transient crossings
Transient Crossings —
Embodiment in the Everyday

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Acknowledgements

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How can embodied experience of space be intensified through the articulation of light, form and materiality?
Abstract

Embodied experience is defined by the way we understand, engage with and act in the world. However, as Aya Peri-Bader suggests, architecture is often only experienced in a state of distraction; the familiarity of place causes us to act in a prescribed way, rarely thinking about it or noticing it. Today it could be said that architecture is becoming an art of the printed image resulting from what Stephen Holl calls the "hurried eye of the camera". The gaze itself tends to flatten into a picture and lose its "plasticity" (Holl, 2006, 29). Perez-Gomez explains that the image has replaced palpable experience: we become spectators in a world mediated by images, rather than being in the world in an embodied sense. This poses an opportunity for a design investigation that provokes an engagement with the built environment and has the potential to invigorate and enliven our bodily experience of space.

Therefore this design investigation asks how embodied experience of space can be intensified through the articulation of light, form and materiality. This inherently addresses the concept of the body in architecture as a form of cognitive, experiential, or active perception. The ability to evoke an awareness of our spatial environment through bodily engagement has the potential to elevate everyday experience of what may ordinarily be considered banal, distracted, or forgotten experiences.

In the book Intertwining, Holl proposes that the interlacing of form, space and light can elevate the everyday, embodied experience of architecture (Holl, 1996, 11). More importantly there is a phenomenon that comes when these qualities are associated to specific sites, programs, and architectures. This considered articulation of spatial environments with attention to tactile materiality can reintroduce crucial, intrinsic meanings and values to human experience (Holl, 1996, 11).

This investigation is grounded in site and programme. It aims to show how site and programme can be vehicles to research notions of embodiment, through generative design methods. The Wellington site of the Gordon Wilson Flats is a testing ground for this exploration. By extending the adjacent university campus and creating a connection to the city centre, this site enables an everyday programme that addresses both public and private interconnecting spaces. This provides opportunity to explore embodiment as part of a journey and thoroughfare through a building or landscape. Thus the spatial investigation can be applied in both an interior and exterior programme where architecture, landscape and urban design all interlink. Therefore, the human experience also shifts from a singular interaction to a progressive experience through a greater urban landscape. More so, the notions of embodiment query more than simply the human experience, but speculate on the non-human relationships between the landscape, the architecture, and its materiality.
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Introduction

Embodied experience is defined by the way we understand, engage with and action ourselves within our built / natural world. However, as Aya Peri-Bader suggests, architecture is often only experienced in a state of distraction and the familiarity of place causes us to act in a prescribed way, hardly thinking about it or noticing it (244). We only give our concentrated attention to the buildings or places labelled as significant, with their associated notion of destination. Inherently, the importance assigned to the place gives us reason to activate our awareness of ourselves within that space. So how can this same embodied experience of a space be activated in architecture of the everyday? How can the transitional space between and within programs stimulate the body in order to elevate the experience of everyday progressions?

The interlacing of form, space, and light can elevate the everyday experience of architecture, which is heightened when these qualities are associated to specific sites, programs, and architectures (Holl, 1996, 11). This considered articulation of spatial environments with attention to tactile materiality can reintroduce crucial, intrinsic meanings and values to human experience (Holl, 1996, 11).

Therefore this design investigation aims to test the articulation of light, form and materiality in producing an invigorating architectural experience. This inherently addresses the concept of the body in architecture as a form of cognitive, experiential, or active perception. The ability to evoke an awareness of our spatial environment has the potential to elevate everyday experience of what may ordinarily be considered banal, distracted, or forgotten experiences.

Research Question —

How can embodied experience of space be intensified through the articulation of light, form and materiality?

This research investigation is titled Transient Crossings - Embodiment in the Everyday, which asks questions of the role architecture has to enliven our experience with our everyday environment: to activate our sensory and cognitive perception.
Scope / Proposition

This investigation is grounded in site and programme. It aims to show how site and programme can be vehicles to research notions of embodiment, through light, form and materiality. These three qualities are inherent to site conditions, and thus this thesis also looks at how site can be used through a generative design process to allow these conditions to have agency in the formal outcome.

The Wellington site of the Gordon Wilson Flats is a testing ground for this exploration. The Gordon Wilson Flats lie permanently uninhabited as an earthquake liability and in early 2017 Victoria had proposals to utilise this site for university amenities.

Thus this site, situated below the existing Victoria University Kelburn campus, has the potential to create an invigorating connection between the hilltop campus and the city centre where more campuses are located. It also enables an everyday programme that addresses both public and private interconnecting spaces.

This provides opportunity to explore embodiment as part of a journey and thoroughfare through a building or landscape. Thus the spatial investigation can be applied in both an interior and exterior programme where architecture, landscape and urban design all interlink.

Therefore, the human experience also shifts from a singular interaction to a progressive experience through a greater urban landscape. More so, the notions of embodiment query more than simply the human experience, but speculate on the non-human relationships between the landscape, the architecture, and its materiality.

The scope of this research investigation will include initial testing of light, form and materiality through smaller scale programmes. The findings from this generative exploration feed into the final development of a civic scale project on this site.

Aims

The principal aims of this design-led research investigation are to explore:

1. how materiality, form and light can be articulated architecturally to intensify one’s embodied experience;
2. the concept of the body in architecture as a form of cognitive, experiential, or active perception;
3. how generative and reflective modes of work can reveal new ideas about the body in architecture within a design led research methodology.

Objectives

The principal objectives of this design-led research investigation are to:

1. disrupt the linear process of design development through a generative and iterative design process. This aims to produce highly dynamic and evocative design outcomes;
2. find unexpected design outcomes through a liberated process that shares authorship between the designer and a generative mode of working found;
3. be grounded in site and programme in order to test the generative process with architectural specificities, thus affording the found discoveries to be transposed to any given site;
4. critically explore relationships and dynamics of light, form and materiality by utilising the strengths of both an analogue and digital mode of working;
5. produce a refined final design outcome through a methodology that tests ideas over three different scales. This allows for critical reflection and refinement throughout.

Fig 4. (P) Axonometric overview of site in relation to Kelburn Campus and surrounding context.
The methodology structure of this research is separated into 3 parts:

1. **Small scale installation investigation**
   - The purpose of the continual shift in scale promotes a critical engagement and reflection to produce a more profound outcome in order to fully address the questions of my research. Furthermore, this investigation aims to show how a generative and iterative means of formal investigation can be integrated with site and programmatic contexts.

2. **Medium scale architectural outcome with site, programme and form**
   - The research methods are analogue and digital model making, drawing and material experimentation. This enables an engagement with the design both intuitively and critically through a non-linear approach. The analogue experimentation is fundamental for analysing qualities of light, form and material conditions that are integral to this investigation. This non-linear method also allows an unpredictability in the outcome due to the generative nature of the experimentation. Thus these methods, and the vehicles of site and programme, are agential in furthering my research into embodiment.

3. **Large civic scale project**
   - Murray Fraser in *Design Research in Architecture* (2016) considers design and research as inherently linked, and that a non-linear process provides a successful alternative to the traditional, more sequential strategies. Therefore this design research moves cyclically through theory, exploration, experimentation, reflection, and analysis. This allows for a continuity of critical engagement where each method has the means to generate new material based on the outcomes of the former process.
This is the key methodology employed, based on Jane Rendell, Peter Downton and Perry Kulper who look at producing meaning through the act of making. They value the intuitive designer and validate these generative processes as a means to produce new knowledge (Rendell, 2013, 117). The process of physical modelling, drawing, and material experimentation are analogue modes of working that have the ability to engage with design critically through an analytical, iterative, conceptual, and constructive approach. It also generates an atmospheric representational technique useful for driving the design decisions with an experiential impetus.

This research is within a framework of differing scales. An initial exploration of model making and installation will produce findings that can then be applied to a medium scale architectural project. These investigations feed into a final large scale architectural project. This methodology allows for a testing ground where each stage responds to the other through rigorous analysis, giving validity and breadth to the final investigative output.

Establish how the project fits into an existing body of knowledge through critical evaluation and comparison of theory and texts.

Evaluate projects and architects who deal with concepts of embodiment and experience; light, form and materiality; and articulation of form in relation to site wider contexts.

