

Touch Taste Hear Smell See

REMEMBER: District Six

Design Research Project APG5079W

*Submitted in partial fulfilment of the requirements for the degree
Master of Architecture (Professional)*

by

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University of Cape Town

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"My eyes have forgotten what they once saw, but my body still remembers..." (Pallasmaa, 2009a: 21)

My interest lies in the evocation of emotion through the sensory experience of architecture. I believe this is linked to issues of memory and spirituality, both dealing with an essence of other – a sense of presence or life that makes one aware that one is not alone in that space but is rather surrounded by traces of a spirit of the past, present and future. The use of natural light as a reminder of this was my entry point into this project.

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Introduction



Figure 1 – Creative response capturing initial interests (Thalassinos, 2012)

I am interested in issues of spirituality, memory, emotion and the senses – how they relate to each other as well as how they relate to and are expressed through architecture.

My entry point into this project was a long-standing interest in architectural spaces which evoke emotion in the viewer when experienced through the body. I based this on my own visual and physical experience of these types of spaces, which I feel are the most powerful architectural spaces. The most obvious common element which these types of spaces share is what I term 'emotive light' – a powerful contrast between natural light and shadow. This specific phenomenology of natural light, when captured in built form, creates a highly emotive experience in the viewer.

Early on I defined this experience and type of space as 'spiritual' because they deal with the essence of something other-worldly almost, or rather something ineffable. When I experience these spaces I feel a sense of connection to something greater, something moving, something alive. Despite this, I would like to emphasise that my thesis project is not dealing with religion. It is merely dealing with a sense of presence which comes from traces of the past and their interaction with natural elements such as wind and light, which bring them to life. These incomplete, fragmented traces of the past remain as reminders, or memory markers, in the present.

The programme of my building deals with the sensory experience of space and using the senses to evoke memories and emotion. The spiritual aspect remains in terms of site choice, design principles and overall experience of spaces. This will be explained at later points throughout this document, as will the connection and relationship between the interdependent issues of memory, spirituality, emotion and the senses.

The image on the left was my first attempt at visually describing what my interests were. Key principles and issues which were drawn from this image and which have been incorporated in the design process are as follows:

- *Materiality, weathering and layering – old/past and new*
- *Public space / route*
- *'Emotive light' as reminder*
- *Inner world vs. outer world – old/new, hard/soft*
- *Verticality & threshold*
- *Individuality in group*
- *Memory, spirituality, the senses, emotion*

Spirituality, Memory and Experience:
*Evoking emotion through an architecture of
the senses*

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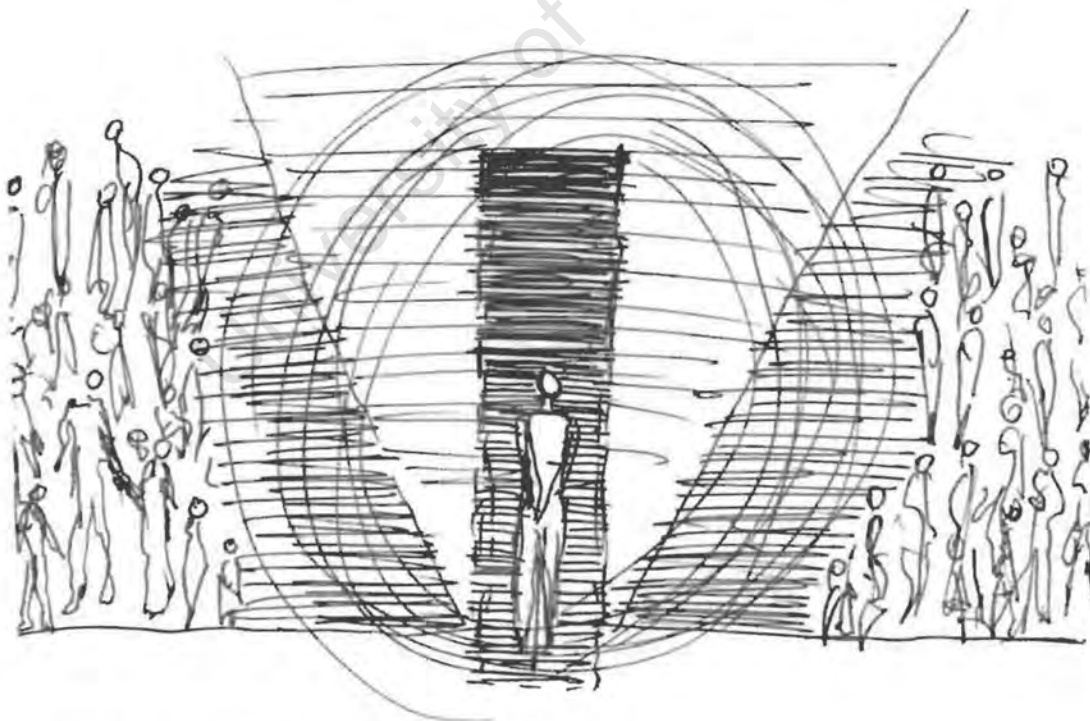
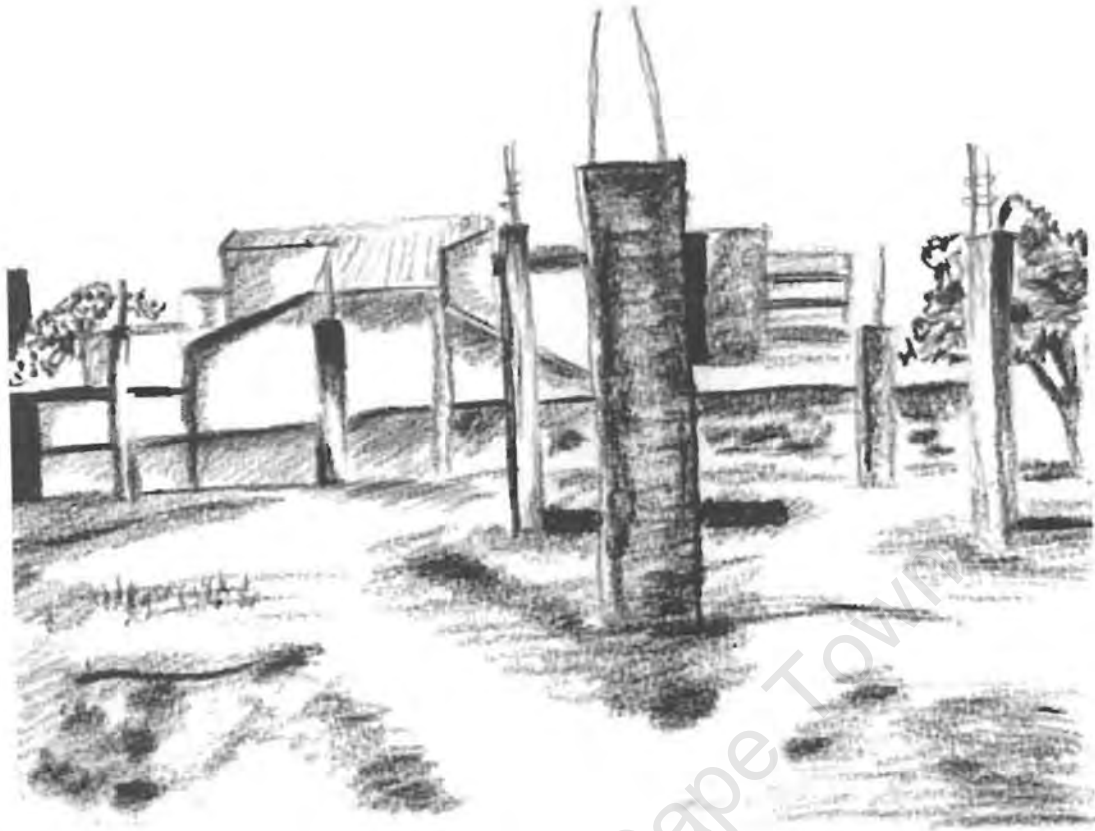


Figure 2a & b – (Thalassinos, 2012)

'SPIRITUALITY'

Personal definition and interest

I view spirituality simply as a sense of presence; something that exists and can be felt but not explained. Spirituality is generally described as "a sense of otherworldliness" (Horvath, 2010: 6). It has also been described as "a source of stability in life, a way to conserve a sense of meaning, identity, connectedness with others, peace of mind, or transcendence" (Koss-Chioino & Hefner, 2006:11). Both of these definitions correlate to my definition of spirituality.

Spiritual spaces have been a fascination throughout my life. As a youngster I was intrigued by the world of the ruin; the Parthenon and the Pyramids. These structures present a feeling of spirit. A presence of a past life exists which haunts the ruin and triggers ones imagination. The state of disrepair or incompleteness, even desperation, is poignant. The elements of nature (such as the sun and wind) play an important role in creating the essence of the spiritual as they are alive and add to the sense of presence which is experienced. Weeds, grass and trees overrun the ruin, always growing, changing, alive. The ruin becomes the sacred embedded element.

I believe spirituality is most powerfully experienced through all of one's senses – by one's body moving through the space. However, it is also possible to experience a spiritual space through sight alone, such as through images of spiritual spaces. Although not as powerful as a full sensory experience of the space, it still has a great emotive impact on the viewer.

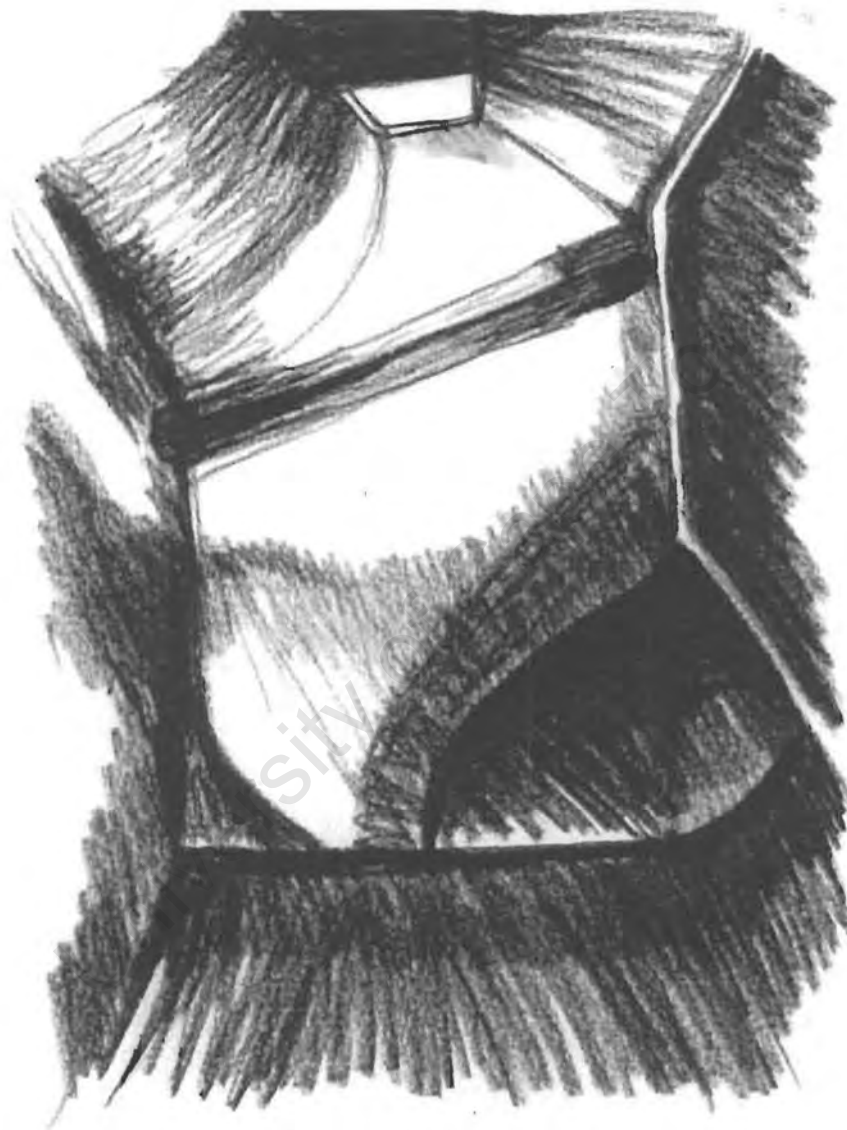


Figure 3 – (Thalassinos, 2012)

SPIRITUAL ARCHITECTURE

"...a spiritual architecture is something that simply moves us by affecting our...senses in some way to evoke our inner emotions on a deeper level" (Horvath, 2010: 8).

If, as Horvath states, the essence of spiritual architecture is its ability to evoke emotion through an engagement of the senses, then one should look at what physical architectural qualities enable this response. We get an idea of what these architectural qualities are from Cold who states:

"Spirituality as well as beauty is created or comes to life when the constituents of architecture – structure and form, form and space, space and light, colours and materials – interact as a piece of art, communicating with the intellect, the emotions, the spirit and the senses" (2005 cited in Horvath, 2010: 10-11).

Above Cold mentions four pairs of architectural qualities which aid an emotional response to architecture, namely, 'structure and form' (structure as tectonic expression of form); 'form and space' (logic of mind vs. experience of body); 'space and light' (spiritual as result of experience of light in space) and 'colours and materials' (character and weathering of natural materials embodies the spiritual) (Horvath, 2010: 10-26).

I believe the most prominent of these architectural qualities which creates the character of the spiritual in architecture is 'space and light'. Peter Zumthor speaks of this power of natural light to create a spiritual character by saying: "Daylight, the light on things, is so moving to me that I feel it almost as a spiritual quality" (2006: 61). Natural light is a living entity and brings a sense of presence to a space which characterises the spiritual. Spaces are perceived through light and alter with changes in light quality and position. Light and spirituality are intrinsically linked and have been since ancient times. Although light is a powerful emotive stimulant, it would have no emotive power without shadow. Shadow allows light to be dramatic in contrast and allows for spaces of sanctuary within a space of enlightenment.

We also need to consider what spiritual architecture should embody in order to meet certain needs. Philip Sheldrake states that in today's society human life is what is sacred, not religion (2007: 51). Therefore we see that spiritual architecture should aim to embody human life and speak of the "poetics of everyday life" (Sheldrake, 2007: 59). He goes on to list the four needs in the spiritual city, namely, a place to pass through the stages of life; a place to belong to community; a place with a relationship to nature; and a place with access to the sacred – relating us to "life itself as sacred" (Sheldrake, 2007: 52). Although Sheldrake speaks of a spiritual city, we can easily translate this into a model for spiritual

architecture. A building should therefore be a celebration of life, community and nature, in turn evoking emotion through memory and an experience of the senses.

Additionally I believe spiritual architecture is a vehicle for reflection and therefore requires a layering of spaces that allow for mediation between things. Sheldrake too speaks of reflection in architecture: "...constructing places for 'thinking time', 'feeling time', silence, and solitude...a need for spaces and buildings that encourage...a contemplative awareness of the sacredness of the ordinary...embedded in the indeterminacy and messiness of 'the practice of everyday life' in the city" (2007: 64). Spiritual architecture must allow for moments of solitude as well as celebration; spaces for community as well as the individual and mediate between the natural and the manmade.

In my view there are four main architectural concepts which are related to spirituality. The first is the **threshold** (associated with 'opening'), which is the space between two conditions. According to Eliade, threshold is the frontier at which communication between two worlds (the sacred and profane) occurs (1959). At this point a passage from one world to the next is possible (Eliade, 1959). "Human existence is possible only by virtue of this permanent communication with the sky..." (Eliade, 1959: 34). This quote relates to both the second and third concept.

The second concept is that of **verticality**. According to Eliade, verticality evokes transcendence (1959: 129). Vertical elements or 'sacred pillars' are synonymous with a link between ground and sky; the world of the dead and the world of the divine (Eliade, 1959). According to Eliade, our world is linked to these sacred worlds by means of a cosmic axis at the centre of the earth (1959: 37). This is where the image of a vertical pillar comes from. Heidegger also refers to the point at which the sky, earth, mortals and divine meet, which he has termed the 'fourfold' (Sharr, 2007: 30). The 'fourfold' refers to man as part of nature (Anand, 2008).

This idea ties to the third concept of spiritual architecture, a **link to nature**. Nature is seen as something spiritual because it has the essence of other. It has a life of its own; it grows and changes.

The fourth concept is that of **natural light**. Natural light has always been seen as an other-worldly, sacred phenomenon and has been a symbol of the mystery of life. Steven Holl refers to the power of light to "bring a sense of the sacred into direct contact with everyday...life" (Frampton, 2002: 13). In terms of this paper, sacred is viewed in a non-religious sense. It refers rather to something rare, precious and other-worldly which exudes presence.

In conclusion, spiritual architecture must facilitate the 'fourfold' – it must be the place at which man, nature, past (spirits) and present (mortals) come together.

Can architecture be spiritual without being religious?

I believe architecture can be spiritual without being religious. In the past spirituality and the sacred were always associated with religion and, although to some extent it remains so today, both terms are now generally no longer clouded by religious meaning. Society today accepts a largely secular definition of spirituality, as the term has developed over time (Horvath, 2010: 6). Tradition and culture also play a role in the definition of spirituality and the sacred. For example, something which may seem like an everyday task (such as eating) may have been a religious ritual in primitive cultures and may still be today (Eliade, 1959).

Even non-religious people can have places which are sacred to them (Eliade, 1959). They are sacred because of associations with the place and are specific to the individual. For instance, a parking lot may be sacred to someone if it is a place of memory where a certain event occurred which differentiates it from all other spaces. In the same way, architecture can be sacred in a secular sense, if it is a place of event, memory or emotive experience.

Sacred spaces tend to evoke a sense of awe in the viewer (Sheldrake, 2007: 62). Buildings which "reinforce the value of people" as opposed to the value of economic gain are the ones which inspire awe (Sheldrake, 2007: 62). This seems to be true, because buildings which are built as symbols of wealth or for economic gain are not designed with a view of how people experience space, but rather with the appearance of grandeur (merely form). This is not real architecture. This is not spiritual architecture. Spiritual architecture is about personal experience of space.

Eliade says that sacred space allows one to find orientation within the chaos of the profane (1959). The sacred identifies itself by being different, therefore standing out in the homogeneity of the profane (Eliade, 1959). We can therefore deduce that spaces which are homogenous and mundane do not provide an engaging experience of space, therefore are not spiritual spaces. We can define profane space as essentially boring space and term sacred space as a space of encounter and experiential, sensory engagement.

Place unites nature and architecture (Holl, 1991: 10). Therefore we can assume that an architecture which is not related to nature is just a collection of meaningless spaces, not a place. This differentiation between space and place stems from Lefas, who states that place is space which has meaning, character and 'spirit' (2009: 129). Place is therefore spiritual, as Lefas' definition of place correlates with my definition of spirituality. Hence, in order to create a (spiritual) place, the place needs to be linked to nature. "Nature is never only natural" (Eliade, 1959: 151). It embodies an essence of mystery, charm and traces of the past.



Figure 4a – Natural light and shadow playing on curved surfaces to create spiritual ambience: Gymnasium, Eladio Dieste (Juanitta, 2008)



Figure 4b - Rooflights: Gymnasium, Eladio Dieste (Smith, 2008)



Figure 4c – Overall space: Gymnasium, Eladio Dieste (Finotti, 2011)



Figure 5a – Hall open to the elements which give a spiritual character: Hall, Freedom Park (Thalassinos, 2009)



Figure 5b – opening framing outside world; reflective surfaces give other-worldly presence: Hall, Freedom Park (Thalassinos, 2009)



Figure 5c - emotive light and shadow washing natural tree-like columns: Hall, Freedom Park (Thalassinos, 2009)

Examples of Spiritual Architecture

The examples to be discussed are Eladio Dieste's Gymnasium (Uruguay) and the exhibition hall at Freedom Park (Pretoria).

To me both of these are examples of spiritual architecture. They are not religious in any sense (the one is a gymnasium and the other an exhibition hall) but both embody an essence of the spiritual through effects created by certain architectural principles and elements. These architectural principles/elements are: the use of natural light; sharp light/shadow contrast; curved and undulating surfaces; rough, textured tactile materials; mysterious 'floating' elements and a link to nature (forms, materials and natural elements). Both of these examples also deal with the four architectural concepts relating to spirituality that I have previously mentioned namely: threshold/opening, verticality, natural light (which is alive and changes over time), and a link to nature by way of organic roof forms

I see both of these examples as places of reflection. Even when they are packed with people, a silence is exuded which instils a sense of connection and identity in whoever experiences this space.

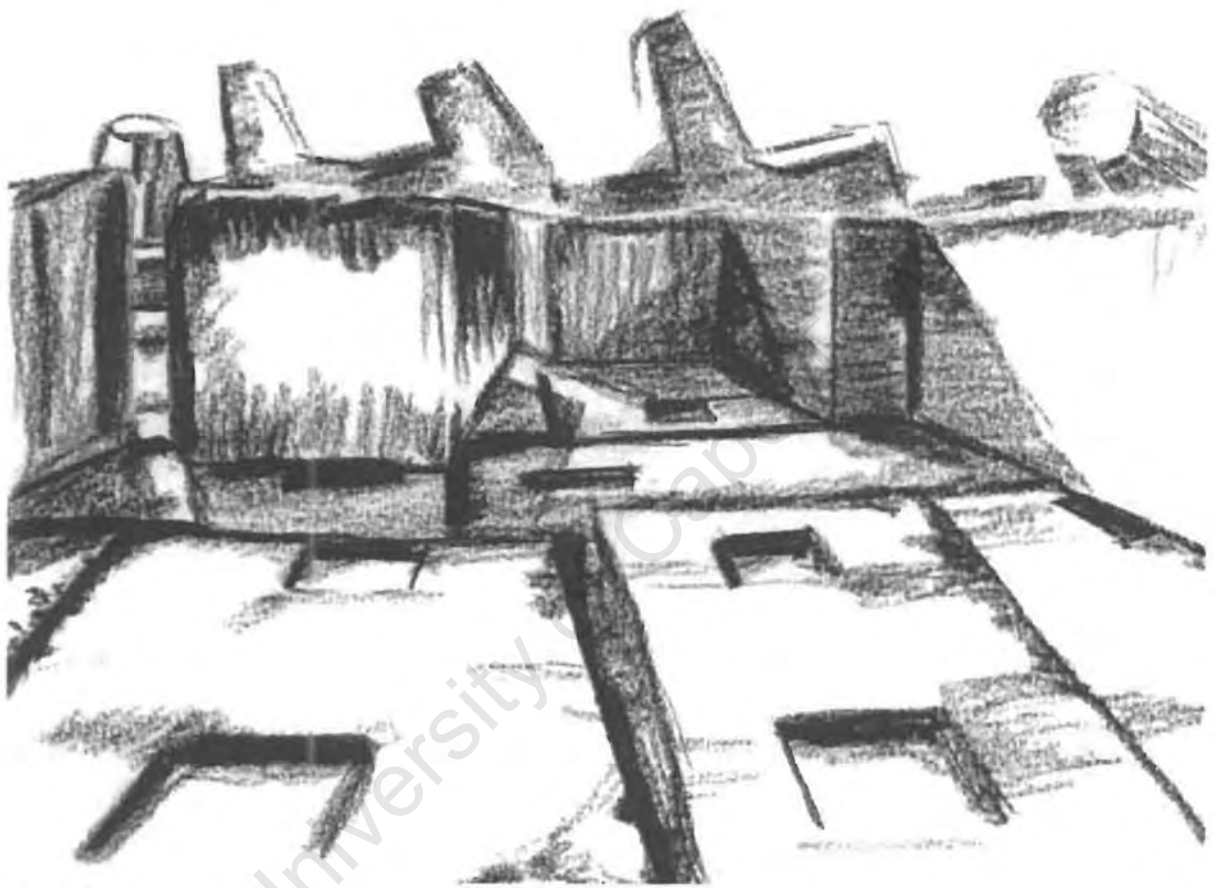


Figure 6 – (Thalassinos, 2012)

'MEMORY'

Personal definition and interest

Memory deals with the realm of the past. I believe that we cannot move forward without remembering our past. The past is what shapes us and makes us who we are. Our memories help to give us a sense of self identity and they evoke emotions because, through remembering, we acknowledge what is lost and what has changed. Through remembering we acknowledge that time has moved on and that the only way we can go back into this world is if we enter the version of it stored in our memories and imaginations. This world allows us to re-experience what is lost.

Memory is often clouded by emotion and tends to change with time. "Recollections are the fruit of conflict and compromise, indelible but unstable" (da Costa Meyer, 2009:177). Our imaginations play a big role in how we remember things. This is why memories are usually nostalgic – happy and devoid of negative recollections. I have always had an underlying interest in the concept of memory. I find the power of our minds and imaginations so interesting. They have the power to create fantasy worlds we can experience that never existed or existed only in part.

As previously mentioned the ruin (and its past life) has always been of interest to me. I am also drawn to architecture that deals with preserving the past and merging past, present and future.



Figure 7 – (Thalassinos, 2012)

MEMORY ARCHITECTURE

What is the role of memory in architecture?

"Architecture is to be regarded by us with the most serious thought...We may live without her, and worship without her, but we cannot remember without her..." (Ruskin, 1848 cited in da Costa Meyer, 2009: 179).

Architecture plays a crucial role in helping society remember the past. Buildings serve as physical records of past society – how they lived and thought. We learn about past civilizations from the architecture they built. More than being mere recording devices, buildings house memories and foster self-identity. Without memory we lose our sense of self. "Memory is...the ground of self-identity, we are what we remember" (Pallasmaa, 2009a: 18).

Pallasmaa states that buildings are our way of externalizing our memories – they are memory devices (2009a: 18). They achieve this in three different ways, namely by preserving time and making it visible to us; by projecting contained memories; as well as by prompting us to remember and imagine (2009a: 18). "We understand and remember who we are through our constructions; both material and mental...buildings project epic narratives" (Pallasmaa, 2009a: 17). In other words, what we build with our hands and conceptualise with our minds reflects who we are. Just as an artist's paintings are deeply personal and expressive, so is the art of architecture. We project ourselves into our work; it is part of us, a part of our souls exposed to the world.

At present, with the speed at which we live our lives and experience architecture (bombarded with images) we are at risk of losing our ability to remember. We live a life of perception, not remembrance (Pallasmaa, 2009a: 32). We see things in quick succession so nothing is meaningful or memorable anymore. It is now crucial that "architecture has to safeguard memories and protect the authenticity and independence of human experience" (Pallasmaa, 2009a: 34-35).

There are two types of memory in architecture; collective and personal. Collective memory is shaped by monuments and personal memory, by homes and neighbourhoods (da Costa Meyer, 2009: 179). A perfect example of this would be District Six in Cape Town. When asked what they most remember about District Six, individuals speak of their homes and everyday activities in their lives, yet, because each person's experience and memory are so personal and specific, a way to memorialise the essence of life which would be reflective of and recognised by the community as a whole would be a more general, all-encompassing symbolic monument.

Architectural concepts and principles which deal with memory are the ruin; weathered materials (speak of age and time); sensory, tactile materials; layering (of old and new), and a connection to nature. This connection to nature usually stems from the incorporation of natural elements, such as wind, water and light, as well as natural materials. Often ruins are deeply embedded in and overrun by nature and blur the boundary between manmade and natural.

What role does memory play in relation to the issues of spirituality, emotions and the senses?

"We live in mental worlds in which the material and the spiritual, as well as the experienced, the remembered, and the imagined, constantly fuse into each other" (Pallasmaa, 2009a:25).

As is proven by Pallasmaa above, all of these issues are interrelated. I believe memory is the crucial element which ties all of these issues together. Memories are evoked by the senses; in turn these memories evoke emotion; and memories or an indication of past life (where memories existed) create a feeling of presence and the spiritual. Memory allows for the emotive experience of a space, which is what makes architecture meaningful to the visitor. We are connected to architecture through the memory it evokes.

"My eyes have forgotten what they once saw, but my body still remembers..." (Pallasmaa, 2009a: 21). Our memories are embodied. They are stored by our bodies, not just our minds (Pallasmaa, 2009a: 21). This is why our memories are so easily brought forth by our senses and why we feel such an emotional response and connection to architecture which stimulates the senses. We feel physically connected to a space which stimulates our senses because through stimulating our senses our memories are evoked. Our senses and memories are literally a part of us; part of our bodies, of our physical, emotional and spiritual beings.

Earlier I discussed my fascination with the ruin. The ruin embodies not only the past and the issue of memory, but also the issues of spirituality, emotions and the senses. It is one example which shows how all the issues of interest are interrelated. The ruin, or the incomplete fragment, is very evocative in terms of memory and emotion. The reason for this is that they hint at a past life and therefore prompt us to question what was and what could have been. They stimulate our memories and imaginations (Pallasmaa, 2009a: 20-21).

The ruin embodies spirituality in that it exudes a sense of presence as well as the other-worldly – it no longer belongs fully to our world as it only partially exists. It represents something which once had a life but now haunts the present with its traces.



Figure 8a – Acropolis Museum. Tschumi (Karahalis, 2009)



Figure 8b – New building floats over the ruins and allows visual connection: Acropolis Museum, Tschumi (Young, 2011)



Figure 8c – Simple vertical columns reminiscent of ancient Greece, which act as reminder but do not detract from the real ruins: Acropolis Museum, Tschumi (Bernard Tschumi Architects, 2010)



Figure 9a – The walls of the ruin are retained and celebrated on the interior. Simple, unfinished new materials highlight the texture of the old: Chapel, Paulo Mendes da Rocha (Finotti, n.d.)



Figure 9b – Ruin walls are plastered on outside and made to look like part of the new: Chapel, Paulo Mendes da Rocha (Finotti, n.d.)

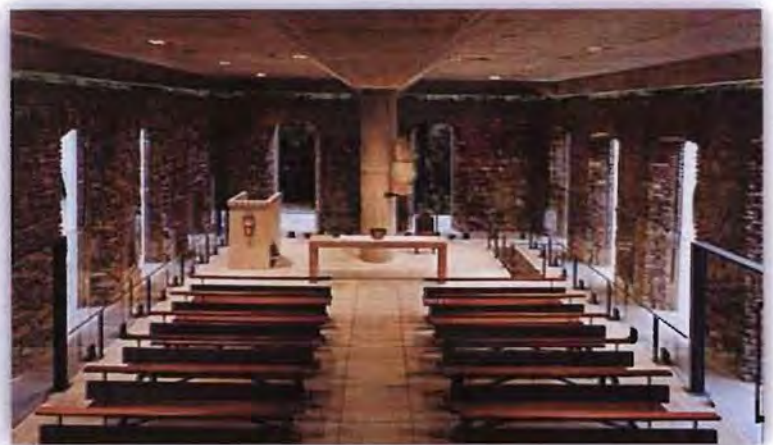


Figure 9c – Interior, Nossa Senhora da Conceicao Chapel, Paulo Mendes da Rocha (Finotti, n.d.)

Examples of Memory Architecture

The examples to be discussed are Tschumi's Acropolis Museum (Athens) and Nossa Senhora da Conceicao Chapel (Brazil) by Paulo Mendes da Rocha.

Both examples incorporate the ruin, and embody memory through effects created by previously mentioned architectural principles and elements which are characteristic of memory architecture. These architectural principles/elements are: the ruin; layering (of old and new); distinction and integration of old and new; rough, weathered, textured materials (highly sensory and tactile); mysterious 'floating' elements, and a link to nature (forms, materials and natural elements).

In both of these examples the new building/additions are pure and simple, using neutral materials that do not draw attention away from the highly textured materials of the ruin. This allows for the power and presence of the ruin to be emphasised. There is a contrast between, as well as an integration of old and new. The contrast is achieved by a physical separation of old and new (new suspended above old) as well as a distinction in material between the two. Material of the ruin is textured and weathered to allow for an experience of memory (passing of time captured in weathered material) and the senses (tactile). The material of the new is neutral and smooth in contrast.

In both cases memory of the past has been powerfully instilled. The emotive power of the ruin is its incompleteness or fragmentation, yet both projects were able to maintain its power even when creating a completed building.



Figure 10 – (Thalassinos, 2012)

'EMOTION & THE SENSES'

Personal definition and interest

"An architectural work is not experienced as a series of isolated retinal pictures; it is touched and lived in its full and integrated material, embodied and spiritual essence" (Pallasmaa, 2009b: 137).

I believe that sensory experience is the basis behind the evocation of emotion through architecture. Without physically moving through space and perceiving it with one's eyes, skin, nose, ears, tongue, muscles and spine, one would not be able to have a fully emotional response or connection to architecture. It is possible to have an emotional response to an image of a space because at least one of your senses is engaged, but the impact will not be quite so potent. When we experience an architecture of the senses we experience it first through our bodies and then our minds. These emotions are triggered by memory and experience.

The spaces and buildings which I enjoy the most and feel connected to are those which evoke emotion in me, be it awe, joy or even sadness. They may not be award-winning architecture but I can relate to them on a fully experiential level. They do not aim to please the eye; they aim to please the soul.

