NIK2SKIN
THOMAS IBBOTSON

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A provocative expression of
the dynamic relationship between the surface of the body and the surface of architecture.

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Figure 1. Image by Author. 2011
Aerial View

ABSTRACT

It can be argued that modern architecture has expelled the building's relationship to the ground. Raised on pilotis, modern buildings constructed the platform as an artificial ground plane. Ultimately, the platform was a two-dimensional plane, flattened to aid our transition across the built environment. This horizontal plane merely tolerated inhabitation. Unfortunately the language synonymous with this plane has been extended into contemporary architecture. It is proposed that the rigidity and stability expressed by the surface of the horizontal plane has failed to reflect the body, stimulate interaction, or challenge the inhabitant of architecture.

To free the horizontal plane from its rigid axis this thesis aims to break away from the conventional building typology inflicted by modern architecture. As the force of gravity restricts our inhabitation of the built environment to the horizontal plane we directly engage with this surface of architecture. It provokes the question, how can the design of the horizontal plane engage the body and challenge the inhabitant to intensify the experience of architecture? An exploration of the skin-to-skin relationship between the surface of the body and the surface of architecture directs this thesis toward a provocative design exploration and evokes an expressive horizontal plane.

To challenge the restrictive conception of architecture's horizontal plane the program of inhabitation for this design project explores the practice of yoga. Now conceived as a dynamic force, the body can be activated by architecture's horizontal plane. This surface provides an expressive canvas with the capacity to embody the dynamic movements of yoga. It aids, activates and challenges the participant's body and amplifies the experience of yoga. An expressive horizontal plane, central to the inhabitation of a yoga centre, generates a dynamic space that provokes a dialogue of interaction between the inhabitant and the surface of architecture. A dynamic plane has emerged.

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1.0 INTRODUCTION

Architecture continues to evolve as contemporary designers attempt to redefine the built environment. Rapid advances in digital technology, building materials and construction conventions are breaking down the rigid and rectilinear limits synonymous with modern architecture. Designers now exploit the full potential of contemporary technology as they extend fluid forms, shapes and surfaces to the built environment.

The surface of contemporary architecture is now saturated with unique and exciting expression. However the aesthetic, parametric and performance-driven manipulation of building surfaces are predominantly restricted to the vertical façade, the face of architecture. Although manipulation of the vertical plane creates aesthetically unique and refreshing spaces, the impact of these provocative surfaces appears to be significantly weakened by the repetitive use of a two-dimensional and static horizontal plane. With the exception of a few designers, contemporary architecture has failed to extend these challenging surface manipulations to the horizontal plane.

The horizontal plane of current architecture merely conforms to the functional requirements that conceive it as two-dimensional, rigid, static and stable. It has accepted a neutral condition. Flattened to aid an arbitrary and often autonomous transition across the built environment, it tolerates our inhabitation as it simply resists the mass of the body and accommodates the burden of heavy loads placed upon it. The horizontal plane has received little attention within the conventional design process as it lacks expression and denies the body as an active force within architecture.

Figure 2. Airspace Tokyo, Thom Faulders. 2007
http://faulders-studio.com/proj_airspace.html#
Accessed 26/02/2011.

Figure 3. Airspace Tokyo, Thom Faulders. 2007
http://faulders-studio.com/proj_airspace.html#
Accessed 26/02/2011.

We have inferred an architectural language on the horizontal plane of the built environment that expresses rigidity. Perhaps this language is second to our own, a foreign language, or perhaps it has simply been lost in translation to the built form. A language that expresses order, control and stability appears to deny the unpredictable, unstable and dynamic qualities inherent to the body's interaction with the surface of architecture. This reflects a sufficient gap in the conception of architecture's horizontal plane and provokes an exploration of the dynamic forces inherent to our inhabitation of the built environment.

Inhabitation of the built environment is restricted to the horizontal plane by the force of gravity. As we directly engage with the surface of architecture's horizontal plane it mediates our encounter, experience and interaction with the built environment. Because it comes into contact with the dynamic forces of the body, the horizontal plane provides a unique canvas. This canvas is currently blank. The potential of this plane provokes this thesis to depart into a design exploration that could generate architecture and inform a dialogue of dynamic interaction between the surface of the body and the surface of architecture. The horizontal plane has the potential to challenge the inhabitant and provoke interaction.

This thesis aims to position the surface of architecture's horizontal plane as an expressive interface at the intersection of the dynamic forces between the body and the ground. It poses the question, how can the design of a horizontal plane engage the body and challenge the inhabitant to intensify our experience of architecture? This thesis will challenge the previous top-down approach to architecture as it employs an exploration of the body's interaction with the horizontal plane as a point of departure into the process of design. It will question the potential of architecture's horizontal plane as an expressive canvas and offers the possibility to rethink the way the body engages with and inhabits architecture.

To achieve this aim, Chapter Two explores Nigel Thrift's contemporary critique on the theory of 'affect'. Defined as a sensate response to the physical environment, an affective relationship conceives the body and the horizontal plane of architecture as an interdependent network of dynamic forces. An affective relationship between the body and the horizontal plane of architecture could provoke an exciting design exploration that challenges the traditional preconceptions of how the body engages with surfaces and inhabits space. It will challenge the static inhabitation of conventional architecture as it elicits a dialogue of interaction.

Figure 4. Shenzhen International Energy Mansion. BIG architects. 2009
<http://www.archdaily.com/34496/shenzhen-international-energy-mansion-big/>
Accessed 26/02/2011.

Figure 5. Shenzhen International Energy Mansion. BIG architects. 2009
<http://www.big.dk/projects/sem/>
Accessed 26/02/2011.

Extending from Nigel Thrift's theoretical discourse on 'affect', Chapter Three employs the writing of John Rajchman to underpin a critique of the surface of architecture's horizontal plane. This chapter will critique the horizontal plane employed by both traditional and modern architecture and extend towards a position that reflects the contemporary architectural context. Rajchman's technique of 'ungrounding' will be explored. Designed to free the horizontal plane from the rigidity inflicted by both traditional and modernist architecture, it injects the horizontal surface with the dynamic forces, flows and movements, of the body within the contemporary context. A constructed landscape of liquidity, fluidity, flexibility and malleability could emerge.

Chapter Four identifies the Yokohama International Port Terminal designed by Farshid Moussavi and Alejandro Zaera-Polo of Foreign Office Architects as an integral case study that explores the horizontal plane of architecture. It engages the body and attempts to challenge the inhabitant of architecture. A critical analysis of this project will detect the limitations inherent to the translation of theoretical ideas into the physical spaces of architecture. Furthermore, it will identify the many insights offered by the Yokohama International Port Terminal and extend these into a design project that expresses a dynamic surface at the intersection of the body and the ground.

Finally, Chapter Five will explore the design process inherent in the architectural project of this thesis, a yoga centre. The design project will employ a range of media to extend an understanding of the skin-to-skin relationship between the surface of the body and the surface of the architecture's horizontal plane. The theoretical ideas developed within this thesis will not only be tested within a design project, they will also be extended to inform an architectural response that strengthens the inhabitation of the yoga centre. The chapter will discuss the insights and limitations inherent to the design process as the theoretical concepts are translated into architecture.

CHAPTER TWO

2.0 AFFECT THEORY

Architecture often employs conventional elements such as platforms, ramps and stairs to shape the built environment. These elements exhibit flat, rigid and static surfaces that merely define a monotonous inhabitation of architecture. In contrast, the active body is anything but conventional. It is dynamic. It has become obvious that there is a disparity between the static surfaces of architecture and the dynamic surface of the active body.

Chapter Two aims to develop an understanding of the theory of 'affect' by exploring the skin-to-skin relationship between the surface of the body and the surface of architecture. It will depart a static definition of the body as it aims to expose the body as a network of dynamic forces amongst the speed, chaos, and unpredictability of the contemporary urban context. Ultimately, this chapter propels the design component of this thesis towards a dynamic surface that engages the body in a resonating dialogue of interaction with architecture.

Initially, Chapter Two will propose a new theoretical framework and attempt to track down the slippery definition of 'affect'. The chapter will trace the writing of Nigel Thrift in his text 'Intensities of Feeling' to define a theoretical position that supports this thesis. It will unpack the body's affective system and discuss the inhabitant's capacity to affect and be affected as the surface of the body encounters the surface of architecture. It will then suggest the potential of this encounter to mobilise the body. At this point the chapter will expose the limitations inherent to the theoretical discourse of affect and provoke a departure from the printed medium into the design process of architecture in the physical environment. The writing of Nigel Thrift is supported by a number of authors who establish the active body as a dynamic force.

Figure 6 (previous page). Notion Motion, Eliasson. 2005
Eliasson. 2008. Studio Olafur Eliasson: An Encyclopedia. p. 442

Figure 7. 360° Expectations. Eliasson. 2001
Eliasson. 2008. Studio Olafur Eliasson:
An Encyclopedia. p. 496

Figure 8. 360° Expectations. Eliasson. 2001
Eliasson. 2008. Studio Olafur Eliasson:
An Encyclopedia. p. 496

FRAMEWORK.

The twentieth century is responsible for a 'linguistic turn' in the discourse of architecture. Emphasizing language, the linguistic turn employed the printed word as the primary medium of both intellectual, and conceptual thinking. The printed word was engaged as a critical tool to analyze architecture and progress the discipline. However, the later stages of the twentieth century expressed reservations toward theoretical text and language was perceived as insufficient to progress architecture into the twenty first century. As a consequence, "language is no longer assumed to offer the only meaningful mode of communication" (Thrift, 2004, p. 59). There has been a shift away from the linguistic mode of critical theory.

In response, post critical theory has inferred a shift towards the sensate in the affective turn associated with the French philosophers of post structuralist theory. Originally conceived in philosophy, the theory of affect appears to have many implications over diverse disciplines. It was extended to the discourse of architecture during the 1990's and has progressed the theoretical thinking of the discipline amongst a rapid increase in the speed, chaos, and instability of the twenty first century. The new theoretical framework exploits the abundance of contemporary technology as it attempts to narrow the displacement that has been inflicted between the body and architecture. Text is rejected as the sensate experience of architecture is emphasised.

Figure 9. Your Negotiable Panorama.
2006. Eliasson. 2008. Studio Olafur
Eliasson: An Encyclopedia. p. 480

Figure 10. Your Negotiable Panorama.
2006. Eliasson. 2008. Studio Olafur
Eliasson: An Encyclopedia. p. 480

DEFINITION.

Ironically, the discourse of ‘affect’ occurs only in the printed medium of language. A definition of the theory appears difficult to track down as theoretical discourse fails to provide a stable approach to the theory of affect (Thrift, 2004, p. 59). Thrift emphasises this:

It can mean a lot of different things. These are usually associated with words such as emotion and feeling, and a consequent repertoire of terms such as hatred, shame, envy, jealousy, fear, disgust, anger, embarrassment, sorrow, grief, anguish, pride, love, happiness, hope, and wonder, though for various reasons, I do not think these words work well as a simple translation of the term ‘affect’ (Thrift, 2004, p. 59).

