

Research and Design Thesis

May 2009

224.531 Research and Development Thesis

Words 5834

Produced by Gemma Loving Hutchins *2009*

Edited by Amanda Yates

CONTENTS_ Modelling *thinking*

07	Foreword	37	Step Two
09	Stilts as Inspiration	43	Drawing Site
11	Introduction	45	Explorations Series Two
13	Architecture + Public art / Spatial Design	53	Step Three
17	Step One	57	Time Based Site
19	The Origin of Drawing	59	Explorations Final Series
21	Drawing and Disegno	69	Step Four / Conclusion
23	The Manhattan Transcripts / Paper Architecture	71	Appendix
27	Explorations Series One	73	Bibliography And References





Foreword

Stilts have ancient origins, they can be traced back to 7th century B.C (Oxford, 2005). Stilts are poles, posts or even pillars used to allow a person to stand a certain distance above the ground. They are attached to the body by the feet with perpendicular steps for the feet to balance on (refer photo opposite page) allowing one to walk while being elevated. They are known for their use in hop picking or erecting line wire for orchard workers. Drywall stilts are used in many areas of life; they allow the wearer to stand still whilst in walking motion, benefiting many painters, workers, actors and magicians. They are also used in flood plains and on beaches of unstable ground. Buildings are often constructed on stilts to protect them from damage by water (the waves) and the shifting in sand or soil. The stilt as an artefact and the practice of stilt walking acts as a metaphor for the shaky or improper translations I have made in this research project that moves between concerns with architectural representation, site, time and an investigation of the design process. I began the process by making a range of micro explorations that deal with inhabitable spaces elevated for the use on beaches or other unstable ground. I then created a generative production line that recorded the process through digital camera, and drawing the shadows of the models onto paper thus referencing the shaky steps of the stilt. The relationship between modelling, video, drawing and photography establishes a complex and wide-ranging set of generative design processes - the gaps between these discourses and modes referencing the shaky steps of the stilt-walker. These modes establish the vertices or meeting points for my spatial practice.

Fig. 1 Initial Experiment. Lyall Bay Beach,
Cherry timber, aluminium



Recorded on May 7 2009

02:57	HIGH	1.6
09:07	LOW	0.6
15:26	HIGH	1.6
21:43	LOW	0.6
03:50	HIGH	1.6
10:00	LOW	0.6
16:19	HIGH	1.6
22:39	LOW	0.6
04:43	HIGH	1.5
10:53	LOW	0.7
17:10	HIGH	1.6
23:34	LOW	0.6

Fig. 2 Stilt experiment and research recordings

Using stilts as inspiration; I conducted my first critical experiment on the basis of my early research (see figure 1). Stilt-walker adopts a shaking stepping progress, which underlies the structure of the research and development process. The aesthetic and structure of the stilt is referenced through all the stages of my interventions, and has continually remained key to this project, metaphorically and physically. To suggest an interest for fluid temporal spaces and the stilt I adapted an architectural experiment that would focus as a measure for the change in tide. By stabilising the model deep into the sand I then allowed the water to interact and take upon affect, as I observed the model slowly disintegrate with the force of the waves. The experiment (see fig. 1) was sited at 68 Lyall Parade, Wellington New Zealand, on the (7th of March 2009), in order to witness the change in tide and the force of the waves. Although, unsuccessful in its strength and construction, I later discovered the photos that had observed this process revealed a progression of the water slowly creeping its way further up the shoreline. The research findings as shown (see fig. 2), suggests a continuous shift and change of the Wellington tides, dependent on the orientation of the moon and seasonal adaption. The graph-measured duration of three days of Wellingtons low and high tide. In gaining a methodical understanding of the ocean, for the possibility of developing spaces within the ocean.

My thoughts are guiding my hand,
and my hand reveals the value of the thought.

(Drexler cited Ludwig Mies van der Rohe 1960 p.51)

Disciplines evolve, shifting as culture changes. This research project explores, and proposes, a shift in the spatial design disciplines. This thesis addresses a void within the practice of architecture – the absence of time-based change – and proposes to develop a practice-based research body of work that ‘re-thinks’ the current static notion of design in architecture. Spatial design is a discipline operating in-between practices; it questions the stable and monumental stance of architecture and moves towards a more fluid practice that seeks inspiration through performance and event within the everyday public realm. Temporality is a term not often connected within the world of architecture; this thesis proposes to prioritise the term through the process of thinking and the engagement of making in order to create and aspire a collection of explorations that push the boundaries of design, operating around sensitivity towards becoming and change. (These key aspects for spatial design navigate a concern for site specificity moving in space and time; framing the perimeters for the set process, they question: how can a practice-based research project emulate spatial design superiority towards temporality and site?) The aim of this thesis is to develop generative makings that form an opening for radical architectural thinking, aspiring to create and invent new ways of perceiving and representing space in time.

The essay will, like the stilt-walker, take large steps, joining seemingly distant territory. I will begin by discussing the nature to seek and theorise architectural drawings, and within my own practice how this can be challenged and altered. The second step is the site or foundation; which I explore as a material and immaterial condition. Finally, I explore temporality and duration in relation to design thinking, exploring how we operate in space and time. Throughout the duration of this project an exchange between makings and writing. This is an effective process in which to practice; a shift in writing then physical interaction with materiality, to reinforce a time-based research and development response. Founded upon reflection this term acts as a metaphor for the (reflection in water) and the self-reflection the journey entails. The notion of reflection is further adapted in this thesis; it has been re-ordered, then re-collected and re-thought as a temporal condition, functioning as transitional phases and continually changing.



Architecture¹

noun ¹ the art or practice of designing and constructing buildings, ² the complex structure of something, (cited in the Oxford dictionary 2005). The term architecture (from Greek word *architektonike*) can refer to a process, a profession or documentation. As a process, architecture is the activity of designing and constructing buildings and other physical structures by a person or (a computer) primarily to provide shelter. A wider definition often includes the design of the total built environment, from the macro level of how a building integrates with its surrounding landscape to the micro level of architectural or construction detail.

Sculpture/public art²

noun ¹ the art of making three-dimensional figure and shape, especially by carving stone or wood or casting metal, (cited in the Oxford dictionary 2005). The term public art properly refers to works of art in any media that has been planned and executed with specific intention of being sited or staged in the physical public domain, usually outside and accessible to all, it signifies a particular working practice, often with implication of site specificity, community involvement and collaboration. This definition brings forth concerns of when does art stop being art and become architecture.

