MNEMONIC OASIS

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Interior architecture as a stimulus for wellbeing through sensorial experience

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fulfilment of the requirements for the degree of
Master of Interior Architecture

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ABSTRACT

In today's society the priority of work and careers has resulted in highly stressful environments. In the twenty-first century the tendency of inflated urban centres has encouraged people to move to the cities and as the urban population increases, the quality of life, people's wellbeing and overall life satisfaction, becomes a concern. Interested in the effect of human perception through spatial design, this thesis explores how sensorial experience can influence the design of interior architecture to promote productivity and wellbeing.

This research aims to explore the implications of environmental stimuli and sensory experience to enhance an occupant's behaviour and wellbeing within an interior space. Looking closely at the built environment that we inhabit and identifying how it impacts its occupants would aid in how we as designers could design spaces that benefit the occupant's quality of life.

This thesis asks how interior architecture may be utilised to enhance the sense of productivity, wellbeing and life satisfaction of the working class and city dwellers. In addition, this thesis aims to adaptively reuse a historic site in the Wellington CBD as the principal vehicle for the design component of this study.

Overall the research suggests providing multiple opportunities for occupants to engage with the built and natural environment whereby interior architecture, through atmospheres and sensorial experiences, contributes to the solution in establishing a sense of productivity, wellbeing and life satisfaction.

PREFACE

Throughout my architectural education I have been fascinated by the way we as humans occupy the built environment. The environments and spaces we inhabit can alter and affect the way we perceive and respond to these spaces. My interest in this topic has grown and developed throughout the years and as an interior architecture student, I strongly believe that the way we design should prioritise the connection between occupant and space. This connection between occupant and space should be more than just physical; to experience a space fully the occupant needs to connect with the space on a mental and emotional level as well. The result of this research aims to explore that connection and identify methods of designing spaces that would improve the occupant's experience as well as wellbeing.

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1.0 INTRODUCTION

1.1 INTRODUCTION

The society we live in today shows evidence of increasingly stressful environments caused by the desire for high performance, highly competitiveness and overall perfection in our daily lives. The priority of work and careers has resulted in an increase in urbanisation as people centre their lives around convenience and accessibility to their workplace. The workplace as well as society puts an unparalleled level of stress on people in today's modern world. An estimated eighty-five percent of New Zealand's population is living in urban areas, which indicates that people are prioritising their work above all else.¹ This poor lifestyle appears to be progressively getting worse unless a better alternative is offered. The proposal for this research looks at ways in which design could help mitigate stress levels and assist in creating a healthier, more resilient community in the urban environment by promoting wellbeing and productivity through the connection between occupant and space.

When establishing this topic, the thought arose: in what way do we as people respond to the built environment? It became apparent that our sensory responses are the key to the experiences we have and thus lead to our connection with the space around us. Our senses are what connect us to these spaces; the connections we have with that specific space are a combination of sensory responses and triggered memories.

As Juhani Pallasmaa states in his book, *The Eyes Of The Skin*:

*In memorable experiences of architecture, space, matter and time fuse into one singular dimension, into the basic substance of being, that penetrates our consciousness. We identify ourselves within this space, this place, this moment, and these dimensions become ingredients of our very existence. Architecture is the art of reconciliation between ourselves and the world, and this mediation takes place through our senses.*²

The statement highlights the importance of designing spaces for the occupant in a way that our experiences manifest in an assuring and positive way. Through the influence of intentioned design, the spaces we design can enhance the wellbeing of those who inhabit and experience it.

As a student of interior architecture, I see this as a unique opportunity to use the discipline as a tool to create influential experiences that stimulate consciousness and respond to the occupant's senses. These sensory responses will not be aimed at isolating the senses, but rather heightening them in a way that it encourages triggers in the memory. These triggers would be in response to environmental stimuli and sensorial experiences. This leads to the research question for this thesis: how can sensorial experience influence interior architecture to promote productivity and wellbeing?

¹ Stats NZ

² Pallasmaa, 72

Aims

To create a viable programme that offers a retreat from everyday life to mitigate stress and promote wellbeing and productivity.

To discover whether the atmospheric qualities responding to the human senses can be used as a tool in design to promote wellbeing.

Objectives

To try to understand the cause of stress and ways of mitigating it.

To explore methods of promoting productivity and wellbeing.

To explore and develop a theoretical background in regards to the human senses through literature review and experimentation to discover a method of design.

1.2 METHODOLOGY

Mnemonic Oasis is a design-led research investigation, which primarily focuses on providing an insight into how architecture can influence its occupants' wellbeing, whilst they experience the spaces around them. This research will be using an iterative process where design tests are critically explored and analysed to inform the overall design scheme. Theorists such as **Juhani Pallasmaa**, **Gary W. Evans** and **Janetta M. McCoy** and **Joy Malnar** and **Frank Vodvarka** establish a foundation in regards to sensory design and the benefits architecture can have on our wellbeing. Through their writings I will be able to establish the theoretical framework, which would progress through into the design strategy for the interior intervention.

The initial approach to my research was to establish which methodology would be used and followed in the process of this thesis. The traditional rational approach to researching allows me to break down my overall themes and ideas into smaller components as I progress through my research and finally into an interior architecture proposal. René Descarte's Rational Method (1637), although quite dated, still enables a linear connection between different components in the design; this allows a journey through the space to occur and creates designed opportunities for visitors to engage with the built environment.

< Figure 1.02. Methodology Diagram showing my process over the length of 12 months

1.3 SCOPE

The scope of *Mnemonic Oasis* explores how sensorial experience within interior architecture can promote wellbeing and mitigate stress by creating a series of experiential moments that engage with the occupants to create meaningful experiences. Due to the vastness of this topic, the research was limited to the theories and findings explored by my key authors and the relevant case studies selected for this research. This research addresses a historic site, which resulted in the architecture of the façade remaining untouched in the design proposal. The urban design of the surrounding context was beyond the scope of this project and was not addressed with the exception of the response to the narrative for the interior intervention through two moments of experience that address the two main entrances of the building. Areas of the interior proposal have not been addressed because the design proposal focusses primarily on the experiential spaces from the narrative of the design, which seeks to achieve the aims and objective of this research.

1.4 THESIS STRUCTURE

Part One – Research

The first four chapters of this research establish a theoretical framework, focusing on the human senses and how they might be translated into architecture. The theoretical framework also looks into how designing for the senses could have a positive effect on an occupant's wellbeing. This section provides a greater understanding of the research topic, establishing the basis for the design research to be explored as outlined in part two.

Chapter 1 - Introduction

Chapter one sets the direction for this research by introducing the research topic. It also establishes this research aims, objectives, methodology, scope and structure.

Chapter 2 – Theoretical Framework

Chapter two explores the phenomenology of the senses and architecture by introducing key theorists. This chapter focuses primarily on the written works of **Juhani Pallasmaa**, **Gary W. Evans** and **Janetta M. McCoy** and **Joy Malnar** and **Frank Vodvarka**. These theorists prepare the foundation of my research and help establish my position for the design to follow. Each theorist responds to the importance of engagement with the built environment and its influence on the occupants if designed for the senses.

Chapter 3 – Site Analysis

This chapter researches the history and analyses the urban context of a chosen site. The site will be the principal vehicle for the design component of this study.

Chapter 4 – Case Studies

Chapter four investigates three built case studies to analyse how architects can create experiences within their designs, which trigger and respond to the human senses. These case studies will be focusing on the atmosphere and threshold qualities of space.

Part Two – Design

The following four design chapters explore the theoretical framework in part one and test key ideas and themes through physical and digital modelling as well as diagrams and drawings. These primarily focus on curating architectural form through atmosphere, thresholds and materials.