EMOTIVE ARCHITECTURE

How can architecture evoke emotion and engage the senses?

"In addition to being memory devices, landscapes and buildings are also amplifiers of emotions; they reinforce sensations of belonging or alienation, invitation or rejection, tranquillity or despair" (Pallasmaa, 2009a: 30).

I believe architecture can evoke emotion through engaging the senses, which trigger memories which in turn evoke emotion. A link with nature and the elements may also evoke emotion in the same way, as the elements are experienced by the senses and are alive.

As early as the writings of Vitruvius, there was talk of the element of 'delight' in architecture (Horvath, 2010: 1). Where his other two principles, 'firmness' and 'commodity', speak of form and function respectively, 'delight' speaks of the experiential aspect of architecture. "Vitruvius was referring to the intangible, psychological and emotional effect that architecture can have on the human spirit" (Horvath, 2010:2).

The physical, sensory experience of architecture is what is needed for a fully emotive reaction. Many architects and theorist who write on the subjects of emotion and experience of the senses differentiate between the space of the mind and the space of the body. The space of the mind has connotations of the logical, scientific, objective, physical; while the body speaks of experiential, sensory, subjective, existential space – essentially, lived space (Pallasmaa, 2009a).

Lived space is the space which evokes emotion. It is interpreted through the subjective memory and experience of the individual (Pallasmaa, 2009b: 128). Like Pallasmaa, Holl advocates that, although idea is important, more crucial is the "phenomenological experience of the spaces, of the textures, of the light..." (Belogolovsky, 2004). Holl believes that intellect (science) and emotion (phenomenology) should work together to provide a new scope for imagination (2000: 144). The most successful architectural spaces are those which have been designed with both intellect and emotion.

Buildings which are symbols of human existence are the ones which reach into our souls and cause us to feel emotion (Anand, 2008). We become emotionally invested in architecture that has human, historical and cultural context (Pallasmaa, 2009b). Therefore architecture evokes emotion when it celebrates the everyday, the past and community. Unfortunately today architecture often lacks this context, which results in uninspiring buildings.

"Architecture does not invent meaning; it can move us only if it is capable of touching something already buried deep in our embodied memories" (Pallasmaa, 2009b: 136). I feel that, although architecture does not create meaning in itself, it can provide a place for a meaningful event (which is to be remembered) to occur. Architecture acts as a reminder, which sparks our memories and, in turn, evokes our emotions.

According to Holl, buildings are "intertwined with the experience of a place" (1991: 9). Place can simply be described as a space which has meaning (Lefas, 2009: 129). This implies that in order for architecture to have the spirit of place, it must hold some sort of meaning to those who use it. Meaning is derived from a personal connection to something, which is usually born from a sensory experience or embodied memory.

One of the key architectural elements/principles employed to stimulate the senses and evoke emotion is **materiality** (texture, colour, weathering, effects of sound and light). Pallasmaa speaks of the use of natural materials because of their strong sensory properties and narrative revealed by their aging process (Horvath, 2010: 24, 26). Holl too believes in an architecture of tactile experience, using natural materials marked by time (Frampton, 1991: 8, 9, 13). Zumthor makes use of natural materials from the site or surrounds. The most prominent example of this would be his Thermal Baths Vals, discussed later.

The material and detailing of the realm of touch must be carefully considered, as the total perception of a work of architecture depends on this (Holl, 2000: 68). Touch is one of our most primitive senses and is therefore deeply integrated into our bodies. We have the ability to touch with the entire surface of our bodies.

In addition to materiality other architectural concepts and principles which deal with emotive and sensory experience are: surfaces or forms (allow for different play of light); layout and volumes (allow for different spatial experience and response); link to nature; natural light (and other natural elements) and natural materials.



Figure 11a – Tactile, sensory nature of the interior created by natural stone walls and natural light: Thermal Baths Vals, Zumthor (Ryan, 1997)



Figure 11b, c & d – the mystical world of stone, water, light and mist: Thermal Baths Vals, Zumthor (Ryan, 1997)



Figure 12a – vertical link between ground and sky: Seaforth Garden of Remembrance, Uytendogaardt (Thalassinos, 2008)



Figure 12b – the 'wave wall' relating to its seaside context: Garden of Remembrance, Uytendogaardt (Thalassinos, 2008)



Figure 12c – exposed aggregate grave 'mounds' become an extension of the mountain: Garden of Remembrance, Uytendogaardt (Thalassinos, 2008)



Figure 12d – Seaforth Garden of Remembrance, Roelof Uytendogaardt (Thalassinos, 2008)

Examples of Emotive Architecture

The examples to be discussed are Zumthor's Thermal Baths Vals and Uytendogaard's Seaforth Garden of Remembrance in Simonstown.

To me, both of these are examples of emotive architecture as they not only engage the senses but are also linked to spirituality and memory, thereby evoking emotion in the person who experiences them. Both examples evoke emotion through effects created by previously mentioned architectural principles and elements which are characteristic of emotive architecture. These architectural principles/elements are: materiality (highly tactile, appropriate and linked to site); a link to nature (natural materials, forms and the elements, siting); incorporation of natural light; and different surfaces, volumes and forms (creating different spatial experiences and responses).

In his Thermal Baths Zumthor incorporates the natural elements of stone, water and light to create a deeply spiritual, sensory bodily experience and connect the bather with nature and self. Natural light plays a big role in creating the desired atmosphere within the space. The way light reacts on walls, water and mist creates a mystical inner world.

Uytendogaard's Garden of Remembrance is a highly sensory, highly emotive place. Spirituality comes from the vertical link between ground and sky, created by the monuments, as well as the sense of presence created by being exposed to the elements.

This is a place of solitude; a place of reflection and silence. This is a place to connect with your soul, your thoughts, your emotions – a place to be truly vulnerable, yet still feel safe through a sense of presence evoked by the spirit of the wind, the sea, the Garden and the past.

Both of these examples of emotive architecture are highly tactile and stimulate an interaction between body and architecture. They are both deeply linked to nature and site, as well as natural elements, such as wind, light, water and stone. They provide a place of reflection and allow a connection with and rediscovery of self.

In order to understand the architectural technology behind creating spaces which have the ability to evoke emotion and unite issues of spirituality, memory and the senses, I delved into researching the phenomenology of what I termed 'emotive light'. Although, as I have discussed throughout this document, there are many elements/properties which characterise emotive architecture, 'emotive light' is the most common element which all emotive architectural spaces share. It is also the one which has been of the most interest to me since the beginning of this thesis.

University of Cape Town

***Emotive Light: A Phenomenology and
Technology of Natural Light.***

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"[Light]...can remind us of the negligible part we play in the greater scheme of things, of the passing of time and of the past, the present and make us ponder the future. Each of these different qualities in turn can be used to achieve powerful architectural experiences and assist in the achievement of spiritual architecture" (Horvath, 2010: 22).

I am interested in a specific phenomenology of natural light which has the ability to evoke emotion in the viewer through its interaction with architecture. This is not achieved by light alone, but rather by the collaboration of light with architectural form, material and space.

I have realised that every one of these experiences, whether an image or a physical encounter, have been linked to the presence of a certain quality of light. A mysterious, living, fleeting light which reminds me that I am not alone, that I have purpose, that I am safe. According to Pallasmaa, we feel safe when our bodies discover their resonance in space (1996: 47). I believe we discover this resonance through viewing emotive light in space.

Natural light in architecture has always been a phenomenon which has been of interest to me. Not homogenous natural light or daylighting as such, but a powerful light of contrast which carries mystery and acts on surfaces, forms and materials in such a way as to reveal their sensory qualities. Light is made visible when it touches built form. An inner world is created which is alive, changing, fleeting and magical. Light cannot achieve this effect on its own. The surfaces, materials and forms of architecture allow this to take place. They make light visible and, in return, light highlights their true essence and beauty. Light acting on materials and forms make us aware of their tactile nature and invite us to touch and engage with them on a sensory level.

'EMOTIVE LIGHT'

Personal definition and interest

I see emotive light as natural light which has been captured in space and, when experienced, creates a feeling of emotion and awe in the viewer, as well as a sense of connection. Emotive light brings a sense of presence to a space. When viewing emotive light captured in built form, in that moment I feel as if I am experiencing something not of this world - something alive, mystical and precious that gives meaning to the space I am in and in turn to myself as well.

Emotive light embodies an essence of the unknown, the hidden, and the mysterious. It prompts us to explore and imagine. It allows us an experience that originates in our imaginations and is orchestrated in our bodies. Architecture is the vehicle for the creation of emotive light.

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EMOTIVE LIGHT IN ARCHITECTURE

"Daylight, the light on things, is so moving to me that I feel it almost as a spiritual quality. When the sun comes up in the morning – which I always find so marvellous, absolutely fantastic the way it comes back every morning – and casts its light on things, it doesn't feel as if it quite belongs in the world. I don't understand light. It gives me the feeling that there's something beyond me, something beyond all understanding. And I am very glad, very grateful there is such a thing" (Zumthor, 2006).

What is emotive light and how is it created?

There is an unspoken connection generated when one views emotive light within a building. Norberg-Schulz (1980) refers to a link between the soul and nature. This explains why we feel a sense of emotion or spiritual connection when viewing a pure natural element (light) celebrated through built form. Natural light speaks to our souls by way of our bodies. It is alive, it changes, it moves.

The dramatic contrast between light and shadow, termed chiaroscuro, originated in both Baroque art and architecture and it remains the most powerful defining element of emotive light. "In great spaces of architecture, there is a constant, deep breathing of shadow and light; shadow inhales, and illumination exhales, light" (Pallasmaa, 1996: 33).

Pallasmaa believes that this variation of light in space is crucial for the stimulation of imagination (1996: 32). Homogenous light, just like homogenous space, offers no form of stimulation and diminishes a sense of object and place (Pallasmaa, 1996: 32). This is true, as shadow is associated with mystery. It hides something within itself that needs to be discovered. Light provides us with clues as to what is hidden and triggers our imaginations. If all light in space were uniform there would be no mystery; nothing to discover. Space would be essentially boring.

Although light may be seen as merely a visual experience, it does engage the other senses on a secondary level. We can feel light – the warmth of it on our skins. Light also prompts us to use our other senses, such as touch, when it highlights the texture of a material and invites us to run our fingers over its surface.

Emotive light is one phenomenology of light and is typically created through reflection, colour, diffuse light and heavy contrast between light and shadow. The science behind the creation of emotive light will be described in the sections to follow, as well as in the precedent studies.

PHENOMENOLOGIES OF EMOTIVE LIGHT

There are other phenomenologies of natural light which aid in the creation of emotive light but can also stand alone. These effects create a specific character in space and allow for a distinctive experience. They are the scientific phenomena behind the creation of the sensation of emotive light. Although part of the power of emotive light comes from the mystery of its creation, it is helpful to understand the basics behind how this phenomenon comes to be.

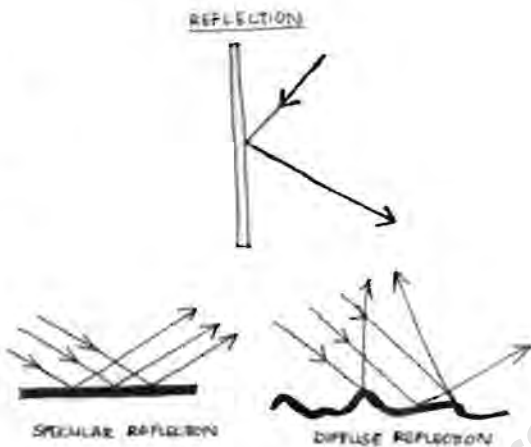
How are these different phenomenologies of light created?

There are many phenomenologies of natural light but here only a few will be discussed, which relate directly to the precedent studies to be discussed later. They fall under two main categories, namely reflection and transmission (Szokolay, 2008: 144).

REFLECTION

Reflection of light

Reflection is the term used to describe light bouncing back after hitting a surface (Luzy, 2009). There are two types of reflection of light and they are dependent upon the type of surface. Reflection off a rough surface (such as a stone wall) or a surface which is dull is known as 'diffuse reflection' (Bella, n.d.). The rays of light are reflected in different directions so the image reflected is unclear. The second type of reflection is termed 'specular reflection' and deals with reflection off a shiny, smooth surface (Bella, n.d.). The image that is reflected is the perfect mirror image, such as the reflection off a still lake (Bella, n.d.).



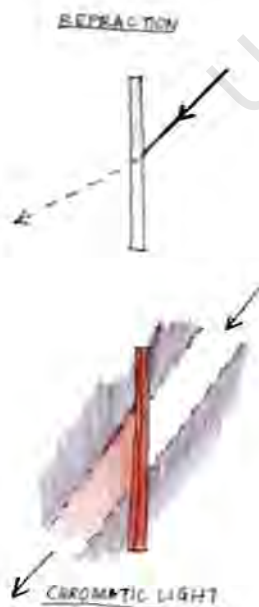
TRANSMISSION

Refraction of light

In simple terms, refraction refers to the bending of light when it comes in contact with a medium (substance/surface) (Bella, n.d.). For instance, when a ray of light hits a translucent piece of glass it slows down and therefore changes direction. In essence, refraction deals with light moving through a surface and changing direction, while reflection deals with light bouncing off a surface. Refraction is found in lenses, while reflection is found in mirrors (Luzy, 2009).

Chromatic light

Chromatic light refers to light which is coloured. Light is coloured when it passes through a transparent material, such as glass, which itself is coloured. For example, light refracting through a red tinted glass lens will take on a red hue when refracted. Chromatic light can also reflect off a solid surface which is coloured, such as a painted wall.





TEXTURED LIGHT



DIFFUSE LIGHT

Textured light

Textured light can be created in one of two ways: either by passing through a transparent textured surface (such as a pane of glass with a pattern set into it) or by reflecting off the surface of a body of water (as can be seen when light reflects off a swimming pool onto a facade or ceiling).

Direct vs. diffuse light

Direct beams of light, such as the natural spotlight captured in the Pantheon, are created when light passes through a transparent material, such as a clear sheet of glass. Diffuse light, on the other hand, is created when light passes through a translucent material, such as sandblasted glass, or when it hits a solid surface and is diffusely reflected.

Figure 13a, b, c, d, e, f, g –
(Thalassinos, 2012)

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ARCHITECTURAL TECHNOLOGIES

In order to capture these phenomenologies within built form and create these different effects, physical architectural elements need to be incorporated. These elements create certain effects, based on how light reacts on their surfaces. In other words, the material determines the effect. Knowledge of materials (their properties and capabilities) is therefore crucial. Knowledge of the science of light and an understanding of the light conditions on site are also required to achieve the desired effect.

How are typical architectural technologies used to facilitate the creation of emotive light?

*Of importance in the creation of emotive light are the **element** between inside and outside (the opening through which the light enters the building) and the **surfaces** forming the interior spaces (walls, floors, ceilings, planes). The tools of an architect are the material plane or form. He can play with these – their shape, their position, their materiality – in order to create the lighting effects desired to create a certain spatial character.*

Curved surfaces aid in the creation of emotive light as they add a softness to the interior of the space which is emphasised when light and shadow interact with them.

Natural materials, such as stone, aid in creating a space of emotive light, as they are highly tactile materials which are highlighted by natural light. The sensory experience of natural materials is linked to our emotions.

The precedent studies to follow will elaborate on how (and which) architectural technologies are employed to create spaces of emotive light.

PRECEDENT STUDIES

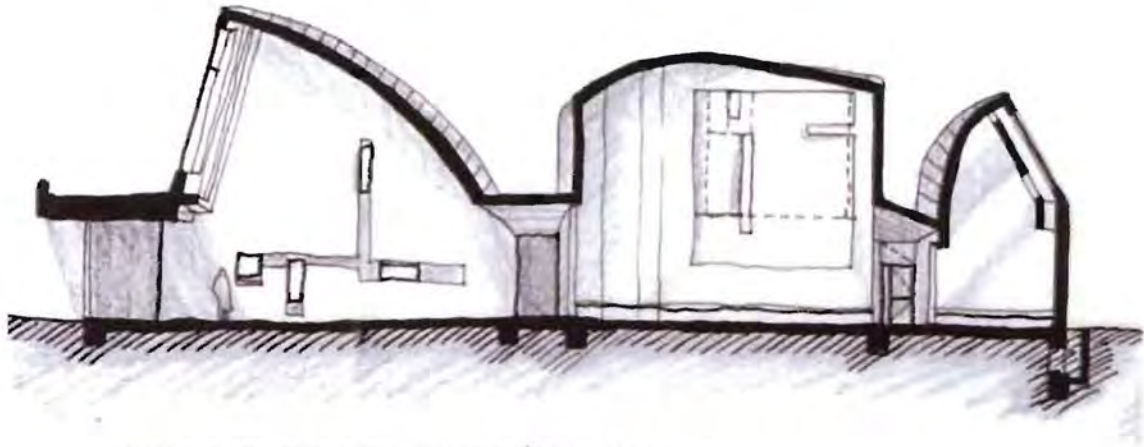
In order to understand the technical implementation of emotive light, it is important to look at examples of buildings which have achieved this. From the precedent studies we can see that programme is deeply tied to emotive light, yet there is no single building typology/programme to which emotive light is tied. It can be found in sacred spaces such as churches, yet is just as powerful in a profane space such as an art gallery.

I will attempt to describe how light is captured and treated within each building to create the desired atmosphere of emotive light.

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Figure 14 – (Thalassinos, 2012)



Chapel of St. Ignace Longitudinal Section

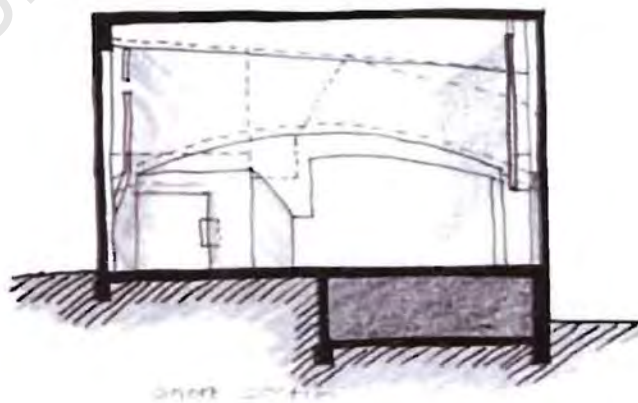
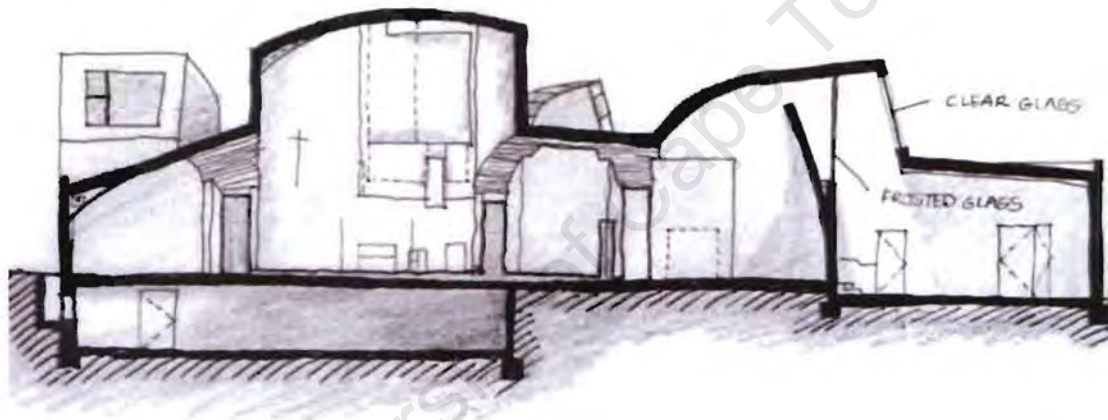


Figure 15a, b & c – These sections show light entering the building through a series of layers (with different material properties) in order to achieve the desired poetic effect of coloured or diffused light.

Chapel of St. Ignatius, Steven Holl

Capture and manipulation of light

The architectural technologies employed to create the phenomenology of emotive light are: curved surfaces; transparent, translucent and coloured glass; 'floating' light baffles with different profiles, cut-outs and paint colours allowing for different lighting effects; light coloured textured wall and ceiling surfaces.

In most cases the source of light (the opening) is hidden from view. Light goes through a number of treatments to create the desired effect, passing through a series of lenses and reflecting off baffles before becoming the poetic, coloured, diffuse light that is displayed to the viewer. "The differences in the light colours are obtained by breaking the incoming daylight with colours either in the glass it passes or on the reflecting sides of the skylight itself. In this way the ever shifting daylight is providing shifting moods in the interior" (Skude, n.d.). A collaboration between coloured lenses and coloured baffles provide for this creation of chromatic light which washes the interior of the chapel.



Figure 16 – Emotive light on interior (Thalassinos, 2012)

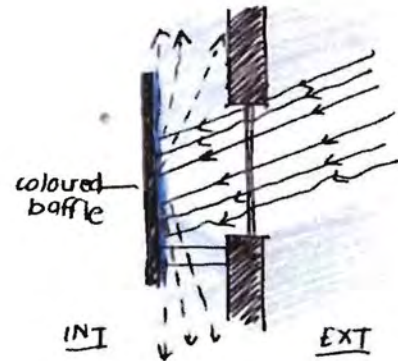
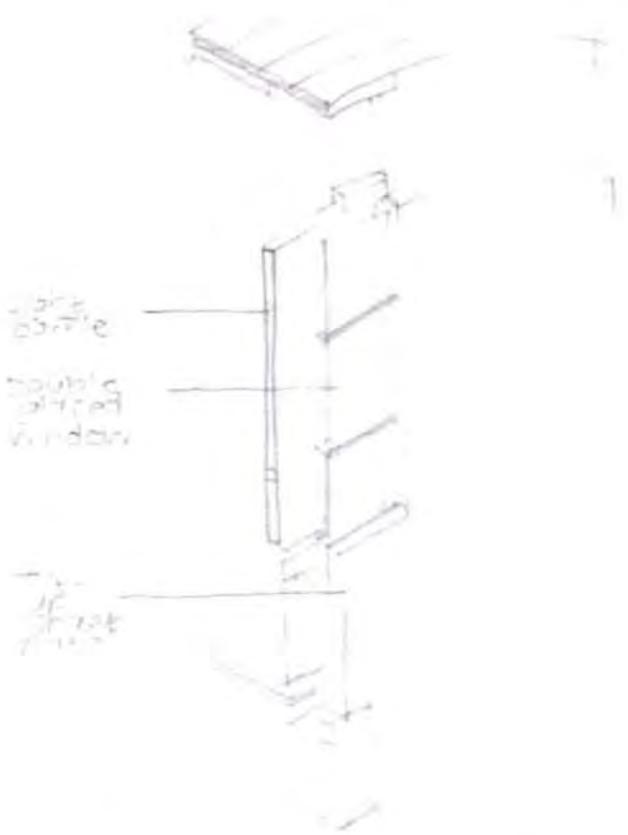


Figure 17b – Diagram of light entering clear glazed opening and being diffusely reflected off coloured baffle as coloured light (Thalassinos, 2012)

Figure 17a – Detail showing light entry point (glazed window) and light baffle behind (Thalassinos, 2012)

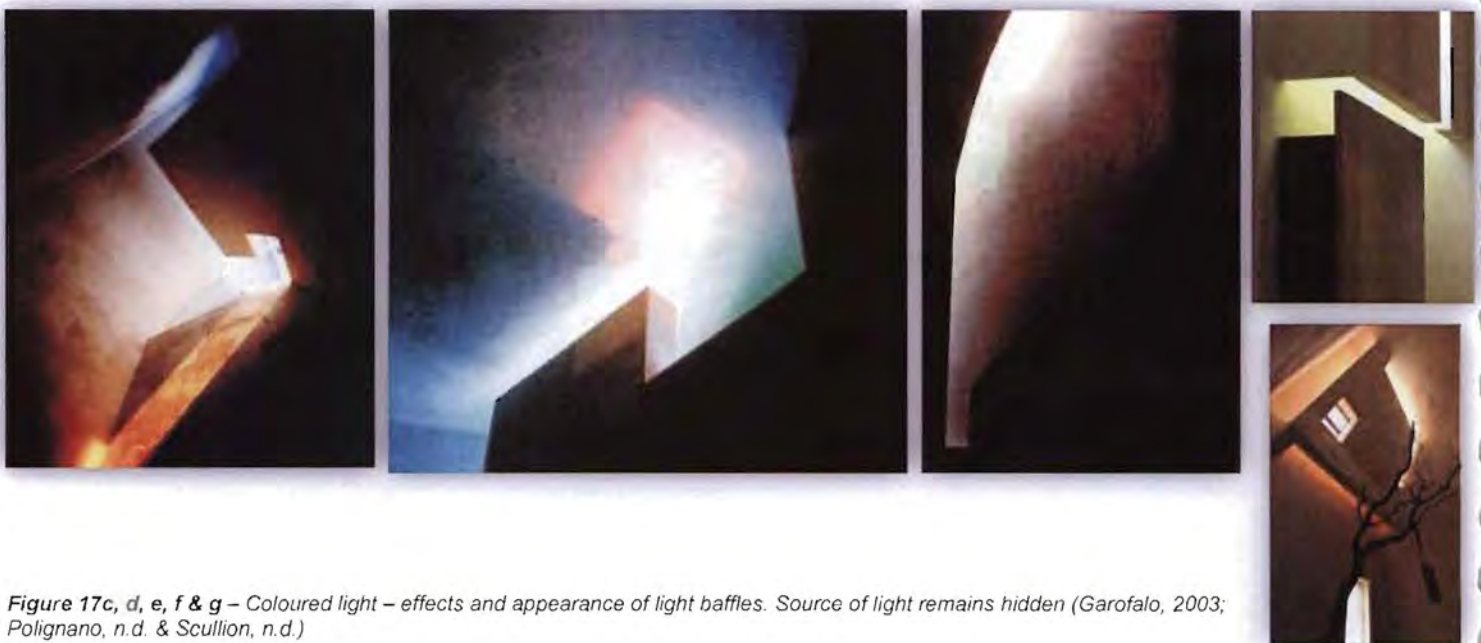


Figure 17c, d, e, f & g – Coloured light – effects and appearance of light baffles. Source of light remains hidden (Garofalo, 2003; Polignano, n.d. & Scullion, n.d.)



Figure 18 – (Thalassinos, 2012)

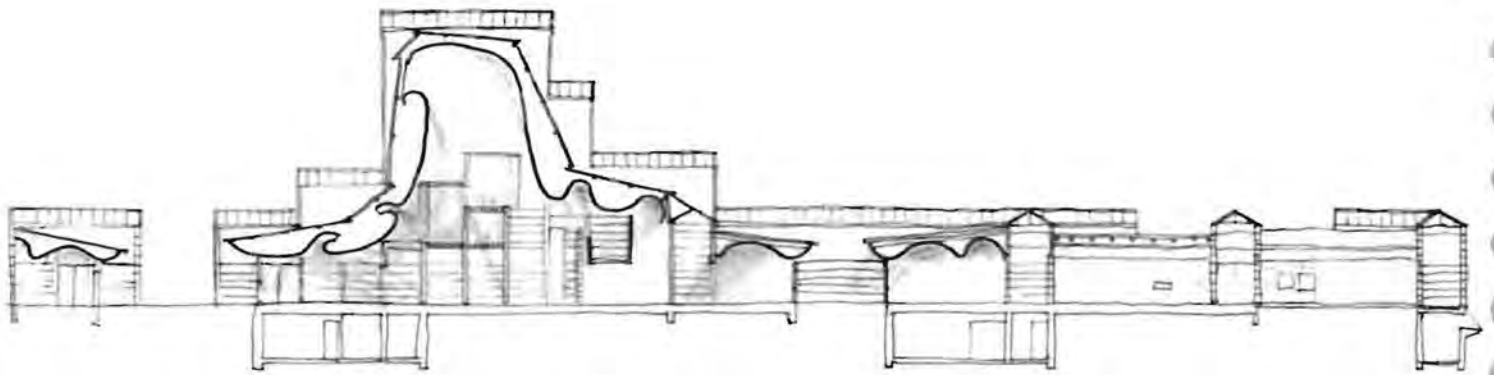


Figure 19a – Longitudinal section showing light entry (Thalassinos, 2012)

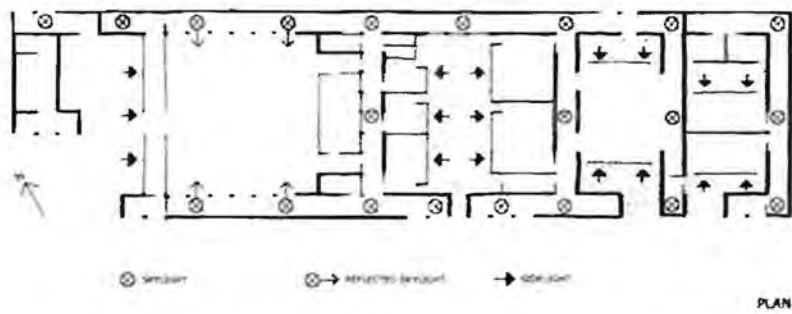
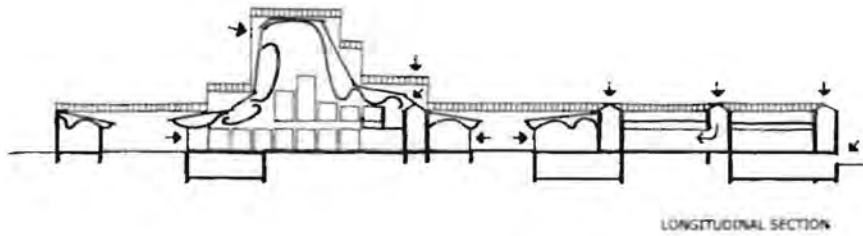


Figure 19b & c –Diagrams of light entry and distribution (Schwartz, 2005)

Bagsvaerd Church, Jorn Utzon

Capture and manipulation of light

Light is captured in three different ways – through skylights above corridors, through courtyard spaces and through the clerestory window of the main 'cloud' vault above the sanctuary.

The skylights take on the form of duo-pitched roofs but are glazed. They provide diffuse light to enter the main church space between the colonnades. This ambient light adds to the feeling that the ceiling is mysteriously floating.

Light captured in the courtyard spaces is reflected to adjacent rooms by way of the material surfaces of the courtyards (Schwartz, 2005: 161). The courtyards provide a connection with nature as they are open to the sky and the elements of light and wind.

The billowing ceiling of the church is a source of light through an opening between the folds of the highest volume. Clerestory windows run along its length, allowing sun to enter the church from the west (Schwartz, 2005: 163).

The architectural technologies employed to create the phenomenology of emotive light are: curved surfaces; transparent glass; 'floating' organic lightweight concrete ceiling, white textured wall and ceiling surfaces and a gradation from matte to reflective surfaces.

