Let us Breathe.

An investigation into uncertain landscapes...

BY

FRANCESCA ISABELLA DI LEVA

A thesis submitted to the Victoria University of Wellington in
fulfillment of the requirements for the degree of Masters of
Landscape Architecture

Victoria University of Wellington

2021

LET US **BREATHE...**

...an investigation into uncertain landscapes....

NOTE FROM THE AUTHOR

The physical document is to be read as one long extended Sketchbook that is taped at the fold.

It is a response to how we choose to respond seeing the landscape in pieces at a time as it is easier for us but rather it is a continuous of dynamics.

All images are authors own unless otherwise stated.

Let us Breathe: Exploring a water-led approach to the way the future development can occur within Aotearoa's uncertain and vulnerable urban landscapes.

BY

FRANCESCA DI LEVA

A 120-point thesis submitted in partial fulfilment of the requirements for the degree of
Masters of Landscape Architecture

Under the supervision of
Associate Professor Hannah Hopewell

AT

Victoria University of Wellington
2021

“our western culture
indoctrinates us into a cult
of stability even though
individuals and landscapes
change on a daily basis”
- time and landscape go
hand in hand.

CATHERINE MOSBACH

ABSTRACT.

Let us Breathe, is practice-based landscape design research. With a performative approach to knowledge creation, it explores ways to encounter and engage uncertain and vulnerable urban landscapes in Aotearoa/New Zealand. Uncertainty in the landscape and holding uncertainty in design process is the problem around which the research pivots. The inquiry is sited in a residential estuarine and wetland landscape subject to population growth along with the impacts of flooding and rising sea-levels.

Drawing on the creativity of ‘non-solutionist’ thinking, design is used as an investigative lens to consider future spatial and relational possibilities across all forms of life. The research thus asks what happens to the practice of design of the landscape when uncertainty is embraced? To this end the research moves against practices that by default seek to contain water bodies and preserve the primary of terrestrial occupation for human needs. What has been discovered through the design process is a relational shift towards engaging and presenting living landscapes beyond the transactional, such as ecosystem services, but of equal value.

ACKNOWLEDGEMENTS.

Hannah, my supervisor, words cannot express my sincerest gratitude. Your endless encouragement and support not only through the duration of this research but through my undergrad years also, for guiding and pushing me to where I am now.

Bruno, Peter and Carles, thank you for forever pushing and encouraging me to go the extra mile and for the support in the tough times.

My family, thank all of you for your endless love and encouragement. Despite the distance, the support always felt close.

My friends, to all who have encountered my journey, I thank you all for supporting me, putting up with me, and for being there when I need to express my grand ideas or just have a rant. My landscape family, I will be forever grateful for our journey and memories we have built together to get to where we are now.

Thank you.

CONTENTS.

The contents page purposefully has no indication of numbering of titles as the process of this research is not one of a linear kind.

ABSTRACT.	5
ACKNOWLEDGEMENTS.	7
TABLE OF CONTENTS.	8
INTRODUCTION.	13
LITERATURE REVIEW.	29
PRECEDENT REVIEW	45
THE SITUATION.	63

Prolouges - River, Human	14	Introduction - Ways of Seeing	31	Introduction	47	Dynamics	64
The Precence of the Place	17	The Solutionst Critque	33	Ice Watch - Time + Process	48	The Site - Journey Through 24/7 Time	66
Research Question	20	The Encoutner	36	River Aire Renaturation - Time +Process	50		
Uncertainty	22	Practices	38	Zalige Bridge - Time + Process	52		
Methodology	25	Reflection	43	Twin Stream Project - Living Entity Community Structuring	54		
				Cooks Beach - Living Entity Community Structuring	56		
				Reflection	59		
				Precedent + Literature Review Experiment	60		

GROUNDING. 85

EXTENDING. 117

HOLDING 165

CONCLUSIONS.	
REFLECTIONS.	183
BIBLIOGRAPHY.	186

Embodied Encounters with the site	87
Hikoi	89
Ways of Encoutner	102
Embodied Encounters	108
Reflection	114

Submaking	119
Edge as a Territorial Language	120
Schematic Structure of an Estuary	122
Experiment one - Materiality Modeling	125
Experiment two - Living Entity Play	149
Experiment three - Negotiational Planting	155
Reflections	163

Value Plan	168
Scenarios	173
Reflections	181

THE PRECENCE OF THE PLACE.

NOW

ABSTRACT.

ACKNOWLEDGMENTS.

TABLE OF CONTENTS.

INTRODUCTION.

LITERATURE REVIEW.

PRECEDENT REVIEW.

THE SITUATION.

GROUNDING.

EXTENDING.

HOLDING.

CONCLUSIONS.

BREATHE.

PROLOGUE - RIVER.

I beg your pardon – the human will say,
Don't mind me.

I am breathing.

Go ahead and tell me
That you know all I can be

Your have a conversation with others yet what about me.
We are both living entities you see

Go on I dare you.
I am living just like you.

I will be here as before, at the edge of what cannot be
sailed or sounded

I will be here longer you.

AUTHORS OWN

PROLOGUE - HUMAN.

Landscape Architect.

This has happened before.
The stream is arguing with the rain.

Some say redecorated I say disaster.

We didn't realize how good we had it .
We didn't actually have it.
It was as though we'd never seen water before.

Sheltered.

We call ground solid, land dry
We dress for the weather and we build for the storm.

Barriers. We are barrier makers.

We will emerge or be submerged.
The river, its banks soaked cushions,

Unbanked, storeless, overwritten.

Landbound for waterlogged
Housed for houseless

Memories.

Soon you will be led back,

But where is that...

AUTHORS OWN

THE PRECENCE OF THE PLACE.

INTRO

The contemporary time and space of the urban coastal edge in Aotearoa is ultimately one of uncertainty. Anthropogenic impacts upon earth and water dynamics have created multiple technical challenges for the landscape architect to mitigate, that is if the expectations of occupying coasts continue to align with the past 50 years of urbanism.

However, what if a new human relationship with coastal landscape is generated – one not based upon continuous occupation and a possessive mind-set? Is there a place for landscape design beyond mitigating the precariousness of climate change, sea level rise and accelerated erosion? Is it possible to celebrate both the minor and major luxes and lows that ultimately characterize the coastal landscape as an everyday part of urban life? What opportunities to enrich the social, arise when the coastal landscape is encountered not as a threat, to territorialisation, but as a phenomenon of continuous change.

Such question suggest an interrogation of the multiplicity of times, spatiality's and non human lives evident in the mercuriality of coastal landscapes that are coexistent with that of the human.

This research, by way of a landscape led creative practice, investigates the materiality of space – time of the coastal and estuarine condition in the location of Plimmerton/Taupo, Wellington. The inquiry seeks to discover an expanded understanding of the dynamics of coastal landscape, one that equally accounts for the nonhuman and an opportunity to more equitably co exist with other living entity's. Thus rather than sustain the maintenance of dry ground in this era of rising seas, this research considers opportunities for living with 'wetness'. To that end this research questions how landscape design led practices can attend to the breadth of life in coastal situation under perennially uncertain conditions.

Documentation of, and reflection upon this inquiry constitutes this research portfolio.

THE PRECENCE OF THE PLACE.

NOW

Plimmerton is a place that knows and is characterized by its frequency of geological and hydrological movements and fluxes. Flash / freak flooding, sea level rise, geological movement all seem like another days event, or anomalous to the everyday, yet when closely examined within the context of nonhuman time , the entire process of uncertain flux clearly evidences its self here and now.

