STABILITY AGAINST MOVEMENT

AN EXTENSION OF EXPRESSIONAL FORM

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ABSTRACT;

This thesis has slowly become a paradox of retrieving information from the frictionless landscape of interconnected objects, through drawing, to develop an analogue methodology in understanding this provocative site at Kumutoto Lane. Making the invisible, visible.

The word ‘drawing’ retains a dynamic, energetic & incipient value in which resonates well against the nature of the site. The idea of friction is imperative to both of these concepts, drawing and site, and is why I began my investigation into the abandoned site at Clifton Terrace with pencil and paper.

Kumutoto Lane is an example of unfinished built form and I would like to see if I can use this awkward abandonment to express the idea of drawing as a catalyst for architectural design. A poetical expansion to how the road draws a line through the infrastructure that we live in.

The site is part of a profound history in relation to the Wellington Urban Motorway and is just a small piece of what was a very

large prospective precinct spanning from Ngauranga Gorge through to the the airport, facilitated by what was then the Ministry of Works.

In terms of form, the project will generate an architectural reaction providing an ‘office space’ for the abandoned Ministry of Works Department. I have been really cautious to not let the specifichness of the site camouflage how I am working on it, essentially appointing the Clifton terrace carpark as a case study. Ideologies of this research assimilated into dynamic forms to flow in and around the existing landscape, avoiding a static solution in which I believe will contradict the nature of the site.

It has been crucial to identify a relationship between land and line through out the growth of this research, with an emphasis expressed towards the development of a methodological approach to ensure this was achieved. Methodology has become the veracious backbone to this research.

PREFACE;

A draw card in which provoked the decision to complete a Masters in Architecture, stems back to a very intrinsic appreciation for the visual arts, with a particularly strong affiliation to drawing.

I once read that ‘architects communicate through drawing, although it is not intended as making art.’ I felt a desire to challenge this statement, resulting in the generation of an underlying ambition to simultaneously attempt to achieve both throughout my work.

After a memorable experience observing the ‘Frank Lloyd Wright Foundation Archives’

at the MoMA in New York, 2014, it became a personal objective to pursue drawing as a catalyst for my design ambitions. Therefore with technology rapidly advancing the architectural profession, I was naturally drawn to the concept of completing an analogue thesis project before progressing with this technological shift as a practising architect.

The concept of abandonment some what becoming an imperative link in connecting the history of drawing in architecture to the story of Kumutoto Lane.

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To my friends and fellow students, I would like to thank you for your support, positivity and tolerance. I feel very privileged to have met you and will forever value the memories we have accumulated these past five years both inside, and outside the studio walls. Best of luck to you all moving forward into the 'real world,' I can't wait to see all that you achieve.

To the one person who literally shared this entire journey with me from start to finish, Blaire Haslop. You have seen me at my best and worst and never flinched in providing me with endless support and fresh air. I am immensely proud of you for all that you have achieved during our time at Vic, with specific reference to your incredible thesis journey in which you have played a huge role in advancing digital architecture internationally.

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CONTENTS;

Introduction / Part One;	
The Problem	3
Thesis Question	7
Scope	9
Significance	11
Theoretical Position	12
 Failure in the System - Site Analysis / Part Two;	
The History of Shell Gully and the Wider Precinct.	17
The Ministry of Works	23
Unquiet Earth	32
 Literature Review / Part Three;	
Making the Invisible, Visible	34
Stability Against Movement	40
Light and Atmosphere	46
 Project Review / Part Four;	
Seongsan Underpass	52
Frank Kitts Carpark/ underground Market	54
La Marqueta	56
Solomon R. Guggenheim	58
Ministry of Business, Innovation and Employment	60
 Methodology / Part Five;	
Initial Study	63
Second Study	78
Third Study	88
Fourth Study	102
 Conclusion / Part Six;	
Methodology Summary	116
List Of References	118
Sourced Figures	122

Figure 1.1 Structure Supporting the Wellington Urban Motorway into the city.

The Problem:

Urbanisation has become a defining trend of the twenty-first century. An unprecedented evolution of the world's population conforming to life in the city. In 1950, one-third of the world's population lived in cities. Just over 50 years later, this proportion has risen to one-half and is expected to continue to grow to two-thirds, or six billion people, by 2050.¹ To accommodate this advancing shift, a raging inventory of infrastructure has evolved.

As a result of this accelerating infrastructural development, neglected moments of opportunity can now be found embedded throughout our cities, suggesting an apparatus for innovative design. Sprawling from the edges of our railways, highways, bridges, waiting to be salvaged, "the whole primordial control of the masses by organisms of urban defence."² This thesis looks to acknowledge the arising concerns surrounding the concept of 'wasted space' in a positive attempt to refurbish the natural identity of these places we can no longer afford to discount.

The term infrastructure allows for extensive diversity between the volumes it identifies and the roles they each play in determining the advancing

operations of today's society. Whilst most act as mechanisms for work and conveyance alone, there is something about the elevated highway in which projects a self ecology. A form of rapid transit secured within a city, designed to carve and guide the masses as an alternate means of movement, above yet within the urban landscape. "Enmeshed in the rhythms and pulse of the city."³

As part of this awkward map of expanding urbanism, sites beneath elevated infrastructure offer infinite design opportunities in regards to the generation of both form and atmosphere. "Ever thought about how the tracts of storage beneath these structures divide neighbourhoods and serve as barriers to local economic vitality?"⁴ This thesis looks to investigate Kumutoto Lane specially as a case study of how the potential of these spaces might be unlocked and reestablished through methodological design.

¹ UN-HABITAT *Place Making and the Future of Cities* 4.

² Virilio *Speed and Politics* 11.

³ Donnelly *Under the Elevated* 33.

⁴ Donnelly *Under the Elevated* 6.

Introduction.

Figure 1.2 Structure Supporting the Wellington Urban Motorway overhead.

“Yet it is necessary to notice that the space which today appears to form the horizon of our concerns, our theory, our systems, is not an innovation; space itself has a history in Western experience, and it is not possible to disregard the fatal intersection of time with space.”⁵

⁵ Foucault [Des Espaces Autres](#) 1.