Affect is often employed as a noun, a describing word. Thrift highlights the extensive repertoire of emotional registers commonly associated to affects. These denotative terms that merely describe the body’s emotional repertoire do not have the capacity to engage with the complex intensities that form affects. Limited to the denotative and descriptive uses of language, the printed medium struggles to engage with, or achieve, an affective relationship to the reader. In his text, *Feeling, Emotion, Affect*, Eric Shouse suggests the printed medium is the only mediated form of communication incapable of producing affects (Shouse, 2005, p. 13). Conceived purely as the product of each encounter, architectural discourse neglects the process of constructing affect. Consequently, this instability extends an exciting invitation to explore and translate the many interpretations of affect.

Thrift alludes to the simple definition that conceives affect as the influence of change. In architecture, Peter Eisenman suggests this change is a sensate response to the physical environment (Eisenman, 1992, p. 43). Primary to the human body, these sensate reactions are considered rapid, relatively inflexible and difficult to modify. They require minimal attention to occur and are capable of being activated without the individual’s awareness (Shouse, 2005, p. 6). Affect is also considered an event, or a dimension of every event and the affective body is continuously engaged as affects become the background noise that commentate our daily lives (McKim, 2009, p. 1). This immaterial intensity navigates the body’s exterior skin and flows fluidly through the interior body. Affects produce an experience of intensity that accompanies a change in the body’s state as it prepares itself for action (Shouse, 2005, p. 5). The body’s affective system not only responds to, but also activates our interaction with the physical environment; particularly the horizontal plane of architecture.

Figure 11. Frost Activity, Eliasson. 2004
Eliasson. 2004. Your Lighthouse:
Works With Light. 1991-2004. p.170

The discourse of contemporary architecture needs to depart the descriptive terms previously listed to create an affective experience that intensifies the program of its inhabitation. Shouse expresses, “the body has a grammar of its own that cannot fully be captured in language” (Shouse, 2005, p. 5). This language is complex. Thrift identifies four approaches that discuss the nature of affect and translate these ideas to the physical environment. Each approach shares coherent connections but expresses subtle differences. These approaches have been derived from phenomenology, Sigmund Freud, Charles Darwin, Baruch Spinoza and Gilles Deleuze. Within each approach, Thrift explores the lines of energy that construct the forces inherent to the body and projects emotion as motion both literally and figuratively (Thrift, 2004, p. 60). He states explicitly that affect is understood as a form of thinking and the spaces they generate must be considered in the same way, as a means of thinking and as thought in action (Thrift, 2004, p. 60). For the theory of affect to be successfully applied to the physical medium of architecture we need to engage in the process of constructing an affective encounter with the built environment.

APPROACH.

To trigger an architectural response, this thesis discusses ‘affect’ through the position originally defined by Spinoza and developed through the recent discourse of Deleuze. Spinoza’s theory challenged the thinking of Rene Descartes who conceived the body as two separate substances, of mind and body (Thrift, 2004, p. 61). Spinoza was a monist. He conceived the mind and body as one substance, “everything is part of thinking and doing simultaneously” (Thrift, 2004, p. 61). His approach adheres to the concept that defines an individual as a response to the events they participate in (Thrift, 2004, p. 60). Spinoza defined the body through its potential to affect and be affected, its capacity for action, and the intensity resulting in the transformation of the body’s physical state. This approach “hinges on adding capacities through interaction in a world that is constantly becoming” (Thrift, 2004, p. 61). It possesses the greatest potential in architecture as it provokes spatial opportunities that resonate with the body.

Figure 12. Notion Motion, Eliasson. 2005
Eliasson. 2008. Studio Olafur Eliasson:
An Encyclopedia. p. 441

Figure 13. Notion Motion, Eliasson. 2005
Eliasson. 2008. Studio Olafur Eliasson:
An Encyclopedia. p. 441

AFFECT AND AFFECTED.

Spinoza employs the term ‘affectus’ to describe the body’s capacity to affect and be affected. Ultimately, he conceives ‘affectus’ as the encounter between the affected body and a second, affecting body (Shouse, 2005, p. 1). Spinoza suggests, “an individual may be characterised by a fixed number of definite properties (extensive and qualitative) and yet possess an indefinite number of capacities to affect and be affected by other individuals” (Thrift, 2004, p. 62). Shouse extends this concept to suggest that affect can be transmitted between bodies as it is an unstructured and unformed intensity of energy (Shouse, 2005, p. 12). This is integral to the progression of this thesis. He determines that because affect is abstract, “the transmission of affect means that we are not self contained in terms of our energies and there is no secure distinction between the ‘individual’ and the ‘environment’” (Shouse, 2005, p. 12). Affects escape the body as they are transmitted between two complex bodies in the process of an active encounter.

ENCOUNTER BETWEEN BODIES.

Dependent on two complex bodies, it is proposed that an affective encounter with the human body can be constructed at the surface of architecture’s physical environment. In architectural discourse, affect has been defined as the body’s sensate response to a physical environment (Eisenman, 1992, p. 43). This is supported by Mark Hansen in his text, *Wearable Space*, when he employs the term ‘landing site’ to describe architecture as an external stimulus. He suggests that a ‘landing site’ is the ‘field of action’ that connects a body with space. He asserts that by altering the body’s typical architectural landing sites, architecture disrupts the body, compelling it to draw on its ‘longitudinal’ sense of space in order to right itself (Hansen, 2002, p. 335). By confronting us with a surface that does not conform to the expected conventions of architecture, the space confuses our habitual reaction, and the body is forced to concentrate on recalibrating itself. A provocative manipulation of architecture’s surface that disrupts the body’s habitual encounter of the built environment could trigger an affective reaction and invest the body with the capacity to convert the force of this crisis into the somatic experience of affect (Hansen, 2002, p. 340). At the instant of recalibration, Brian Massumi suggests the body braces itself for what will come with the potential for more to come (McKim, 2009, p. 4). Architecture therefore constructs an affective interaction that resonates between the surface of the body and the surface of architecture.

Figure 14. Serpentine Gallery. Eliasson. 2007
 Eliasson. 2008. Studio Olafur Eliasson:
 An Encyclopedia. p. 408

Figure 15. Serpentine Gallery. 2007
 Eliasson. 2008. Studio Olafur Eliasson:
 An Encyclopedia. p. 409

This insight identifies that ‘affect’ is dependent on the resonating relationship between two affecting bodies. The skin-to-skin encounter that activates affect is extended to the encounter between the surface of the body and the surface of architecture. Our physical encounter of the built environment provokes an interaction that stimulates the resonance of affective communication between two bodies, human and the built form of architecture. The dialogue between the body and architecture is identified in Mark Hansen’s description of Peter Eisenman’s ‘soft system’ which he suggests is “driven by its very softness or openness to the environment, by its capacity to move, to differentiate internally, to absorb, transform, and exchange information with its surroundings,” Hansen proposes that architecture is an intervention into the material flux designed to trigger new affections, as it selects forces and solicits their bodily conversion into affects (Hansen, 2002, pp. 351-352). It is proposed that the body converts force into affect.

DESIGN CATALYST.

By projecting beyond the text synonymous with the printed medium, architecture constructs a physical environment that possesses the capacity to stimulate the body’s affective reaction. As a verb, a doing word, affect possesses infinite potential. In her article, “Olafur Eliasson and the Circulation of Affects and Percepts: In Conversation”, Helene Frichot acknowledges the inhabitant as an integral component of the affective relationship constructed by the physical environment of architecture. She identifies the inhabitant as a ‘receptive visitor’ and suggests that affects are constructed by the inhabitant’s participation in the physical environment, “not as a passive receiver of information, but as an active subjectivity” (Frichot, 2008, p. 34). She continues by suggesting that, “an affective relationship engages the visitor beyond that of a mere onlooker; it is an interaction that encourages the mutual transformation of both the visitor and the artwork” (Frichot, 2008, p. 32). The inhabitant completes architecture as the surfaces of both the body and the built form of architecture are engaged in a dynamic process of interaction. Architecture is dependent on the active body of the inhabitant to create an affective reaction. Frichot’s provocative statement, “affect becomes active rather than passive in the midst of encounters between all kinds of bodies” suggests architecture has the capacity to mobilize the body’s interaction with the physical environment (Frichot, 2008, p. 35). Architecture becomes the catalyst of affect.

Figure 16. Your Negotiable Panorama. Eliasson. 2006
Studio Olafur Eliasson: An Encyclopedia. 2008. p. 481

POTENTIAL.

As a reaction to external stimulus, the active body is always in transition. Architecture engages the body in a subjective transformation from one encounter to the next, from one bodily state to the next, and from one moment of intensity to the next. Spinoza extends the term 'affect' to describe affect as an intensity corresponding to the change in the body's state. He suggests this transition implies an augmentation (increase) or diminution (decrease) in that body's capacity to act (Shouse, 2005, p. 1) (Thrift, 2004, p. 62). He suggests, "affect structures encounters so that the body is disposed for action in a particular way" (Thrift, 2004, p. 62). It prepares the body for action by adding a quantitative dimension of intensity to the quality of an experience (Shouse, 2005, p. 5). Massumi extends affect as an invitation toward the potential for future interaction with the potential to initiate movement in the body (McKim, 2009, p. 5). An affective reaction propels the body into action as it provokes a transition in the physical state of the body. Both the body, and architecture, resonate in the dialogue of dynamic communication that shapes our inhabitation of architectures surface.

INTENSITY.

As the body and architecture resonate in the process of inhabitation the body is propelled into action. The physical change in the body's state is registered as intensity. This intensity is affect (Massumi, 2002, p. 27). Shouse asserts, affect is what determines the intensity (quantity) of a feeling (quality), as well as the background intensity of our everyday lives (Shouse, 2005, p. 6). Massumi suggests there is no intensity, or affect, without an accompanying movement in or of the body (McKim, 2009, p. 5). As a resonating intensity, affect exhibits the pure potential to propel the body into action and amplifies the experience of the built environment. It promotes engagement between the body and architecture and invites interaction with the built environment. Without affect there is therefore no intensity to the experience of inhabitation.

CONCLUSION.

Chapter Two identifies the disparity between architectures rigid surface and the dynamic surface of the body. It traces the discourse of Nigel Thrift in his text 'Intensities of Feeling' to develop an understanding of the theory of 'affect'. This exploration exposes the body as an active force.

The active body is new to the conception of contemporary architecture. No longer defined purely by its standard dimensions, the active body is constructed of dynamic forces. The body's capacity to affect and be affected by a second affecting body extends to the encounter between the surface of the body and the surface of architecture where it has the potential to provoke an augmentation (increase) in the body's capacity to act and react. The body is mobilised.

The significance of this knowledge propels the design of architecture toward a dynamic surface. This surface elicits an interactive relationship that resonates between the surface of the body and the surface of architecture. It affords architecture the capacity to extend beyond a static inhabitation by provoking movement that engages the body and challenges the program of inhabitation within the built environment. As a haptic medium, the body's dynamic dialogue of resonating interaction with architecture has the greatest potential to intensify our inhabitation of the built environment.