A rigorous contextual understanding of site, programme and other contexts will be important for design generation and experimentation. This allows the findings to be situated to a relevant testing ground.
Phenomenology and Experience

Maurice Merleau-Ponty is a preeminent mid-century philosopher on phenomenology. He discusses the foundational role perception plays in understanding, engaging, and experiencing the world.

He defines phenomenology as the study of essences (Merleau-Ponty, 1962, vii). In architecture, the compositions of solids, voids and materials bring about a resulting “essence” of the space where we, the occupier, subconsciously understand ourselves or our feeling within the space. As Merleau-Ponty describes: “[The phenomenological essence] tries to give a direct description of our experience as it is, without taking account of its physiological origin and the casual explanations which the scientist, the historian or the sociologist may be able to provide” (1962, vii). Therefore phenomenology is fundamentally about experience, and how we experience from a first-person or subjective point of view (Wong, 2012, 274).

While Holl indicates that sensory perception is important, he suggests that it only demonstrates a passive essence of phenomenology. It is “imagination, thought, emotion, desire, volition and action” that are the active result of a cognitive perception (Holl, 2006, 29) — a bodily awareness indicated by the way we action ourselves within an environment. For instance, we may observe and engage with other things in the world, but we do not actually experience them in a first-person manner. Therefore “awareness” or “embodied-consciousness” defines everything that we actively perform in our engagement with the space.

This evidences the importance to discuss the concept of the body in architecture as a form of perception — and the sense of awareness inherent to cognitive, experiential, or active perception.

The Body and Embodiment

Maurer-Ponty describes this similar “embodied-consciousness” with the term “body-subject,” whereby our movements result from an intentionality of the mind, having a kind of pre-conscious intelligence (Wong, 2012, 274). The “body” acts as a special “subject,” and through a pre-conscious expression of movement reveals a sense of awareness (Wong, 2012, 274).

Thus bodily experience could include everything that we live through or perform. So we may observe and engage with other things in the world, but we do not actually experience them in a first-person manner. We have not experienced “embodied-consciousness” or “embodiment” as ourselves reflected within the space.

Juhani Pallasma suggests vision has replaced embodied experience in the way we experience architecture today. He argues that the suppression of the four other sensory realms has led to the overall destitution of our built environment. This often diminishes the importance of the spatial experience of a building and architecture’s potential to inspire, engage and be completely life enhancing (Pallasma, 2005, 17).

Holl agrees with Pallasma saying this “language and wisdom of the body” within buildings is replaced by the distant realm of vision (Holl, 2006, 29).

This stimulates discussions on the meaning and purpose of architecture beyond its functional role. This suggests that an embodied experience preponderates the regularly distracted and fleeting visual connection with architecture. This supposes that this kind of design has the potential to invigorate, inspire and engage one’s entire being. Therefore there is a need to focus away from the ephemeral and oracular, towards a haptic, sensual and engaging design.

Meaning

Holl reiterates this belief that architecture has the ability to realise essences back into existence:

By weaving form, space, and light, architecture can elevate the experience of daily life through the various phenomena that emerge from specific sites, programs, and architectures...With [Architecture’s] silent spatiality and tactile materiality, [it] can reintroduce essential, intrinsic meanings and values to human experience. —Holl, 1996, 11

Holl makes a connection between the architect’s authorship — or self projected meaning — and the experiential qualities of a space, saying that without this articulation of intent the architect’s mental energy that produced the building is ultimately deficient. For instance a viewer may have a perception of a built work “whether it be troubling, intriguing or banal,” but without the relationship between the experiential qualities of architecture and the generative concepts there lacks a sense of essence and embodiment to the viewer (Holl, 2006, 41). Alberto Perez-Gomez agrees that:

Architecture being a meaning-for-embodied-consciousness demands an erotic projection from the maker and the participant...an act whose final object is our realisation as embodied, imagining ourselves. —Holl, 2006, 23

It works much like an artwork, where the maker projekt themselves as if in conversation with the world, and the viewer responds by interpreting with their own self projection. Hence art and architecture act synonymously in the sense that a work that lacks intentionality is experienced flatly because it does not urge an emotional, physical or psychological stimulus in response to that dialogue.
"Everyday" Experience

Art is dissimilar to architecture in the way that it is viewed holistically and celebrated in a curated exhibition space. This ultimately gives a sense of autonomy to the work. Conversely, architecture is awkwardly positioned within a complex paradigm of historical, physical, programmatic and environmental contexts or peripheries. Hence, as described earlier, Peri-Bader suggests we often only experience architecture in a state of distraction, unaware of our surroundings.

We only give our concentrated attention to the buildings or places labelled as "significant", with their associated notion of "destination". Inherently, there is an assigned importance we give to destination places, giving us, the occupant, reason to activate our awareness —whereas the "everyday" experience becomes normalised and insignificant. We have no reason to find these places invigorating.

In The Origins of Architectural Pleasure, Grant Hildebrand categorises human experience under four basic activities:
- Ingestion
- Procreation
- The securing of appropriate habitation
- Exploration

He concludes that "exploration in its broadest interpretation is what architecture has always been entirely about" (Hildebrand, 1999, 13).

The idea of everyday experience demonstrates a type of exploration, whereby, in the daily progressions of schedules and routine our subconscious hypothetically explores alternative experiences of our surrounding. Simultaneously our body makes active decisions to optimise our comfort and enjoyment of that space. This refers to Merleau-Ponty’s theories of this "body-subject".

In knowing this, how can our everyday experience of architecture be intensified, invigorating, enlightening or challenging? Can the transitional space between and within programmes stimulate the body in order to elevate the experience of everyday progressions?

Perception

If, for the purposes of this research, the intension of architecture is to have a heightened sense of embodiment, then there must be a heightened level of consciousness of our surroundings. Cognitive perception and awareness of architecture are inherent to the ideas around phenomenology and essences (Merleau-Ponty, 1962, vii). This "awareness" does not have to be a conscious thought process. What makes an experience conscious is a certain awareness one has of the experience while living through or performing it (Mastin, 2008). As Merleau-Ponty says,

To be a consciousness or rather to be an experience is to hold inner communication with the world, the body and other people, to be with them instead of being beside them.

—Merleau-Ponty, 1962, 96

Aya Peri-Bader is a contemporary theorist who studies how people move and react with their built environment and with people around them. She focuses on the psychological understanding of the way people subconsciously perceive and act when experiencing the built environment. The diagram (fig.6) explains how there is a spectrum of awareness categorised into 4 sub-headings:

- Focal Attention
- Affordances
- Depth + Edge
- Atmosphere

The former explains the occupier in their most aware state by being forced to activate their body in attempt to eliminate danger or risk. The latter is only marginal awareness which does not necessarily activate the body, rather feelings and emotions.

This investigation is delivered through a design output and therefore this theory aids in understanding how an individual might react to the designed space. This would also help the design specifically to activate a particular mode of bodily engagement. The composition of space, light and form is therefore articulated with intent and gives the potential for an intensified experience.
Case Studies

Overview

Throughout this research key precedents are used to position this work within the discipline in terms of theory, methodologies, art, and built forms or programmes. My design research is significant in relation to these as it explores similar ideas of embodiment, site and material relationships, but using site and materiality as a generative agent to explore embodiment, rather than simply “integrated” with the design outcome.

This section looks at key elements of the literary context, intersecting with and supporting the research. This includes how artists and architects like Richard Serra, Ensamble Studio, Steven Holl and SANA create works that employ the theory surrounding embodiment, material agency, and bodily engagement through light and materiality.

Ensamble are looked at particularly for their methodology on process and the way they research through doing/making. This supports the design research theories of Fraser mentioned earlier. This supports my research objective to disrupt the linear process of design development through a generative and iterative design process.

Fig 7. Case study matrix
The process methodology of this investigation is common to the processes of Ensamble Studio, whereby intuitive and abstract modes of working become generators from which to design. “We think with our hands, we experience. We seek to control the processes more accurately than the results” (Ensamble, 2018). This generative way of working creates a less predicted outcome where the conditions of model making and working with physical materials celebrate their inherent qualities and conditions that are deficit through digital production. It gives the designer creative freedom from the norms of form, scale, materials and programmes. Therefore this generative approach is taken throughout the concept and form finding stages of my thesis across all three testing scales. This way form generation is free from the constraints of pragmatics and the restrictive nature of digital software. However, since the design outcome of this thesis is a resolved architecture, the strengths of digital representation are also utilized.

