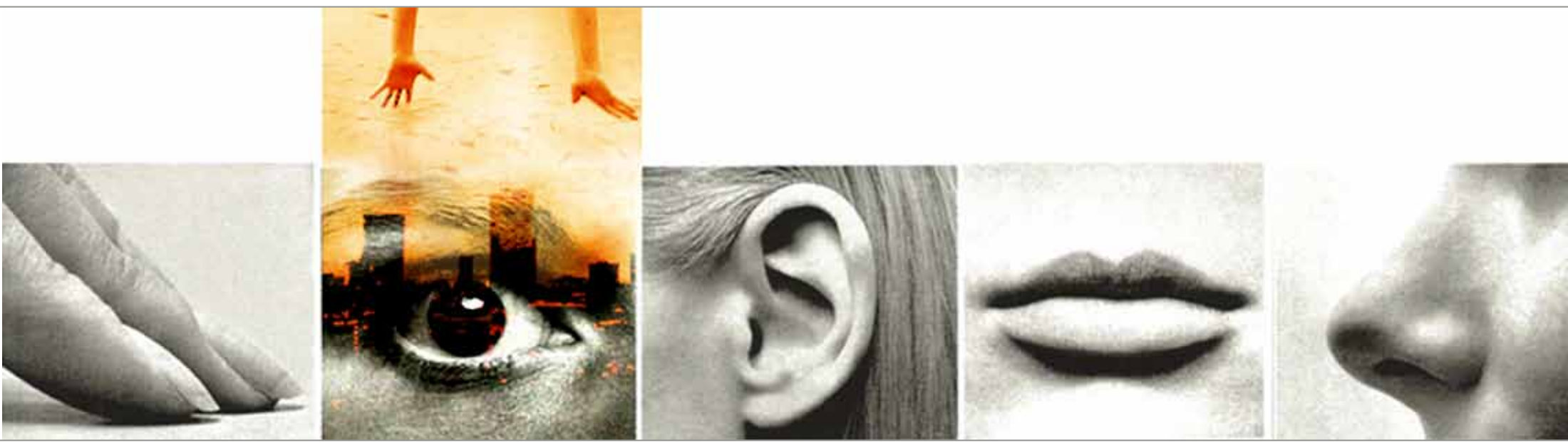
CHAPTER 2

Design Intention_ Theoretical Framework

This chapter investigates the theoretical influences that informed and directed the design process.



2.1 Sensuous city.

[2] Design Intention_ Theoretical Framework

City Love, my Lady Love

Carien Theart

With her mighty breath she breaths you in,
into her daily rhythms and rituals.
Step out,
step in, into her domain.

Look, look beyond the surface, the multiple facades of her skin.
Stretch out your hand; caress her hidden sensuous curves.
Let your eyes touch her tactile surface,
stroke the patina of wear,
blink at her bright new layers and rest on the familiarity of her frame.
Let your foot soul travel on her black warm tar arteries, onto
cool shaded concrete pavements and circle through her stone arcaded belly.
Her brick- glass- concrete- stone whisper SPEAK volumes, amidst those of numerous traders,
shopkeeper, residents, work force and school children.
Her body odour is the familiar amalgamation of cooked corncob, meat markets, baked goods,
mass clothing and petrol fumes.
Lift her veil; discover the refuge of her peaceful alcoves.
Admire her shop front face, bask in the brilliance of her multi-coloured jewellery
displayed for all to see.

With her silent breath she inhales you,
into her deep breathing, of shadows and lights.
She is a mighty pulsating living organism.

Can you hear her beckoning you?

"Step out,
step in, into my domain.
Look beyond."

[View Addendum A for further visual exploration of the poem.]

2.1. Introduction_

"I confront the city with my body, my legs measure the length of the arcade and the width of the square, my gaze unconsciously projects my body onto the façade of the cathedral, where it roams over the mouldings and contours, sensing the size of recesses and projections; my body weight meets the mass of cathedral door, and my hand grasps the door pull as I enter the dark void behind. I experience myself in the city and the city exists through my embodied experience. The city and my body supplement and define each other. I dwell in the city and the city dwells in me." (Pallasmaa 2005, p.40)

Our bodies are the centre of our experiential world. The senses are biologically grounded in the physical structure of the body and operating through the body provide us with information about the world around us. The constant gathering of immediate sense data forms our subjective realities and is vital to our perception and memory of place. It is truly through our senses that we perceive the world, form, space and architecture. Pallasmaa (2005, p. 41) believes that architecture strengthens our experience of self.

Fig. 2.1.1 Pretoria CBD, a sensory experience.