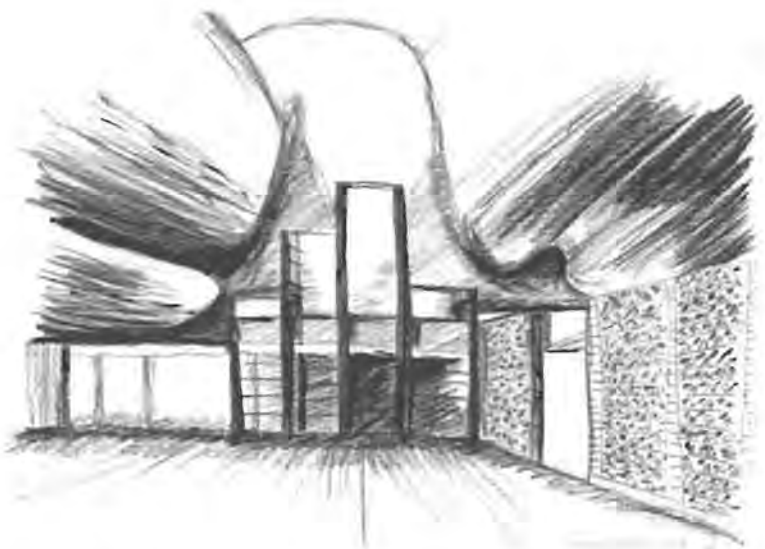


Figure 20 – Emotive light on interior (Thalassinos, 2012)

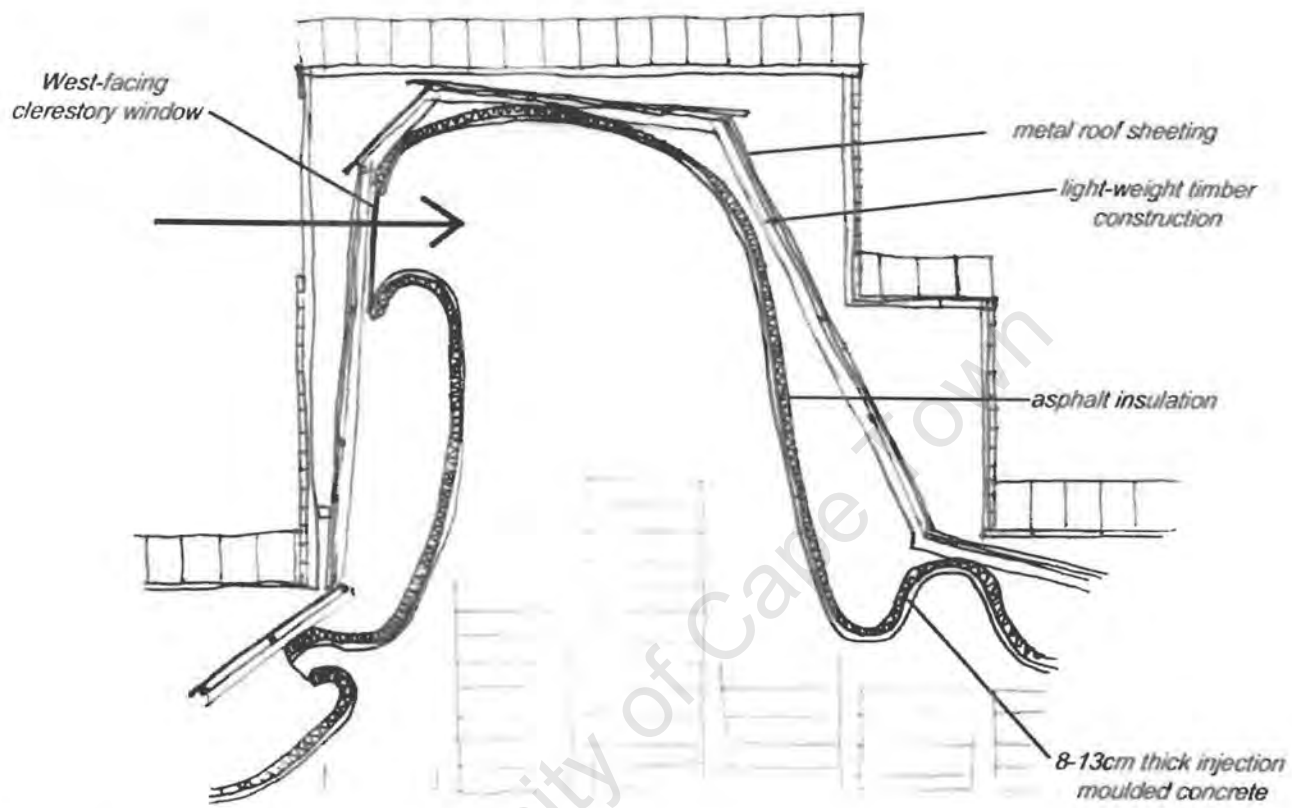


Figure 21a – Sanctuary vault detail (Thalassinos, 2012)



Figure 21b – Diagram of light entry and transformation (diffuse reflection) (Thalassinos, 2012)

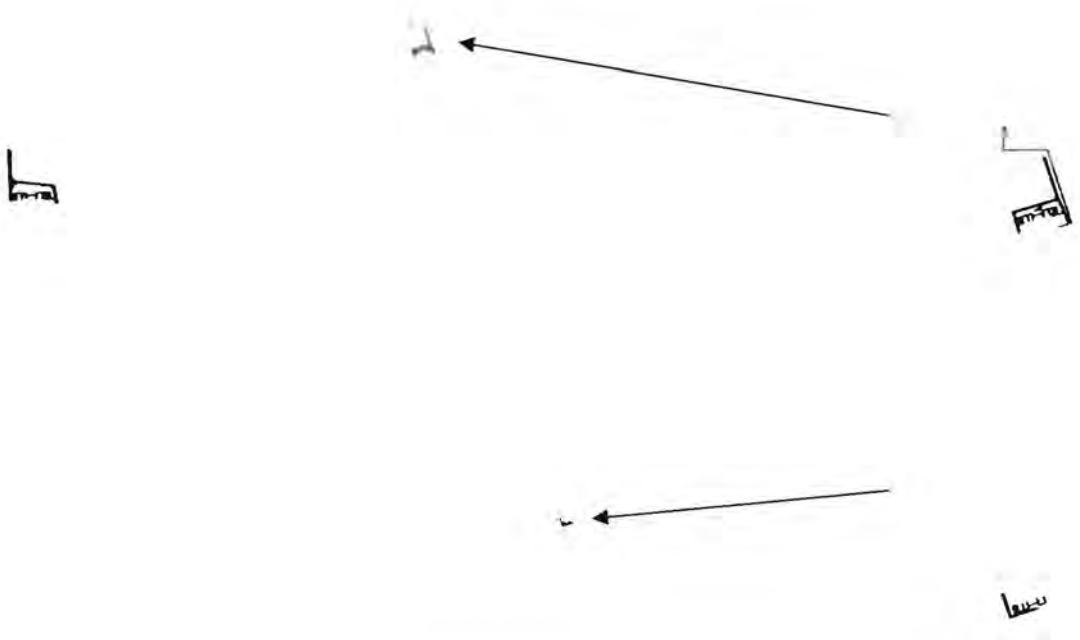


Figure 21 c, d, e & f – Glazing details of clerestory window of vault (Utzon, 2005)



Figure 21 g, h, i & j – Skylight details (Utzon, 2005)



Figure 22 -- (Thalassinos, 2012)

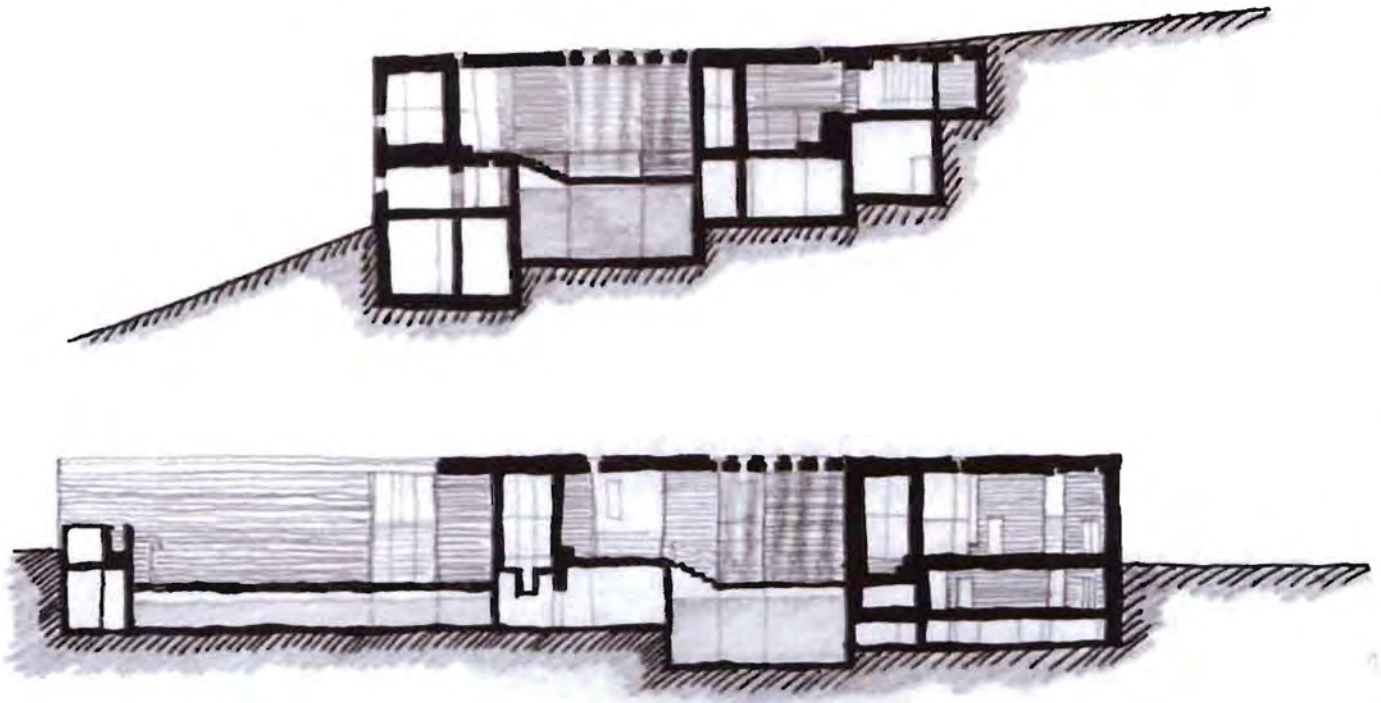


Figure 23a & b – Sections showing slits through which light enters from above (Thalassinos, 2012)

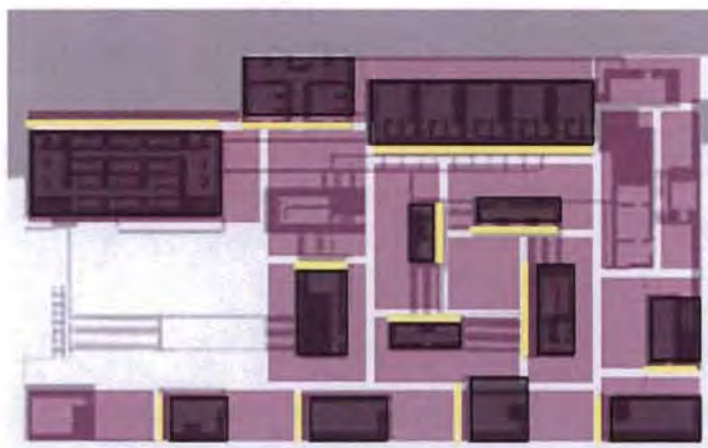


Figure 23c & d – T-shaped slits (red) between roof slabs allowing one side of each block to be washed with top-light (yellow) (Shoun, n.d.)

Thermal Baths Vals, Peter Zumthor

Capture and manipulation of light

Natural light is captured from above through a series of slits between individual ceiling slabs (Zumthor, 1997: 13). The position of the slits correlates with the position of the separate blocks (housing different activities) on plan (Zumthor, 1997: 13). This also creates the illusion that these heavy ceiling blocks are floating overhead, which adds an air of mystery. The position of the ceiling slabs over the blocks, and therefore the position of the slits, allow for one side of each block to be bathed in light from above (Zumthor, 1997: 13).

The architectural technologies employed to create the phenomenology of emotive light are: coloured, reflective, textured surfaces; transparent glass; 'floating' ceiling slabs, natural materials of stone and water.



Figure 24 – Emotive light on interior (Thalassinos, 2012)

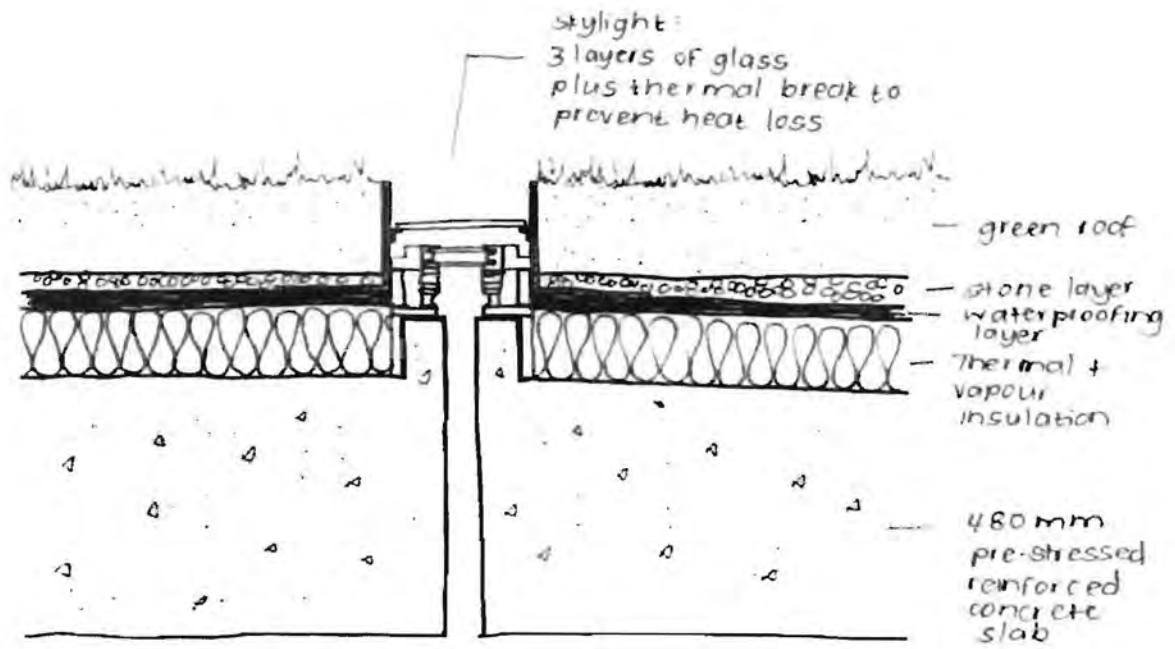


Figure 25a – Skylight detail (Thalassinos, 2012)

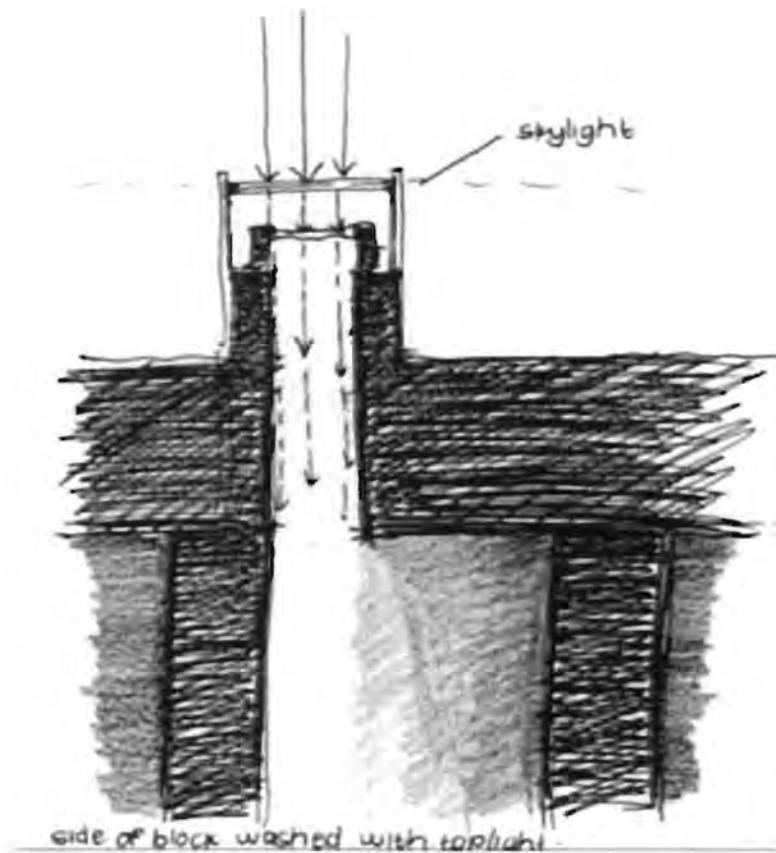


Figure 25b – Diagram of light entering and washing one side of block. (Thalassinos, 2012)

Detail

The adjacent detail shows a typical skylight. The roof slabs are supported by the walls of the blocks below. Light enters through a narrow slit between the roof slabs and washes the surface of the wall below which sits flush with the slab. Because of the climate it was important to make sure no heat was lost through the openings, therefore separate layers of glass were used and separated by thermal breaks.

The green roof posed additional waterproofing issues especially because the skylight is recessed. The insulation, waterproofing and stone layers slope away from the skylight to allow water runoff in the opposite direction.

The diagram shows one wall flush with the roof slab while the wall of another block is recessed so that the slab cantilevers off the wall. This is how one side of a block is washed by toplight.

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Figure 26 – (Thalassinos, 2012)



Figure 27a – Elevation showing position of vertical and bowtie skylights (Thalassinos, 2012)

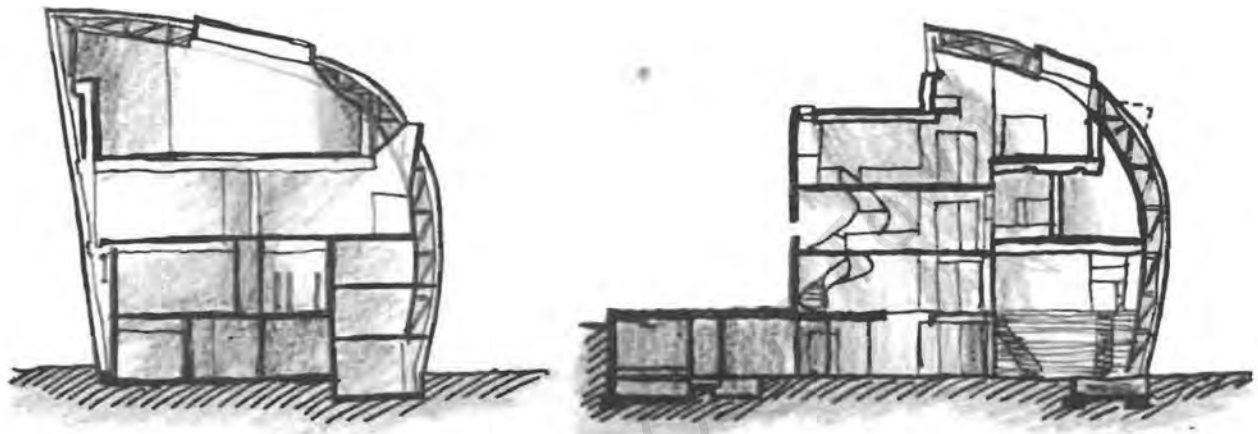


Figure 27b & c – Short sections showing light entry through vertical and bowtie skylights (Thalassinos, 2012)

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Kiasma Museum, Steven Holl

Capture and manipulation of light

- 'bowtie' roof skylights (15 degrees off vertical)
- vertical skylights

The powerful contrast between light and shadow is reserved for the gallery spaces.

This light is captured in two primary ways, through 'bowtie' skylights which are positioned 15 degrees off the vertical (on the side of the roof), as well as by vertical skylights directly above the upper gallery spaces. The reason for using different methods of capturing light is to allow for the capture of light throughout the day and seasons, as the position of the sun changes.

The vertical skylights bring azimuth light directly into the topmost gallery spaces from above, whilst the 'bowtie' skylights allow for the penetration of a lower angled light into gallery spaces below the uppermost level (Holl, 2000: 352). The source of light is concealed from the viewer. A series of moulded ceiling spaces allow for light to be diffusely reflected and wash the interior spaces of the galleries without being too harsh. Most surfaces are curved to allow for a softer, more poetic expression of light.



Figure 28 – Emotive light on interior (Thalassinos, 2012)

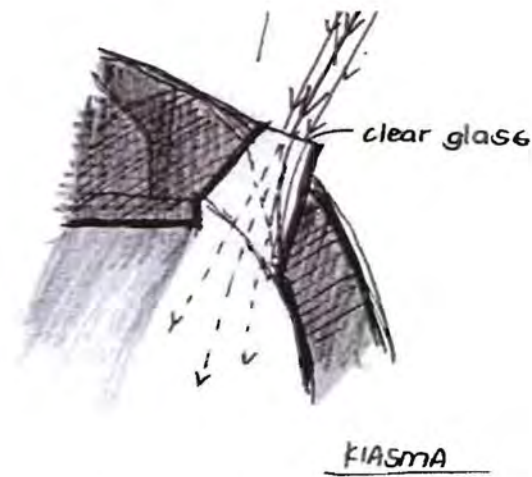


Figure 29a – Diagram of light entry through bowtie skylight (Thalassinos, 2012)



Figure 29b – Bowtie skylights (Mattila, n.d.)

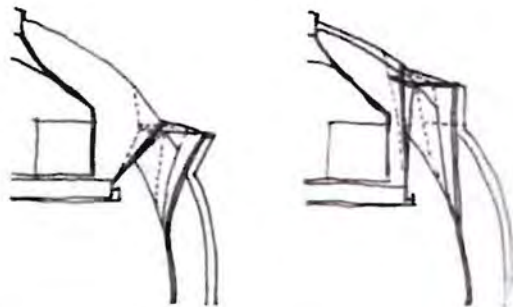


Figure 29c & d – Sections through different positions of bowtie skylights (Thalassinos, 2012)



Figure 29e – Bowtie skylight detail (Thalassinos, 2012)

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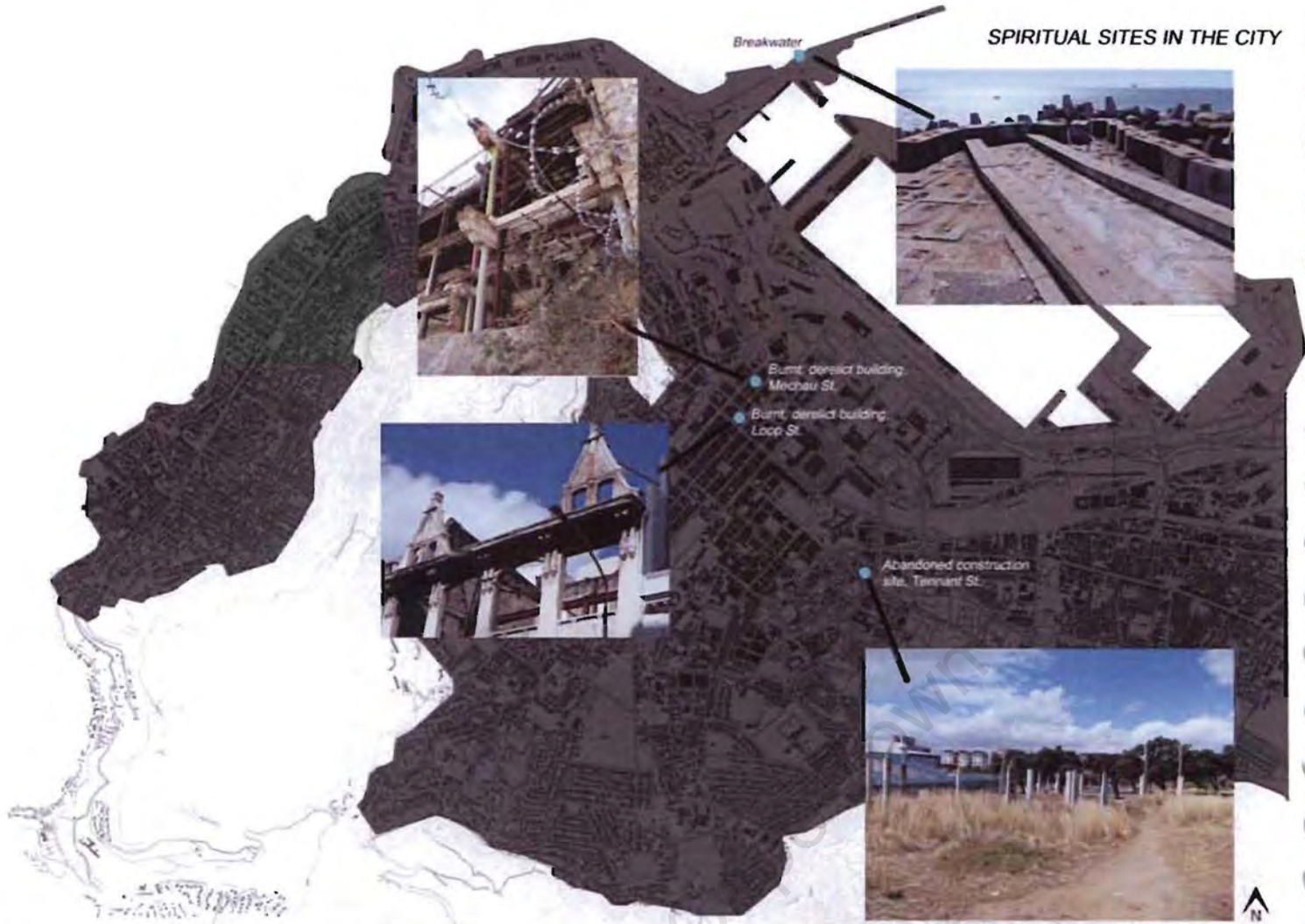


Figure 30a – Identifying 'spiritual' sites in the city (Thalassinos, 2012)

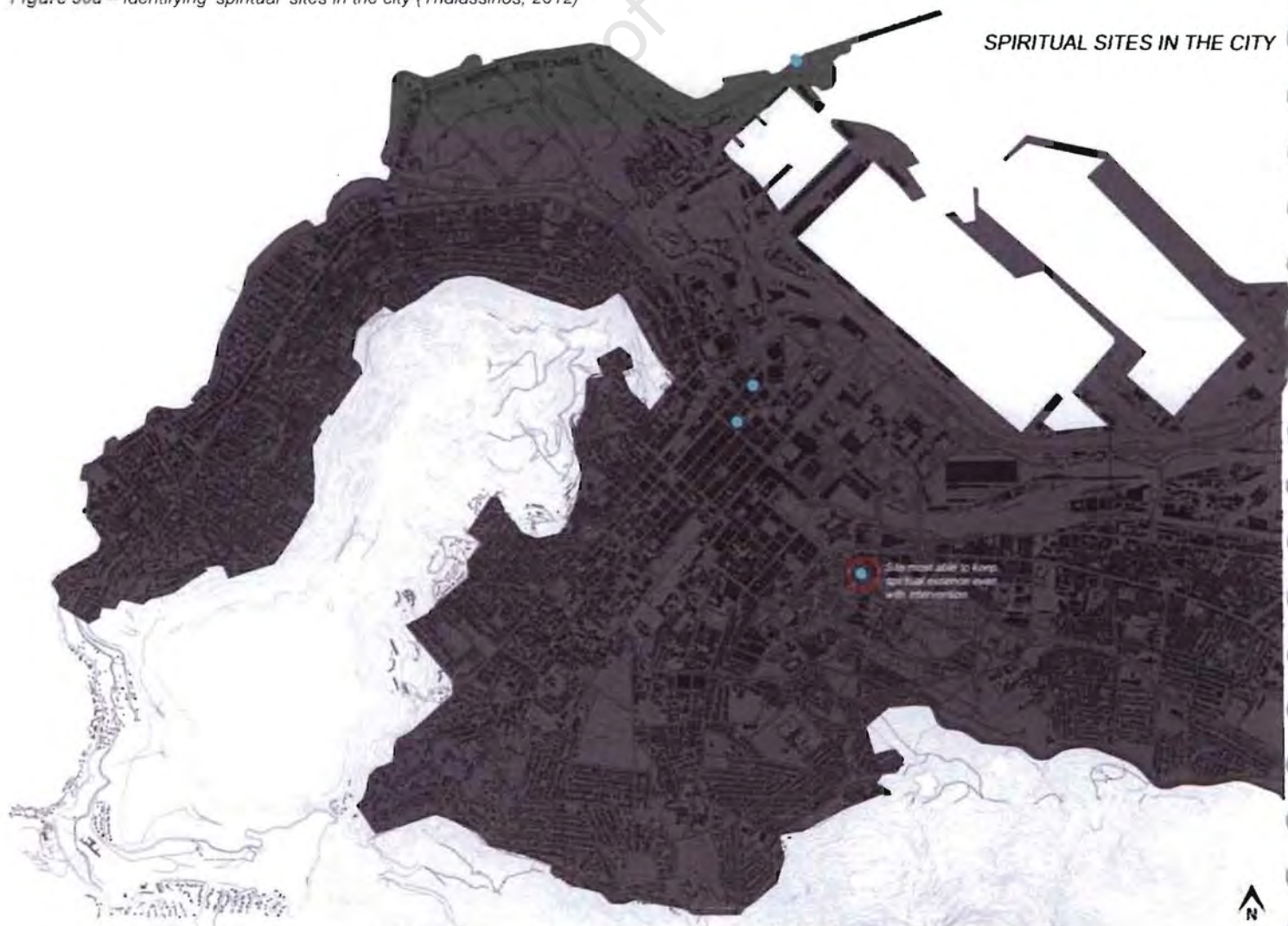


Figure 30b – Choosing site which would allow for intervention without losing essence of the spiritual (Thalassinos, 2012)

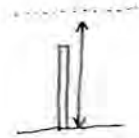
Discovering Site

Urban

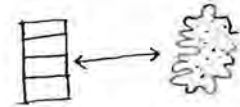
After identifying my issues of interest, the next step was to identify possible sites because these issues related to experience of a place. My starting point was the city centre as this would allow the busy, profane context I required in which to embed my project. It also provided the possibility of a mountain-sea (natural) link. My intention at the time was to identify sites which held the essence of what I had defined as 'spiritual'; namely, a sense of presence of other; an ineffability. During the first stage I identified four possible sites with a ghost-like presence. (See adjacent mapping)

In order to understand why I had been drawn to them I analysed what physical properties made these sites 'spiritual' according to my definition. I uncovered certain 'spiritual' principles which they all shared, and which I have used as ordering principles in the design process. These principles are:

Vertical elements - Link between ground and sky



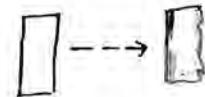
Link between nature and man-made
- Location / siting



Layering (materials and spaces)



Weathering of materials



Fragment / ruin



Route and meander



Local

In the end I chose the abandoned construction site on Tennant Street as it would allow for intervention without losing the essence of the spiritual. This then opened up a secondary phase of site identification as it was situated in District Six, itself the most sacred site in the city.

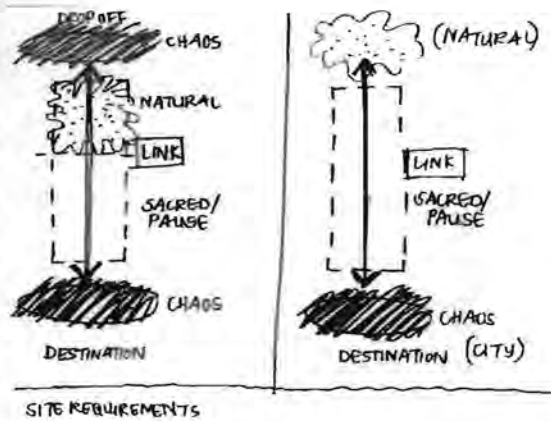


Figure 31 – Initial site requirements resulting in search for site in the city (Thalassinos, 2012)



Figure 32a – District Six as spiritual site in the city, therefore opening up secondary search for site (Thalassinos, 2012)



Figure 32b – Spiritual sites identified within District Six (Thalassinos, 2012)

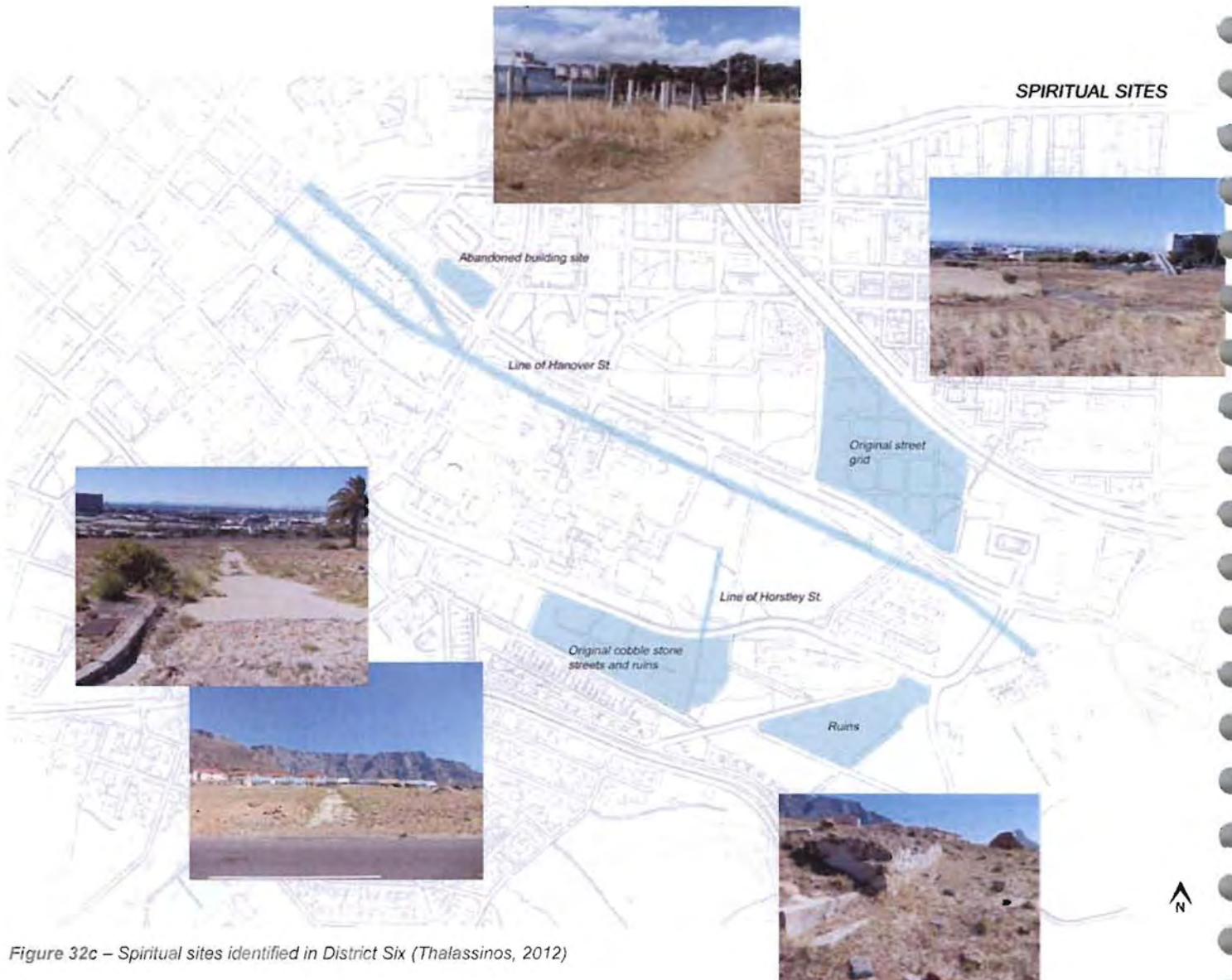


Figure 32c – Spiritual sites identified in District Six (Thalassinos, 2012)

Uncovering Site

History

The site of District Six is situated on the eastern border of the city centre. It is a derelict scarred landscape nestled between the mountain and the sea. It was once a dense, bustling, tight-grained, multiuse area housing a vibrant community. On the 11 February 1966, the area was declared a White Group Area under the Apartheid regime and all residents were forcibly removed and stood by as their houses and community were demolished before their eyes. These people not only lost their homes, they lost their identities.