This thesis speculates on the non-human relationships between the landscape, the architecture, and its materiality, evidencing that digital modelling best allows me to work with a large site and its corresponding architectures. Ensamble Studio also speculate on the relationships between people, nature and architecture. They are interested in spaces that incarnate, enact or simply refer to nature. “Whether it is their roughness, their wilderness, their low resolution, their continuous transformation, their connection with the essential and disconnection with urban environments, their lack of determination that liberates the spirit and excites the imagination” (Ensamble, 2017).

In Structures of Landscape (fig. 8) for the Tippet Rise Art Center, Ensamble casted forms from the land and extracted the sediment into new compositions. The resulting sculptures retain a memory and imprint from the landscape which brings about new meaning and tension. “[Structures of landscape are transforming] matter into habitable space and unfolding a new constellation of programs among the plateaus, ridges, canyons and hills of brutal beauty that compose the site” (Ensamble, 2015).

The ability to work at a 1:1 scale allows for the material relationships between the land and sculpture to be expressed in a tangible and haptic experience. The scope of this thesis does not allow for this rigour of investigation and instead, explores material experimentations with wax, charcoal and plaster as abstract modes of representation. The mediums (wax, charcoal and plaster) each represent an architectural condition whether that be light, shadow, material, form, landform, etc. or compositional relationships.

My site’s landscape is modelled to scale and the resulting contours generate form, rather than literally casting form into the landscape as Ensamble does. This can be done digitally or physically, which allows me as the designer to manipulate and develop the outcome. Thus the authorship of design can alternate between the landscape and the designer to produce a more rigorous outcome. Therefore by utilising the strengths of both analogue and digital modes of working, new ideas relating to the body and its experience in architecture are able to be generated.
Materiality & Light

The renowned minimalist sculptor Donald Judd produced sculptures with highly finished, industrial materials including metals, plastic, and Plexiglas (fig. 10) to remove the self-referential expression of the artist, and give his works an impersonal, machine produced aesthetic (ASF, 2017). Though the materiality of his works could be considered flat and impertinent, the subtle changes in the compilation of reflective panels introduce a depth and warmth to the work. The considered use of thresholds, material changes and offsets creates interesting reflections with the light. The hazy refractions of light and shadow disorient the viewer and in turn, bring about an awareness of self in the space. This use of light and materiality therefore prompts the essence of embodiment.

Judd’s work stands autonomous through use of these stark materials, free from the expansive field of image making or contexts. Hence the work does not allude to anything beyond its own physical presence, and instead helps to evoke the beholding of oneself.

The museum focuses on the changing qualities of natural light and uses reflection and translucency to literally blur the line between the landscape (softscape) and the architecture (hardscape).

From these case studies, light and shadow can seemingly be treated as if they are physical materials themselves. The relationship between the material and the light is considered as inherent to one another. It is the transient nature of light that invigorates the nature of the material, having an almost symbiotic relationship to each other. Applying this thought to the way I design helps existential relationships exist between the light, form and materiality (or the landscape and the architecture). This in turn creates invigorating spaces that help intensify one’s embodied experience.

Embodiment

Serra says he is most interested in creating “an opportunity for all of us to become something different from what we are, by constructing spaces that contribute something to the experience of who we are” (Giedion, 2008, 28). This in essence, defines the meaning and purpose of “embodiment” that this thesis aims to explore. The difficulty is translating the qualities of space offered through installation/sculpture into a programmatic architecture. It becomes a compilation of defined spaces that accommodate not just a singular material, but a multiplicity of structures, surfaces and details.

The best example of this translation is seen in Kiasma by Steven Holl (fig. 13). The gestural form of this entry space suggests movement while the attention to materiality gives a depth and richness to the experience. Holl dwells on this thought, posing that the detachment of material properties in the physicality of construction and craft reduces architecture to “stage sets for the eye, devoid of the authenticity of material and tectonic logic” (Holl, 2006, 29). Natural materials, on the other hand, such as brick, stone, and timber, allow the gaze to penetrate their surfaces and they enable us to become convinced of the veracity of matter (Holl, 2006, 29). Thus with an intentional articulation of materials and their inherent properties, an occupant can be evoked to respond emotionally to the haptic conditions around them.

I am most interested in the relationships between juxtaposing materials such as the lustrous reflections of anodised aluminium with the warm grain and touch of solid timber, or the effect of dappled light through a porous mesh compared to the stark light through a glazed threshold.
My thesis titled Transient Crossings speculates on the notion of journey and thoroughfare through an urban environment — places typically offering ephemeral or transient experiences. I question how architecture can respond with the landscape and streetscape to invigorate those "forgotten" experiences. The pace at which we travel through space often reflects on the desire to dwell in that place. Edgar Degas' landscape monotypes respond to these thoughts on movement, space and time.

Paysage Vert (fig. 14) is one of a series of Degas' monotypes which were created in his later years of life when he had gone partly blind and was travelling countryside by train. This led Degas to create these beautifully abstract layers of smudgy colour as a hazy recollection of the fast paced blurred landscapes through which he travelled. The notion of time and movement is captured as a still image with a rich and evocative layering of medium.

This prompted me to consider architectural materials and their potential to engage a greater sense of embodiment, perception and reflection of their environment. This could be done through surface treatment, layering, translucency and reflection.

I began by creating my own abstract landscape paintings which I then further skewed by smudging them on photoshop and printing all the designs on different paper opacities.
Watercolours

Fig 15. Abstract landscape watercolour painting series

Fig 16. Digitally blurred watercolour painting 3
Fig 17. Digitally blurred watercolour landscape 4
Fig 18. Abstract landscape paintings printed onto translucent paper and cut into shapes to be manipulated into form.
I became interested in journey and thresholds to pass through as a means to encompass embodiment through loci paths. I took these prints and cut, folded and arranged them into differing compositions to test the slowed sense of pace someone might feel walking through it based on the light, form and materiality of this scaled installation model. There was not time or resources to create the best findings into a 1:1 installation. Rather, at the end of this chapter I make critical reflections of the final model outcomes in order to progress onto the next phase.

Fig 19. Iteration 1: Installation scale model final design
Fig 20. Iteration 1: Scale testing 1-20
Fig 21. Iteration 1: Scale testing 1-50
Fig 22. Iteration 1: Scale testing 1-100. This is the chosen scale in terms of the grandeur proportions, in order to intensify the embodied essence of this installation design.
Fig 23. Installation model planning diagrams

Fig 24. Installation model planning schematics
Fig 25. Iteration 2: Installation scale model final design. Thoroughfare through the pilot
Fig 26. Iteration 3.01: Installation scale model final design. Illusion of space through angled sheets.

Fig 27. Iteration 3.02: Installation scale model final design. Tunnel of arches with angular sheet material.

Fig 28. Iteration 3.03: Installation scale model final design. Chaos and exploration through space.

Fig 29. Iteration 3: Testing forms through plain paper in order to get a successful shape template.
In this test the ground is assumed flat through the black bases which seem to detract from the ethereal nature of the walls. So how might these thin walls address the ground condition? This brought out the idea that a certain ground condition could further influence the composition and form of the wall structures. This might be through the analysis of site conditions. This could also influence where conditions of materiality might change and shift—for instance creating a system of transparency based on the need to highlight, obscure, mask or abstract different views or conditions. This material driver then becomes an agency that could inform the planning, programme and inherently the form of an architectural outcome.

Site can influence the materiality, form and composition through the analysis of contours, travel paths, site lines, wind, site shadowing, run-off pooling/paths. This can be achieved through superimposition, abstraction, layering, and subtracting methods.

Fig 30. Iteration 3.02: Installation scale model final design. Study 01.
Fig 31. Iteration 3.02: Installation scale model final design. Study 02.
Fig 32. Iteration 3.02: Installation scale model final design. Study 03.
Fig 33. Iteration 3.02: Installation scale model final design. Study 04.
Fig 34. Iteration 4.01. Installation scale model final design. Solo wall.
Reflections

In this small scale, a generative process is found through abstracted watercolour painting. The lyrical qualities found in the watercolours when applied to translucent paper start to reveal different conditions of light and illusions of movement within the form. These conditions affect the pace and effectively the experience of passing through the ephemeral thresholds. This finding suggests that a painterly abstraction of site might create a dynamic and evocative design, but could be strengthened by relating the analogue interpretation (painting) with specific site conditions.
This thesis prioritises an analogue mode of designing in order to liberate form finding and cultivate intuitive thinking that generative processes offer. Marc Treib explains that generative processes require time, attention, and a focused acknowledgement of the place—all of which stimulate thinking. Electronic media, in contrast, tend to reflect rather than think, processing only what has been entered into their memories by keyboard, mouse, or stylus. “[We must] consider the merits of drawing as a link between the hand and the eye/brain, as a means of engagement, as a support to the process of design, and as a way of viewing the world” (Treib, 2008, front cover). For instance, drawing has the benefit of being ambiguous, and can suggest notions of time or gestural expression of movement. This can be categorised into two thoughts: disegno, essentially “thinking by hand”, and rilievo architettonico the “survey” (Paolo, Nowak, 2014, X).