Research Question:

“To what extent can a dynamic architectural response be developed through the application of drawing to generate a methodology purely through site investigation.”

Figure 1.3 Structure Supporting the Wellington Urban Motorway overhead.

Figure 1.4 Structure Supporting the Wellington Urban Motorway overhead.

Scope:

The scope of this thesis looks to develop a dynamic architectural response, purely derived from research into the continuation of expressional drawing created by existing forms found at Kumutoto Lane. An exploration into the denotation of drawing, in both a literal and metaphorical sense in relation to how it becomes architecture.

The focus of this research is to identify design methodologies provoked by an investigation into material specific to Shell Gully, to form a dynamic solution in which visually appreciates the controversial story defining the site. A desire to revisit this abandoned space with a much deeper incentive then just aesthetically pleasing urbanism.

Seeking to amplifying the innate potential of the site, whilst acknowledging that this is in fact a scheme of both public and private proportions.

Figure 1.5 Wellington Cable Car dissecting the site under investigation.

Significance:

*"The designed environment does not merely stop at the perceptible limit of the various objects - whatever their size - that surround our bodies."*⁶

Repurposing abandoned space is not necessarily a new or original concept. It does however provide an entirely new design perspective into researching how this may be achieved and why it is important. This thesis intends to offer a deeper purpose to the solution, by appointing an appreciation into the site's history as the catalyst for design. Distinguishing the site at Kumutoto Lane for this research.

The existing infrastructure encasing Kumutoto Lane hosts the only direct means of entry into Wellington's CBD, establishing an imperative physical connection between the City and the site. The natural environment and treatment of the site makes it so unique, provoking a design opportunity to generate new movements and forms by enhancing these existing qualities. Hoping to therefore establish a more sentimental appreciation and local link to the people of Wellington, similarly to that of the existing physical connection overhead.

Although the current reaction to the highway becomes one of habitual dependence, it is not for lack of controversy as to

how this daily privilege was obtained. The exact point in which the 'Shell Gully' proposal was terminated, as part of the entire Wellington Urban Motorway Scheme, is symbolised by the Clifton Terrace Carpark. Although it currently serves a purpose, it is a shame it isn't utilised in a way that commemorates the historic disturbances that occurred in order to facilitate this development.⁷

This research takes influence from both local and international examples of solutions countering wasted urban space through architectural design. Recognising more permanent examples such as the Seongsan Underpass in Seoul, through to multiple variations of temporary solutions such as "La Maqueta" in Harlem, or even the Frank Kitts markets here in Wellington.

Each example providing an alternate means of inspiration in regards to the success they have recognising the affected 'aspects' of urban intervention, whether it be evoking local character or saving the natural landscape to ameliorate civic inhabitation. The common thread among projects expressing

to me the importance of acknowledging the history of the site you are working with.

In order to facilitate design as the means to build a subliminal connection with the public, understanding the history of what is now Clifton Terrace becomes crucial in treating both the site and the community with respect. The way in which this research looks to achieve this, is through the evolution of a methodological process derived purely from information both factual and formal, found through investigating the site. The importance of methodology is imperative to the desired outcome of this research.

⁶ Lambert *The Fornambulist Papers* 7.

⁷ Black *Thorndon Heritage Project* 12.

Theoretical Position

*"They are sites where the only compulsion is the execution of governance on a raw mass, mobilising it, diagraming it."*⁸

This approach implements architecture as the response to capturing both tangible and intangible qualities manifested through out under-utilised public space, by appointing Kumutoto Lane as the case specific to this investigation. The research scrutinises the site from exploring the history of how it evolved through to the pigeon excrement which variegates the concrete surfaces. Translating these unseen details, through form, in order to re-contextualise the space and evoke a sense of belonging.

By researching and considering multiple literature reviews, I have been able to generate a reasonably succinct series of essays summarising the fundamental concepts that have influenced this design led research.

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A theoretical position established by Canadian professor Pierre Bélanger, presents the opportunity to observe infrastructure as a sole object, disembodied from its function. Modern society has become so dependent on infrastructure, such

as highways, and Belanger makes point of noting that it takes a failure in the system to allow for proper acknowledgement of the form to occur, which is so frequently neglected due to the transparent and regimented methods of how we operate these structures. Thus, forming a crucial point of reference to the project surrounding the concepts of making the invisible, visible.

French theorist Paul Virilio, focuses his research around the analysis of the increasing speed of transport and communications on the development of land use. His concepts express an intrigue into how two such opposing principles co-exist and influence the importance of utilising the stability against the movement experienced in the site to broaden the depth of the design methodology.

Swiss architect Peter Zumthor is acknowledged as a contemporary reference point for architecture relating to the realms of atmosphere. Through the manipulation of light and materiality, Zumthor places extensive emphasis on the generation of emotions within space. The writings of Zumthor help to condense the emotions evoked through out the history of the site through form and the refinement of space.

Ideas expressed by Neil Donnelly in regards to repurposing public space in New York, focus largely on how to design appropriate functionality for the site. Although a vast understanding of the sites history is demonstrated as the founding solution for achieving this, the concepts surrounding Donnelly's research influence the process in which function and program are applied to the methodological process. A theory in which I refer to as 'evolutionary program verse designed program.'

This research addresses each concept as an influential means of how information will be retrieved from the site in order to generate a methodology for design that appreciates and understands these discoveries through form.

⁸ Virilio *Speed and Politics* 18.

Figure 1.6 showing the car park beneath the elevated infrastructure in action.

Failure in the System.

"The transportation capacity created by the mass production of automobiles became a social assault on space' that would undo centripetal urban concentration exploding it into the congested network of the open highway."⁹

⁹ Foucault *Des Espaces Autres* 1.

Figure 1.7 Locating the site within the Wellington region.

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The History of Shell Gully and the Wider Precinct.

“An effort was made to recognise the qualities of each of the three environments and the design of the motorway has been made to enhance these qualities.”¹⁰

What is now the Clifton Terrace Carpark, is a dynamic vehicular environment in which holds the remainder of an abandoned Ministry of Works project referred to as ‘Shell Gully,’ dissipating off the perimeter of Kumutoto Lane. It is located under the Everton Terrace offramp, alongside State highway 1, and it is currently used by inner city workers as parking space.