Fig 1. State Highway 1 Flooded

Fig 3. Karchana Park in Flood

Fig 1. State Highway 1 Flooded, *Waka Kotahi NZTA*. 2020. <https://www.rnz.co.nz/news/national/431696/torrential-rain-floods-plimmerton-homes>
Fig 2. Plimmerton 2016 Flood, *1 News*. 2016. <https://www.tvnz.co.nz/one-news/new-zealand/wellington-floods-happened-trains-resume-altered-schedules-flood-clean-up-begins>
Fig 3. Karchana Park in Flood, *1 News*. 2020. <https://www.tvnz.co.nz/one-news/new-zealand/plimmerton-flood-something-havent-seen-in-my-25-years-chief-fire-officer-says>

Plimmerton is a small coastal town bordering the inlet of Porirua Harbour on the western coast of the lower North Island. The lower valley floor was an inlet to the harbour until sedimentation and uplift from the 1855 earthquake cut off the ingression of salt water and the wetlands transformed into freshwater swamp fed by Taupo Stream.¹ Prior to colonization the raupo of the Taupo wetland was central to the local iwi's well-being and commerce. Yet as a part of the dubious Crown purchase of the Ngati Toa Rangitara lands, attempts were made to drain the swamp for farmland. As this draining continually failed, the swamp was in part replanted, and in 1980 designated under the QEII Trust a nationally significant wetland valued for its ecological and recreational importance².

Fast forwarding to now, the previous estuarine condition evident at Plimmerton has been restructured and filled in with variants of urban occupation. Urban infrastructures organize the coastal edges of the harbour and stream giving the impression of stability. Here they bind the otherwise ephemeral wetlands and 'channelize' to redirect and constrain the stream. Taupo Stream however doesn't conform to such containment and compression, and continuous to 'dialogue' with the land. The suburb of Plimmerton is quite frankly living on an ever moving estuary, despite the many urban forces trying to hold it still.

Much off the year Plimmerton maintains a dryness befitting the expectations of suburban life, however, periodically the power of the landscape asserts its self so that its hydrological dynamics result in what we call flooding. Such conditions create havoc in the area, not only for local residents, whose houses flood, but the public who frequent the coastal town and the many commuters passing through the area. Flood waters put sports grounds underwater, turn roads into streams, and pool in areas of State Highway 1 bringing traffic to a halt. As the flood waters circulate, sewerage and heavy metal residues are collected and released back into the ocean. Yet from an ecological point of view, floods can be seen as providing many benefits, including recharging wetlands, rejuvenating soil fertility and increasing fish productions, but this is not the case in Plimmerton.³

This research is situated in Plimmerton to observe how the living entity of Taupo Stream is screaming to take itself back, whist housing and infrastructural development are laid upon Plimmertons surface without a full understanding of this unbounded conditions needs. Furthermore, Plimmertons periodic wetness is becoming more and more frequent. Wellington Regional Councils 'Flood Hazard Map' indicates the area to have a 1% AEP – Flood occurring one in 70 years, however, the floods are occurring almost once a year.: May 2015, Nov 2016, April 2017, Dec 2019 and most recent Nov 2020.⁴

What these flooding incidents communicate is that current urbanisation and associated infrastructural provision practices transact a relationship with the environment, rather than respecting the landscapes living qualities with equal value. Hydrological action within Plimmerton landscape and Taupo Stream evidence natural conditions, but the spatialisation of human dwelling and consequent designed infrastructure act as barriers. Rain is always going to fall and the conditions of how the water moves through the environment is always going to be similar to its previous estuarine conditions. Flooding as it happens is therefore not an aberrant condition but something entirely predicable. It is curious that despite Taupo Swamp having such national significance, its ecological and hydrological network i.e., Taupo Stream and surround land uses, are not given more careful consideration. What this situation makes clear is that the flooding in Plimmerton is not ant natural disaster, as construed, but more like design disaster. This assertion catalyzes this inquiry. It begins to raise question around how to develop landscape practices that on the one hand recognize the ever changing uncertainty of dynamics in estuarine conditions, and on the other, experiment with design to take adapt to landscape uncertainty.

Much like many other coastal towns, Plimmerton is subject to growth and future development, which in a context of uncertainty begs the question of how dwelling should respond to changing coastlines. Given this research takes place with a landscape of considerable flux, a question arises of how to attune to, dialogue and design with, the multiscalar complexity of uncertain change overtime? The research thus grapples to hold the 'slipperiness' of such uncertainty as its research object, and therefore moves its inquiry with intention into the messy space of flux to discover its qualities.

1. Eiby, "Changes to Porirua Harbour in about 1855"
2. Eiby,
3. Talbot, "The Impact of Flooding"
4. Greater "Wellington, Flood Hazard Areas"

RESEARCH QUESTION.

What happens to the practice of landscape design...

...when uncertainty is embraced?

Series of uncertainty

A NOTE FROM THE AUTHOR:
 Notice how the colours mix with one another. You can predict that there is going to be some kind of mixing but the form or its extent are difficult to identify. This is translated into our landscape, with the flows and rhythms of life that tend to be unpredictable.
 Furthermore, this translates to the boundary of the site,
 But when we implement assembly rather than growth- eg a barrier, it discourages the interconnections or the unpredictability.

The
 ambiguity
 between
 things allows
 us to have a
 conversation.
 When things
 are clear and
 defined, we
 forget.

WALTER HOOD

UNCERTAINTY.

‘Uncertainty’ is a very broad and everyday term used in different contexts and scenarios, however the line of inquiry pursued here is one of landscape uncertainty.

Generalized definitions of uncertainty mention words such as ‘not able to rely on’, ‘not knowing’, and ‘having doubt’. Wikipedia defines uncertainty as a state of limited knowledge where it is impossible to precisely describe the existing state, a future outcome, or more than one possible outcome. These definitions imply a sense of ‘giving up’, or that there is limited motivation to ensure knowingness. As such uncertainty is a kind of indeterminacy. Cuzzolin notes that ‘uncertainty can be understood as lack of information about an issue of interest for certain agent (e.g, a human decision maker or machine), a condition of limited knowledge in which it is impossible to exactly describe the state of the world or its future trajectories’. Uncertainty can be frequently confused with other measures. Uncertainty is not error, accuracy, precision, verification or validation.⁵

Cuzzolin comment begins to direct the focus of blame towards the actions of the agent, questioning perhaps our method of engaging uncertainty should be challenged.⁶ A common theme in the definition similar to Cuzzolin is that uncertainty is linked to lack of information, or unknowns. Smithson comments that the unknown and uncertainty are neither negative nor positive; instead they are a neutral term describing a state of being.⁷ This assertion motivates this inquiry into challenging and engaging insight into working with uncertainty across multiple scales in the landscape. Such a move may be seen as counter to prevailing approaches of sea level rise that work to stabilise, or make the conditions of flooding more knowable.

Leading from these ideas, this research initiates its inquiry by asking how to respond to change in the landscape whilst not knowing and trying to peg down how it is going to change across the manifold that is time. In this way, the very question of uncertainty opens up an attunement to time as not solely that of the human, but of the many living entities constituting landscape.

5. Meenken, “Uncertainty - What is it?”
 6. Cuzzolin, “The Geometry of Uncertainty”
 7. Smithson, “Ignorance and Uncertainty”

Moving image was a method that was used through this research. Please Click the link for corresponding moving images

<https://dilevafran.wixsite.com/fdlandscapes/copy-of-project-09>

METHODOLOGY.