The following chapter will extend the theoretical ideas synonymous with 'affect' to the physical environment of architectures built form. As the body directly engages with architectures horizontal plane under the influence of gravity, Chapter Three emphasises the ground surface of architectures horizontal plane as an expressive medium that could provoke a dialogue of interaction and challenge the inhabitant of architecture. The chapter will construct an affective encounter at the surface of architectures horizontal ground plane.

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CHAPTER THREE

3.0 GROUND SURFACE

While there is an abundance of unique and expressive vertical facades in architecture, the surface of architectures horizontal plane has accepted a neutral condition. Left behind by an advance in technology, building conventions and materials, the horizontal plane conforms to a static and two dimensional surface. It is proposed that this flat surface fails to engage the body or challenge the inhabitant of contemporary architecture.

This chapter aims to free the built environment from this flat condition by re-orientating the focus of architecture towards the horizontal surface, injecting it with a dynamic quality so far reserved for the vertical façade. It identifies the horizontal plane as an expressive interface at the intersection of the surface of the body and the surface of architecture. This plane could become an extension of the urban landscape, a spatial topography, free to embody the dynamic conditions that engage the body in a dialogue of interaction and challenge the inhabitant of contemporary architecture.

The theoretical discourse of John Rajchman will underpin a critical discussion of architectures horizontal plane. Rajchman's writing on the ground in, "Constructions", departs from the rigid plane of modern architecture towards an active surface defined by dynamic forces, flows, movements, encounters, connections and intersections. This chapter employs Rajchman's method of ungrounding to free the horizontal plane from its current rigidity. It provokes a constructed landscape of fluidity. The theoretical discourse of Rajchman is supported by a number of authors to illustrate the limitations and insights inherent to architectures traditional and modern horizontal plane.

Figure 17 (previous page). Rolex Learning Centre. SANAA Architects. 2010
<http://www.archdaily.com/50235/rolex-learning-center-sanaa/>
 Accessed 26/02/2011.

Figure 18. Villa Savoye, Poissy. Le Corbusier. 1929.
 Ruby. 2006. Groundscapes. p. 10

Figure 19. Modular Man, Le Corbusier. 1955
<http://www.cartage.org.lb/en/themes/Biographies/MainBiographies/L/leCorbusier/1.html>
 Accessed 26/02/2011.

MODERNISM.

Iconic figures of the modern movement including Le Corbusier, Mies van der Rohe, Philip Johnson, and Walter Gropius were concise in their objectives to initiate an architectural revolution. “In this revolution, the house will be put on pilotis barely touching the ground, roofs flattened, and everything turned into intersecting horizontal and vertical planes with monochromatic stucco surfaces” (Rajchman, 1998, p. 79). These principles formed the basis of modernism and made no effort to conceal the audacious manifesto that could be held responsible for the rigidity, stasis and flatness inflicted on the horizontal plane. Rajchman emphasises this:

Le Corbusier dismisses the “natural ground” as a “dispenser of rheumatism and tuberculosis” and declares the natural site to be the “enemy of man”. Thus we should sever the traditional connection between building and ground, giving up the sort of continuity where the building is the figure whose ground is supplied by its natural setting (Rajchman, 1998, p. 79).

Ultimately, Le Corbusier ignored a site's natural landscape. Buildings were emancipated from the ground as architecture's relationship to the natural landscape was expelled. It was conceived that, “the weaker the ground, the stronger the figure with which architecture could distinguish itself from” (Ruby, 2006, p. 10). In their text “Groundscapes”, Ilka and Andreas Ruby enforce this condition as they suggest, “the building practically creates its own ground in the form of a platform resting on pilotis” (Ruby, 2006, p. 9). The inhabitable surfaces of modern architecture were reduced to flat planes and generic gradients and merely employed to resolve functional requirements that aid the inhabitant's arbitrary and autonomous movement across the surface of the built form.

Liberated from the ground, the flat plane allowed modern architecture to speak in a universal language that produced an idealised style as opposed to a context specific design. This language was extended to the body. Modernism employed the ‘modular’ as a standardised scale of proportions. The modular ignored the active qualities specific to each body and neglected to respond to the program unique to the inhabitation of each building. It only expressed a measure of the body's raw dimensions. Defined as a ‘machine for living in’, the mechanical inspiration of modernism inferred an axonometric view that subjected the built environment to both a rectilinear form and function. Modernism rejected the natural site and the active body of the inhabitant.

Figure 20. Archigram. Walking City. 1964.
Palumbo. 2000. New Wombs: Electronic bodies and architectural disorders.
p. 35

DEPARTING MODERNISM.

Prior to architectures emancipation from the ground, buildings appeared to be embedded within the natural landscape. Rajchman defines this dichotomy that has been entrenched in the discourse of the architecture as, “the natural vs. the artificial, the organic vs. the abstract, the figural vs. the geometric, and the contextual vs. the autonomous” (Rajchman, 1998, p. 80). Departing from the artificial, abstract, geometric, and autonomous condition inflicted by modernism, Rajchman suggests some architects would try to revalorise the natural, the organic, the figural, and the contextual design approach specific to the buildings site (Rajchman, 1998, p. 80). They would attempt to ground architecture.

Ilka and Andreas Ruby identify a number of techniques that outline this dichotomy of architectures relationship to the ground. Enforced by gravity, they suggest inscribed, exposed and carved ground all adhere to the traditional approach that registers architectures dependency on the ground. However, simply returning to these traditional approaches that merely embed architecture within the raw material of the earth offers little insight to the contemporary urban landscape. Alternatively, they suggest that inflated, raised, and stacked ground all adhere to an architecture that is lifted above the ground. These techniques are employed by a large precedence of architecture and merely reflect the position defined by modernism as they limit architecture to a flat, rigid, and static relationship to the natural landscape. Architectures horizontal surface continues to resist the dynamic qualities inherent to both the body and the contemporary urban landscape.

Attempting to depart these strict oppositions, Rajchman was determined to find other spaces that may lie between them. To do this he proposed the technique of ‘ungrounding’ architecture (Rajchman, 1998, p. 80). This technique does not adhere to the literal separation of the building from the ground exemplified by modernism. Instead, it embodies architecture with the dynamic forces inherent to our interaction with a contemporary urban landscape. Ungrounding the forces inherent to the inhabitation of the built environment could inform the distortion and manipulation of architectures constructed horizontal plane. His desire to leave behind the rigid oppositions in search of the spaces in between them provokes a trajectory for a design response that embodies the connections, intersections, flows and movements of a dynamic context.

Embedded within the ground.

Figures 21, 22, 23 (left-right). Carved, embedded and inflated ground.
All images sourced from, Ruby. 2006. Groundscapes. p. 163, 55, 119

Lifted off the ground.

Figures 24, 25, 26, 27 (left-right). Stacked, lifted, inscribed and vectorial grounds.
All images sourced from, Ruby. 2006. Groundscapes. p. 86, 42, 183, 125

Figure 28, 29 (right). Glass Video Gallery. Holland, Bernard Cache. 1990.
Imperiale. 2000. *New Flatness: Surface Tension in digital Architecture*. p. 26

UNGROUNDING.

Rajchman's initial approach to the ungrounding of architecture highlights his desire to depart the geometric, rectilinear, horizontal and vertical form of modernism, "thus 'ungrounded' no longer means off the ground but rather has to do with a kind of form giving movement prior to the ground as understood in autonomous up-down structures" (Rajchman, 1998, p. 80). He employs the manifesto of Groupe Espace to highlight the impendent departure from the rigid right angles of modernism. "We are now confronted by the overriding necessity to accept as a historical fact the end of the vertical axis of elevation, and the end of the horizontal as a permanent plane, in order to defer to the oblique axis and the inclined plane" (Rajchman, 1998, p. 83). The oblique function inferred by the Groupe Espace introduced a new idea to architecture. It proposed a topological conception of urban spaces that orientated surfaces and covered the ground to provoke movement. Virilio defined the folded force field that resulted from this approach as a "re-erotisation of the ground" (Rajchman, 1998, p. 84). The horizontal plane is now recognised as an expressive canvas with the potential to destabilise the rigid axis of modernism and reflect the dynamic conditions synonymous with inhabitation of the contemporary context.

In "New Flatness: Surface Tension in Digital Architecture", Alicia Imperiale supports Rajchman's desire to unground architecture. She highlights the discourse of Bernard Cache to express, "the standard model is no longer viable" (Imperiale, 2000, p. 58). Rather than stabilising our movements, Cache seeks to "amplify the fluctuations and aberrations in our behavior" (Imperiale, 2000, p. 58). Now obsessed with the possibility of breaking down the dichotomy inflicted by modernism she suggests that architects "seek to redefine the ground as a site of continuous flux and transformations from figure to ground. They conceive any change of the landscape as a manipulation of the surface, and charge it as a complex, mutating field" (Imperiale, 2000, p. 32). No longer considered a geometric vertical volume that rises from the tamed, passive plane of the landscape, a desire to explore and express the potential forces found in the contemporary urban landscape can provoke the possibility of a rich architectural language. This expressive language could release the chaos, irregularity and unpredictability of both the body and the contemporary urban landscape.

Figure 30,31 (right). Fresh Water Pavilion, Holland. NOX. 1997
 Palumbo. 2000. New WOMbs: Electronic Bodies and
 Architectural Disorders. 9. 72

By expressing the fluctuations inherent to the continually mutating field, Rajchman's earlier insights specified techniques of ungrounding that challenged the rigidity of modernism and aimed to situate architecture within the chaos of the contemporary urban landscape. He continues to progress the notion of ungrounding as he suggests it extends towards, "a more complicated sense of time as a process, always unfinished, to be taken up again in unforeseeable circumstances, as though each period brought with it a potential ungrounding that architecture might exploit, release or show" (Rajchman, 1998, p. 80). Introducing time, both the inhabitation and experience of the built environment should be emphasised by an architectural gesture. Architecture will no longer merely occupy either the space embedded within the ground or the lifted space above it, instead it will form a 'dynamic topology' (Rajchman, 1998, p. 82). Rajchman closes the gap between the urban landscape, architecture, and the body. This relationship is now conceived as an interdependent network of forces. Architecture now turns to the active body to generate a dynamic relationship that will propel it towards a new typology – a constructed landscape.

Dislocating the rigidity and stability of traditional architecture demands a new conception of the body. No longer defined as a model of order and measured proportion, the body is now considered to be active, defined by its movement, flexibility and sensitivity (Palumbo, 2000, p. 5). In 'New Wombs: Electronic bodies and architectural disorders', Maria Luisa Palumbo continues to suggest that the dynamic body, "corresponds to an architecture that is drawing closer to a world of flows, movements, connections" (Palumbo, 2000, p. 54). She suggests "the body becomes a model for the constant activity of modification and adaption through the exchange of information with the surrounding environment" (Palumbo, 2000, p. 60). With its capacity to respond to change, the dynamic body points to the future of architecture, from resistant force to active force, capable of interacting with the environment (Palumbo, 2000, p. 65). This allows architecture to embody the chaotic, flexible, flowing, and fluctuating qualities inherent to the active body. Both the body and architecture are conceived as an interdependent network of forces that are engaged in a dialogue of communication that activates movement.