This site is the exact Mid-point in the 17.8 kilometres of proposed development, from Ngauranga Gorge through to the the airport, where the project was abandoned at 70% of completion. A personal intrigue into the abandonment of this historic development provides the foundations of this design led research.

¹⁰Foucault *Des Espaces Autres* 1.

Figure 2.0 Construction of the motorway in 1969.

HARBOUR EDGE:

THORNDON OVERBRIDGE:

THORNDON TO HILL STREET:

HILL STREET TO VIVIAN STREET:

ABANDONED:

Shearer Wellington Urban Motorway.
Figure 2.1 Diagram visualizing the extent of the Motorway Precinct Proposal.

Figure 2.2 Proposed plans for development between Taranaki Street and the Basin Reserve.

In 1959, construction began on what was then referred to as 'A New Path into Wellington.' The intentions of this project were to maximise the potential of the existing environment, to facilitate the growing mobility occurring in Wellington at the time.

Ultimately, the Ministry of Works actualised their goal of presenting Wellington with a renewed path into the CBD. This although, was obtained prior to the completion of a remaining 30 percent of the initial proposal which was subsequently abandoned entirely.

Before the augmentation of the Wellington Motorway, Hutt

Road acted as the only means of access directly into central Wellington. Ngauranga Gorge marks the location in which the transition occurs from the existing road access into the redeveloped addition of the motorway. Here, three distinct environments were constructed; 'Harbour Edge,' 'Thorndon Overbridge' and 'Thorndon to Hill St.'

The need to begin the motorway at this location was driven by both practical and aesthetic motives. Due to the rate of expansion Wellington was currently experiencing, Hutt Road was slowly becoming inadequate to facilitate this growth and began

to disrupt traffic through Kaiwharawhara, providing the initial 'need' for the new addition.

"Harbour Edge" is a ground level section from Ngauranga Gorge through to Kaiwharawhara. The path follows along the harbour edge, allowing panoramic views of the harbour whilst climbing over the railway when necessary. In order to achieve this extension of the motorway, the relocation of existing railway tracks was required. A conscious effort was made to provide weekend fishermen a vantage point in the construction of the harbour edge, as well as an attempt to preserve the native bush on existing nearby

Figure 2.3 Construction of the motorway in 1969.

hills to enhance the natural quality of this section of road.

The following section is referred to as "Thorndon Overbridge," an above level extension from Kaiwharawhara through to Thornton Quay. The existing land activities included railway yards, wharves, rail ferries and existing roads, so both development and construction of this section had to be negotiated with as little disruption as possible. It appears the underlying design intent for this section was to dominate the existing landscape as an attempt to superimpose cohesion to a manic space. The large concrete surfaces were

textured to absorb the inevitable surface blemishes and the structures themselves generated considerable interest as an achievement in seismic engineering.

"Thorndon to Hill Street" concludes the final stretch of completed development before abandonment struck the project. This section represents a below level passage from Thornton Quay through to Hill Street, focusing largely on facilitating pedestrian movement along and across the motorway. Unfortunately, a considerable amount of disruption occurred to the existing landscape in order to achieve the desired

outcome of this section. An attempt by the Ministry of Works to ameliorate this controversial development, was presented through 'a considerable amount of landscaping.' The extent of this effort included the landscaping of residue pieces of land alongside an attempt to preserve large mature trees when possible. Finally, greenery and shrubs were bought down to within the range of vision for by drivers and passengers.

Figure 2.4 Forms of the site.

Since construction began in 1959, twenty eight million dollars was spent on completion of the proposal through to Hill Street. This figure excludes a further 1972 approximation of twenty eight million dollars required to complete to remaining 30% of the proposal.

The Ministry of Works were very persistent in expressing their concern and compassion towards the negative effects on the public through out the stages of development. This is particularly evident in the following statement which was released at the completion of the Hill Street underpass;

"The Ministry of Works has proceeded to this end maintaining constant communications with other public agencies and enlisting the enthusiasm and co-operation of the general public. In particular the department has endeavoured to display tact and sympathy in dealing with members of the public and private owners where they were liable to be affected by land acquisition and resettlement or any other inconvenience arising from the construction operations."

Following the demolition required to facilitate the 70% of completed development thus far, the public were not convinced as to whether the Ministry of Works should be allowed to continue developing the remainder of the proposal. A major up roar arose within Wellington with the hopes and intentions of terminating further development of the project.

It is still unclear the exact reason as to why the proposal was finally abandoned, appointing Shell Gully as the exact point in which construction was halted. Contributing factors to this abandonment stem from the Ministry of Works struggling to survive a reform of the state sector during the proposal, along with public intervention and funding.

This research now takes upon itself the opportunity to appoint the unfinished built forms located through out Clifton Terrace carpark, as a catalyst for this design led research. Investigating how a subliminal connection to Wellingtonians can be manifested through form, in which acknowledge the historic events that led to the abandonment of the columns we now park beneath at present. v

Shearer [Wellington Urban Motorway](#).

The Ministry of Works and Development.

*"Society displays a growing mobility which requires accommodation that facilitates the feeling of belonging and quickens the process of striking roots."*¹¹

Figure 2.5 Members of the Ministry of Works architecture division, 1984.

Historically, the state is regarded as a considerable factor in the development of the New Zealand economy. The department was established in 1942 and was originally referred to as the Department of Public Works for many years, responsible for most of the major construction work in New Zealand, particularly roads and power stations. The department was updated to the Ministry of Works in 1948, finally becoming the Ministry of Works and Development in 1974.

Following the commencement of a reform to the state sector in early 1984, the Ministry struggled to survive this disruption causing it to some what disappear sporadically through out the following years.

The remnants of the Ministry now have to compete for government work, more recently carried out by infrastructure consultancy firms such as Opus.

A fanciful comparison is now credible in relation to the fortuitous abandonment of the Ministry of Works

alongside their proposal for the Wellington Motorway. Generating a conceit in which holds an imperative place in forming the back bone of this project.

¹¹ Shearer [Wellington Urban Motorway](#).

¹² Wilson [Nation and Government](#).