Chapter 5 – Preliminary Design

This chapter explores a series of experiments that investigates how architectural form and thresholds can be created using digital and analogue media. This chapter then begins to explore possible methods of design, which begin integrating the moments of experience with the chosen site.

Chapter 6 – Developed Design

This chapter of developed design investigates how architectural form, materiality and atmosphere can be designed from the outside-in, providing glimpses into the interior to compel and entice occupants to experience the space within.

Chapter 7 – Conclusion

The conclusion critically reflects on the design outcomes and processes by comparing the specific findings that were discovered with the theoretical framework. This reflection identifies the successes, failures and possibilities for future design.

2.0 THEORETICAL BACKGROUND

2.1 INTRODUCTION

The theoretical framework begins by examining the issues we face in regards to stress and wellbeing and how the spaces we inhabit could be designed to have a more positive influence on our lives. Through the analysis of my literature review I begin to identify ways in which designing for the senses and creating experiential spaces could positively affect us and aid us in our day to day lives. In this chapter, I examined the ways my key theorists interpret space in relation to the human senses and how the spaces we perceive can affect us emotionally, physically and mentally. I then identified the methods of spatial manipulation that address the aims and objectives of my thesis through key theorists **Juhani Pallasmaa**, **Gary W. Evans** and **Janetta M. McCoy**, **Joy M. Malnar** and **Frank Vodvarka**. The aim of this section is to understand and analyse how one could perceive space: how can experiential quality be evaluated and how can built form provoke the senses?

< Figure 2.01. Stairs leading to the Commercial Space in the Old Bank Building 3. Site Exploration.

2.2 SENSORIAL DESIGN AND WELLBEING

Stress is a psychological issue that affects all human beings; it affects each person differently as a result of their individual coping capabilities.

Gary W. Evans and **Janetta M. McCoy** acknowledge in their article, “When buildings don’t work: The role of architecture in human health”, that stress significantly impacts physical health and that most research on stress and ill health has focused on personal variables or social conditions.

*With the exception of ambient environmental stressors such as noise, traffic, crowding and air pollution, very little attention has been paid to the potential role of the built environment in human health.*³

Evans and McCoy explore five architectural dimensions that are defined and linked to stress through interior design elements. Their findings develop a preliminary classification of design characteristics that have the potential to challenge the capacity for humans to adapt. With little direct evidence that characteristics of the built environment influence health, the phenomenological approach to design through sensory engagement aims to bridge the gap between the built environment and human health. **Joy M. Malnar** and **Frank Vodvarka’s** *Sensory Design* explores the phenomenological approach to design through the incorporation and focus of our senses. Within this literature Malnar and Vodvarka quote work from Juhani Pallasmaa as reference, which led me to use him and his book *The Eyes of the Skin* as a key reference to build my theoretical background for this research.

³ Evans and McCoy, 85

⁴ Malnar and Vodvarka, 42

A common concept used in these theorists’ literature is that there is another way of interpreting the five human senses. Psychologist **J. J. Gibson** used the five senses and “reformulated them into active, highly-inclusive systems.”⁴ This system introduces the **visual, auditory, haptic, taste-smell** and **basic orienting system**. The use of these ‘systems’ gives a more specific approach to how they might be used in the design process and encourages the design of experiential spaces that increase productivity and wellbeing.

There are five dimensions of the designed environment that Evans and McCoy describe in their article that have the potential to affect human health by altering stress levels. The **stress-linked architectural dimensions; stimulation, coherence, affordances, control** and **restorative** influence an informative and creative guide to help mitigate or regulate stress levels. These dimensions also create opportunities for sensory responses in design that could create meaningful and enjoyable experiences through built and natural environmental stimuli.

Stimulation, the first of the explored dimensions, has a broad field of qualities that can affect the way occupants of a space are engaged. The most specific design qualities relevant to this field are variety, complexity and mystery. The spaces we inhabit require an essence of complexity and mystery where it encourages engagement and interaction within that space.

Complexity refers to a level of variety and diversity the space has to offer, where mystery indicates a promise of further information and invites the user to explore the space further. Evans and McCoy state in their article that “human beings function optimally with moderate levels of stimulation.”⁵ Over stimulation can cause distraction, which would demand effort or concentration while the lack of stimulation can lead to boredom or sensory deprivation if pushed to the extreme.

It is important to find a balance of stimulation where the design of interior spaces does not become distracting or boring. Through stimulation an opportunity is presented to create a stronger connection between the space inhabited and the occupant. Pallasmaa mentions in his book that there has become more awareness towards ‘re-sensualizing’ architecture through “a strengthened sense of materiality and hapticity, texture and weight, density of space and materialised light”⁶ Hapticity is referred to in Joy Malnar and Frank Vodvarka’s book as “our sense of touch extended to include temperature, pain, pressure, and kinesthesia (body sensation and muscle movement).”⁷ Architecture strengthens our experience of existence, our sense of being within the world, which in turn becomes a strengthened experience of ourselves.

The second architectural dimension, **coherence**, “refers to the clarity or comprehensibility of building elements and form. Ambiguity, disorganization, and disorientation are major impediments to coherence.”⁸ Incoherence can cause stress because of changes in the physical surroundings making the prediction of space difficult or the spaces’ meaning, function or basic form and composition hard to distinguish. “Legibility, the ease with which one can comprehend the spatial configuration of an interior space, is a critical component of building coherence. Legibility in interiors is enhanced by regular geometric building shapes, distinctive interior markings and views of the external environment.”⁹ For a space to work well, the user must be able to make sense of their surroundings and have a clear path for wayfinding without any ambiguous spaces or elements that might confuse the occupant.

As Evans and McCoy state in their article, “we utilize interior spaces according to our understanding of the functions that they provide us.”¹⁰ This relates to the third architectural dimension **affordances**. **Affordances** relates primarily to the visual sense where visual cues make it easier to discern the functional properties of interior spaces or elements. If a space is misread or the function is not understood it can cause reactions of annoyance, frustration and helplessness that in turn result in avoidance of use. Sometimes corners, stairways and entryways are designed so that little information about the space is discerned until a threshold has been crossed.

⁵ Evans and McCoy, 85

⁶ Pallasmaa, 41

⁷ Malnar and Vodvarka, 42

⁸ Evans and McCoy, 87

⁹ Evans and McCoy, 87

¹⁰ Evans and McCoy, 87

Again, these are identified through visual cues; what if other senses were used to aid in the perception of interior spaces, such as an aroma that becomes increasingly more concentrated as you move around an ambiguous pathway or the touch of a handrail that changes texture as you get closer to the end of the stairs? The use of our senses helps us understand interior spaces and through sensory cues we can achieve more successful affordances within these spaces.

Control, the fourth dimension linked to stress, is defined “herein as mastery or the ability to either alter the physical environment or regulate exposure to one’s surroundings.”¹¹ Physical constraints, privacy and spatial syntax are mentioned as key design concepts related to control. The use of an interior space should have a level of control where the user is not exposed to helplessness through physical constraints that reduce choice or behavioural options and prolonged experiences with uncontrollable environmental conditions. The use of visual exposure, structural depth, openness and brightness all assist the effect of control these spaces might have on an occupant’s health. A space that allows for people to interpret it and make it their own, even within a public space, will encourage interaction between people and enhance the expression of personal and group identity. The design of elements that encourage haptic engagement with the interior planes/surfaces stimulates a sense of belonging for the user, notably influencing their wellbeing within that space.

The fifth and final dimension is **restorative**, which is the most relevant for this research as it defines the potential for design elements to function therapeutically. Evans and McCoy state that “Restorative design elements include retreat, fascination, and exposure to nature.”¹² Interior architecture becomes a powerful medium where spaces of contemplation and rest can be designed to promote wellbeing and productivity whilst reducing stress. Restoration and fascination through natural elements and open views help replenish mental fatigue and create a healthier environment for the occupant.