Figure 32. Vitra Fire Station. Hadid. 1993.
Hadid. 1999. LF One: Landscape Formation One. p. 10

This dynamic approach is not restricted to the body. Architecture now inhabits a dynamic urban landscape. Defined by the speed and chaos inherent to both the movement of people, and flow of information, the contemporary urban landscape is subject to continuous change. Paolo Gregory identifies the qualities synonymous with the contemporary urban landscape as she suggests, “dynamism predominates over immobility, metamorphosis over stability, dialogue with the customer and the environment prevails over self reflection, revealing a world of relationships and multiple communications in which everything is connected, flexible and mobile, beyond every set configuration” (Gregory, 2003, p. 18). She extends this provocative line of thought with the observation that rather than merely being inhabited, the contemporary urban landscape appears to exist to be traveled through (Palumbo, 2000, p. 47). In order to keep up with the rapid pace of a constantly fluctuating and changing contemporary context Rajchman concludes that, “architecture needs to depart from a conception that has roots in the ground or soil that supplies it with its basic sense and circumscribe the movements of which it is capable” (Rajchman, 1998, p. 87). He then states, “once we give up the belief that our life-world is rooted in the ground, we may thus come to a point where ungroundedness is no longer experienced as existential anxiety and despair but as a freedom and a lightness that finally allow us to move” (Rajchman, 1998, p. 88). Rajchman’s technique of ungrounding embodies architecture with a dynamic form capable of activating movement.

Ilka and Andreas Ruby, offer one technique that promises to progress architecture beyond the rigid dichotomy inflicted by modernism. This technique is vectorial ground. As we extend further into the twenty first century, “the ground ceases to be the stable basis of our existence and is developing instead into a dynamic topography with fluctuations and changes” (Ruby, 2006, p. 30). Now defined as an extension of the urban landscape, the ground becomes an active, constructed plane where the architecture emerges as an improbable, fluctuating figure that embodies the unpredictable changes in its wildly different intensities (Imperiale, 2000, pp. 33-34). Alicia Imperiale suggests that, “rather than the ground exerting forces and changing the form of the surface structure, the ground reflects the action and forces in the structure” (Imperiale, 2000, p. 46). This provocative insight injects the horizontal plane of architecture with a new capacity to embody the dynamic condition of our inhabitation in a contemporary context. It injects architecture with the dynamic forces of the contemporary urban landscape and provokes the opportunity to exploit and release the forces, flows, movements, fluctuations and changes that engage the body in a challenging spatial encounter of contemporary architectures horizontal plane.

Figure 33. Landscape Formation one. Weil
am Rhein. Hadid. 1999. LF One. 9. 27

Figure 34. Landscape Formation one. Weil
am Rhein. Hadid. 1999. LF One. 9. 35

Although architecture is often restricted to a static form, Imperiale acknowledges that “it can possess a kind of give and breathability, that brings the flexibility to negotiate the relationship between body and environment as it mediates between the built environment and the landscape” (Imperiale, 2000, p. 47). Imperial extends the dialogue of communication between the surface of the body and the surface of architecture to suggest that, “a built architecture or object might have virtual motion built into its slopes, but it is then dependent on other vectorial forces to release that stored energy. The activity of people or vehicles moving through architecture would animate the space” (Imperiale, 2000, p. 75). This is important as it identifies the body and architecture as an interdependent network of forces, and conceives the inhabitation of architecture as an integral force. A dynamic architecture is activated by a dialogue of interaction between the surface of architecture and the surface of the body.

VISUAL INSPIRATION

Figure 35 (above). Blur building, Diller and Scofidio. 2002. <http://hasko.posterous.com/the-endgame-of-minimalism>. Accessed 26/02/2011.

Figure 36 (above). Villa NM, UN Studio. 2006 <http://www.noticiasarquitectura.info/especiales/vila-nm.htm>. Accessed on 26/02/2011

Figure 37 (above). Oslo Opera House. Snohetta. 2008. <http://www.snoarc.no/#/projects/15/false/all/> accessed 26/02/2011.

Figure 38 (above). Denmark Pavillion for Shanghai Expo, BIG. 2010
<http://www.archdaily.com/6465/denmark-pavillion-for-shangai-expo-2010-big/>
Accessed 26/02/2011.

CONCLUSION.

This chapter critiqued modernism's obvious denunciation of architecture's horizontal plane. The discourse of John Rajchman exposes architecture's enthusiasm to move beyond the rigid and rectilinear axis of modernism. To release architecture from its strict dichotomy the technique of 'ungrounding' re-orientated the focus of design toward the horizontal surface, injecting it with the dynamic qualities of an active body.

New to the conception of architecture's horizontal plane is the notion of ungrounding that embodies architecture with the forces, flows, movements, encounters, connections, intersections, and chaos inherent to the body's dynamic inhabitation of the contemporary urban landscape. Previously defined by its rigid relationship to the raw material of the earth, architecture's horizontal plane is now conceived as an expressive interface at the dynamic intersection of the surface of the body and the surface of architecture.

The significance of this knowledge allows architecture to depart from a static reading of the horizontal plane towards a dynamic inhabitation of the built environment. Free to embody the dynamic conditions of the contemporary setting, the horizontal plane of architecture is no longer a static surface but an active landscape that provokes a dialogue of interaction by engaging the body and challenging the inhabitant of architecture. The traditional understanding of the connections between the floor and wall, interior and exterior, above and below, architecture and furniture are destabilised as architecture's horizontal surface can embody dynamic forces to generate a soft, flexible, fluid, even malleable architectural form synonymous with the active body identified in the previous chapter; affect.

The culmination of Rajchman's theoretical discourse poses a provocative question, "what kinds of spaces or constructs might accommodate, show, facilitate, and release these ungrounded sorts of movement, encounter, and connection in urban spaces, and the ways in which we fill them out?" (Rajchman, 1998, p. 86). Chapter Five explores the Yokohama International Port Terminal designed by Farshid Moussavi and Alejandro Zaera-Polo of Foreign Office Architects as a response to the question posed by Rajchman.

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CHAPTER FOUR

4.0 YIPT BY FOA

This chapter identifies the Yokohama International Port Terminal (YIPT), designed in 1995 by Farshid Moussavi and Alejandro Zaera-Polo of Foreign Office Architects (FOA), as an integral case study. It exposes an application of the theory of affect, previously discussed in Chapter Two, at the expressive surface of architecture's horizontal plane.

Moussavi and Zaera-Polo subvert the rigid and rectilinear horizontal plane inherent to both traditional and modern architecture by employing a new language that reflects the speed, chaos and instability of people inhabiting a contemporary urban landscape. As the rigid modernist relationship of architecture to the ground is conceptually ungrounded, a dynamic landscape elicits diverse spatial encounters and excites unique possibilities of an affective inhabitation of architecture.

This chapter identifies FOA's exploratory design approach and describes both the conceptual and architectural elements that construct the International Port Terminal of Yokohama. It critiques the pedestrian inhabitation of the constructed landscape by discussing the site, scale and program inherent to the Terminal. This chapter will detect the limitations inherent to an expressive exploration of architecture's horizontal plane and extend the insights into the design component of this thesis.

Figure 39. (previous page) Dynamic topography. Moussavi, Zaera-Polo. 2002.
‘The Yokohama Project: Foreign Office Architects. p.50

Figure 40. Exploratory design. Moussavi, Zaera-Polo. 2002
Gregory. 2003. New Scapes: Territories of complexity. p. 37

FOREIGN OFFICE ARCHITECTS (FOA).

Farshid Moussavi and Alejandro Zaera-Polo, from Iran and Spain respectively, are now based in London and travel extensively. As a consequence of this transient condition they suggest, “we are foreigners, and perhaps this helps us to stand a little outside rules and conventions, to look at architecture with a fresh eye. Just as we need to fit into society, so do our buildings, whatever new ideas they may contain, must fit into local contexts” (Glancey, March 25, 2002, p. 10). In 1995, aged only 30 and 32, this fresh perspective and transient condition informed the identity of an exciting new firm, Foreign Office Architects. Their youth initiated a naive design approach that has become integral to the identity of the exploratory firm. Moussavi asserts, “it is only experience that teaches us where the limits are and, once we have learned that, we are finished” (Dawson, Spring, 2002, p. 10). With this attitude, FOA possess the ability to extend architecture beyond the rigid boundaries and static preconceptions inherent to the inhabitation of modern architecture.

FOA express the need to progress architecture beyond the rigid axis of modernism and the global repetition of architectures international style. Although Moussavi and Zaera-Polo appreciate the dramatic forms identified in the style of Frank Gehry they assert, “our generation can’t operate in the same way” (Design Museum, 2006). Gehry neglects the unique identity of each local context as he replicates his style regardless of the buildings geographic displacement. Alternatively, FOA seek something in-between. They propose “a ‘localised globalised’ architecture, if you like. Where Gehry’s older generation deconstructed the modernist box, FOA’s generation is more interested in reconstructing, from the landscape upwards” (Design Museum, 2006). Responding to the instability, unpredictability and chaos synonymous with the current generation that inhabits a global context they suggest, “our age is not fixed and knowable, but shifting and nonlinear; our spheres are not ordered but chaotic; our universe is not closed but expanding; our human is no Renaissance man, but a mongrel, with many slippery identities. Our landscape must follow suit, with waves, curves, loops, and folds, twisting, contorting, and melding” (Design Museum, 2006). The design of architecture is now required to exploit the chaos inherent to an ever evolving contemporary urban landscape. A new landscape must emerge.

Figure 41. Conceptual render
Moussavi, Zaera-Polo. 2002. The Yokohama Project:
Foreign Office Architects. p.7

FOA employ a bottom-up design approach that responds to global pressures, but is informed by a local context. Zaera-Polo suggests, “each building is like a species grown for a specific ecosystem, an antidote to homogenising globalisation...we try to let the building grow by itself... you need to nurture one in Japan differently to one in Spain or England” (Glancey, March 25, 2002, p. 10). Their exploratory breed of architecture evolves as a constructed landscape. “we are trying to develop techniques that are capable of operating outside existing codes ...this is the origin of our interest in de-territorialisation and re-territorialisation, as a process in which specific domains and organisations are devoid of limits, origins, destinations or significance: decoded, unbounded landscapes rather than over coded, delimited places” (Moussavi & Zaera-Polo, Sept, 1995, p. 7). Foreign to the previous generation of architecture, their fluid thinking and dynamic forms resonate with natural shapes in both the organic and inorganic landscape (Daniell, NO. 5, 2002, p. 106). The innovative firm has significantly influenced the direction of contemporary architecture.

Figure 42 (top). Dynamic topography
 Moussavi, Zaera-Polo. 2002.
 The Yokohama Project: Foreign Office Architects. p.28

Figure 43 (bottom). Dynamic topography
 Moussavi, Zaera-Polo. 2002.
 The Yokohama Project: Foreign Office Architects. p. 50

YOKOHAMA INTERNATIONAL PORT TERMINAL (YIPT).