District Six has a rich and layered history. It originated as a farm, Zonnebloem, in 1707, which was gradually subdivided and sold off to British military officers throughout the eighteenth century (Malan et al, 2001:39). In time it became the home of emancipated slaves and emigrants and soon became a heavily overcrowded working-class community. Although it was a generally poor community, it seems to have been a happy one. For the most part it was a close-knit community which celebrated its traditional, cultural and religious differences despite personal hardships.

Urban

Within District Six I began to identify other 'spiritual' sites. These also shared the common spiritual principles of the other sites, apart from the vertical elements, as these had all been demolished. I began a series of urban mappings through certain lenses which I deemed important to understanding the past, present and future state of District Six.

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Figure 33 – Original fabric c. 1941 (Pistorius, 2002) overlaid on current fabric (Thalassinos, 2012)

EXISTING OLD FABRIC



Figure 34 – Original fabric which still exists today (Thalassinos, 2012)

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PAST PLACES OF GATHERING / COMMUNITY



Sources: Patorius, P. 2002. *Texture and Memory* and McAlister & Thalassinou, 2009. Des Baker Competition entry *Landscape of Memory*

Figure 35 – Past places of gathering (Thalassinou, 2012) (Sourced from Pistorius, 2002)

PRESENT PLACES OF GATHERING / COMMUNITY



Figure 36 – Present places of gathering (Thalassinou, 2012)



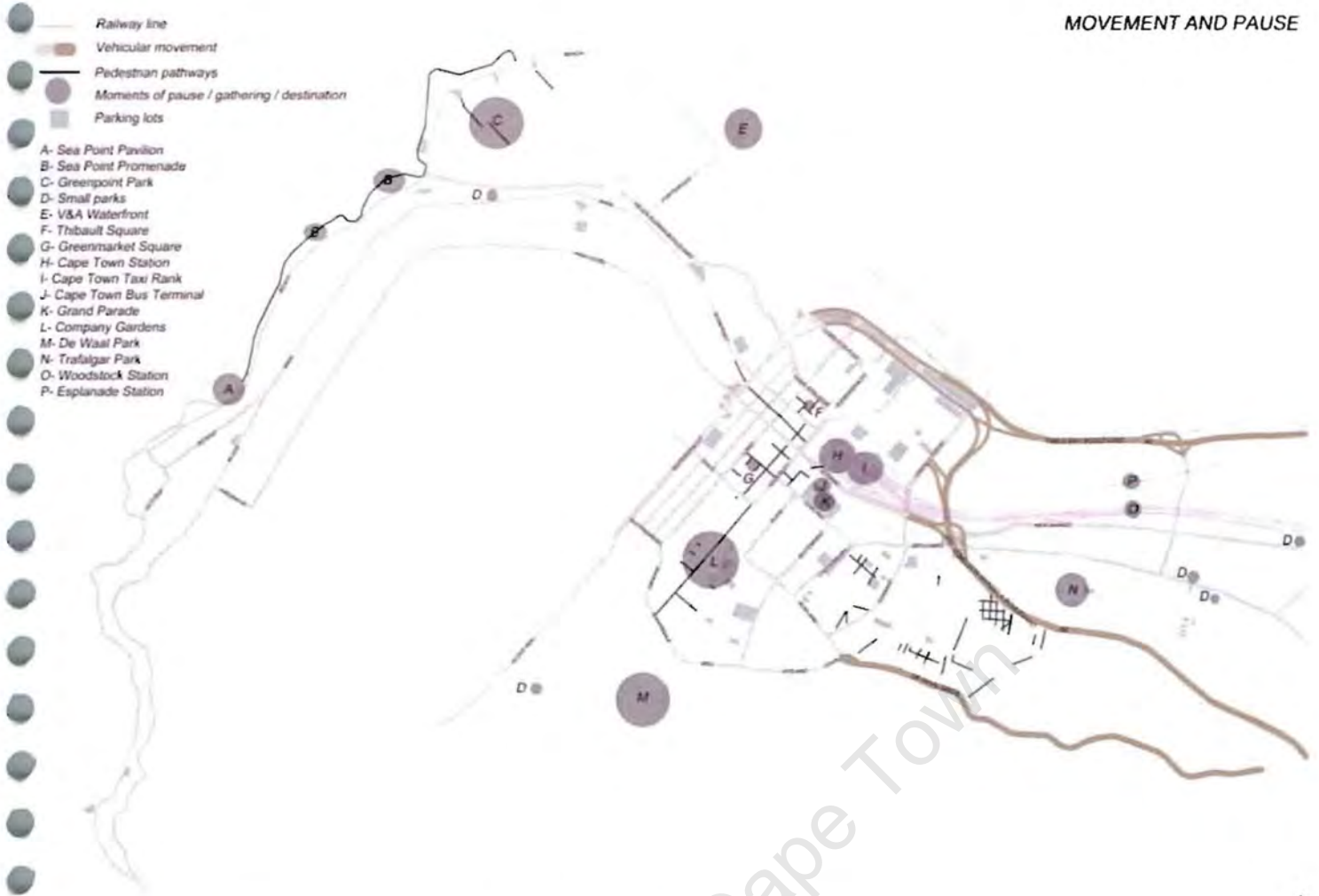


Figure 37 – Analysis of movement (route) and pause (destination) on an urban scale (Thalassinos, 2012)

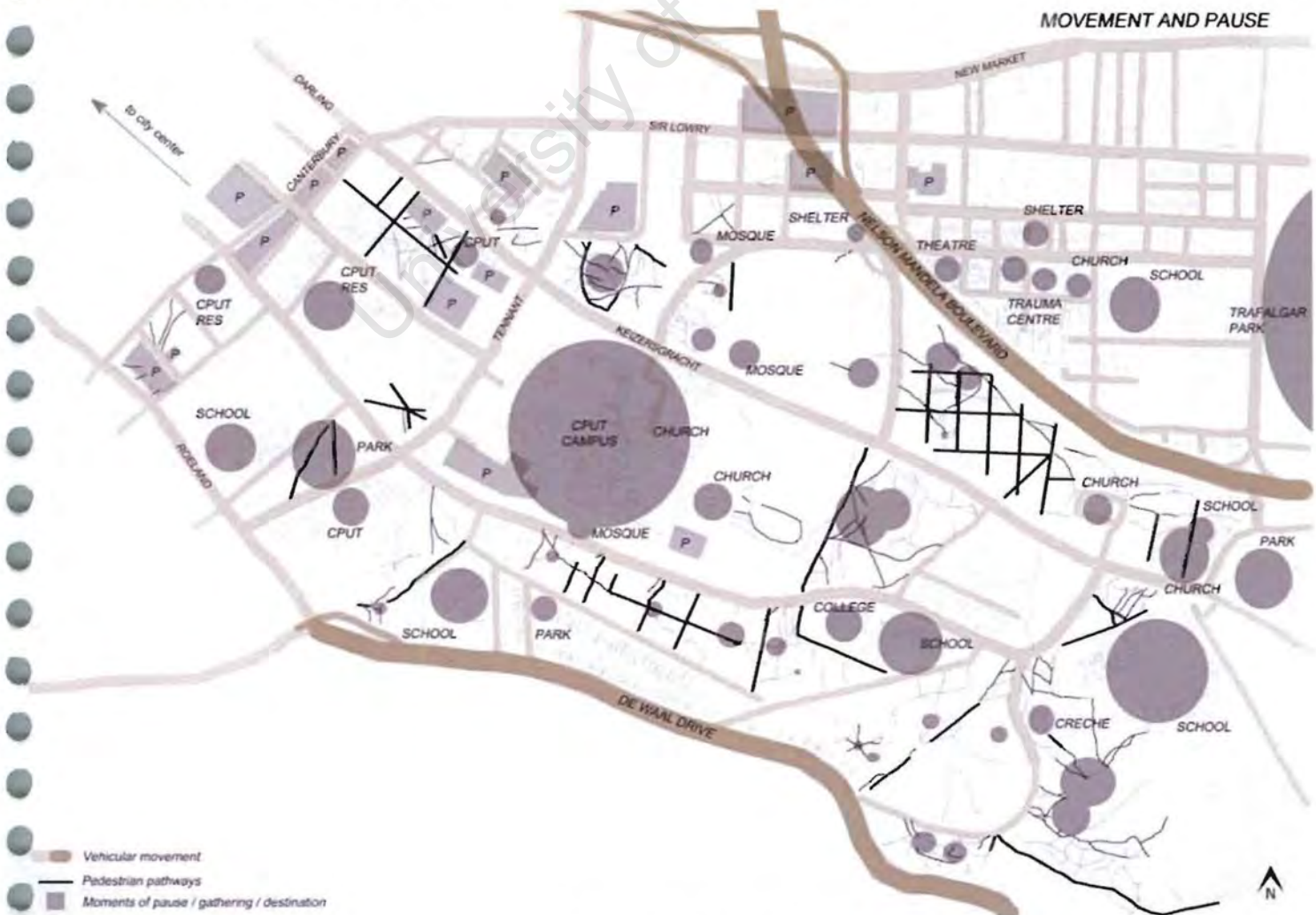


Figure 38 – Analysis of movement (route) and pause (destination/gathering) for District Six (Thalassinos, 2012)

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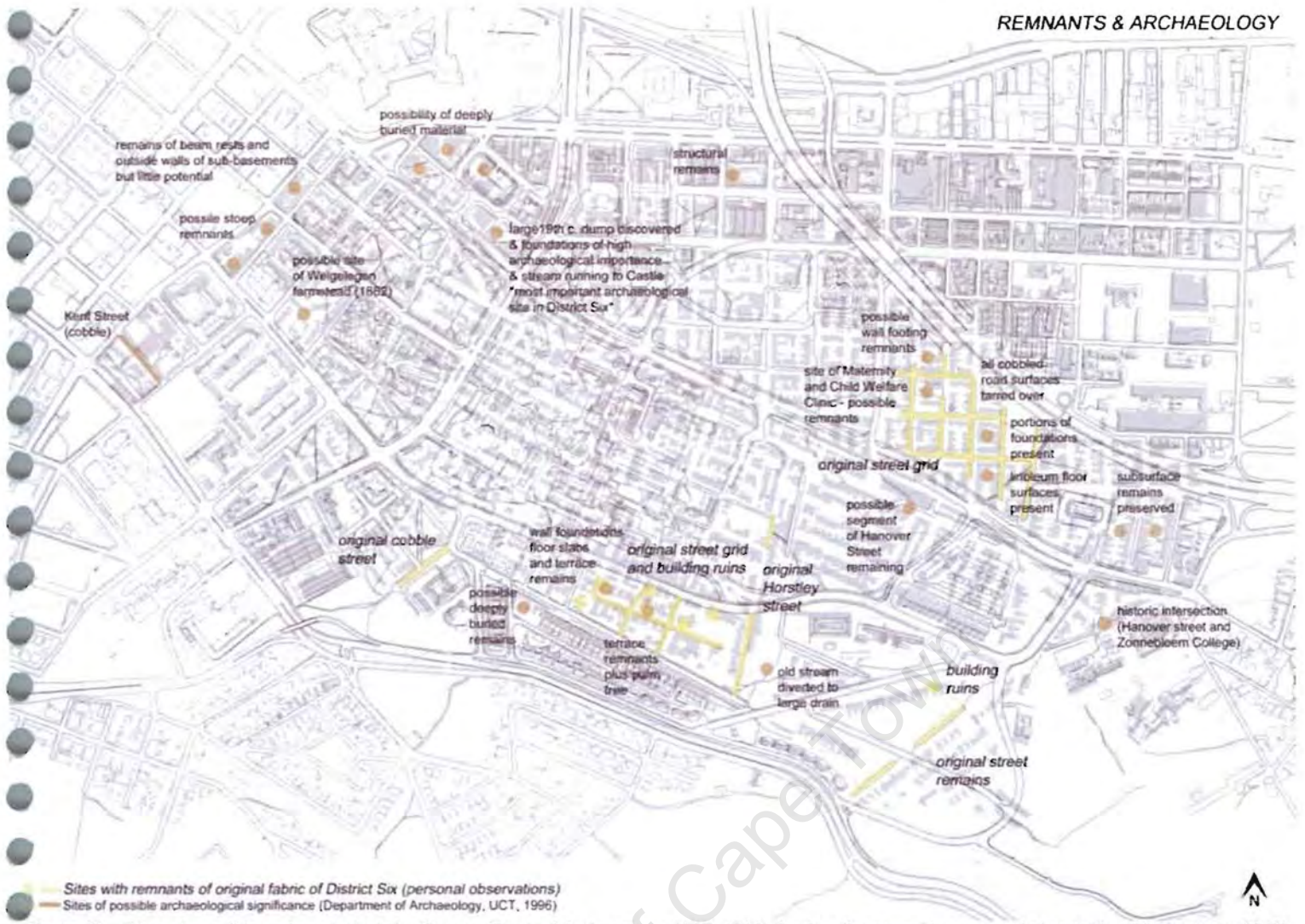


Figure 39 – Sites of possible archaeological significance (Dept. of Archaeology, UCT, 1996) & ruins discovered by personal observation (Thalassinos, 2012)

SACRED AND PROFANE BUILDINGS

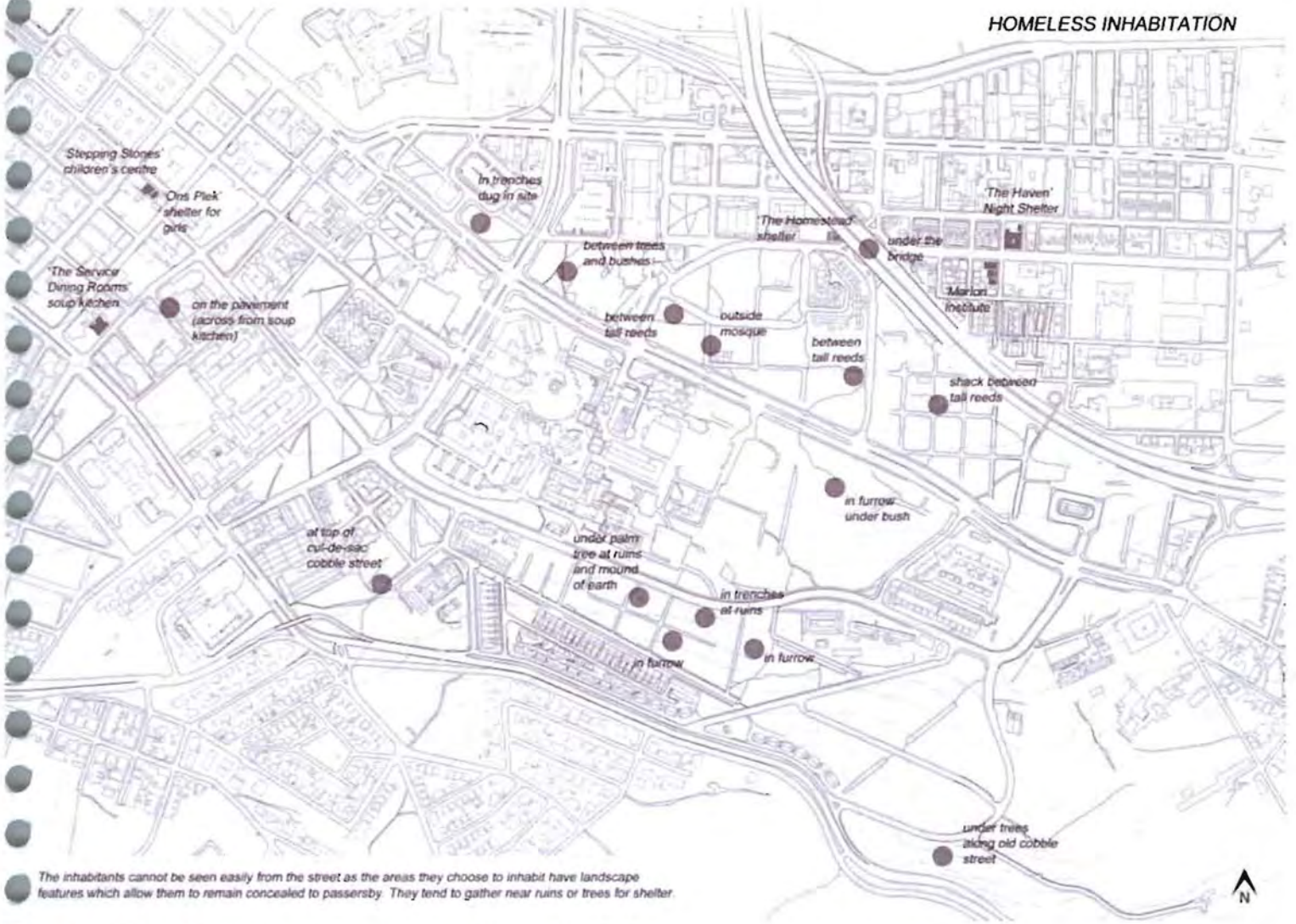


Figure 40 – Sacred buildings embedded in District Six (Thalassinos, 2012)

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HOMELESS INHABITATION



The inhabitants cannot be seen easily from the street as the areas they choose to inhabit have landscape features which allow them to remain concealed to passersby. They tend to gather near ruins or trees for shelter.

Figure 41 – Places of homeless habitation and gathering (Thalassinos, 2012)

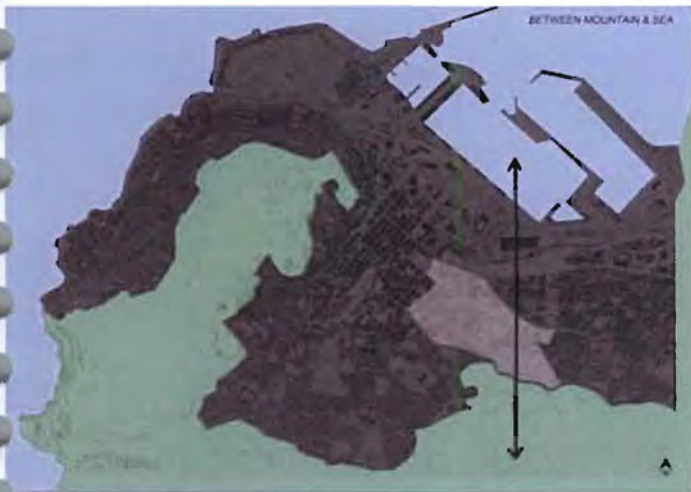


Figure 42 – District Six embedded between mountain and sea (Thalassinos, 2012)



Figure 43 – District Six as quiet in the chaos (Thalassinos, 2012)

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Uncovering Site

Local

I again returned to my earliest choice of site, the Tennant street site. This site is the one which has the most presence for me. It also provides a ground-sky link by way of vertical elements (existing columns) and is on the threshold between the city (profane) and District Six (sacred). It is situated on old Hanover street (the life vein of District Six) at the point where it breaks from overlapping with new Keizersgracht street, so allows the project to be situated at the place where new meets old. It also provides a panoramic view of the mountain and is overrun by nature.

Upon research into the archaeology of the site, ruins of buildings from different periods, an old cobble street, as well as the previous existence of a stream provided the layer of the past which I was looking for. The ruins and street are buried on site, but the stream no longer exists.

The main principles of use on site dealt with movement and pause (route, meander, gathering spaces); as well as trench and mound (cut and fill). The homeless currently inhabit the ruins and fragments on site.



Figure 44 a, b, c, & d – Tennant Street site with its trenches, mounds, columns and natural landscape (Thalassinos, 2012)

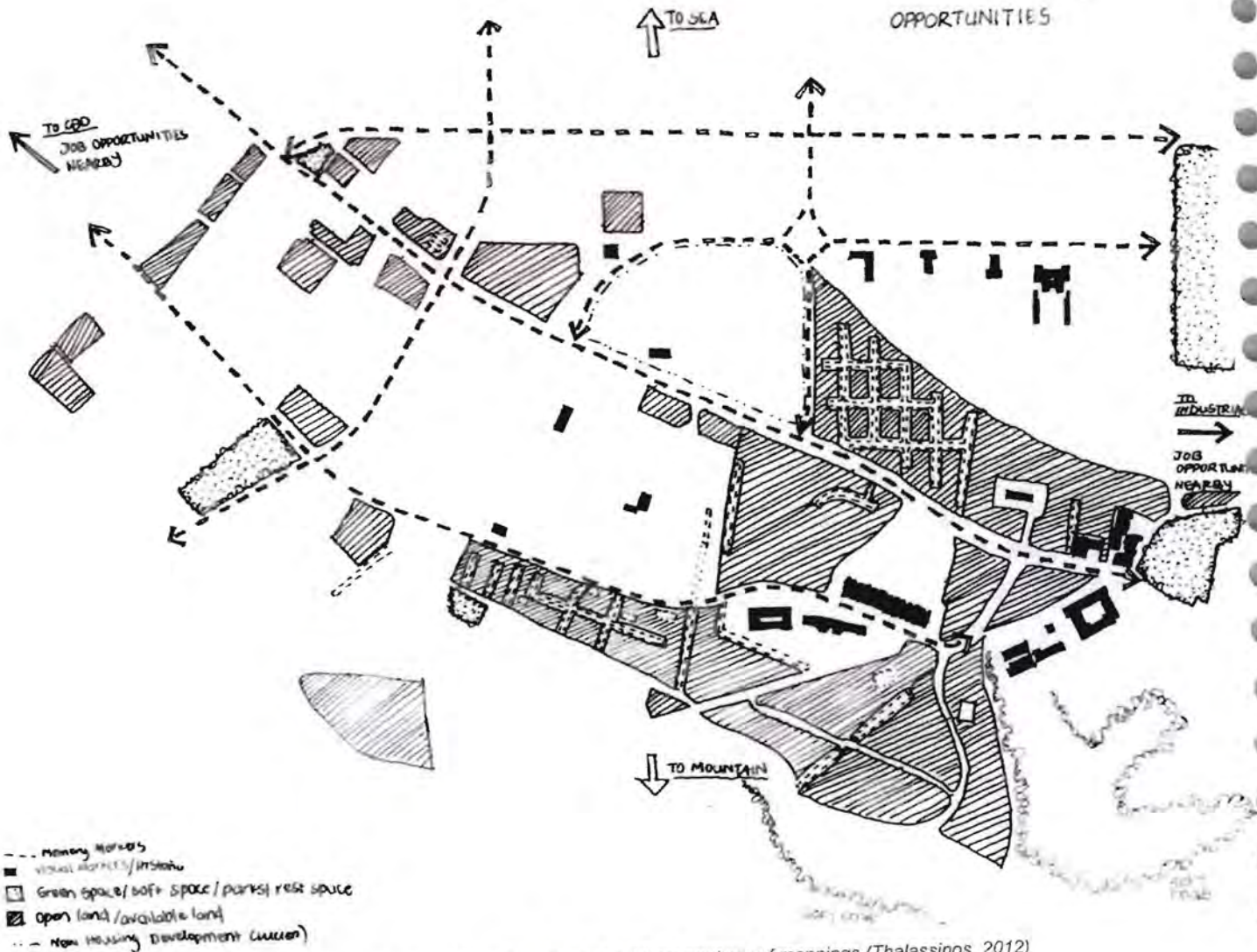


Figure 45a – Analysis of opportunities provided by overall District Six site, derived from analysis of mappings (Thalassinos, 2012)

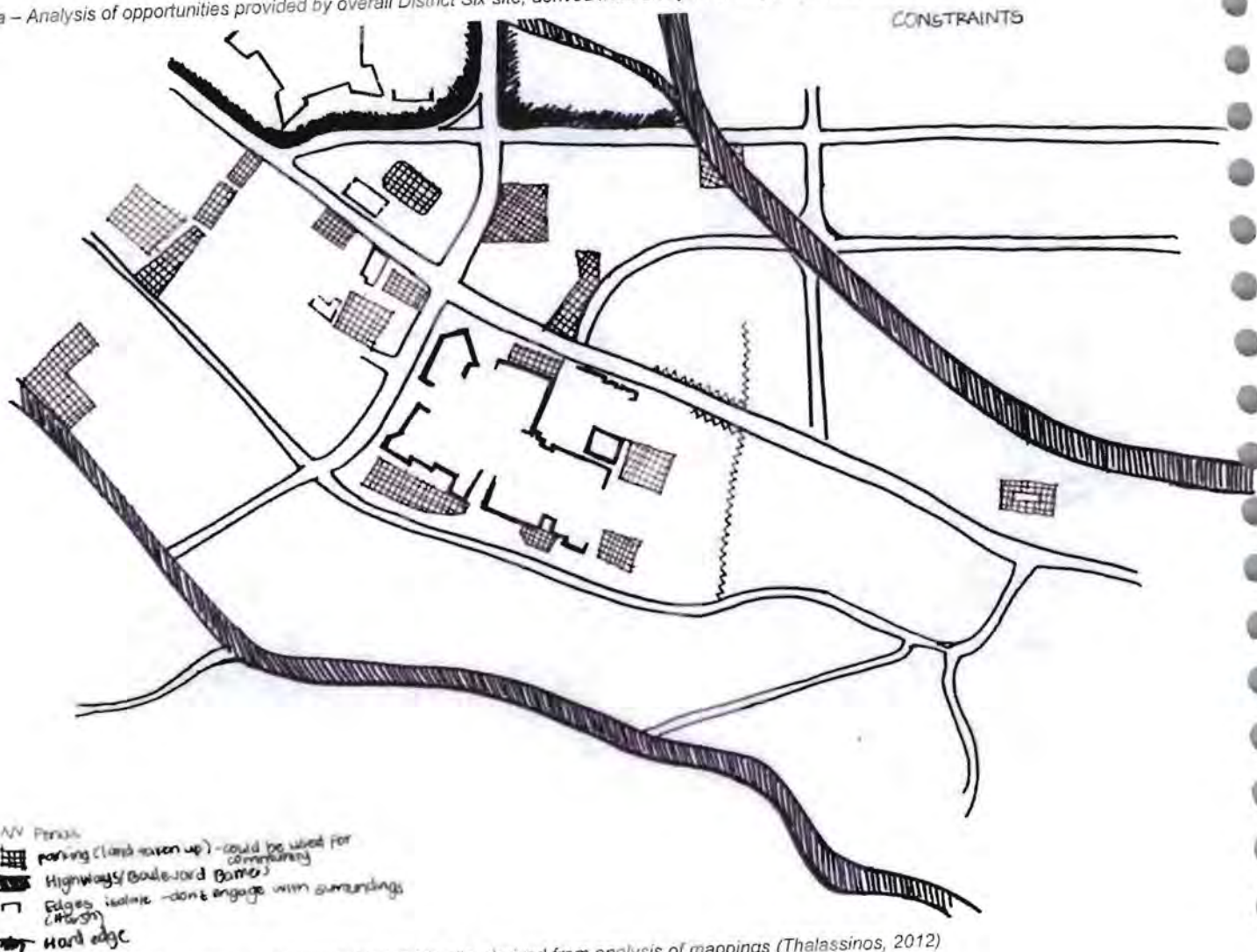


Figure 45b – Analysis of constraints of present District Six site, derived from analysis of mappings (Thalassinos, 2012)

Recovering Site

Urban

Once the urban mappings were complete I identified the opportunities and constraints of the District Six site as a whole and from that derived a basic urban strategy for redevelopment of the site. The strategy deals with maintaining existing visual markers in the landscape (historic buildings that were not demolished); introducing memory markers, which preserve the past in the form of ruins and provide public space; creating soft, green public spaces embedded in the fabric; and creating different density housing (lower rise around visual markers). Smaller grain fabric has been reintroduced, which is reminiscent of the old fabric of District Six.

