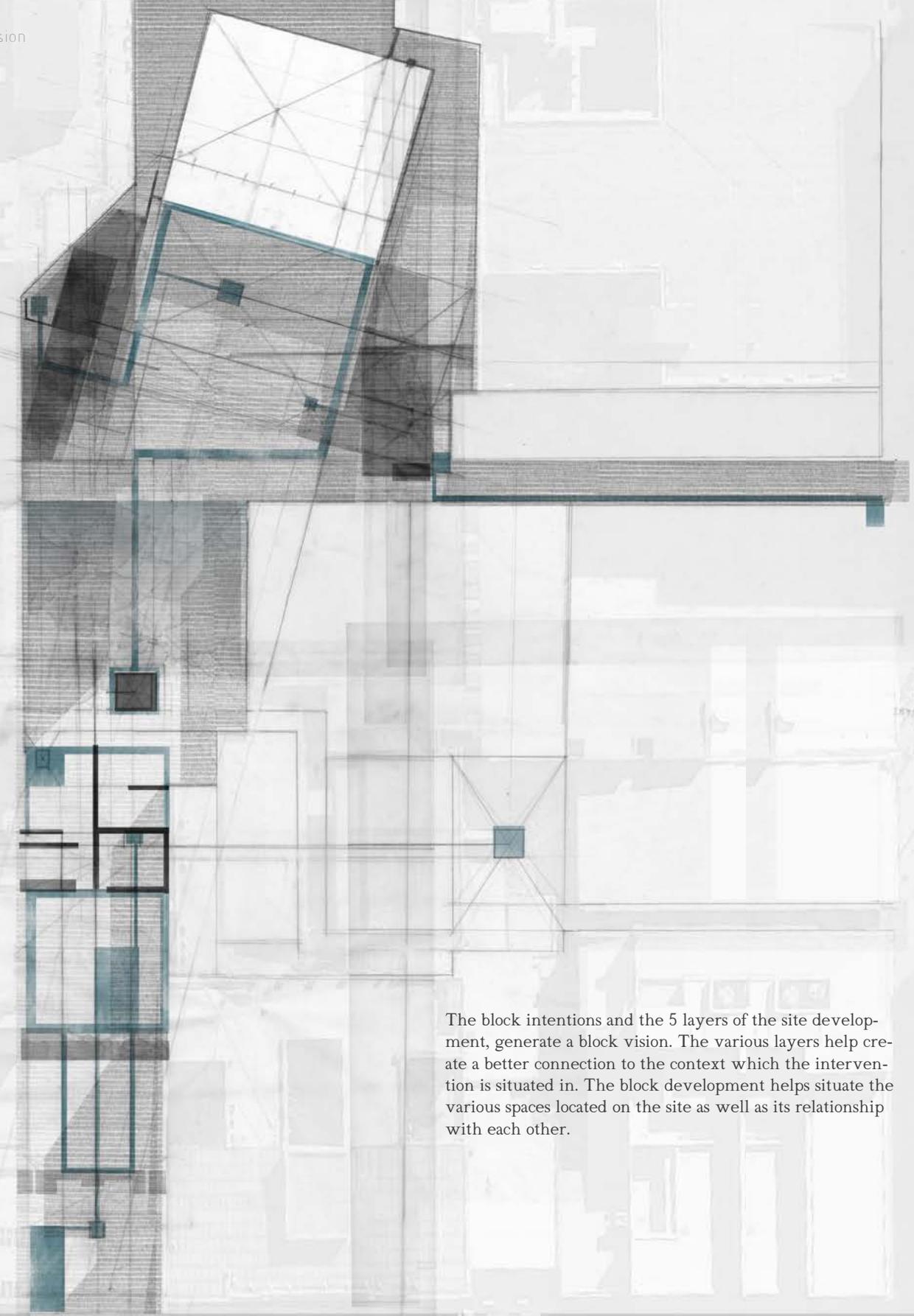


Path and Place

depicting the movement through the site and its progression to various places of spirituality.

The versatility in the movement routes allows the visitors to discover options as they move through the site. Along the paths, various pausing options are presented, allowing the choice to wander off path into various spots to sit, rest and/or contemplation. The path plays with varying materiality and textures, making the user aware of their every step. Each of the places of spirituality responds to a specific mode of spirituality, the way in which it sits within the void, and its character of shadows. As one progresses through the paths and places, it enriches the spiritual experience.

5-1-2
block vision



The block intentions and the 5 layers of the site development, generate a block vision. The various layers help create a better connection to the context which the intervention is situated in. The block development helps situate the various spaces located on the site as well as its relationship with each other.

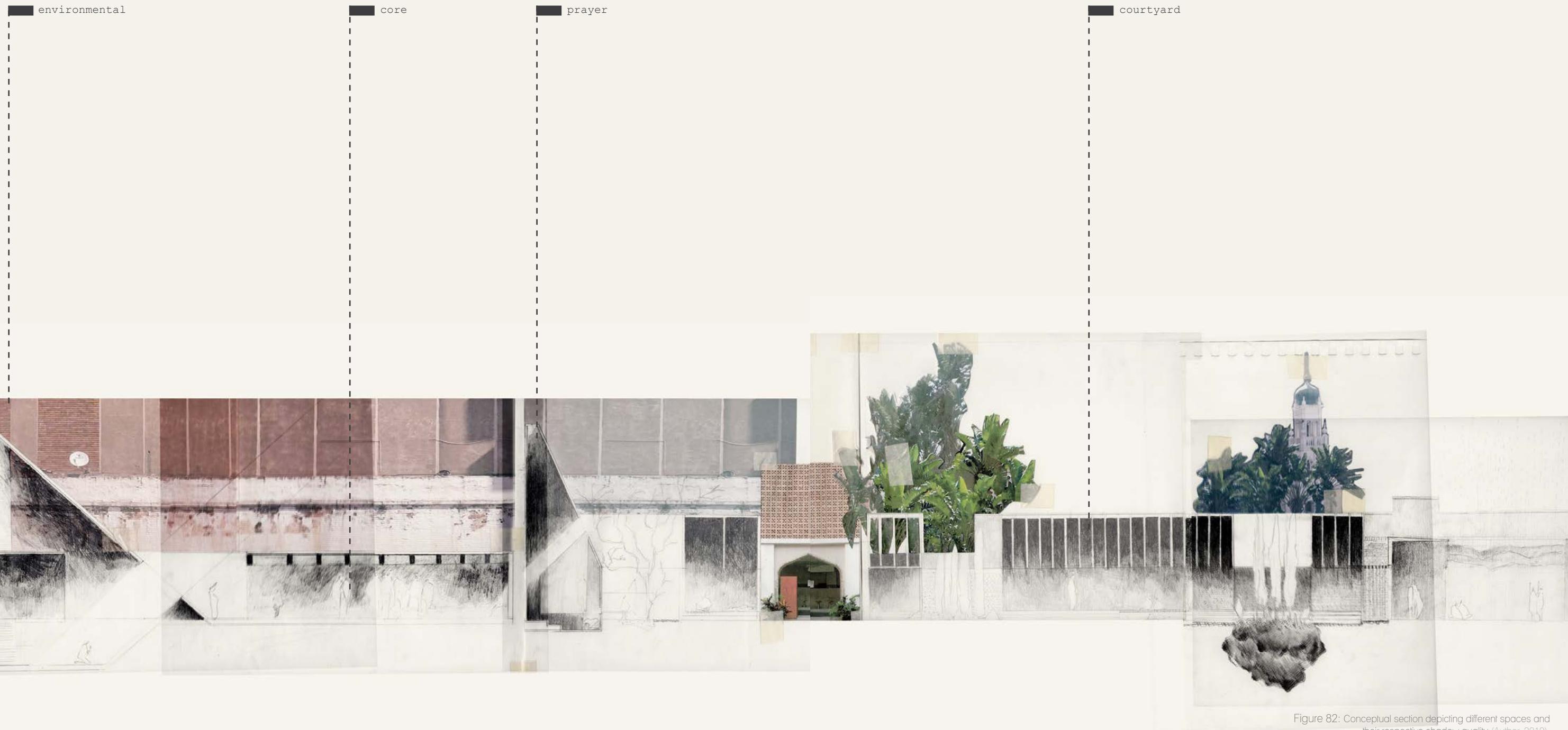
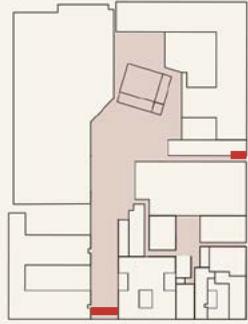


Figure 82: Conceptual section depicting different spaces and their respective shadow quality (Author, 2019).

part 2:
**the journey through the
spiritual path and place**



There are two starts to the spiritual path, one is more intimate and the other is more public.

The intimate entrance is accessed from the middle section of Queen Street. The entrance is framed by an entrance portico and drinking water fountain, integrated into the nook of the existing building. It serves to mark an entry to a characteristically different place. The fountain is a symbolic mirror as the Netherlands bank building fountain, framing the other (more public) entrance, creating a similar language for both entrances. The entrances are recessed, in-filled with nature, to create a seclusion of place. The scale is intimate, contrasting to the existing buildings, signifying a more humane space beyond.

Figure 83: Site key (Author, 2019).

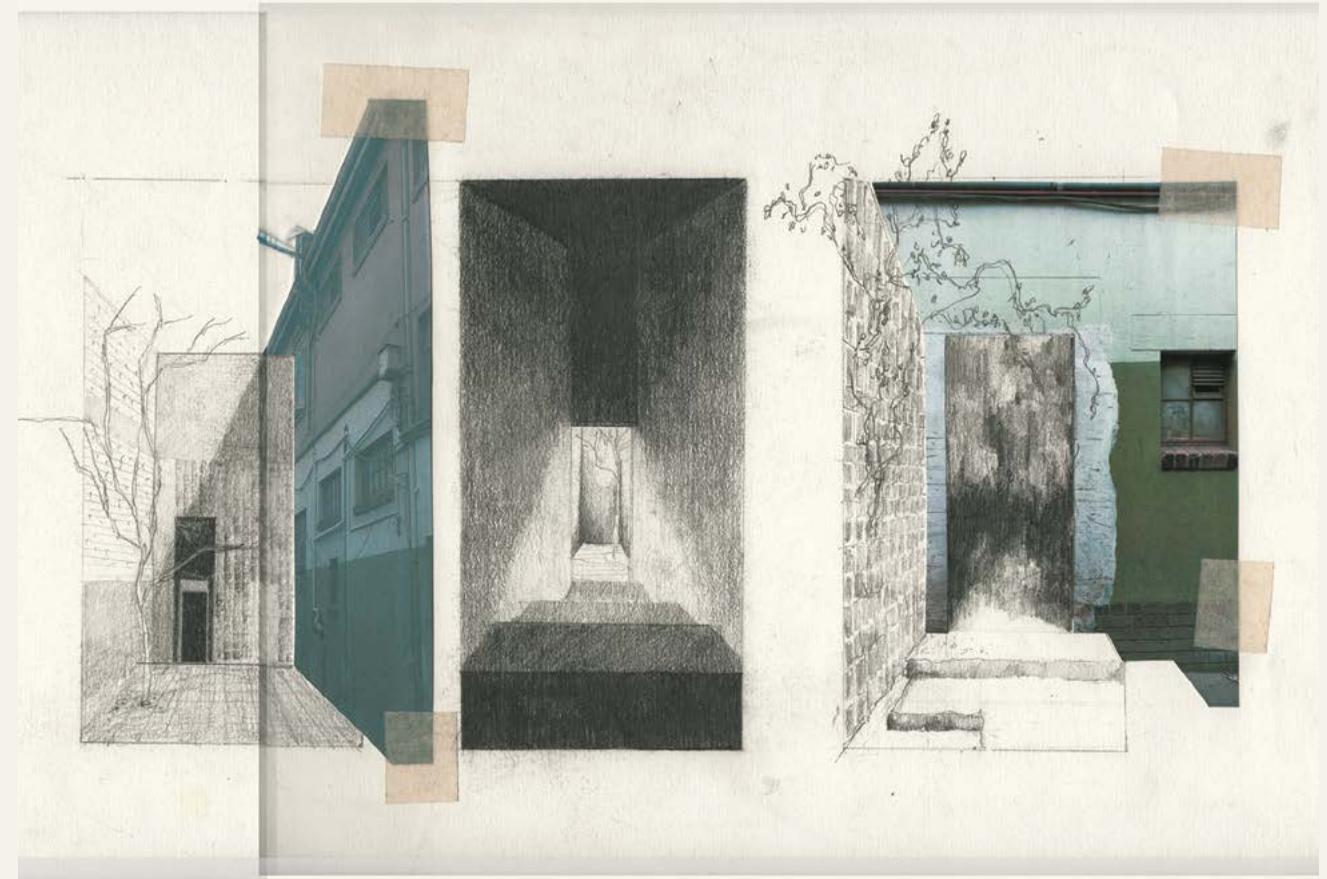


Figure 84: Vignettes depicting quality of mystery for the intimate entry through Queen Street (Author, 2019).