¹¹ Evans and McCoy, 88

¹² Evans and McCoy, 91

2.3 MEMORY AND PERCEPTION

Perception of spaces poses some difficulty as each person experiences things differently. It is our memories of prior personal and cultural experiences that allow us to fully experience a space. Malnar and Vodvarka make a reference to memory in their chapter, “The Mind’s Eye”, “a place is always specific, but that its elements are common, that its comprehension relies on sensory data filtered through memory, and that delight is enhanced by a degree of mystery.”¹³ The connection we have with the built environment relies on the way our bodies respond to the spaces we inhabit; it is through our senses that we understand these spaces, and it is through these spaces that we find ourselves. The touch of our skin, the sounds we hear, and the aromas we taste and smell help us understand and experience space. Our senses take us to the memories we have stored and remind us of prior experiences that situate our frame of mind in that place. The potential transaction between body, environment and imagination is what is missing from the spaces we inhabit. Pallasmaa states in the chapter, “Multi-Sensory Experience”:

*Architecture is essentially an extension of nature into the man-made realm, providing the ground for perception and the horizon of experiencing and understanding the world.*¹⁴

This statement addresses the idea that architecture becomes a tool that connects our natural bodies in the built environment.

By taking this idea even further, the natural environment becomes the key in which people of diverse ethnicities, cultures and perceptions can find common ground. The use of nature within architecture can be sensed and perceived in a similar way by every occupant; their mnemonic experience will, however, vary amongst occupants. The use of environmental stimuli in interior design will encourage human participation and response within the built environment.

¹³ Malnar and Vodvarka, 21

¹⁴ Pallasmaa, 44

2.4 NARRATIVE DESIGN AND HUMAN RESPONSE

Interior environments can be very complex spaces, and theory and methodological procedures can be a useful tool to help spawn and explain the correlation between people and these spaces. Cathy J. Ganoe states in her article, “Design as Narrative: A Theory of Inhabiting Interior Space”:

*Use of a narrative framework made specific to interior design can assist the designer in making wise concrete decisions about complex and abstract phenomena.*¹⁵

Narrative design adds depth and meaning to the understanding of how the environments are psychologically inhabited by an occupant within an interior space. The human response to space is individual; architecture is used as a medium to influence or encourage physical, emotional or psychological interaction. Phenomenology is a complex and sometimes even paradoxical concept that has been used in many fields of study in search of a better understanding of people’s reaction and perception of consciousness.

The systematic study of human perception might heighten environmental awareness and allow the designers to create multi-sensory experiences. Lisa Heschong makes reference to the influence of the senses on human response in her book, *Thermal Delight in Architecture*, “Each sense not only gives us different information about the world but also has its own quality, its own evocations.”¹⁶ The use of design that is unique enough that its occupants experience the same phenomena regardless of cultural and personal backgrounds allows the architecture to engage with its users in a more effective way. The idea of fragmenting and manipulating interior architecture to produce a design that engages and encourages interaction between body and form will allow for experiences to occur. The response these experiences have on the user aspires to increase their mental and physical wellbeing.

¹⁵ Ganoe, 2

¹⁶ Heschong, 28

2.5 CONCLUSION

The human response to the built and natural environment is specific to the individual's perception of that space. Their cultural understanding, their cognitive memory and their multi-sensory response influence a person's perception. The theoretical background established from the literature review and secondary readings helped establish a foundation from which I can start to design. The multi-sensory theories identified in this chapter can be applied to the architectural linked dimensions to stress to create experiential spaces that can be perceived by the general public.

< Figure 2.02. Floor and Retail Facade Details. Site Exploration.

3.0

CONTEXTUAL ANALYSIS

BANK

ING ARCH

UNITED BUILDING

010

3.1 INTRODUCTION

For my thesis, the theoretical background led me to selecting an appropriate site, which would become the principal vehicle for the design component of this study. Before selecting my site, conditions were set to ensure the potential site would help achieve my aim of creating a viable programme that offers a retreat from everyday life to mitigate stress and promote wellbeing and productivity. The following criteria were set to ensure that the site had relevance to this design-led research:

- The site had to be in close proximity to Wellington's Central Business District, the reason being that this research addresses the increase in urbanisation and how spaces can be designed to maintain and increase wellbeing for the people within the city.
- The site has to be of historic significance. As buildings reach the end of their lifespan I believe it is important to consider how these buildings can be adaptively reused to begin a new chapter in that building's life.

As I set these criteria I realised that there was a site I was already familiar with that met these requirements. The Old Bank Arcade also known as the 'Old BNZ Building' was a suitable match for the design component for this research. Unconsciously, I might have formulated the criteria for my site because my mind (subconsciously) had already chosen my specific site. As a South African who immigrated to New Zealand as a teenager, I had spent a large amount of my time visiting my mother who worked in the Old Bank Arcade at the time.

The more time I spent at that historic building, the more I grew to enjoy my experiences there and for that reason I believe the Old Bank Arcade was an already, subconsciously, predetermined site for this research. My initial approach for this building was to work within the constraints of the building's historic significance. My next approach was to design experiential spaces that respond to the occupants' senses to engage them with the built environment whilst retaining the building's existing programme.

< Figure 3.01. Exterior Facade Detail of the Old Bank Arcade. Site Exploration.

Figure 3.02. Map of New Zealand, highlighting Wellington. >

3.2 HISTORY

The block containing the former BNZ buildings is comprised of four buildings associated with the Bank of New Zealand, only one of which was built by the BNZ, plus the MLC building. The area mainly occupies land reclaimed between 1857 and 1863, but it also includes a part of the city, a stretch of southern Lambton Quay, that has been permanently settled since 1840. The heritage area is nationally significant for its association with the early physical development of Wellington, the establishment of the city's financial centre and the development of Wellington as the country's financial and corporate capital. "The BNZ buildings are the prime focus of this area and, on their triangular site in the heart of the city, are of critical historic and street scape importance"¹⁷

The Old BNZ Buildings No.1 and No.2 form together along the corner of Lambton Quay and Customhouse Quay, shown in Figure 3.03, to create the Old Bank Arcade and office complex. They were designed by prominent Wellington architects Thomas Turnbull and Son in 1899 and reached construction completion by 1901. These two buildings are exquisite examples of Edwardian Classical architecture.

< Figure 3.03. The Facade of BNZ Building No.1 with a glimpse of Building No.3

¹⁷ Wellington City Council, p20-21

¹⁸ BNZ Building No.3 (Former), p3

¹⁹ Old BNZ Building No.4, p1

The Old BNZ Building No.3 is the third building comprised of the wedge-shaped site. Situated on the corner of Customhouse Quay and Hunter Street, shown in Figure 3.04, was the first of the cluster to be built. Built in 1884, this heritage building is an outstanding example of a Victorian Classical commercial building designed by Thomas Turnbull and Son. This building occupies part of the first major land reclamation of the Harbour carried out by the Wellington Provincial Government, and it is built partly over one of Wellington's most important archaeological remains – Plimmer's Ark.¹⁸

Building No.4 of the former BNZ buildings is another example of Edwardian Classical architecture. This assemblage of high-quality Edwardian and Victorian Classical buildings is rare in New Zealand, and unique in Wellington. Together these four buildings form a coherent group in terms of their scale, style, materials, workmanship, age and use.¹⁹ This building, shown in Figure 3.06 is situated on the street face of Hunter Street, was designed by Hislop and Walden, a notable Dunedin architectural firm, and constructed in 1903, which makes it the youngest building of the Old Bank of New Zealand cluster. These buildings were constructed primarily of the same materials, being constructed in load bearing brick masonry on concrete foundations and piles. Their upper floors and roofs were built of timber framing and their ornate and intricate facades were modelled in stucco. The Old Bank buildings are one of New Zealand's last examples of masonry construction, which makes their significance to New Zealand and Wellington even greater.