Wellington Brewery.
THE Undersigned having succeeded to the above Establishment, which is now in full operation, will be prepared (from and after the 25th instant) to supply the Public with very superior ALE, brewed under the experienced management of Frederick Abbott, Esq., late Manager of Abbott's Bow Brewery, London, (famous for India Ale,) and WARRANTED *pure Malt and Hops*.
All Orders punctually attended to.
JOHN WADE.
N.B.—Yeast and Grains always on hand.
Wellington, June 15, 1849.

WANTED,
FROM 1000 to 1500 bushels of Cheval Barley for Malting.
Apply to
DRAKE AND NORTHWOOD,
Wellington Brewery.
Wellington Terrace, January 4, 1847.

Figure 2.6 Images relative to the information discussed above, including the cemetery exhumation, old Hutt Road, newspaper articles.

Figure 2.7 Members of the Ministry of Works architecture division, 1984.

Figure 2.8 Newly constructed Wellington Urban motorway at Kaiwharawhara Abutment.

Figure 2.9 Newly constructed Wellington Urban motorway at Kaiwharawhara Abutment.

Figure 2.10 Newly constructed Wellington Urban motorway approaching Aotea Quay

Figure 2.11 Inclusion of pedestrian access and landscaping to development

Figure 2.12 Diagram of the information expressed relating to the Kumutoto Stream and the multiple cemeteries involved.

PART TWO.

UNQUIET EARTH.

¹³ Ferguson *Friends of the Bolton St Cemetery*.

¹⁴ Wilson *Nation and Government*.

Figure 2.10 Construction in 1959

Unquiet Earth:

Due to the size of structures included in the 'Motorway Precinct,' a soil investigation was crucial to allow for precise seismic engineering of the foundations supporting the development. Two specific studies were performed to gather the required information surrounding soil quality; the 'Auger Hole Program' and the 'Post Hole Program.'¹⁵

The Augering program commenced in 1970, consisting of 172.5 hours of work drilling holes 40cm in diameter in order to completely understand the properties of the soil on site. The post hole digging also occurred during 1970, evaluating a total depth of 55m worth of soil through holes 25cm in diameter. Sampling was obtained to determine accurate parameters to assess the properties of the colluvium in the soil, in order to calculate the required cutback of the west hillside to a steeper angle, stability of the

banks and the design of the foundations at Shell Gully. Through the process of soil analysis, evidence of what was the Kumutoto Stream was revealed earning itself the title of 'The Ancient Valley' through out the process of construction.¹⁶

Invisible to most, the Kumutoto Stream flows silently through the site. A manifestation of physical and emotional heritage spread unwittingly between moments of history that are pivotal in creating the story of what is Shell Gully. Parallel to the downward journey of the Kumutoto Stream reside sporadic cemeteries in which also contribute their own narrative of historic events. Within the perimeter of these significant points resides controversial history in which this research looks investigate and promote as the foundations for developing form.

The Kumutoto Stream was overhung with tall Rimu, Totara, Nihau Palm and Tree Ferns and was the home to many eels and freshwater crayfish. In 1866, trees were cut down in order to build houses either

Figure 2.11 Construction in 1959

side of the stream as the area was settled. The stream although still continued to run along the gully as this occurred.¹⁷

The Kumutoto Stream contributed its own flare to the Wellington community from as early as 1843, when Thomas John Drake and Thomas Northwood operated Wellingtons first brewery. The beer was crafted with water from the stream and the Brewery existed until the 1850's. The stream was also the first in Wellington to be culverted in 1866, this however became some what insignificant as the stream was buried under the construction of the motorway a century later.¹⁸

Kumutoto Stream was not the only existing environment to be detrimentally effected by the construction of the ultimately abandoned Shell Gully. Huge controversy shook the city when a decision was made to exhume Wellingtons first cemetery between 1968 and 1971. The cemetery was closed off to all public in order for approximately 3,700 graveyards to

be exhumed, many in which were newly discovered. A total of 15,000 square meters was taken from cemetery grounds, with three separate cemetery locations now situated around the perimeter of what was originally Shell Gully.¹⁹

This research looks to develop a methodological approach for design on the existing site, appointing the effects these controversial events presented Wellington with following the beginning of construction in 1959, as the foundations for the project. It does not seem appropriate that the site remains under-utilised following such an unsettling series of events, and therefore this project looks to acknowledge these moments in an attempt to repurpose the forsaken space found to this day at Clifton Terrace.

¹⁵ UN-HABITAT [Report on the Bank Stability and the Foundation](#)

¹⁶ [Design for the Shell Gully Structures of the Wellington Urban Motorway.](#)

¹⁷ Love [Te Āti Awa of Wellington - Migrations of the 1820s.](#) Web.

¹⁸ Slocombe [Ghost Walks](#) Web.

¹⁹ Ferguson [Friends of Bolton Street Cemetery](#) Web.

Making the Invisible, Visible:

MY INITIAL RESPONSE.

"To suggest that any geometrical construction, no matter how complex, could be capable of mapping the fluidities of vision, is always to artificially reduce the complexity of vision." ²⁰

²⁰ Allen ractice : Architecture, Technique + Representation. 12

Figure3.0 Column and concrete treatment on site.

Figure3.1 Column treatment.

This thesis has slowly become a paradox of retrieving information from the frictionless landscape of interconnected objects to develop an analogue elucidation of this provocative site at Kumutoto Lane. A process of making the invisible, visible.

A concept investigated by Neil Donnelly in conjunction with the New York City Department of Transportation, focuses on distinguishing the idea of space as a container and space as a connector. A concept in which I utilised as a starting point for repurposing the forlorn space contrived by elevated infrastructure surrounding Kumutoto Lane.

Access to any highway can only be obtained through a system

dictated by sporadic on and off ramps. Strategic points of access in which accelerate connection and compress distance generating a systematic network regulated by speed restrictions and lane emplacement. For any city goer occupying the motorway, the form of the infrastructure naturally becomes nullified due to the movement associated with fast paced connectivity.