As means of design research, drawing and analogue investigations act as primary methods throughout this research. They can be used for both intuitive “thinking” in the act of designing, and as an analytical “survey” tool for understanding historical, cultural and geographical contexts relating to site and programmes. Where digital means of working allow for further development or efficient design (whether that be for generative processes or final representations), this mode is utilised over analogue processes.

Fig 37. Abstract charcoal and graphite on paper. Example of design process generative method.
Site

The Wellington site of the Gordon Wilson Flats is a testing ground for this thesis in both this medium scale preliminary design and the final civic scale design. It is situated below the existing Victoria University Kelburn campus, having the potential to create an invigorating connection between the hilltop campus and the city centre where more campuses are located. It also enables an everyday programme that addresses both public and private interconnecting spaces.

Fig 38. Aerial location map of Wellington central.
Fig 39. Site map showing boundary location for this thesis. Existing Gordon Wilson Flats shown.
Fig 40. Top of Site - Views Over Wellington City
Light Studies

I looked at Louis Kahn and considered different ways light can be brought into a space to create a certain effect.

Fig 41. Light studies through roof penetrations inspired by Kahn

Fig 42. Light studies through wall penetrations inspired by Kahn
I then draw form moments that encompass a particular feeling of embodiment whether that be weighty, vast, intimate, light, heavy, grounded, floating, etc. The final form used the front section of the site and utilised the existing retaining wall.
The second stage tests a mid-scale architecture and is placed at the front section of the site (fig. 45). This is where the footpath is raised and a large retaining wall meets the road (fig. 44). I explored different forms in response to site through drawing and physical modelling, which allowed me to test light and surface conditions with the variations of form. Situating the building near the pedestrian thoroughfare creates opportunity to explore the notions of “transient crossings” explained in the first stage (small scale test).
Programme

The programme is a small public café and library reading space where the footpath passes through it in order to blur the boundary between the interiors and the street. It also gives the potential to intensify the experience of pedestrians passing through, including the users of the space.

The combination of site contours, sun paths, foot traffic paths and the existing retaining wall became conditions on site that influenced early form and site compositions.

Fig 47. Site understanding and opportunity sketches
Fig 48. Wider site plan
Fig 49. Site programme and thoroughfare opportunity
Fig 50. (over page) Manipulated site plan to show site composition concept
The form and site composition concept developed with three form types (fig. 51). A is the main large body that expresses weightiness cantilevered off the steepening gradient. B is a sister to that larger entity, relating formally to A while framing the thoroughfare through the site. It utilises the existing retaining wall on the footpath — thus aiming to express verticality and the feeling of fragility in its formal qualities. The final type C aims to be a series of smaller scale forms that link the two larger forms together at a more intimate, installation-like scale. It might take the form of landscape architecture or streetscape amenities.
The section drawing (fig. 53) tests the gestural vertical plane in conjunction with subtle shifting floor levels in response to the landscape.

The plans (fig. 54) explore the connection between the larger body A and the vertical plane B.
Form Development

[Model Making]

A + B
Fig 60. Type A
Fig 61. Wall layout options with overhead canopy

Fig 62. Series of type A form development on site, card and gold foam.
Fig 63. Type B form evolution
Fig 64. Type B ascending entry, sketch model
Fig 65. Type B concept development iterations
Fig 66. Type B concept development. These start to develop the facade in relation to type A. This series also considers reducing the scale to array the forms.
Fig 67. Use of form to reflect light. Peel gesture to frame entry.
The simultaneous development of both type A and B forms has led to a more cohesive connection between the two, as if they are one building split in two. The relationship between the two has become important and evidently form B has reduced in size and form massaged into multiple folded facades and floor plates. Form A has evolved from a single wall plate to an inhabitable building nestled under this large sweeping wall.

This has led to the consideration of the detailing of the design. The details are essential in defining the experience of the space as it brings in the human scale and the haptic conditions. Therefore the construction of junctions, thicknesses and apertures all aid to enhance the feeling of the place.

Ensamble Studio explains “We design the shadow to obtain spaces of light and we can build with heavy elements to obtain weightless and transparent spaces. We go from stressed structures to dense structures, from the small scale of the house to the bigger scale of the city” (2018, np).

In building A (fig. 68) long slender floor joists form the underfloor ceiling and abut an angled clerestory window, much like the detailing in Sverre Fehn’s Nordic Pavillion, 1962. This brings interesting light and depth into potentially dull spaces. The detail is also seen through the glazed strip when passing through the footpath, provoking what the interior environment might be from the outside.
This final concept proposes a small public café and library reading space where the footpath passes between. The sections (fig. 71, 72) start to describe this relationship between programmes and their levels.
Final Design

[sketch model]
a. Staircase up to mezzanine library. Oversize communal study table below. Large fin structures create cubby spaces for study nooks that view out to the bank. The tree canopies provide dappled light into this northwest facing study space. These fin spaces are elevated on a gradually stepped floor plate.

b. Model detached to show ground floor and outer shell. Fins continue up through ground floor to the top roof deck.

c. Light is reflected into the ground floor spaces through:
   — Translucent coloured stair tread;
   — The offset of the sweeping wall (seen when the model is composed) which funnels light down its face and through the ceiling-to-wall gap;
   — The gradual exposure of the deep thin floor joists.

d. Bathroom and staff amenities are tucked under the mezzanine floor. The exposure of the deep thin floor joists can be seen here. Glazing would protect from exterior elements but allow an interesting cast of NW light into the rooms.

e. This perspective shows the roof deck meeting the translucent roof glazing which connects to the roof plane. The library mezzanine is seen through this glazing, as well as the void down to the open plan study area. Here the wall curls out to intersect with the curved landscape. The imagined effect of these design interventions is illustrated through the referring image tiles.

Fig 75. Breakdown of design components and their associated materiality / atmospheres.
1. Southern Stairs
2. Bathrooms
3. Café Kitchen
4. Translucent Mezzanine Stair
5. Stepped Pathway
6. Sunken Path
7. Monolith Zigzag Stair to Library Mezzanine
8. Large Concrete Reading Display / Table
9. Stepped Overflow Library / Study Space
10. Reading Cubby Columns
11. Landscaped Steps Into Hill; Access Route
12. Paving and Arrayed Shelter Landscaping
13. Enclosed Café Dining
14. External Café Dining
15. Circular Void / Mezzanine Landing
16. Library Mezzanine w/ Shelved Eastern Wall
17. Void / Atrium
18. Wall / Roof Canopy Enclosure
19. Roof Glazing
20. Roof Deck
Fig 78. South view of library roof deck
Fig 79. South overview
Fig 80. Southern end entry steps onto Ghuznee St.
Fig 81. South entrance overview
Fig 82. Translucent stair, with ramp up to café mezzanine. Kitchen under.
Fig 83. Aerial of footpath running between the translucent stair and library entrance.
Fig 84. North entry through The Terrace pathway
Fig 85. Entrance to library. Curved wall and stepped landscape junction.
Fig 86. North end overview. Landscaping features translucent glass shelters influenced from the first scale installation project.
Fig 87. North back view showing library fins.
Fig 88. Library roof deck with large fin structures terminating to become the parapet/balustrade. The deck meets the translucent roof glazing which connects to the roof plane. The library mezzanine is seen through this glazing, including the void arium spaces.

Fig 89. Aerial overview highlighting the effect of dynamic light and shadows cast on the form.