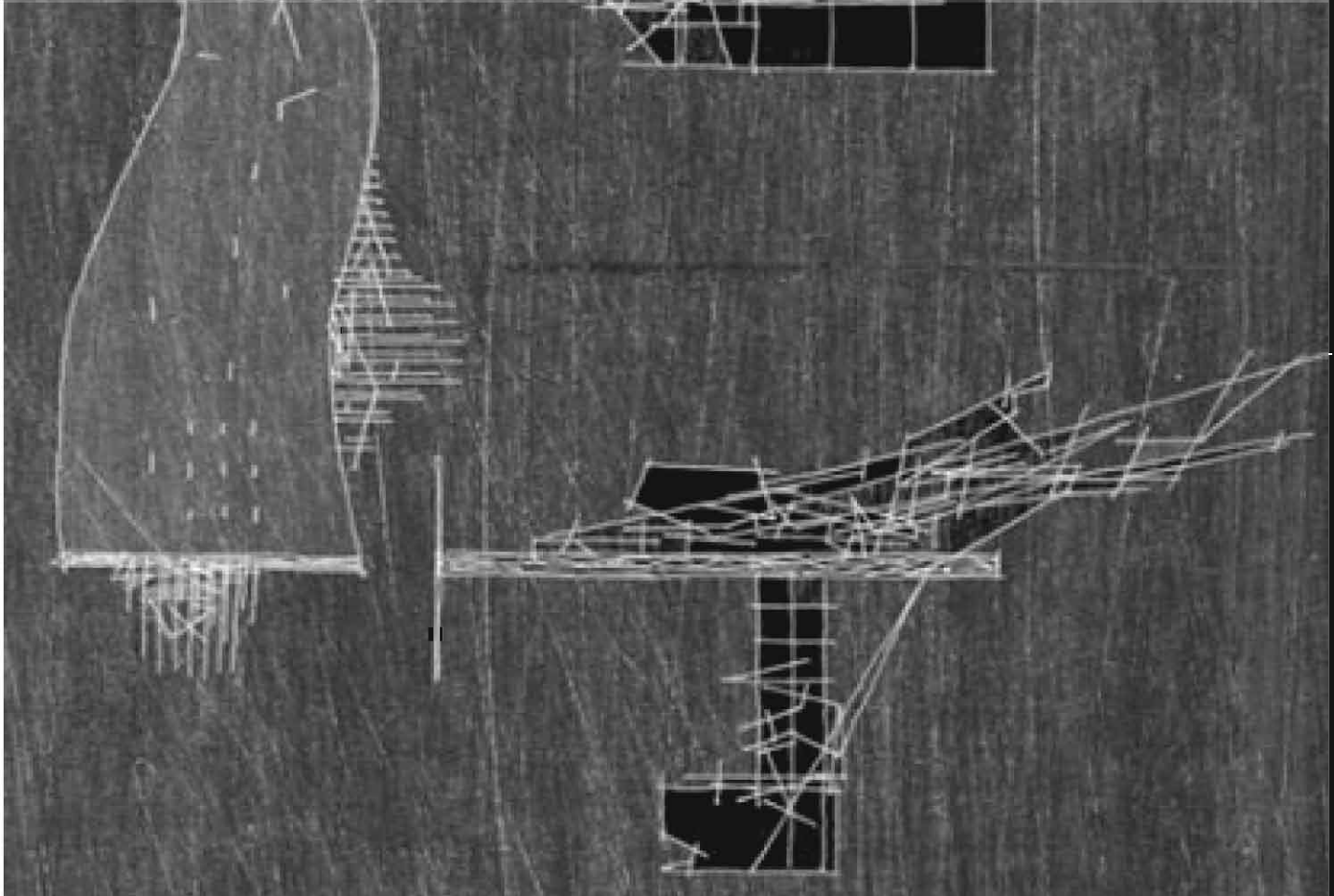
Modelling *thinking*

Spatial design philosophy is orientated around a focus of re-thinking what space and spatial design may be; a consideration for space and temporal environments is core to the practice. Spatial design is positioned in-between disciplines, blurring boundaries to create an innovative perception of design. This thesis claims spatial design is positioned between architecture¹ and sculpture² (redefined as public art); it practices the philosophy of site specificity within architectural strategies, an integration of studio based work and theory derived concepts is fundamental to the learning process. This thesis encourages performative spaces that reflect the nature of a specific program or particular inhabitant in a temporal, shifting space, opposed to the static monumental notion of architecture, allowing spatial experiences and natural derived atmospheric spaces to occur.

Modelling *thinking*

Architectural representation

Cultural critic Elizabeth Grosz, asserts that philosopher Gilles Deleuze project is "...in part about thinking, about how to think, to think while making or rather while doing: to think as doing." (*Architecture from the Outside* 2001. p. 57-62). Grosz suggests that Deleuze is concerned not with fixed bodies of thought but rather with thinking as a creative practice. This paper is concerned with architectural representation and explores different modes of thinking, making and drawing. Deleuze's theory will remain key throughout my project, setting a stable foundation for research and development investigations. In *The Living Thought* of Gilles Deleuze, Martin Fuglsang, a Deleuzian scholar examines the connections Deleuze makes between thinking and life, he then goes on stating, "Thinking is conceived as an affirmation of life, and life itself is affirmed by thinking as something that is alive." (2005, p.18). The title of this thesis enables a recollection of thought via making. Fuglsang comment's, "...the relationship between life and thinking is an affirmative relationship, in which life is affirmed by thinking and thinking affirmed by life." (2005, p.18). Stepping into the first phase we can begin to breakdown Deleuze theory through my own thoughts and making, beginning with the concept of architectural representation.



Representation³

*noun*¹ a presentation to the mind in the form of an idea or image,² a creation that is a visual or tangible rendering of someone or something, (cited in the Oxford dictionary 2005). This enables us a 'tangible' experience of the represented, this manipulation is often associated with mapping as a mode of representation, however it has the potential to make statistic information accessible for future referral, or more poetically it represents the unrepresented. Currently we need maps to gain a sense of the world's dimensions and orientation in relation to the sun, to regain an awareness of our surrounding environment. It acquires a fundamental representation of the processes involved; in relation to architecture the mode of representation is based upon shape information and analysis techniques rather than systematic data.

Modelling *thinking*

Architectural representation_step one

Representation³ as a process is the act of extracting an idea and portraying it from the mind to the hand via a constructed model or through a pencil onto a surface such as paper. This research investigation prioritises a crucial understanding of site; this can be initiated through an exploration of ontological aspects, topology, distance orientation and place within a specific location. This will create the groundwork to develop architecture that extends a consideration for temporality and spatial change. Currently, we need maps to gain a sense of the world's dimensions and orientation in relation to the sun. Architecture requires a fundamental understanding of the concept of site; in order to regain an awareness of our surrounding environment. In relation to these ideas the role of the architect will be explored further, underpinning the process and procedures the architect has portrayed throughout history. The readings suggest the architects responsibility is based only upon the mode of representation, as the designer will develop a close relationship to the drawing – and a lesser relationship to the material building itself. This thesis suggests a compromise of both architectural representation (drawing and model making) and a physical interaction with the material.



Fig. 3 Joseph Wright (artist)
The Corinthian Maid, 1782-1784
Paul Mellon Collection
oil on canvas
1983.1.46

The girl was the daughter of a potter in Corinth. Her boyfriend was about to embark on a perilous journey to foreign lands, taking only his spear and dog. As a memento, she traced her sleeping lover's silhouette onto the wall. Her father then used the drawing to model a clay relief, which he baked in his kiln to create a ceramic keepsake.

Modelling *thinking*

Architecture representation *The Origin of Drawing*

Justine Clark, an architectural theorist identifies the origins of drawing, claiming the first act of drawing was by Diboutades, a Corinthian maid, who traced the shadow of her lover's silhouette on the wall (see figure 3) as a way to remember him after he departed. In response to the myth, Clark suggests that, "We might also think of the myth as a picture plane – a surface onto which things are projected and traced, drawn and redrawn, reworked and revised." (2002 p. 9). The surface becomes a true depiction of the mind's expression, connecting us from the mind to the hand that creates the drawing. *The Origin of Drawing: event, embodiment and desire in architectural drawing*, Clark walks through the evolution of drawing, linking the common concerns of the body, sexuality and desire, (Clark cited Grosz, 2002, p.8), Diboutades invention of drawing can reflect a 'representative practice' portraying drawing as a creative process of design, Clark suggests "In varying ways this paper has described the complexity of drawing, exploring it as an active, activating, productive bodily practice." (2002, p.11). This thesis similarly uses the body as a primary condition to begin exploring architectural strategies. My own body features in the development of the making series, where I recorded my bodily movements as a time-based procedure. This exploration enabled a true depiction of my working process- and set the guidelines for future discoveries, Clark states that "Drawing is not only a memory device; it becomes a pattern or template for future making." (2002, p.11).

Fig. 4 Disegno from Cesare Ripa's Iconologia



Fig. 5 Fresco at Sala Del Disegno,
Father Disegno and his three daughter



Fig. 6 Giudizio from Cesare Ripa's Iconologia



Modelling *thinking*

Architecture representation *Drawing and Disegno*

Drawing in the Renaissance era opened a new meaning as a mode of practice for architects – the principle of drawing replaced a truthful depiction of the three-dimension world. For the first time, drawing became essential to architectural practice, focusing its attention on the “... vision to the detriment of those senses closer to the material, such as touch. The term ‘design’ comes from the Italian ‘*disegno*’ meaning drawing, suggesting both the drawing of lines on the paper and the drawing forth of an idea from the mind to physical reality”. (Hill, 2001 p.14). The famous passage in which Vasari wrote of *disegno*; “*Disegno*, father of our three arts of architecture, sculpture, and painting, (see fig. 4, 5 and 6), that proceed from the intellect, derives from many things a universal judgement of form or idea of all things in nature, and is unique in its measurements. This happens not only in human bodies and those of animals, but in plants as well and buildings and sculptures and paintings, recognising that the whole has a proportionate relationship to the parts and the parts to the other parts and to the whole. From this we recognise a certain notion and judgement such that something is formed in the mind, which, when expressed, is nothing other than a visible expression and declaration of that notion of the mind, and this we refer to as *disegno*.” (Quek cites Vasari, 2007 p. 49) The connection between thinking and drawing has been emphasised.