2.2 Phenomenological approach_

One of the fundamental human questions is the search for existential meaning. When God told Cain in Genesis 4.12; you shall be a restless wanderer on this earth, he put man in front of a basic problem; Norberg-Schultz (1996, p. 426) offers the following challenge "to cross the threshold and regain the lost place."

Phenomenology has endeavoured to address this question. According to Heidegger (1889-1976), phenomenology focuses on the human subject, seeking to understand the nature of "being in this world" (1983). Norberg-Schultz's (1996, p. 414) possible answer to the human desire to *make sense* of the environment, is a "return to things". He declares that architecture provides us with this essential "existential foothold" on earth which will provide us with "orientation" in space and "identification" with the specific character of a place.

In accordance to phenomenological theoretical positions I am of the opinion that human experiences grounded in a multi-sensual dimension, guides an understanding of being situated in space in relation to places. This study seeks to offer the senses a more integrated role in architecture; where these elements not only guide our human relationship to the world, but also structure our space and define the place we find ourselves in.

2.3 Visual hegemony_

Vision is an important aspect of understanding and experiencing the world. However, through this thesis I attempt to prove that the neglect of the non-visual dimension, caused by Western culture's ocular centric bias, has impoverished our spatial understanding.

Descartes' declaration; "I think: therefore I am" can boldly be replaced with the statement; "I see, therefore I am." From as early as the Classical Civilizations (800-337 BC) it becomes evident that sight is seen as the jewel in the sensory crown. This visual sense preference is visible in Plato's (427-

347 BC) views regarding vision as humanity's greatest gift (1994, p.27). Aristotle (384-322 BC) stated that sight is the noblest of all the senses and that it "approximates the intellect most closely by virtue of the relative immateriality of its knowing" (Flynn 1993, p. 274). Heraclites (534-475 BC) wrote in one of his fragments, "The eyes are more exact witnesses than the ears." (1993, p.1).

In the Middle Ages (373-1453 AD) the Roman Catholic priest Thomas of Aquinas applied the notion of sight to other realms of the senses as well as to intellectual cognition. (Adler 1968)

In the Renaissance period (1400-1800) the five senses were understood to form a hierarchical system from the highest, the sense of sight, down to the lowest, the sense of touch. The invention of perspective representation placed the eye in the centre of the perceptual world. In the Baroque period (1600-1700 BC) the visual experience is known to have had a strong tactile or haptic quality that flows into the Pre-Modern years (1800-1880 AD) where vision came to be characterised by uncertainty and unreliability. Clark (2007) affirms it with a pun when stating: "It is as though European intellectuals lost their optical nerve."

The Modernists' (1890-1940) reintroduction of the hegemonic sense of vision is illustrated by statements of Le Corbusier (1887-1965) "I exist in life only if I can see" and "one needs to see clearly in order to understand." (1991, p. 7 & p. 231). This is supported in the declaration by Gropuis (1959, pp.15-25); "He [the designer] has to adapt knowledge of the scientific facts of optics and thus obtain a theoretical ground that will guide the hand giving shape, and create an objective basis."

Bloomer and Moore (1977, p.29) state that by the end of the nineteenth century nearly all aesthetic problems dealing with three-dimensional forms were automatically treated as visual problems.

The dominating role of the eye that runs parallel with the development of the western world view, is gradually separating us from a sense of our self and the world. We have become spectators on a meaningless visual journey devoid of emotional involvement, identification and participation. The modern city viewed from our car windows emphasizes this detached state of the eye from the body.

'Instead of experiencing our being in the world, we behold it from outside as spectators of images projected on the surface of the retina.' (Pallasmaa 2005, p.30)

This separating ability of vision is starkly contrasted to the other senses ability to unite us with our surroundings. Sullivan and Gill (1975, p.181) have observed that: 'sight paints a picture of life, but sound, touch, taste and smell are actually life itself' According to Pallasmaa (2005, p.10), the eye can be liberated from its historical patriarchal domination through the loss of focus. Peripheral and unfocused vision is the very essence of our lived experience. Focused vision confronts us with the reality of the world whereas peripheral vision envelops us in the flesh of the world.

Lynch (1992, p.2) substantiates Pallasmaa's theory by stating that our perception of the city is not sustained, but rather partial, fragmentary and mixed with other

CHURCH OF LIGHT
Architect: Tadao Ando
Place: Ibaraki, Osaka, Japan
Date: 1989

The Church of Light combines the basic architectural elements of wall, floor and ceiling with only a few openings, into a sacred and powerful space embedded with the power of light. Ando created an abstract geometrical form of cold concrete that contrasts the warm, soft feeling of light and wooden furniture, to allow the architecture to appeal to the senses.