Fig 90. Close up aerial of roof deck. Light and shadow effect more obvious.
Light Paths

Fig 91. Understanding 6 key form features through drawing

Fig 92. Understanding how light reacts in relation to the forms
I have learnt from the second stage that the method of testing forms through drawing and modelling across different scales produces a resolved architecture. The outcome is successful and purposeful in terms of creating dynamic light and form that is responsive to site and programme. However, there seemed to be a jump from the conclusions made about experimentation and materiality in the initial “installation” stage to go straight into a finished final architecture. Therefore a more successful platform for variation and testing can be achieved through an abstracted and generative process. This would allow materiality and site to have agency which I started to consider after the first stage rather than the authorship remaining solely with myself as the designer.

Fig 93. Atmospheric view down footpath
Site Analysis
Overview

The same site used with the smaller preliminary design is used for this final civic scale design. This time, the entirety of the site boundaries will be included, rather than restricting it to the road edge. Employing the whole site now opens the opportunity to link into the Victoria University Kelburn campus. The aim is to create an invigorating connection between the hilltop campus and The Terrace below. In turn, it becomes a landscape, urban design and architectural investigation.

Fig 94. overview perspective of site within the wider city and Kelburn campus

- Recreation
- University Buildings
- Inner Residential Housing
- 1m Contours
- Demolition of Existing / Earthquake Prone Buildings
Sun Studies

Fig 95. Summer solstice solar study

Fig 96. Winter solstice solar study
For this final scale, the process of site analysis identified the opportunities and constraints for developing an architectural form. This shows sun studies and the steepest gradient zones based on the contours. These create possible loci paths which are also in relation to existing thoroughfare routes and infrastructure.
I developed these loci paths by projecting them onto a digital contour model and then assessed critical junction points as dynamic areas with potential for situating an architectural form that encompasses a sense of thoroughfare and progression.

These nodes could then be analysed in relation to existing site conditions such as shadowing, light, buildings and trees.

Fig 99. Loci path development of journeys across site. Node points of intersection and dynamic opportunity identified.

Fig 100. Journey paths mapped in section from geographical data in order to analyse the difference in gradient an occupant must journey travelling on different paths.

Fig 101. These graphs are translated into an abstract model that starts to formalise the movement across the site. It allows a generation of site composition from which the forms can develop.
Fig 102. Loci paths

Fig 103. Relationship of loci paths and model through projection onto the landscape.
Fig 104. Aerial view of land pathway model
Fig 105. Detail view of land pathway model
Fig 106. Elevation detail of land pathway model
Site Conditions

Fig 109. Site Analysis: Existing Tree Layout Conditions

- Low Weedy Shrub
- Large Norfolk Pine
- Dainty Deciduous Trees
- Dead Pine Trees
- Pine
- Pohutakawa / Rata
- Eucalyptus Tree
- Magnolia
- Dense Native Bush
Fig 110. Site Analysis: Existing and Future Potential Tree Layout Conditions

- Pine
- Pohutakawa / Rata
- Eucalyptus Tree
- Magnolia
- Dense Native Bush

- Low Weedy Shrub
- Large Norfolk Pine
- Dainty Deciduous Trees
- Dead Pine Trees
Retain Potential Thoroughfare
Key Points on Site for Potential Architectural Moments or High Interaction / Dynamics
Potential Thoroughfare
Retain
Concept Design
Alongside this analysis, I began experimentations with wax, charcoal and plaster, which are all fluid materials that then set.

These tests obscure what had become quite a linear design process in the preliminary design stage. They also shift my understanding of the research question because the output allows for speculation and reflection. This is based on the observations of the non-human relationships between the landscape, the architecture, and its materiality.

These experimentations with wax, charcoal and plaster form abstract modes of representation. The mediums each represent an architectural condition whether that be light/shadow, transparent/opaque, delicate/robust, weightless/heavy, form/void, landform/architecture, softscape/hardscape, and so forth. For simplicity, these tend to be binary conditions.

It can also be noted that these relationships exist across a range of scales from the larger site relationships to the intricate detail of two different materials meeting. Thus embodiment is interlinked at all scales because there is also the embodiment in the act of making, where I as a body am physically manipulating materials.

These tests relate to the land pathway model:

1. The latter is based on the wider landscape and the activities on the landscape. It has a curvilinear, ephemeral and weaving condition which is related to movement. It expresses relationships between land contours and potential egress across the landscape.

2. The experiments are also fluid, ephemeral and related to movement, but are more about the reactivity between two materials within architectural conditions (rather than relationships across the wider side).

Fig 113. Wax, Plaster and Charcoal Experiments
Fig. 115. Wax setting in cast.
Fig 116. Final result of fabric cast in plaster, removed and charcoal wax poured in the crevices.
Fig 117. Close up of experiment with unset plaster layered with charcoal powder and repeated.
Fig 118. [P] Variations of material conditions

Fig 119. [P] Abstract architectural interpretation of material conditions through drawing
Form Finding

The different qualities of each medium—wax, charcoal and plaster—create interesting relationships between each other. Inherently the experiments capture movement being fluid materials that then set. But mostly, it is about the reactivity between the materials.

An analysis of these reactions / relationships is expressed through drawing a corresponding architectural condition to the material condition (fig. 121). These interpretations are then applied to specific points on site that best respond, react or reflect its conditions. From this I could translate them into an abstract architectural condition through drawing and develop each into a series of concept forms.

Fig 120. Site analysis to locate potential affects or atmospheres of form in response to the contours, views, softscape, light and exposure.

Fig 121. Appropriating the architectural conditions with site opportunities.
Character of Authorship:

1- Experimentation has shared authorship in the sense that the manipulation of materiality is intentional and authorised by the designer, whereas the material outcome is unpredictable and authored by the material conditions/reactions themselves.

2- Interpretation is a more conventional top-down authorship through the process of translation.

3- Refinement and formalisation of the concept drawing into a scaled architecture on site — again have a shared authorship because of the landscape element which is out of my control. The landscape has agency, not just the designer. Thus an unpredictable dynamic is evident between the landscape and its reaction to the form. This starts to form a sense of non-human embodiment.

Fig 122. Diagram showing the development from experiments to a formal output.
Area 1: Design Intention

To enhance the linearity of both the view shaft down Ghuznee St to Mt Victoria and the ridgeline of the topography;

This area on site has an abundance of medium sized deciduous trees which pose opportunity for an architectural form to nestle above the treetops.

In this first form series the iterations started with a cluster of columns that follow the loci paths discovered in site analysis. They also mimic the delicate trees scattered in this area on site. From there the form of the land is extruded to create a cutting plane to the piles.

The loci paths are then formalised into two angular volumes. These are then manipulated to fall more fluidly with the landscape. The column structures are omitted to give a sense of counterbalance with the forms on the landscape.

The following iteration is testing a combination of dynamics. The chaotic nature distracts from the purity of the space and the potential for the occupant to understand their relationship to the built environment.

Across these iterations a material condition is suggested to test opacity in the feeling of weightiness or weightlessness. This starts to introduce thinking at a detailed scale where materials, junctions, surface, texture, shadow and light all interplay. The result has an overall visual impact, but also on an intimate human scale where the haptic conditions of the experience can be realised.
For the same area on site this second series of iterations are tested (fig. 125). It starts with an extraction of landscape that responds to the vertical protrusion to create a tension of proximity between both the curved mass to the wall and the ground. These areas of tension/response enlighten a desire to imagine ourselves in that space.

The bridge articulates the change in the curvature and enables habitation of the curved plane, although this form seems unsuccessful in its proportions and fluidity.

The initial curved plate derived from the landscape is then simplified. This gives a shared authorship between the designer and the landscape to create a more aesthetically pleasing form to the eye while retaining the relationship between the land, architectural form and its potential for habitation.

A third iteration series derived from this second series with the final outcome shown below. It has an arrayment of thin beams placed as a means of structural potential and poetic articulation. This articulation suggests the curvature of the plane is altered to become vertical at the point of intersection. Though this is driven by the designer’s authorship, the result starts to suggest the architectural moments are responding in relationship to each other.

The two walls intensify the linearity of the ridgeline while responding to the lines of the topography. The landscape is therefore becoming an author for the shifts and changes that are made.

By creating a bridge as a continuation of the faces, there is an effect on the human experience because a body can position itself in the narrow top horizon level. This also grounds the vertical forms back into the landscape, giving a richer sense of their relationship with the landscape.

The short arrayed walls act like fins and the voids between each fin dissipate from the monolithic wall. This articulation starts to introduce a finer scale of architectural relationship. They also create a threshold for light, shadow, and occupation to move; a function of enticement for the body to occupy, and thus the articulation of form authored by both the designer and the architecture itself (form-to-form).