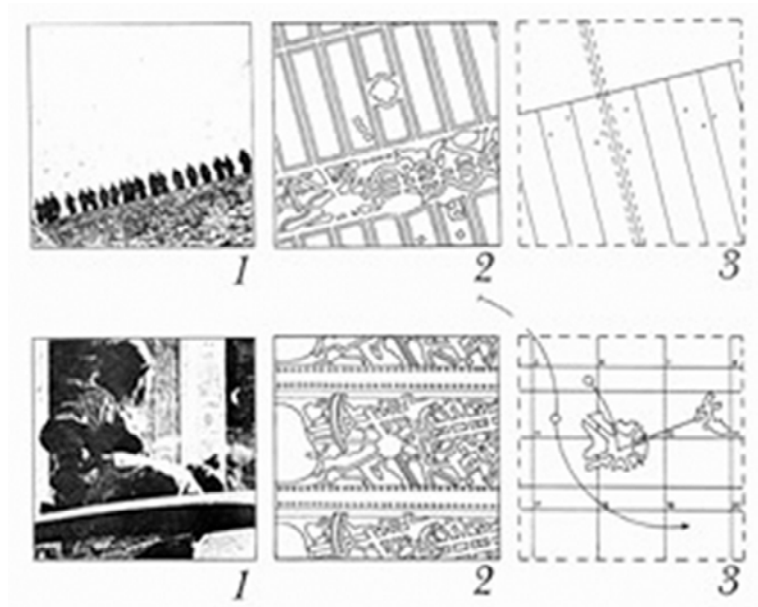


Fig. 7 *The Manhattan Transcripts*

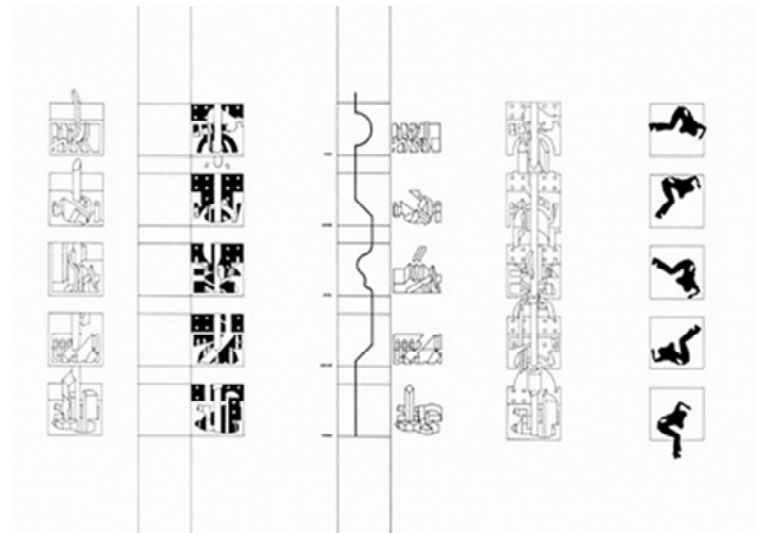


Fig. 8 *The Manhattan Transcripts*

Modelling *thinking*

Architecture representation *Manhattan Transcripts*

Drawing in closer relation to architecture and of the architect can be examined in Bernard Tschumi *Manhattan Transcripts*; a project that sets parameters through drawing as it maps a scene out over a specific site. Tschumi presents a set of theoretical drawings (see fig. 7, 8, 9 and 10) that do not seek that to represent; rather they are presented in the hope for the viewer to engage with the ideas underlying them. The rhythmic layout of the book suggests a deep concern into time and motion, as each page is understood then turned over, a reviewer states, Tschumi suggests in order to appreciate the theoretical drawings we must consider them through; "...a frame-by-frame description of an architectural inquest. By no means do they comprise of definitive statement; they are a tool-in-the-making, a work-in-progress." (1994, p. 6). This notion of a 'work-in-progress' becomes of interest in relation to this thesis. In desire to uncover the importance of this process, we soon discover hidden meanings that may have been over looked previously, our eyes can see the hidden detail within this procedure. As a means of establishing an alternative perception of the visual, Tschumi suggests, "... In which space, movement and events are independent, yet stand in a new relation to one another, so that the conventional components of architecture are broken down and re-built along different axes." (1994, p. 7). This reconfiguration of concepts re-thinks a conventional standard of thought. Clark from the previous discussion states that, "Drawing shifts and moves. It enables architecture to be shifted and moved." (2002, p. 11).

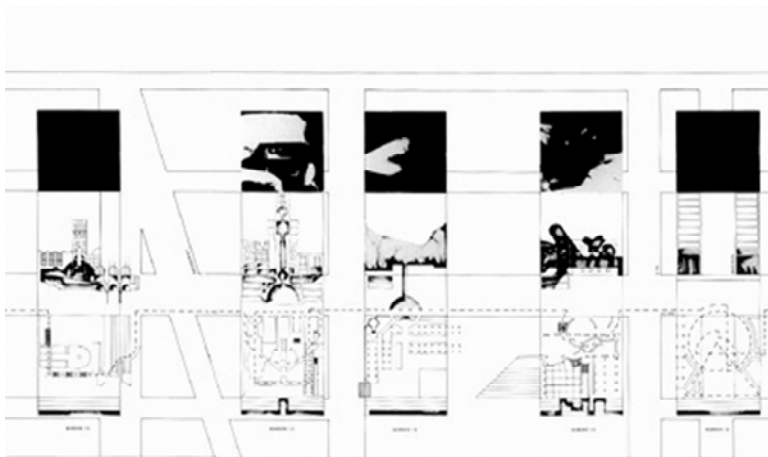


Fig. 9 *The Manhattan Transcripts*

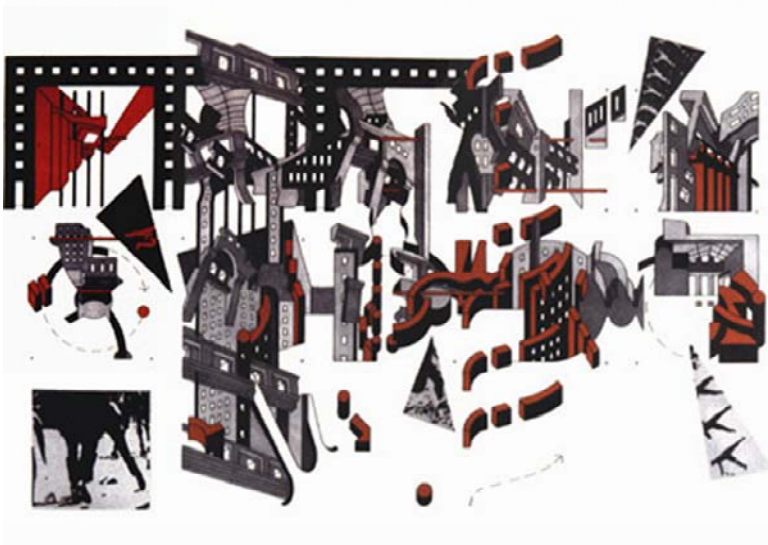


Fig. 10 *The Manhattan Transcripts*

Modelling *thinking*

Architecture representation *Manhattan Transcripts_* part two

In understanding Tschumi's theoretical practice, the reader needs to consider Eisenstein's diagrammatic methodology into his work that is unfolded along two lines in his architectural practice. Firstly, by exposing the conventionally defined connections between architectural sequences and the spaces, programs, and movement which produce and reiterate these sequences; and second, by inventing new associations between space and the events that 'take place' within it through processes of defamiliarization, destructuring, superimposition, and cross programming. (Tschumi, 2001, p. 55). This projection identifies previous design strategies as a one-way process; it denies the creativity of the user and other specialists involved in the building production. For the architect the drawing as an object is as real as the building, this is suggested because the architect makes the drawing not the building, also, the architect has a higher creative control over the drawing than over the building. Furthermore because the drawing is thus closer to the architects creative process the ease of erasing a line or adjusting the drawing can be done immediately. The drawing is the truthful representation of the building, indicating the architect's mastery of the seamless translation of ideas into physical matter, with the support of builders advice and interpretation.