Fig. 2.3.1 Cruciform opening of light .
Reference: Mcluhan, M. 1995. Experience. London : Perkins.

concerns. “Nearly every sense is in operation, and the image is the composite of them all.”

An architectural approach conscious of all the senses goes beyond the visual appearances of a building. This idea is observable in Tadao Ando’s philosophy to architecture; “I wish to build an architecture which would appeal not only to the eyes of viewers but to all the five senses of men.” (Ando 1990, cited in Mcluhan 1995, p.34). Illustrated in Fig. 2.3.1.

Architecture leads the encountering body into its hidden form where the inherent ability to arouse mental images charged with emotional connotations is found. These images are rooted in the individual’s own perceptions and sensory memories.

2.4 Memory rooted in sensory experience_

Memory is the present’s mode of access to the past. The past is preserved in time, while the memory image, one of the past’s image or elements, can be selected according to present interests.– Elizabeth Grosz (Porter 2004, p.116)

There is no doubt that the senses are a powerful vehicle for memories to penetrate into our deepest recollections, evoking the emotions that a given stimuli had originally stimulated, and bringing to the surface pleasures or pains that invariably stir our feelings anew. Memory, perception and imagination are in constant interaction. Pallasmaa (2005, p. 68) states that cinema and literature would be devoid of their power of enchantment without our ability to enter a remembered or imagined place. Through memorial trace and recollection, we construct places, precincts and even whole cities in the metropolis of our mind.

In the architectural, domain memory inserts an important dimension. It is in the remembrance of past experience that our reality is coloured into perspective. When encountering built form, our own emotions and perceptions are projected on to the space and add to the dimensions of the experience of that place. Zumthor (1998, p.8) says when he concentrates

on the specific site on which he is to design, involuntary images of other places invade the process of observation. These could be images of places he knew and that had once impressed him or images of ordinary or special places that he had carried with him as inner visions of specific moods and qualities.

Tapping into the inherent potential of associative memories, an architecture guided by sensory experiences can be enhanced and begin to articulate our experience of being in this world.

2.5 Body and memory_

Our bodies thus contribute to our spatial and temporal perceptions. Paul Rodaway uses the metaphor of the body being a ship and the senses its anchor in our life-long geographical experience in his book: Sensuous Geographies; body, sense and place. Thus, senses are the mediator between us and the environment, giving us access to a world beyond ourselves. He goes so far as to state that without our bodies we would have no geography, implying orientation, measure, locomotion and coherence. (1994, p. 31)

Our bodies are the centre of our world; we experience the environment from within this 'circumambient space' or immediate geography. But this immediate geography is extended by our body's senses, the intimate senses of smell and touch and the distant senses of hearing and sight. According to Rodaway (1994, p. 32), with the aid of memory and expectation, the locomotion of the body allows the development of a wider 'map' of the environment through which it travels. Furthermore technology extends the reach of the body and gives us a sense of experiencing a world apart from the body.