AN EMERGING MODEL

This research uses design as a lens of discovery through a single case study, Plimmerton, Wellington, Aotearoa. It sets forth a course of research that develops and refines particular fieldwork practices, though tools and drawings techniques appropriate to its ‘slippery’ object: uncertainty. In this way the project moves with openness and the quality of uncertainty taking on a performative approach to knowledge creation. The emergence of new ways of practicing design in uncertain landscapes is its aim. It works towards this aim with a series of speculative experiments. It is foregrounded here that the project embraces manifold time as a fundamental way of seeing, or method of connecting to different (that is nonhuman) temporal worlds. To this end the homogeneity of 24/7 urban linear time is taken alongside the many other coexistent times⁸. The research thus both assumes and affirms practices of landscape architecture demand ‘new’ responses to the changing landscapes due to the increasing pressure from the environmental and socio-political complexities exemplified by the meta issues falling from climate change.⁹

As the research questions particular fieldwork practices; it seeks to provoke temporal homogeneity and express the multitemporal and interconnectivity of the landscape through expression of practice, but also representation. The research is organized through three experimental phases, Grounding, Extending and Holding. With this performative approach these phases have emerged from learning, unpacking and testing how to find a way in, and through the research object, uncertainty, and equally how to design and have dialogue with such uncertain landscapes. Although elements have arisen that could be separated out into groups of phases, the nature of the research attempts to repeal against the arbitrary grouping and linear processes. Thus, the three phase elements were undertaken in part simultaneously, overlapping as they were being worked with. Thus the phases are not linear, but a temporal shape that coheres as a design process.

Time is a process that is co existent through the entirety of the project as operated through the time of thinking, through the time of theory and practice, through the time of ‘submaking’ method experimentation, and through the time of ‘looking’. Each of which are shaped simultaneously. Therefore, embracing time is a way of embracing uncertainty. Arisen from the method of time comes a further key method of ‘sub-making’, that occurs throughout all the phases of experimentation.

Phase, ‘Grounding’ employs an embodied approach through the practice of drawings. This phase fleshes a provisional understanding of the dynamics within Plimmerton. Initially a quantitative approach was undertaken as a way

to begin, yet it soon became apparent that this process was not appropriate for the nature of this research. Here a performative research style is established, which provides for ‘a different way of ‘coming to know’. As Barone and Eisner discuss, ‘performative research does not force upon an audience a single finalized perspective, but instead offers a provocative ‘image’ which preserves complexity and multiplicity, retaining some degree of openness and ambiguity’.¹⁰

‘Extending’ employs a ‘sub making’ approach. This phase takes the findings from ‘grounding’ and testing through materiality that challenges the designer to raise a question about when to ‘get out of natural systems way’. It confronts the craft of the designer and brings time and process to the forefront. By working within this ‘sub making’ process an adventure into the unknown territory is opened. Through this process, as will be demonstrated, soul emerges, something comes to life.

‘Holding’ employs an iteration of ‘sub making’ but one that is more representational in nature. This phase holds the relevant information from ‘Grounding’ and ‘Extending’ and translates into a method values and scenarios. Again it confronts the craft of the designer and challenges to create alternative representations.

Due to the nature of this research and its shape being in dialogue with the research question - What happens to the practice of landscape design when uncertainty is embraced? - there is to be no clear formally designed outcome or final design for Plimmerton. The outcome of each phase is instead ‘resolved’ as a series of findings translated into values. These values propose to illuminate and communicate questions to the designer of alternative responses to the way we work with uncertain environments. Thus, this investigation labours towards discovering means, rather than we could call ends, or a landscape product or result.

This research moves to challenge traditional means of representation, means that imply and assert a mastery of terrain. The method employed, once again, stems from overlapness and creating less division across between representational or investigative tools. Here insight is established to question why there is this separation in the first place.

A variety of media and tools are employed: sketching, painting, photography, moving image and material / model making. However, the technology of the pencil over pen is one that is mostly used. These tools of pencil, pen and painting direct focus upon concerns with impermanence or shift? Whereas, photography and moving image are employed to open possibilities of engage a layering of emotion and flux movement - a dynamic quality.

8. Crary, “24/7: Late Capitalism and the End of Sleep”

9. Blanchon-Caillot, “Landscape Architecture in an Expanded Field”

10. Barone, “Arts Based Research”

KEY:
Progression of working with uncertainty
 Solutionist Encounter Open to affect encounter

METHODOLOGY.

Landscape Architecture Education
 Gardenign Practice
 Practice Experience

PERSONAL EXPERIENCES.

URBAN 24/7 TIME

THE SITUATION.

Unfolding 24/7 Time into
 Manifold Time

LITERATURE.

Ways of Seeing
 The Solutionist
 The Encounter
 Practices

PRECEDENTS.

Ways of Doing
 Time and Process
 Living Entity Community Structuring

PROJECT THROUGH MANIFOLD TIME.

QUESTION.

Space of Reflection

PERFORMATIVE EXPERIMENTATIONS.

GROUNDING.

Engage through
 Embodied
 Encounters

Space of Reflection

EXTENDING.

Engage through
 Submaking

Time of Grounding

HOLDING.

Engage through
 Values

Space of Reflection

Time of Extending

Time of Holding

Space of Reflection

FINDINGS

FINDINGS.

LITERATURE REVIEW.

ABSTRACT.

ACKNOWLEDGMENTS.

TABLE OF CONTENTS.

INTRODUCTION.

LITERATURE REVIEW.

PRECEDENT REVIEW.

THE SITUATION.

GROUNDING.

EXTENDING.

HOLDING.

CONCLUSIONS.

BREATHE.

LITERATURE.

INTRO.

Growing up and observing my environments I noticed that constructed places, whether city or country, enforce certain hierarchies and power structures to encourage certain dynamics and discourage others. Across my years of studying landscape architecture, working in practice as well as undertaking physical gardening, I have become aware many of these power structures appear to work against, and independently of existent hydrological and terrestrial (landscape) dynamics. As a consequence, environmental ‘problems’ or disasters’ frequently manifest.

Through time and experience, it has become apparent to me that landscape itself is really a consequence and image of uncertainty. This is due to the many overlapping ‘environments’ or ‘conditions’ that make up any landscape in any given time. It is through this discovery that acts of separating out landscape conditions into discrete systems or entities became somewhat arbitray to my practice. In fact this awareness led me to understand the landscape as interdependent and hyper connected. This knowledge of interwovenness grew from both my way of seeing through my own journey of landscape practice as well as affirmed and advanced through theoretical inquiry.

Aligning with this assertion of interconnectivity, the literature inquiry constituting this research is organised across clusters. Initially it was difficult to identify appropriate literature and how it fitted together, but much like the dynamics of the landscape and the surface, the most relevant literature gradually showed itself. One topic cannot be entirely separated from another as they are all intertwined in one way or another. The groups of literature revealed themselves upon review of my initial attempts to pinpoint sources relevant to my line of inquiry.

Whilst this project is orientated towards the richness and interconnectivity of that which actually shows itself in the landscape, my initial encounter with the project was heavily literature based. Literature was used as a tool to continuously question myself and my approach to practice - literature, the thoughts and experiences of others helped to establish and review an original and meaningful line of encounter for my research ‘problem’. Furthermore, the use of literature was found to not only authenticate my field work discoveries, but to build and augment how I ground myself in this research, and how the work dialogues within the discipline of landscape architecture.