^ Figure 3.04. Aerial site plan showing the different buildings that comprise of the site.

^ Figure 3.05. Site plan showing the various entrances into each of the five buildings.

The former MLC building, situated on the corner of Lambton Quay and Hunter Street is the fifth building to complete the building cluster in the heart of Wellington's Central Business District. Designed by architectural firm Mitchell and Mitchell and completed in 1940, this building shows an excellent example of Art Deco/ Modernism. The MLC building was constructed with "a load-bearing system of cast in situ reinforced concrete used for floating foundations, external walls, floors and roof. The building is faced with terracotta tiles (faience)...the base of the building, and main and side entrances, are faced with rich red Kanimbla granite."²⁰ The programme for these buildings was primarily commercial, being owned by a combination of banks and insurance companies. These buildings are of incredible heritage significance and remain a reminder of Wellington's early development into the financial and corporate capital.

²⁰ MLC Building (Former), p7

Figure 3.06. Corner of Hunter Street and Customhouse Quay shows the three historic building facades and their relationship to each other. >

3.3 CONTEXTUAL ANALYSIS

The Old Bank Arcade and MLC building are located in the heart of Wellington's CBD. These buildings embody a rare collection of high-quality architecture and construction, which reflect their critical historic and streetscape importance. These historic buildings have retained their original commercial programme, and through redevelopment and renovations have now become a retail hub, which strongly reflects the direction that the area has developed into. As this building is of historic significance there are restrictions regarding the redevelopment of this building. One restriction is that no existing heritage building should be altered externally. This allows for interesting design interventions to occur during the design stage of this research, which responds to the theoretical background as well as the existing external façade of the site.

< Figure 3.07. Map of Wellington City, identifying the Old Bank Arcade

3.3.1 RECLAIMED LAND

The land reclaimed along Wellington Harbour is important as it address the history of Wellington and the expansion of the city that allowed for opportunities of growth, increased urbanisation and human activity. The Old Bank Arcade rests along the edge of Lambton Quay, which follows the form of Wellington's original shoreline. This adds more historic value to this remarkable building. The importance of the site's context and streetscape along a path of Wellington's history allows for opportunity to create a stronger connection between the people of Wellington and the built environment. By retaining the rich heritage and allowing it to go through the process of rejuvenation to become a more sensitive response to modern societal issues, this building has the potential to become a precedent of how architecture can influence society over generations—an architecture that can encourage wellbeing within the heart of the city and address the aims of this research and create a healthier and stronger sense of community.

< Figure 3.08. Map of Wellington City, identifying the land reclaimed along the waterfront.

- LAMBTON
- CUBA
- COURTENAY
- WATERFRONT

3.3.2 CITY DIVISION

The redevelopment of the Old Bank through the years and the incorporation of more retail and commercial spaces have resulted in the site becoming a vibrant and popular location in the heart of the retail section of Wellington. The Old Bank is a recognized landmark and resting location for Wellingtonians and offers retreat for various reasons from everyday life. Public circulation and foot traffic are dense in the area, as it offers a thoroughfare to the rest of the CBD for commuters travelling via public transport. The streetscape in that area is of great importance due to its popularity and regular use throughout the day.

< Figure 3.09. Map of Wellington City, identifying the Division of the City.

- GOLDEN MILE
- ARTERIAL ROAD
- PRINCIPAL ROAD
- HIGHWAY/ SH1
- COLLECTOR ROAD

3.3.3 ROAD HIERARCHY

The site serves multiple purposes for circulation, whether vehicle or pedestrian. By analysing the road hierarchy I could quickly identify the strengths, weaknesses and opportunities within the site in regards to vehicular and pedestrian circulation. The current road use in the area is primarily vehicle focused; however there are opportunities for a stronger pedestrian circulation throughout the area. As mentioned previously, the site is frequently used as a thoroughfare for people using public transport to get to and from the neighbouring suburbs. Wellington's 'Golden Mile' spans Willis Street and Lambton Quay and offers retail therapy as Wellington's main shopping district. This draws attention to the Old Bank Arcade as it connects the two streets together. The current vehicle dominance around the area restricts the potential the site has for a vibrant pedestrian presence. Wellington is known for its 'quirkiness' and social presence; the further development of this site could potentially draw attention to potential redevelopment of other areas around the city to increase Wellington's social and vibrant presence within New Zealand.

< Figure 3.10. Map of Wellington City, identifying the hierarchy of roads.

SOUTH BOUND

NORTH BOUND

3.3.4 VEHICLE ROUTES

In response to the vehicular dominance I have identified in the area of my site, I began looking at how the site can increase the pedestrian circulation and flow within the site and around the site's adjacencies. The city grid for vehicle circulation around my site's proximity consists of one-way streets alternating from northbound and southbound. The current northbound route on Willis Street and Lambton Quay has been rerouted to create a 'pedestrian and cyclists only' route. A large amount of consideration went into this decision, but as a result the site will draw more attention from the public and allow for a stronger engagement with the site throughout the day. A bus stop on Lambton Quay and across from Panama Street has been removed and replaced by the bus stop on Brandon Street, which has now become the new bus route traveling northbound along Lambton Quay. The map shown in Figure 3.09 identifies the existing grid of one-way streets in the CBD, and shows the developed vehicle routes that have created opportunities within the city and allowed for vehicular traffic to continue following the existing city grid whilst increasing the useable space allocated for pedestrian traffic.

< Figure 3.11. Map of Wellington City, identifying the proposed pedestrian-only area with the proposed vehicle routes.

3.3.5 PEDESTRIAN CIRCULATION

The analysis of the site's pedestrian circulation has identified the dense foot traffic and heavy use within that area. It has been identified that the pedestrian circulation on Lambton Quay, Featherston Street and Customhouse Quay is extremely dense during peak hours as people move towards their desired choice of public transport to get in and out of the CBD. The site has increasing opportunities for pedestrian engagement with the streetscape as well as the built environment by developing areas that focus on the public and allow for moments where the public can retreat or pass through depending on their intentions.

< Figure 3.12. Map of Wellington City, identifying the density of pedestrian circulation around the site.

< Figure 3.13. Street View of Old Bank Arcade
from Willis Street.

3.4 PROGRAMME & CIRCULATION

The purpose of analysing the existing programme and circulation of the Old Bank Arcade and MLC building is to acquire a deeper understanding of how the building currently functions and what the building's strengths, weaknesses and opportunities are. It is through this analysis that educated decisions can be made to further develop the building's identity within the urban fabric and enhance the occupants' experiences within the spaces—experiences that will not only create further opportunities for personal development and wellbeing but economic growth as well.

3.4.1 EXISTING PROGRAMME

The Old Bank Arcade, as mentioned previously, has a strong influence on Wellington's shopping district. The ground floor and lower ground floor of the site consist primarily of retail spaces with the exception of some hospitality spaces. This responds to the sites surrounding context and relevance to Wellington's shopping district. The upper floors have stayed true to the heritage of the building and have been redeveloped to provide commercial vicinities. The MLC Building consists of primarily residential space on its upper floors; its ground floor is occupied by retail space, which collectively with the Old Bank Arcade responds to the site's context as a shopping district. The opportunities for this site with its already existing programme allow for a mix-use development, which occupies retail, hospitality, commercial and residential, all within one site.