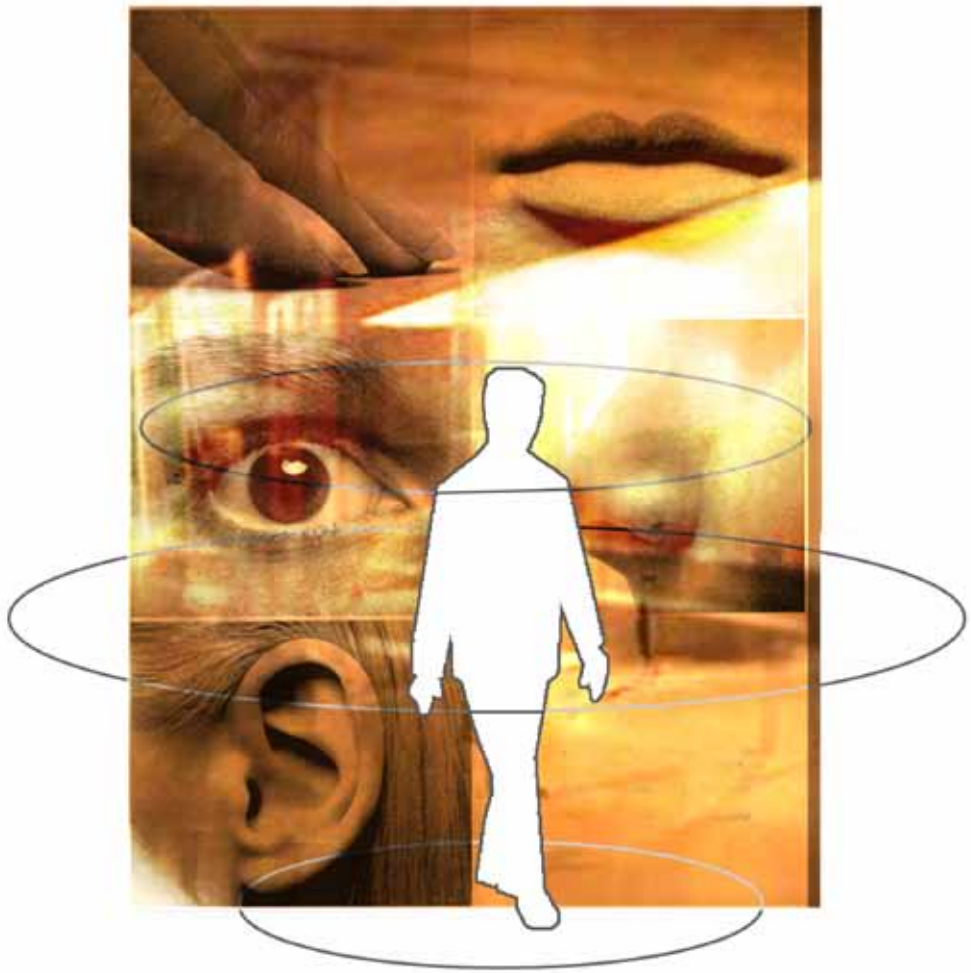


Fig. 2.5.1 The bodies as centre of our experiential world.

2. 6 Emergence of a design genesis_

An objective begins to emerge of how architectural spaces can distort vision in such a way that peripheral images are consciously formed that triggers subconscious sensory perceptions rooted in memories.

By questioning this visual hegemony, existential understanding is gained through incorporating neglected sensory awareness. A new agenda to re-sensualize architecture will bring out the phenomenological potential that exists between hard spaces, such as floors, walls, ceilings and soft spaces, emanating from the non-tangible, sensuous elements present, such as heat, smell, sound, electromagnetic waves and colours. This will articulate our experience in the world we live in. Zumthor (1998) says that in order for us, as designers, to design buildings with a sensuous connection to life, we must think in a way that transcends form and construction.

Fig. 2.6.1 The fusion of the visual and haptic in city experience.

2.7 Senses in an architectural dimension_

The formulation of a new architectural approach, conscious of the senses, will function as a signpost to guide the direction of the design process.

2.7.1 Smell

Smells do not present us with scenes or views, or the arrangements of objects at certain distances. However, only eight molecules of substance potentially trigger an impulse of smell in a nerve ending which, unknowingly, directs us to re-enter a space completely forgotten by our retinal memory. The nostrils awaken forgotten images as it encourages the eyes to remember.

Olfaction is one of the ingredients of an invisible architectural structure, where places are experienced through the sense of smell. It is not inclusive of a physical chemical sensation or a mental memory activity but becomes a directing agent through life. Olfactory experiences provide us with subliminal geographical understanding of the world around us. In the organisation of space and spatial relationships, our orientation and locatedness in space, characterises our relationship to places (Rondaway 1994, p. 62). Pallasmaa (2005; p 55) says that every city has its spectrum of tastes and odours. Steel (2008, p.116) emphasises this by writing that London once was a city of smells and she could map her life there through them. But smell has become our most underrated faculty, one we have learnt to disdain. Rodaway (2008, p. 116) explains that the adaptive sensitivity of olfaction is excited by novelty but dulled by the familiarity or habituation. The familiarity of particular odours dull our sensitivity to the present encounter with it, but can be renewed afresh at another time and place.

Perliss (2006, p. 14) states that the implementation of the evocative potential of the sense of smell can penetrate our deepest recollections and evoke the original emotions that a given scent had stimulated. The odour memory not only brings back the pleasures or pains associated with it, it also stirs our feelings anew. Investigating this intimate relationship between smell and emotion the designer begins to enter a perceptive sphere where primal ungovernable emotions are stirred that can add special experience.

It is clear that different cultures and periods define the olfactory experience and its geographical role differently (Hall 1969). Compared to the emotional and associative olfactory imagery the poet paints, contemporary architecture appears sterile, even lifeless, in its deprivation of scents. Just as the poet has mastered the skill to release the scent and taste concealed in words, the architect's objective must become the uncovering of the invisible olfactory dimension. A design conscious of this dimension will result in significant works of architecture which will encompass the full spectrum of life experienced in space.

Derived design guideline:

- Consider the olfactory dimension by investigating the air circulation and flow in the building.
- Incorporate the associate potential of scents.

Fig. 2.7.1.1 The potential of the sense of smell in architecture to evoke memories.

2.7.2 Taste

The sense of taste in architecture is an abstract concept and is usually experienced in conjunction with the other senses. We do not literally taste stone or marble, but a distinct scent in a room, the texture of a material or a colour projected onto the skin can intensify the experience to such a extent that it is as if the taste bud of the tongue has been penetrated.