5-2-1: mode 1 - environmental connection
the urban courtyards

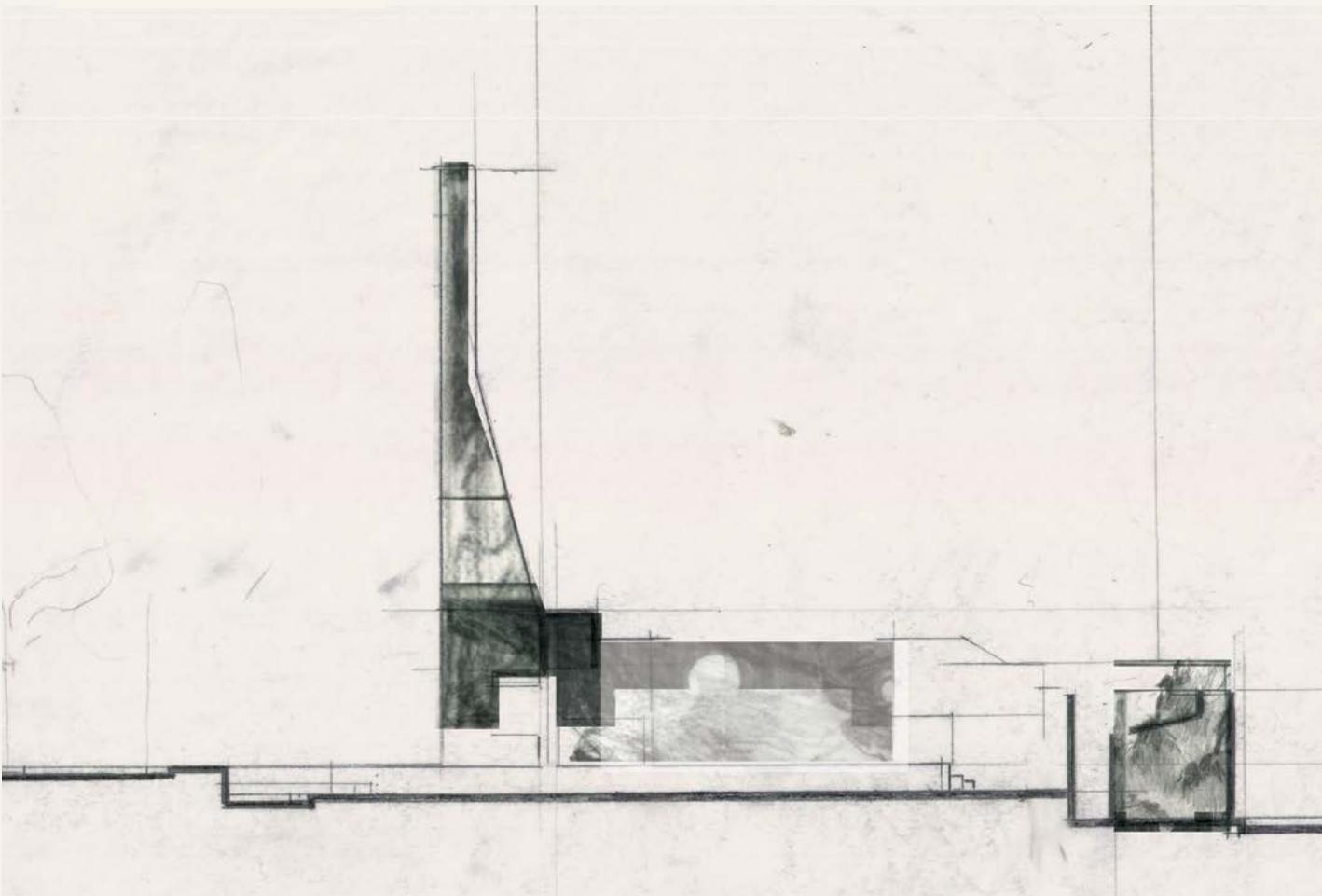
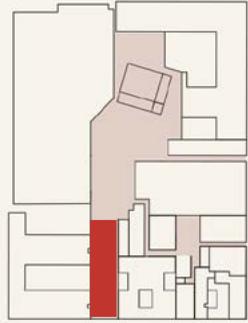


Figure 85: Site key (Author, 2019).
Figure 86: Conceptual section (Author, 2019).

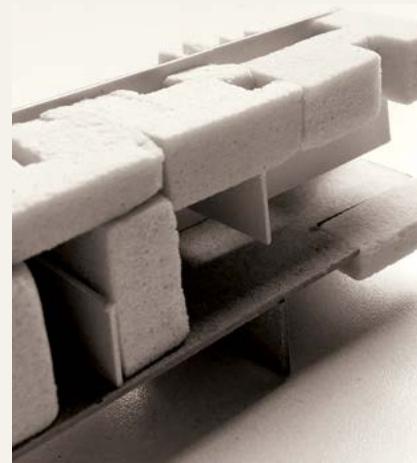
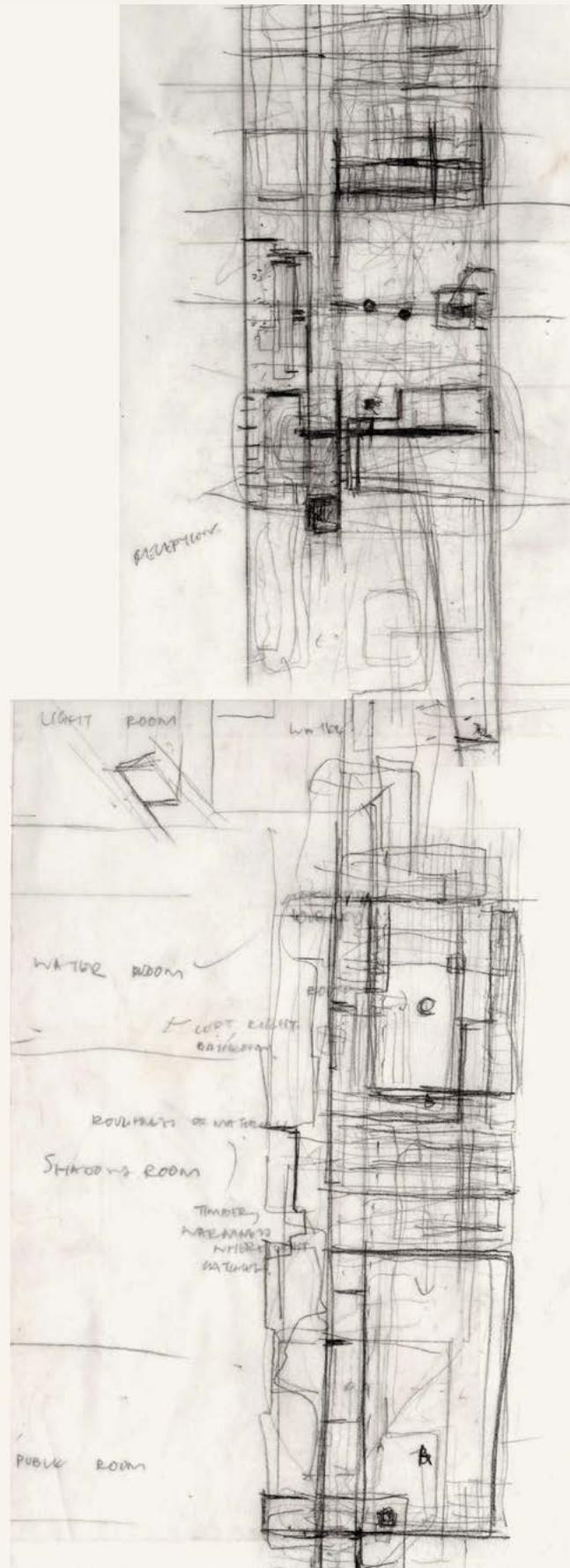


Figure 87: Series of photographs of maquette (Author, 2019)

This mode of spirituality is one which is translated through the incorporation of nature and the man-made. The space is intended to make one feel immersed within natural elements, emphasizing humility and appreciation for uncontrollable natural phenomena of time, through the play of shadows and materiality.

The study of this segment of space is one that began with understanding the existing shadows. The focus of this space is to intensify ones relationship with the environment, it has a strong focus on the movement of shadows, following a diurnal ritual. In response, it has divided the space into four – a public, shadow, water, and light room. As one progresses through these series of open rooms, they experience the various enhanced natural elements, executed through the architecture. The transition between each room is carefully considered and executed as a series of paths with deep thresholds, prompting you to various spaces. The thresholds frame the adjacent space, forming a series of courtyards. The intentions of these rooms is providing the visitor options to meet their varying needs and emotions. Spaces which they can sit, contemplate or just merely pass through to calm the soul.

Figure 88: Plan iterations (Author, 2019).
Figure 89: (opp. page) Plan iteration in consideration of sun angles (Author, 2019).



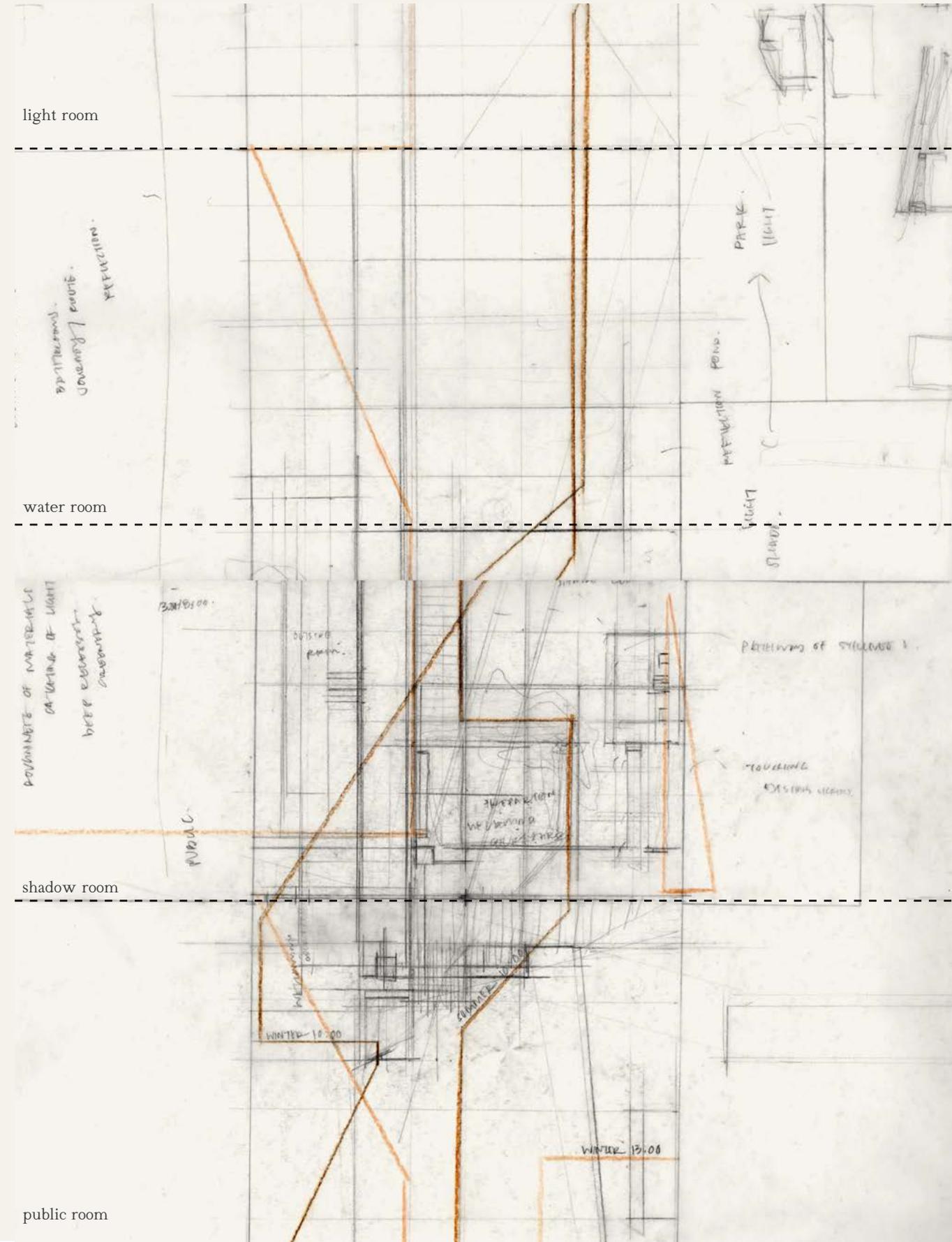
The thresholds fill the void with a series of deep porticos which blur the sense of inside and outside, bringing the visitor closer to the surrounding environment – existing and newly created. Materiality, scale and landscaping varies as you progress through the rooms.

Landscaping is used for scale and sustainability. Present in the city are tall buildings with inhumane façade interactions, trees are used to bring the scale difference down as well as act as a remedy for the urban heat island effect – a proven issue in many urban environment with a lot of hard surfaces.

Water channels are used to continue the narrative of water flowing through the site by metaphorically linking the existing Norman Eaton fountain to a reflective water pond with channels leading deeper into the site.

The materiality transitions from raw and textured application of materiality to a smooth and pristine application. The geometries reflect a similar attitude. The choice of materials is one which is allowed to be weathered, a reflection of the passage of time, creating a sense of nostalgia and memory through use of the space.

The scale slowly increases as one progresses deeper into the site, it adds a sense of seclusion and intimacy through the progression. This is achieved through a gradual step down of the floors as well as gradual increase in wall height. The change is subtle.