< Figure 3.14. Diagram of Old Bank Arcade
Existing Programme

3.4.2 CIRCULATION

The site consists of five buildings, which means that the interior spaces that are interconnected within these buildings make it difficult sometimes to orientate oneself within the building; this results in the circulation often being misleading or confusing when transitioning between spaces; this creates opportunity to integrate Evans and McCoy's stress-linked architectural dimensions to address the issues of the building's current misleading circulation. There are multiple access points from the three streets surrounding the site, each with its own moment of experience. The strongest connection between the street and the entrance is on Lambton Quay. The corner of Hunter Street and Lambton Quay has a large area that can accommodate a greater amount of pedestrian traffic in comparison to the other two corners. This area encourages public movement and congregation, opening up the opportunity to better connect users with the building on the street level. The interior circulation of the Old Bank Arcade is quite homogenous, making the transition between the different buildings ambiguous and remain unnoticed. The lower ground floor of the Old Bank Arcade has an underground connection to the BNZ Centre shops. This arcade link allows underground access between two buildings and creates opportunity to create a strong public connection to the site on a ground and lower ground level.

< Figure 3.15. Diagram of Old Bank Arcade Circulation

- MLC BUILDING STRUCTURE
- OLD BNZ BUILDING 1&2 STRUCTURE
- OLD BNZ BUILDING 3 STRUCTURE

- STAIRWAYS
- ELEVATORS
- ESCALATORS

3.4.3 STRUCTURAL & VERTICAL ANALYSIS

The Old Bank Arcade and the MLC Building's construction is a load-bearing system made of concrete. Each building has its own grid of structural elements, evidence of each building that make up the cluster being built and developed at different times. The buildings' grids help inform the horizontal circulation of each building. The vertical circulation between levels is somewhat disconnected as certain staircases and lifts serve the purpose for the commercial spaces only. For the building to have consistency between spaces and programmes, as referred to in Evans and McCoy's article, the circulation whether horizontal or vertical should be easy to understand and navigate to allow for the space to function optimally.

< Figure 3.16. Diagram of Old Bank Arcade
Existing Structural Elements

< Figure 3.17. Diagram of Old Bank Arcade
Existing Vertical Circulation

OLD BANK

3.5 CONCLUSION

By critically reflecting on the contextual analysis section of this research, I could identify the strengths, weaknesses, opportunities and threats of this site and how I might be able to achieve this thesis's goals and objectives. The site has a strong connection to the culture and heritage of Wellington, and this is evident in the surrounding context and social value. A site that is well recognised increases the willingness to engage with that area and the built environment. A weakness that the site possesses is the interior circulation, and wayfinding within the space is quite confusing and difficult to navigate. Often when a person does not understand a building or building element's function or purpose, they tend to avoid engaging with it. This can become an opportunity within the design component of this research to create a clearer and more engaging circulation within the building cluster. This circulation translates to the streetscape of the design as the connection from exterior to interior should lure the public to the site and encourage them to engage with the space. The opportunity of creating a pedestrian and cyclist only area on Lambton Quay will ideally create more flow between the CBD and the rest of the city. The threats that have arisen from this analysis are in reference to the heritage value of the Old Bank Arcade's façade.

With the Old Bank Arcade already having undergone development in the past years, I believe that it is important to keep the façade in the condition it is in already. Nonetheless, the façade of the building provides the opportunity to use the large glazed portions as apertures to provide glimpses into the interior—further luring people's curiosity and physical being into the site. As this is an interior architecture research investigation, I will be redeveloping the interior elements to respond to the theoretical background and using this site as a principle driver for the design component to achieve the aims and objectives of this research.

< Figure 3.18. The entrance from Lambton Quay coming from Willis Street. Site Exploration.

4.0 CASE STUDIES

4.1 INTRODUCTION

For this section of my research I will be analysing three key case studies, which show architectural qualities relevant to my research topic. These case studies will be analysed and critically reflected on in regards to the experiential qualities the designs exhibit as well as how the architects translate these experiential designs into architectural composition. The Honpukuji Water Temple by Tadao Ando, the Jewish Museum Berlin by Daniel Libeskind and the Swiss Pavilion by Peter Zumthor are case studies I will be analysing in this chapter that will contribute to the aims and objectives of this research as well as create a direction for the design component.

< Figure 4.01. Materiality difference between the MLC Building and the Old Bank Arcade. Site Exploration.

4.2 HONPUKUJI WATER TEMPLE

Architect: Tadao Ando

Location: Awaji, Japan

Completed: 1991

The Water Temple, designed by Tadao Ando and built in 1991, is an example of strikingly simplistic yet engaging design. The Water Temple situated on Awaji Island in Japan was originally designed for the Shingon Buddhist Sect and through design transcends its occupants into a remarkable spiritual space. Ando uses a sequence of moments to create experiences, which engage with the occupants' senses.

A narrow stairwell extends like a jetty out into a pond, and descending beneath the pond brings you into a temple interior absolutely glowing with rich red color. Another curved wall, this time of red lattice, encircles the heart of the temple creating a curved outer corridor flooded with natural light.²¹

This description of the interior space Ando created through his design is quite poetic in the way he firstly opens the views out over the body of water and then confines them through a narrow stairwell, which descends the occupants beneath the water only to find a hidden temple glowing with rich colour.

This case study enables me to critically reflect on how Ando uses materiality and form that create visual and haptic cues to lead the users through the space and create meaningful experiences. One of the strengths of this case study is the sense of mystery, wonder and curiosity. Ando achieves this through design by leading the users through a narrow stairwell to an 'underground' temple. The contrast between the cold concrete leading the users towards the temple and the warmth of the red colour and natural light, which envelops the users once inside the space, is another strength that this case study displays.

One aspect of the design that was reflected on was that the initial response to that space lacks intrigue. When approaching the space, you are greeted by a large vertical slab of concrete with a void to pass through. Only once through this threshold does the space reveal itself to be more than expected. An aim of this research is to discover whether the atmospheric qualities responding to the human senses can be used as a tool in design to promote wellbeing. Tadao Ando offered an impressive answer to this question by creating a meaningful experience for users using material, light and engaging with the human senses.

²¹ Cawood

^ Figure 4.03. A successful representation of materiality and visual cues in regards to the direction of occupant movement.

^ Figure 4.04. Underground pathway towards the Temple space. An example of symmetry in form and the incorporation of materiality and nature in the built environment.

4.3 JEWISH MUSEUM

Architect: Daniel Libeskind

Location: Berlin, Germany

Completed: 2001

The Jewish Museum in Berlin, designed by renowned architect Daniel Libeskind, was selected as a case study for this research for his ability to convey emotions and experience through architecture and narrative design. The purpose of the design was to implement a “radical, formal design as a conceptually expressive tool to represent the Jewish lifestyle before, during and after the Holocaust.”²² Libeskind uses architecture as an expressive tool for narrative and emotion to provide occupants with an experience of the effects of the Holocaust on both the Jewish culture and the city of Berlin.

Libeskind designed the interior spaces to create a journey of experiences, which in its own would evoke emotions and symbolise the experiences that Jewish people in the time of World War II had gone through. There are three main experiential spaces that tell this narrative: the Holocaust Tower, the Garden of Exile and Emigration, and the stair of Continuity. Each of these spaces contributes to the overall experience Libeskind aimed to achieve through design.

The interior of the design features moments of empty spaces and dead ends where traces of light enter the space. The use of concrete within the interior of the design creates a cold atmosphere, which reflects the narrative of the design and engages with the visitors on a symbolic level. The use of large gestures such as open voids in the Holocaust Tower or tall concrete pillars causes confinement in the Garden of Exile and Emigration, which also has an inclined floor to disorientate the visitors; Libeskind uses materiality and narrative through design to evoke emotions and engage with the occupants. These human experiences that are translated into architectural composition create an emotional journey through history.

Through critical reflection, Libeskind's technique of architectural composition that reflects a design's narrative through materiality and form could benefit the experience of the occupants and encourage the engagement with the built environment. Libeskind's project offers an alternative of engaging with the collective memory as a way to develop an architectural narrative that can be used, in the same manner, hopefully in a more positive way, to achieve one of my aims for this research, which refers to the stimulation of the user's perception and engaging with collective memories to create meaningful spaces and improving wellbeing.