The fusion of sensory experiences is illustrated in the writings of David; “taste and see that the Lord is good.” (Psalm 34.8) This is reiterated in Adrian Stroke’s (1978, p. 243) words when connecting the oral sensation to the tactile dimension: “In employing smooth and rough as generic terms of architectural dichotomy I am better able to preserve both the oral and the tactile notions that underlie the visual. There is a hunger for the eye, and doubtless there has been some permeation of the visual sense, as of touch, by the once all-embracing oral impulse.”

Gibson refered to a smell-taste perceptual system (1968) and suggested that the simultaneous experience of these two senses can be attributed to the fact that they both appear to be chemical in essence. The sense of taste is primarily associated with taste buds on the tongue and the sense of smell through the hairs in the nose.

Pallasmaa (2005, p. 59) states that the most ancient origin of architectural space is found in the mouth cavity. The exploration of the many facets and multi-sensory fusions of the sense of taste can enhance the architectural experience. He believes that the sense of taste can lead the body into intimate contact with the world through architectural emphasis on the experience of taste.

Derived design guideline:

- Consider the taste associations when selecting materials and introducing colours in the design.

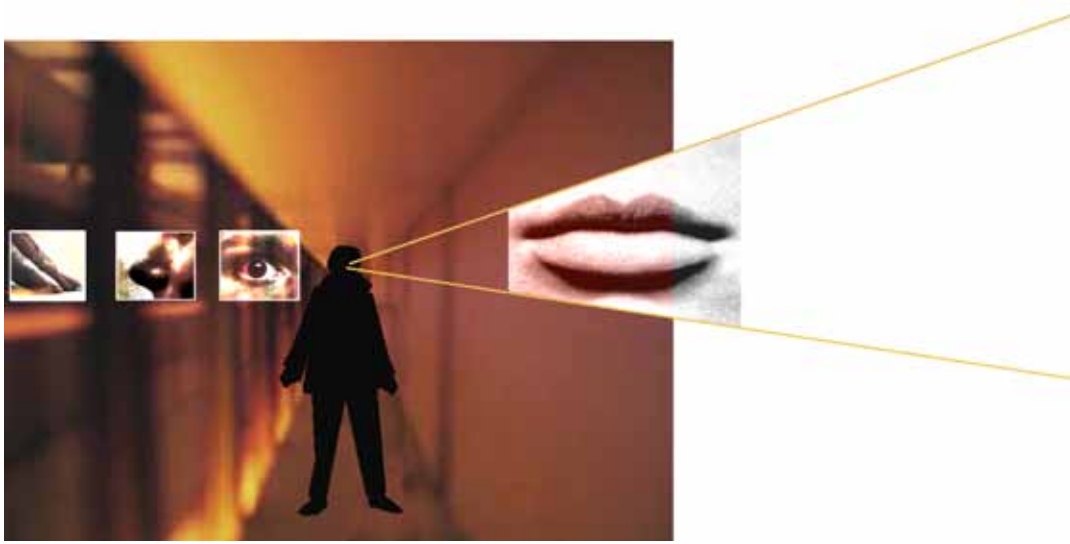


Fig. 2.7.2.1 The fusion of sensory experiences in architecture to stimulate tastes.

2.7.3 Touch

Touch is intimate and direct and possibly the most truthful sense. "Touch is the sense least susceptible to deception and hence the one in which we tend to put the most trust." (Tuan 1993, p. 45) Jesus had to be touched by doubting Thomas before he believed in the resurrection. (Fig. 2.7.3.1)

Fig. 2.7.3.1 The Incredulity of Saint Thomas by Caravaggio, 1601-1602

Touch, or the haptic system, provides us with information about our environment and the object contained within it. The skin reads the density, weight, texture and temperature of matter and becomes a mediator between the body and the surrounding environment .The haptic system is an important reference point which permits us to explore the tactile world and touch the intricate details of this world.

Rodaway (1994, p. 43) explains that the human skin is the first means by which we acquire a geography, a sense of this world, when moving from the aquatic womb to the relatively dry air environment. Right from the start, the skin is a highly adaptable perceptual system which orients us with respect to features in the immediate part of our world.

Good architecture conscious of the haptic dimension, renders the experience of the skin. Through the observation of a building's shape and surface one's eyes begin to touch. Pallasmaa (2005, p. 5) says the tactile sense unites us with time and tradition: through the impression of touch we shake the hands of countless generations. But beyond the traces of the surfaces and shapes in architecture the skin measures, with precision, the temperature in spaces whether it is the cool, revitalising shadow or the warm caress of a spot of.