The fields of literature translate into *‘Ways of Seeing’* and have been organized into three sections, two conceptual - ‘The Solutionst Critique’ and ‘The Encounter’ and one based on individual’s practice engaging with Robert Smithson, Julian Raxworthy , Catherine Mosbach and Piet Oudolf .

Establishing grouped literature, an imaginary line is drawn between:

‘The Solutionsist’ - prevailing mindset of understanding and working with the landscape, and,

‘The Encounter’ - a method of practice, being open to the complexity of the site, and,

Practices’ – who this research aligns with in practice.

This metaphorical line between these fields is smudged resulting in blurring of the topics as they each have overlapping qualities of themes and dialogue.

WAYS OF SEEING.

THE SOLUTIONIST CRITIQUE

The prevailing (modernist) approach to understanding complexity in the landscape is to find a secure point of reference, and as if stable, serve as a foundation – this approach acts like a master key from where everything else can be derived.¹¹ However, such an approach can be seen as ‘too tidy’, constituting an avoidance of the very dynamics of complexity. What I have discovered is when a landscape is characterised by rapid change and fluxes, it is communicated as though vulnerable, or perhaps somehow ‘weak’. Yet who is to say when the landscape is vulnerable or not? Landscape terminology and related practices usually linked to landscapes deemed vulnerable, are either that of restoration or resilience. Yet here I question the intentions of these prevailing landscape movements, suggesting there is an assumed or default position within landscape practice - that is to solve, mitigate or ameliorate landscapes to enable the stability of human occupation as has been practiced. We could call this approach to working with dynamic and vulnerable landscapes a “solutionism”.

Rob Holmes discusses this tendency to ‘solve’ within the discipline of landscape architecture in his text ‘The Problem with Solutions’.¹² Here he directly questions our current practice - communicating our patterns of self-defeat and our history of selfish / stubborn transactional design. This avoidance is seen in many landscape projects that draw upon the commonly used toolkit approach. Here tools of observe, measure, mark, cut, extract, reposition and re-frame are used en-route to the solving of landscapes to sustain and serve human life as prescribed.

Holmes writes, “Landscapes everywhere are shaped by complex, asymmetric power relations at different densities and scales, everything about them is dynamic — forms, structures, cycles, trajectories — and all of it subject to natural and anthropogenic forces that frustrate human desires for stability and control. What appears to be a problem from one angle may be desirable from another, and vice versa. Designers have always understood these truths, on some level, but that hasn’t stopped us from endeavoring to solve landscapes, over and over.”¹³

Holmes’ observation is a direct key motivator for this design led inquiry, suggesting that perhaps we need to move our

practice away from solutionist thinking and towards an alternative process of ‘nonsolutionism’. His article does not argue against solutions, but solutionism itself, that is the reoccurring temptation to see the landscape design through the prism of known solutions.¹⁴ The points Holmes raises are a starting point to this theoretical discussion.

David Gissens theory of subnature is somewhat in the same field or discussion of Holmes. Gissen’s theory suggests an alternative view of natural process and ecosystems. he also believes the relation of natural processes to human society to be a form of architecture.¹⁵ Gissen communicates a rejection of the idea that humans can somehow recreate a purely natural world, free of the untidy elements that constitute nature.¹⁶

Both these articles discuss the history of design through examples of practice. Whilst they demonstrate excellence at diagnosing problematic conditions, they are rather short on what to do about it - I am left thinking so what now? Critically reflecting on the two articles I am confronted by this ‘what now’ by a new idea and potential design method I’ll call submaking.

Submaking is a term inspired by David Gissen concept of subnature is where “willful control and surrender occur in the same place at the same time” – it does not acknowledge and accept the inconsistency of matter.¹⁷ It directs this life principal into a design methodology that shifts creative focuses to the process of creation, rather than the final form. This is suggestive of “how and when to get out of the way of natural systems”, “how to make a space of action in which materials can self-organise their own shape of resistance unmolested by human will”. This theoretical explanation will be explored through practice in Chapter Five.

Fig 1. The Control / Letting Go Diagram

11. Cilliers “Complexity and Posmodernism”
12. Holmes, “The Problem with Solutions”
13. Holmes,

14. Holmes,
15. Gissen, “Subnature”
16. Gissen,
17. Gissen,

Without meaning to conflate, the theory and methods of nonsolutionsism and submaking indirectly relate to Te Ao Maori. This is due to the acknowledgment of interconnections and interrelationships between all living and non-living things. This holistic approach, which I consider agentic to landscape design, seeks to understand the total system, or wholism of the world, not just parts of it.

E rere kau mai te awa nui nei
Mai i te kāhui maunga ki Tangaroa
Ko au te awa
Ko te awa ko au.
The great river flows
From the mountains to the sea
I am the river
The river is me.

This whakatauki captures the notion of interconnectedness between humans and the environment. This belief lies at the heart of the way Whanganui and other iwi view the world¹⁸. forming the underlying premise of what it means to settle/dwell and be with landscape. Given the passing of Te Awa Tupua (Whanganui Rover Claims Settlement) Act 2017 for the Whanganui River, this approach is becoming the context for how rivers and lands can be understood in Aotearoa.

Holmes makes it clear, and it can be seen by how our legal system has designated a river ‘personhood’, that design and politics are joined at the hip¹⁹. Pierre Belanger, a key landscape practitioner and theorist puts it quite bluntly that our profession needs to wake up. Belangers article ‘No Design on Stolen Land’ illustrates tactics of ‘undesign’ – somewhat similar to the concept of submaking, as an alternative approach to our solutionist and Western way of doing. The context of Belangers’ article is settler colonisation and the erasing of indigenous voices and marginalising of indigenous land rights by design professions²⁰. Although Belanger is Candadian and comments on America, his comments resonate for any place that has been colonized.

*“To undress this carceral landscape requires the unmapping of settler urbanism. It means destroying the dispossessive categories that sanction exclusion, exploitation, extraction and erasure. Dismantling the structures that obviate the legal landscape of treaties and that are constructed to sever relations between lands, waters, beings, cycles and communities. Unplanning oppressive policies. Unnaming colonial place names. Debasing base maps. Debunking benchmarks. Redrawing legends. Retroceding lands. This démontage bends rules and rewrites settler-colonial code. If it does not break the law, it is not new.”*²¹- Pierre Belanger

Plimmerton? What does it mean for the landscape designer to be a good treaty partner? As a landscape profession it seeming non-negotiable to recognize Mautauranga Maori and mana whenua knowledge production and foregrounding these ways of knowing in regards to landscapes.

“If ‘we are all Treaty Peoples’²², then ‘the evidence of our betrayal lies all around us ... we [settlers] have not lived up to our end of the bargain,’ because ‘it takes two to make a treaty’²³. - Pierre Belanger

This conversation brings me to consider how the landscape profession here in Aotearoa views and works with our living entities. Perhaps there should be more conversation around collective involvement of various ‘experts’ working alongside each other. When I mention ‘experts’ I am talking about ecologists and politicians, engineers, architects, but most importantly iwi in dialogue with another, learning from one another. Here in Aotearoa, we have a beautiful opportunity to allow this to happen and advance over other countries. Yet at the current the colonial system of law draws lines and creates rules / solutions for entities that are to be unbounded. However in saying this, the Whanganui river becoming a legal entity is somewhat a step in the right direction. Maori law is explicit and acknowledged in the Te Awa Tupua (Whanganui Rover Claims Settlement) Act 2017:

The Crown acknowledges the enduring concept of Te Awa Tupua—the inseparability of the people and the River—underpins the responsibilities of the [tribes] of Whanganui in relation to the care, protection, management, and use of the Whanganui River in accordance with the ... [law] maintained by the descendants of Ruatipua, Paerangi, and Haunui-a-Paparangi.²⁴ Sometimes I think as a designer when we think we know best, why are we not communicating with those who have already lived through generations of a ‘non solutionst practice’, Te Ao Maori. Living entities are often described as the ‘lifeblood’ of the tangata whenua, the people of the land.²⁵.