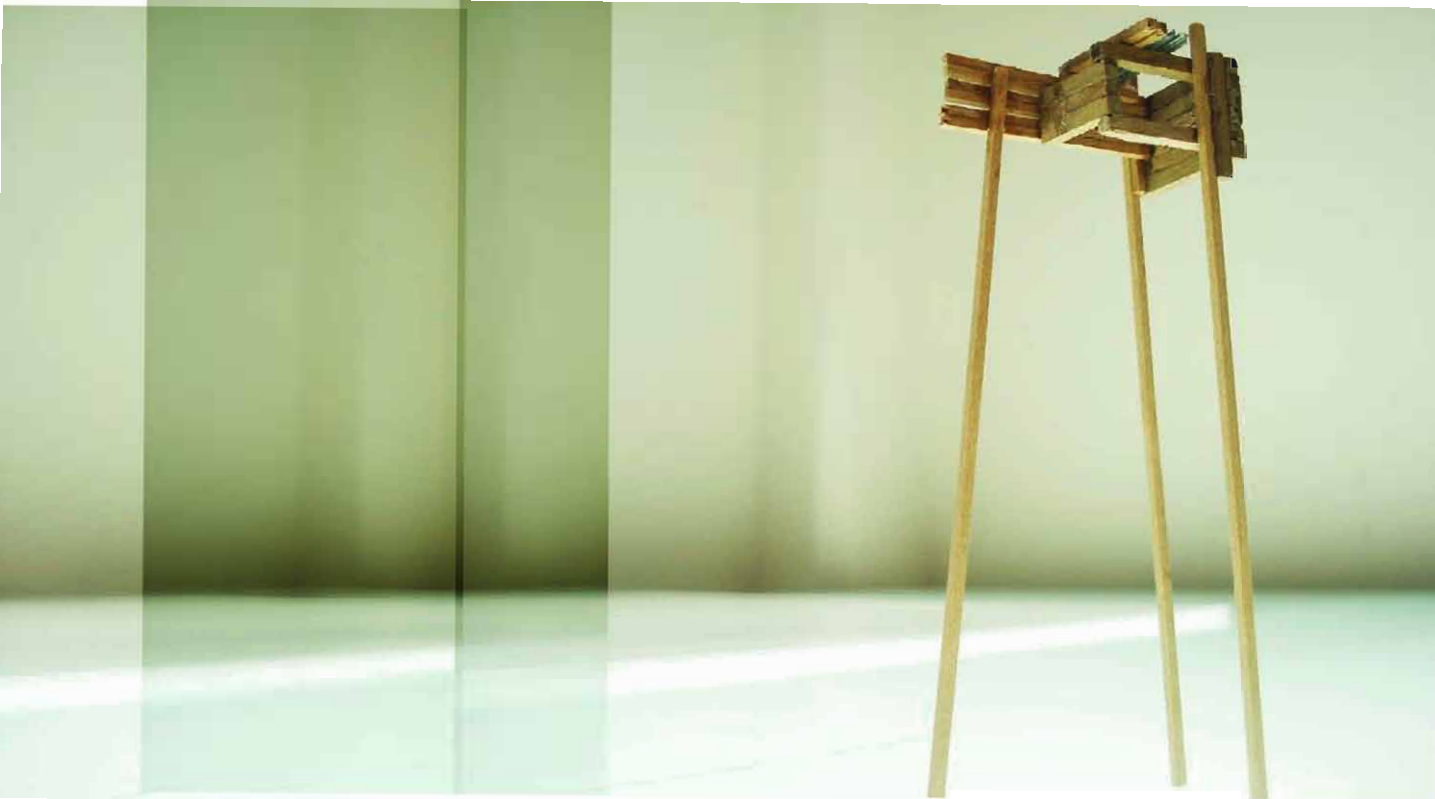




Modelling *thinking*

Architecture representation *Design through Making*

Architect Bob Sheil in *Design through Making* prioritises the process and as a design instigator, he reveals the importance of working with one's own hands and the tactical experience it evokes. To draw (or even make) with one's hand enables an intimate relationship with the drawings or concepts that are produced. For almost 500 years the role of the architect has been defined by the status of the drawing. In the first instance, as a visionary medium that could represent a three dimensional world from ideas contrived in the mind, then as a process that developed and projected intellectual meaning, and finally as a document that conveyed information sufficient to translate these ideas into matter. Within the past ten years however, the architectural drawing has changed its status more fundamentally than at any time since its initiation. The maker of the drawing is entering a territory that was formerly the exclusive realm of experts in craft and manufacturing. Whilst this has unleashed extraordinary potential for design experimentation, it presents a fundamental challenge on the architect's scope of knowledge in the disciplines of working with physical and tactile matter. Not since the medieval notion of the master builder has the architect occupied the realms of representation and fabrication with such interdependence.





Modelling *thinking*

Architecture representation *Design through Making_* part two

Sheil suggests that “As immaterial and intangible ideas develop, the question of how things are made generates a period of opportunity. If equipped with a critical understanding of the rich potential of this phase, the designer will approach this transition with confidence, prepared for the indeterminate nature of working with resistance, and adapt to change accordingly.” (Sheil 2005, p.15). This crucial step within the process is often disregarded, I hope to reinforce this understanding and prioritise the ‘process’ in a sense to reveal (or ultimately represent) an individual mode of thinking. The research-by-design project explores creative thinking: through making as a means of thinking, the modelling can also be presented as a means of ‘drawing’ – simultaneously working in collation with one another. It delves into a concern with sunlight as the temporal motif to design from, this is present within each of these elements poetically inscribing the durational change within a site. (Site in this case being the paper, mapping and representing the models shadows over the duration of the day). The next step will extend the site from the page and onto a physical fluid site, the ocean. Site as a means for design will be explored in the next chapter.





Modelling *thinking*

Architecture representation *Design through Making_* model three (cherry timber, steel rods)

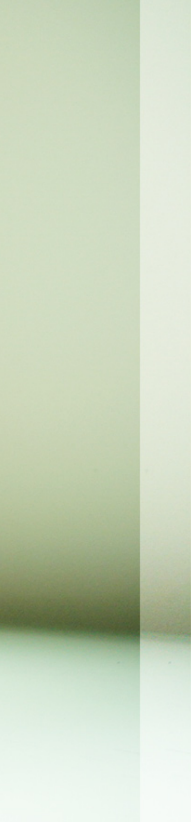




Modelling *thinking*

Architecture representation *Design through Making_* model four (cherry timber)





Modelling *thinking*

Architecture representation *Design through Making_* model five (cherry timber)

Site⁴

1 *noun* Archaeology a site where objects or material regarded as typical of a particular period are found, 2 *noun* the position or location of a town, building, as to its environment (cited in the Oxford dictionary 2005).

Modelling *thinking*

Site_ step two

Site⁴, and site thinking can be discussed in three ways, architectural theorist Carol J Burns asserts in the text *Site Matters: Design concepts, Histories, and Strategies*, identifies these common association's with the term being "... the vocabulary: the terms and concepts normally drawn upon to talk about site. The second deals with history: how the historiographical record treats site-oriented issues, design processes, and the siting of specific projects. The third strand investigates the manifestation and derivation of site-related design practices." (Burns, 2005 p.xix). These are the fundamental concerns I have established, that lie within the term operable around site. Initially, it simply referred the actual physical area in which a building was erected or a delimited space planned. Over the past century, though, it has gradually become a much more complicated concept, referring on occasion to the immediate surroundings of a parcel and on other occasions as part of a broader geographical complex in which different sectors interact with each other. And most recently, the site has come to be understood as a component of broader ecosystems, where the site and the broader system work upon each other. This understanding enables the complexities the term to be further investigated, as the topic is rare and difficult to grasp. Nonetheless, this research aims to extend the meaning through claiming my site is drawn upon by the individual makings, site is a subtle mode of thought and is interpreted differently among individuals.

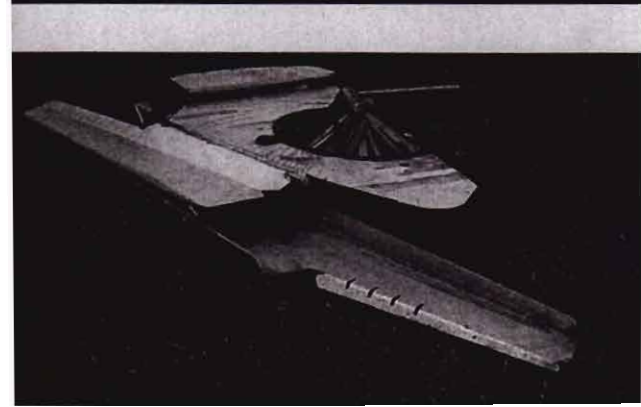


Fig. 11 Test assembly and site assembly, the site of fabrication and the site of future adaptation. The first component designates and provides the hearth of the prototype house.

Modelling *thinking*

Site_ *part two*

An interesting site convention was explored in Bob Sheil's *Design through Making*, a collaboration project of architects, scientists and industrial designers set out to create devices specific to their site that were to measure its environment. The small hollow structure was designed to measure an increase of temperatures; it could also determine the interior temperature changes. This delicate intervention designed relative to its environment conditions, revealed a system that could be utilised for architecture in adaptable climates. The team of designers were able to identify diurnal and nocturnal fluctuations, seasonal variations and yearly rhythms (see fig. 11). Within the reading Sheil comments "Architecture that is driven both by its immediate context and its own requirements... will be an architecture that has the potential to continually reinvent itself formally and behaviourally in relation to a particular context and to its own history." (2001 p. 66).

Modelling *thinking*

Site_ *part three*

This research investigation accepts architecture that continually transforms in an effort to become specific to location, and will perform long-term and begin to work along-side nature as oppose to against it. Our current method of design is founded upon the industrial revolution and its technological advancement, nevertheless this thesis recognises the fixation our western society has to be faster and bigger – this is rested for a moment as you explore through the pages. In *Drawing/Building/Text*, essays in architectural theory edited by Andrea Kahn cites Carol Burns whom discusses site; On Site: Architectural Preoccupations, the essence of the readings is, “Considering the site in terms of theory and sitting in terms of architectural activity outlines the insistent intersections of architecture, site and construction and also illuminates design thinking in architecture” (1991 p. 65). The notion of site as it informs our constructions offers another mode of designing, away from the mass-produced conceptions. Burns unpicks the definition of site and relates it to the physical body she asserts, “The multiplicities of site as definition is examined in this reading in addition ones body become the site... indeed, site threatens to become a free-floating signifier, attaching itself to an astounding number of objects: the artwork has become a site itself rather than existing in relation to one: the body is site; as are even its organs.” (1991 p. 58). My explorations consider the body as an important role in the depiction of design thinking, my processes engage with a self-reflection analysis that presents my hand as the starting point, a tool I know well. Modern western architecture divorces itself from the natural environment - this thesis supports a spatial-temporal condition, and my constructions are sited in time as built signifiers that communicate an understanding that matter is changing every minute of every day. These devices will communicate the un-noticed, by tracing the shadows I have captured a moment in time. Shadows are an insight into our changing environment, interweaving time and space between us.