5-2-2: mode 2 - intimate connection
the core

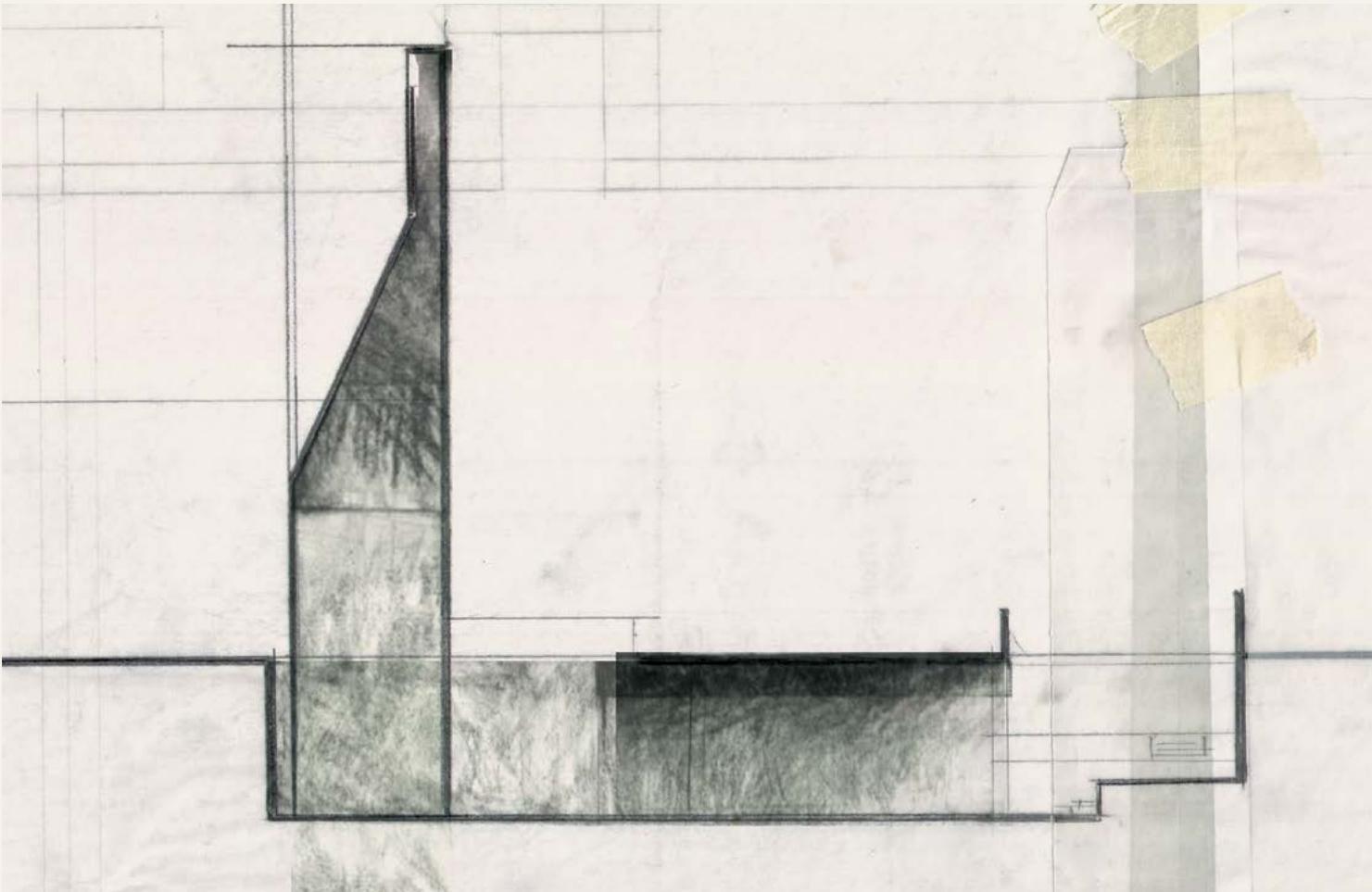
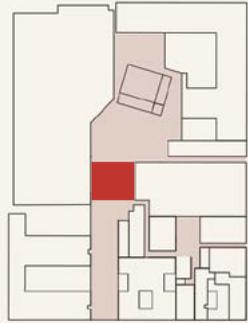


Figure 90: Site key (Author, 2019).
Figure 91: Conceptual section (Author, 2019).



Figure 92: Series of photographs of maquette (Author, 2019)

“Any work of architecture which does not express serenity is a mistake. That is why it has been an error to replace the protection of walls with today’s intemperate use of enormous glass windows.” (Ambasz, 1976).

This mode of spirituality is intentionally sacred with a primary focus on a sensory experience that provoke a sense of spirituality. The existing pedestrian flow to and from existing buildings has required the void to be kept clear for movement. This particular part of the void is also framed by high walls due to the surrounding large scale buildings. In response, the form of the pavilion is one that is grandeur in height – to meet with the surrounding scale, yet intimate in its enclosure to create privacy. The tower is a tall mass of shadow that symbolizes the weight of everyday stresses which are released through light – a symbol of divinity – through selective openings. To keep the ground clear for pedestrian movement, the space is sunken down one level, accessed through a cascade of stairs.

The dimly lit sunken space provides a more personal experience, engaging the visitor’s full sensors, making them more present at the moment. After descending the stairs, the purification space and body of shallow water subtly prompts that the space should be engaged barefooted. The pools of cool and warm water (heated naturally by the sun through openings) makes one more aware of the every step. Subtle nuances of light, dark, warm and cold is intended to trigger one’s senses.

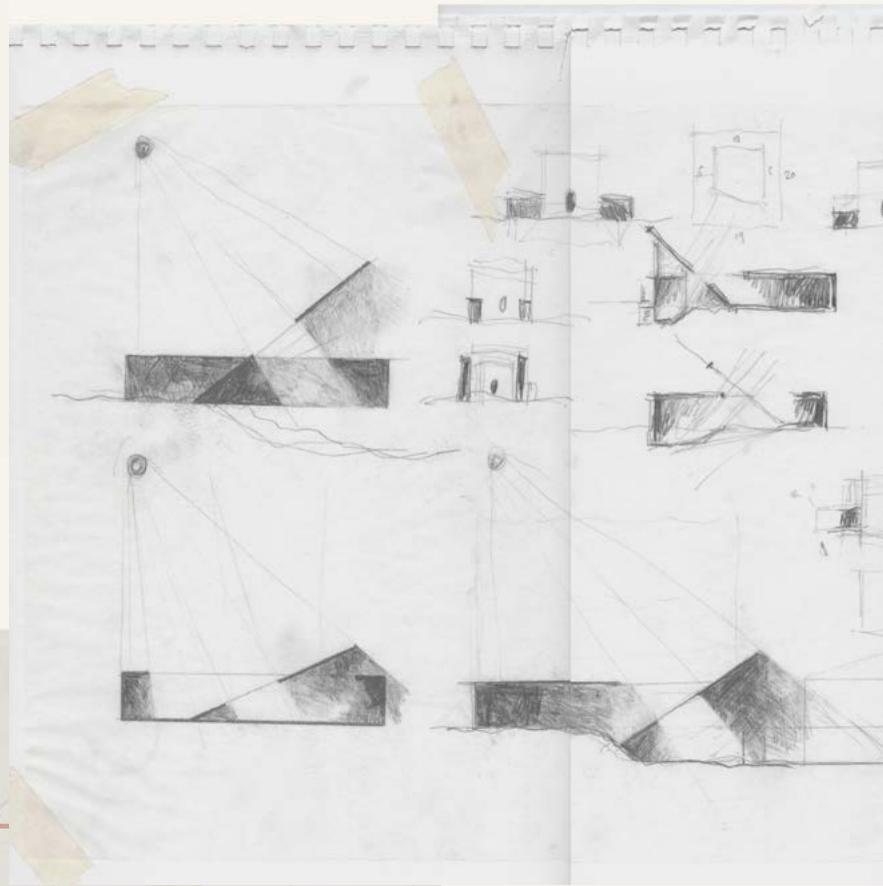


Figure 93: Site key (Author, 2019).

Figure 94: Conceptual section (Author, 2019).

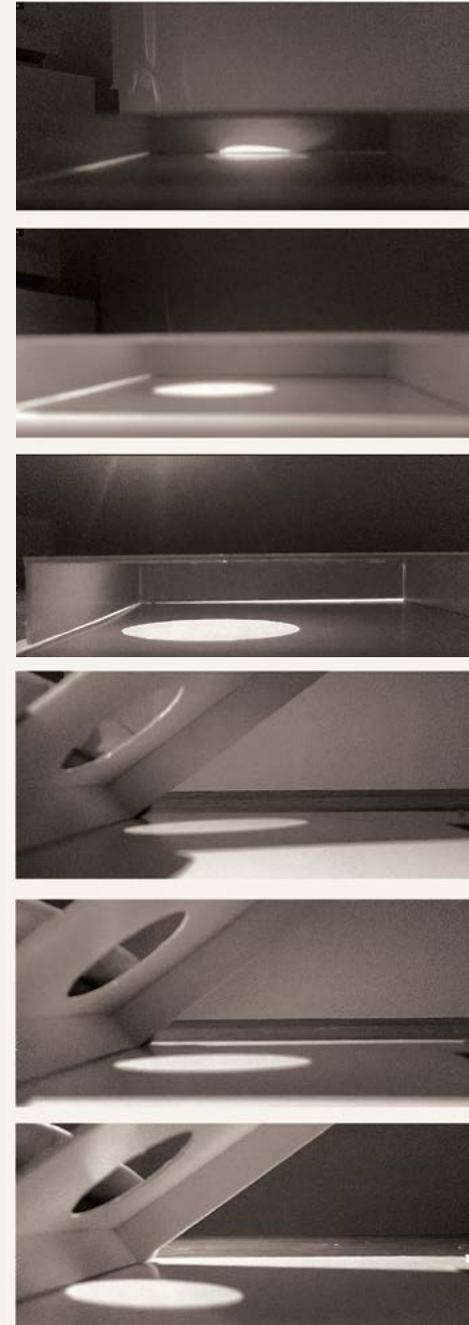


Figure 95: Stills from video capturing shadow and light movement (Author, 2019).

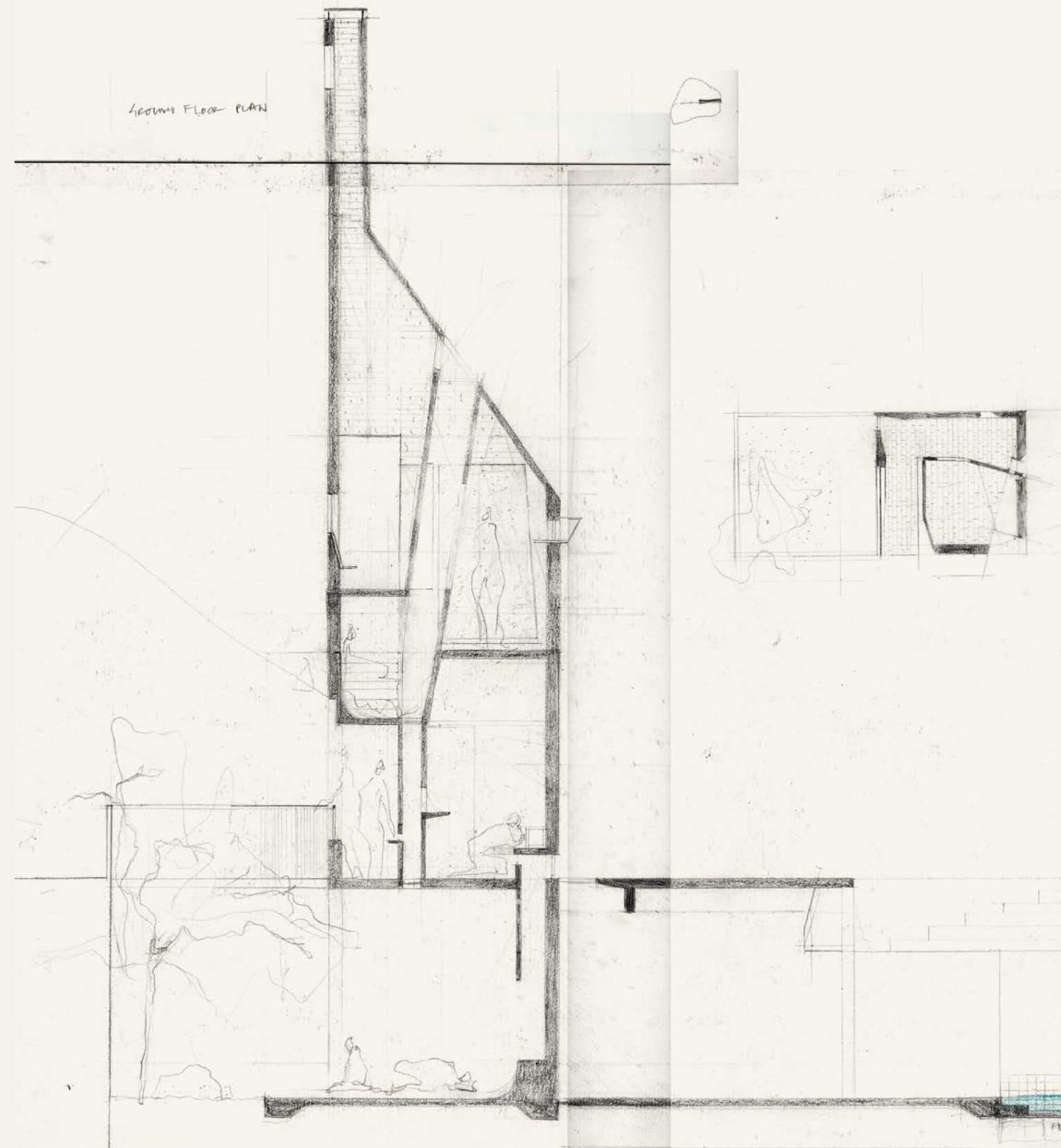
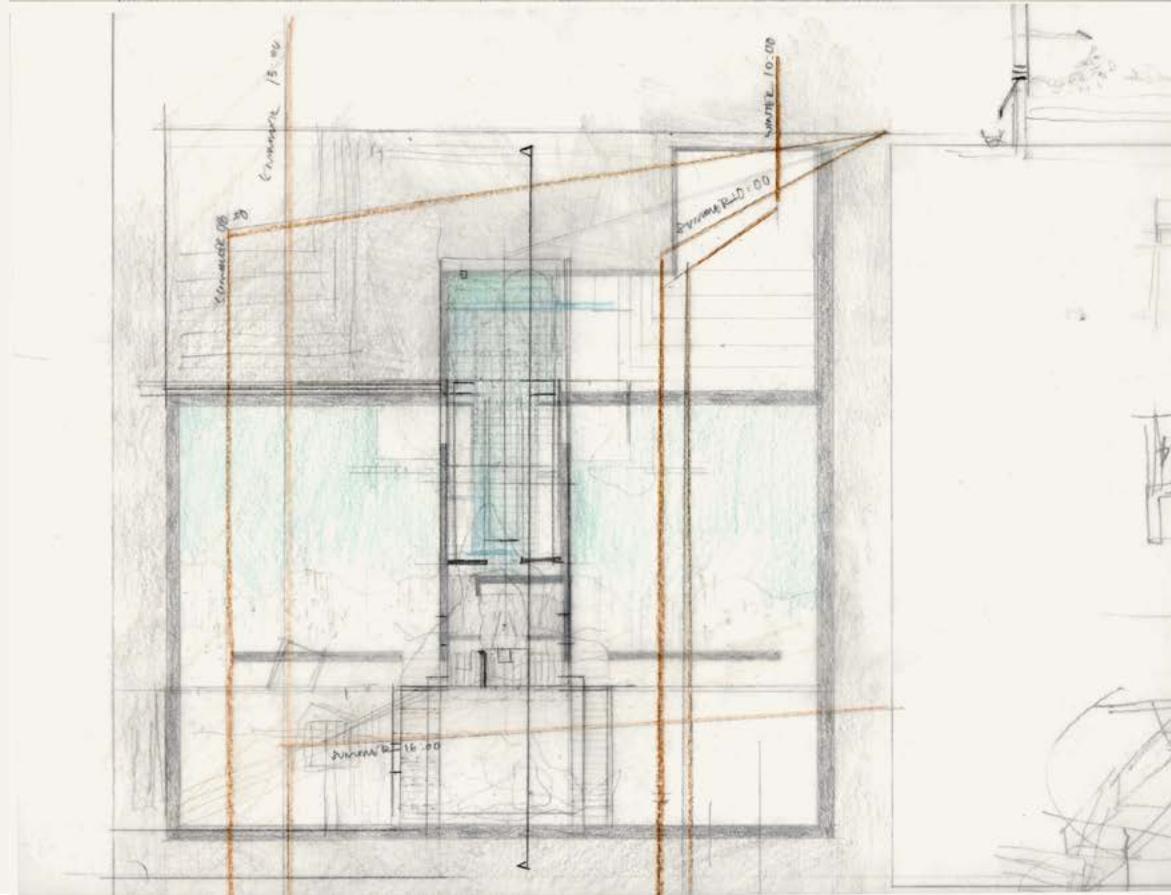
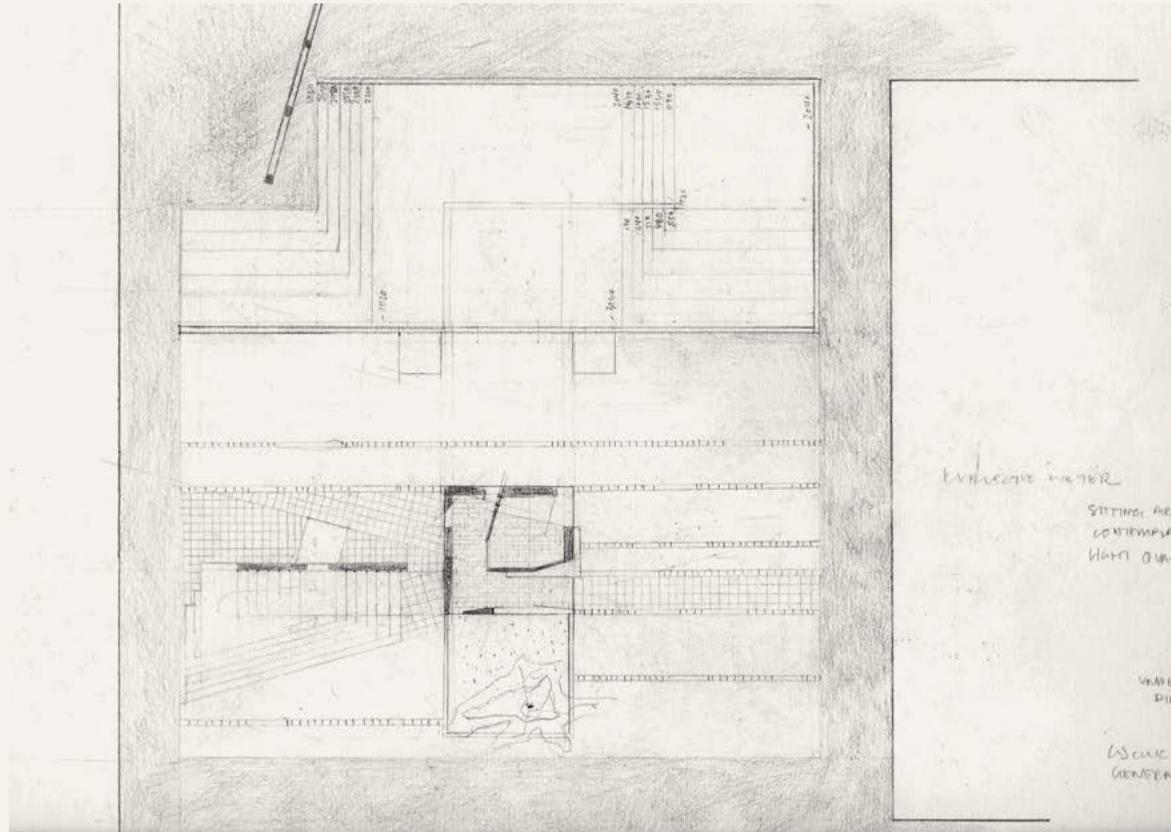