All it takes is an accident at one point in the network to cause congestion at another, providing the opportunity for occupiers to rethink the way in which they view the formal aspect of the highway. "Infrastructure remains largely invisible until the precise moment at which it breaks down or fails."²¹

Donnelly refers to this as 'going off the grid.'²² By crashing the car, for example, the motorway is then experienced as an explicit object as opposed to operating as a transparent method of connectivity. "Slipped off the grid while remaining firmly within its network of effects."²³

By creating an 'off the grid' experience for myself to encounter, naturally I was forced to observe the existing forms on site as the explicit moments of infrastructure they are removed from the function of a highway. Delving into the more intangible qualities associated with the site and how they begin to amalgamate into expressions of form. Acknowledging the finer details such as the unique markings

each column has gradually matured, juxtaposed against the immense scale of each structure when perceived as a lone object.

A predominant interest forming around the varying examples of concrete deterioration throughout the site how that may influence formal development. "Buildings are both imagined and constructed from accumulated partial representations."²⁴

The incentive of this particular investigation was to develop a series of techniques for making visible the unique attributes observed when investigating the site. "A series of techniques through which the architect manages to transform reality by necessarily indirect means."²⁵

This site is an example of unfinished built form, the abandoned markings of the site posing a glimpse of potential methodology I look to explore based upon exaggerating these qualities.

²¹ Belanger Landscape infrastructure: Emerging Practices, Paradigms and Technologies Reshaping the Contemporary Urban Landscape.

²² Donnelly Under the Elevated.

²³ Donnelly Under the Elevated.

²⁴ Allen Practice : Architecture, Technique + Representation. 7

²⁵ Allen Practice : Architecture, Technique + Representation. 3

Stability Against Movement:

“What relations of propinquity, what type of storage, circulation, marking, and classification of human elements should be adopted in a given situation in order to achieve a given end. Our epoch is one in which space takes for us the form of relations among sites.”²⁶

Cities themselves are an example of architecture as a technology of space. They “galvanise both human and non-human metabolisms, channeling them, amplifying them, concentrating them into centres, domesticating them into suburbs”²⁷ Managing the multitudinal scales of relative object velocity. It is within this rapid modernisation where the odd collision of intervention and disruption forms a fracture in society. An ‘accident’ implanted in the midst of city life commonly referred to as wasted space. The concept in which drives my interest into a site specific exploration of Kumutoto Lane as an apparatus for design intervention.

My initial understanding of Kumutoto Lane evoked an obvious truth, expressing a negligence towards form in response to the function of activity encompassing the site. The invisible synergy between these two ideologies is distinctly detached from one another, requiring the addition of a third party to visibly depict the almost choreographed movements responsible for connecting the two.

This research is motivated by the palpable sense of stability against movement I felt within the site and the way in which such opposing principles co-exist. The largely abnormal columns that generate an awkward map of connect the dots in which propose the start of a mapping exploration.

Figure 3.5 Markings on site.

The stillness of these structures then immediately juxtaposed by the speed of which the motorway operates just above, or the periodic appearance of the cable car dissecting the carpark in its passage. The instrumental link between the spectators glance and the vehicles speed of displacement. "They are sites where the only compulsion is the execution of governance on a raw mass, mobilising it, diagraming it."²⁸

It then became a question of how can this link be visually translated into form? The starting foundations of formal development derived from onsite evidence such as the blurred smudge the lights of a car create at night or the dark smear that often

finds itself imprinted on a tarred surface when the friction between vehicle and highway becomes too much. A relative analogy to the relationship between pencil and paper evident.

Virilio, the acclaimed 'Philosopher of speed' expresses a theory dissecting his thoughts in regards to visually depicting "the presence and vehicular movement of people and objects through global space that is tightly integrated with an infrastructure." My interpretation of his theory directing and influencing the research of this thesis to a diagnostic mapping exploration of movement encompassing the site to establish a tool for advancing design. "As the diagram becomes an interface, when the map

Figure 3.6 Markings on site.

becomes the tool, personal, individual social action becomes more logistical."²⁹

Do the choreographies of vehicle and human occupation initiate an expression of drawing that can be understood through a diagrammatic exploration in which will proceed to dictate how a new form may interact with the existing landscape? The repetitive trajectory each car suggests as part of a dynamic pattern of ranging velocity, developing a palette of how you understand the site.

This design led research examines the intangible undertones of rhythm and velocity expressed throughout Kumutoto Lane with ambitions of generating form derived from specific mapping

explorations predominantly focusing on movement within the site. Aiming to achieve a static continuation of existing form on site to accentuate both human and vehicular movement defining the carpark. Successfully incorporating the opposing principles of speed and movement through the generation of new design whilst acknowledging existing form onsite.

²⁸ Foucault *Des Espaces Autres: Of Other Spaces: utopias and Heterotopias*. 2

²⁷ Virilio *Speed and Politics*. 11

²⁸ Virilio *Speed and Politics*. 18

²⁹ Virilio *Speed and Politics*. 17

Figure3.7 Cable car dissecting the site.

Light and Atmosphere:

*"The site is defined by relations of proximity between points or elements; formally, we can describe these relations as series, trees, or grids. Moreover, the importance of the site as a problem in contemporary technical work is well known: the storage of data or of the intermediate results of a calculation in the memory of a machine, the circulation of discrete elements with a random output (automobile traffic is a simple case, or indeed the sounds on a telephone line); the identification of marked or coded elements inside a set that may be randomly distributed, or may be arranged according to single or to multiple classifications."*³⁰

³⁰ Foucault *Des Espaces Autres: Of Other Spaces; utopias and Heterotopias*. 1

Figure3.8 Expression of how light effects the space.

Figure 3.9 Expression of how light effects the space.

"Architecture is not about form, it is about many other things," he said. "The light and the use, and the structure, and the shadow, the smell and so on. I think form is the easiest to control, it can be done at the end."³¹

The initial concept in which appointed Zumthor as a very influential theorist towards this specific research, is that "he insisted that the condensation of emotion can be created in any building."³¹

Although this research looks to develop a methodological process for design at this specific site as opposed to a building itself, it is the 'creation' aspect in his statement in which really inspired the search for a historic representation even more. Especially with Zumthor's ultimate goal being to "create emotional space."