Area 2: Design Intention

This area focuses on the junction between the flat ground plane and the steep contours. It aims to use an architectural form as a link between the two and appear to prevent the slope from continuing.

Area 3: Design Intention

This area is situated at the top ridge of the site where panoramic views overlook Wellington city. The intent of the form is to celebrate the horizon line and bridge the ridge line to the slope.

The positioning of curved extrusions gives potential for framing and obscuring the view in various ways, allowing the site to be experienced from new perspectives.

The fluidity and sense of movement in the slope contours are addressed in the plan of the extruded forms. The resulting curvature clashes beautifully with the land curvature to reveal unexpected forms and compositions.
Area 4: Design Intention

To heighten the sense of edge, periphery, enclosure, weight, and gradient in response to the gully/valley formal qualities of the topography. Based on the site analysis this area becomes a circulation junction point so emphasis on thoroughfare is important.

In this series loci paths discovered in the site analysis are used to create clipping planes in the land. The resulting segments of the landscape are extruded, rotated, clipped, and shifted. A geometric form is designed in response to the curved floor plate to bring about the volumes.

So there is a manipulation of form to respond to the curvature of the land, and the response of each form to one another. A dynamic condition is created. This authorship lies predominantly with the relationships of the form to the landscape (form-to-landscape) and with other architectural forms (form-to-form).

Fig 128. Location, influence and output of form concepts series 5
Fig 129. Iterative development of concept series 5, site area 4
Compositional Concepts

Fig 130. [P] Arrangement of all test series as a composition on site
Final Concept

Reflection / Conclusion

Embodiment was initially a forefront driver of this research, but as a result of experimentation, a richer comprehension around the notions of embodiment is discovered. This includes insight on processes and authorship in the role of design.

There is a discovery made in the shift of authorship from solely the designer, to authorship shared between the landscape, the programme and the materiality, which have gained agency in the formal outcome. The contours of the landscape and the reactive architectural form create dynamic relationships that exist without the body present. Thus the notions of embodiment have begun to be scaled up and attributed to things other than human. In essence, the body has become a non-human body—that is the landscape and the materiality.

Research in this area is often quite closely about the literal bodies and their reactiveness in space. Whereas this thesis allows material to react against itself. The embodiment is wider than human. This occurs across a range of scales:

- landscape—form
- form—form
- form—materiality
- materiality—materiality
- materiality—landscape
- light—form
- light—materiality
- site—city

The human response still remains in the architectural outcome but through the process of that architectural arrival there is a dialogue between human and non-human that inevitably occurs when designing. You will always have that working with a human and non-human from pencil and paper. Embodiment is complicated because it does address the material relationships. This is interesting because architecture always has questions of materiality.

Fig 131. (P) Final form concept with material condition
Final Concept — Site Overview
The final civic project is a university precinct for dance and drama that are also hirable public amenities. The necessary programmes for these buildings were arranged in a composition that best fitted the developing form. From there it was refined and both the form and the programme shifted to best respond to each other and the site. With this resolved, the landscaping could also be designed in order to address my objective of the site becoming an urban landscape.
Form Development

Fig 138. Final massing and form development
Landscape Development

Fig 139. Landscaping concept development and perspective sketch
Preliminary Design Review

This preliminary design review showcases the final design and the process of speculating the strong and weak areas of the design outcome to further change and refine the work.
Fig 142. Site overview perspective with initial landscaping concept
Fig 143. Far overview showing relationship to the road
Fig 144. Theatre building

Fig 145. The public thoroughfare ascends the perimeter of the theatre
Fig 146. Public perimeter thoroughfare from southern view

Fig 147. Theatre building view from northeast end
Fig 148. Stair up to top level — teaching room
Fig 149. North view of fin structures

Fig 150. Fin tunnel and adjacent teaching room
Fig 151. Developed design site plan
Final Design
Site Model

This site model helped to understand the landscape and see how these buildings perform compositionally on site. It also shows how the architecture and the landscape provide a journey across the landscape.

Furthermore, here it can be seen that the wall structure at the base of the site is a reduction of the preliminary design library/cafe design. The form has reduced to become a landscape feature rather than an enclosed architecture.

Fig 154. Site model
Fig 155. Journey paths across site — through both building and landscape thoroughfare
Fig 156. View up The Terrace
Fig 157. Footpath retaining wall (a reduction of the forms from preliminary design)
Fig 158. Drama building with steps ascending the topography
Fig 159. Dance and drama studios cascading down the hill. Stair boardwalk weaves between the forms to reach Kelburn campus at the top. The footbridge from the theatre building intersects at the base of the dance building.
Final Drawings

The final development is comprised of three buildings nestled down the landscaped hill, which in turn create a connection between the city and Kelburn campus. The cluster of buildings comprise of a small theatre, and dance + drama studios with additional learning rooms, practice rooms, and small lecture theatres. The landscaping includes a series of boardwalk stairs meandering through the buildings which lead down to an observation deck and waterfall. The curved surface at the base acts as a catchment pond and hidden drainage for both storm water and the waterfall. The promenade stairs dividing the theatre, which can best be seen in this section, connect to secondary gravel paths leading to Kelburn, while providing a natural amphitheatre of activity.

By extending the adjacent university campus and creating a connection to the city centre, this site enables an everyday programme that addresses both public and private interconnecting spaces. This provides opportunity to explore embodiment as part of a journey and thoroughfare through a building or landscape. Thus the spatial investigation has been applied in both an interior and exterior programme where architecture, landscape and urban design all interlink. The human experience also shifts from a singular interaction to a progressive experience through a greater urban landscape. More so, the notions of embodiment query more than simply the human experience, but speculate on the non-human relationships between the landscape, the architecture, and its materiality.

The buildings essentially have no ground floor where the floor plate is an extraction of the land that is shifted, scaled and manipulated. The floor plates merge with the stairs and create constantly shifting levels that lead the occupants through the building, and essentially across the landscape. The mesh and glazed facade is double skinned with promenades lacing up through, creating a blur between interior and exterior.
Fig 161. [P] Final design — Site plan
Theatre Plans

Fig 162. [P]Theatre building perspective
At ground floor the theatre building is entered at the front peaks that meet the land. These are accessed along a central footpath. This landscaping continues up between the split building. This path turns to steps, including larger sitting steps that lead to alternative pathways and other access to the building.

Once entering the ground floor of the building, the occupants are immersed in dappled light that glistens through the brass mesh and glazing layers. The facade and roof merge to create one grand atrium space that is grounded by the curved concrete floor plate. This floor plate has staircases etched into the form that allow the occupant to ascend up to the main floors. These floor plates delicately touch the landscape and create a void under the building. Here the anodised aluminium underlining of the concrete produces an interesting refraction of light and shadow. Whether passing under or within the building the occupant is experiencing a certain dynamic or tension between the curvature of the land, and the curvature of the building — and accessible from multiple perspectives.

The northern segment leads to the main foyer and restaurant space, which acts as the primary crush space for the theatre. The southern segment has a public stair that leads up and around the side of the building as a thoroughfare up the site slope. It also provides the main entry for users of the back stage and changing room facilities. This stair also doubles as a secondary fire exit from multiple levels of the building.

In addressing wheelchair accessibility, the main path on the ground connects up to a third entrance at the back of the building where the fire stair and elevators skewer through the height of the building.
Description [Level 3]

This level is the main foyer crush space, which sits suspended between the two segments as a bridge overlooking the view back through to the city. The two segments heighten the one-point perspective and frame the outlook. Wedged into the northern segment is an intimate bar / restaurant space that provides a contrast between the light open glazed bridge and the more intimate enclosed restaurant / bar space. As a journey through the building, this provides a sense of expansion and compression with the differing light, form and material qualities.

In the bridge the use of glass roof and walls with honed concrete floors and brass handrail detailing creates an openness where the people inhabiting the space play out a kind of performance. The bridge acts as a social stage, and the performative nature of the building lies in with the experience of the occupants.

In the more intimate places across the building, the use of warm timbers and brass detailing results in a more haptic environment that stimulates the desire to dwell. This includes the more confined bar space. Here soft fabrics and materials could also be used to enrich the essence of intimacy of that space.