In 1995, FOA proposed a scheme that won the young architects an opportunity to design an international port terminal for Yokohama. The Japanese concept of *ni-wa-minato* informed the starting point for the design. This concept conceives the building as a mediating device that fuses the land and the sea, and connects the citizens of Yokohama with those who visit the city from the outside world (Moussavi & Zaera-Polo, Sept, 1995, p. 14). Located at the threshold between land and sea, local and foreign, the site's unique position provokes complex relationships. To materialise these relationships, FOA emphasised the horizontal plane as the primary architectural element. As previously discussed in Chapter Three, they express a similar desire to unground the surface of architecture's horizontal plane. In *New Flatness*, Alicia Imperiale described Farshid Moussavi and Alejandro Zaera-Polo's design approach:

They look beyond the classical (and modernist) understanding between the building and the ground as merely a continuation of the dialectical relationship of opposites. Their project breaks down the great dichotomy between the building and the landscape, and emphasises the ambiguity between the surface and the space. The architecture is no longer a geometric, vertical volume that rises from the passive horizontal, tamed natural ground plane. The ground becomes an active, constructed plane where the architecture emerges as an improbable, fluctuating figure (Imperiale, 2000, p. 31).

Breaking away from the preconceived conventions synonymous with a typical transit terminal, FOA created a building that blurs the distinction between architecture and landscape. The project turns ground into figure, transforming it into an ungrounded surface (Gregory, 2003, p. 39). The terminal emerges as an 'artificial earthwork' (Pollock, Nov, 2002, p. 143). Conceived as a hybrid of park and building, Moussavi and Zaera-Polo suggest the terminal functions as "a device for reciprocal de-territorialisation and re-territorialising: a public space that wraps around the terminal, neglecting its symbolic presence as a gate, decodifying the rituals of travel; and a functional structure that becomes the mould of an atypological public space, a landscape without instructions for occupation" (Moussavi & Zaera-Polo, Sep-Oct, 1997, p. 68). FOA's unique design approach sharply denounces the traditional conventions of a typical transit terminal.

Figure 44. Dynamic Circulation Loops.
Moussavi, Zaera-Polo. 2002.
The Yokohama Project: Foreign Office Architects. p.92

Traditionally, a transit terminal adheres to a strict linear structure that traces an axial path and forces the traveler to exit the building along the same path entered (Moore, Sep, 2002, p. 74). However, FOA dissolve the traditional conventions that limit architecture to a rigid structure constructed of rectilinear walls, floors, windows, ceilings, and roofs (Moussavi & Zaera-Polo, May-June, 1995, p. 19). They remove the barriers that separate the static functions of the building and conceive the buildings circulation as a series of dynamic loops (Moussavi & Zaera-Polo, Sept, 1995, p. 20). The fluid topography now expresses no instructions for its occupation and provokes dynamic inhabitation (Moussavi & Zaera-Polo, May-June, 1997, p. 71). They define the transition through the building as a “no return” journey that embodies a variety of alternate paths (Moussavi & Zaera-Polo, Sept, 1995, p. 20). The dynamic circulation loops generate a fluid topography that subverts the traditional linear structure characteristic of a terminal building.

As an extension of the urban ground, the dynamic circulation diagram transforms the building into a folded and bifurcated surface. In his text, ‘Point of Departure’, Rowan Moore suggests the building resonates with the human body:

The building is physical and bodily: it has steel bones and a wooden skin with sunshades, railings, lights and seats that are equivalent to hair and nails. Like a body it has an inside and an outside, and the exterior surface becomes interior without a precise boundary between the two. It has near symmetry around a single axis, and its surfaces undulate and fold. It has visceral passages and chambers like bellies. Its smooth skin is wrinkled and is sutured and tattooed (Moore, Sep, 2002, p. 73).

Ultimately, the building is constructed of a single surface, identical to the skin of the body, as it permanently differentiates and multiplies itself at the surface of architectures horizontal plane (Ruby, 2006, pp. 28-29). The surface of the terminal building resonates with the surface of the inhabitant’s body.

Heavily influenced by the theory of affect, FOA also respond to the writing of Baruch Spinoza, Gilles Deleuze, and Felix Guattari previously discussed in Chapter Two. The design embodies the lines of energy, forces and speed of the body in the chaotic urban landscape. The dynamic circulation loops create a dialogue of interaction between the inhabitant and the architecture as the traveller navigates the topography. This dramatically illustrates the application of the theory of affect, discussed in Chapter Two. Moussavi and Zaera-Polo state:

Figure 45. Inaccessible view point.
Moussavi, Zaera-Polo. 2002. The Yokohama Project: Foreign Office
Architects. p.305

The aim is to achieve a mediation of differential nature: a machine of integration that allows us to move imperceptibly through different states, turning states into different degrees of intensity, countering the effects of rigid segmentation usually produced by social mechanisms – especially those dedicated to maintaining borders. The proposed building will reduce the energy required to pass between the states, articulating in a differential mode the various segments of the programme throughout a continuously varied form: from local citizens to foreign visitor, from voyeur to exhibitionist, from performer to spectator (Moussavi & Zaera-Polo, Sep-Oct, 1997, p. 68).

Free to explore, encounter and inhabit the constructed landscape, the body is engaged in a network of dynamic forces that provoke movement and challenge the body. The body is now interdependent on the architecture. Affect is actively engineered at architecture's horizontal plane, as the terminal is activated by the movement of travellers. Synonymous with the discussion of 'affect' in Chapter Two, FOA express, "the terminals function will not be to simply organise flows, but also to construct a field of urban intensity through the enhancement of multiple paths and directions" (Moussavi & Zaera-Polo, Sept, 1995, p. 14). As a successful response to the writing of Spinoza and Deleuze and an exciting application of the theory of affect, the terminal's surface appears to radiate intensity synonymous with our inhabitation of the contemporary urban landscape. A new building typology emerges.

In 2002 the international port terminal of Yokohama was completed. The dynamic form floats above the Osanbashi Pier. It measures up to 450 metres in length, 70 metres in width, and covers an area of 50,000 square metres (Ibelings, No. 4, 2002, p. 92). FOA achieved continuity over the entire length of the topography by restricting the palette of materials to steel, timber, glass and tarmac, and reducing the number of details (Moore, Sep, 2002, p. 73). The project expresses a coherent language. In his Antenna article for the RIBA journal, Stuart Black suggests, "from above its long rectangular pier is predictable but when you stand on it, the expressive structure and dynamic form seems to ripple with as much energy as the water" (Black, July, 2002, p. 14). The project foregrounds the surface of architecture's horizontal plane and expresses a dynamic form generated primarily from horizontal elements. Ultimately, the project emphasises the capacity of the horizontal surface to engage the body and challenge the inhabitant.

Figure 46. Aerial view.
Moussavi, Zaera-Polo. 2002.
The Yokohama Project: Foreign Office Architects. p.308

CRITIQUE

Built on the flat Osanbashi pier, the terminal emerges from a blank canvas. The building faces minimal resistance from the site as it is devoid of the constraints faced when building in either the natural topography or the urban landscape. Consequently, it avoids the necessity to respond to the raw material of the earth, its physical contours, the surrounding buildings and the chaotic movement of people. Free to embody an expressive form, the terminal's fluid topography emerges purely as a response to the vast ocean and the parameters of its own inhabitation. It remains to be seen whether the dynamic language employed by FOA in the design of Yokohama's international Port Terminal is restricted to the unique conditions of its isolated site.

Although the competition brief demanded the terminal building not only cover the entire pier, but extend beyond its physical boundary to accommodate cruise ships, the sight of a docked international cruise ship is scarce. In 'Pretty, But a Bit Dull, Too,' Hans Ibelings suggests, "it will never even on its busiest days, accommodate more than a fraction of the numbers it was designed to hold... the vastness of this architecture is certainly not conducive to liveliness" (Ibelings, No. 4, 2002, p. 92). The enormous exterior topography merely reflects the vast and fluid ocean-scape. There appears to be a disparity between the scale of the terminal building and its inhabitation as the topography has been severely over-scaled.

Images synonymous with the terminal of Yokohama predominantly support this assertion. With the aid of a helicopter, the majority of representational images of the building depict the entire length of the topography. Captured from viewpoints inaccessible to the inhabitant, these images neglect a human scale. The immense scale of the terminal's artificial earthwork is further enforced by the absence of people in the images taken on its deck. Exceeding an intimate scale, the topography rejects the active body and fails to illustrate the building as dynamic landscape embodied with flows, movements and the interactions intended by FOA. The vast scale of the enormous topography appears to reject an intimate scale and fails to activate the human body.

Figure 47. Spine.
Moussavi, Zaera-Polo. 2002.
The Yokohama Project: Foreign Office Architects. p.184-185

Figure 48. Expansive upper deck.
Moussavi, Zaera-Polo. 2002.
The Yokohama Project: Foreign Office Architects. p.298-299

Figure 49. Vast interior space.
Moussavi, Zaera-Polo. 2002.
The Yokohama Project: Foreign Office Architects. p.100-101

Figure 50. Uninhabited space.
Moussavi, Zaera-Polo. 2002.
The Yokohama Project: Foreign Office Architects. p.288

Figure 51. Uninhabited space.
Moussavi, Zaera-Polo. 2002.
The Yokohama Project: Foreign Office Architects. p.154

Figure 52. Intrusive handrails.
 Moussavi, Zaera-Polo. 2002.
 The Yokohama Project: Foreign Office Architects. p.243

Figure 53. Restricted topography.
 Moussavi, Zaera-Polo. 2002.
 The Yokohama Project: Foreign Office Architects. p.180-181

The continuous length of the fluctuating topography leaves vast expanses within the interior spaces. The intimate spaces that reflect the scale of the body are scarce and discourse fails to delve inside the building. The disparity between the scale of the building and the body is translated from the exterior form to the interior spaces. These spaces appear foreign to the body and devoid of function. The building struggles to translate the fluid curves of the roof topography to the smaller scale of intimate interior circulation spaces that are encountered between the vast public spaces. At times, the scale of these fluid curves appears to intimidate the body. However, scarce moments throughout the building allude to an intimate scale and provide insight into the provocative surfaces that resonate with the body. The intimate scale revealed in rare moments of the terminal building appear to provoke the potential to activate the body and challenge the conventional way we inhabit the built environment.

Conforming to strict health and safety regulations, the flow of passengers across the fluid surface the terminal building is restricted to the flat planes and confined pathways defined by rigid steel handrails protruding from the constructed landscape. This exposes a clear limitation as it restricts the dynamic inhabitation of architectures expressive surface. The handrails, although a dominant design detail, prevent the dynamic landscape from being encountered, interpreted, and translated by the active body of the inhabitant. The continuity of the fluid topography is broken by the steel protrusions and the expressive landscape becomes uninhabitable at the bifurcated topographies greatest curvature. At a more intimate scale, a provocative surface free from the restrictive handrails could extend an exciting opportunity to employ fluid curves and dynamic forms as an inhabitable surface that engages the body, provokes movement, and challenges the inhabitant of the built form.