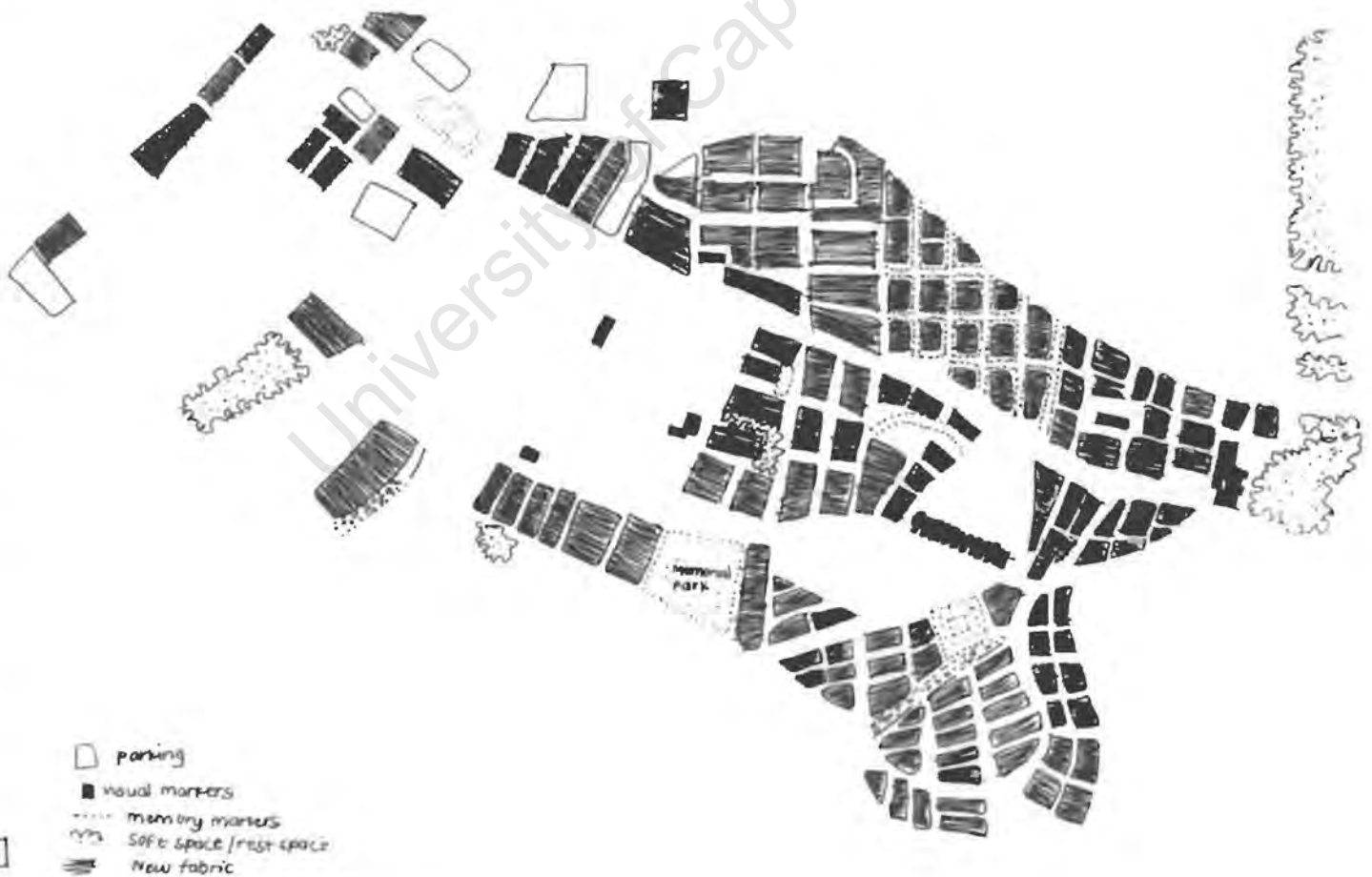


Figure 46a – Urban strategy proposal (Thalassinou, 2012)

HOUSING DENSITIES

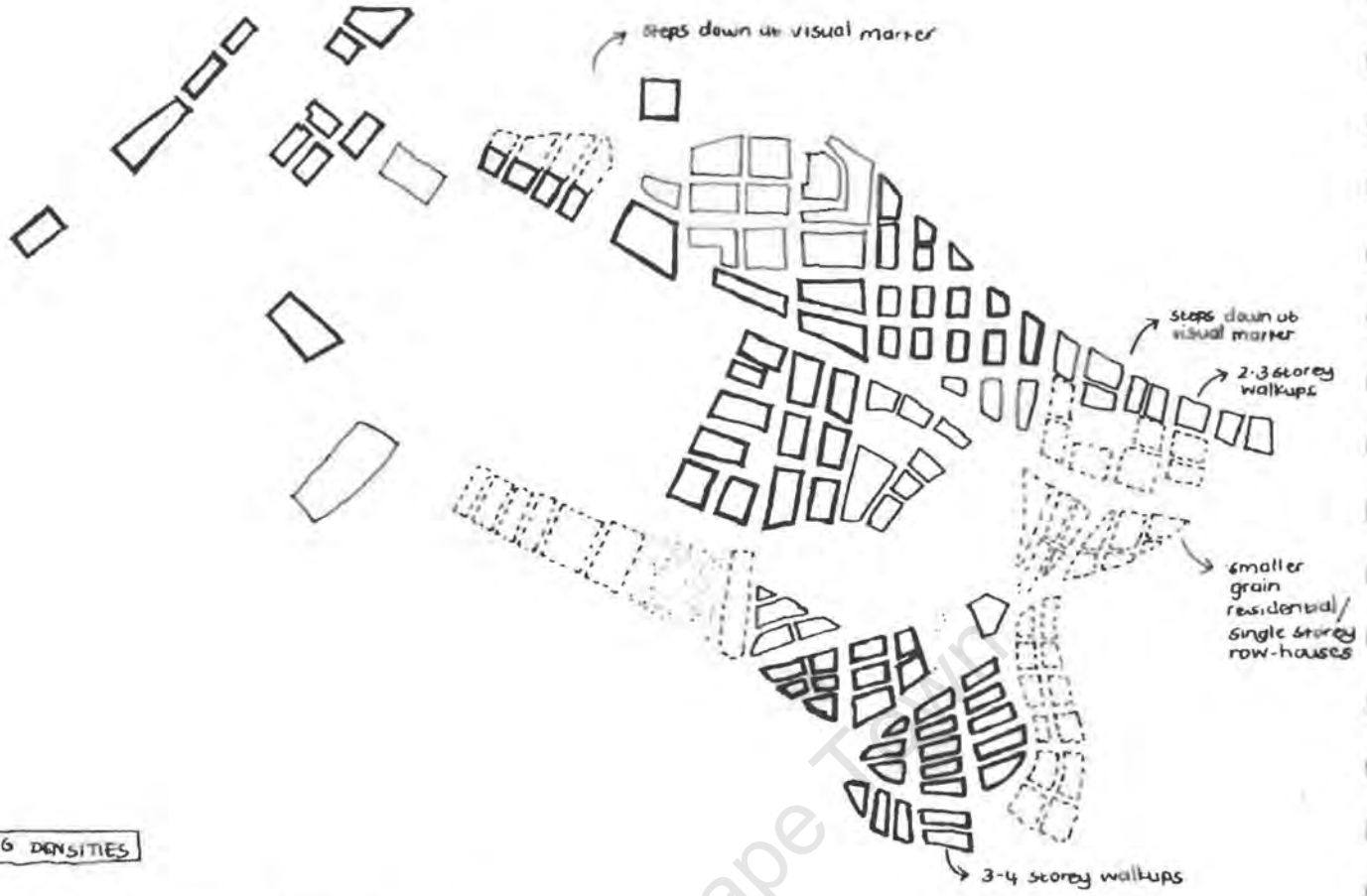


Figure 46b – Urban strategy proposal (Thalassinos, 2012)

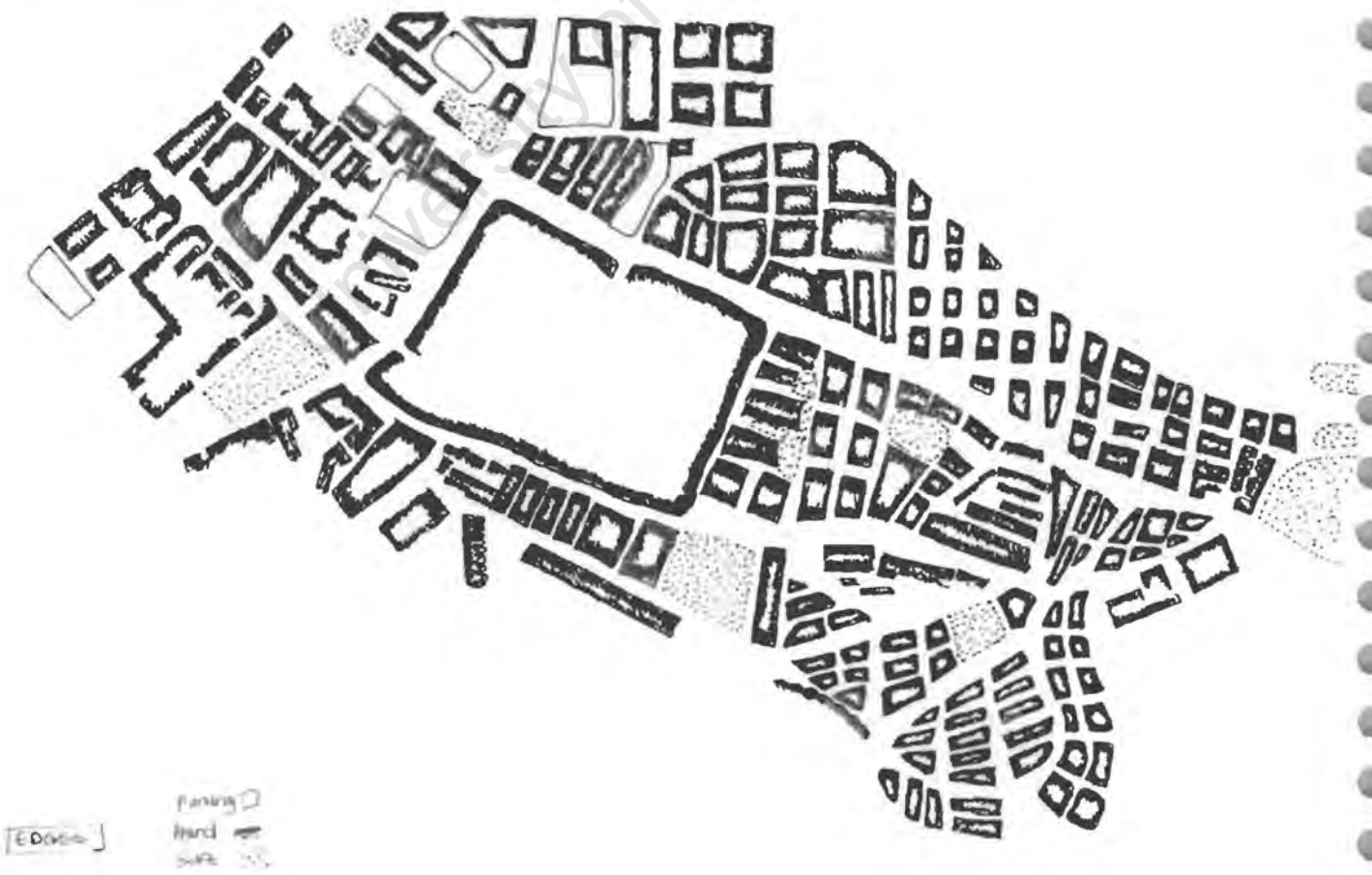


Figure 46c – Urban strategy proposal (Thalassinos, 2012)



Figure 47a – Past fabric (Thalassinos, 2012)

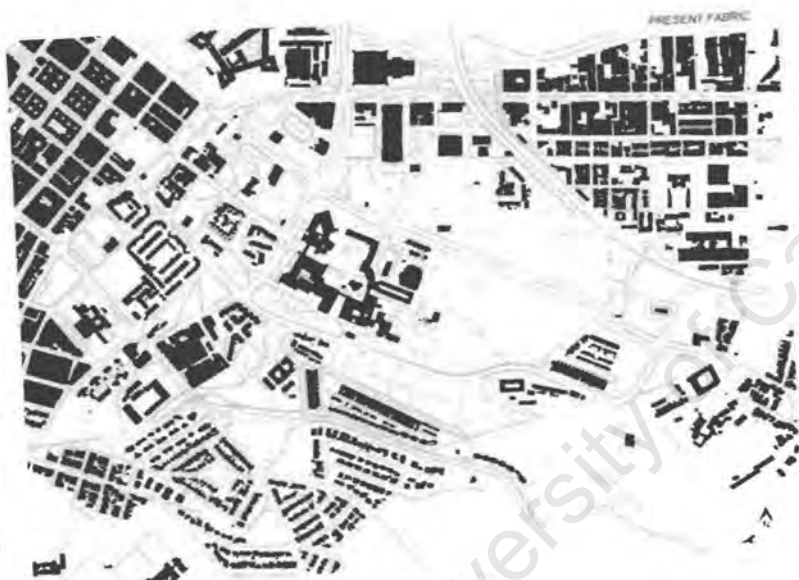


Figure 47b – Present fabric (Thalassinos, 2012)

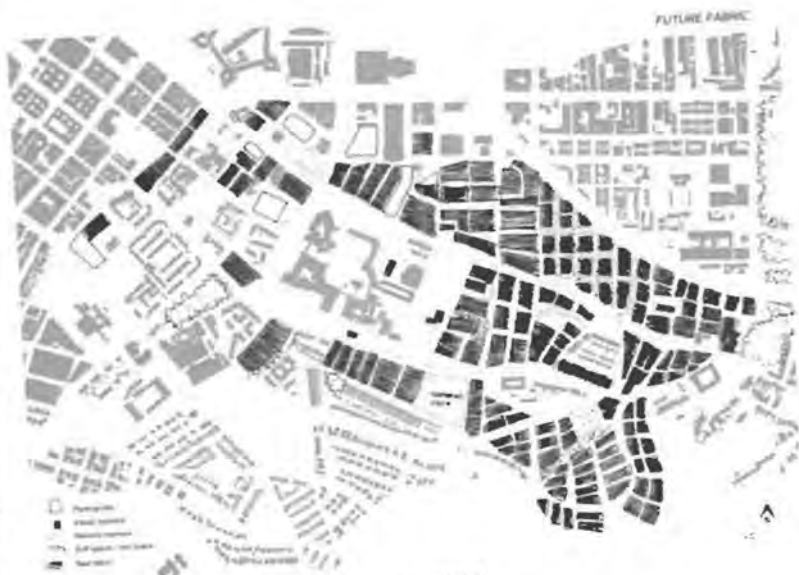


Figure 47c – Future fabric (Thalassinos, 2012)

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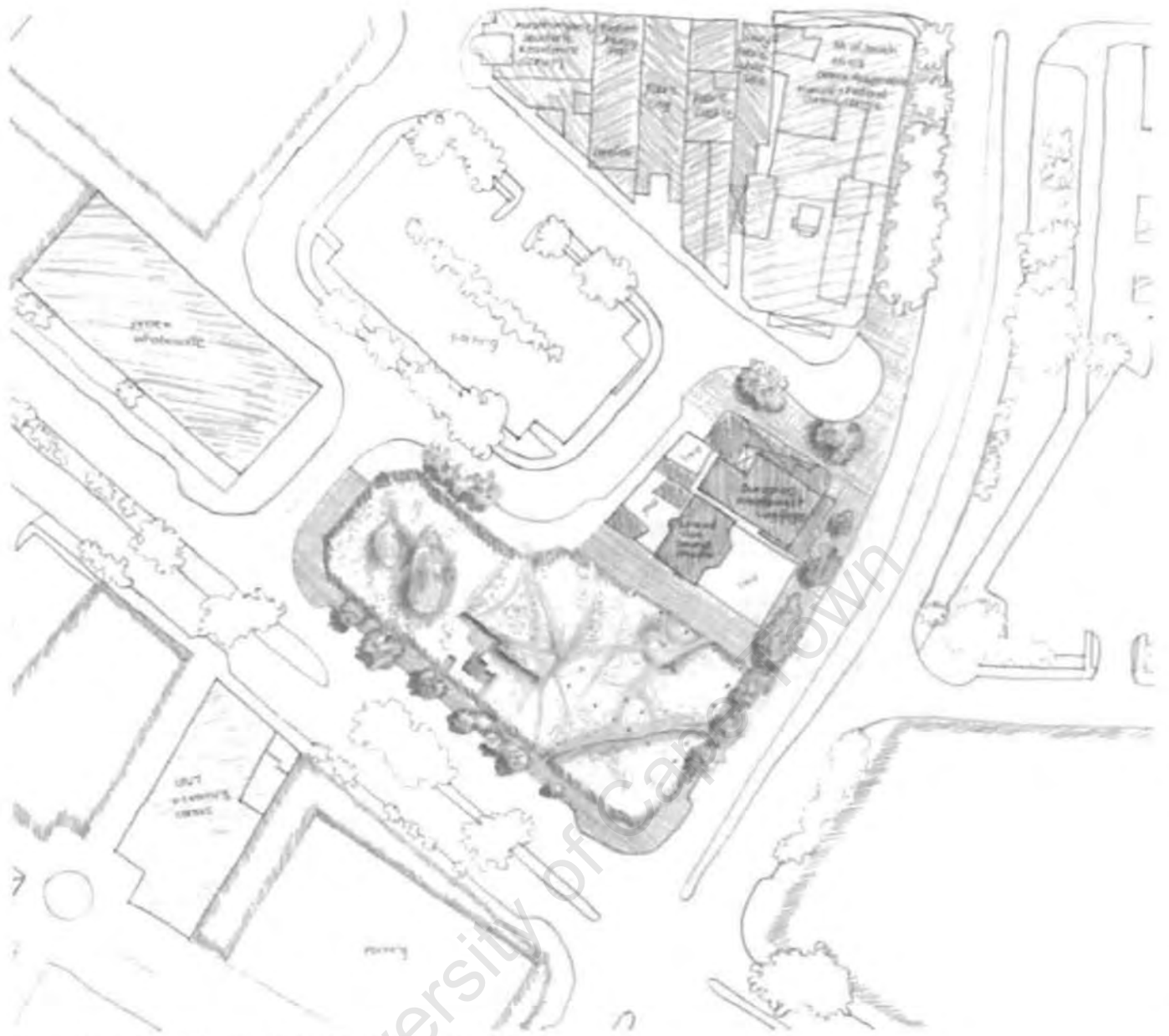


Figure 48 – Site plan of current state of site (Thalassinos, 2012)

University of Carleton

Recovering Site

Local

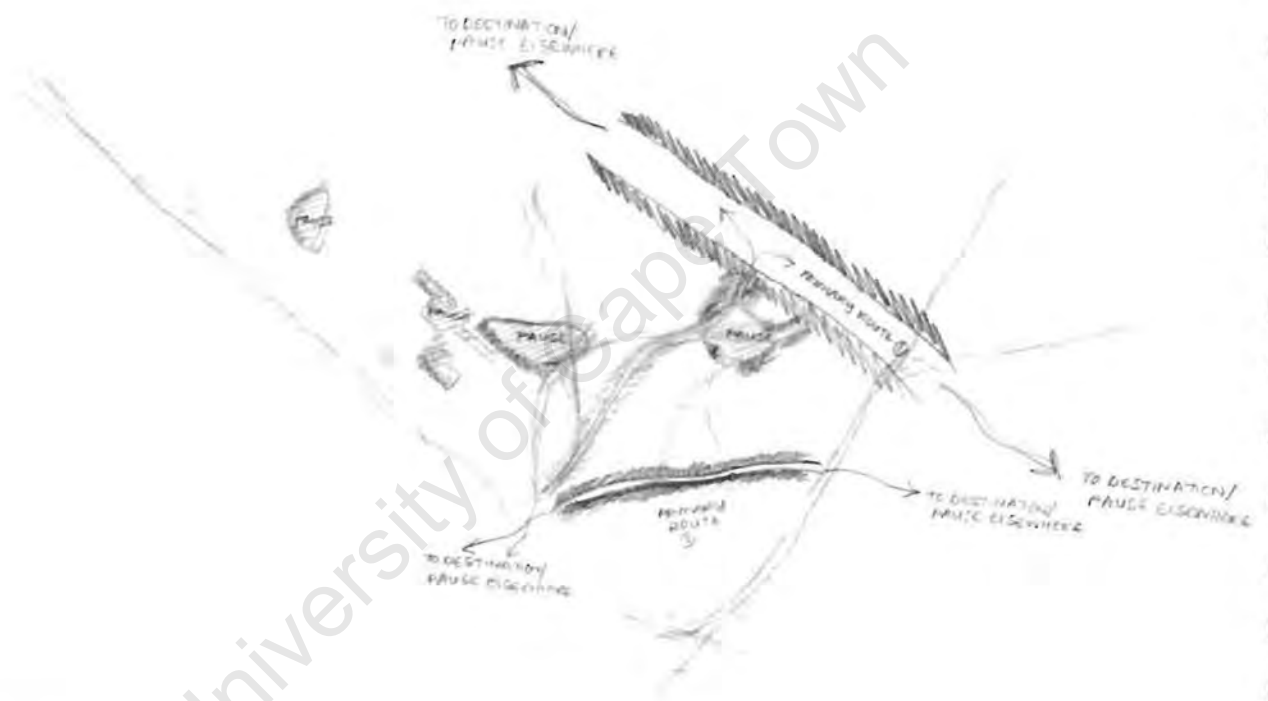
My site strategy for the Tennant Street site deals with layering of past, present and future and incorporates the spiritual principles mentioned earlier.

The key element which I knew had to be prominent on the site was an excavation of the ruins and a reintroduction of the old stream. The existing columns and the natural, green state of the site would need to be retained, as these are what drew me to the site and what defined it as spiritual. They speak of the present state of the site, where the ruins and stream speak of the past.

Whatever was going to be placed on this site also had to speak to its surroundings, therefore relate both to the hard built edge and busy nature of the street, as well as the green, empty expanses of soft natural space.

The idea of movement (route and meander) and pause (gathering) was retained as a design principle as this is what characterised the present use of the site. The idea of 'trench and mound' or rather cut and fill was also retained as a design principle for the same reason.

MOVEMENT + PAUSE



- PRIMARY MOVEMENT ROUTES (the most frequented ones) are used as through routes to get to somewhere else
- SECONDARY MOVEMENT ROUTES (less frequented) are used to get to destinations on the site itself, so are mostly used by the site inhabitants

Figure 49 – Analysis of movement and pause on site (Thalassinos, 2012)

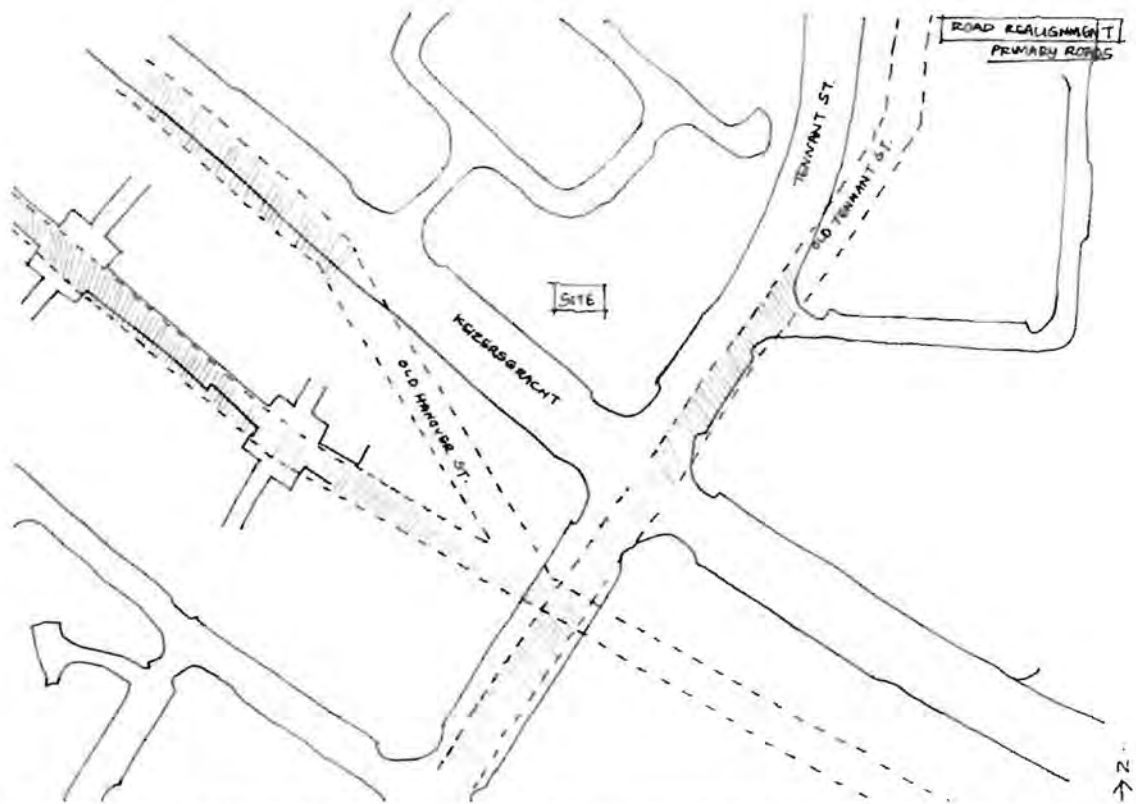


Figure 50a – Road realignment of primary roads. Hatch shows overlap of old and new (Thalassinos, 2012)

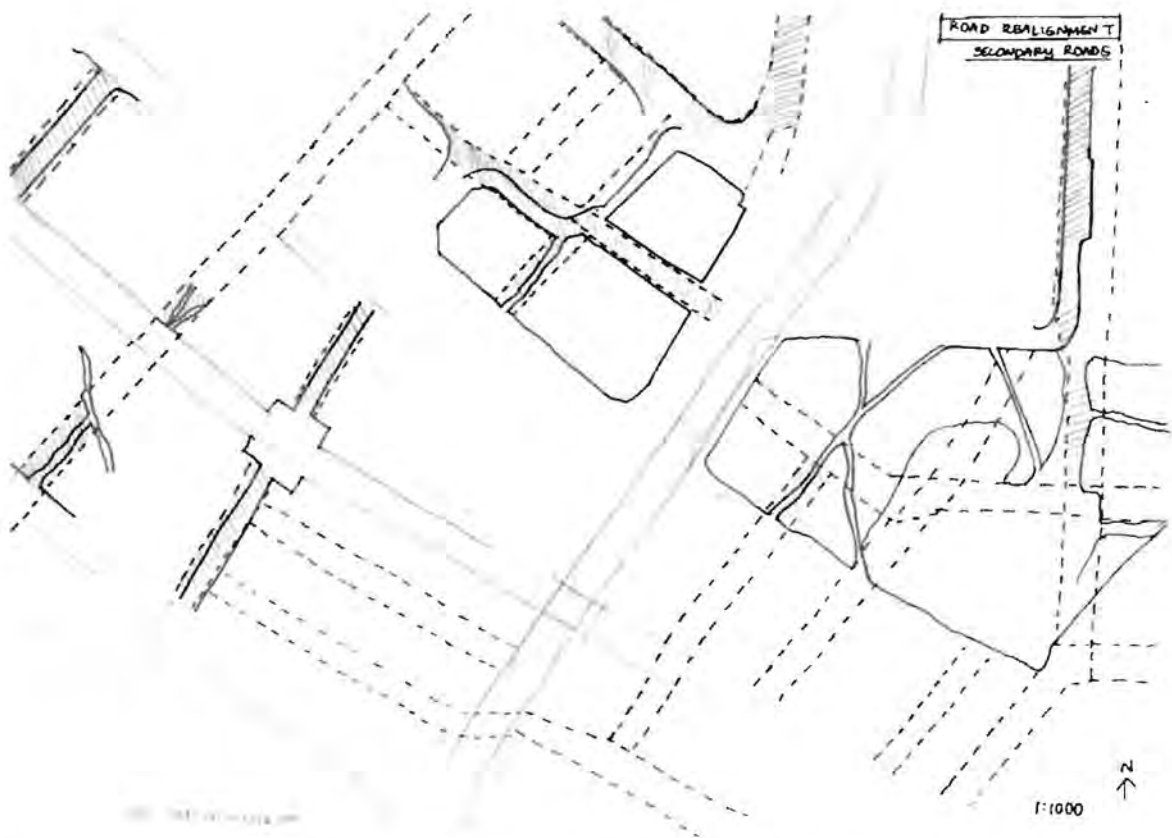


Figure 50b- Road realignment of secondary roads. Hatch shows overlap of old and new (Thalassinos, 2012)



Figure 51a – Built fabric 1862 – Snow Survey (Thalassinos, 2012)



Figure 51b – Built fabric 1888 – Thom Survey (Thalassinos, 2012)

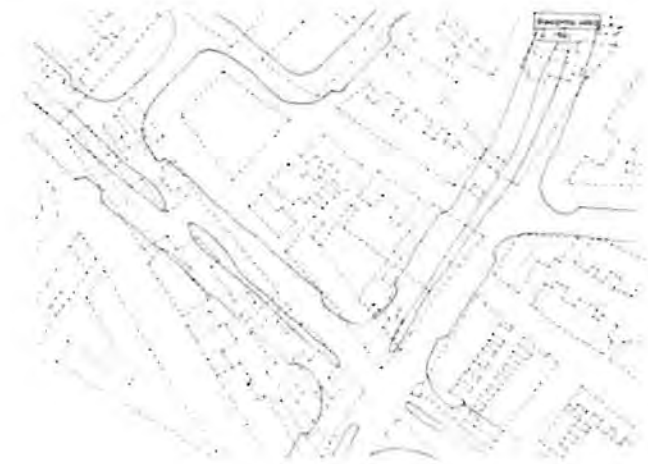


Figure 51c – Built fabric 1941 (Thalassinos, 2012)

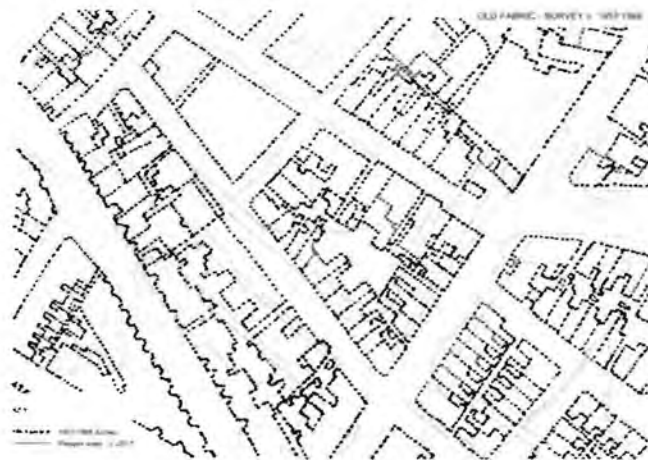


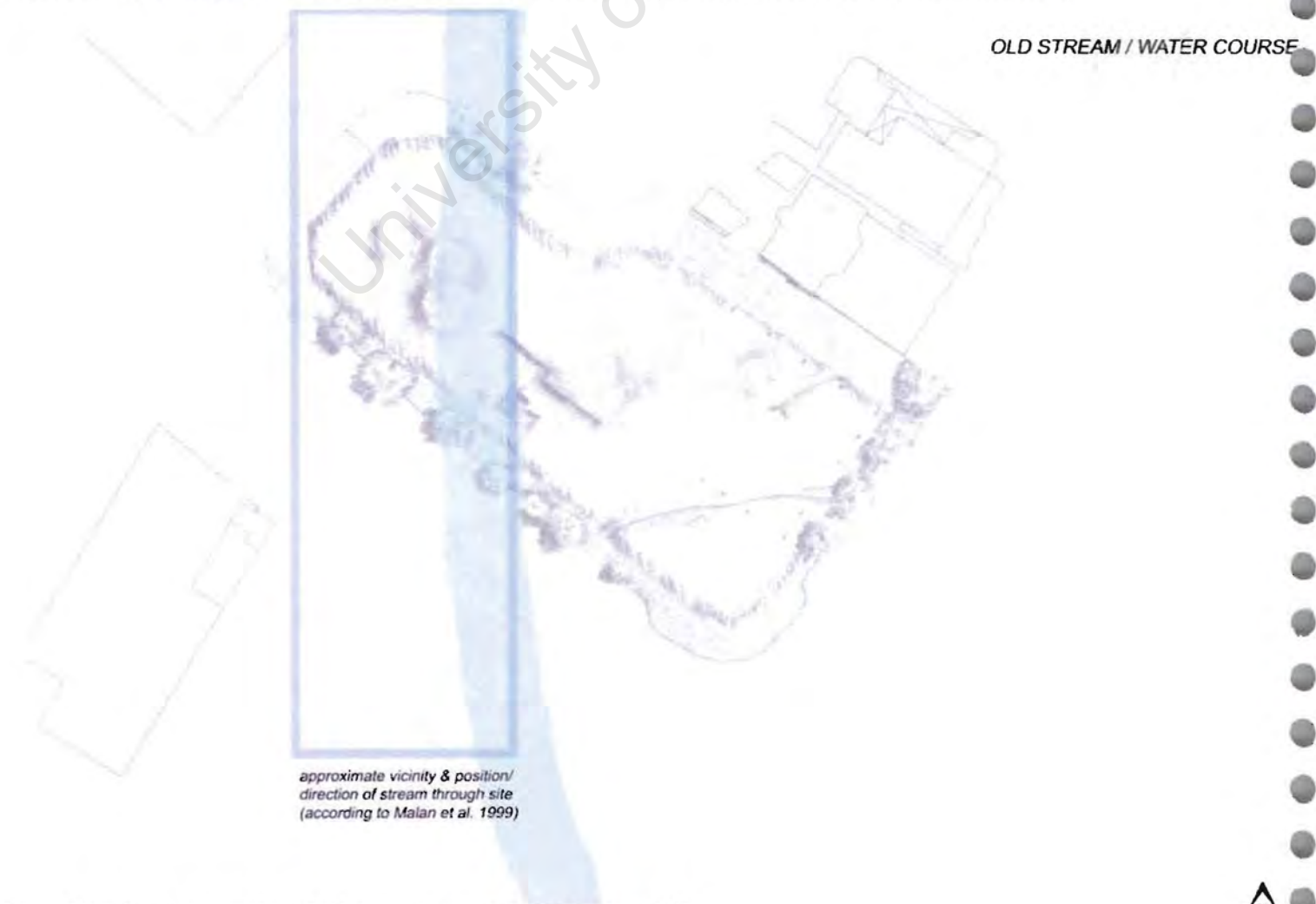
Figure 51d – Built fabric 1957/1968 Survey (Thalassinos, 2012)



Figure 52 – Layers of past built fabric overlaid – built fabric development. Orange shows ruins on site, blue shows position of old stream (Thalassinos, 2012)



Figure 53a - First erf diagram of Tennant Street site overlaid with present site, showing how block has shifted (Thalassinos, 2012)



approximate vicinity & position/
direction of stream through site
(according to Malan et al. 1999)

Figure 53b - Approximate position of old stream on current site (Thalassinos, 2012)





Figure 54a – Non-negotiables (important features to be retained / incorporated) on site (Thalassinos, 2012)

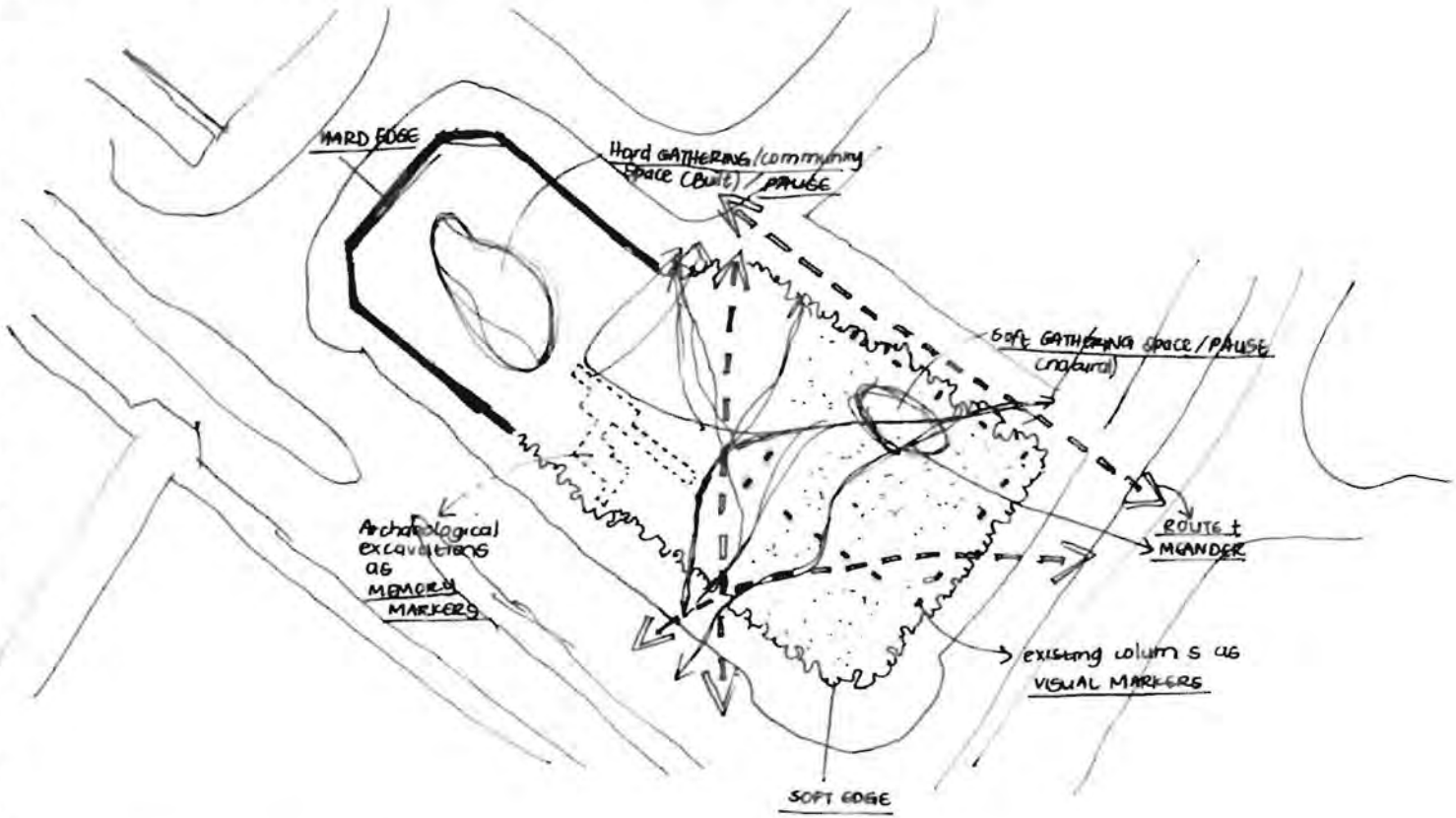


Figure 54b – Site strategy (Thalassinos, 2012)

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District Six is most commonly remembered as a place of trauma. Although this is an important part of the history of District Six, it should not be the only memory to define it. I believe the everyday life of District Six should be remembered and celebrated. The most appropriate way of achieving this is by triggering memories of places and activities through the senses. Our bodies remember through doing/action, which is termed 'muscle memory'. Our minds remember through our bodies. Memories are associated with the senses – this is why a certain aroma or song can pull you back to a specific moment in your life.