From the preceding thought experiment, given the Taupo Swamp wetland has such great natural significance, could the same legal entity apply here, or in other living entity’s? Perhaps there is a question around less land rules and

- 18. Knight “New Zealands Rivers”
- 19. Holmes, “The Problem with Solutions”
- 20. Belanger, “No Design on Stolen Land”
- 21. Belanger,
- 22. Belanger,
- 23. Treaty of Waitangi Maori Version,
- 24. Ministry of Justice, “Te Awa Tupua”
- 25. Ruru, “Who are your waters”

regulations, and more land values? I ask my self what the landscape profession would look like if wholesale adoption of the land as an interconnected living entity was undertaken? What could this even look like?

The link between the prevailing solutionist lands management approach and Te Ao Maori world view is around developing a holism, through interrelationships and interconnections, living and non-living - above all it is about how the materiality of the world is viewed and managed. This field of inquiry is inspiring and deeply relevant to forming a ‘new’ approach to the conundrum that is climate change.

Understanding the concept of non-solutionism, has shifted this research methodology toward embracing landscape uncertainty as an affirmative, albeit difficult way of working. - despite its messiness.

Expressions of the Solutionist critique

KEY FINDINGS

- Vulnerability is ok, both as a designer being vulnerable to your designs and being vulnerable to on site encounter.
- Be open Minded. What may appear to be a problem, may be desirable from another.
- Stop overstepping treaty partner values.
- Always relate back to am I being a good treaty partner.
- It is ok to be untidy in the process of shifting thinking away from default ways of doing.
- You will only learn how to get out of the way as a designer through rigorous testing and the way you encounter the situation.
- The solutionist sees problems, the non solutionist - the landscape architect sees potentials.

WAYS OF SEEING.

THE ENCOUNTER

We have reached a point of intellectual no return in landscape theory, one where uncertainty about nature has become one of the main characteristics of our time²⁶. As mentioned in the previous section, the question for this research is now around breaking habits of - transactional design, tunnel vision, solutionist thinking, overstepping treaty partner values - yet how can we respond to such transformation?

To this provocation I ask “How do I encounter landscape?” I am affected by the immediate conditions of landscape, I am affected by how I am trained to think about landscape, so how do I investigate what is all around me, because I am in the middle of it? Questions like this, which are in fact ontological and to an extent ethical, have plagued this research and have consistently circled my practice provoking the questioning of how.

How we encoutner landscape is of critical discussion and debate within design practices, in particular landscape architecture. Drawing from theoriests begins to establish insight for method into how we can challenge the prevailing way we encounter with the land.

An encoutner in everyday language translates to an unexpected meet or experience, yet this research seeks to reach into what methods may arise from attentive encounters, on the hunch of a new level of discovery.

Helen Wilson, discusses the notion of encounter through the lens of geographical thought alongside how we think about bodies, borders and difference²⁷. Despite Wilson speaking from a geographical background, the values and language used responds and connects towards landscape design without directly addressing it.

Her critique of the encounter brings to light the numerous ways in which it has been deployed over history, but the connection Wilson makes is that the encounter should not be taken as an empty referent for any form of meeting, rater, it is laden with value. She further communicates that by engaging the encounter through an opening of affect, we can begin to break prevailing habits of thought²⁸. I take this as an opportunity to open to ways of seeing time in the urban human caught by 24/7 time, the time of capital²⁹.

The practice of attunement to affect begins to create perspective within landscape method as to how sites or situations appear. It thus envisions notions of agency helping us to see agency not as a property of individual rational humans, but as emergent in relationships. It provides a starting point to recognize the profound interconnections that exist everywhere and with everything in the landscape beyond the habitual ontological categories pre-made by anthropocentric thought. As such, encounter is a way to see complexity and its attendant uncertainty.

Encounters demand that we re-think the limits of the body of its capacities and thresholds.³⁰ By doing so it begins to open up questions around how we may approach the body as a specific form of relationality – the body should not be defined by its form or function. Spinoza’s widely cited declaration – “we do not know what a body can do” – moves attention away from what a body in form ‘is’, to what it can do and ‘become’^{31,32}. This approach gives me clues to how I see landscape and the living entities it is constituted by. It begins to shift away from our current ‘solutionist’ framed thinking and preconceived thoughts to allow the designer to encounter in such alternative mind set and method.

Furthermore, the language of becoming that stems from affect is used to recognize the potential of becoming otherwise, and to move away from the static notions of essential pre-existing beings - shifting the emphasis from beings as discrete and preformed entities – to possibilities of becoming’s.³³ Wilson communicates that with the language of affect and becoming a starting point is created to think thinking more carefully about boarders, boundaries and forms of relationality. Thus, communicating the doing of encounter. “through his or her encounter with these forces the subject begins an interrogation of a situation beyond their control.”³⁴.

Tara Mehrabi in her article affective method, discusses affective encounters as crucial to knowledge production, and in our profession, this suggests how we can begin to think ethically about our practices of conceptualizing and seeing the landscape³⁵. Affective method correlates directly to the discipline of landscape architecture, as it is through our encounter with the dynamics of landscapes, what we may normatively disclose as separate across elements such as, human, non-human, geology, hydrology, we begin to see the simultaneity and active agents in the process of knowledge production all laden with rich value.

As the conversation strengthens around the value of encounter and the body, it brings to light in the context of landscape an encounter with ‘surface’. Surface, of landscapes, of bodies, become a rich mileu within which to recompose landscape aesthetic and ontological engagement.

Thinking about affective encounter prompts me to ask the question: is landscape surface? Here I consider through this literature review, landscape as an earth boundary that serves as an operational medium. Perhaps the notion of surface is less a formal conditions, and more both physical entity and a performative conduit.

This draws my inquiry to composing the surface of the landscape as that which either hinders or enables exchanges and interaction between the ground and atmosphere³⁶. If we look at prevailing design engagement with the living entities, that constitute landscape, design either furthers a ‘conversation ‘of exchanges, or permitting dialogue, or reduces it. Yi-Fu Tuan addresses this issue in the field of geography, writing that: “the scholars neglect and suspicion of surface phenomena (is) a consequence of (the) dichotomy in Western thought between surface and depth”³⁷. In describing the world, we often discuss about the “surface of things” or “to look under the surface”. By doing this we subjectively mistake the term surface to mean something superficial, abstract or narrow.³⁸ This idea directly relates to Girot’s assertion that we always enter landscapes with preconceived ideas and thoughts.³⁹ Why? – because it is difficult, time consuming and uncomfortable to do otherwise.

This understanding of landscape surface through our method of affect encounter highlights the importance of understanding and communicating with landscape surface as an experimental medium. Such thinking focuses attention to the importance of the practice of dialogue between human and nonhuman within the design discipline.