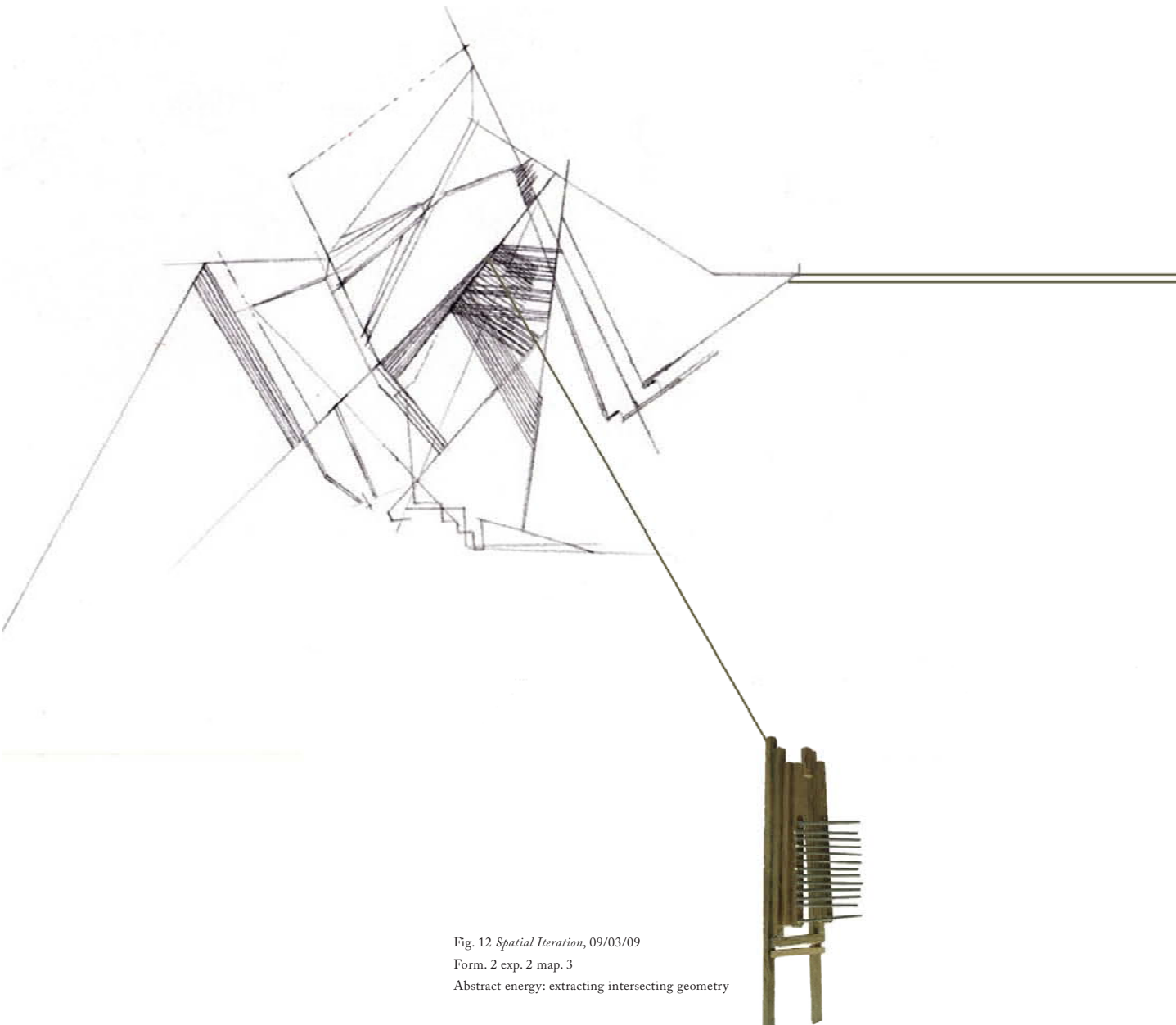


Fig. 12 *Spatial Iteration*, 09/03/09

Form. 2 exp. 2 map. 3

Abstract energy: extracting intersecting geometry

Modelling *thinking*

Site_ *Drawing site*

Architect Jonathan Hill in his text *Immaterial Architecture* asserts that drawing is the component that links the material and the immaterial. The term design has many meanings, I am interested in its relation to the idea in the mind, and how it connects to a process, described in a set of drawings, then constructed, then leading the idea seamlessly to building. In relation to this Hill suggests, "To translate the drawing into the building requires an intimate knowledge of the techniques and materials of drawing and building. The drawing is a means to explore and develop ideas, to speculate on space, form, matter and use. To design is to draw." (2006 p. 56). Hill notes that paper – the space of drawing, is crucial to the status of the architect and of architectural design. Paper within the Western architectural culture is unfamiliar, because it is considered as immaterial, not conceived as material. Yet it is highly regarded within Eastern architecture culture because it offers a soft boundary between the interior and exterior blurring the boundaries of shelter and nature; it reacts and negotiates with its surrounding environment. The cultural boundaries can begin to exchange a more nature inspired version, this research embraces a concern for the immaterial and how it can be reflected within the build fabric. Building the drawing means that the drawing is a physical construction with tangible architecture qualities and the drawing is analogous to the building in terms of its production and reception. Wigley writes: Paper occupies a liminal space between the material and the immaterial. This allows it to act as a bridge across the classical divide between material and idea. Drawings are seen as a unique form of access to the thoughts of the people that make them. Indeed, they are simply treated as thoughts. It is as if the materiality of the medium is transformed by the quasi-immateriality of the support rather than by simply exposed by it. A certain way of looking at paper, or rather certain blindness to it, allows physical marks to assume the status of immaterial ideas. (2006, p.59). I have taken considerable precaution into the selection of paper for use in this book, as it is conceived to bind and surface the theoretic grounding along with the bodily exploration undergone throughout the research period.

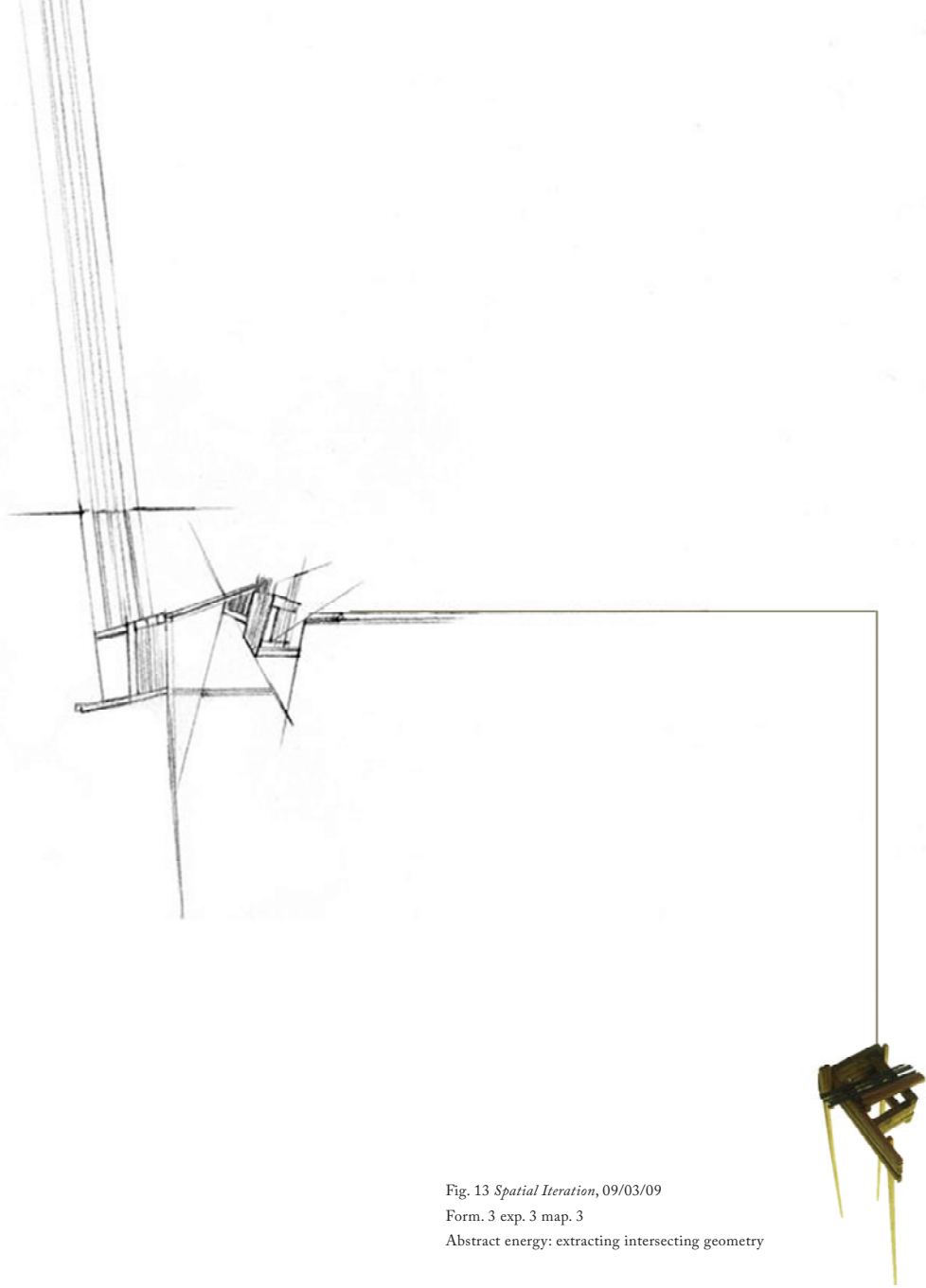


Fig. 13 *Spatial Iteration*, 09/03/09

Form. 3 exp. 3 map. 3

Abstract energy: extracting intersecting geometry

Modelling *thinking*

Site_ *Drawing site*

The iteration makings establish a process that is performed through a series of delicate steps, beginning with the material cherry timber construction and weaving them into delicately woven micro-models inspired by the stilt. The making's are produced with a select tool palette and my own hands. In following this by representing these iterations through digital recording (that would be further investigated and formed into a digital mind map) enabling the personalities of the models to come through. This step clearly identified the procedure I would continue to use throughout my studies.