With their design, FOA created a fluid topography and multidirectional terminal based on the overlay of dynamic circulation loops. However, the full potential of the building appears to be wasted on an architectural program primarily concerned with the transit of people. Travellers merely transition through the space. The dynamic surface only provides a field of alternate routes to those passing through the building. The full potential of the terminal's dynamic surface could be realised by an intimate relationship with the active body. The bifurcated topography creates an expressive surface of fluid planes and ramps that resonate with the surface of the body. They beg for interaction. At a smaller scale, the surface of architectures horizontal plane could provoke movement, engage the body and challenge the inhabitant rather than restrict it to the flat surfaces and even gradients that conform to rigid safety regulations.

Figure 54. Expressive topography.

Moussavi, Zaera-Polo. 2002.

The Yokohama Project: Foreign Office Architects. p.176

CONCLUSION.

The International Port Terminal of Yokohama designed by Farshid Moussavi and Alejandro Zaera-Polo of Foreign Office Architects expresses a provocative application of the theory of 'affect' at the surface of architectures horizontal plane. This chapter exhibited FOA's localized globalised design approach and describes the rich architectural language employed in the construction of the terminal building. The terminal is then critiqued to develop an understanding of the insights and limitations inherent to an exploration of architectures horizontal plane. It is revealed that the immense scale of the project neglected the intimate scale of the body and the rigid handrails restrict the inhabitation of the buildings to the flat planes and consistent gradients within the fluid topography.

However, new to the conception of architecture is the rich architectural language employed by Moussavi and Zaera-Polo. It echoes the speed, unpredictability and chaos of people synonymous with the contemporary context and is employed to subvert the traditional rigid and rectilinear conception of architectures horizontal plane. A dynamic landscape emerges. It elicits diverse spatial encounters and provokes movement. However, the full potential of the terminals dynamic landscape seems unrealised as its scale cannot engage the body at an intimate level.

The significance of this knowledge highlights the necessity for design to depart the rigid axis of modernism and respond to the contemporary urban landscape. As the rigid floors, walls, and ceilings synonymous with traditional architecture are dissolved, the building becomes the landscape and the landscape becomes the building. Free to take on an expressive surface, the dynamic plane should engage and challenge the inhabitant of architecture.

The potential limitations to the inhabitation of architectures expressive horizontal plane have been identified. They should inform the design project and allow it to extend from the insights gained through the study of Yokohama's International Port Terminal into the design of a yoga centre. The following chapter will describe the design process and evaluate the success of the theoretical ideas that are translated into the physical design of a yoga studio in the urban landscape of Wellington, New Zealand.

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CHAPTER FIVE

5.0 DESIGN DISCUSSION

The surface of architectures ground plane provides an expressive canvas with the capacity to embody the dynamic conditions inherent to the contemporary context. An expressive plane will generate a dynamic space that provokes a dialogue of interaction between the inhabitant and the surface of architecture. It should intensify an experience of the built environment.

This thesis has developed a theoretical understanding of both the body's affective system and the horizontal plane of architecture. This chapter explores the design process and employs a range of media to extend an understanding of the skin-to-skin relationship between the surface of the body and the surface of architectures horizontal plane. The theoretical ideas developed within this thesis are not only tested by the design project, but extended to inform an architectural response that strengthens the inhabitation synonymous with the architectural program, a yoga studio. Architectures dynamic horizontal plane should intensify the practice of yoga.

This chapter discusses the insights and limitations inherent to the design process as theoretical concepts converge with both physical and spatial requirements of the built environment. Beginning by tracing the conceptual approach of the early design process it continues to outline the site and program that ground this architectural project. It evaluates an initial design approach and highlights the limitations as theoretical ideas are translated into the context of the site, it's dimensions and the spatial requirements of a yoga studio. The chapter continues to provide an overview of the developing architectural response and a detailed evaluation of the final form of architectures built environment. Ultimately, the design of a contemporary yoga studio is analysed as a response to the dynamic criteria conceived within the development of this thesis.

Figure 55 (previous page). Intensities, Flows, Energies.
Image by Author. 2011

EXPERIMENTATION

Initially, the design process invested in the research and documentation of the body's relationship to the ground. A number of sequence and multiple exposure photographs captured and expressed the body as an active force. These images acknowledge the dynamic potential of the body and highlight the static quality of architectures conventional horizontal plane.

Extending from these images, the design process attempts to represent the dynamic qualities inherent to the body. A single piece of charcoal laid flat along its edge is used to construct these images as each end of the charcoal traced the movement of one of the body's legs moving as a reaction to the plane of inhabitation. The trace left by the charcoal begins to project the axis of stability as the body interacts with the ground plane. A fluid aesthetic emerged. This aesthetic informed the direction of the design project as it reflected the energies, forces and intensities inherent to the active body.

Attempting to spatialise these dynamic drawings the conceptual exploration departed into the physical medium of maquettes. A permeable elastic material is employed to reflect the dynamic qualities of the skin. As it stretched over a range of frames, the material distorted and visually exhibited its capacity to stretch, twist, and curve under tension. The elastic material emphasised and exaggerated its distortion as a response to the frame and began to inform the dynamic shape of the form. Patterns for the cladding of the built form emerged.

This exploration is extended through models expressed in solid materials including paper and cardboard. A simple process connected two pieces of card together (image in appendix). However, one end of the card is rotated in relation to the opposing end before being fixed together. When the elements are fixed the forces affect each other and the manipulation is exaggerated through the overall form. These simple concepts create dynamic maquettes embedded with the energy, force, and intensity synonymous to the body.

The conceptual ideas of these expressive maquettes are then translated to the horizontal plane. Plaster blocks were machined to achieve this stage of conceptual modelling. One corner of the block is displaced in relation to the remaining three which formed a complex curve in both the x-axis and the y-axis of the horizontal plane. This curve, although subtle, expresses dynamic qualities that resonate with the body. A simple gesture produced an exciting surface.

Figure 56. Active body # 1.
Image by Author. 2010

Figure 57. Active body # 2.
Image by Author. 2010

Figure 58. Active body # 3.
Image by Author. 2010

Figure 59. Active body # 4.
Image by Author. 2010

Figure 60. Active body # 5.
Image by Author. 2010

Figure 61. Charcoal trace.
Image by Author. 2010

Figure 62. Charcoal trace.
Image by Author. 2010

Figure 63. Walking sequence.
Image by Author. 2010

Figure 64. Walking sequence.
Image by Author. 2010

Figure 65. Walking sequence.
Image by Author. 2010

Figure 66. Dynamic Diagram.
Image by Author. 2010

Figure 67. Fluid lines.
Image by Author. 2010

Figure 68. Fluid lines.
Image by Author. 2010

Figure 69. Distorted mesh.
Image by Author. 2010

Figure 70. Distorted mesh.
Image by Author. 2010

Figure 71. Distorted surface.
Image by Author. 2010

Figure 72. Distorted surface.
Image by Author. 2010

Figure 74. Plaster modella. Image by Author 2010

Figure 75. Site. 81-81 Able Smith Street.
Images by Author. 2010

SITE

To ground these conceptual ideas a physical site is needed. The site of the architectural design of this thesis extends from 81 to 83 Abel Smith Street, Wellington. Located at the intersection of Victoria Street, Abel Smith Street, Willis Street and Karo Drive, the site is positioned at the threshold between city and suburb, commercial and residential, public and private, and separates two distinctly different zones of contour, gradient, scale, size, shape, speed, noise, and pattern. This site expresses an exciting potential that should evoke a connection between two distinctly different areas, commercial and residential.

The site is merely a relic of the old city grid. Historic analysis confirms many of the buildings that previously inhabited the site and surrounding context have recently been moved, removed, or relocated to accommodate the motorway. Movement has shaped the site. Despite the apparent dominance of vehicles, it is also an integral pedestrian path that connects Te Aro to Cuba Street, Courtney Place, and ultimately the central business district. The Wellington City Council previously acknowledged the site as a prominent pedestrian path and a superficial attempt had been made to innovate the space. The site possesses dynamic movement on many scales and in many different mediums. It amplifies a range of questions that provoke the potential for a challenging and dynamic architectural design response.

Figure 76. Yoga. <http://www.gettyimages.co.nz/detail/88647728>. Accessed 26/02/2011

PROGRAM

The architectural program for the design component of this thesis explores the practice of yoga. Traditionally, yoga exhibits three structures: exercise, breathing and meditation through six branches identified as: Bhakti, Hatha, Jnana, Karma, Raja, and Tantra (Iyengar, 2001, p. 14). Western society employs Hatha yoga purely as a physical exercise as it is both active and dynamic. “Hatha” means forceful and focuses energy on the physical purification of the body (Sivananda, 1987, p. 95). Energy is channelled through the practice of poses known as “asanas” to strengthen the body and promote flexibility that balances and clarifies the mind. The design responds to the concept of Hatha yoga as it embodies a focus synonymous with the physical qualities explored in this thesis.

As yoga is a holistic practice, the body, mind and spirit are integrated to be positioned in harmony with the environment (Powers, 2008, p. 3). Like Baruch Spinoza’s writing on the theory of affect, the practice of yoga conceives the body and the mind as one and emphasises the intimate relationship between the two systems. As yoga is conducted on the surface of architecture’s horizontal plane, this surface is integral to the experience of the participant. The primary architectural element explores the horizontal plane of the built environment. The practice of yoga is employed to enhance the relationship of the body to the horizontal plane of architecture. An expressive surface at architecture’s horizontal plane possesses infinite potential to aid, activate, and challenge the participant’s body and amplify the experience of yoga. A dynamic surface should emerge.

Figure 77. Intital reflection. Site plan.
Image by Author. 2010

Figure 78. Intital reflection. South Elevation.
Image by Author. 2010

INITIAL REFLECTION

As the design process translated the conceptual maquettes into the physical environment the building that was slowly beginning to emerge failed to engage with the dynamic position defined by this thesis. Although the building expressed some movement, for many reasons it continued to conform to a conventional, rectilinear, rigid, bulky and flat form.

The site of the architectural response possesses an array of challenges that have appeared to restrict the first design exploration. Initially the design proposed a building that occupied the entire site as it extended to the boundary in all directions; which had a range of implications for the building, some potentially destructive. The building became heavy, over scaled and out of proportion. It appeared isolated as it neglected to integrate within the surrounding context. The building emerged highly unresolved and the dimensions, angles and proportions of the spaces failed to reflect the surrounding context or respond to the intimate scale and atmosphere appropriate to yoga.

Unlike the vast, unrestrictive site of FOA's fluid Yokohama International Port Terminal discussed previously in Chapter Four, the site for the architectural response to this thesis is relatively small and its dimensions became restrictive. FOA proposed an expressive manipulation of architecture's horizontal plane that produced flowing curves of the levels, planes, ramps and spaces within the topography to dissolve the boundaries between the different spaces of the terminal building. On such a small site with confined dimensions and a large contour, the extreme manipulation of architecture's horizontal plane would render the majority of space uninhabitable as the curvature between two planes would result in insufficient floor to ceiling heights. The site is too small to achieve manipulation on the scale of FOA's terminal building. Ironically, it appears that the scale that was critiqued in the previous chapter may be necessary to achieve the expressive and meaningful manipulations of architecture's horizontal plane.