²² Pavka

< Figure 4.05. Holocaust Tower Void, displaying the height and extreme gesture of this space.

^ Figure 4.06. A Void space that represents an emotional and overpowering journey through the use of material and light. Course iron faces fill the ground to symbolise those lost during the Holocaust.

^ Figure 4.07. The Jewish Museum extension leads out to the Exile Garden, where the visitors find themselves amongst large concrete pillars covered in plants.

4.4 SWISS PAVILION

Architect: Peter Zumthor
Location: Hanover, Germany
Completed: 2000

The Swiss Pavilion designed by Peter Zumthor is an excellent example of phenomenology in architecture, where the spaces we perceive engage with their users through the human senses. The design intent for the Swiss Pavilion was to become more than a place of information but as a place to retreat from exposure or over stimulation. The large temporary structure, comprised primarily of timber and fixed with steel rods and springs, responded to the theme of sustainability for the 2000 World Expo in Hanover. The timber structure was designed to form a kind of labyrinth, which was connected through a series of corridors. These created breakout spaces and inner courtyards, which allowed the visitors to retreat as well as encourage engagement with the built environment and with the other visitors.

This case study reflects heavily on the experiential aspects of design and responds effectively to the way design can engage with the human senses. Zumthor engages with our senses; the feel, texture, colour, smell and sound of wood are present throughout the interior environments, which creates the sense of being in a forest without any real greenery. It is our interaction and occupation within those spaces that allow us to engage and respond to them.

Zumthor is well known for his ability to creatively and evocatively compose spaces that enhance the user's experience and respond to the users through their senses. The use of light and materiality in this design creates an experience that the visitors will remember long after it has been dismantled. Through critical reflection, this experiential space, which Zumthor achieves through the use of materiality and light, presents itself as a good example of how to engage with the occupants through their senses.

< Figure 4.08. The Swiss Pavilion, displaying its warm and modular interior.

^ Figure 4.09. Light and material come together to create an evocative atmosphere within the Swiss Pavilion.

^ Figure 4.10. Intricacy of form and modularity. The perforations of the design allow for glimpses of views as well as penetrations of light to filter through.

5.0 PRELIMINARY DESIGN

5.1 INTRODUCTION

This chapter of my research combines the findings from my theoretical background and case studies to lead the testing of this design. A common occurrence throughout the theory and case study section of this research is that design engages with its occupants through moments of experience. Whether it be the journey through a space, a threshold, or a moment of pause, the built environment has the potential to engage with its occupants through intentioned design. Architectural form, materiality, light, shadow and colour are all elements that can influence or spawn user engagement. This chapter aims to test these theories through digital and analogue processes to discover whether the atmospheric qualities analysed through the theoretical background and case studies of this research can be used as a tool in design to create atmospheric experiences that promote wellbeing.

< Figure 5.01. Details along the primary circulation space through the Old Bank Arcade. Site Exploration.

5.2 PROCESS

The iterative process undertaken in this chapter of my research began as a series of lines, each with a start and end point. These were interpreted as pathways or a direction of movement along an 'X' and 'Y' axis. Another series of iterations was developed by rotating the paths by a 45° angle to allow for the next stage to occur, which would include the 'Z' axis in the iterative process. The inclusion of all three axes creates boundary lines for horizontal and vertical planes to be defined in the process. After establishing the horizontal and vertical planes from the boundary lines created, the last stage in the process merged the planes together to create an abstraction of three-dimensional surfaces. These could then be interpreted as architectural form by following the surfaces and defining them by introducing materiality, light and shadow.

^ Figure 5.02. Process of form creating through vertical and horizontal plane experimentation.

6.

7.

8.

9.

10.

^ Figure 5.03. Models created from the experimentation process.

Moment 6.0

Moment 7.0

Moment 8.0

Moment 9.0

Moment 10.0

5.3 MOMENTS OF EXPERIENCE

The process used in this series of iterations was developed in response to the findings from the literature review and case studies. Each of the case studies analysed used various methods to help guide its users through the designed spaces. The pathways in those designs were defined by light, materiality and form to create an ambiance that engages with its occupants. This leads to the next stage of my design method, which interprets those iterations of three-dimensional surfaces into architectural composition. The final step of the process is expressing these models through materiality, light and shadow to begin experiencing ambiance within the models.

Moment 1.0

Circulation

- One Directional
- Informed spaces
 1. Opening
 2. Shade and partial view of platform
 3. Second directional opening

Features

- Threshold wall is too close to second wall therefore does not offer opportunity to be experienced in advance.
- Creates an 'awe' impact by change of scale without anticipation.
- Diffused light used as an indicator to circulate through the space.

< Figure 5.04. Experiment Model 1 Collage

^ Figure 5.05. Series of sketches reflecting the findings from experiment 1

Moment 2.0

Circulation

- Clear separation on circulation path; one follows the straight line with a screen separating the interior and exterior. The other is suggested by screen perforations.
- The two paths represent different speeds for different purposes.

Features

- The use of layering elements allows light to filter into the space.
- Change in height also helps distinguish the different paths.

< Figure 5.06. Experiment Model 2 Collage

^ Figure 5.07. Series of sketches reflecting the findings from experiment 2

Moment 3.0

Circulation

- Clear exit/ secondary entrance where the exterior is seen from the inside through glimpses.
- Second entrance can be used to separate access to different parts of the building.

Features

- Elements that partially touch or have perforations in the forms allow light to diffuse through the space and can indicate direction of movement.

< Figure 5.08. Experiment Model 3 Collage

^ Figure 5.09. Series of sketches reflecting the findings from experiment 3

Moment 4.0

Circulation

- Multiple directions but considered two primary directions. Both with pause moment opportunities.
- First moment is a straight directional pass below platform that slowly reveals the moment of pause.
- Second moment contrasts the first, where you experience the moment first and then the circulation divides.

Features

- Perforated wall that allows light to filter into the space to provide an 'awe' factor.
- Platform changes the scale of the space by increasing the height to allow for the 'awe' moment to be more distinguishable.

< Figure 5.10. Experiment Model 4 Collage

^ Figure 5.11. Series of sketches reflecting the findings from experiment 4

Moment 5.0

Circulation

- One direction from the interior/exterior.
- Perforations in the wall allow for the corners of the space to become less ambiguous.
- Solid wall creates the boundary and together with the perforated wall, identifies direction of movement.

Features

- Perforated wall or a material with a change in opacity makes it easier to judge what is beyond the corner.
- Composition of walls allows a sense of separation between interior and exterior space.

< Figure 5.12. Experiment Model 5 Collage

^ Figure 5.13. Series of sketches reflecting the findings from experiment 5

Moment 6.0

Circulation

- Single directional
- Frame used to draw and guide visitors

Features

- Compositional elements frame views for a more focused and tailored experience.
- Change in levels allow for your body to feel as if it were being submerged within a particular moment.

< Figure 5.14. Experiment Model 6 Collage

^ Figure 5.15. Series of sketches reflecting the findings from experiment 6

Moment 7.0

Circulation

- Options for two directions
- First to explore and stop
- Second to bypass and move quickly

Features

- Changes in movement speed are dependent on purpose; the space however offers options.
- Slow option is sheltered to allow for longer, more comfortable occupancy.
- Fast option is open to allow for forced movement.
- Materials barely touching allow light to pass through while outer walls confine and create boundaries for the space.

< Figure 5.16. Experiment Model 7 Collage

^ Figure 5.17. Series of sketches reflecting the findings from experiment 7

Moment 8.0

Circulation

- Multi-directional; only restrictions are the single walls from each platform.
- Change of height for each platform indicates and guides how you might move through the space.