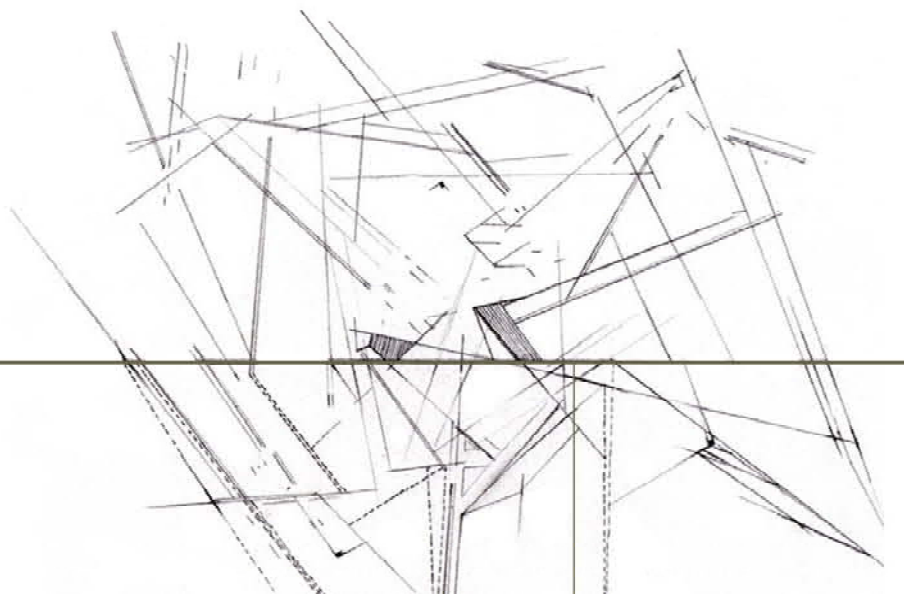


Fig. 14 *Spatial Iteration*, 09/03/09

Form. 4 exp. 3 map. 4

Abstract energy: extracting intersecting geometry

Modelling *thinking*

Site_ *Drawing site*

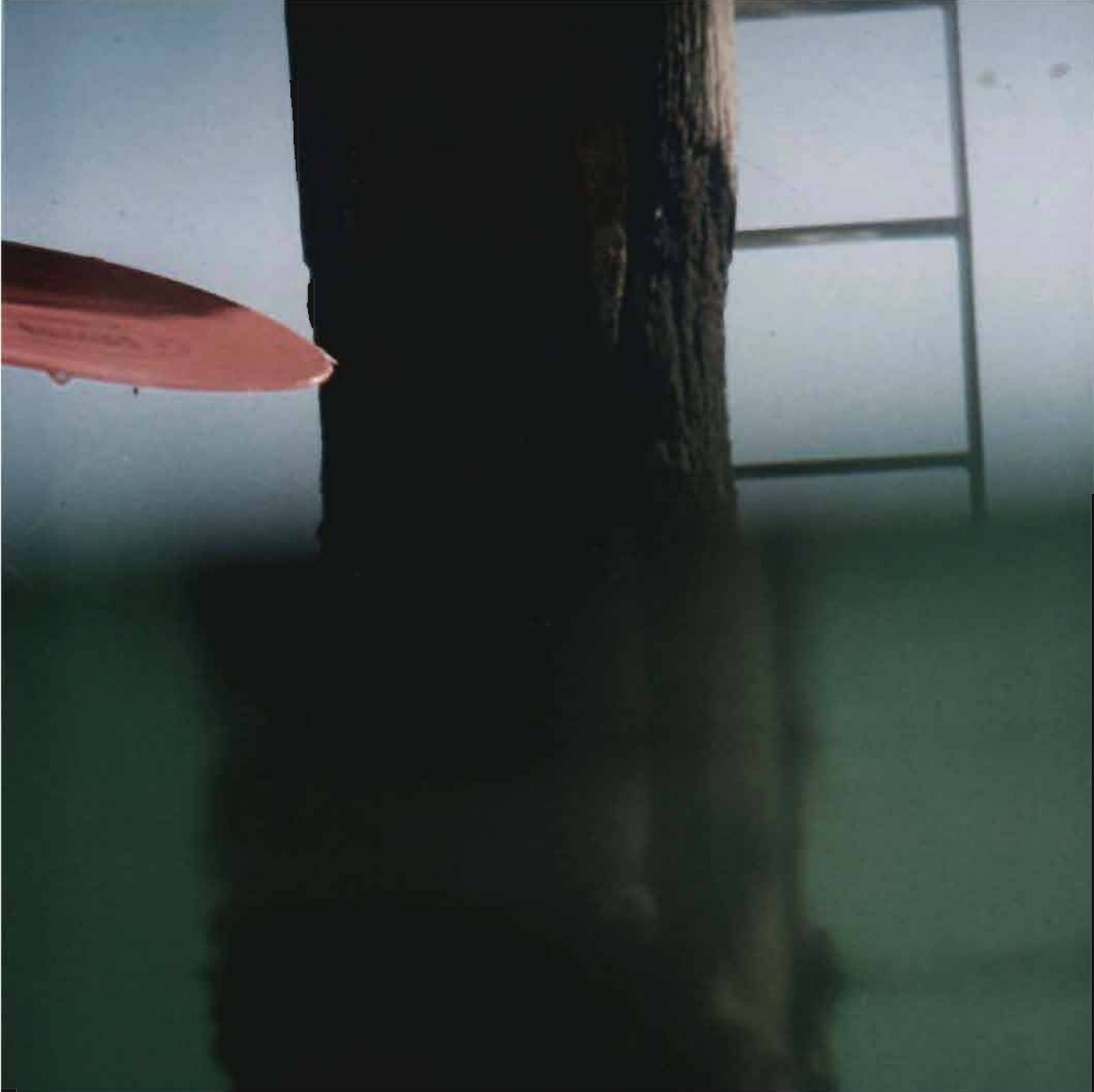
In order to further draw-out these pieces I wanted to include a different level of the process, I positioned the model on a flat two-dimensional surface, and by mapping the sun shadow that fell onto the page and drew every hour, over the duration of five hours. The paper becomes the model's site, allowing the drawings to become spatio-temporal representations that are cited under a time-based condition. The physical sites 'draw' or even map the temporal shifts of the ocean, the models embody change and becoming. The research is multi-layered, it practices modelling thinking in the effort to transform and develop a contingent process.



Modelling *thinking*

Site_ *Drawing as the site_ Reflection two*

My own research in relation to site drawing The minute drawings (see fig. 12 , 13, 14) emerge as temporalised sites for the models, referencing representation in a non-static mode, by momentarily capturing the direction of which the shadow would travel. This then initiated a move towards a more physical temporal site. Continuing off the page and into a one-person inhabitable shelter (a kayak) to explore the shift in tides, operating around Wellington Lampton Harbour, Frank Kitts Park marina. This eventual exploration of place and location offered a thought-provoking connection between the constant shifting in the tides and the seasonal transitions and the sites I had created by hand. It claims the datum line of the ocean acts as a metaphor for the spatial design discipline, 'in-between' alternating force, and constantly shifting in space and time.



Modelling *thinking*

Site_ *Drawing site* _underwater photography



Fig. 15 _ Temporalised model drawn upon through photography

Temporality⁵

1 noun (pl. temporalities) the state of existing within or having some relationship with time. (cited in the Oxford dictionary 2005).

Modelling *thinking*

Temporality_ step three

Temporalised space and duration plays an essential role in the theory underpinning my thesis. Discussing temporality Grosz asserts that “To refuse to conceptualize space as a medium, as a container, a passive receptacle whose form is given by its content, and instead to see it as a moment of becoming, of opening up and proliferation, a passage from one space to another, a space of change, which changes with time.” (Grosz 2001 p.119). Temporality and duration have occupied two modes in this process. Beginning with the relationship I have developed through my making was identified as a time-based procedure; furthermore the makings then mapped the duration over paper. They are conceived as time-drawings (see fig. 15). In addition the connection I have made with the ocean as it reinforces the concept design leading temporality, Grosz asserts, “Space itself, the very stuff of architectural reflection and production, requires and entails a mode of time, timeliness, or duration. (2001, p. 110).