Figure 79. Intital reflection. Exterior perspective.
Image by Author. 2011

Figure 80. Intital reflection. Exterior perspective.
Image by Author. 2010

The fluid surfaces that were designed to generate movement within the building were isolated from the integral spaces conducive to yoga as a consequence of the site's constraints. The design failed to integrate the transition between thresholds with the spaces of the building that are designed to activate the poses of yoga. There is now an opportunity to dissolve the disparity between these two conditions and to develop a common language through the movement within the building and amplify the atmosphere of the yoga studio.

Although the initial design expressed movement, it failed to engage the body in a dynamic interaction conducive of yoga. The building appeared to be emerging from arbitrary and autonomous criteria removed from the architectural program. The spatial qualities of the building were neglected as the building developed independent of the functional requirements, personality, or atmosphere expressive of yoga. These were forced into the form later in the design process with little success. Both the functional requirements and atmosphere conducive of yoga should provoke the manipulation of architecture's surface in a productive and expressive form. The built form should provoke movement synonymous with the practice of yoga.

The initial conceptual modelling allowed the design process to initiate dynamic, free and flowing forms that reflected the active body. Ultimately, the transition from conceptual modelling into the confinement of a digital computer model imposed many conventional construction tools on the design process. This inflicted a relatively flat, rigid, and static building that failed to express the dynamic interaction between the body and the ground plane that is synonymous with yoga. To extend the application of the conceptual ideas to the built environment it is necessary not only to employ new digital techniques capable of expressing the dynamic qualities, but also to examine how conventional building techniques could be employed to achieve a design of a dynamic and differential nature that is fluid, free and flowing.

Figure 85. Image by Author. 2011

First Floor Plan.

Scale - 1:200 @ A4

Figure 86. Image by Author. 2011

Able Smith Street Elevation.

Scale – 1:200 @ A4

FINAL EXPLORATION

A critical evaluation of the initial design exploration has allowed the design to progress in a direction aligned to the position defined within this thesis. Consequently, the refined architectural response has strengthened the theoretical ideas that are now more clearly embodied in the design and a dynamic and meaningful form is emerging.

The design is conscious of the sites context and its success is dependent on integration with the surrounding area. Positioned at the threshold between a number of distinctly different conditions the built form integrates into the surrounding context by visually expressing the contour, scale, size, shape, speed, pattern and materials inherent to both residential and commercial areas adjacent. The built form now responds to the context of the site and surrounding area.

The dynamic qualities of the form embody the forces, energies and intensities of the surrounding context. The West of the building is smaller in scale to reflect the proportion, shape and pattern synonymous with the residential area Te Aro. Towards the East of the form, the building expands to reflect the larger commercial scale of Wellington city. The form also visually expresses the curve inflicted by the void Karo Drive has created through the city grid.

In its elevation the gestural form of the final design pushes against the motorway to afford the built form privacy. Leaning away from Abel Smith Street, the façade softens this edge. At this façade the building appears less intimidating and attempts to accept and welcome the pedestrian.

As the city has developed, the imposition of a new urban motorway through the historic urban grid has had a profound impact on the site. The site has been exposed to excessive excavation and there is little reference to the original natural ground plane. Three roads now define the boundaries of the site. These emphasise the man made condition that form smooth planes and even gradients – Karo Drive exemplifies this flat condition.

Figure 87. Image by Author. 2011

East Elevation Elevation.

Scale – 1:200 @ A4

The design exhibits the level of Karo Drive as a stable reference plane within the built form. It provides a datum line 3 metres above the intersection of Victoria Street. The datum traces the elevation of Karo Drive. It is employed in the design process to exaggerate the expressive gesture and inform the conceptual and material qualities of the built form that depart above and below the datum line. This provides the opportunity to critique the static condition this thesis opposes and exaggerate the architectural response.

Below the datum line the building employs concrete as a heavy, rigid and static man made material. The concrete mass expresses the strict surfaces that adhere to the horizontal and vertical axis. This volume accommodates the rigid functional requirements integral to a yoga studio. The concrete mass below the datum line is firmly tied to the ground as the heavy mass is excavated into the earth and sitting on a large footing familiar to conventional building techniques. This mass depicts the condition opposed within this thesis and allows the design of a fluid surface to depart as a contrasting architectural element.

Above the datum line the design departs from the rigidity of this man made condition and expresses a gestural landscape that embodies the energy, force and intensity synonymous with the position defined in this thesis. This structure is constructed of lightweight, flexible timber that appears more natural than the rigid concrete. This gesture is applied to the surfaces defined for the practice of yoga. The surfaces reflect the active body and provoke an intimate interaction with the participant of yoga; as an inhabitant of the built form.

To achieve a dynamic yoga surface at architecture's horizontal plane the design utilises a conventional element, the truss. However the trusses are employed in an unconventional and exciting new way. The conventional hierarchy of a building is effectively subverted as the trusses that are regularly associated with the construction of the roof are employed in the sub floor structure. Each truss expresses subtle variance designed through parametric principles to generate a floor of differential nature. This variance compounds over the number of trusses and when covered with a smooth plywood membrane the floor will construct the fluid surface of the architecture's horizontal plane. A dynamic surface rises out of the landscape and is replicated at the building's roof to further exhibit the contemporary language of a yoga studio.

BUILDING PROFILES AGAINST
TRAFFIC SOFTENING THE
PEDASTRIAN / CAR PARTICIPANTS
EXPERIENCE.

HORIZONTAL MANIPULATION IS
USED TO DEFINE GEOMETRY

→ LIMITED GLAZING FACING SOUTH
INCREASES PRIVACY
— REDUCES NOISE.

Figure 88 Image by Author, 2011

Karo Drive Elevation.

Scale – 1:200 @ A4

As the horizontal plane that constructs the yoga studio is the primary architectural element of the design, it has consequences on the vertical plane. The manipulation of the fluid horizontal plane lifts away from the vertical plane to create penetrations that act as clearstory windows. As these penetrations have been shaped by the manipulation of the horizontal plane they provide continuity and extend the notion synonymous with the body.

Because the fluid horizontal plane generates this architecture, the displacement of levels and planes within the dynamic form create a provocative outdoor area. This outdoor area purposely invites the outdoor practice of yoga. The area is protected from the noise, speed and chaos of the motorway by the building mass behind. The drop in form to the Abel Smith Street façade then opens the outdoor area towards the pedestrians and affords the space direct sunlight throughout the range of daylight hours. The sites surrounding context ensures the building has maximum sunlight across the full range of daylight hours available.

To finish this form convincingly, details synonymous with the surface of the yoga studios horizontal plane have been extended throughout the building to orientate the inhabitant and suggest the integral elements of the built form. Both the timber surfaces of the reception desk and changing room bench seats exhibit subtle manipulation synonymous with the defining surface of the yoga studio. Their reference to the horizontal surface of the yoga studio provokes continuity within the building and emphasises the importance of this architectural gesture.

Figure 90. Image by Author. 2011
Longitudinal Section.
Scale - 1:100 @ A3

Figure 91. Image by Author. 2011
Interior Perspective.

Figure 92. Image by Author. 2011
Interior Perspective.

Figure 93. Image by Author. 2011
Interior Perspective

CRITIQUE

The final design exploration expresses a unique form and exhibits a dynamic gesture. It embodies the energy, intensity, force and movement of the surrounding context and engages the personality of the architectural program, yoga. However, the design is not immune from critique. The final design exploration neglects many of the criteria defined within this thesis. Some criteria have been neglected consciously due to the functional requirements of a practical building and a confined site. Some have been exposed on the completion of the design. The built form, however, could be strengthened with additional regard to a number of reflections.

Figure 94. Image by Author. 2011

Figure 95. Image by Author. 2011

Again, the constraints of the site, specifically its relatively small dimensions and large contour, restrict the manipulation of architectures horizontal plane. The primary element of the built form has not received the degree of manipulation that was initially desired. Although the floor is dynamic and has departed from the two-dimensional constraints of the conventional floor plane, the manipulation applied to the plane has remained at a single scale and may be strengthened by further manipulation at smaller scales. The horizontal plane deserves more manipulation in order to satisfy its full potential as a dynamic surface with the capacity to activate the practice of yoga. With such an active program the surface of architectures horizontal plane has the potential to employ additional manipulation at varying scales.

Although the design process explored a range of media, it neglected to test the manipulations of architectures horizontal plane at a human scale. This thesis has developed a contemporary position of the body as an active force with dynamic potential and an exploration at this scale could have strengthened the final design outcome. This exploration could have enriched the design by providing enhanced information about the way the body responds to the scale of manipulations applied at architectures horizontal plane. The manipulations might then have been scaled to activate specific poses, postures, positions and movements conducive to yoga.

Figure 96. Image by Author, 2011
Exterior Perspective.

Originally the design brief set out to develop a building that also responded to the pedestrians that inhabit the site. It was envisioned that the building would take on a form closer to the landscape and blur the boundary of public and private, extending the experience to the pedestrians foreign to yoga. It was also envisioned that the roof plane of the yoga studio would aid the pedestrian transition through the space and increase, through activation, awareness of the architectural program, grounded in yoga. Again the constraints of the site restrict the design to a more conventional solution.

It appears that the built form has not departed the traditional building conventions to the extent originally desired. Although the vertical planes have received manipulation similar to that applied to the ground plane in an attempt to blur the distinction between the rigid vertical and the horizontal axis, the final built form places an undesired emphasis on the vertical plane. The building may benefit from additional penetrations in the vertical plane to exaggerate the horizontality of the form and place emphasis on the surface of architectures horizontal plane.

Figure 97. Image by Author. 2011
Exterior Perspective

CONCLUSION

Now conceived as a dynamic force, the body can be activated by architecture's horizontal plane. It interacts with architecture's horizontal plane. The dynamic form of the constructed landscape that has emerged in the final design exploration has developed not only as a response to this thesis, but also as a proposition in architecture. Although the design could evolve further, it embodies the position defined within this thesis. The surface of architecture's horizontal plane is employed to generate an exciting architectural response. An expressive horizontal plane, central to the inhabitation of a yoga studio, generates a dynamic space that provokes a dialogue of interaction between the inhabitant and the surface of architecture to intensify the experience of yoga. The design process developed within this thesis is not specific to yoga. It has the potential to be employed by design to activate a range of active programs that inhabit the built environment.

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6.0 CONCLUSION

The rapid advance in both digital and building technologies has broken down the rigid and rectilinear limits synonymous with modern architecture. Contemporary designers now exploit such technology to extend expressive surfaces to the built environment. However, the contemporary manipulation of architecture's surfaces has previously been restricted to the vertical façade; the face of architecture.

As discussed, architecture has neglected to extend these provocative manipulations to the horizontal plane. It had accepted a neutral condition and inferred a flat, rigid, and static language on architecture. This language denies the active, unpredictable and unstable qualities inherent to the body and ignores the chaotic context contemporary architecture now inhabits. The surface of architecture's horizontal plane has failed to engage the body or challenge inhabitation. This has provoked an exploration of the dynamic forces inherent to the body's inhabitation of the built environment.