So, is the diversity and multi-temporality that is landscape, a kind of surface? Questioning myself here, landscape appears to me as indeed a rich and dynamic, living, surface through the lens of and affect encounter.

The relevance of this topic points to a possible expansion or rethinking/ re feeling of the ground, or grounding. This review discovers ways to move against the prevailing way landscape practice routinely undertakes site analysis.

The preceding new language assists in how to begin to orientate complex site conditions and uncertain landscapes and to understand what it means to be in the middle of the uncertainty. What these thinkers offer is valuable to method opening the question of how to translate into design, or performative thinking.

A concept that is not directly discussed in this literature review is that of time itself. These encounters and having an attunement of affect indirectly engage time as duration. Which further makes me query every agent will have a slightly different understanding of how they encounter which is somewhat the beauty of it but also deemed to be a challenge.

Expressions of The Encoutner

KEY FINDINGS

- Invite through an attentive encounter.
- The encounter should be laden with value.
- Through encounter there is an opportunity to step away from the time of capitol and transform to manifold time.
- Encountering through affect will assist in noticing emergent relationships and situations beyond your control as a designer.
- Affective encounters is crucial to our knowledge production as designers.
- The landscape is both a physical entity and a performative conduit.
- dialogue with its environment is crucial and could be tested through an experimental medium.
- Create a balance of subjectiveness when encountering the site, be subjective in the way of being individual, not in the way of prevailing subjective thoughts.
- Time is of value. Be open to the process.

26. Girot, “Immanent Landscape”
27. Wilson, “On Geography and Encoutner”
28. Wilson,
29. Crary, “24/7”

30. Wilson,
31. Singh, “Affective Ecologies and Conservation”
32. Ingold, “Biosocial Becomings”
33. Wilson,
34. Barnett, “A Chance to Encounter”
35. Mehrabi, “Affective Method”

36. McGuire, “Is Landscape Surface”
37. Tuan, “Surface Phenomena”
38. McGuire,
39. Girot, “Immanent Landscape”

WAYS OF SEEING.

PRACTICES

Alongside exploring theoretical ways of seeing the following connects with practitioners who are communicating through the similar line of inquiry. Turning to these practitioners begins to showcase methods of encounter outcomes and practices in action that can motivate the doing of this research.

Robert Smithson, an artist, discusses that various agents, both fictional and real, somehow trade places with each other. He writes, “One’s mind and the earth are in a constant state of erosion, mental rivers wear away abstract banks, brain waves undermine cliffs of thought, ideas decompose into stones of unknowing, and conceptual crystallizations break apart into deposits of gritty reason.”⁴⁰

Figures such as Robert Smithson, Julian Raxworthy and Catherine Mosbach have focused our imaginations in different ways on that which is unique and essential to the landscape – its temporal qualities such as change, dynamics and space/time.

In a recent publication, *Overgrown: Practices in Landscape Architecture and Gardening*, Julian Raxworthy introduces the importance of the gardener and the process and values that are involved with this doing. He positions his design encounter through the method of gardening as he portrays it as an intimate and extended conversation with the living world.⁴¹ He asserts that the change our discipline of designs creates is often too abrupt and transactional. Because of this, Raxworthy makes a clear point that change can not be simulated but only approximated, and perhaps growth is the most visible form of change in a designed landscape environment.⁴² Analysing the difference between projections of growth and real growth demonstrates change. It is within Raxworthys encounter that I am drawn to Piet Oudolf’s work in terms of drawing methods used and physical practice.

40. Smithson, “A Sedimentation of the Mind”

41. Raxworthy, “Overgrown”

42. Raxworthy,

Fig 4. Constructing the Spiral Jetty, Gianfranco Gorgoni. 1970. https://www.researchgate.net/publication/232243460_The_Material_Production_of_the_Spiral_Jetty_A_Study_of_Culture_in_the_Making/figures?lo=1

Fig 5. Spiral Jetty, Gianfranco Gorgoni. <https://www.sltrib.com/arts/living/arts/2017/09/29/spiral-jetty-utahs-most-famous-artwork-from-a-to-z/>

Fig 4. Constructing the Spiral Jetty

Fig 5. Spiral Jetty

Overgrown Book Cover

Fig 6. Organic Growth Louvre-Lens Museum Park

Fig 7. Ground Patterining of Louvre-Lens Museum Park

Oudolf facilitates change through his drawing practice and right the way through to the unforeseeable future of his delivered projects. He embraces how his designs are continuously changing and adapting to the given environment. This practice could only have stemmed from rigorous encounter of the site and through an attunement to time as manifold.

Raxworthy and Oudolfs context prompts me to question my own practice of doing, such as drawing. They approach causes me to consider the how patience with the process of transformation is central to landscape practices. I ask how can drawings methods and site encounters stimulate growth, rather than promote what we can think of as design assembly? Growth can only occur when in suitable conditions, so how can the designer enact dialogue with the landscape to support optimal conditions for growth?

Catherine Mosbach is a French landscape architect that is already deploying these garden essence methods in her practice. Her work consciously facilitates change and challenges such static and solutionst driven methods of practice. To facilitate change is to leave opportunities for physical divergence from what is originally installed or proposed in design work. The idea of leaving opportunities for physical divergence has become very influential in this research into landscape uncertainty. The majority of Mosbachs works are not pressured by time but are encouraging the many coexistent times within environmental systems to occur. In this way change comes to the forefront of her designs, as opposed to manicured or static spaces. Project examples are Museum Park Louvre Lens and Bordeaux Botanical garden. Mosbach situates her space making tools around challenging traditional forms instead creating spatial qualities formed by vegetation or organic matter flourishing and producing on its own. What method is informed here is the beauty of natural dependence. The soil mounds found that the Bordeaux

Fig 6. Organic Growth Louvre-Lens Museum Park, mosbach paysagistes. <http://landezine.com/index.php/2016/09/museum-park-louvre-lens-by-mosbach-paysagistes/>

Fig 7. Ground Patterining of Louvre-Lens Museum Park, Catherine Mosbach. <https://www.foreground.com.au/culture/the-delightful-dialogues-of-catherine-mosbachs-landscape-architecture/>

Fig 8. Piet Oudolf Planting Sketch

Fig 9. Piets Studio in the Former Nursery Area 1

Fig 10. Piets Studio in the Former Nursery Area 2

Fig 8. Piet Oudolf Planting Sketch, *Alex Delfanne*, <https://www.designindaba.com/articles/creative-work/lookbook-open-field>
Fig 9. Piets Studio in the Former Nursery Area 1, *Philippe Perdereau*, https://www.gardendesign.com/pictures/piet-oudolf-s-next-wave-photo-gallery_365/#8163
Fig 10. Piets Studio in the Former Nursery Area 2, *Andrew Montgomery*, <https://www.houseandgarden.co.uk/gallery/dutch-garden-piet-oudolf>

Botanical Garden are not representations of the environment they are situated in. Instead, they are process representation, as indicated by Mosbachs description of “rightness” when “everything takes its place”.⁴³ Her approach to change is focused on demonstrating the dynamic relations at play between various constituents of the total environment. To that end design for Mosbach embraces uncertainty.

Mosbach and Raxworthy suggest that if treat designer as bringing already familiar patterns into the landscape, you leave no option but the for the environment to suffocate and show itself through cracks or problems. Such assertions are pertinent to the questions of Plimmerton Stream.