Materials are not purely responsible for creating and defining the mood of a space. A vast majority of the concept surrounding atmosphere lies within the realm of the immaterial or the intangible qualities as Zumthor expresses. The concrete forms that exist in Clifton Terrace each express their own radiance through how the material is represented, but the real intangible qualities are expressed when different matter reacts with each other. The ideas Zumthor has discussed in his work have largely influenced the approach into accumulating design material from the existing forms and history of the site.

This is also where I become curious in questioning whether or not the creation of a heterotopia is established. "A counter-space that

This is also where I become curious in questioning whether or not the creation of a heterotopia is established. "A counter-space that exists outside the usual order of things as a simultaneously mythic and real contestation of the space in which we live."³³ The idea of such a space capable of exhibiting dual meanings is particularly interesting considering the desire to represent the site's history predominantly through out the design methodology.

³¹ Freason [Peter Zumthor: Web](#)

³² Freason [Peter Zumthor: Web](#)

³³ Foucault [Des Espaces Autres: Of Other Spaces; utopias and Heterotopias](#). 1

Figure 3.10 Light expressions effecting atmospheric conditions within the site.

PART FOUR.

PROJECT REVIEW.

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PART FOUR.

Project Review.

Seongsan Underpass - Seoul:

Figure 4.1 The Seongsan Underpass after its redevelopment

Located in Seoul, South Korea, the 'Seongsan Underpass has "set an example in Korea of how urban strategies, local design interventions and collaboration between architects and engineers can together create successful public spaces out of utilitarian infrastructures."³⁴

Although it includes consideration towards the local community, the benefits are less aimed at evoking local character and more focused on saving the natural landscape. The environmental aspect of the brief is applaudable. Behind its aesthetically designed appearance, the tunnel renovations also play a crucial part in protecting Seoul's natural

landscape along the river banks, "including ecologically sensitive landscaping, the provision of leisure facilities and transformation of the desolate access tunnels to the park."³⁵

Considering the local community is any design project is always important, particularly if the site under construction contains historic memories and milestones important to the people. This project demonstrates the ability to factor in public consideration by indirect means, through the improvement of the environment on a large scale as opposed to necessarily acknowledging the history of the site and designing around those parameters.

Figure 4.2 The Seongsan Underpass after its redevelopment

This project provides a distinctive approach to considering the public in its design intervention, ultimately broadening the understanding of depth to which the public can be acknowledged. This design research is also positively influenced by the design intent of the underpass to make such an overwhelming structure approachable on a human scale.

³⁴ Shin Public Opening Web.

³⁵ Shin Public Opening Web.

Frank Kitts Underground Carpark - Wellington:

Figure 4.3 Frank Kitts Carpark on any standard day.

Located here in Wellington itself, the “Frank Kitts Underground Carpark” hosts a versatile program, making the site immediately more interesting than you would stereotypically believe. The quirky example of ‘multifunctional space’ is located down in the heart of Wellington’s picturesque waterfront.

To me, an underground car park provides an obvious function. There is however a somewhat negative connotation that comes with car parks due to past examples earning themselves a bad reputation in terms of health and safety issues within a community. Therefore the intent of this research is to draw potential from the wasted urban fabric evident in Clifton Terrace carpark to reveal underlying character of both its local community and city life through formal development. The Frank Kitts case study beneficially educates this research by providing evidence of how the ideas of urban intervention, space functionality and community can all be combined so successfully.

I understand the success of this space emerges through the level of impact the local Wellington community has had on the space. Naturally, locals have seen the potential in the Waterfront site and taken the time and thought to really claim it as their own. Transforming the Carpark every Saturday morning

Figure 4.4 Waterfront location above the carpark.

“from a blighting influence, to valuable community asset.”³⁶ Having been established by the community itself, the markets are also a chance for local talent to come and be acknowledged and respected. “This is where citizens can find common ground - where ethnic and economic tensions can be overlooked and disparate sectors of society can come together peacefully.”³⁷

The ‘Frank Kitts Markets’ project has really influenced this project as an inspirational example of citizens claiming these so called ‘wasted spaces’ as their own. Donnelly’s text ‘Under the Elevated’, talks about natural and unnatural space. It is clear this urban intervention has occurred naturally, with the perfect combination of appreciation and consideration towards the areas of relevance; community, functionality and design.

It is evolutionary success of wasted space through a particular programme, chosen by the community and this to me just helps express the importance community has in the redevelopment of these so called ‘lost spaces.’ A purely local design intervention expressing the cities character and resilience in which will be referred to throughout the development of design methodology in this research.

³⁶ Donnelly *Under The Elevated* 26.
³⁷ UN-HABITAT *Place Making and the Future of Cities*. 7

Figures 4.5 - 4.8 Huge atmospheric change into the Frank Kitts Markets.

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La Marqueta - New York:

Located in Harlem, New York City, La Marqueta is a precedent that immediately expresses to me the importance of acknowledging the history of the site you are working with. La Marqueta originally operated back in the 1890's when there was a huge flux of Puerto Rican immigrants into Harlem. It was originally an informal market selling goods that varied from livestock to bolts of fabric.³⁸

This project instantly resonates similar influences to the "Frank Kitts Carpark" case study expressed earlier. An area of so called 'wasted space' acknowledged for its potential, and naturally claimed by the recent local Puerto Rican influx.

The area was rapidly transformed into El Barrio and thrived until the 1970's when "a fire destroyed one building and the city neglected the others."³⁹ A fine example of negligence to 'wasted urban space'. Due to the lack of care for what was now considered 'forlorn' space, the happiness and wellbeing such a simple concept provided a community with, was destroyed. Negatively effecting the once thriving neighbourhood as locals began to disperse from the area.

After this, 'La Marqueta' has struggled to get back on

its feet. There have been many attempts to recreate this once booming concept, although none of which that have had nearly as greater success as the original notion. It is still, to this day, under debate as to how the markets can be recreated.⁴⁰

History shows the original ideas behind 'La Marqueta' formed naturally out of public interest. The buzz of the markets and cultured produce thrived for almost 80 years until an unfortunate incident effecting the space.

Why did this function once suit this space so much, yet now-a-days, struggles to find its feet regardless of the multiple attempts to recreate it? "Plans to revive the market have popped up every few years and promptly fizzled." This is where I believe the argument surrounding natural and unnatural space originates.