The significance of the haptic experience in architecture lies within the wider context of multi-sensual experiences in the environment.

Derived design guideline:

- Investigate the haptic quality of materials for specific applications.

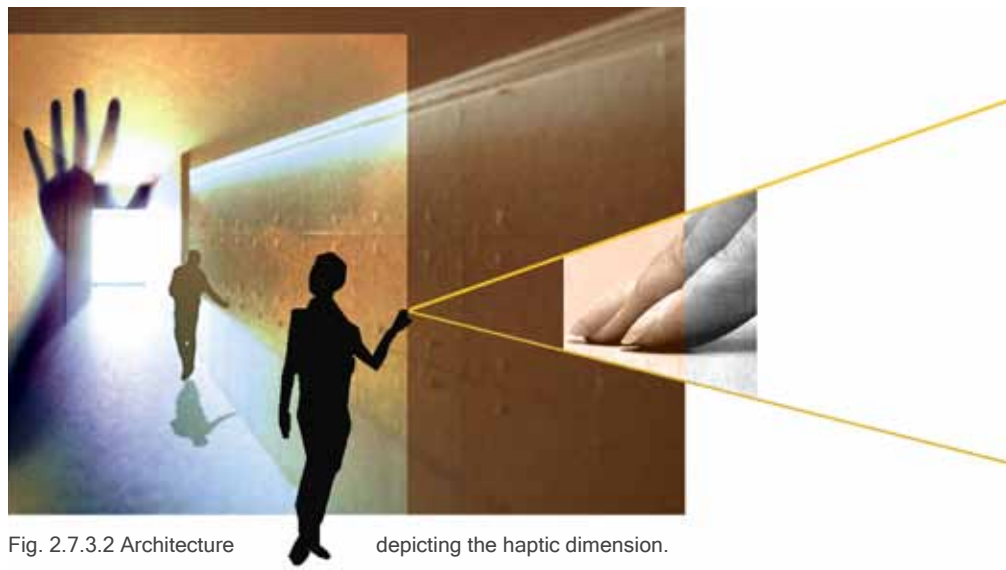


Fig. 2.7.3.2 Architecture depicting the haptic dimension.

2.7.4 Hearing

The term 'auditory' can encompass both hearing and listening to "describe the sensuous experience of sound in the environment and the acoustic properties of that environment and the employment of the auditory perceptual system." (Rodaway 1994, p. 84)

The ear is the focus of our auditory perceptions. It is a complex organ devoted to collecting vibrations from the air and converting them into nerve impulses which are interpreted by the brain. Auditory perception, like all the other forms of sensuous experience, involves the whole body. Rodaway explains that this auditory presence of the body can occur both explicitly, through the vocal cords, and implicitly, through the friction of movement against the external environment. But most importantly, the body has its own biorhythms which allow us to measure the pattern of sounds through rhythm, pace and duration. (1994: p 91) Under such an interpretation, a deaf person would be able to *hear* with his skin when passing through a space.

Ihde (1976) has stated that we not only perceive of the world, but have a presence in it. This statement is enforced by Rodaway (1994, p. 91) saying that in sensuous experience, the auditory world not only surrounds us but we seem to be participants within it.

Within architecture, the physical form of the environment adds to the auditory experience. In open spaces or enclosed volumes the presence of wind, the moisture of the air and even the background sounds we are mostly unaware of, fill the space and modify the impact and intensity of the character of that place as a soundscape. Consequently, the structure of the architectural environment, its enclosed- or openness the properties of the materials and whether it is absorbing or resonating, play an important role. Zumthor (1998) says that interior spaces are like large instruments, collecting sound, amplifying it and transmitting it. This quality is linked to the particular shape of each room and the surface of the materials and the way they have been applied.

"Therefore the wonder of the auditory system, as with all perceptual systems, is the way it manages to decipher an order, a sense of the world, and of people, places and spatial relationships from this complex mass of sensuous information." (Rodaway 1994, p. 92)

Derived design guideline:

- Design with the acoustic potential of volumes in mind.
- Select materials in relation to their auditory character.