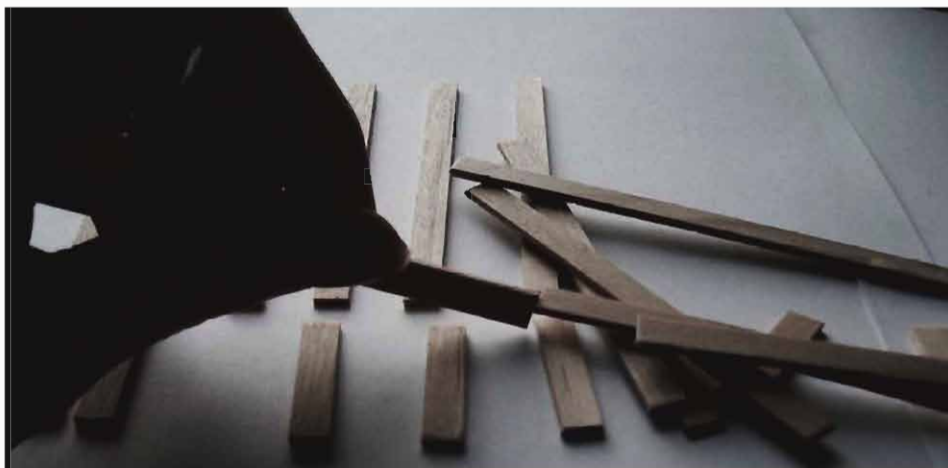
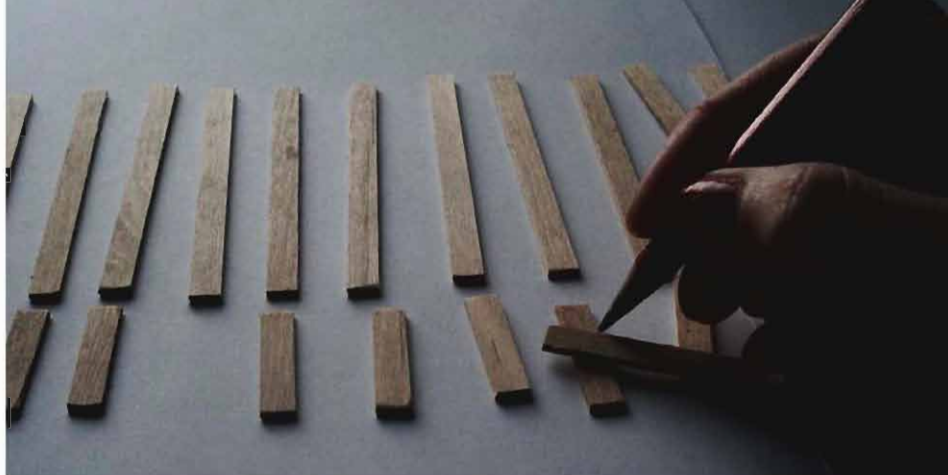
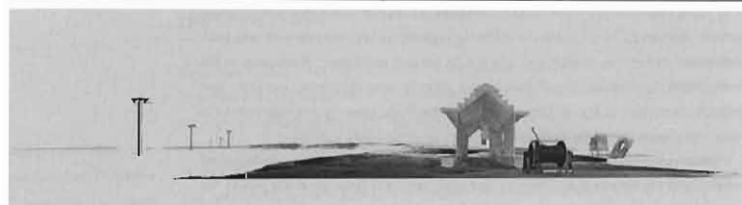
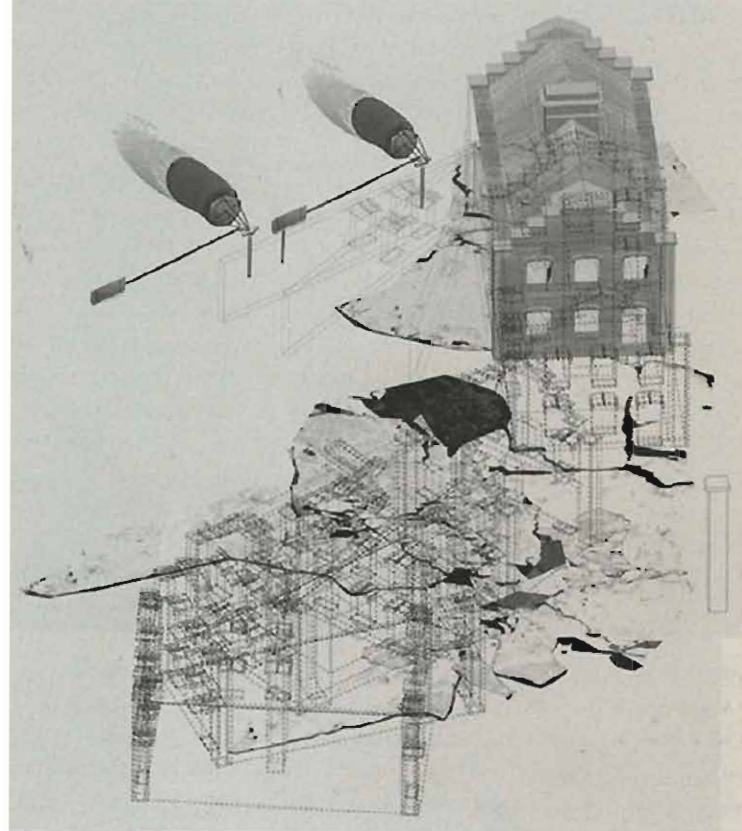


Fig. 16 Spatial iteration document - photography used to capture the essence of the working process established.

Modelling *thinking*

Temporality

My generative makings are constructed and recorded under temporalised conditions operating in space and time. The dimension of real-time is present whilst producing these informative structures; a video records my movements and actions (see fig. 16), offering a playback of virtual resources by programming my processes digitally. The essence of this recording reveals a passionate nature to the work. The intimate scale models explore the notion of temporality in the sense that they were constructed under a temporal condition, they can be reconstructed to create a new forms or objects. These models may help us to understand, see, think, and build differently according to other logic of invention and experiments.



Modelling *thinking*

Temporality_The Flood House

Delving into temporalised construction *The Flood House*, located in the Netherlands and designed by Matthew Butcher, is positioned in a site where the relationship between the land and sea work together as one, rather than against each other. Because the Dutch government built dams to reclaim land lost to the sea, over the past few centuries, “today two-thirds of the Dutch population lives below sea level. But, as the sea continues to rise, attitudes change.” Butcher proposes *The Flood House* (see fig. 17) as an alternative model in which inside and outside coexist to the mutual benefit of the environment and its occupants. Butcher states that house and flood are not opposite terms. The house floods and the flood house, it becomes weather architecture. It is a prototype for the inhabitation of a seasonally flooded landscape; the flood house does not oppose fluid forces with inflexible barriers. To describe it is, “Immersed in a constantly evolving system, as boundaries shift and blur, fluctuations in climate, matter and use are its subject and fabric. Analogous to the environment it inhabits, *The Flood House* records and responds, expands and contracts, reconfigures and adapts according to the tides, seasons and users. What is inside one moment may be outside the next.” (p. 198). Open to change, the flood house is a matrix of interconnected spaces in which users inhabit alternative routes and varied configurations of open and closed spaces. *The Flood House* questions the assumption that it is possible and useful to predict the user’s needs. As a material and a process of architecture, weather and change, it becomes a sort of weather architecture.



Modelling *thinking*

Temporality_ Final exploration

The final step in this research and design work advocates a theory derived body of work. The final models encompasses all of the theory-based concerns I have previously walked through. In the aim to construct two formations that act as measures for my chosen site, the ocean. The temporal spatial interventions act as a devices that frame time, for a moment capturing the sun and its reflection upon the sea. They are produced in the hope to break the divorce we currently have with the environment, communicating a more fluid and ephemeral practice. Architecture often disregards space and time, these modes construct space in relation to spatio-temporalised considerations over a static, immobile assemble in space. The extended detail (see fig. 18) constructed from rimu timber and brass hinges, was located at Island Bay beach, it extended its form on a existing pier. As I observed the model, the hinges allowed more flex and response to the wave (see film) as the wave intensified the obscure motions of the models offered a new life to the object.



Modelling *thinking*

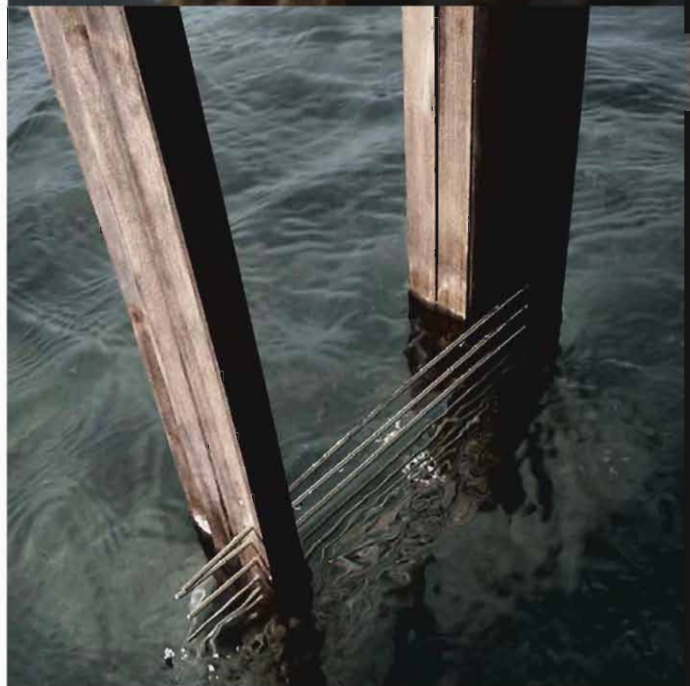
Temporality_ Final exploration



Modelling *thinking*

Temporality_Final exploration two

The second site intervention was an attempt to act upon concepts of measure and communication. The public intervention (see fig. 19) was located within my site that of, Lampton Wharf, in-between Frank Kitts Park and the ocean. The aim was to physically embed the model on the shoreline to measure depths changes, elegantly extending from an initial making. The site intervention was constructed from pine timber and brass rod's that measured 160cm in height, and the rods were inserted every 5cm there after.