This example proves that functionality isn't something that can be forced upon a site. If it is naturally created through the actions of the public, then that is a sign of what may be needed. Continuously forcing this once thriving program back on to the original site context, doesn't express an understanding or respect towards the sites history to me. After failing this many times, I

feel as though it is slowly ruining the reputation the markets once had.

Is it now when the designed program approach which needs to be explored in the case of 'La Marqueta?' Researching other alternatives with the communities best interest in mind may be what is now required for this site. This case study expresses the importance of both appreciating and understanding the difference in evolutionary program compared to designed program. As well as being aware as to when they are applicable to specific projects.

³⁸ Donnelly Under The Elevated 35.

³⁹ Donnelly Under The Elevated 36.

⁴⁰ Donnelly Under The Elevated 36.

Solomon R. Guggenheim - New York:

Figures 4.11 Inside the Guggenheim, along the downward spiral of artwork.

An ideology expressed quintessentially by the Solomon R. Guggenheim Museum in New York forms an interesting logic in which relates to the intentions of this project. The way in which the architecture of the museum challenged the traditional expression and interpretation of the artwork displayed within the structure. The Guggenheim originated as a museum responsible for exhibiting exclusive painting of a very specialised and traditional type in which through time opened its doors to expressions of art that were neither painting nor sculpture of the traditional sort.

“Architecture that subsumes the art in it.”⁴¹ The ideology from this statement in which suggests a desired quality this thesis looks to build on, is the fact that know one knows if the Guggenheim has adapted perfectly to these new forms of the expression or if it was responsible for the role of their creation. Opposingly, can this idea be investigated with the intentions of generating architecture that subsumes the methodological process responsible for the design of the building? An ideology in which will be explored through in this research.

⁴¹ Donnelly *An Architectural Appreciation* 4.

Figures 4.12 Looking upwards towards the glass ceiling in the Guggenheim.

Figure 4.13 Cover space in the Ministry of Works

The Ministry of Business, Innovation and Employment located on Stout St in Wellington City has also contributed as an interesting influence to the development of this design methodology.

The building itself is successful in providing appropriate design for the function required. The design is simple and pragmatic allowing an over all sense of belonging to the building through its program. By creating an internal void in the centre of the building, it allows both good circulation and light conditions to flow and move through the building along with

the magnitude of people passing through the building on a daily basis

Although the building is reasonably large and intimidating, the low rise tiered stair case followed by multiple points of access into the building allow for an inviting relationship to be developed on the ground level. This design feature particularly resonates as something to learn from in designing at a larger scale for a function which includes large people flow. The required program and methods of functionality within the building will also be referred to through out the development of design.

Figure 4.14 Ground level entry into the MBE building

Figure 5.0 Interesting moment expressing the variety of concrete use and treatment on site.

PART FIVE.

SERIES ONE.

The Methodology

*"The construction of the drawing is depicted as a mechanical activity. The gaze of the artist, for example, is directed not at the lute itself, and not from the imaginary viewpoint, but toward the point where the lines of projection and the picture plane intersect."*⁴²

"The act of representation is depicted as an objective, scientific activity - the recording of already established relations and facts."⁴³ Therefore, before allowing myself the fortuity of both exploring and expressing a personal interpretation of Kumutoto Lane, the initial response was immediately augmented by a thorough exploration into the controversial history of the site. This step was important in generating a discerning methodology for composing a visual depiction of rationalising my thoughts.

The initial study began through a process of technical drawing in both plan and section on size A2 paper. It seemed appropriate to begin visualising the factual information through a method that is pivotal to the architecture discipline. This allowed the material gathered to be logically expressed in a visual

manner in which could later be updated if and when necessary. A decision to execute these drawings with the traditional method of pencil and paper marked a momentous turn for the project in how to translate research into design.

Drawing has this more dominant and thoughtful energy behind it due to the friction required to form lines on a page and a relationship between drawing and the existing function of the site is uncanny. "The translations between the culture of drawing and the discipline of building."⁴⁴

⁴² Allen Practice : Architecture, Technique + Representation. 9

⁴³ Allen Practice : Architecture, Technique + Representation. 11

⁴⁴ Allen Practice : Architecture, Technique + Representation. 7

Figure 5.1 Top 1/3 of informative plan drawing on A2.

Figure 5.2 Middle 1/3 of informative plan drawing on A2 paper.

Figure 5.3 Bottom 1/3 of informative plan drawing on A2.

Figure 5.4 Top 1/3 of informative section drawing on A2.

-
1. LIGHT BROWN/BLUE DAMP CLAY OF HIGH PLASTICITY.
 2. LIGHT BROWN SILTY CLAY, WITH PEBBLY PARTICLES.
 3. ROCKY FILL. FOREIGN BODIES ARE BOUGHT UP.
 4. HIGHLY WEATHERED INSITU GREYWACK.
 5. HIGHLY WEATHERED INSITU, DRY, SANDY CLAY ROCK.
 6. ALLUVIUM. SILTY/ SANDY GRAVEL w/ ROCK FRAGMENTS.
 7. WET BLUE CLAY w/ LUMPS OF ROCK.
 8. WATER STRUCK. MATERIAL APPEARS TO BE GRAVEL.
 9. "r". GREYWACK w/ RAYMOND COUNT OF OVER 80 BLOWS/12".
 10. TOPSOIL.
 11. SOFT, WEATHERED INSITU GREYWACK. HIGH ARGILLITE.
 12. YELLOW/ BROWN SILTY GRAVEL.

Figure 5.5 Middle 1/3 of informative plan drawing on A2.

Figures 5.7 - 5.10 Document the attempt to formalise the information expressed in the technical drawings above.

The second series moved into more of a meticulous drawing documentation focusing on the concrete materiality and how it occupies the site. This refers to both the dynamic movement of the physical forms in conjunction with the provocative markings and blemishes the concrete starts to develop over time. A visualisation of the concepts discussed earlier in regards to 'making the invisible, visible.'

regards to 'making the invisible, visible.' Each study is based on a photograph selected for the dynamic composition the image offers. Photography is dedicated to 'see' something, therefore by drawing personal photographs of the site, it allows me to formalise and 'make visible' what I begin to see in the framework.