Turning to Dillip’s design practices brings insight to the environment of this investigation – that of the stream as a living entity. He discusses that “it takes a unique sensibility and imagination to habit each, to live in wetness versus on surface, experience holding wetness versus draining water, hold thinking versus flow thinking”.⁴⁴ Dillip communicates that there is only wetness of varying degrees, if wetness is everywhere then how is it we have come to see such separation between land and water? He suggests the drawing of the line, the coastline is problematic. He cautions design practices to be mindful of the drawings methods we choose to engage and the implications they have upon how the environment is treated. This causes me to bring how I use line into sharp focus in my drawing.

Odolf and Mosbach also challenge the way hard or divisive lines are used in drawing/ master planning. There is something open in their drawings as if they intend for the design to organically design itself - the environment taking over the controls of the designer. Their drawings create an insight into expressing the many times within any environment, but can this still be pushed further?

Thus, the critical method arising within this section is an understanding of change and the importance of natural dependence through growth. Furthermore the above assert the importance and value of really immersed within the site to understand place in all its forms - site conditions and processes. Once you are at one with the environment can the true experimentation of design begin to occur? Here I am challenged by the question of to what extent can we choose to bound ourselves to the human scale of environments?

43. Raxworthy, “Novelty in the entropic Landscape”
44. Daniel Urban Kiley Lecture

Expressions of Practice

KEY FINDINGS

- The landscape is of temporal qualities such as change, dynamics and space / time.
- Can change, dynamics and space / time be translated into method of experiment
- Our prevailing restoration or resilience designs are too transactional.
- To show change can be through growth.
- Engaging site through manifold time creates new opportunities that prevail against transactional design
- Not to be pressured by time
- Invite a level of natural dependence through designs
- Explore your tools of medium, don’t be afraid of testing new techniques.
- Leave opportunities for physical divergence.
- The ‘design’ will have a level of ‘rightness’ when everything has taken its place.

UTE PRAYER FOR WISDOM

Earth teach me stillness
as the grasses are stilled with light.

Earth teach me suffering
as old stones suffer with memory.

Earth teach me humility
as blossoms are humble with beginning.

Earth teach me caring
as the mother who secures her young.

Earth teach me courage
as the tree which stands all alone.

Earth teach me limitation
as the ant which crawls on the ground.

Earth teach me freedom
as the eagle which soars in the sky.

Earth teach me resignation
as the leaves which die in the fall.

Earth teach me regeneration
as the seed which rises in the spring.

Earth teach me to forget myself
as melted snow forgets its life.

Earth teach me to remember kindness
as dry fields weep with rain.

LITERATURE.

REFLECTION

Arising within the preceding reviews is the experience of overlapping and interwoven ideas. The quality of overlapping highlights the complexity yet also relevance of such topics to be confronted and illuminated within landscape architecture. Although the reviews are somewhat minimal, or held at a surface level, it is the triggering in my own body in understanding practice and method that emerges from this research. Whilst the object of this inquiry is rather slippery in nature the following outlines ways in which this review of literature has served to propel the research to engage with uncertainty within landscapes:

- The representational skills need to reflect the process of encounter and speak fluidly with one another as a process.
- Be conscious of the drawing tools selection and what you propose to envision
- This research is shifting towards a method of process rather than form, the landscape driving the actions and reactions on site.
- Applying values over rules to the phases of design
- Be mindful of the language used throughout the process
- Suggested to encounter the environment through an attunement of affect

Underpinning the aforementioned literature is the premise that the landscape will continuously speak prior to the designer. This suggests we should attempt to endlessly explore ways of seeing through a lens of a landscape. Across this review of the literature is a the force of movement towards constantly questioning myself and my landscape doings. I can see this being both a critical driver but also a roadblock for this investigation. This awareness prompts me to find balance by having trust in my own insights and actions. Following learnings from this review, I need patience to accept and work with the time(s) of the landscape.

Expressions of all Literature.

PRECEDENT REVIEW

ABSTRACT.

ACKNOWLEDGMENTS.

TABLE OF CONTENTS.

INTRODUCTION.

LITERATURE REVIEW.

PRECEDENT REVIEW.

THE SITUATION.

GROUNDING.

EXTENDING.

HOLDING.

CONCLUSIONS.

PRECEDENTS.

INTRO

What follows surveys a series of projects and precedents relevant and meaningful to this design inquiry. I select and use these projects to both discover comparable approaches to my research ‘problem’, and at the same time situate the research more clearly within its field of landscape architecture.

Given this design led research is primarily interested in the question of approaching uncertainty in design process, it seemed appropriate to examine precedents with regard to their practice and process, rather than any evaluation of final built form. Analysing “form-oriented” projects, or limiting the discovery phase to projects only within landscape architecture would seem to undermine the nature of this inquiry. Thus what follows is draws widely across space-making practices, and places its focus upon process and values.

Selected precedents are categorized into two groups I have named:

- time and process, and
- living entity and community restructuring

The first three projects have been considered in terms of key thematic ideas behind their practice, that of the acknowledgment of manifold time, process, and provoking qualities. The second group critically explores riverine and coastal projects. Drawing out comparison between natural/passive and constructed thresholds in these environments, prompts my examination of how a dynamic community of many living entities is convened.

Through critical review the following communicates ways into uncertainty with different experiences. Each of these works are summarised in terms of how the findings mobilises my own practice in this design led research.

Ice Watch - Olafur Eliasson.

2018 - London

TIME AND PROCESS

This installation, by artist Olafur Eliasson, uses 10,000 year old snow fall compacted over time to create large iceberg sculptures in London out side the Bloomberg Headquarters. The installation coincided with the 2018 UN Climate Conference COP24 and clearly uses the affective capacities of art to communicate a political stance.⁴⁵.

The temporary installation of melting ice serves as a visual and experiential reminder of the often unseen impact of climate change on the environment. As a work that invites physical encounter, Eliasson anticipated it would connect people to their surroundings in a deeper way and inspire radical change to their perception of time. Driven by values, this work hopes to provoke awareness in individuals to take action towards systemic change through an embodiment of time.

Expressions of Ice Watch

This content is unavailable. Please consult the figure list for further information.

Fig. 11: Extracted Ice

This content is unavailable. Please consult the figure list for further information.

Fig. 12: Public Ignorance

This content is unavailable. Please consult the figure list for further information.

Fig. 13: Off Peak Engagement

Fig. 11. Extracted Ice, *Jørgen Chemnitz*. 2014. *Paris*, <https://olafureliasson.net/archive/artwork/WEK109190/ice-watch>.
Fig. 12. Public Ingorance, *Daniel Leal-Oliva*. 2013. *Paris*. <https://www.telegraph.co.uk/news/2018/12/11/artist-olafur-eliasson-installs-melting-icebergs-heart-london/>
Fig. 13. Off Peak Engagement, *Justin Sutcliffe*. Unknown. *Paris*, <https://qz.com/quartz/1491406/artist-olafur-eliasson-is-melting-iceberg-chunks-on-london-streets/>

This content is unavailable. Please consult the figure list for further information.

Fig. 14. Sensory Ice 1

This content is unavailable. Please consult the figure list for further information.

Fig. 15. Sensory Ice 2

This content is unavailable. Please consult the figure list for further information.