Figure 96: (opp. page) Plan iterations (Author, 2019).
Figure 97: Conceptual section (Author, 2019).

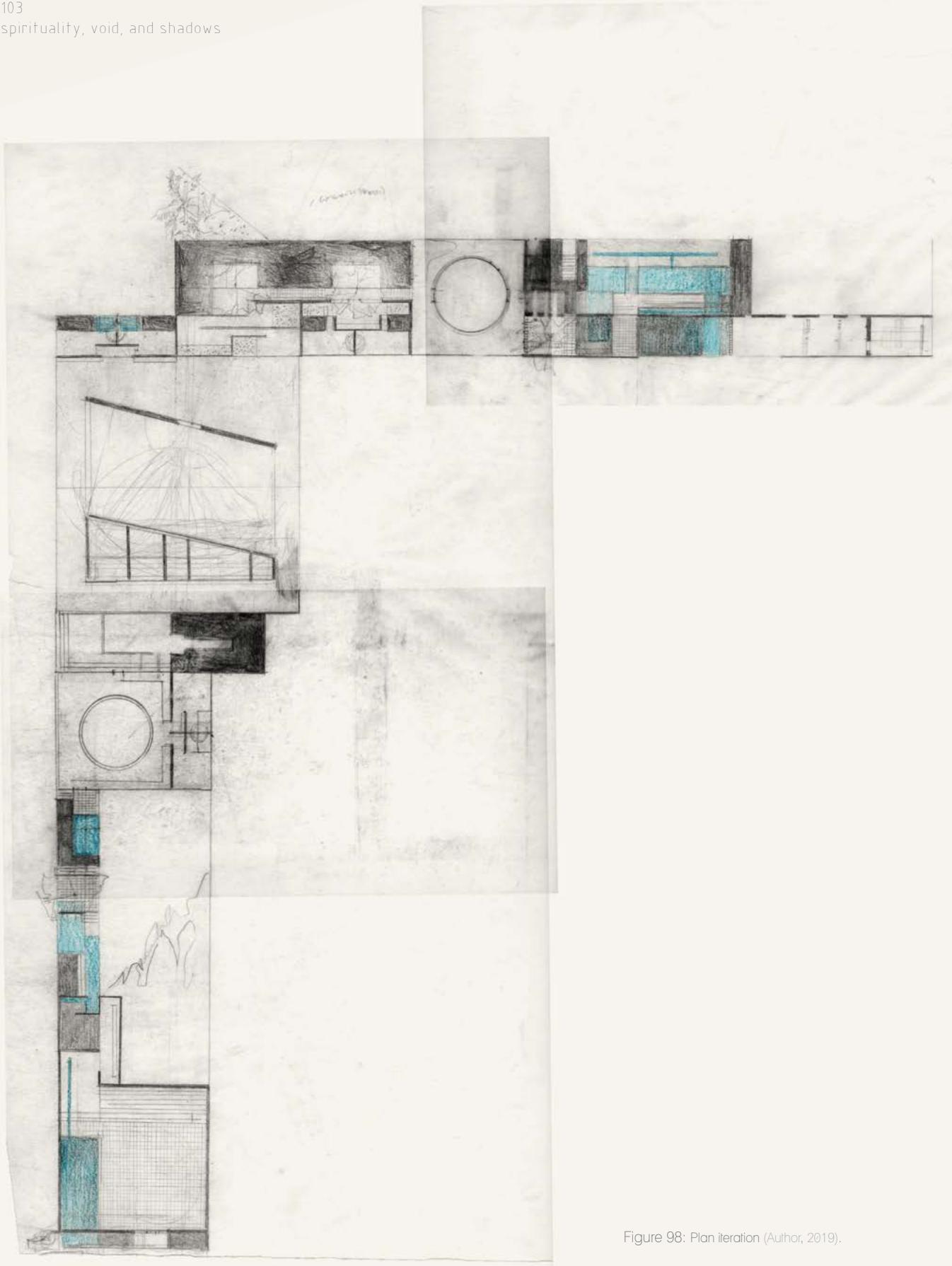
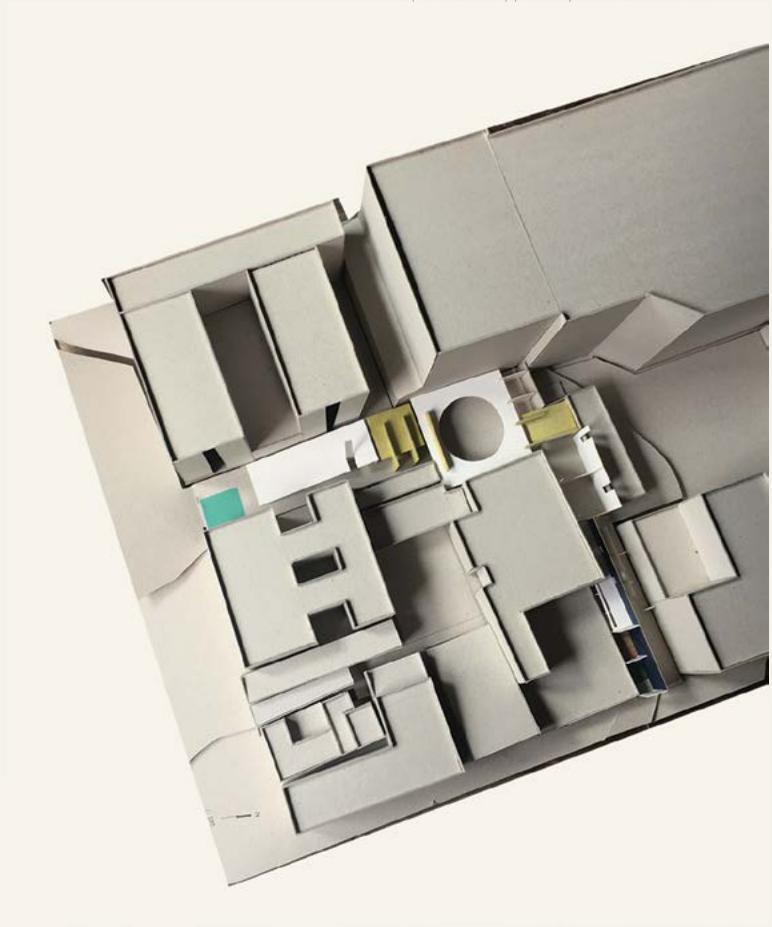


Figure 98: Plan iteration (Author, 2019).



Figure 99: Model iteration (Author, 2019).



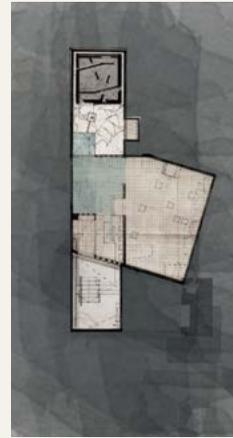


Figure 100: Lower ground floor plan (Author, 2019).

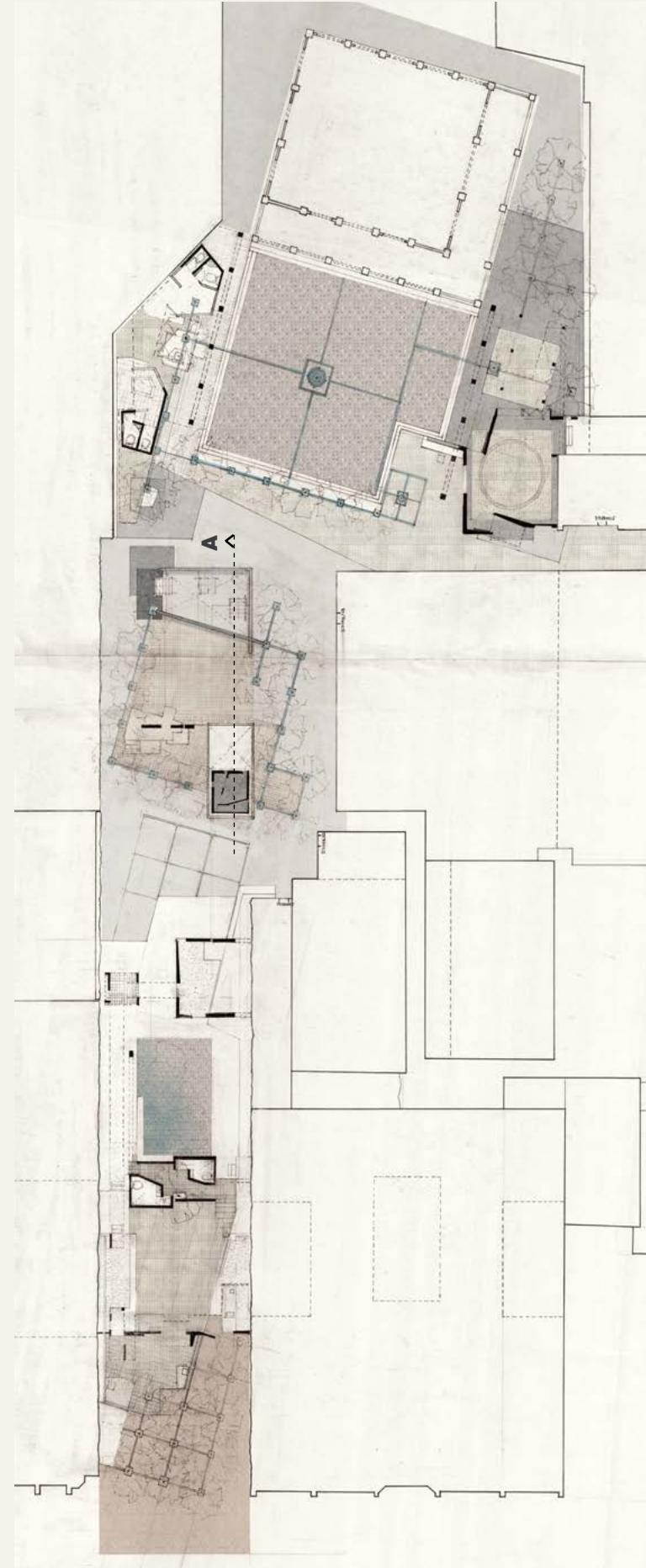


Figure 101: round floor plan (Author, 2019).

technification

6

Chapter 6 explores the various layers of the technical concept and its impact on construction. The technical concept is applied throughout the site and applied differently to different parts of the site.