I propose creating places where memories of District Six can be evoked through the stimulation of certain senses and through physical action related to those senses. If memories do not exist, new ones will be created in visitors who are not from the community. I would like to create places that **remind** visitors of the past, allow them to **reflect** on what they remember and then to **respond** to these memories and emotions. A place of reflection, interaction and catharsis.

Therefore the programme of my building is a Sensory Memory Centre consisting of four workshop spaces, each dealing with different senses. These workshops will prompt instinctual responses and will relate to memory triggers specific to each sense. The workshops are: 'Cloth & Memory' (dealing with touch); 'Sound & Memory'; 'Eyes & Memory' (dealing with sight) and 'Food & Memory' (dealing with taste and smell). These workshops will accommodate small groups of up to ten people.

A movement spine, containing a small coffee shop, reception area, admin office and bathrooms, is positioned over the old road which is buried on site. It provides a thoroughfare route to passersby. This spine is the threshold between the inside world and outside world and contains the access point to the workshop wing, as well as creates a connection to the Memoryscape garden. The spine deals with issues of movement and pause introduced by the ramp and platforms. It creates a route, whereas the workshop wing and Memoryscape deal with meandering movement.

Class	Population
A1 – public assembly (gathering / recreation)	1 person / m ²
C1 – exhibition hall	1 person / 10m ²
C2 - museum	1 person / 20m ²
F2 – small shop	1 person / 10m ²

Sourced from SANS 10400, Part A

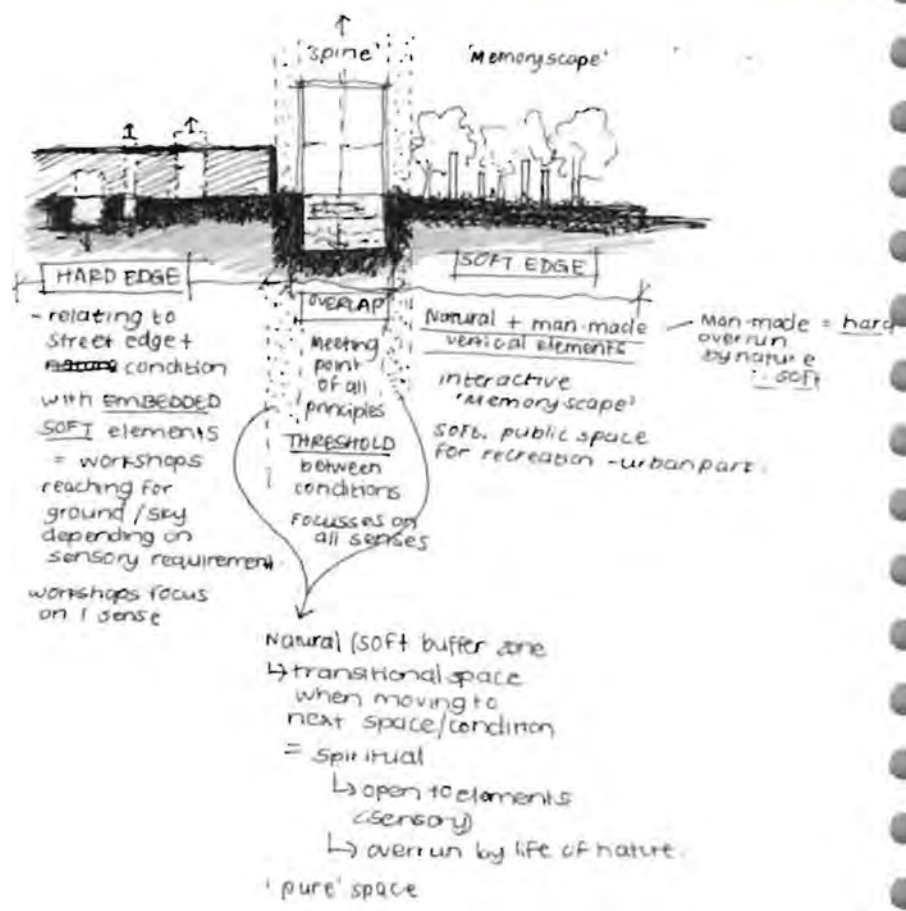
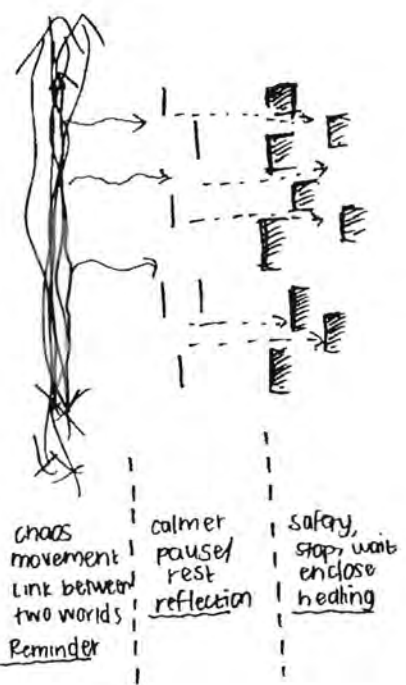
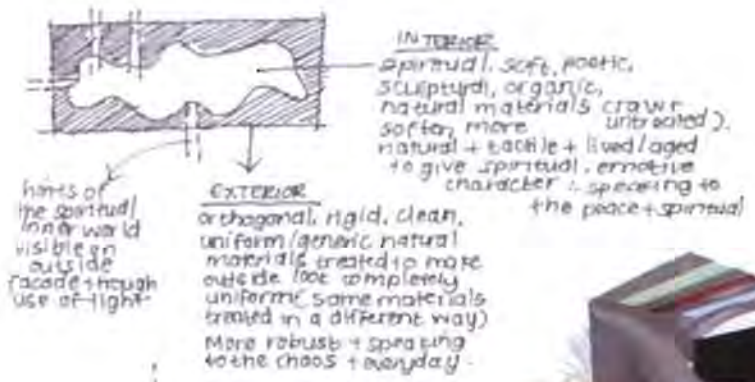
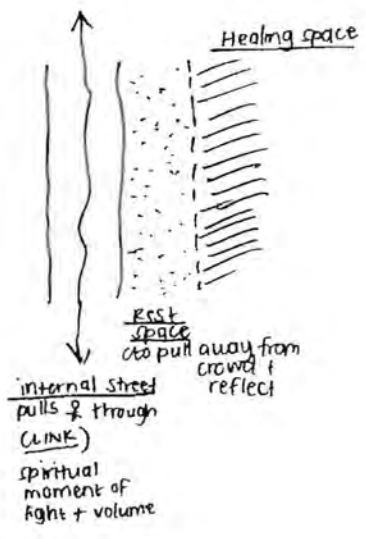
Staff (in-house)	Staff (outsourced from District Six Museum)
1 x reception staff	4 x workshop co-ordinators
2 x admin office staff	3 x cleaning / maintenance staff
2 x coffee shop staff	

Use	Number of Staff / Visitors	Area (interior floor area)
Reception	1 x Staff 8 x visitors at a time	13.6 m ²
Admin Office	2 x Staff	13.7 m ²
Coffee Shop	2 x Staff Roof seating area for 12 x visitors Unlimited seating in Memoryscape Passing trade (unlimited) but space for 12 x customers to stand (2 x inside shop & 10 x on platform at ordering window)	20.5 m ² (coffee shop interior) 20.5 m ² (roof space for seating) 11.3 m ² (platform - ordering / take away window) = 52.3 m ² total
Female Bathrooms	5 x toilet cubicles* 3 x basins*	18.3 m ²
Male Bathrooms	2 x toilet cubicles* 3 x urinals* 2 x basins*	13.7 m ²
Bathroom for the Disabled	1 x toilet pan 1 x basin	1.8m x 1.8m (SANS, part S) = 3.24 m ²
Spine (ramp & platforms)	Up to 225 x visitors at a time at 1 m ² / person	225.25 m ²
'Eyes & Memory' Workshop	1 x staff 10 x visitors	90 m ²
'Sound & Memory' Workshop	1 x staff 10 x visitors	100 m ²
'Food & Memory' Workshop	1 x staff 10 x visitors	100 m ²
'Cloth & Memory' Workshop	1 x staff 10 x visitors	110 m ² ground floor 50 m ² suspended platforms = 160 m ² total
Memoryscape	Max. 1600 x visitors at 1 m ² / person	1612 m ²
Circulation & gathering space in workshop realm	Approx. 40 x visitors	445 m ²

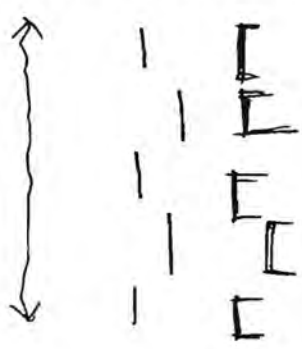
*Toilet requirements based on population of over 250 (SANS 10400) to include use by passersby from spine and Memoryscape.

Areas determined according to SANS 10400, Part A (Population), Neufert's Architects Data, and by rational design.

Conceptualising



Layers of enclosure + privacy. Degrees of inside + outside



LIGHT < - - - - > SHADOW
 PUBLIC < - - - - > PRIVATE
 MOVEMENT < - - - - > PAUSE
 GROUP < - - - - > INDIVIDUAL

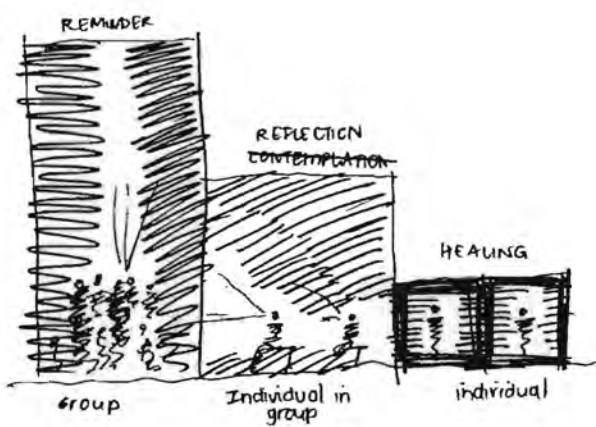


Figure 55 a-g - Early concept sketches (Thalassinos, 2012)

Intended Experience

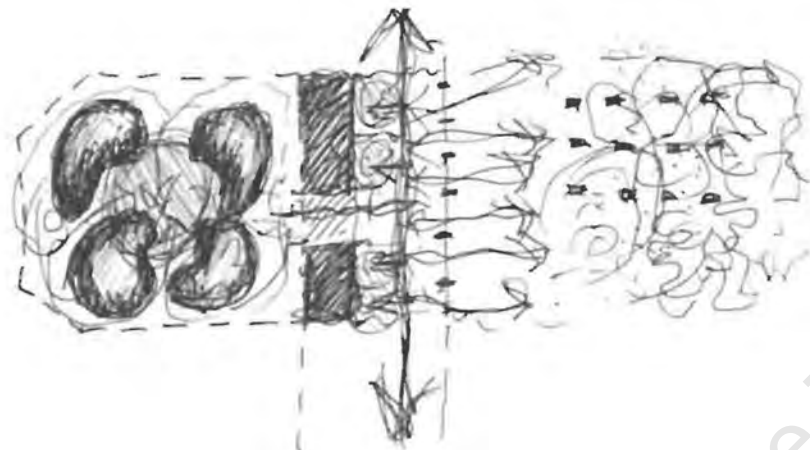
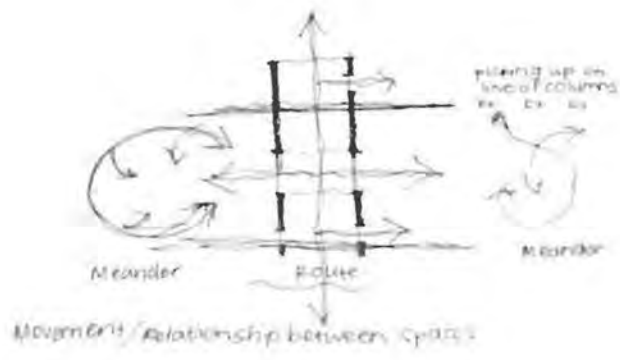
One of my earliest responses was the creation of two different worlds – the hard (exterior) and the soft (interior). The hard public outer edge responding to its presence on the street; and the soft, undulating world of the interior. The outside would allow for glimpses into this sacred realm. Soft interior vertical elements would be embedded into the hard – this was later translated into the vertical, organic workshop spaces embedded in the glass box. An extension of this idea of two worlds stemmed from theoretical readings speaking of the world of the ground and the sky – relating to the principle of verticality, which became an important principle.

My intention was to create a layering of spaces which allowed for a progression between these different worlds. This is where the idea of threshold originated.

A soft element of the natural (in contrast to the hard/built) was implied, especially as nature is linked to spirituality or a sense of the other-worldly because it is alive (grows and moves). It brings a sense of life/presence to the ruins it overruns. The heavy, natural material of stone forms the threshold between the movement spine and the entrance to the workshop realm

From the beginning there was also the intended experience of movement (route and meander, chaos) and pause (gathering, reflection, calm). This was supported by the existence of this relationship on site.

I envisioned a highly-sensory place that would be experienced by the body and in this way would trigger memories and emotions. Early ideas on materiality were related to sensory experience as well as differentiation between layers on site (past, present and future).



Meander
 pause/gathering
 verticality
 Hard/soft
 embedded
 Dark/light

Route
 Movement
 Threshold
 Layering
 pause

Meander
 pause/gathering
 verticality
 soft/natural

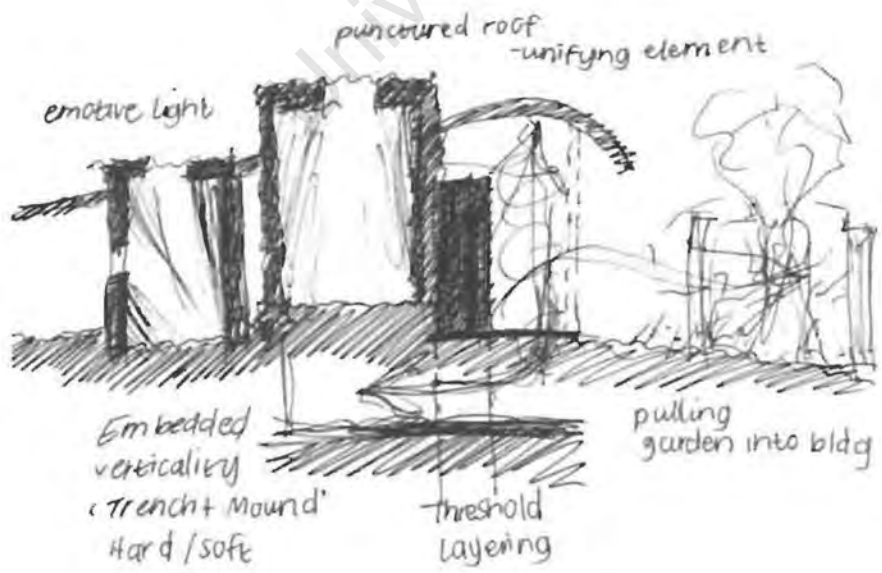


Figure 56a, b & c – Building strategy (Thalassinos, 2012)

Design Principles

The design principles employed are based on four sets of principles defined throughout the project, from theoretical inquiry onwards:

Theoretical Principles of 'Spirituality' (four concepts)

- **Threshold** (space between two conditions, 'opening')
- **Verticality** (ground-sky link)
- **Link to nature** (essence of other, alive)
- **Natural light** ('other-worldly', mystery)

Urban Principles (from urban strategy)

- **Visual markers** (existing fabric = vertical elements – present District Six)
- **Memory markers** (old fabric, ruins, fragments)
- **Soft space** (rest space, natural, public parks, gathering)
- **Hard edge** (new fabric)

Principles for 'Spiritual' Site Choice (from site identification)

- **Vertical elements**
- **Link between nature and manmade**
- **Layering** (materials and spaces)
- **Weathering of materials** (time)
- **Fragment/ruin** (incompletion)
- **Route and meander**
- **Play of shadows**
- **Quiet in chaos**
- **Mountain-sea link**
- **Homeless inhabitation**

Site Principles

- **Trench and mound** (cut and fill)
- **Route and meander**
- **Vertical elements**
- **Link between manmade and natural**

These principles allowed for a basic building design strategy.

Designing



Figure 57a – Conceptual perspective of 'Eyes & Memory' workshop (Thalassinos, 2012)



Figure 57b – Conceptual perspective of 'Sound & Memory' workshop (Thalassinos, 2012)



Figure 57c – Conceptual perspective of 'Food & Memory' workshop (Thalassinos, 2012)



Figure 57d – Conceptual perspective of 'Cloth & Memory' workshop (Thalassinos, 2012)

Inner Realm

CURRENT STAGE

Movement through the inner realm is based on meander. Visitors enter by dropping into the earth. A very obvious descent is made via a spiral staircase so that one is aware they are in the earth. Then ramps create a slow and subtle ascent upwards until one pops out at an upper level with a powerful view over the Memoryscape and mountain. The workshops are experienced while on this journey but each visit is different as options of entrance and circulation are provided within this space. The shape and position of the workshops create circulation which pinches and expands, creating exciting sensory moments.

The workshops are embedded vertical elements speaking to the ground and the sky. In each workshop, spaces for the individual and the group are provided. Spaces of reminder (triggered by senses), reflection and response are incorporated in each. Each workshop has the same basic construction – curved concrete walls with punctured openings to invite in light and release sensory hints from within. Interior finishes differ according to the specific sensory requirements.

See

The 'Eyes and Memory' workshop provides a space for experiencing the past through images – photographs and documentaries, as well as responsive installations. This space is very dark and rather monochromatic. Surfaces will be simple and unfinished to provide for screenings as well as people responding artistically on them, so will be either unfinished or painted concrete.

Hear

The 'Sound and Memory' workshop provides a space for the experience and creation of oral histories and traditional music. Surfaces are moulded for absorption and reflection of sound. These surfaces will be built from timber, which has good acoustic properties but also creates a warm and inviting space. This workshop also relates to the present context of a recording studio alongside the site.

Taste & Smell

The 'Food and Memory' workshop provides a space for experiencing the sensations of smell and taste. It provides facilities for passing on the tradition of food making which was an integral part of everyday life in District Six.

This will be a rather colourful space. Finishes will be more practical and domestic, such as painted and tiled walls and floors. A dropped

ceiling will provide space for the mechanical system of extracting aromas and distributing them.

Touch

The 'Cloth and Memory' workshop is the last one on the journey and allows visitors to spiral upwards within it while experiencing the sensation of touch. Platforms for response through making (with cloth) are suspended throughout the volume. The choice of cloth as the stimulator of touch was based on the tradition of tailors in District Six but also relates to the present context of fabric wholesalers around the site.

Interior finishes will be fabric formwork concrete (for appearance of soft, undulating fabric) as well as actual fabric suspended throughout. The interior will be quite colourful as a result of the fabric and is reflective of the traditional fabrics used for cultural purposes in District Six.

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Threshold

CURRENT STAGE

The roof is the element which ties the inner and outer realms together. It is a curving concrete surface which almost emulates the ground plane within the inner realm, dropping down at the lowest point and rising at the highest, yet it also opens up to the Memoryscape and invites people, the mountain and the garden in through its supporting colonnade.

The roof slab is supported on tapering concrete beams which are supported by the concrete workshops. This allows the roof to be cantilevered in effect, floating above the outer glass walls. These walls are constructed of channel glass, which allow them to support themselves without intermittent support structures. This adds to the power of the image of a completely floating roof - an undulating concrete roof floating gently over a glass box. In the day the opaque glass walls hint at activities on the interior without giving too much away. At night the glass walls are illuminated, creating a beacon of light in the landscape. The workshops puncture this roof which emphasises the idea of them being embedded elements.

A crucial element in the design was the excavation of the ruins on site and the reintroduction of the element of water as means of reintroducing the old stream. The positioning of this excavation was based on research into archaeological studies done on site. The excavation is also indicative of the present state of the site, which consists of a series of trenches and mounds.

The excavation is both inside and outside. It therefore provides a link between the two and further pulls the Memoryscape garden into the building. It also creates a moment of pause, drawing people off the route and into the garden. The excavation allows for the uncovering of layers of history, making people aware of the presence of the past on site. It is simultaneously of the past, yet part of the present (Memoryscape) and future (new building).

The main threshold between inside and outside is the movement spine which runs over the old road, part of which still exists on site. This spine allows for movement across the site but also allows for people to be pulled off into the Memoryscape, coffee shop or workshop realm. It is the forecourt to the workshop spaces, being the point of access into these spaces. This spine contains a service core housing a coffee shop, admin office, reception area and bathrooms. This service core reads as a thick stone wall and is another threshold layer visitors pass through (or rather under) to enter the workshop realm. A glazed portion of floor allows for part of the excavations to be visible when inside the spine. The rest of the spine is constructed of simple off-shutter concrete which does not detract from the garden or the ruins and is hard-wearing enough for a public route

Outer Realm

CURRENT STAGE

The outer realm is that of the Memoryscape garden, retaining its natural state. This will be a place of pause, relaxation, reflection and interaction. It speaks to the present state of the site, but will also incorporate the past and future.

The excavations provide an embedded element of the past within the place of the present. The Memoryscape encourages meander as opposed to linear route. Glass pivot doors etched with words and images will open into the landscape and will provide a place of interaction

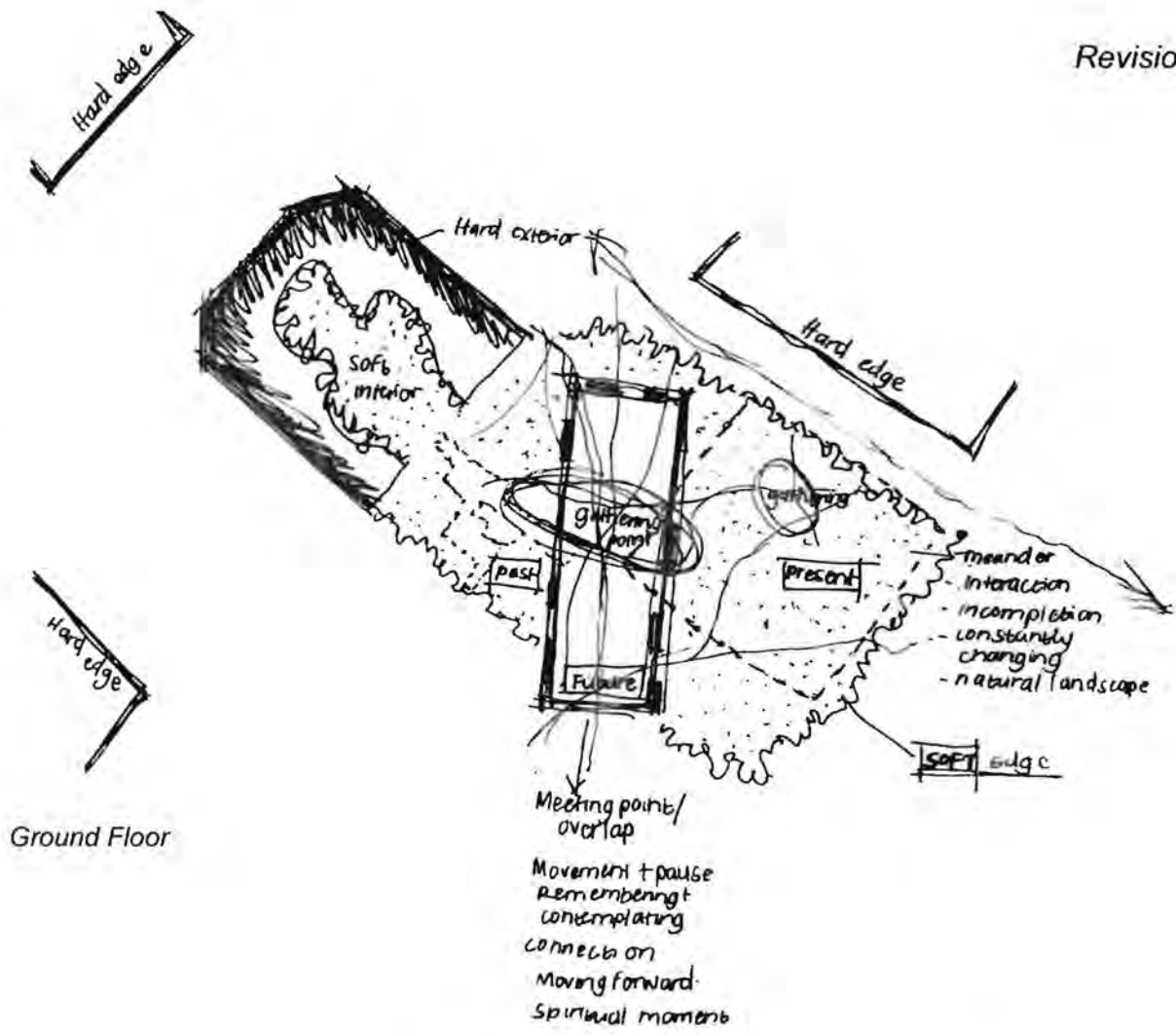
The existing columns are the spiritual vertical elements which create a link between ground and sky. They provide a canvas for interaction and response as they are already graffitied and will encourage others to creatively respond as well.