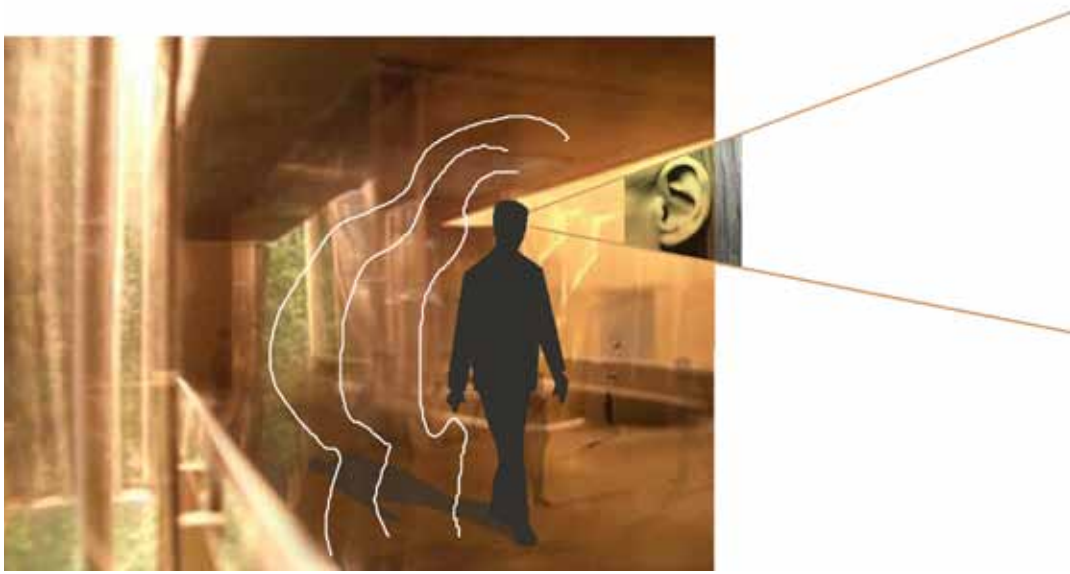


Fig. 2.7.4.1 The Auditory dimension of a body waking through space, hearing with the ear and the skin.

2.8 Theoretical precedent

Theoretical precedents looks at the potential of materialising phenomenological theories grounded, in a multi-sensual dimension, into built form.


Fig. 2.8.1

THERMAL BATHS AT VALS

Objective: The exploration of the essence of architecture that celebrates place and engages all the human senses.
Description: Thermal baths.
Place: Vals; Switzerland
Designer: Peter Zumthor
Date: 1996

The thermal baths at Vals is a product of Peter Zumthor's sensitivity concerning place, space, light, materiality and the human response to these elements of architecture.

The thermal baths is a big rectangular block building which projects out of the hillside and is made of local Valser quartzite and concrete. Although the building seems static at first glance, the spatial concept is dynamic. It is this duality of impression between the kinetic and the still which makes the building a place of relaxation through action. (Davey 1998, p. 69)

'The great monolith is carved into with simple square openings, some of which are glazed. A concrete roof beam serves as a cornice. From above, the grassy roof is dissected into a Mondrian-like pattern by smooth pale green strips of what, on closer inspection, turns out to be glass' (Davey 1998, p. 69). Streaks of daylight are filtered to the inside which enhance the sense of fluidity of the space. The qualities of water stand in stark contrast to the solid, silent nature of the stone, illustrated in Fig. 2.8.1 (Davey 1998, p. 69).

Zumthor believes: "to experience architecture in a concrete way means to touch, see, hear and smell it" (1998, p.66).

This design objective of Zumthor becomes evident in the promenade round the inner pool. It offers a rage of sensory stimulating experiences as swimmers visit the smaller spaces carved into the perimeter walls. "Each of these small sanctuaries are treated in a different way: smooth concrete, gray or coloured, rough or polished stone; reverberant or still; light or sometimes frighteningly dark, light up, sideways, down, or not at all. You feel the place through your feet and limbs as well as your eyes, ears and nose." (Davey 1998, p.70)

Design influence:
What becomes evident in the Thermal Baths at Vals is Zumthor's phenomenological approach to gaining insight into the experiential dimension of architecture. The 'everyday' and its associated rituals, emotions and memories are captured in a dramatic way. Through the Baths, Zumthor has created a world of tranquillity and slowness where visitors can catch their breath 'outside' of time. (Kotze 2009, p.69) This approach of Zumthor to capture the sensuous nature of the everyday becomes an important theoretical backdrop to this thesis.


Fig. 2.8.2

Fig. 2.8.1 A streak of light captured between water and stone in the Thermal Baths at Vals.
Fig.2.8.2 Bath chamber filled with sensorial experiences.

Reference: Kotze, P. 2009. Thinking Architecture. Architecture South Africa. March-April 2009. p 68-69.
Davey, P. 1998. Zumthor the Shaman. The Architectural Review. October 1998. Volume 205, p. 68-74.


Fig. 2.8.3

Fig. 2.8.3 A passage in the labyrinth.