*moonlight has sketched the shadow from pine
how elegant its pose, compared to mine*

- from baishitsu, translated by Stewart (1965)

6-1:
technical concept

Conceptually, the places of spirituality each consist of four main components:

1. The existing void, where the architecture is to respect and celebrate the existing urban fabric through a response to its everyday activities and surrounding material palette.
2. The path which leads one to, through and onto the next place, responding to the existing void. It is created through the manipulation of scale and texture of surfaces.
3. The mass, primarily in concrete, is lead to by the path and its respective set of thresholds. It signifies the place of spirituality, and its degree of enclosure and opening is dependent on the programmatic intentions. Conceptually, it is a representation of a mass of shadow.
4. The thresholds, where the transitions through movement are translated into length, scale, material, and shadows, enhancing one's experience.

The technification of the four main components directly responds to human scale, haptic and positive experiential interaction with the architecture. Each of the layers are technified to execute the design intentions, resulting in a varied response to technology

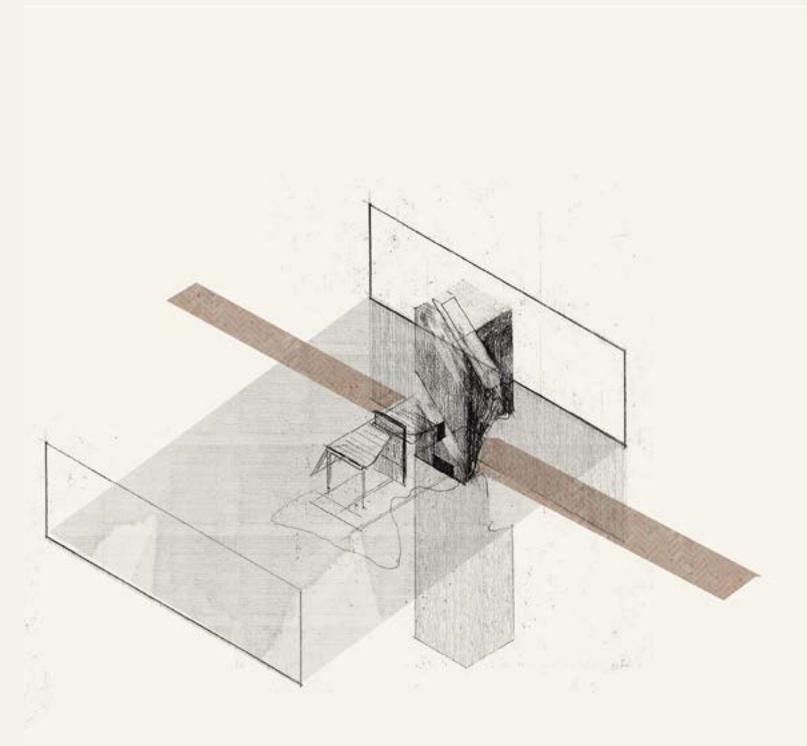


Figure 103: Technical concept (Author, 2019).

6.1 The Existing Void

The design is generated with awareness to the existing site and its surrounding fabric. The historical layering of the site is preserved. Traces of demolished structures around the boundary walls are embraced as a palimpsest of history. The imperfections and ruins from demolishing of the existing Mr Price Home is left uncovered in the new intervention. It contains a depth in the passage of time, enhancing previously overlooked elements and additionally adding a new layer. The facades of the existing surrounding buildings create the urban room, forming the backdrop of the new intervention.

6.2 The Path

Through the manipulation of material and levels, the path can be designed to be experienced a lot longer than its actual length. As a result, the intervention places great thought into the paths and how they lead different spaces. Path materials vary from concrete with exposed aggregate, brick paving, concrete paving, concrete screed, pigmented concrete screed. The detail of the path comes in how various materials meet and join each other, either seamlessly, or exaggerated.

6.3 The Mass

Concrete is chosen as the main material. Its manipulative and inherent decorative qualities – flexibility in form, texture, and colour makes it a desirable material choice. It is made from complete natural materials in its raw form with a low embodied energy. Prevalent through the site is an emphasis placed on nature. Concrete has a good weathering quality over a long term, in cases which it is meant to age, it can translate the experience of landscape to architectural space.

The material also has strong qualities of manipulation in shadow and light. The varying finishes, colours, forms and textures can all be shadows ally. The primary building material is tested according to ways which shadows are encased which light permeates. It makes the comprehension of building elements possible through its form, texture, finish, and colour are explored to create the desired experience.

6.4 Thresholds

The architecture blurs the condition between inside and outside. The design intentions have a strong emphasis on the connection of inside outside typology. The spaces are not entirely enclosed, creating a more direct connection between the user, the architecture and nature. The site remains as a public pedestrian thoroughfare, therefore the design of the thresholds are very important. The thresholds are articulated as openings and overhangs, the technification of these spaces is how to mediate between one condition to the next.



Figure 104: Concrete samples (Author, 2019).

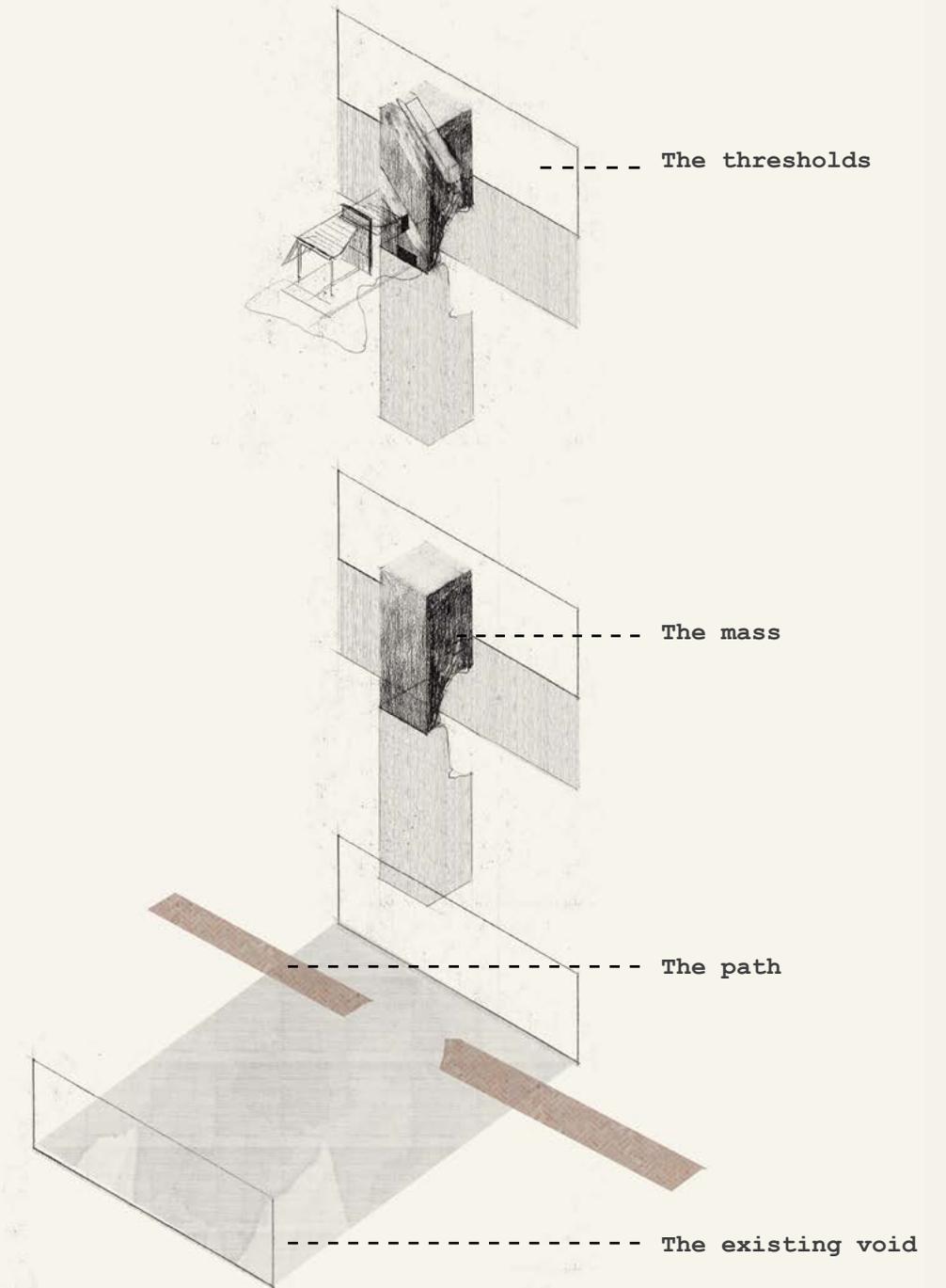


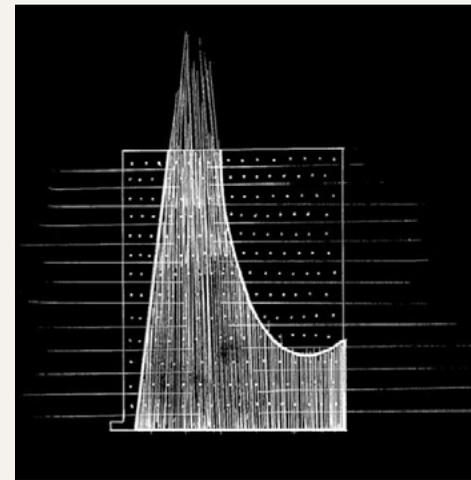
Figure 105: Technical concept exploded (Author, 2019).

technical precedent 1:
Bruder Klaus Chapel, Mechernich, Germany

Peter Zumthor
2007



The story of the making of the Bruder Klaus chapel makes it a worthy precedent. The chapel began as a sketch, which later materialized into an elegant landmark. Its methods of construction started with a formwork made from tree trunks which then layers of concrete was poured from atop. When all the concrete layers were set, the formwork was set alight, leaving a hollow blackened interior.



The form of the formwork was a direct response to the desired shape of the void, slowly directing one's gaze up.



6-2:
sample testing

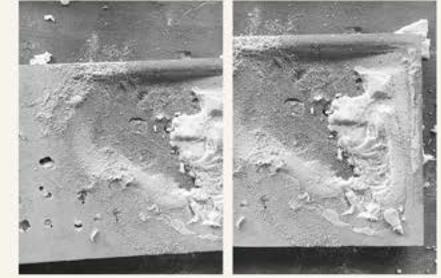
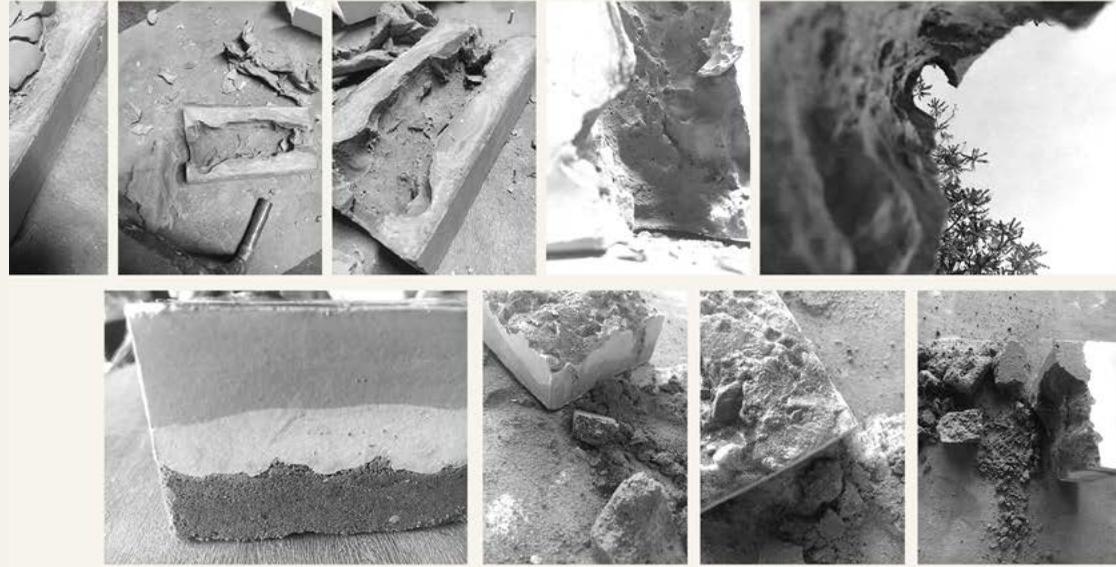


Figure 106: Concrete samples (Author, 2019).

6-2:
the open pavilion

The design of the pavilion focuses on the views to the surrounding proposed landscaping, it therefore requires an open pavilion with a free-plan.

The feature of the pavilion is the use of concrete as a weighted as well as cantilever element. A heavy slab is weighted onto a single vertical element, the cantilever is balanced with the used of a beam as a weight. In doing so, the slab cantilevers, creating an over-head plane which casts a shadow for the dwellers underneath.

The play on textures are one that is rough, contrasted to the the prestine light which penetrates selective openings. The floor surfaces are rough and smooth, enriching the padestrian experience.



Figure 107: Collage of shadow and light quality (Author, 2019).





Figure 108: Components for the assemblage of the space
(Author, 2019).



Figure 109: Compiled space, illustrating the stacking feature of
concrete (Author, 2019).

6-3:
the spiritual core

The design of the pavilion focuses on an introverted spiritual experience.

Upon approach, one passes through a gathering space with a shallow reflection pond. The openings to the sky allow light to reflect on the water, creating water ripples onto the walls. The softness of the light contrasts the cold concrete.

The tall mass, depicted by a concrete tower, has selective openings which light penetrates different times of the day, creating an ever-changing, cyclical experience. This is a one person praying space.

The textures on the tower reflect the herringbone shattering, when wet, it creates streaks of water which follow the pattern, celebrating its weathering qualities.