Figures 5.11 Collage of moments from meticulous drawing study.

Figure 5.14 Meticulous Drawing Study 3

Figure 5.15 Meticulous Drawing Study 4

Figure 5.16 Meticulous Drawing Study 5

Figure 5.17 Meticulous Drawing Study 6

Figure 5.18 Meticulous Drawing Study 7

Figure 5.19 Meticulous Drawing Study 8

Figure 4.20

Series three looked to translate the meticulous drawing studies into delicate acetate models as the initial transition into spatial form. Acetate was chosen to model with as the transparency resonated well with the delicacy of the drawings juxtaposed against the structured, stand alone form the material allowed. Interesting moments of congestion or desertion were built up off the drawings to generate a series of fluid and dynamic forms. As much as these models are a direct spacial enhancement of the

drawings, the forms created are largely influenced by the feelings associated with pivotal moments that create the sites unusual history. Transforming reality by necessarily indirect means. Kumutoto Stream for example suggests a fluid form, in which the wilfulness about water influenced how the model spread across the drawing. Moments of isolation are then created within the models to represent the fanciful comaparison of abandonment that floats through out the project.

Through extracting the principles of this site and allowing diagrammatic explorations to be taken out, the concept of stability against movement will become a starting point in dictating form through drawings.

Figures 5.20 - 5.30 Express the transition into 3 dimensions through a series of acetate models constructed off the drawings above.

⁴⁵ Jones Architects Sketchbooks, 7

"It is a medium that does not require a conclusion, but gives us the means to discuss possibilities"⁴⁵

Figure 5.21

Figure 5.23

Figure 5.22

Figure 5.24

Figure 5.31 Acetate model series.

Figure 5.32 Acetate model series.

Figure 5.33 Acetate model series.

Figure 5.34 Acetate model series.

Figure 5.35 Acetate model series.

Figure 5.36 Acetate model series.

Figure 5.37 Acetate model series.

Figure 5.38 Acetate model series.

Figure 5.39 Acetate model series.

Figure 5.40 Acetate model series.

Figure 5.41 Photographed - Intimate moments of angular atmospheric conditions created on site.

The outcome of the acetate models immediately begins to express how the design moves horizontally through the site along the x-axis. It then became obvious that an investigation into how the design will evolve vertically along the y-axis would be essential in determining the fourth study.

Similarly to the initial study, the intent of this investigation is derived by a technical drawing method of the architecture discipline. This was also appropriate as although the initial study was crucial in introducing visualisation to the research, there is information in those drawings in which presents momentous opportunity to influence formal design.

One of the most interesting and influential outcomes discovered through investigating the

concrete, was how the light and shadow effected both the appearance of the surface as well as the atmosphere of the carpark. These angular expressions of movement through the site were best captured by intimate photographs focusing purely on the effected areas. Providing a set of two dimensional explorations in which were later translated into the foundations of an axonometric based study, following a similar process to that of the meticulous drawing study above in moving into the development of spatial form.

Translating these diagrams into three dimensions was restricted purely to a method created from information expressed in the section earlier. Each diagram was assigned the information of an auger hole due to its proximity to the photograph in which

Figure 5.42 Photographed - Intimate moments of angular atmospheric conditions created on site.

the plan was derived from. This was responsible for defining both the maximum height and depth dimensions for constructing the axonometric. The 'top of hole' value providing the maximum height, 'depth to rock' value proving the maximum depth and the 'soil type' dictating the quirks in which were later applied duration the extension of each axonometric.

The process of expanding each axonometric was also carried out a pencil and butter paper. The reason for this was to force the generation of form to emerge through researched material as opposed to pushing and pulling forms on a screen until reaching a satisfying result. Only once the forms were fairly resolved, were they transferred into digital media for programmatic development.

Figure 5.43 Axonometric developmental drawings.

Figure 5.44 Axonometric developmental drawings..

Figure 5.45 Plan diagrams derived from photographed moments before axonometric process applied.

Figure 5.46 Plan diagrams derived from photographed moments before axonometric process applied.

Figure 5.49 Axonometric study.

Figure 5.50 Axonometric study.

Figure 5.47 Axonometric study.

Figure 5.48 Axonometric study.

Methodology Summary:

The process of expanding each axonometric was also carried out manually with a pencil and butter paper. The reason for this was to force the generation of form to emerge through researched material as opposed to pushing and pulling forms on a screen until reaching a satisfying result. Only once the forms were fairly resolved, were they transferred into digital media for programmatic development.

The outcome of this methodology provides a kit-set of form in both the x-axis and y a-xis in which can fluidly move in and around the existing site of Kumutoto Lane. The forms have been left scale-less intentionally to provide the opportunity for moments to be understood differently and allow multiple outcomes, particularly in reference to how they respond to human scale.

Beautiful and Interesting boxes are generated vertically in which the more intrinsic and inviting forms intended to spread horizontally through the site act as the natural relationship with the people. It is then a question of space as a container verse space as

a connector in how they begin to combine and interact, similarly to the way the existing forms follow a similar ideology.

Relating to the earlier issue of requiring a third party to depict the invisible synergy between the stability of forms and movement of function. The inclusion of this kit-set to the site becomes the third party to visibly depict this relationship. It is a visual depiction for my understanding of how two such opposing principles can co-exist.

The formal outcome provides endless opportunity to host the function of an 'office building.' More specifically, an office for the Ministry of Works, provoking a slightly ironic solution to the forlorn site. The inclusion of a brewery is suggested through some of the tubular forms generated from the axonometric study in which begin to resemble machinery used in the creation of beer.

The methodological process responsible for the creation of these forms that make the proposed design kit-set, are derived from such sentimental

research that the creation of emotional space is desired once they are formulated together.

The evidence of an analogue methodology established through the paradox of retrieving information from the frictionless landscape of interconnected objects, through drawing, the make visible the substantial, intangible qualities of the site.

Figure 5.51 Reflective of the analogue methodology produced.

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5.46	Authors Own Image, 2016
5.47	Authors Own Image, 2016
5.48	Authors Own Image, 2016
5.49	Authors Own Image, 2016
5.50	Authors Own Image, 2016
5.51	Authors Own Image, 2016