Modelling *thinking*

Temporality_ Final exploration two

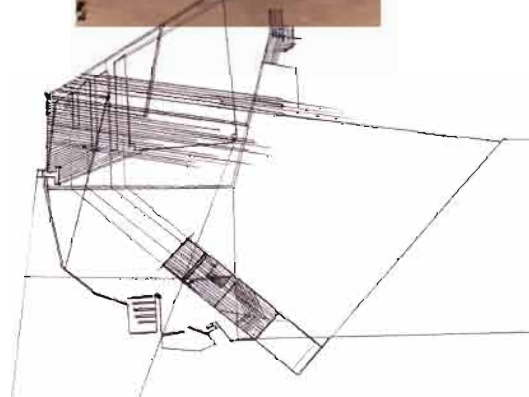
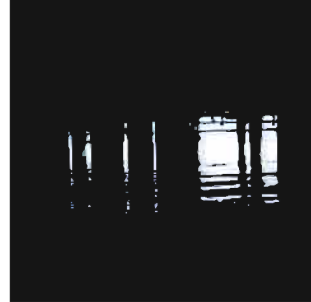
The photography (see fig. 20) represents the model within its environment, and the reflection upon the water. Over the duration of the written discourse, an evolvment through representation via architecture has set the framework for the new direction, a concern for site: conceptually (the models), and physically (a concern for the environment). In the field of physical design, disciplines evolve. As ideas change about what design entails, there relationship between design disciplines transform as well. Ever since the early Renaissance marking the birth of modern abstraction, when Leon Battista Alberti coded disegno as a formal operation, defining architecture and landscape architecture, it became distinguished. This enables the term site to be shifted from paper where the design generation began, to a more physical fluid site, the ocean.



Modelling *thinking*

Temporality_ Final site intervention

The site interventions developed in my research-through design process suggest an architecture that privileges both space and time, responding to and mapping the changing environment within which they are sited. The constructions are sited 'in-between' the urban city and the fluidity of the sea, bridging between these states. The site interventions encompass the key concepts explored within this research ; operating as architectural representations – 'models' shadows, wind or wave 'drawings', they challenge architecture's traditional status, connecting with the temporal environment as devices that continually map or 'draw' these shifts in space and time. From here I intend to use these site-interventions and the site drawings (representing the traces of shadow, mappings of wind and water) to develop an architectural intervention in Wellington's waterfront.



Modelling *thinking*

Conclusion_step four

This thesis, like the stilt moves between conditions, through practice-based research it draws connections between flexible explorations and a written discourse. We experience space through shifting between thresholds moving between interior and exterior. This shift is manifested through a set of design iterations, opening into new territory, that of time. The dimension of time is manifested through a mode of representation that I have classified as, site-drawing. A deep concern for site has altered design thinking in this research, binding disciplines together in new ways. These boundaries provide fertile location for cross-disciplinary interventions. Spatial design comprise of this new discipline, a field operating in flux and constantly shifting in space and time. Spatial planning will echo its surrounding environment, oriented not as a means of dislocation, rather a space the moves and adapts through time. The notion to 're-think' standard conventions has enabled architectural representation to be relocated within the realms of time-based condition, reinstating a connection to the fluidity of the ocean, to design architecture that encompasses the changing environment. Spatial design therefore asserts site, beginning with the micro (hand and model iterations) and proceeding into macro (site-interventions/measures) is a main clause for spatial designing.



MAU Forum

ART • IDEAS • ACTIVISM

27/02 - 21/03

TEMPEST: *Without a Body*
05/03





Modelling *thinking*

Appendix_ Charette for semester two

I propose to develop a transcendence piece that lies between fluidity and stability, utilising architectural practices whilst containing an empathy for temporality. The dwellings developed will be activated through their duration, they will be located on the ocean in Wellington's waterfront. A residential collection of spaces that will house visitors to the city - housing performances for MAU design forum. Time acts out through the generative medium, through drawing and gestural modelling. Key concerns will contain; an environmental responsiveness, a concern for the eventual and the mode of experience, time and transcendence, drawing/representation through shadow and time.

Site - Wellington's Waterfront, bridging between Frank Kitts Park and the ocean. A space to house events micro self-reflective spaces (poets lofts) and also creating a larger scale public space, for conferences and performances.



BIBLIOGRAPHY AND REFERENCES

Bergson, H. (1913). *Matter and Memory*. New York: The Macmillan Co.

Becher, Bernd & Hilla. (1999). *Typologien Typologies*. Munchen: Schirmer/Mosel.

Burns, C. Kahn, A. (1991). *Site Matters*. USA: Routledge.

Burns, C. (1991). *Drawing/Building/Text*, USA: Routledge.

Charity, Ruth. (2005). *Reviews Artists and Public spaces*. England: Black Dog Publishing

Clark, J. (2002). *The Origin of Drawing: event, embodiment and desire in architectural drawing*. Brisbane: SAHANZ.

Deleuze, G. (1986). *Foucault*, Sean Hand (trans.), Minneapolis, University of Minnesota Press

Deleuze, G. (1988). *Bergsonism*. London, England: MIT Press.

Grosz, E.A. *Architecture from the Outside. Essays on Virtual and Real Space*. Cambridge & London: The MIT Press, 2001, p.57-62.

Hill, J. (2001). *Architecture – The subject is matter*. New York: Routledge.

Hill, Jonathan. (2006). *Immaterial Architecture*. USA: Routledge.

Hubbard, B. (1995). *A Theory for Practice, Architecture in Three Discourses*. England: The MIT Press.

Kotoulas, Sotirios. (2005). *Space Out*. Austria: Springer-Verlag/Wien and RIEAeuropa.

Fascari, M. (2007). *From Models to Drawings*, USA: Routledge.

Melet, Ed. Vreedenburgh, Eric. (2005). *Rooftop Architecture: Building on an elevated surface*. Rotterdam: Nai Publishers

Richardson, Phyllis. (2007). *XS: Small Structures Green Architecture*. United States of America: Universe Publishing.

Saltzman, L. (2006). *Making memory Matter*. Chicago & London: The University of Chicago Press.

Sheil, B. (2001). *Design through Making*, USA: Routledge.

Thomas, K.L. (2007). *Material Matters: Architecture and material Practice*. Oxford: Routledge.

McDonough, William. Braungart, Michael. (2002). *Cradle to Cradle*. New York: North Point Press.

Tschumi, Bernard. (1994). *The Manhattan Transcripts*, London: Academy Editions.

Vienne, V. (2001). *Veronique Vienne – Essays on Design*. New York: Graphics Inc.

Wagner, Aleksandra. Menser, Michael. (1997). *Radical Reconstruction: Lebbeus Woods*. New York: Princeton Architectural Press

Oxford Dictionary. Published 2009

WEBSITES RESOURCES

[http://books.google.co.nz/books?id=CUOcVm24PGgC&dq=Site-specific+art+\[Nick+Kaye](http://books.google.co.nz/books?id=CUOcVm24PGgC&dq=Site-specific+art+[Nick+Kaye) Visited (20/04/09).

http://www.arch.ttu.edu/courses/2008/summer/practicum/Reading_Resources/Reading_OnSitebyCarolBurns. Visited (8/04/09).

<http://www.eisenmanarchitects.com/> Visited (20/04/09)

<http://www.dezeen.com/2007/02/>

<http://www.todayandtomorrow.net/2008/12/03/stilt-houses-by-arne-quinze/>

<http://www.ncbi.nlm.nih.gov/pubmed/2092595>

<http://www.lincoln.ac.uk/home/conferences/human/papers/Milani.pdf>

<http://www.designmuseum.org/design/louis-kahn> (Louis Kahn)

<http://www.tschumi.com/> (Bernard Tschumi: Tschumi Architects).

http://www.ted.com/index.php/talks/theo_jansen_creates_new_creatures.html (Theo Jansen: Kinetic Sculptures.)

<http://www.newplymouthnz.com/VisitingNewPlymouth/Attractions/PublicSculptures/LenLyeWindWand.htm> (Len Lye: Wind Wand)

<http://www.arcspace.com/books/zumthor/> (Peter Zumthor)

<http://books.google.co.nz/books?hl=en&lr=&id=3JEhQLYnbWAC&oi=fnd&pg=PA2&dq=Deleuze+quote+in+grosz+about+thinking+as+making&ots>