The consideration of light, form and materiality to enrich the experiential qualities is continued through to the bathroom design. The hand basins are part of a scattered array of pillars that cause the occupant to meander through these sculptural pieces (fig. 165). They have an authoritative presence which combined with the rich materials, makes the space feel almost sacred.

This level leads into the theatre, which is separated by vertical voids and accessed across a small bridge. The passing through thresholds suggests a change in environment and stimulates a sense of curiosity and exploration.
Description [Level 4]

Level 4 is the mezzanine floor for the bar, foyer and theatre. The theatre floors have woven herringbone tiers where, instead of an aisle stair, the intersecting floor plates create a meandering stair down the centre. The steel fins align with these tiered steps to form extruded mullions. They act like portals out to the natural landscape. As a small theatre the ability to blind off these windows is necessary; however having the ability to open the space to diffused natural light allows for more casual day performances, lectures or other events.

In this plan (fig. 168) the public stair on the southern segment ascends around the perimeter of the building to connect to the levels above, and ultimately across to the opposite side of the greater site. The double skin mesh and glazed facade come into play here, where the stair promenade laces up through it. The indeterminacy between interior and exterior environments provokes a sense of exploration and invigoration. It also provides a sense of protection from the outside conditions that can restrict occupants from the desire to enter a space (as addressed in the research of Peri-Bader earlier). The form of this stair path is seen more clearly in the physical model (page 246-259).
Description [Level 5]

This level has general teaching and hirable event rooms. The northern room is almost entirely sitting steps to integrate with the steep curvature of the floor plate cutting through the building. This creates a natural amphitheatre and intimate space for general study, reading, talks, meetings and work spaces.

The southern room is a flexible teaching or conference space that opens to outside on both east and west walls. The eastern wall backs onto a semi-enclosed roof courtyard. The western wall shown in the render below is glazed and bifolds out into the sheltered egress through the fin structures. The continuity of these fins through the floor plates helps the occupant to gain a sense of where they are in the building and their scale in that space. The mesh roof overlaps down over this top floor to screen the harsh western sun and provide a delicate light through the weaving pattern of the facade. This also imitates the similar effect the tree canopies have on the floor levels below.

The sense of protection from the interior environment with the various framed and obscured outlooks to the exterior view (the hill up to Kelburn flanked by tree canopies) heightens the notion of prospect and refuge talked about in the literature context earlier. The explorative nature of these spaces has the potential to invigorate and enlighten the experience of what could have been a banal classroom hallway. Rather, it serves as covered outdoor extension to the teaching room — or perhaps the teaching room an intermediate space between two courtyards? Furthermore, the tilted glass facade appears to protrude up through the floor plate as the transom descends back down. This alludes to a facade dynamic happening in the theatre below that relates to the curved floor plate that the occupant has already experienced. The occupant’s embodied awareness is heightened by this subconscious understanding of this part-to-whole phenomenon. Functionally, the transom element transitions to become an overly tall balustrade for this unenclosed space as one arrives at this promenade.
Description [Level 6]

This is the roof level above the teaching room, which is essentially a roof deck as a viewing platform to overview the site and greater Wellington. The access to this tiered platform is via a stair on the fin tunnel of the level below. The mesh roof edges the perimeter as a form of balustrade and has the feeling of being nestled into the canopy of the building. This also relates to the site conditions explored at the beginning of this final design stage where the view shaft down Ghuznee St across to Mt Victoria stimulates a bodily connection with greater Wellington — once again shifting the architecture:site relationships to a larger scale of site:city.

On the eastern-most edge, the viewer can look down into the private courtyard below. This void gives a sense of weightlessness and cantilever over the spaces below.
Fig 172. [P] Theatre main front entry showing the curved floor plates meeting the ground
Fig 175. [P] Exploded theatre structure and construction schematic
There is a composed juxtaposition between the solidity and weightiness of concrete, steel, timber and the landscape, with the delicate translucency and refraction of the glass, mesh, polycarbonate and aluminium surfaces. These qualities are inherently derivative of the relationships seen in the wax, charcoal and plaster experiments.
Fig 178. Fin tunnel and teaching room
Fig 179. (P) Theatre entry from mezzanine
This idea of indeterminate spaces is evident throughout the design. The building does not have a normative set of known rules on how to activate oneself in space. Rather, it allows the occupant to dictate how they want to engage with it. It is the relationships between land—form, form—form, and material—form discovered in the generative process that creates these indeterminacies. It is the authorship of the designer that imagines these spaces into a programmatic reality. It is this generative process that allows for a shared authorship in the design that results in an unexpected, dynamic outcome.
Theatre Sectional Model

A 1:50 scale section model of the southern-most end of the theatre building was made in order to understand the construction and forms more comprehensively.

Materials are suggestive and are indicative of the type of materiality whether concrete, steel, glass or timber. The areas of brass, anodised aluminium and fabric are not shown.

The interiors where human touch is more prominent will have use of timber and concrete, whereas the exterior is mostly glass, concrete and steel mesh. Even the mullions (not accurate in this model) show this through the composite timber and steel construction. From the outside the glazing only shows a thin black steel junction, but the interior has a thick timber reveal. This gives a haptic depth and a sill-like function to the facade. It also connects the interior warmth to the more harsh exterior.
Fig 182. Model making process
Fig 183. Landform on base
Fig 184. Fixing model to base
Fig 185. Inside theatre showing herringbone floor plate arrangement

Fig 186. South facade and stair up to top floor (placarding room)

Fig 187. Ground floor entry staircase

Fig 188. North face fin and mesh facade detail
Fig 189. Ground floor entry staircase and facade termination
Fig 190. South facade glazing, mesh and stair detail
Fig 191. Stair to facade relationship
Fig 192. Intersection of curved facade with fins
Fig 193. Back corner of theatre showing flooring and fin details
Fig 194. Section cut exposing the interior

Fig 195. Close up showing the two volumes fractured off each other to create the open ceiling in the void

Fig 196. Front entry

Fig 197. Weaving theatre staircase with backstage facilities under

Fig 198. Curved plate showing void space underneath
Fig 199. Front overview of theatre section model
Fig 200. Southeast facade and stair promenade up to the fin tunnel and bridge

Fig 201. Southeast elevation
In comparison with the larger theatre building, both the drama and dance buildings are wedged into the landscape where the floor plates are almost all “ground floors” in the sense that they extrude out of the ground as the building ascends up the steep contour. The theatre building, however, delicately touches the landscape in moments to create occupiable negative space between the land and the form of the building. This results in all the levels floating above the land rather than the interior experience utilising this dynamic relationship with the contours of the land.
Description [Ground]

Leading up to the drama precinct, the occupant crosses the site and meanders up through the timber boardwalk that weaves over the stream of water from the waterfall platform landscape sculpture. This water is collected at a reflective mirror pool that acts as a catchment pool by the curved concrete plate — much like the extruded land forms seen throughout the three buildings' floor plates.

This building is entered through the eastern side of the facade. The lifted floor plate just seen below insinuates an entrance awning that indicates movement across to the opening. Similar to the theatre building, this extruded plate’s underside is also lined with anodised aluminium where the people passing under almost see their own blurred reflection projected onto the building. The water reflection also aids in this distortion of image. The movement of the water emits luminous movement of refracted light across the built surfaces.

Fig 203. Timber boardwalk up to drama building and the waterfall platform / landscape sculpture

Fig 204. [P] Ground floor — Drama
Description [Level 1]

This level holds the main teaching floors that comprise of stepped floors to create natural amphitheatres, merging with the steep topography. From the main entry atrium the grand staircase leads up the western edge of the façade. Here the stair aligns with the boardwalk on the exterior of the building as if the interior space is leaking out under the facade to become the external condition. This strip becomes the main circulation to the other levels of the building. The alternative circulation is the fire stair wrapped around the lift shaft core. This core acts almost like an axial point, grounded into the land, and prevents the otherwise fluid gestures of the building from toppling down the hill.

Fig 205. [P] Looking south back down boardwalk over site. Uplifted drama building in foreground showing the reflective anodised aluminium on the underside of the concrete curved plate.
Description [Level 2]

This plan shows the secondary entrance to the upper section of the building. This is located at the junction point of the bridge end (from the theatre) with the top of the east face stair landing.
Description [Level 3 — Roof]

This upper floor is a casual common space that also provides access to the mezzanine roof deck above. Light floods the common room from the mezzanine, which acts like a clerestory window. This common room intersects with the ground where the circulation bottlenecks. There is a resulting impression of expansion the further someone walks around the corner and into the room. This feeling is continued in the elevation up the stair to the sunlit mezzanine.
Dance Studio Plans

Fig 210. Site overview — Drama building indicated
Description [Ground]

The form of the dance building is essentially the same as the drama but with a different position and tilted placement on site. Therefore the intersecting of the interior condition with the topography forms unique spaces that differ subtly from the drama building.