Features

- Platforms of similar form change in height and scale.
- Form of the walls creates a centre point that could influence a sense of gathering or community.

< Figure 5.18. Experiment Model 8 Collage

^ Figure 5.19. Series of sketches reflecting the findings from experiment 8

Moment 9.0

Circulation

- Singular direction. The use of screen walls give glimpses of whats beyond the space to avoid the ambiguity and to guide the occupant.

Features

- Screen walls as a device to show what's beyond but not how to get there. Gives opportunity to explore and creates a sense of mystery and wonder. (not good for public spaces which need to be clearly identified of where to go)

< Figure 5.20. Experiment Model 9 Collage

^ Figure 5.21. Series of sketches reflecting the findings from experiment 9

Moment 10.0

Circulation

- Single direction, straight towards a resting space. A place of solitude or contemplation.

Feature

- Space has single purpose, which is to lead to a single spot where the upper levels open to reveal what is above.
- Materials that are used to create screens, direct the visitors as well as create an ambiance within the space.

< Figure 5.22. Experiment Model 10 Collage

^ Figure 5.23. Series of sketches reflecting the findings from experiment 10

5.4 DEFINING THE NARRATIVE

Engaging with occupants within an interior space can become more meaningful if occupants are guided or journey through the designed spaces; this is identified in the case studies as well as in the literature review. A meaningful experience is defined by the journey embarked on, whether it be an immediate response or one that increases as you progress through the space. As Zumthor, Libeskind and Ando have done in their designs, the journey created influences the overall experience of those spaces. A narrative was established from the moments designed in this chapter, which guides the visitors through the interior proposal and engages with the occupants in experiential ways.

The first initial response to the proposal aims to *Lure* its occupants into the building by creating a space that encourages activity as well as moments of wonder and mystery. The stimulation created from this experience would occur before entering the building and has the strongest connection to the public.

The next stage in the journey *Guides* the occupants through thresholds when entering the building. These moments create a sense of coherence and affordance as they clearly establish the journey and purpose of the designed space. Without any ambiguity or uncertainty pertaining to the direction of movement of the interior spaces, the occupants are guided into the rest of the design.

The third stage in the journey influences control, which is the fourth architectural dimension linked to stress. These moments aim to *Conceal* aspects of the design to allow for the occupants to interpret the space on their own and engage with the space by venturing beyond the initial response. These moments create glimpses of what's beyond the threshold but won't be accessible unless the journey is continued.

The last and final stage in the journey is the moment of *Reveal*. This space offers a moment of contemplation, which gives opportunity to reflect on the past experiences. The space offers retreat and influences a restorative quality to the design. The vastness of this design proposal creates an experience, which connects the rest of the design together in an ambient way as well as compositionally.

< Figure 5.24. Diagram showing the process involved with establishing the 'Layering' Narrative for the design stage.

5.5 DEFINED SPACES

The first step in defining the spaces within the Old Bank Arcade was integrating the moments with the defined narrative. These moments would be categorised into the four layers of the narrative; **lure**, **guide**, **conceal** and **reveal** based on their relevance to those functions through form and composition. The connection between the moments of experience would influence the circulation of the space as well as transitioning the occupants between and through the journey defined by the narrative. The circulation through the building will be influenced by the individual moments to create a series of experiences that would constantly engage with the occupants. The spaces in-between the circulation would be defined by the building's programme. These will primarily be retail and hospitality spaces to relate to the building's current programme. These defined spaces aid in the development of the design, as they give guidance towards the overall scheme of the proposal.

< Figure 5.25. Diagram identifying the situation of the moments of experience, the circulation between them and their response on the building's programme along the ground and lower ground floors.

5.6 EARLY SKETCHES AND DESIGN

The sketches drawn in the early stages of the design allowed for a holistic approach where the concept, the theories of the literature and the findings from the case studies and the context of the site could all be interconnected. These sketches began exploring the atmospheric qualities that could be incorporated into the architectural compositions through materials, light, shadow and form. The iterations explored in the process of this chapter have a particular purpose in the narrative of the design, and as a result, each would be unique to each other.

The primary focus of this stage in the design process is the movement through these moments of experience. These moments have been explored by understanding ways in which occupants might be lured, guided, concealed and revealed through these spaces. The opacity of materials, the contrast between light and darkness and the scale of these forms have been tested through sketches and supported through the findings of the case studies. These qualities can then be interpreted into atmosphere that begins to engage with the occupant's senses and offer retreat from everyday life.

< Figure 5.26. Initial sketches that show some of my thinking process and design iterations.

5.7 CONCLUSION

The aim of these iterations was to begin understanding how architectural composition can be designed to create atmospheric experiences and how these experiences could mitigate stress and promote wellbeing. The iterations created through analogue and digital processes have been developed as a tool to create architectural composition. The findings established from the literature review and case studies can be implemented with these compositions in a way that would aim to create moments of experience through ambiance. The theories of architectural dimensions linked to stress were also considered and implemented in this process of design to begin addressing the aims of this research. The limitations to this chapter would be that these iterations have no context to them at this stage, which has made it difficult to justify the scale of these designs. As a result these moments have been portrayed as monumental structures, which might limit the possibilities for implicating them into the developed design. The reason for portraying them at the scale they are in is due to the spaces being envisioned to envelop the visitors rather than the moments being used as a detail or a holistic approach to the design. The next step in the design process would be to use these designs to define the narrative and journey through the space. The programme and circulation within the design would be developed to respond to these compositions and collectively define the design as an experiential space.

< Figure 5.27. Intricate metal detail of the Old Bank Arcade's balustrade in Building 3. Site Exploration.

6.0 DEVELOPED DESIGN

6.1 INTRODUCTION

Through interior architecture, creating a design that is capable of mitigating stress and promoting wellbeing by engaging with the human senses can be achieved through materiality, form and light. Moments of experience were created to develop a series of designs that would influence a journey throughout the space. The journey throughout the Old Bank Arcade would respond to the existing context and be developed to successfully engage with the public. The primary aspect of this design was to engage with the public; this was achieved by incorporating the design interventions within the ground and lower ground floors, as these are the initial points of contact the building has with its visitors. The narrative of these spaces creates a journey upon which the occupants can embark that encourages engagement with the built environment. This engagement with the built environment is achieved through the ambiance created by these spaces and through the inclusion of the natural environment. The natural environment increases the sense of wellbeing and can heighten the atmospheric qualities of the spaces designed. The natural and built environments are integrated to create a journey through space, which offers a retreat in the heart of the city.

< Figure 6.01. Natural and raw elements within the interior space of the Old Bank Arcade. Site Exploration.

6.2 THE JOURNEY

6.2.1 Layer One: Lure

The moments of experience that create the sense of *Lure* have been designed with focal points or areas of interest that aim to draw people towards the entrances. These spaces and entrances are situated at either end of the Old Bank Arcade on Lambton Quay due to the strong public circulation along that street. These spaces use the natural environment to influence a meeting point or point of interest that stimulates the visitors depending on the duration of their stay. Incorporating the design interventions within the existing site's context has caused the initial forms to be redeveloped so that they do not obstruct the façade of the Old Bank Arcade while retaining their original design intention. As part of the design's narrative, these moments had to be designed from the exterior of the building to draw the public within the building. The intention of this design decision was to extend the boundaries of the interior architecture discipline and create a stronger relationship between the exterior and interior built environment through this intervention. This first layer of the design's narrative begins to address the aims and objectives of this research by using the theories from Evans and McCoy's literature to create stimulation within an architectural space to mitigate stress. These moments influence stimulation through the use of materiality, form and elements from the natural environment that also engage with the occupant's senses.

^ Figure 6.02. 'Lure' Moment. Proposal for the entrance on the corner of Lambton Quay and Customhouse Quay. This moment explores the idea of 'Luring' visitors into the space and engaging with their senses.