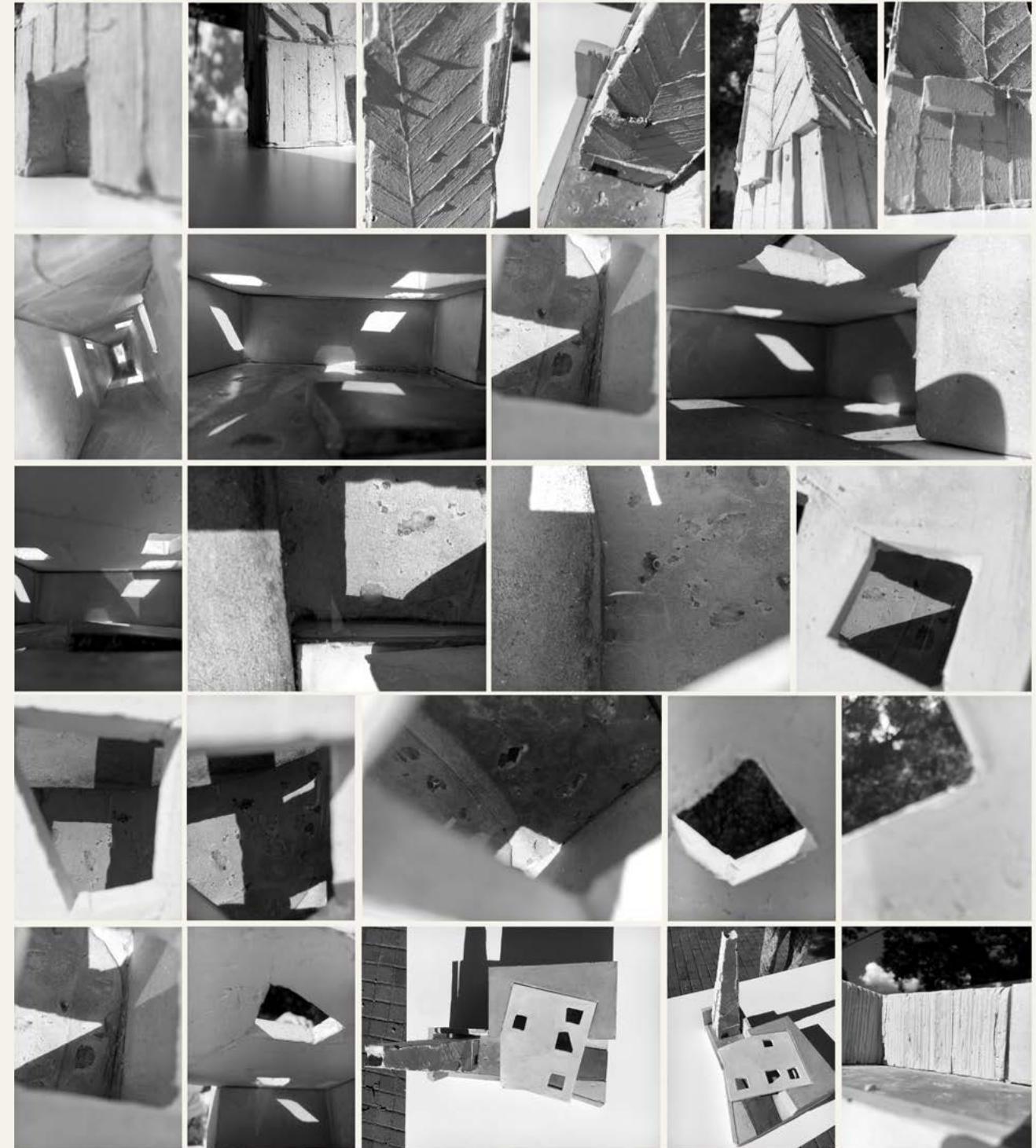


Figure 110: Collage of shadow and light quality (Author, 2019).



Figure 111: Sectional concrete model of the space, illustrating interior shadow, light, and texture qualities (Author, 2019).

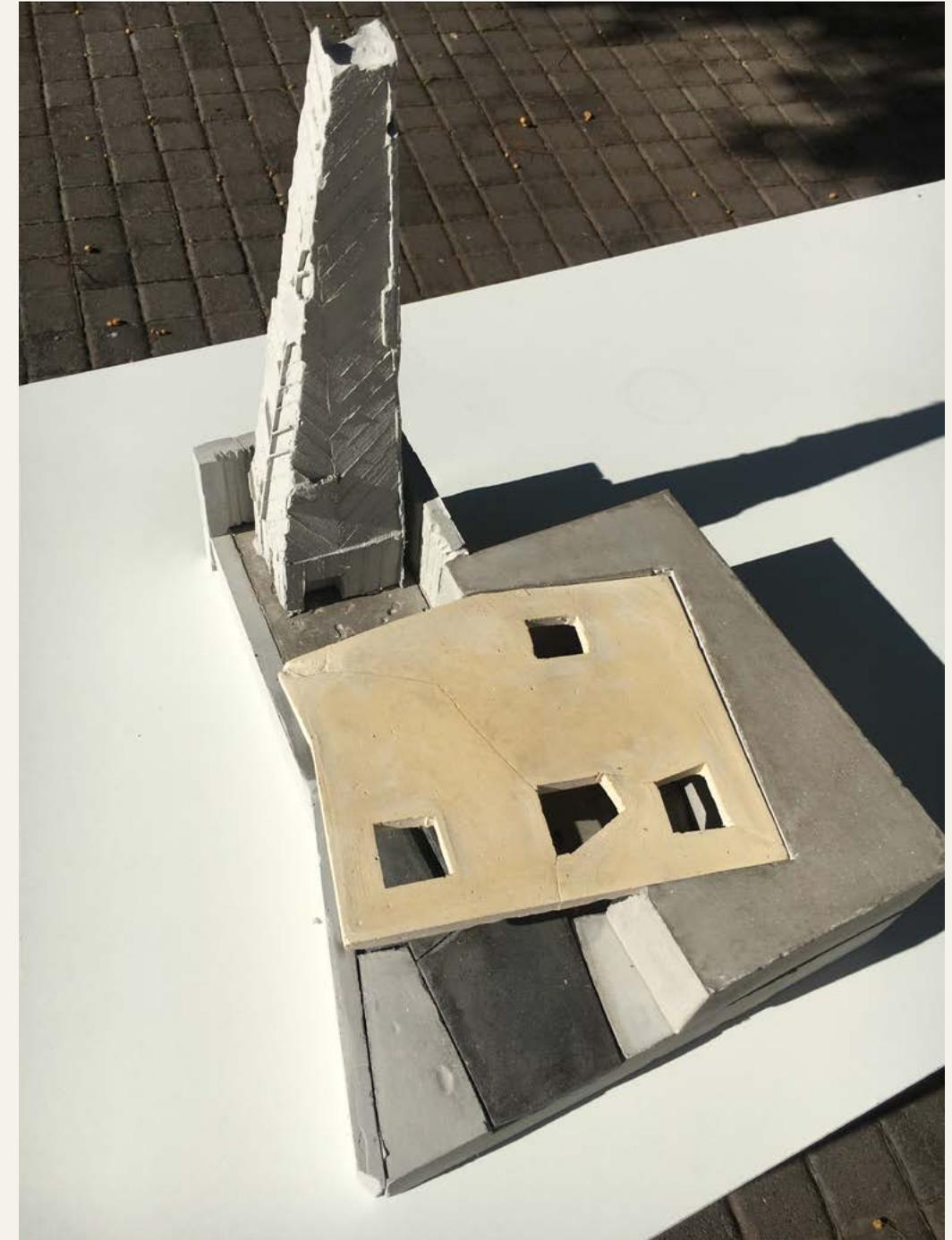


Figure 112: Exterior view of the space (Author, 2019).

6-4:
the purification pavilion

The design of the pavilion focuses on the cleansing rituals one would go through before entering a place of worship.

The openings, textures and water focuses on a pristine quality, emphasizing on the cleanliness of the ritual.

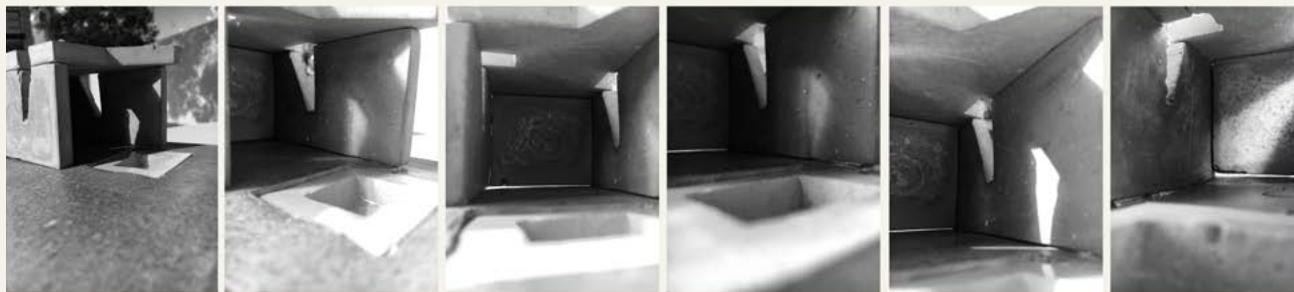
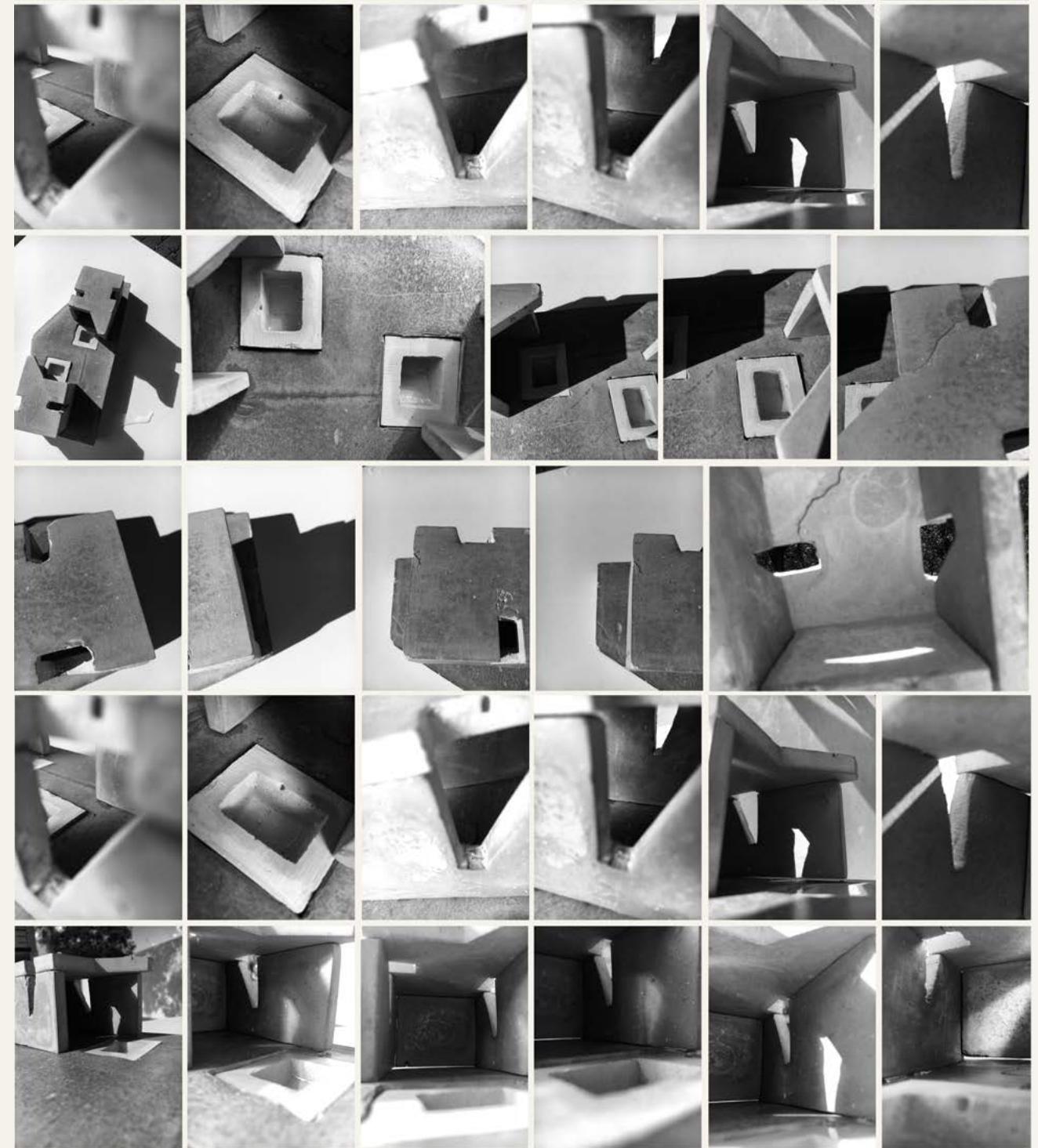


Figure 113: Collage of shadow and light quality (Author, 2019).



Figure 114: Sectional concrete model of the space, illustrating interior shadow, light, and texture qualities (Author, 2019).



Figure 115: Exterior view of the space (Author, 2019).