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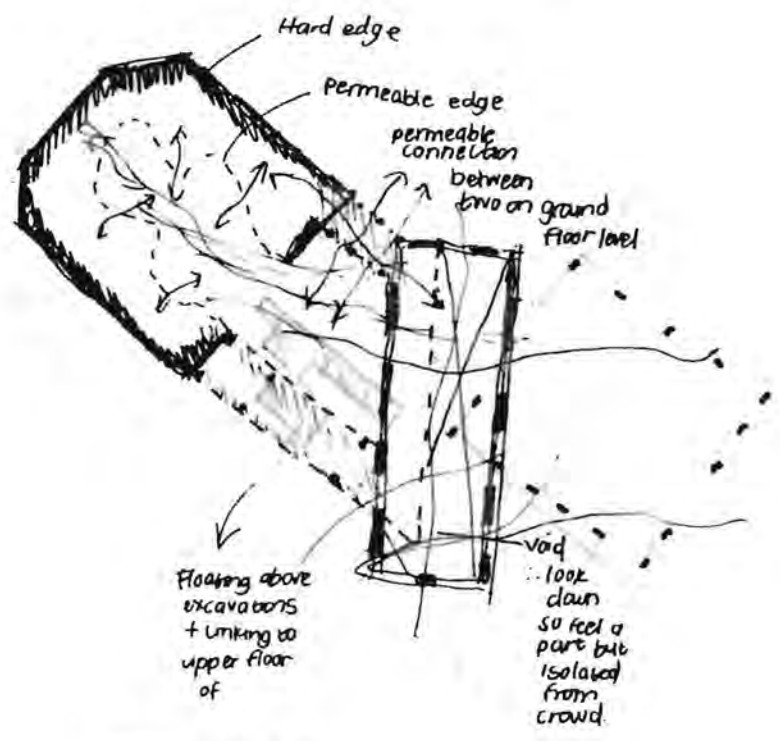
Process Work / Design Development

The following images are in chronological order and speak of the key design shifts from the beginning of the design process to the current state of the project (as discussed above):

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Ground Floor



First Floor

Giving options for moving through - meander

Figure 58 - Revision 0 (Thalassinos, 2012)

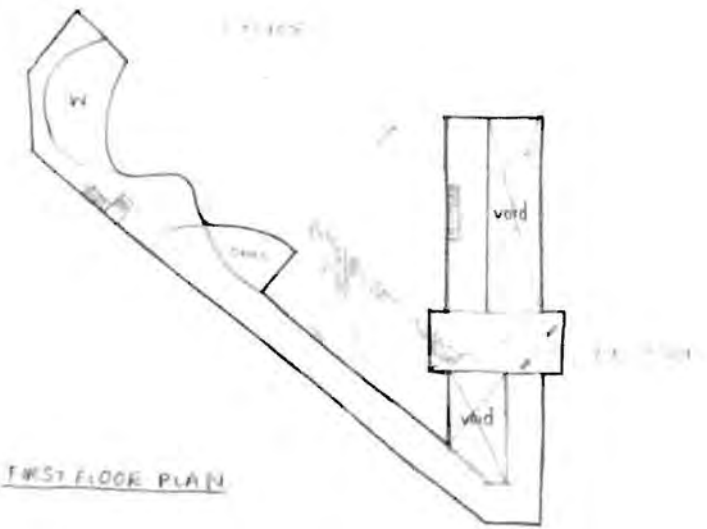
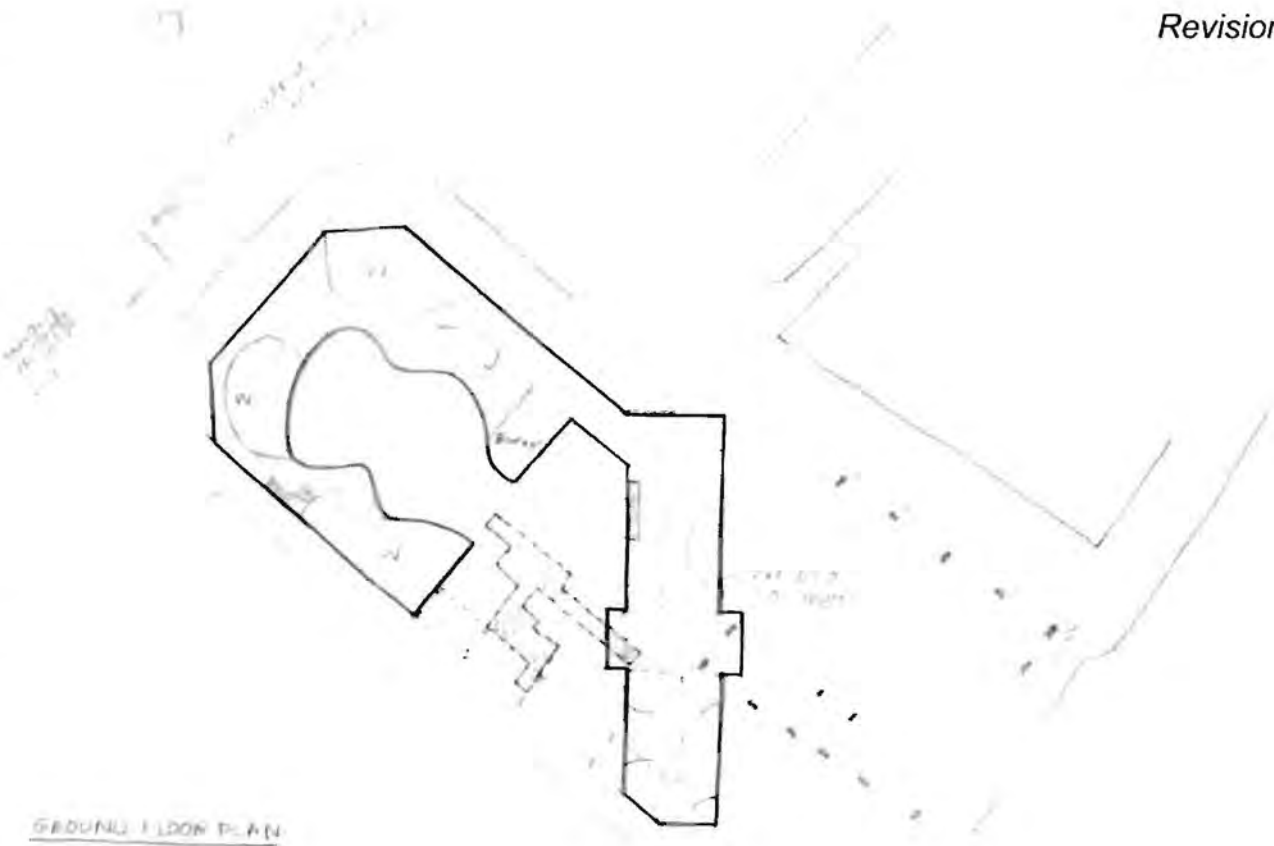


Figure 59 – Revision 1 (Thalassinos, 2012)

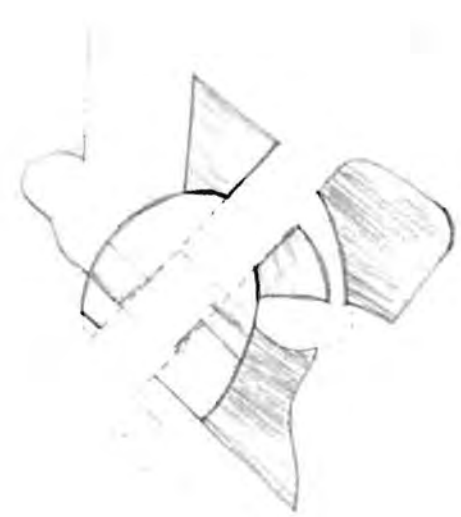
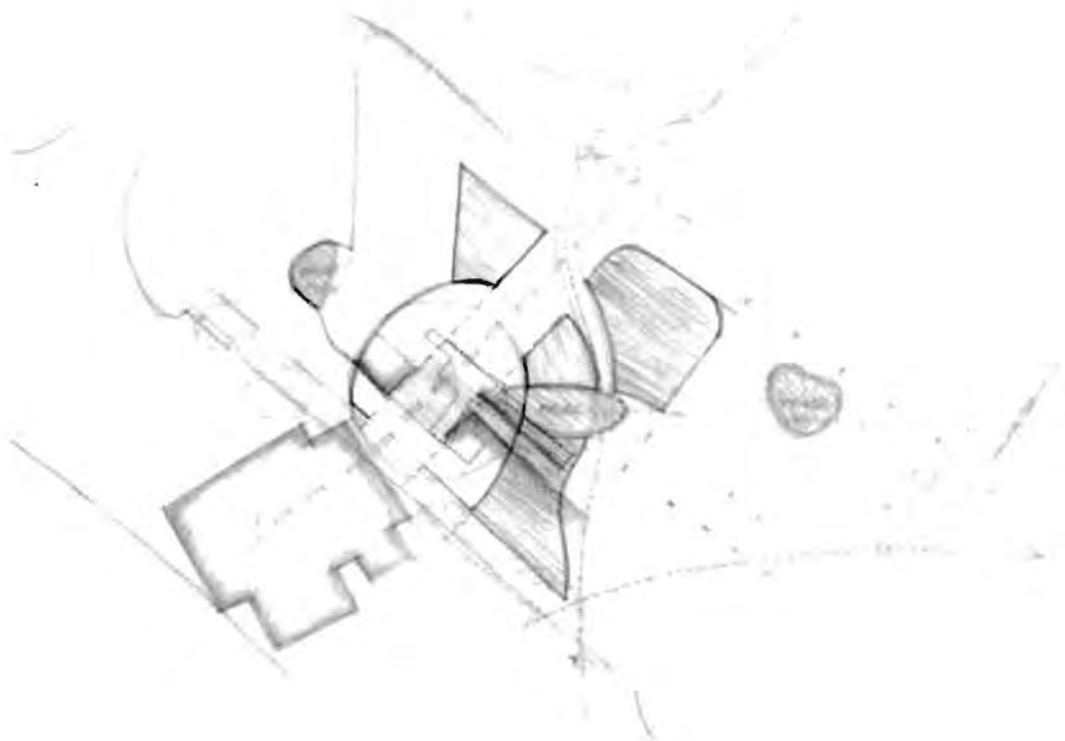


Figure 60 - Revision 2 (Thalassinos, 2012)

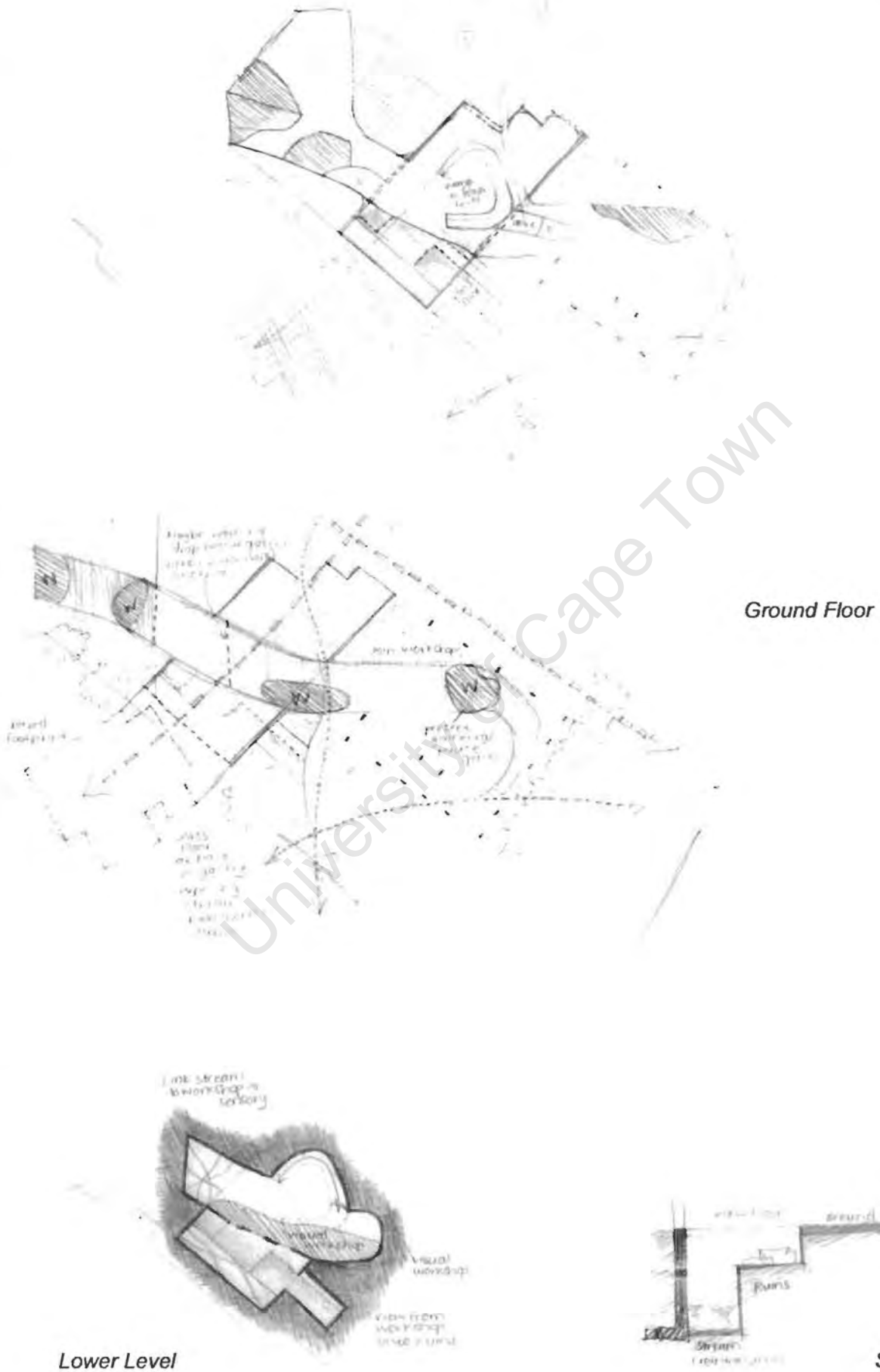
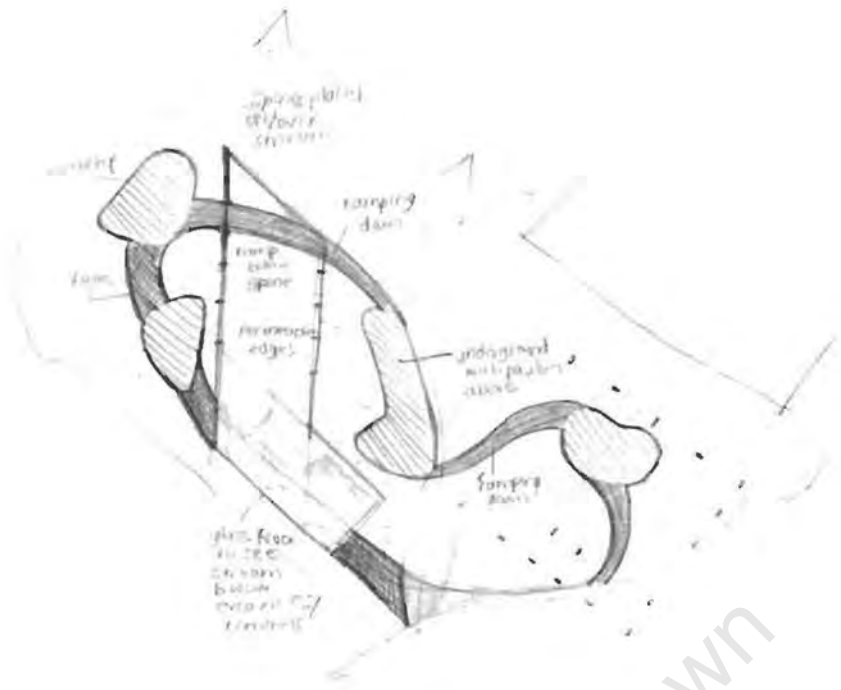
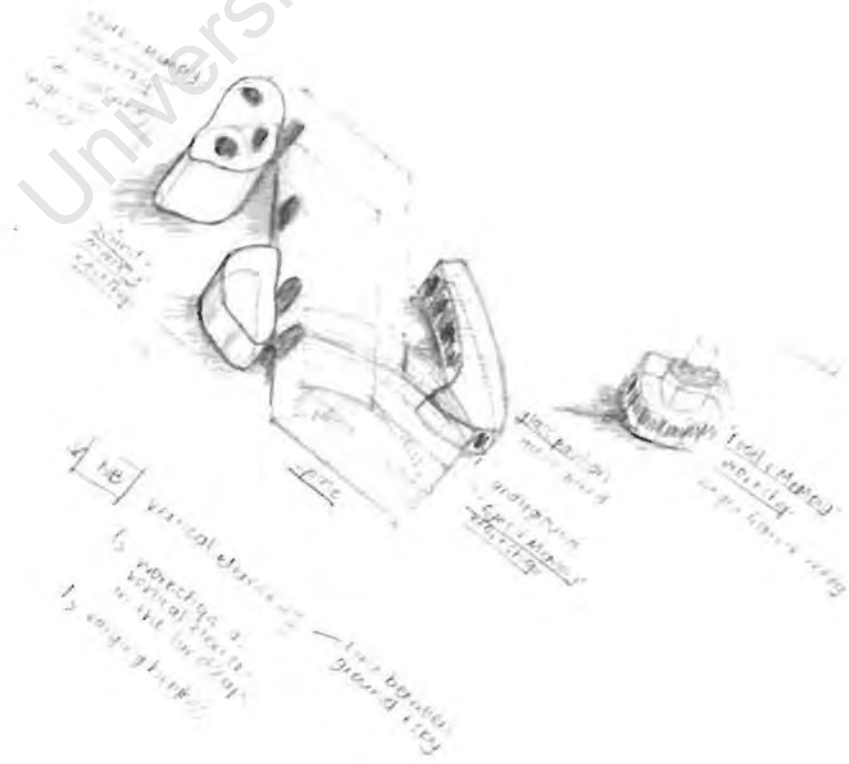
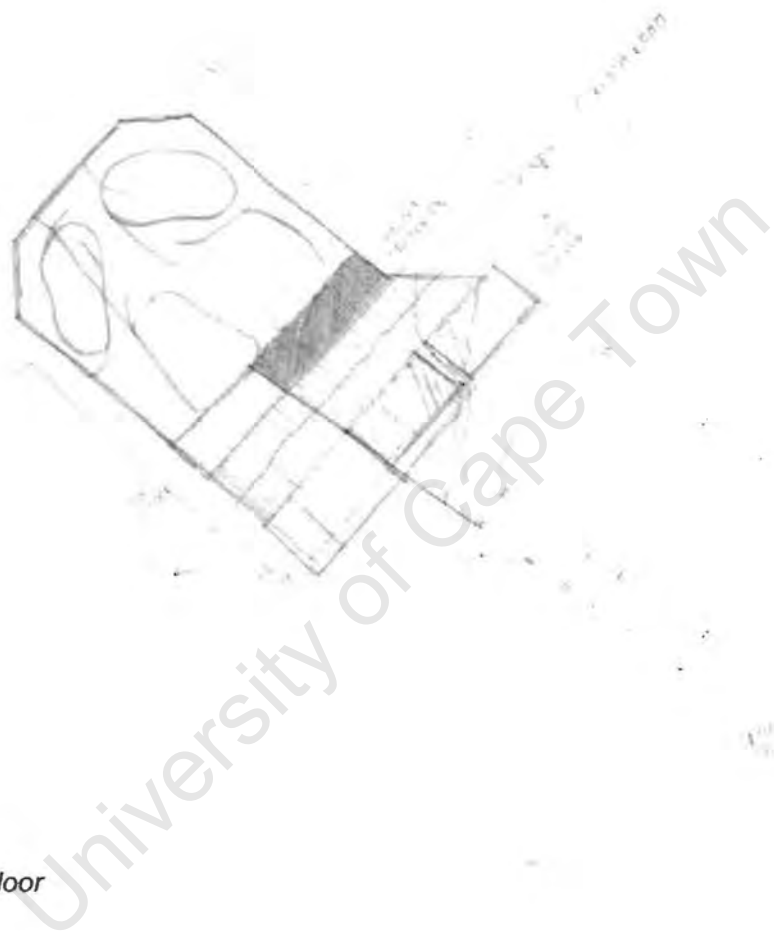


Figure 61 - Revision 2 (Thalassinos, 2012)

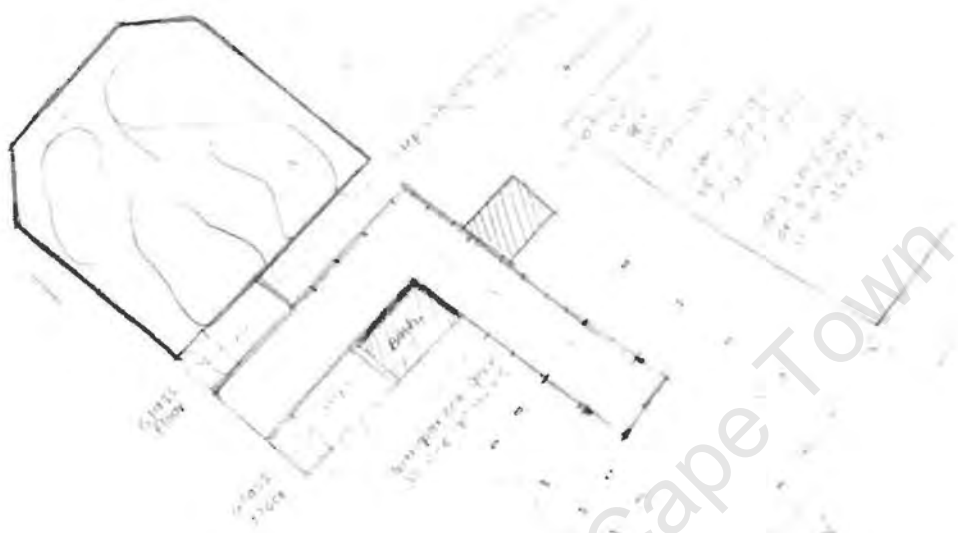


Ground Floor





Ground Floor



Ground Floor

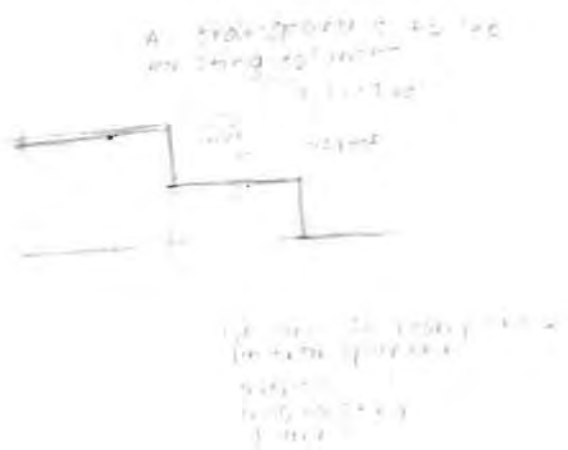


Figure 64 - Revision 4 (Thalassinos, 2012)

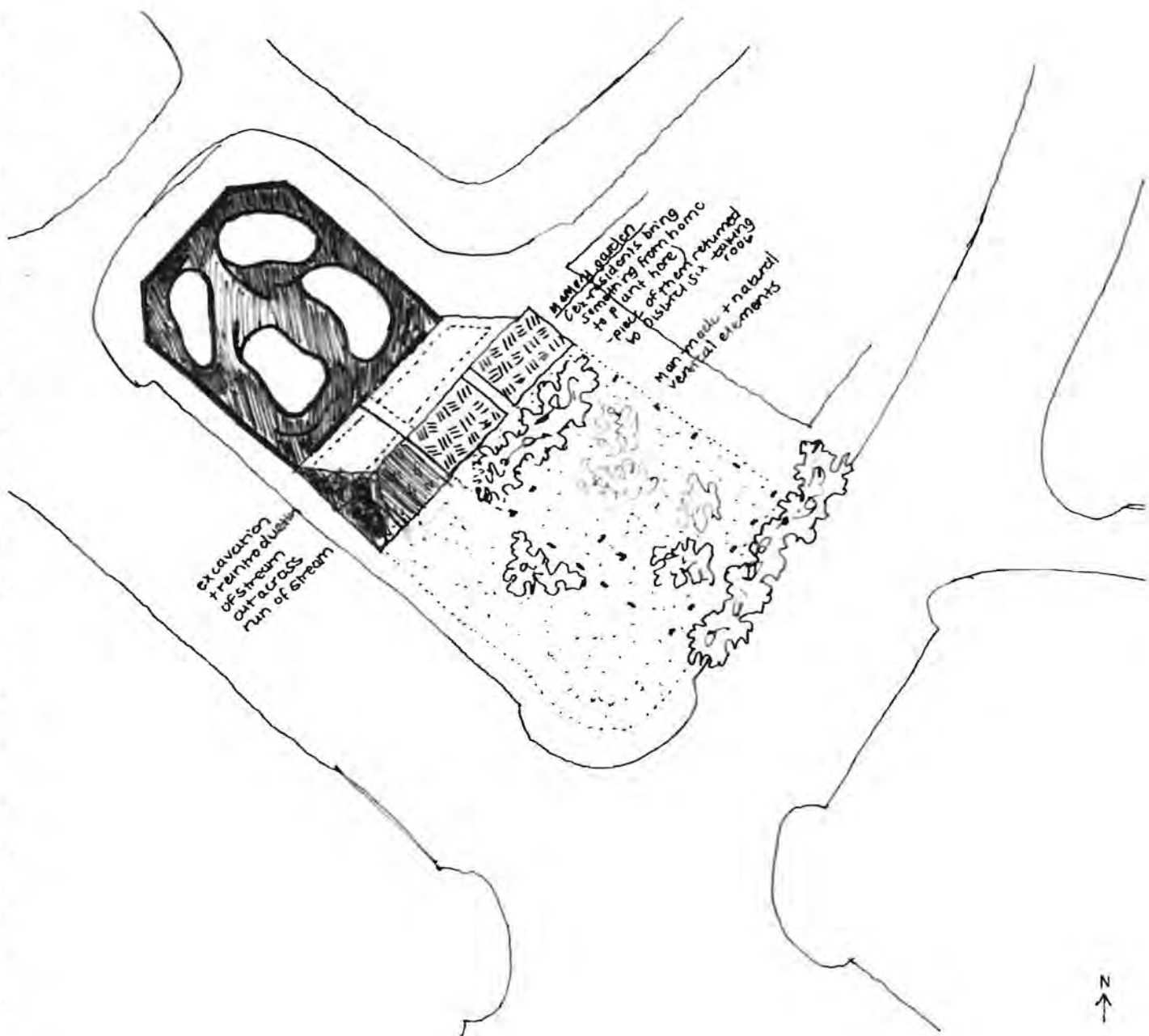


Figure 65- Revision 5 (Thalassinos, 2012)

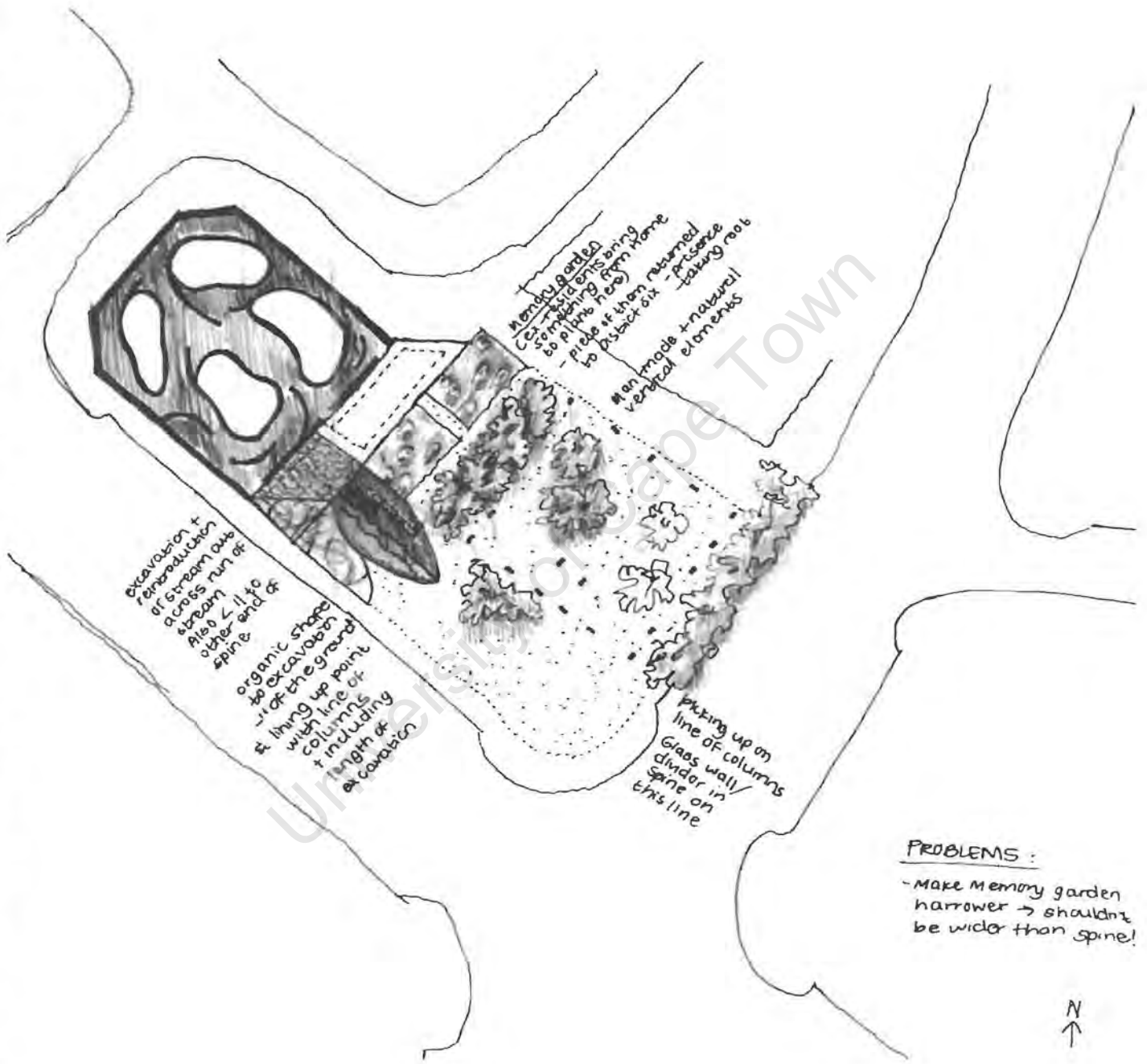


Figure 66 - Revision 6 (Thalassinos, 2012)

**'Spine' (Threshold)
Development**

*Spine as 'Souk'
= place of darkness*



SHIFT

*Spine as vertical
beacon of light in
the landscape
= place of light*



*Workshop realm
now becomes
place of darkness /
emotive light*

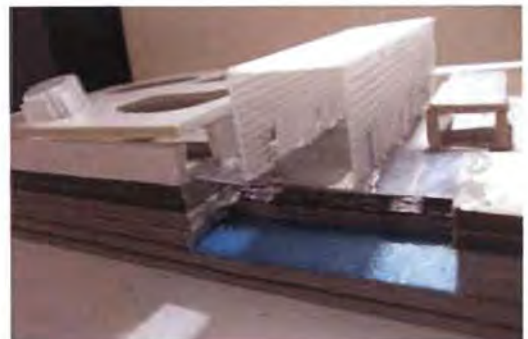
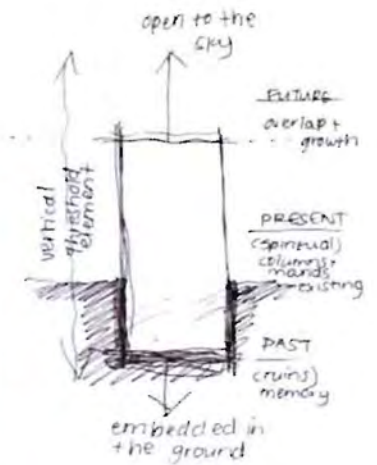
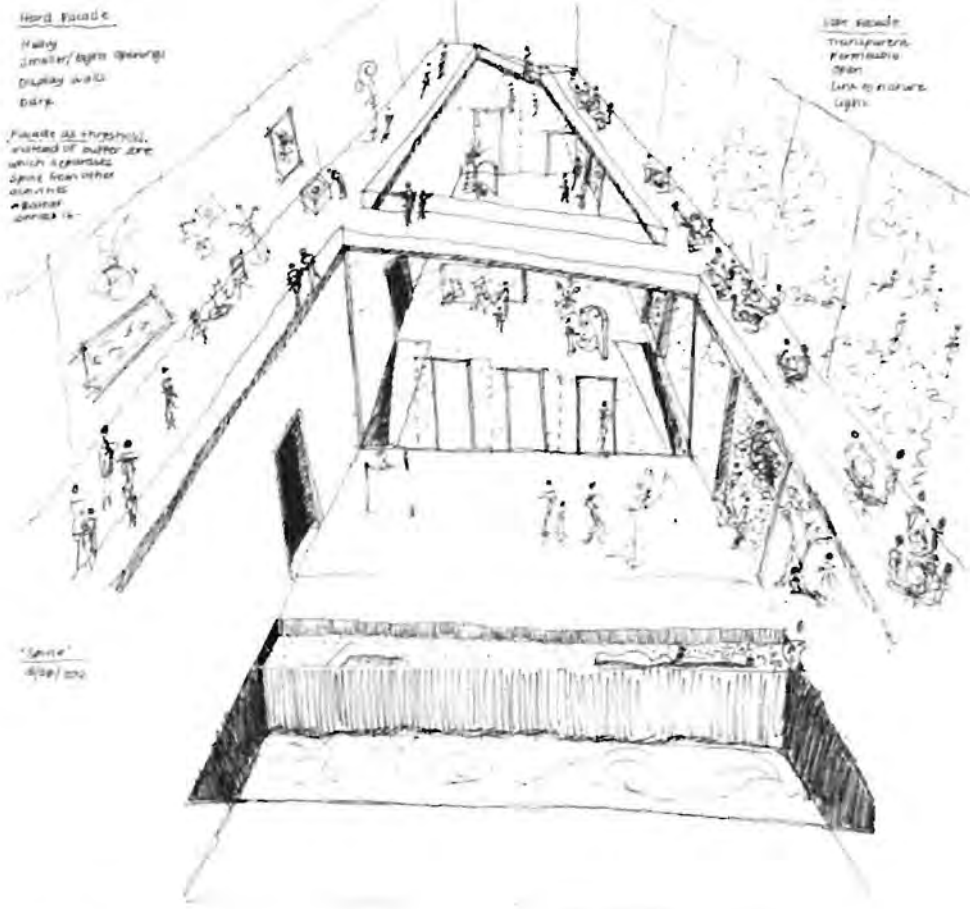
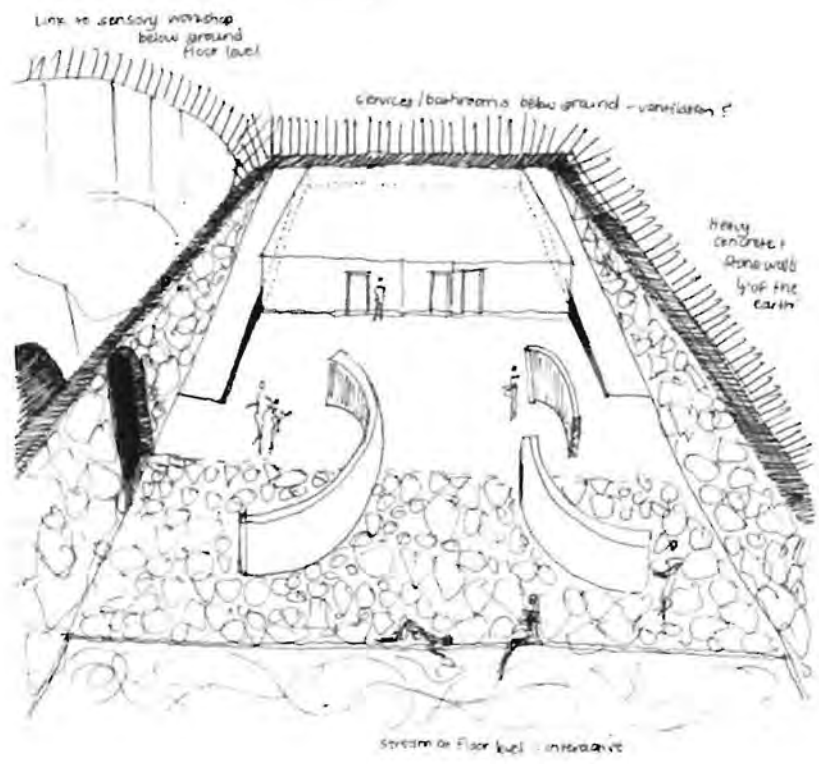


Figure 67 – Spine development (Thalassinos, 2012)

'Spine' (Threshold) Development



Ground floor
 Excavations & shadow spaces



Basement level

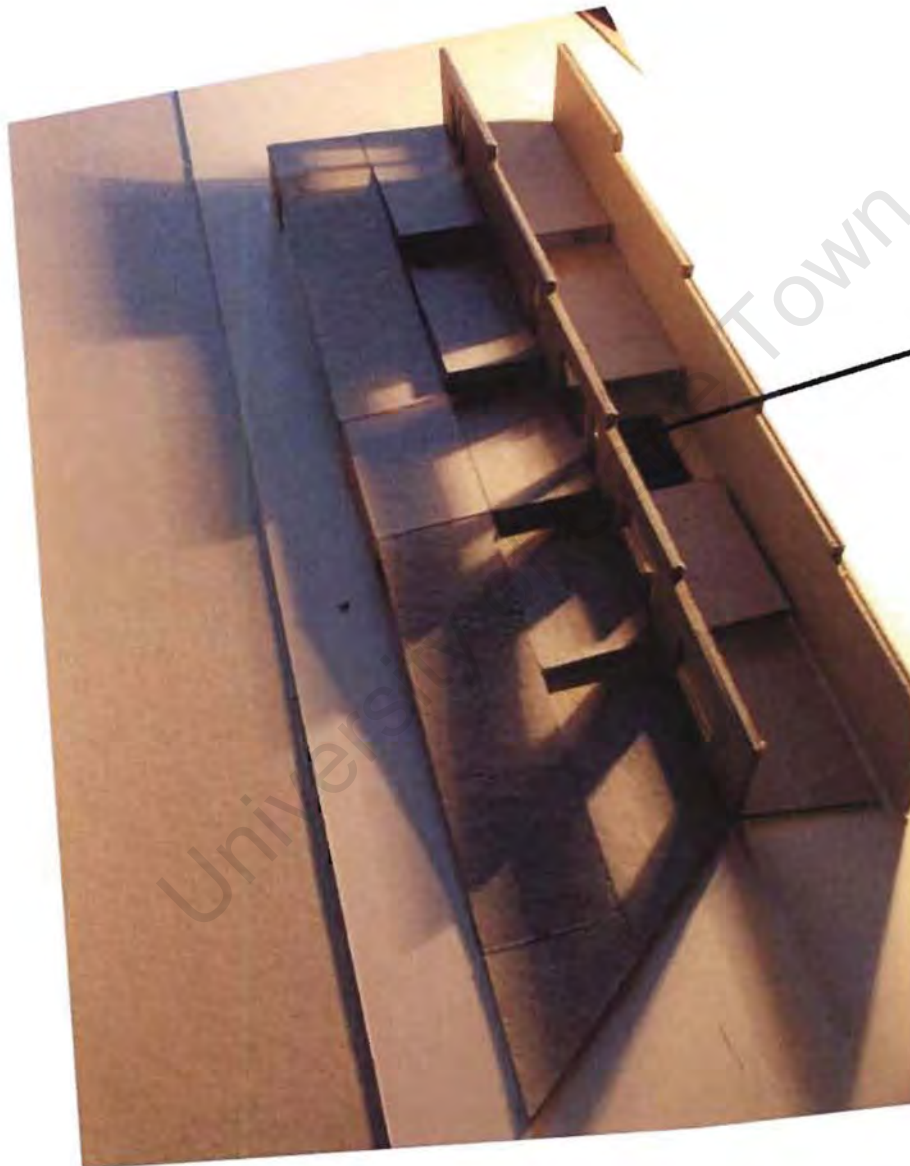
- PROBLEMS**
- bathroom ventilation
 - At the moment this floor area cuts under the main excavation level
 - Where are the admin offices?