^ Figure 6.03. 'Lure' Moment. This proposal for the entrance to the Old Bank Arcade from the corner of Hunter Street and Lambton Quay aims to create a sense of mystery and curiosity as it 'lures' its visitors towards the space.

6.2.2 Layer Two: Guide

The next layer of the journey is the first threshold within the Old Bank Arcade. The space aims to *Guide* its visitors by indicating the direction of movement through form, materiality and light. These spaces were developed to create unambiguous, easy to interpret moments of experience by using theories from Evans and McCoy's literature. Coherence and affordance within a designed space can mitigate stress as well as create opportunities to use design as a tool to promote wellbeing. The light from the spaces and the materiality on both horizontal surfaces give guidance to the direction of movement. The use of materials and light references the techniques used in Zumthor's Swiss Pavilion and have been developed to respond to the context of the site. These spaces engage with the occupants through their rich materiality and the slivers of light that entice the user to move towards them.

^ Figure 6.04. 'Guide' Moment. This visual representation shows one of the entrance spaces that aims to 'guide' its occupants through the use of perforations in the walls to allow light to pass through.

^ Figure 6.05. 'Guide' Moment. This moment uses form to frame a space and give indication of primary circulation.

^ Figure 6.06. 'Guide' Moment. The use of materiality and light, which creates a contrast with its surrounding elements, aims to give spatial cues that give direction of the space.

^ Figure 6.07. 'Guide' Moment. The use of natural elements gives an indication that there is a secondary route and creates a sense of mystery within the space.

6.2.2 Layer Three: Conceal

The third layer of the journey aims to *Conceal* the occupants from the final moment of experience. They give glimpses of the space to create a sense of mystery and wonder. These moments were developed in response to the techniques Tadao Ando used in the case study of this research. The way these moments conceal the rest of the design through screens of rich materiality and the use of light helps conceal the space whilst alluding to the final layer. The control that is expressed in these moments through visual exposure, structural depth and brightness is used to mitigate stress within an interior space. The layering of screened elements adds to the space's structural depth and the use of natural and artificial light increases the space's openness and brightness.

^ Figure 6.08. 'Conceal' Moment. The repetition of elements and use of screens create glimpses into the spaces beyond.

^ Figure 6.09. 'Conceal' Moment. The materiality of the space and the use of light and reflection extend the space beyond its original form. The repetition of elements conceals the overall composition of the space beyond.

6.2.2 Layer Four: Reveal

The fourth and final layer is the moment of *Reveal*. This space extends the height of the building to create a vastness within the space. It connects all the floors together to give a sense of the journey even if you are no longer on the path's trajectory. This final moment is surrounded with built and natural environment elements, which engage with the occupants in a way that they leave a lasting and memorable experience. The last architectural linked dimension to stress is of restorative value; the use of natural light, open space and the inclusion of the natural environment aims to mitigate stress and create a space of retreat. The light well, which extends the height of the building, filters through natural light that illuminates the interior garden below. The composition of this space engages with the occupant's senses through the warm and natural textures of the programme's facades, the bright and rich aromas from the interior garden and the changes in materiality of the surfaces.

Figure 6.10. 'Reveal' Moment. This space creates a moment of contemplation as it ends the journey of the building's narrative and celebrates the space with its atmosphere.>

FIG. 6.18

0 2 5 10m

LOWER GROUND FLOOR

1. Retail Spaces
2. Market Space
3. Public Bathrooms
4. Ramp
5. Cafe Spaces
6. Public Park Space
7. Arcade Link

< Figure 6.11. The proposed plan of the Lower Ground Floor.

GROUND FLOOR

1. Retail Spaces
2. Market Space
3. Public Bathrooms
4. Ramp

< Figure 6.12. The proposed plan of the Ground Floor.

FIG. 6.18

0 2 5 10m

FIRST FLOOR

1. Retail Spaces
2. Market Space
3. Public Bathrooms
4. Ramp

< Figure 6.13. The proposed plan of the First Floor.

FIG. 6.18

0 2 5 10m

SECOND FLOOR

1. Retail Spaces
2. Public Bathrooms
3. Ramp

< Figure 6.14. The proposed plan of the Second Floor.

FIG. 6.18

0 2 5 10m

THIRD FLOOR

1. Retail Spaces
2. Public Bathrooms
3. Ramp

< Figure 6.15. The proposed plan of the Third Floor.

FIG. 6.18

0 2 5 10m

FOURTH FLOOR

1. Commercial Spaces
2. Break-out Spaces
3. Public Bathrooms
4. Ramp

< Figure 6.16. The proposed plan of the Fourth Floor.

FIG. 6.18

0 2 5 10m

FIFTH FLOOR

1. Rooftop Garden
2. Rooftop Bar
3. Residential
4. Ramp

< Figure 6.17. The proposed plan of the Fifth Floor.

^ Figure 6.18. Section cut through the proposed Old Bank Arcade.

+27,500
— ▼ EIGHTH FLOOR

+24,250
— ▼ SEVENTH FLOOR

+21,000
— ▼ SIXTH FLOOR

+17,750
— ▼ FIFTH FLOOR

+14,800
— ▼ FOURTH FLOOR

+11,400
— ▼ THIRD FLOOR

+8000
— ▼ SECOND FLOOR

+4000
— ▼ FIRST FLOOR

0
— ▼ GROUND FLOOR

- 4750
— ▼ LOWER GROUND FLOOR

^ Figure 6.19. The Mnemonic Oasis

7.0

CONCLUSION AND CRITICAL REFLECTIONS

The Mnemonic Oasis explores the boundaries of interior architecture as to whether it can create sensorial experiences that mitigate stress and promote wellbeing through the different spaces developed in the thesis process. Wellbeing is becoming an increasingly popular topic within the architectural disciplines as it is becoming evident that the spaces we inhabit affect our physical, mental and even emotional health. A limitation of this research is that the topic of sensory design is vast in relation to the physical, mental and emotional fields; the design aspect of this research was based on specific findings from the theoretical background and case studies. The society we live in today shows evidence of increasingly stressful environments caused by the desire for high performance, competitiveness and overall perfection in our daily lives. The design implemented in my thesis is for the general public to have a space to retreat to as a moment of pause from their day-to-day lives. The set of aims and objectives enabled me to address the issues of my thesis and use the theoretical background and findings from my case studies to develop a design, which engages with the occupant's senses and mitigates stress through architectural linked dimensions.

One of the constraints I have come to conclude is that the proposed intervention of experiential moments is subject to interpretation, where the occupants might not experience the spaces the way the designer had intended them to. As stated in the theory of this research, occupants will perceive spaces differently based on their personal and cultural backgrounds.

The incorporation of the natural environment with the built intervention for the design component of this thesis aims to create a common ground in which the occupants can interpret and experience the design in a way it is intended.

To progress this research further than the original scope, I would have addressed the urban environment in a way that creates a stronger connection to the exterior of the building and the interior intervention. The incorporation of an urban park in a pedestrian only location would strengthen the pedestrian circulation and increase the engagement with that particular space. Another approach to extend the original scope is by considering what I could propose to extend the limitations of the experiential moments. In my thesis, I have focused primarily on the overall scheme of the experiential spaces and as a result have left some of the auxiliary components to my thesis un-designed. To strengthen the overall scheme of the 'journey' I would have designed the roof of the Old Bank Arcade, which would increase the connection of all the floors.

Overall, the final proposed design responds to the aims and objectives of my research, and I believe that it successfully provides a proposal that engages the human senses while mitigating stress and promoting wellbeing through the limits of visual representation.

< Figure 7.01. Materiality of multiple details within the space of the Old Bank Arcade. Site Exploration.

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MNEMONIC OASIS

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