Entry into the dance building from the drama building is a continuum of the linear circulation below. The stair landing at the bottleneck junction blends into the entrance of the dance building through the front facade. Here the atrium space has no continuous floor plate; instead it is a continuum of risers and treads to form a grand staircase. In the render below the central lift/stair shaft pierces through the slab, as if to stake the form in place. It also divides the endless horizontal planes with verticals that also act to give a sense of direction and order amid the tilted planes.

Fig 212. [P] Dance studio entrance atrium
Description [Level 1]

Level 1 is the main teaching and studio spaces. The main studio (fig. 213) is not fully enclosed and instead is open to the atrium void where the barre is also the balustrade. This causes the space to feel like a stage, which is enhanced by the roof that angles out to the light and the mesh facade mimicking theatre-like atmospheres.

Fig 213. [P] Main dance studio
Description [Level 2]

This level is a long strip of changing room and bathroom amenities. The circulation space is utilised as the waiting rooms that funnel down the stair / lift shaft to the different studio spaces. From this translucent shaft there are obscured views into the studios.

Description [Level 3]

The tilted position of the dance building leads to taller vertical space through the spine of the building. This has allowed for more teaching and office space in the uppermost levels. These spaces are evidently more intimate, loft-like spaces adjacent to the sliver of void above the linear circulation that traces the western facade.
Fig 217. [P] Overview of mirror pool, boardwalk, waterfall platform and the dance / drama studios
In this final design, a successful generative process is found through:

— analogue experimentation of materials
— abstract interpretation through drawing
— appropriation with site conditions
— formalisation through digital iterations in direct relation with site conditions (contours, movement paths, light, trees, view shafts).

It is through this process that the most significant discovery on embodiment is made where the human relationship to the built environment is scaled up and attributed to things other than human.

These discoveries could therefore be transposed to any given site, positioning this thesis within a wider context by considering the “what ifs?”. What if this investigation was applied to a contrastingly flat site, in a dense urban environment? Through this reflection the generative process is further validated because of the way it can be used with different contexts to produce uniquely invigorating, experiential design outcomes. The parameters of site are simply applied to a new context, and the interpretation / abstraction (through any choice of medium) has the potential to create an intensified sense of embodiment — and inherently linked to that place.
Fig 221. Section BB through drama building
In this final civic scale there have been discoveries made in the experimentation of materials and the shared authorship and agency of the landscape, the programme, the architecture and materiality. This generative process provides a platform for an unexpected, invigorating design outcome. The results seen are series of buildings that explore reactive and dynamic moments occurring between the form, its materials, and the landscape. They react within themselves to create notions of embodiment without the need of the human body present.

When the body is present in these existing dynamics and material conversations, they become “third person” in the conversation. The development of the landscaping, materiality and interior conditions therefore create an intensified experience for the body. The spaces celebrate sensuality, scale, movement, and in turn an awakened connection of yourself within the form and the landscape.

In the everydayness of someone walking from the city centre to Kelburn, or for a student of the performing arts precinct, this project poses a speculative dialogue we can have with the built environment that enables ourselves to be enlivened by the experience of light, form and material conditions. It is the non-human dynamics that intensify these embodied experiences. Thus, these speculations begin to answer questions on how embodied experience of space can be intensified through the articulation of light, form and materiality.
Overview

This design investigation asks how embodied experience of space can be intensified through the articulation of light, form and materiality. It aims to evoke an awareness of our spatial environment through bodily engagement because architecture has the potential to elevate everyday experience of what may ordinarily be considered banal, distracted, or forgotten experiences.

The concept of the body in architecture as a form of cognitive, experiential, or active perception is explored through an application and understanding of existing theory, process methodologies, and practice in this field of work. This knowledge is applied throughout a three stage methodology where design ideas are tested across a small scale thoroughfare installation, a medium scale café / library, and a final civic scale performing arts precinct.

This methodology allows for critical reflection at each stage, where the first two stages allow the testing of ideas that can then directly feed into the final civic stage. This methodology also allows for a generative process to be tested at smaller, more manageable scales in order to refine a process method that strengthens the outcome of the final design.

Thus this design-led research also aims to see how generative and iterative modes of work can reveal new ideas about the body in architecture.

Fig 223. 1st stage — Installation model (test design)
Fig 224. 2nd stage — Final model (preliminary design)
Fig 225. 3rd stage — Theatre image (final design)
Key Objectives

Obj. 1 —
A generative design process has the potential to disrupt the normative linear process of design development, which in turn allows for the unpredictability of form. Unexpected design outcomes combined with the articulate hand of the designer can lead to more invigorating results.

In the small scale, a generative process is found through abstracted watercolour painting. The lyrical qualities found in the watercolours when applied to translucent paper start to reveal different conditions of light and illusions of movement within the form. These conditions affect the pace and effectively the experience of passing through the ephemeral thresholds. This finding suggests that a paintily abstraction of site creates a dynamic and evocative design, but could be strengthened by relating the analogue interpretation (painting) with specific site conditions.

In the medium scale café this generative process of abstraction/interpretation is lost in the efforts to produce a “developed” architecture. The outcome is reached through a more conventional and linear process where analogue drawing and model making are used to develop iterations rather than generate unexpected formal outcomes that can then be refined through iterative design methods.

From this critical reflection of both tests, a richer translation from site with this abstraction process is carried forward into the final scale. A successful generative process is found through:
—analogue experimentation of materials
—abstract interpretation through drawing
—appropriation with site conditions
—formalisation through digital iterations in direct relation with site conditions (contours, movement paths, light, trees, view shafts).

It is through this process that the most significant discovery on embodiment is made where the human relationship to the built environment is scaled up and attributed to things other than human.

The relational tensions can be seen between the landscape—form, form—form, form—materiality, materiality—materiality, materiality—landscape, light—form, light—materiality, site—city, and so forth. In essence, all the theoretical presuppositions around the “body” in space have become replaced by this non-human “body”. Embodiment therefore encompasses more than solely the individual in space but a wider intermeshing of architectural conditions across various scales.

Obj. 2 —
This abstracted process also resulted in unexpected design outcomes for the final civic project. This is because as the designer I am liberated from sole authorship — instead, sharing authorship with the material experimentation, the drawing abstractions, the topography, the loci / movement pathways, the materiality, and finally the building programme. All of these aspects have gained agency in the formal outcome.

This research objective is not achieved in the second scale where I used drawing and modelling to “design” in a conventional “top down” manner. This results in an outcome that seems inherently predictable. Though the outcome is innovative and compelling, it fails to find new discoveries around embodiment.

Therefore, the initial discoveries made at the installation stage are reintroduced for the final design.

Obj. 3 —
The third objective is for the design investigation to be grounded in site and programme. This tests the generative process with architectural specificities.

As discussed earlier, this thesis is grounded in site and programme because they both gain agency in the generative process. Therefore, not only do the architectural qualities associate to specific sites, programs, and architectures — which Holl venerates, — but they are even authored by them in the final civic project.
Summary

In questioning how embodied experience of space can be intensified through the articulation of light, form and materiality, there have been discoveries made in the experimentation of materials and the shared authorship and agency of the landscape, the programme, the architecture and materiality. It was through the three scales of testing that a generative process was able to be propagated. It is through this abstracted and site-driven process that a uniquely invigorating design outcome is realised. The contours of the landscape and the reactive architectural form create dynamic relationships that exist without the body present. The conversation between the form, its materials, and the landscape within themselves creates notions of embodiment. The development of the landscaping, materiality and interior conditions communicates the sense of an intensified experience that celebrates sensuality, scale, movement, and in turn an awakened connection of yourself within space and the landscape.

In the everydayness of walking from place to place, this project poses a speculative dialogue we can have with the built environment that enables us to be enlivened by the experience of light, form and material conditions.
References


Figures List

All figures not attributed are author’s own.

All figures captioned with [P] were marked in final design review 2017 and are not to be remarked.


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