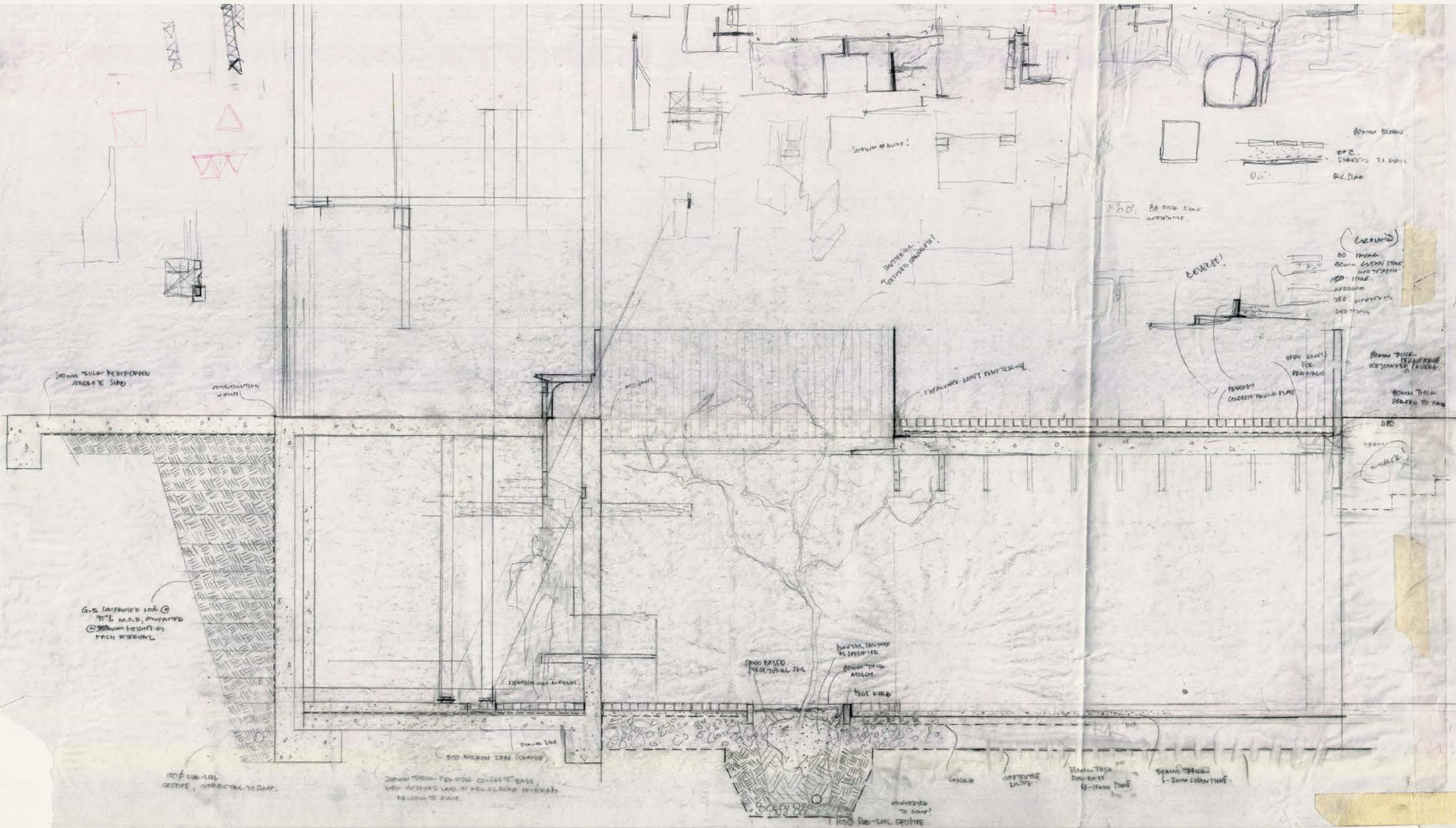


Figure 116: Section A-A (Author, 2019).

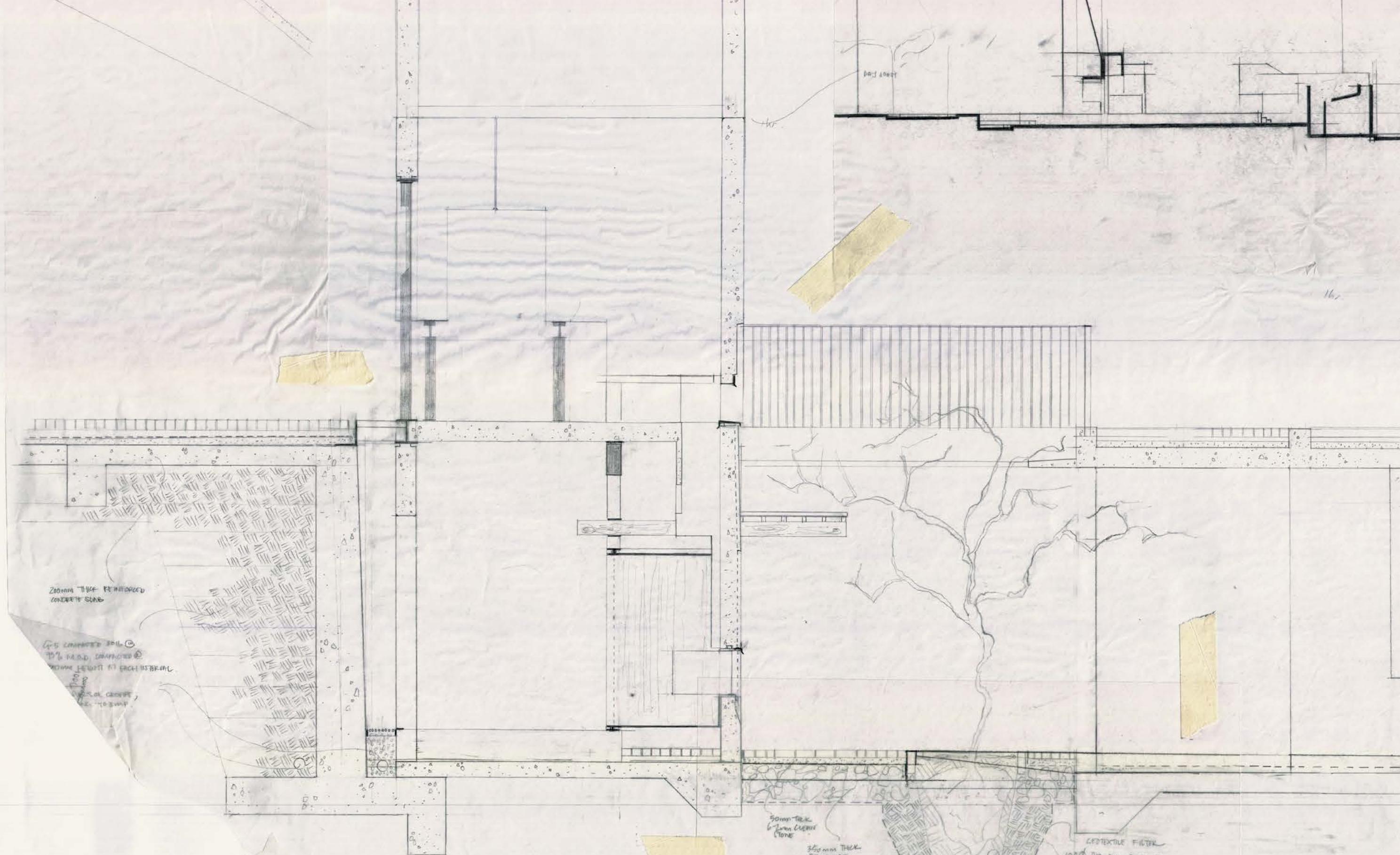


Figure 117: Section A-A (Author, 2019).

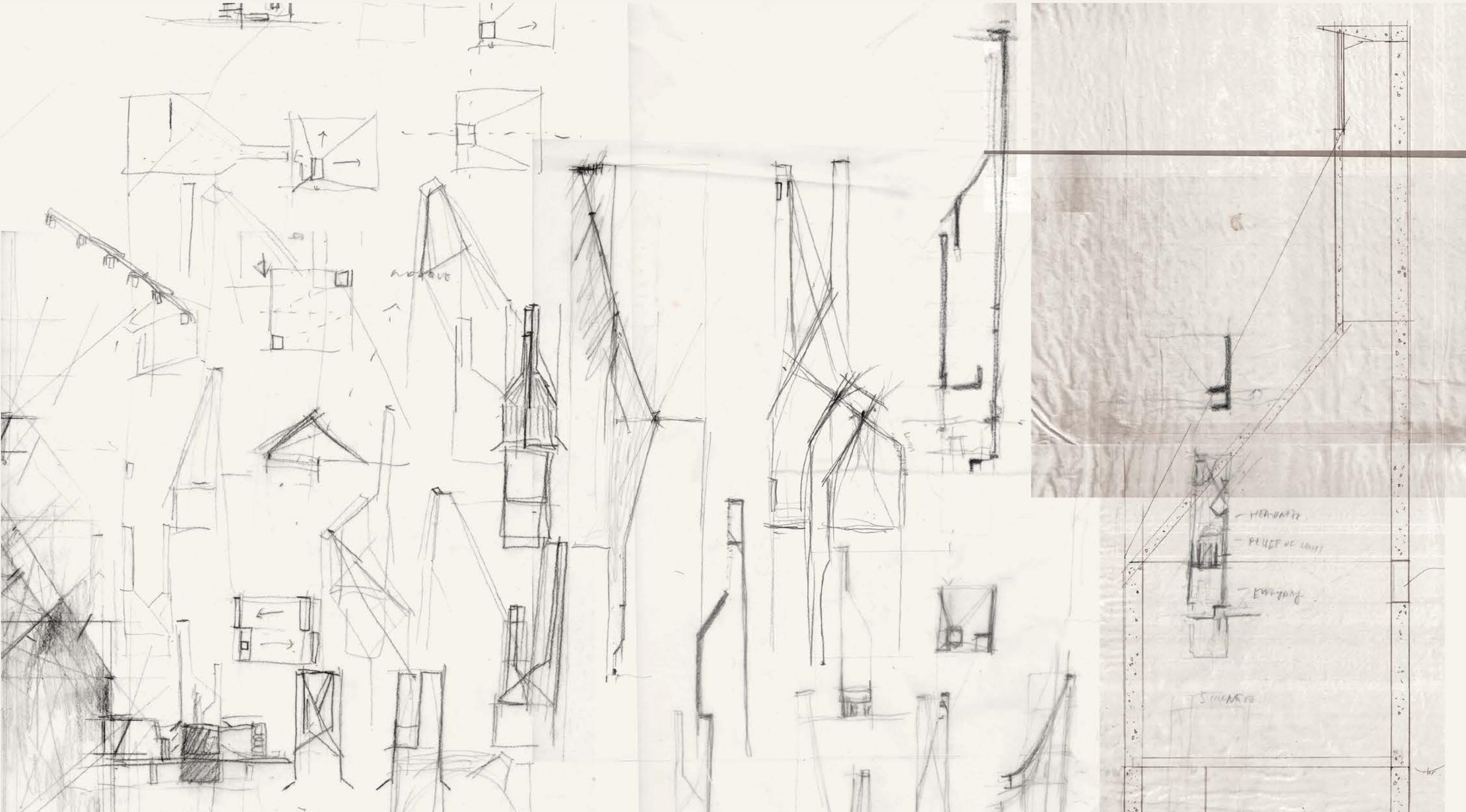
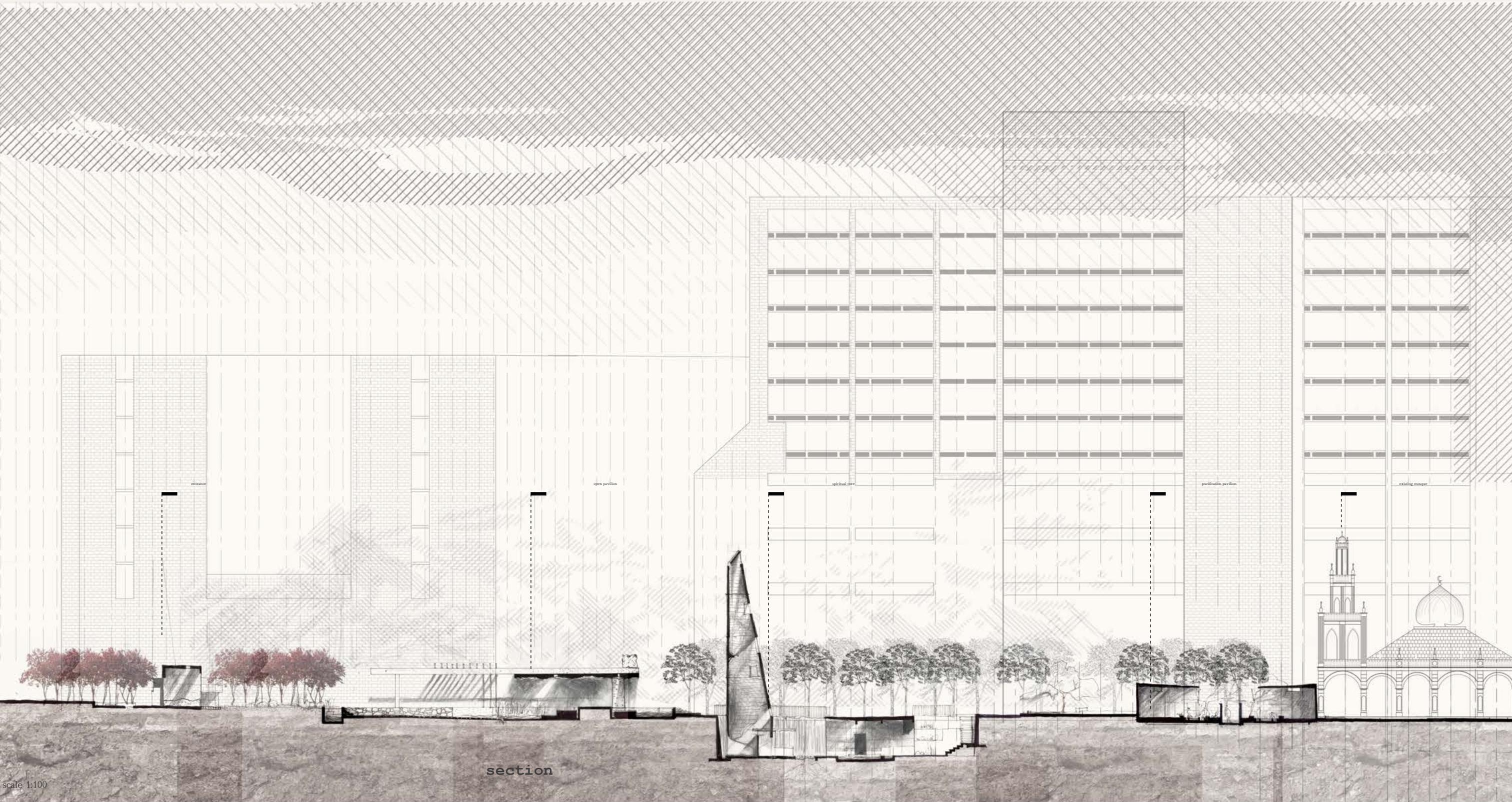


Figure 118: Section A-A (Author, 2019).





conclusion

7

Chapter 7 concludes the dissertation, mentioning the shortcomings of the dissertation as well as final images from the final presentation.

The architectural investigation lends itself to an explorative design process with a strong focus on theory. The aim of the dissertation was to implement a spiritual space within the interstitial of Pretoria central, using concrete as a main explorative material to test experiential qualities of shadow.

The successes of the dissertation lies in its rich explorative design process through various mediums such as sketching, model making, prototyping and well as photography. The shortfall of the dissertation is that it lacked similar intense focus on technical resolution, however, the design process and outcome was very well received.