THE BUILDING EXPRESSES MOVEMENT AS A CONSEQUENCE
OF THE MANIPULATION AT THE HORIZONTAL PLANE

CURVES RESONATE WITH THE
SURFACE OF THE BODY

DYNAMIC

Figure 98. Image by Author. 2011

Wire-frame.

Scale - 1:200 @A3

Energies, Forces, Intensities.

THE BUILDING EMBODIES THESE QUALITIES

Previously, both traditional and modern architecture conceived the body purely as a proportionate system. It was merely employed to generate the dimensions of architecture's conventional elements such as the tread of a step or the height of a door handle. With the emergence of the twenty first century, there has been a shift in the discourse of architecture towards the theory of affect. To engage the body, affect was introduced through the discourse of Nigel Thrift. Defined as the body's sensate response to the physical environment, an affective experience injects the body of the inhabitant with an intensity that amplifies the experience of the built form. Without affect, the tendency is toward the standardisation of architecture (McKim, 2009, p. 19). The body is now conceived as an active force and designers explore and exhibit its energy, force and intensity. An affective encounter engages the surface of the body in a dialogue of dynamic interaction with the surface of architecture.

The theory of affect is extended by an exploration of John Rajchman's discourse on the ground. He exposed 'ungrounding' as a method to free the built environment from the natural earth both literally and conceptually. The surface of architecture's horizontal plane is relieved of the traditional preconceptions that restricted it to a monotonous, flat, rigid, static and stable plane that merely aids our transition across its surface. This technique emphasises the surface of the horizontal plane as an expressive element of architecture. It embodies this surface with the forces of energy inherent to the body's inhabitation of the contemporary urban landscape and provokes an expressive manipulation of architecture's surface. As we engage the surface of architecture's horizontal plane directly, the expressive surface provokes movement, activates interaction and challenges the inhabitation of architecture.

Influenced by the theory of affect, Farshid Moussavi and Alejandro Zaera-Polo of Foreign Office Architects also employ the surface of architecture's horizontal plane to explore conceptual ideas. Their design for Yokohama's International Port Terminal exhibits a new building typology. It employs the speed, instability and chaos of the new architectural language to subvert the rigid and rectilinear form of the horizontal plane. As architecture's traditional relationship to the ground is conceptually ungrounded a dynamic landscape emerges. The terminal building constructs an affective experience of architecture that engages the traveller in a dialogue of resonating interaction with the surface of its horizontal plane and intensifies the transitional experience of the building. The manipulation expressed at the surface of the terminal's horizontal plane generates a dynamic topography that has informed the starting point for the design of a yoga studio.

Figure 99. Image by Author. 2011
Aerial View

The theoretical ideas defined within this thesis are explored through the process of design. This process employed a range of media to extend an understanding of the skin-to-skin relationship between the surface of the body and the surface of architecture. The expressive plane that has emerged as a constructed landscape within the built environment is not only a response to this thesis but also a proposition in architecture.

This thesis has positioned the surface of architecture's horizontal plane at the dynamic interface of the body and the ground. New to the conception of architecture is the notion that the body is no longer considered a static object merely exhibited through a standard range of dimensions. The body is now considered a dynamic force with the potential to be affected by architecture. The design project explores the capacity of architectures horizontal plane as a provocative element at the interface between the body and built form.

Architectures horizontal plane provides a unique canvas integral to the practice of yoga as the body engages its surface directly. Now conceived as a dynamic force, the active body generates distortion at the surface of architectures horizontal plane. Charged with these forces, the horizontal plane is now an expressive canvas. Affect becomes productive as it is engineered at the surface of architecture's horizontal plane to engage the body in a dialogue of dynamic interaction that promotes the participation of yoga. The experience of inhabitation is intensified as the practice of yoga exploits the surface of architecture's horizontal plane to engage the body, activate movement, and challenge the participant. The significance of this knowledge allows architectures horizontal plane to be manipulated as an exciting and provocative element with the capacity to activate movement specific to its program of inhabitation and intensify the experience of the built environment. We crave intensity.

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APPENDIX

8.0 DESIGN BRIEF

SITE.

The physical site of the architectural response to this thesis extends from 81-83 Abel Smith Street. Located at the intersection of Victoria Street, Abel Smith Street, Willis Street, and Karo Drive, it is merely a relic of the old city grid and has recently become available through the imposition of the new urban motorway. The extrusion of the motorway through the cities grid has isolated the site as it is now segregated from its former function and craves architectural intervention. Historic analysis confirms many of the buildings that previously inhabited the site and surrounding context have recently been moved, removed and relocated to accommodate the motorway. Movement has shaped the site.

Not only does the site facilitate the movement of a mundane flow of cars, it is also an integral pedestrian path that connects Te Aro to Cuba Street, Courtney Place, and ultimately Wellington City. Despite the apparent dominance of vehicles, Wellington City Council has already acknowledged the site as a prominent pedestrian path and a superficial attempt has been made to innovate the space. The site possesses dynamic movement on an array of scales and in many different mediums which amplifies a range of questions that pose an excess of potential for a challenging design.

Located at the threshold between city and suburb, commercial and residential, public and private, the site separates two distinctly different zones of contour, gradient, scale, size, shape, speed, noise and pattern. The contour of the landscape boasts a displacement of approximately 3 meters. It drops significantly from the motorway to Abel Smith Street. This unique contour expresses an exciting ground plane that could evoke a connection between two distinctly different areas; commercial to residential. An architectural intervention could exaggerate the urban landscape to achieve a physical space that engages the pedestrian and challenges the inhabitant's experience of an architectural response.

PROGRAM.

As western society continues to embrace yoga, the architectural program for the design component of this thesis explores an architectural response to the practice of yoga. Yoga originated in India and is commonly associated with the meditative practices of Buddhism, Hinduism, and Jainism (Carmody, 1996, p. 68). The term “yoga” is derived from the Sanskrit root “yuj” of the scriptural language of ancient India. It means “control” and is often translated to “unite”, “join”, and “absorb” (Lasater, 2003, p. 2). A common misconception suggests yoga is a religion, but it is more appropriately recognised as a practical aid to physical and mental discipline. There is no physical or age barrier to the practise of yoga and it is gathering an increasing following as western society embraces the practice.

Traditionally the practice of yoga exhibits three structures: exercise, breathing and meditation. There are six branches of yoga, these include: Bhakti, Hatha, Jnana, Karma, Raja, and Tantra, all of which aim to provide balance and clarity within the body (Iyengar, 2001, p. 14). Bhakti, Jnana, Karma, and Tantra yoga are synonymous with the mental and spiritual qualities of yoga. However both Hatha and Raja typically engage the physical capacity of yoga. Hatha is inseparable from Raja; however it appears to precede Raja as it disciplines the body in preparation for the meditation required in Raja and the remaining branches of yoga. This thesis will employ the traditional concept of Hatha yoga as it embodies a focus synonymous with the physical qualities explored in this thesis.

Hatha is the most common form of yoga emerging in the western practice as it emphasises both physical and mental health. The term “Hatha” means forceful and focuses energy on the physical purification of the body (Sivananda, 1987, p. 95). Hatha yoga channels energy through the practice of poses also known as “asanas” to strengthen the body and promote flexibility (Sivananda, 1987, p. 95). There is an array of benefits to the practice of Hatha yoga, both mental and physical. It is commonly associated with an increase in health, fitness and relaxation as a consequence of unique exercise. Western society exploits Hatha yoga as an exercise because it is both active and dynamic.

As yoga is a holistic practice, the body mind and spirit are integrated in an aim to position the body in harmony with the environment (Powers, 2008, p. 3). Like Baruch Spinoza's writing on the theory of affect, yoga conceives the body and the mind as one. Yoga emphasises the intimate relationship between two systems. In the context of this thesis the practise of yoga is explored to establish the relationship of the body to architecture.

BRIEF.

The design of a studio specific to the practice of yoga is informed by the traditional practise of Hatha yoga. The physical poses synonymous with Hatha yoga channel energy through the active body to engage dynamic movement and achieve flexibility and strength. As a specific building typology synonymous with yoga is yet to be identified, an architectural response specific to the practice of yoga could be enhanced by an exploration of the skin-to-skin relationship between the surface of the body and the surface of the built form.

As the practice of yoga is conducted on the surface of architectures horizontal plane, that surface is integral. Basic laws of physics suggest each action requires a reaction, however the static surface of architectures current horizontal plane merely accommodates the practice of yoga and additional props are required to both aid the range of capabilities of those participating to achieve many of the more advanced poses. These poses exhibit the vast array of shape, structure and form the body is capable of. As a sequence they create movement. The poses reflect the active body and its dynamic capacity to interact. The primary architectural element explores the surface of architectures horizontal plane; and includes:

- How the building touches the ground.- How the ground touches the building.
- How the body touches the horizontal plane of architecture.
- How the horizontal plane supports the participant.
- How the horizontal plane activates the participant.
- The transition between the horizontal, the diagonal, and the vertical.
- The displacement of the planes.

These concepts provoke an architectural response specific to the practice of yoga. The theoretical ideas developed through the theory of affect, a contemporary critique of architecture's horizontal plane, and the study of Yokohama's International Port Terminal designed by Foreign Office Architects should initiate the specific design principles of architecture's horizontal plane central to a yoga studio. The design will not only test the theoretical ideas but also challenge them by developing further questions in the physical environment. The surface will recognise yoga as an active exercise and challenge the practice of yoga on a static surface. An expressive surface at architecture's horizontal plane possesses infinite potential to aid, activate and challenge the body and amplify the experience of yoga. Ultimately a design response should conceive the body and architecture as an interdependent system of both energies and forces. The two elements will resonate to activate the poses integral to the practice of yoga and amplify the intensity of the experience. A dynamic surface will emerge.

The consequence of decisions made in the design of the horizontal surface could be expressed and amplified through the remaining surfaces of architecture. Although the horizontal plane is the focus of the design project, to amplify the spatial intensity and experience of yoga the design process should engage with issues of transition, threshold, openings, and architecture's vertical surfaces, remaining surfaces, and function of the building as it integrates the horizontal surface into the built form. To facilitate the practice of yoga, the architectural design will provide:

- An entrance – signifying the reception and office area.
- A changing room –with the facilities of a bathroom.
- A waiting area– accommodating those waiting for a class to end or begin.
- A smaller studio – as intimate space for pre-class stretches.
- A larger studio – with the capacity for up to 20 people for the practice of yoga.
- Storage – of personal belongings, towels and equipment.
- A water/tea/juice bar –to service the yoga studio.

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ADDITIONAL DESIGN EXPLORATION.

Figure 100. Twist. Image by Author 2010

Figure 101. Twist. Image by Author 2010

Figure 102. Charcoal trace.
Image by Author. 2010

Figure 103. Charcoal trace.
Image by Author. 2010

Figure 104. Charcoal trace.
Image by Author. 2010

Figure 105. Distorted mesh.
Image by Author. 2010

Figure 106. Distorted mesh.
Image by Author. 2010

Figure 107. Distorted surface.
Image by Author. 2010

Figure 108. Distorted surface.
Image by Author. 2010

FINAL DESIGN EXPLORATION.

Figure 109. Manipulation of architectures horizontal Plane.
Images by Author. 2011