Figure 68 - Spine development (Thalassinos, 2012)

*'Spine' (Threshold)
Development*

'Movement & Pause'

*Ramp and platforms
inside spine*



*Vertical descent
into workshop
realm*

SHIFT

Dark embedded
in light
Old embedded
in new

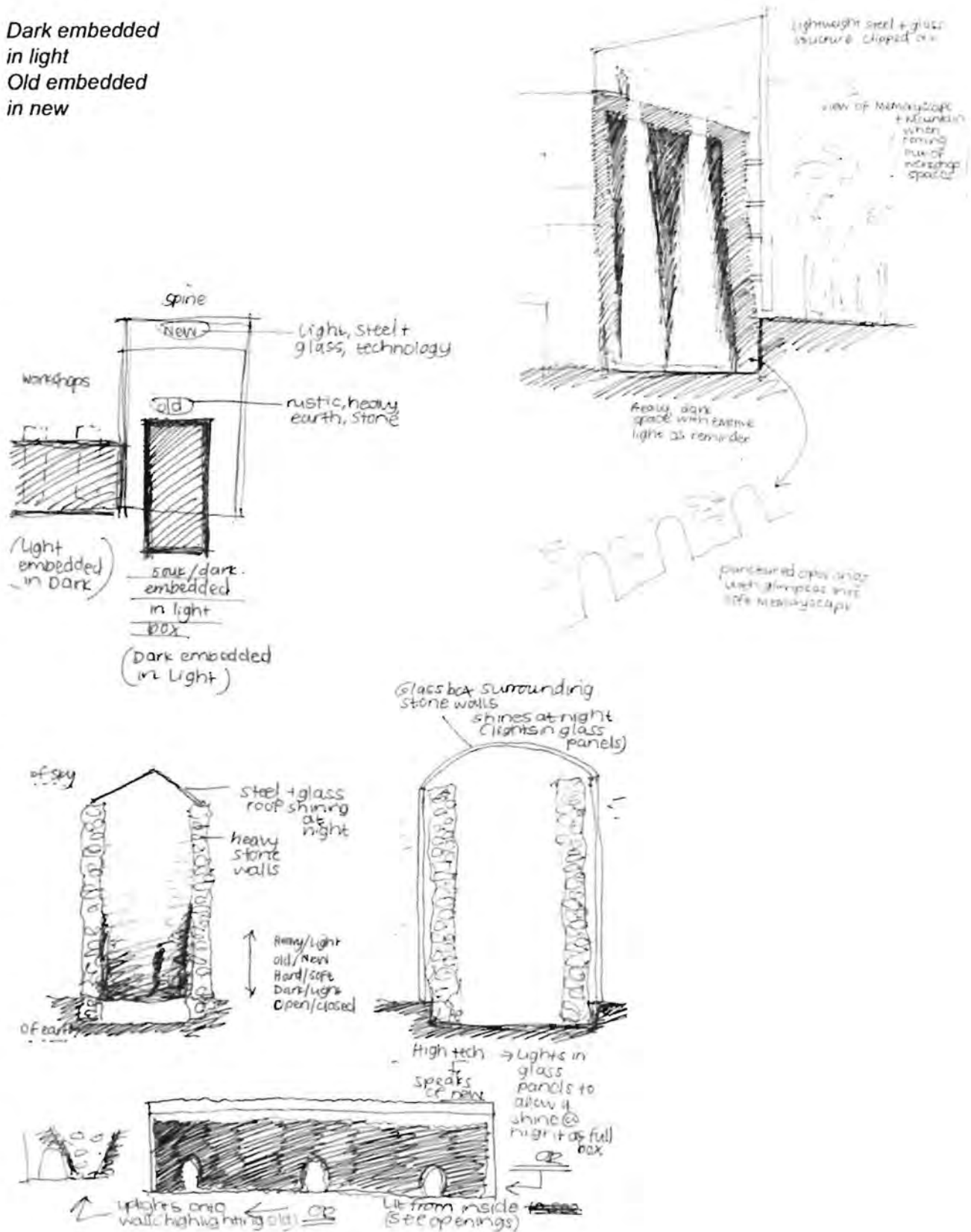
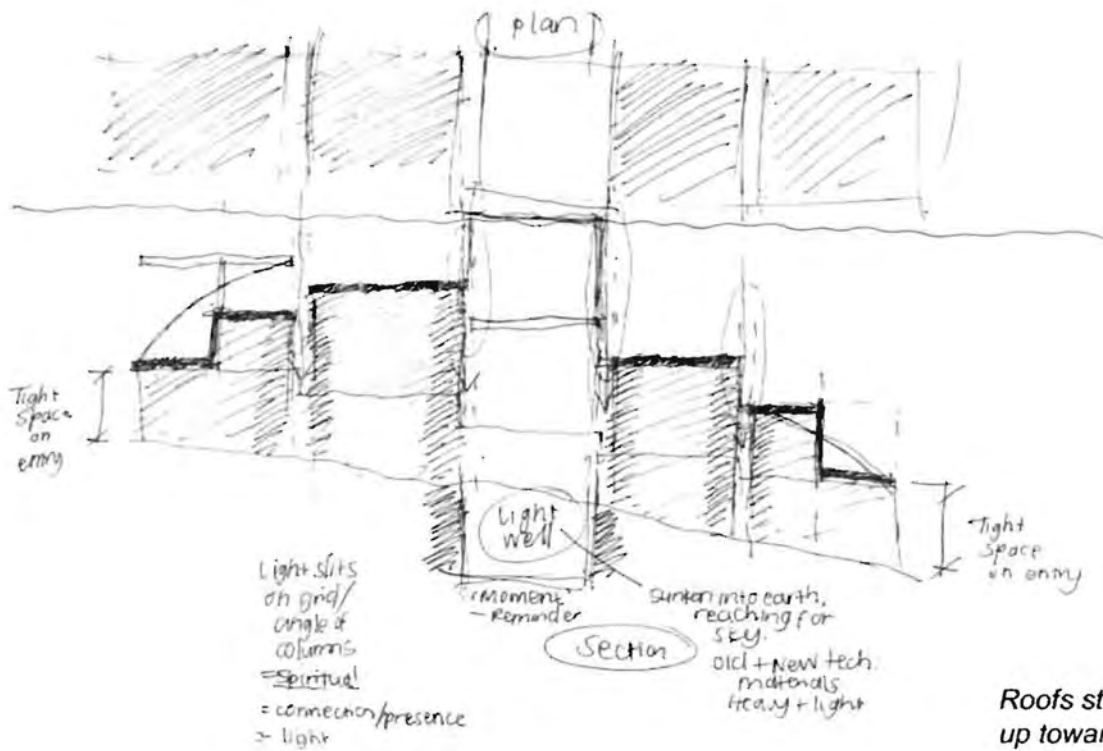


Figure 70 - Spine development (Thalassinou, 2012)

SHIFT

Vertical element
of light embedded
in dark



Roofs stepping
up towards box
of light which is
the embedded
vertical link
between ground
and sky

Flat roof with
embedded
elements of light

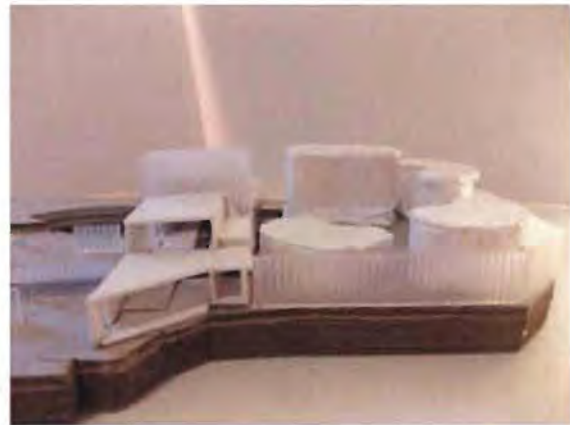
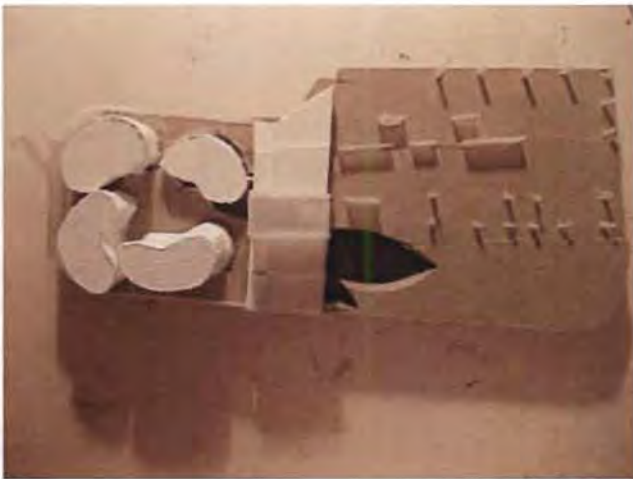
Spine:
Vertical beacon
of light (box)



SHIFT

NO roof
Elements
embedded
in interior
landscape

Spine:
Light embedded
in dark
Stepping up
towards light



SHIFT

Converting flat roof over workshops into different profile to emphasise idea of embedding / puncture

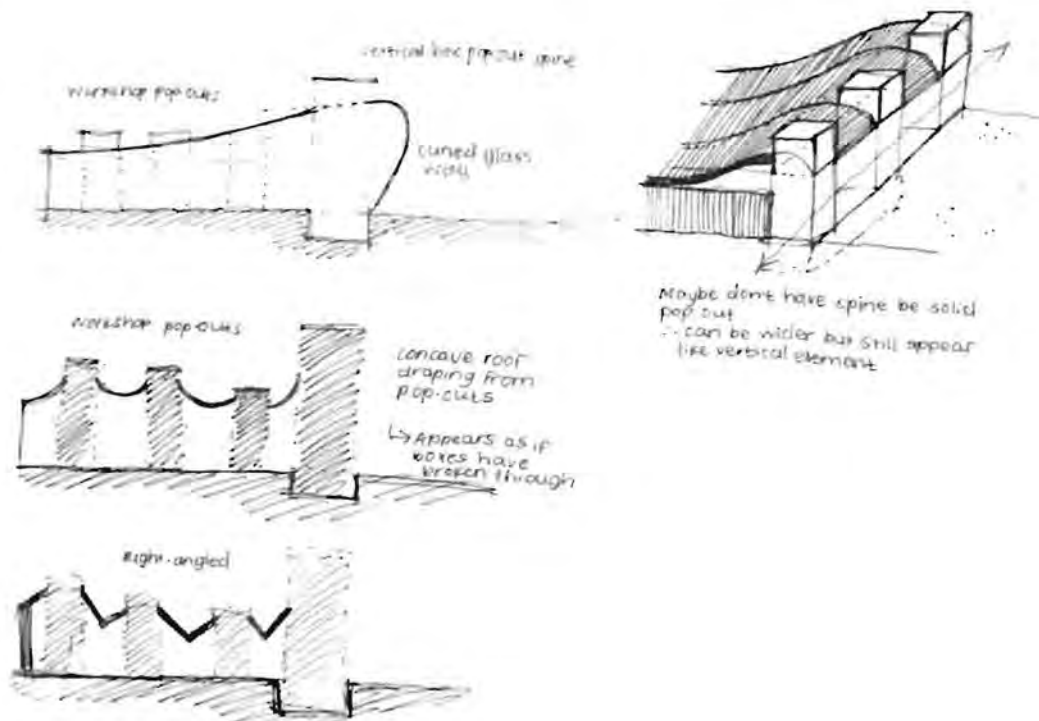


Figure 73 – Roof development (Thalassinos, 2012)

SHIFT

Roof becomes unifying element
Tying inside to outside
Roof as threshold

Option 1:

Single Upward Curving Roof

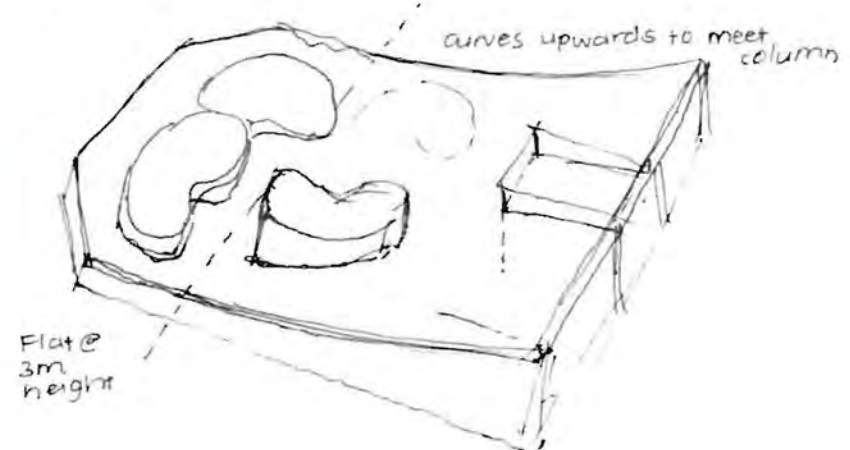
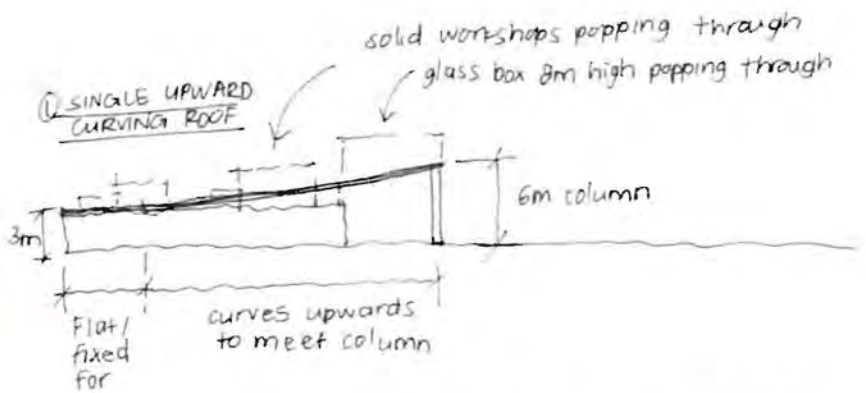
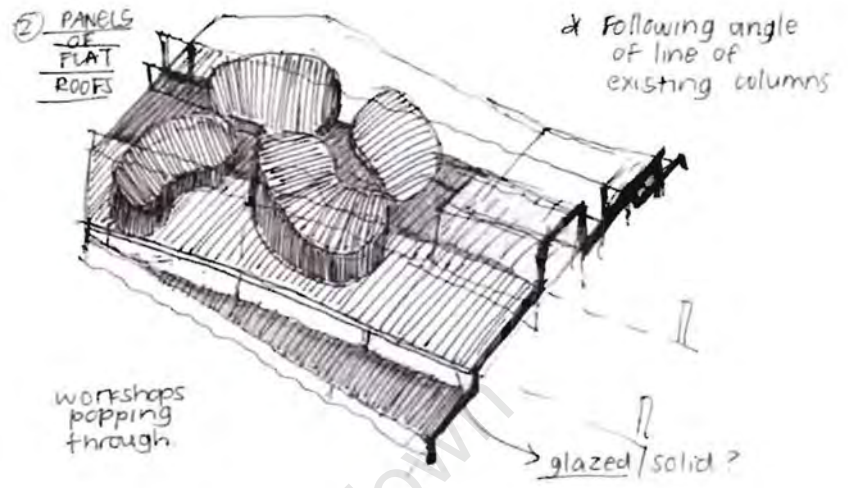


Figure 74 – Roof development (Thalassinos, 2012)

Option 2: Panels of Steeping Flat Roofs



Option 3: Ramping Up Emulating Interior Ground Plane



RAMPING UP + PLATFORM

* sort of emulating floorscape of memory workshop box.



This will allow for all workshop roofs to pop out + be compatible with headroom.

Highest point = destination level.

But going to be difficult to make + have waterproofing issues

Figure 75 – Roof development (Thalassinis, 2012)

Option 4: Curved Up/Down Concrete Shell Strips

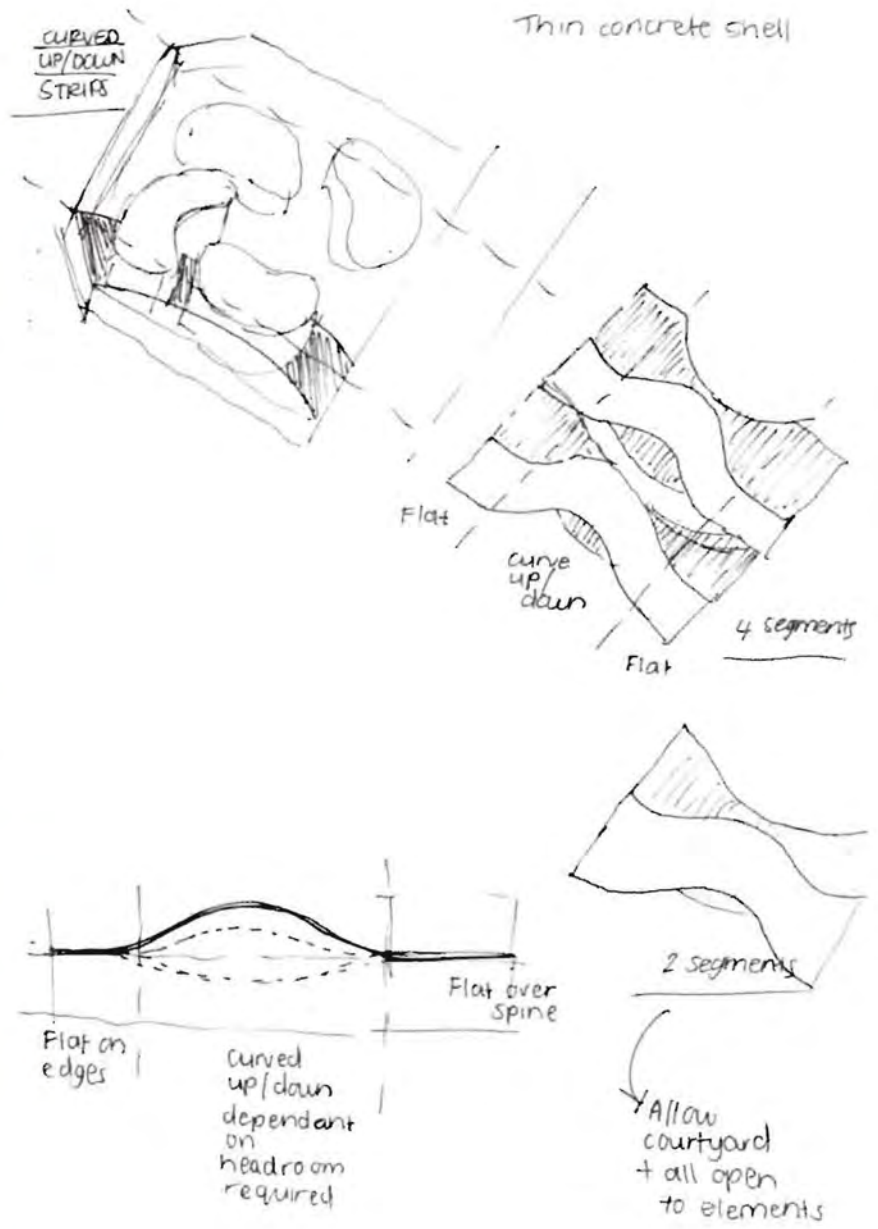


Figure 76 – Roof development (Thalassinos, 2012)

Option 5:

Curved
Concrete
Shell
- Different
profiles
merging

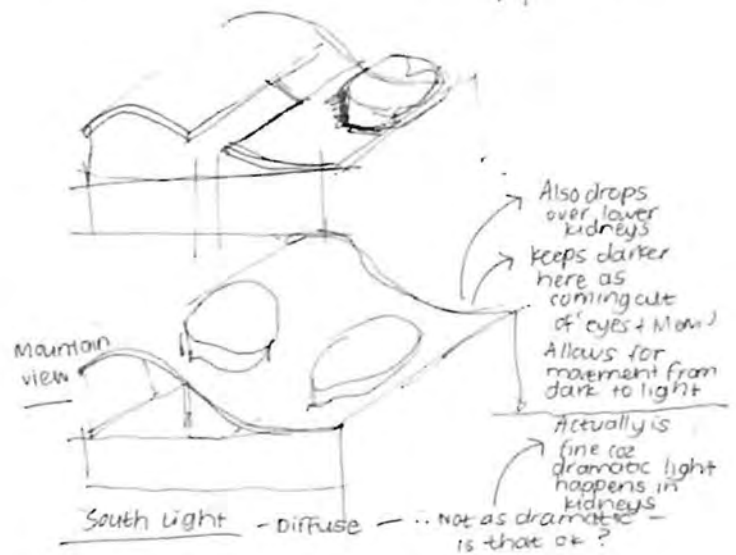
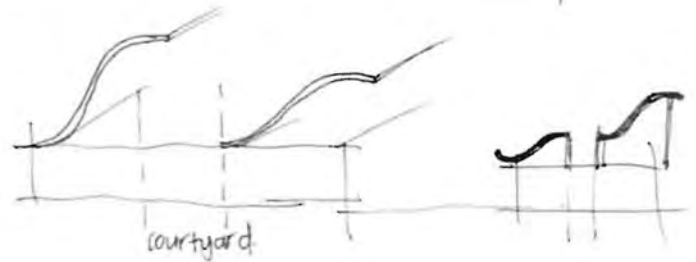


⑤ curved
concrete
shell
beams



But doesn't
intersection
with 'kidneys'
cause interference
with beam
action?

so still long
along to
pull in garden



Also drops
over lower
kidneys
Keeps darker
here as
coming out
of eyes + Man
Allows for
movement from
dark to light

Mountain
view

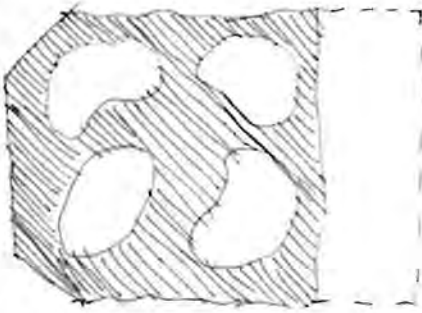
South light - diffuse

Actually is
fine coz
dramatic light
happens in
kidneys
is that ok?
Maybe sort out
courtyard for N-light

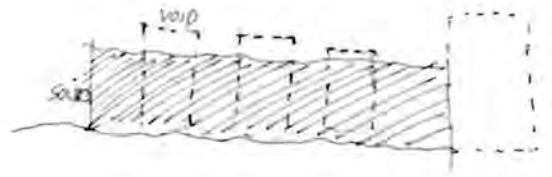
Figure 77 – Roof development (Thalassinos, 2012)

Light embedded
in dark

Beacon
of light



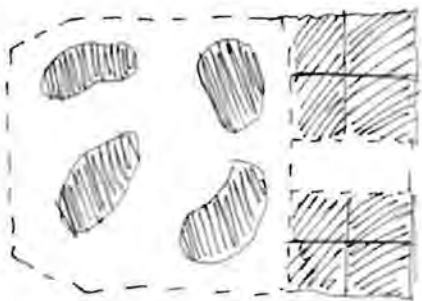
Workshops and spine
as beacons of light



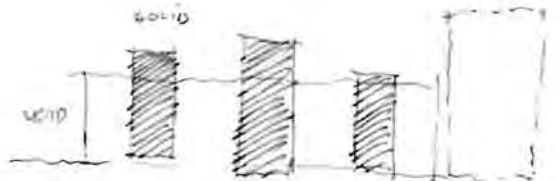
SHIFT

Dark embedded
in light

Light
embedded
in dark



Workshops as embedded
'Souk' spaces of emotive
light/shadow



Reasons why switch to this is more appropriate:

- From beginning was speaking of outside hinting @ what happens on inside → this makes it easily + appropriately / more clearly achievable
- It would then speak of a difference of condition between itself + threshold/spine which is needed as threshold must be read differently.
- Allows for control of light in these spaces which is necessary because these are spaces of emotive light + shadow, esp. the movement routes inside them
- Light study models spoke of light entering from sides, not just above, which is now possible

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To me, the only true architecture is that which can be experienced on a sensory level. In this way architecture can speak through our bodies to conjure up memories and meaning, and trigger our imaginations. This is how architecture speaks to us on a deeper, more poignant level. Architecture which embodies these issues transcends into being a place which speaks to the soul and provides a sense of purpose, presence, connection and identity.

I have attempted to design a place which embodies this type of experience. Layering of spaces is important as this allows for mediation between things, between different worlds – inside and outside, past, present and future, ground and sky; man-made and natural; old and new; hard and soft; public and private. Layering provides the threshold.

People experience spaces, memories and emotions in different ways; therefore I have tried to create a place that allows for different experiences and different ways/orders of experience. Spaces of meander have been created, that allow for options of different paths, enabling one to experience spaces in a different order each time. The Memoryscape and workshop spaces (outer realm and inner realm respectively) are about meander, whereas the threshold space of the spine is about route (axial movement, both vertical and horizontal) but is intercepted by cross-movement as well due to its perforated edge.

Materials are neutral which relate to the rough nature of the street and do not detract from the calming softness of the Memoryscape garden. Their neutrality highlights the weathered state of the excavated ruins (presence of the past on site).

I am happy with the progression of my project from an area of interest and principle issues, to a design project. I feel that the programme is right for the site and is something which is needed in order to capture the layering of histories (past, present and future) of District Six when it is redeveloped. It provides an in-situ extension to the District Six Museum which creates a more powerful and emotive experience of place.

The design encapsulates the principles that have arisen throughout the process of this thesis, from theoretical inquiry to site investigations and beyond. The core principles of verticality, threshold, link to nature, emotive light, layering, route and meander have informed the design throughout and moulded it into a piece which speaks of the issues of spirituality, memory, emotion and the senses.

This project creates a moment of pause and reflection on the threshold between chaos and emptiness, present and past, living and dead – namely the city and the scar of District Six. It is a place to remember and respond to the past, acknowledge the present and imagine the future.

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Lastly, to my parents and sister, thank you for your constant understanding, love and support.

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Figure 17a – Thalassinos, S. 2012. Hand drawn

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Figure 50a – Thalassinos, S. 2012. Hand drawn

Figure 50b – Thalassinos, S. 2012. Hand drawn

Figure 51a – Thalassinos, S. 2012. Hand drawn. Original sourced from: Siddique Motala (GIS Lecturer, Department of Civil Engineering and Surveying, CPUT)

Figure 51b – Thalassinos, S. 2012. Hand drawn. Original sourced from: Siddique Motala (GIS Lecturer, Department of Civil Engineering and Surveying, CPUT)

Figure 51c – Thalassinos, S. 2012. Hand drawn. Original sourced from: Siddique Motala (GIS Lecturer, Department of Civil Engineering and Surveying, CPUT)

Figure 51d – Thalassinos, S. 2012. Hand drawn. Original sourced from: Siddique Motala (GIS Lecturer, Department of Civil Engineering and Surveying, CPUT)

Figure 52 – Thalassinos, S. 2012. Hand drawn, montage

Figure 53a – Thalassinos, S. 2012. Montage. Original sourced from: Malan, A. Clift, H. Graf, O. Hall, M. Klose, J. Sealy, E. 1999. "Between the Castle and the stock pound: Early nineteenth century developments at the corner of Tennant and Hanover streets, Cape Town". RESUNACT, UCT (unpublished)

Figure 53b – Thalassinos, S. 2012. Hand drawn. Analytical mapping

Figure 54a – Thalassinos, S. 2012. Hand drawn

Figure 54b – Thalassinos, S. 2012. Hand drawn

Figure 55 a-g – Thalassinos, S. 2012. Sketches and models

Figure 56a, b & c – Thalassinos, S. 2012. Sketches

Figure 57a – Thalassinos, S. 2012. Montage

Figure 57b – Thalassinos, S. 2012. Montage

Figure 57c – Thalassinos, S. 2012. Montage

Figure 57d – Thalassinos, S. 2012. Montage

Figure 58 – Thalassinos, S. 2012. Hand drawn

Figure 59 – Thalassinos, S. 2012. Hand drawn

Figure 60 - Thalassinos, S. 2012. Hand drawn

Figure 61 - Thalassinos, S. 2012. Hand drawn

Figure 62 - Thalassinos, S. 2012. Hand drawn

Figure 63 - Thalassinos, S. 2012. Hand drawn

Figure 64 - Thalassinos, S. 2012. Hand drawn)

Figure 65 - Thalassinos, S. 2012. Hand drawn

Figure 66 - Thalassinos, S. 2012. Hand drawn

Figure 67 – Thalassinos, S. 2012. Photomontage, physical models, sketches

Figure 68 – Thalassinos, S. 2012. Sketches

Figure 69 – Thalassinos, S. 2012. Physical model

Figure 70 - Thalassinos, S. 2012. Sketches

Figure 71 - Thalassinos, S. 2012. Sketches & physical models

Figure 72 – Thalassinos, S. 2012. Physical models

Figure 73 – Thalassinos, S. 2012. Sketches

Figure 74 – Thalassinos, S. 2012. Sketches & physical models

Figure 75 – Thalassinos, S. 2012. Sketches & physical models)

Figure 76 – Thalassinos, S. 2012. Sketches & physical models

Figure 77 – Thalassinos, S. 2012. Sketches & physical models

Figure 78 – Thalassinos, S. 2012. Sketches

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Thesis document

COVER SHEET

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3. This essay/report/project/paper..... project..... is my own work.
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