The dissertation earned a distinction in design as well as for the dissertation document.



Figure 119: Shadow quality from one of the prototypes
(Author, 2019).

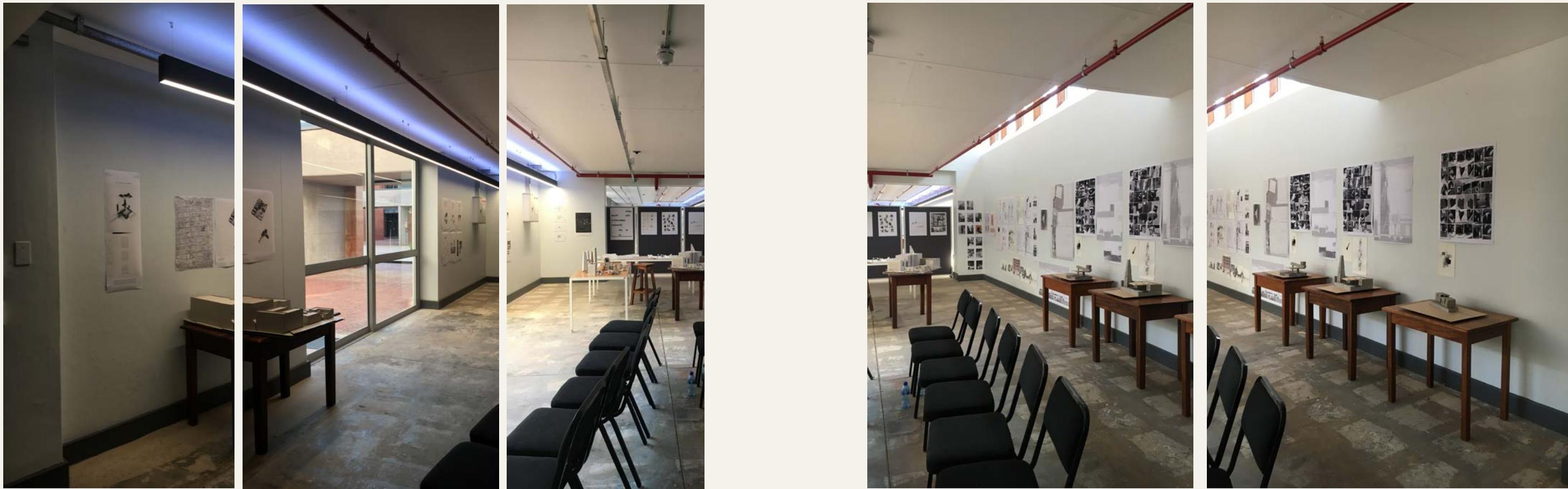


Figure 120: Final presentation(Author, 2019).

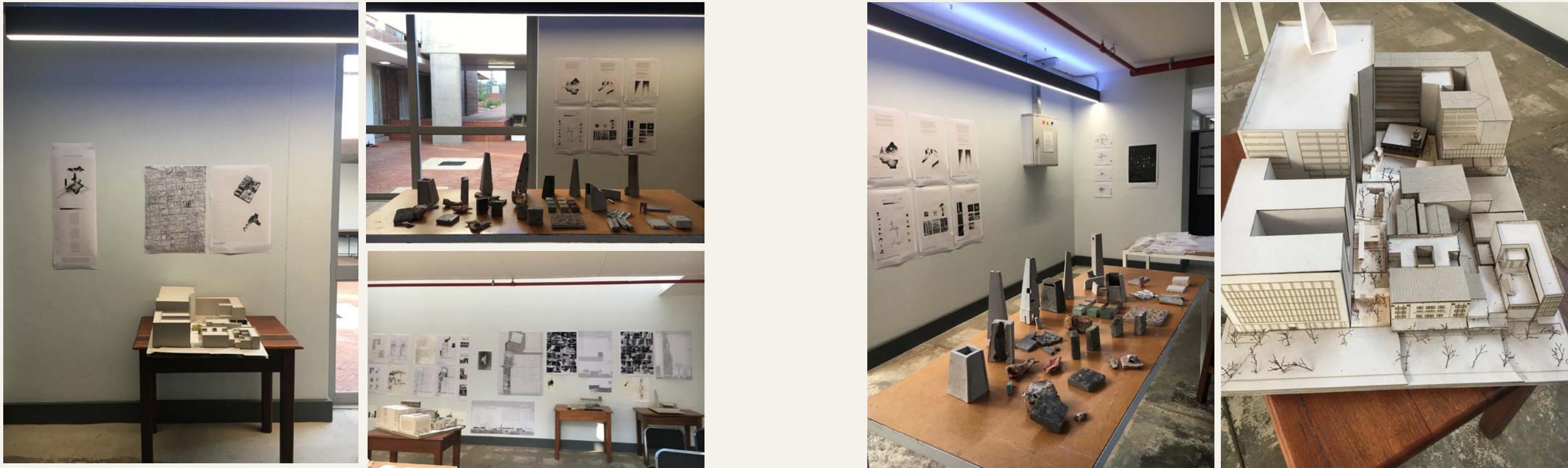


Figure 121: Final presentation(Author, 2019).



Figure 122: Final presentation(Author, 2019).

references

- Ambasz, E. 1976. *The Architecture of Luis Barragán*. New York: The Museum of Modern Art, 11-123. Available from: https://www.moma.org/documents/moma_catalogue_2461_300298680.pdf [Accessed: March 2019].
- Barrie, T. 1996. *Spiritual path, sacred place: Myth, ritual, and meaning in architecture*. Boston, Massachusetts: Shambhala Publications, 195-213. Available from: https://www.academia.edu/439543/Spiritual_Path_Sacred_Place_Myth_Ritual_and_Meaning_In_Architecture [Accessed: June 2019].
- Bermudez, J. 2016. Arguments for a spiritual urbanism. *Urbanism, Spirituality & Wellbeing Symposium*, 9, 105-115. Available from: https://www.academia.edu/Arguments_for_a_Spiritual_Urbanism [Accessed: May 2019].
- Bertram, N. 2013. *Furniture, structure, infrastructure: Making and using the urban environment*. Surrey, England: Ashgate Publishing Limited, 1-3. Available from: <https://ebooklib.co/b06xdcyq2z-furniture,-structure,-infrastructure:-making-and-using-the-urban-environment.pdf> [Accessed: March 2019].
- Bertram, N., Murray, S. & Neustupny, M. 2003. *By-product-Tokyo*. Melbourne, Vic.: RMIT University Press, 10-27. Available from: <https://issuu.com/brentallpress/docs/by-product-tokyo> [Accessed: March 2019].
- Birch, R. & Sinclair, B. 2013. *Spirituality in place: Building connections between architecture, design, and spiritual experience*. Architectural research centers consortium. North Carolina: ARCC, 80-87. Available from: <https://doi.org/10.17831/rep:arcc%y116> [Accessed: June 2019].
- Breytenbach, A. A. A. 2015. *Arcades revisited as urban interiors in a transformed city context*. Image and text, 26. FADA Annual Report – University of Johannesburg 2015, 27-47. Available from: <https://manualzz.com/doc/31817625/fada-annual-report-2105---university-of-johannesburg> [Accessed: May 2019].
- Cianca, J. 1978. *Sacred ritual, profane space: The Roman house as early Christian meeting place* (Studies in Christianity and Judaism Series). London: McGill-Queen's University Press, 3-12. Available from: https://books.google.co.za/books?id=DR1bDwAAQBAJ&pg=PA38&jpg=PA38&dq=sacred+courtyard+roman+house&source=bl&ots=FIm5-As5H5&sig=ACfU3U28pX9WK_AIN_a-hs8aKCI-MdB2OA&hl=en&sa=X&ved=2a-hUKewjMwcOCsYDIAhWpTRUIHXRDACEQ6AEw-FnoECAYQAQ#v=onepage&q=sacred&f=false [Accessed: September 2019].
- Clarke, N.J. & Lourens F. 2015. *Urban planning in Tshwane*. In Clarke, N. J. & Kuipers, M.C. eds. *Re-centring Tshwane: Urban heritage strategies for a resilient Capital*. Brooklyn, Pretoria: Visual Books, 39-52. Available from: <http://hdl.handle.net/2263/49734> [Accessed: July 2019].
- Donaldson, R., Jürgens, U. & Bahr, J. 2003. *Inner-city change in Pretoria: Social and spatial trends*. ACTA Academica Supplementum: University of the Free State, 1, 2003, 1-33. Available from: <http://journals.ufs.ac.za/index.php/aa/article/view/799/794> [Accessed: July 2019].
- Eliade, M. 1987. *The sacred and the profane: The nature of religion*. New York: A Harvest Book, 20-67. Available from: https://monoskop.org/images/b/b1/Eliade_Mircea_The_Sacred_and_The_profane_1963.pdf [Accessed: March 2019].
- History – Pretoria: 'First inhabitants', 'The founding of Pretoria' & 'Significant landmarks'. 2017. In Pretoria.co.za., Available from: <https://www.pretoria.co.za/history/> [Accessed: October 2019].
- Kite, S. 2017. 'Shadow beginnings', 'Primordial shadows' & 'Shadow futures'. In *Shadow-makers: A cultural history of shadows in architecture*. London, Bloomsbury: Academic. Available from: <https://books.google.co.za/books?id=SbYqDwAAQBAJ&pg=PT339&dq=peter+zumthor+light+and+shadow&hl=en&sa=X&ved=0ahUKewjQjOzuqK3iAhXITRUIHT5qDPkQ6A-EIKjAA#v=onepage&q=peter%20zumthor%20light%20and%20shadow&f=false> [Accessed: June 2019].

- Kothari, C. R. 2004. Research methodology: Methods and techniques. 2nd ed. New Delhi: New Age International Publishers, 2-20. Available from: <https://www.modares.ac.ir/uploads/Agr.Oth.Lib.17.pdf> [Accessed: January 2019].
- Kuban, D. 1985. 1750 Muslim religious architecture. Leiden, Netherlands: Brill Academic Publishers, 1-5. Available from: <https://archive.org/details/1750Muslim-ReligiousArchitecture/page/n89> [Accessed: August 2019].
- Le Roux, S. & Botes, N. 1991. Plekke en geboue van Pretoria volume twee: Die noordoostelike en noordwestlike kwadrante. Pretoria: Stadsraad van Pretoria, 7, 8, 38. Available from: <http://hdl.handle.net/2263/11328> [Accessed: July 2019].
- Liebenberg, E. 2015. A cartographical history of Pretoria. Image & Text: A Journal for Design, 25 (1), 8-43. Available from: <https://hdl.handle.net/10520/EJC176325> [Accessed: February 2019].
- Malcomess, B. & Kreuzfeldt, D. 2013. Not no place: Johannesburg. Fragments of spaces and time. Johannesburg: Fanele - Jacana Media.
- Mazumdar, S. & Mazumdar, S. 2013. Planning, design, and religion. Journal of Architectural Planning and Research, 30 (3), 221-243. Available from: <https://www.jstor.org/stable/43031006> [Accessed: May 2019].
- McGoodwin, H. 1904. Architectural shades and shadows. Boston: Bates & Guild Company, 11. Available from: <https://archive.org/details/architecturalsh00mcgo-goog/page/n5> [Accessed: August 2019].
- Murray, M. J. 2008. Taming the disorderly city: The spatial landscape of Johannesburg after Apartheid. Ithaca: Cornell University Press.
- Nitschke, G. 1993. From Shinto to Ando: Studies in architectural anthropology in Japan. United Kingdom: John Wiley.
- Norberg-Schulz, C. 1980. Genius loci: Towards a phenomenology of architecture. London: Academy Editions.
- Pallasmaa, J. 2012. The eyes of the skin: Architecture and the senses. United Kingdom: John Wiley.
- Peng, C. & Park, A. 2013. Mapping interstitial urban spaces through performing the city. Leonardo, 46 (5), 490-491. Available from: https://www.mitpressjournals.org/doi/pdf/10.1162/LEON_a_00650 [Accessed: March 2019].
- Pilgrim, R. 1986. Intervals ("Ma") in space and time: Foundations for a religio-aesthetic paradigm in Japan. History of Religions, 25 (3), 255-277. Available from: https://www.jstor.org/stable/1062515?read-now=1&seq=20#page_scan_tab_contents [Accessed: May 2019].
- Stegers, R. 2008. Sacred Buildings: A Design Manual, Boston, Birkhauser.
- Stewart, H. 1963. A Net of Fireflies. Tokyo: Charles E. Tuttle Company,
- Tanizaki, J. 1977. In praise of shadows. Sedgwick, Maine: Leele's Island Books, 5. Available from: http://www.wedu.artcenter.edu/mertzel/spatial_scenography_1/Class%20Files/resources/In%20Praise%20of%20Shadows.pdf [Accessed: March 2019].
- Theron, P. 2015. The Cathedral of the Holy Nativity Pietermaritzburg. Boukin: A Retrospective Introduction. Pretoria: Leon Pienaar, 50-57.
- Trancik, R. 1986. Finding lost space: Theories of urban design. New York: John Wiley, page numbers. Available from: <https://books.google.co.za/books?id=UcdJxonfeGMC&printsec=frontcover&dq=TRANCİK,+R.+1986.+Finding+Lost+Space:+Theories+of+Urban+Design,+New+York,+Van+Nostrand+Reinhold+Company.&hl=en&sa=X&ved=0ahUKEwjEmny-7TIAhWJQkEAHQnlBnMQ6AEIKTAA#v=onepage&q&f=false> [Accessed: March 2019].
- Winkler, T. 2014. On 'spaces of hope': Exploring Hillbrow's discursive credoscapes. In Harrison P., Gotz G., Todes A. & Wray C. eds. Changing space, changing

city: Johannesburg after Apartheid - Open access selection. Johannesburg: Wits University Press, 487-493. Available from: <https://www.jstor.org/stable/10.18772/22014107656.29> [Accessed: March 2019].

UNESCO World Heritage List: 'Outstanding universal value' in Medina of Fez. 1992-2019. UNESCO. Available from: <https://whc.unesco.org/en/list/170/> [Accessed: July 2019].

Zumthor, P. 2006. Atmospheres: Architectural environment – surrounding objects. Basel; Boston: Birkhäuser.

- fin -