SWISS PAVILION

Objective: A pavilion design engaged with all the human senses.
Description: Swiss Pavilion.
Place: Hanover; Germany
Designer: Peter Zumthor
Date: 2000

The Swiss Pavilion designed for the 2000 Exposition held in Hanover, is a labyrinth timber structure encapsulating a unique sensuous experience. It is comprised of a grid of walls made with unseasoned wooden boards, simply overlapped without any mechanical fastenings. (Domus 2000, p. 25)
Light, wind and rain were permitted to penetrate the pavilion: making the material seem to "breathe" with the natural elements, following their altering rhythms. Zumthor captures the inherent acoustic, luminous and aromatic language of the wood with sensitivity.

Reference: Unknown, 2000. Klangkorper Schweiz: the Swiss pavilion at the Hanover Expo 2000. Domus. July-August 2000. Issue 828, P. 24-31

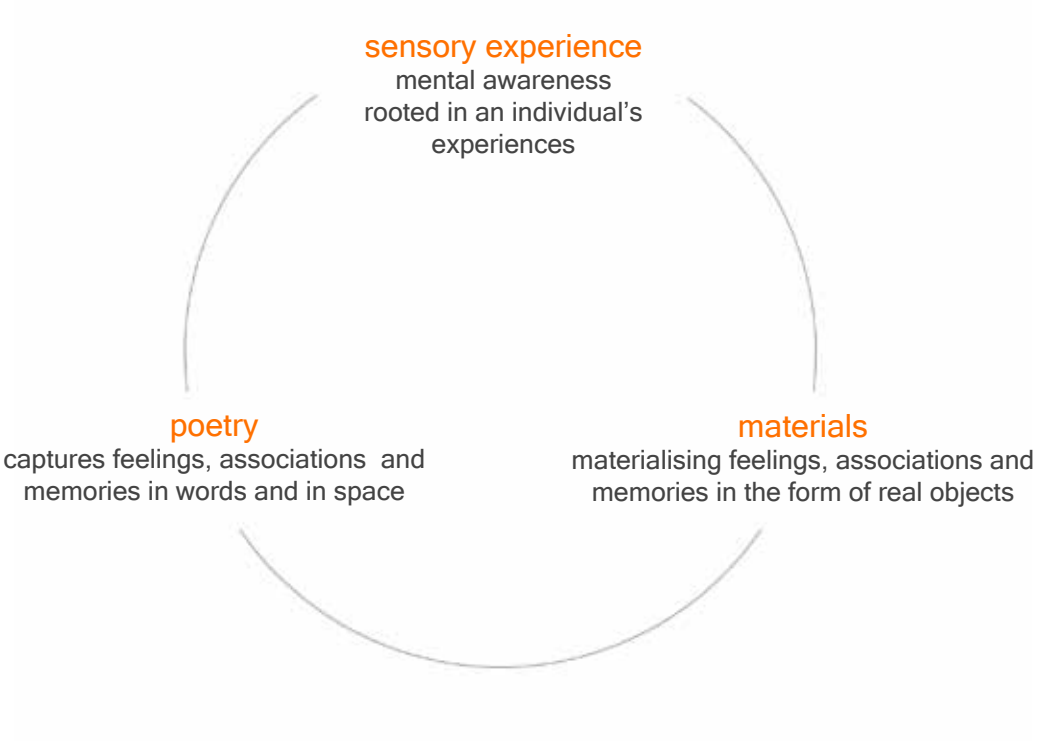


Fig.2.9.1 The three key dissertation themes.

2.9The concept_

Peter Zumthor states (1998, p.21), “the design process is based on a constant interplay of feeling and reason.” In this thesis “feelings” may be interpreted as the theoretical premise of architecture concerned with sensory experiences and “reason” with the actual materialising of these theories into buily form and space. Theory cannot be detached from reality, and to truly transcend a purely theoretical approach, sensory experiences in architecture must be captured in the physical.

I am of the opinion that materials and their inherent properties can fulfill this role of guiding individual experiences along a sensory path. There is no desire to stir up emotions with built form, but to take design beyond visual superficiality and arbitrariness, into spaces where emotions emerge through a quiet awareness of the senses.

This thesis ultimately investigates the interplay between three major subjects; sensory experience, poetry and materials (illustrated in Fig. 2.9.1.)

This interplay of transforming real matter into human sensations leads us back to Zumthor’s (1998, p 30) understanding that objects possess the ability to move us. According to him, these objects have a multifaceted character containing numerous layers of meanings that overlap and interweave as the angle of observation changes. Therefore, Zumthor believes that we must be able to “construct a radial system of approach that enables us to see the work of architecture as a focal point from different angles simultaneously: historically, aesthetically, functionally, personally, passionately” (1998, p18).

In accordance with the dissertation title; Sensory Architecture_ Beyond Appearances, the dominant visual sense is not rejected but extended beyond its existing boundaries into a distorted dimension with simultaneous focal points.