Fig. 16. Ice Reaction

Fig. 14. Sensory Ice 1, *Martin Argyroglo*. 2015. *Paris*, <https://www.artsy.net/article/artsy-editorial-in-wake-of-paris-attacks-eliasson-s-ice-blocks-evoke-the-human-impact-of-rising-temperatures>
Fig. 15. Sensory Ice 2, *Martin Argyroglo*. 2015. *Paris*, <https://www.artsy.net/article/artsy-editorial-in-wake-of-paris-attacks-eliasson-s-ice-blocks-evoke-the-human-impact-of-rising-temperatures>
Fig. 16. Ice Reaction, *Martin Argyroglo*. 2015. *Paris*, <https://www.artsy.net/article/artsy-editorial-in-wake-of-paris-attacks-eliasson-s-ice-blocks-evoke-the-human-impact-of-rising-temperatures>

Despite this work being clearly one of art, not landscape architecture, it uses some of the same spatial and experiential tactics we may see in site designs. The installation is motivated to bring about a confrontation with change, or changing climates, and relevantly for this inquiry, demonstrates how to bring attention to time and temporality and the earths duration.

The installation communicates temporality at an experiential and bodily way, challenging the perceiver to make conscious decisions on their “next move”. These are terms or ideas that the discipline of landscape architecture could assist with.

What is further interesting around this project is the attempted associations with the body. Climate change is an abstract term for many and this installation begins to change the narrative of the climate from our brain and emotionalise it into our bodies. It attempts to give feelings to things are otherwise, factual, or unemotional to a degree. The installation is subject to climate conditions and the human heat interactions, creating a political and confrontational emotions as you witness the ice thawing in front of you.

What this precedent crystallises for my discovery process is how to very simply yet powerfully catalyse an attunment to affect. The project challenges the users emotion and actions, along with the possible meanings of space. Despite the homogeneity of the material (ice), discovery holds a beauty the closer the ice bergs are examined. Much like exposing a slice of geology you can see the layers of geological history and time, this installation communicates the similar layers of time. Each iceberg has a different history, a different age, a different memory with what has happened at the time when they were formed because of the visible air bubbles inside.

Eliasson successfully demonstrates something that is usually distant or communicated as intangible can become something tangible. The project can be seen to challenge landscape architecture to provoke users experience to more positive effect.

Critically examining this work has demonstrated how its is possible to use value-driven form-making to provoke awarenesses, or attune affect towards important issues within public users of space. Reflecting on this project opens creative avenues for the living material present in the estuarine site of

45. Yalcinkaya, “Instal Giat Blocks”

RIVER AIRE RENATURATION - GEORGE DESCOMBES.

2002 - 2015 - Ongoing - Switzerland

TIME AND PROCESS

River Aire Renaturation is a project that stands out in the profession of landscape architecture for the critical position it has taken on restoration methods. However, I have not selected it to focus its landscape restoration approach, rather, the design processes and methods it expresses. River Aire Renaturation questions how a river can be ‘re-naturalized’? Beginning of the late nineteenth century, the Aire River, was progressively channelized. In 2001 the State of Geneva proposed the river should be restored to its original shape.⁴⁶ George Descombes submitted what was a winning proposal to install a vast parallel diversion space for the river, instead of sustaining the ‘illusion’ that any landscape can be returned to its original state.

Expressions of River Aire Renaturation

This content is unavailable. Please consult the figure list for further information.

Fig 17. Design Imprint

This content is unavailable. Please consult the figure list for further information.

Fig 18. Renaturation of the River Aire

Fig 17. Design Imprint, *Fabio Chironi*. Unkown. *Switzerland*, <http://landezine.com/index.php/2016/06/renaturation-of-the-river-aire-geneva/>
Fig 18. Renaturation of the River Aire, *Atelier Descombes Rampini*. Unkown. *Switzerland*, <https://placesjournal.org/article/the-problem-with-solutions/>

This content is unavailable. Please consult the figure list for further information.

This content is unavailable. Please consult the figure list for further information.

This content is unavailable. Please consult the figure list for further information.

Fig 19. Study of the Evolution of the River Morphology.

Fig 19. Study of the Evolution of the River Morphology, *Group Superpositions*, 2002. *Switzerland*, <https://www.architectural-review.com/buildings/river-aire-by-superpositions-where-the-line-between-the-natural-and-planned-is-blurred>
Fig 20. River in Play, *Group Superpositions*, 2015. *Switzerland*, <https://urbannext.net/renaturation-river-air/>
Fig 21. Overlays, *Superpositions*, 2016. *Switzerland*, <http://www.riverchronicle.ch/extras/designing-a-rivergarden.html>

This content is unavailable. Please consult the figure list for further information.

Fig 20. River in Play

This content is unavailable. Please consult the figure list for further information.

Fig 21. Overlays

This project is stimulating in how it uses design to a trace time. It introduces a complex temporality into the present from both past and future, memory and desire. The river-garden organises the situations, views, confrontations, presences, aiming at introducing into this fragile and precious territory collective questions, worries and hopes. Within this subtle and moving intention, the spatiality of the landscape isorganised into sequences of differentiated places and paths to allow for a distribution of people and movements. The project installs a launching pattern on the landscape from which the organic movement of the landscape’s hydrological flows pick up where the designer left off - hence the design of the landscape continues organically. What arises is how much input or set up should the designer provoke or install, versus or alongside the natural dynamics of the environment? I think this is what Descombes is drawing attention to and resonates with my own inquiry. This project is an exemplar of acknowledging and utilizing the materiality of time to curate space as design. Although not explicitly communicated , the design stimulates an awareness of the ephemeral in the breadth of duration in the riverscape. I find these aspects exciting and relevant to my inquiry of uncertainty in an estuarine landscape and sets forth a challenge as to how I might experiment with augmenting the materiality of impermanence.

46. *Atelier Descombes Rampini*, “Renaturation of the River Aire”

ZALIGE BRIDGE - NEXT ARCHITECTS.

2016 - Netherlands

TIME AND PROCESS

Zalige Bridge is a footbridge over River Waal that becomes partly submerged as the water level rises. As parts of the path submerge it exposes the bridge to appear sculpture like in the distance, inaccessible to people in major floods.⁴⁷ However, for the daring, playful users, it provokes people to use the exposed concrete blocks as steppingstones to traverse the water. What is stimulating of the design is the mimicry of the natural water network, the path being ephemeral much like many streams. The project exemplifies the well-known Dutch relationship with water as one that embraces the seasonal flooding rather than seeking to control it. It embraces flood.

Expressions of Zalige Bridge

This project is an inspiration for design thinking in the context of this research primarily as it provides whilst it makes provision for human traversal, it prioritises the rivers spatial needs. Zalige Bridge is part of a meandering continuation of pathways awith a widening of the flood plain and dike removal. The project is very successful in using aesthetics and the program of the project to heighten and change through differing seasons - here a sense of awareness of the challenges related to water and the environment. is heightened. What is of most significance for my inquiry, is the unconscious force at play as a consequence of the designer teasing the users sense of play and determination in a journey. The project transforms any banal or zombie like traversal into an attentive experience of balance, careful footing placement, heightening sense of the surroundings.

This precedent motivates this research to work to work within the earth water dynamics, flood present in a place. I am also inspired how the spatial quality of the water is made visible in a poetic way integrating design elements holistically. Although the design does not directly address but subconsciously it prompts the user to tap into a concept of time and temporality. It successfully creates a traversable pathway for the human within every changing climatic conditions.

While this temporal pathway is successful in a recreational setting, the situation of Plimmerton suggests the need for more permeable movements. This project communicates the human is of privilege in this setting, ayet I wonder what the design would look like with an ecological factor holding this priority? And also, what this design look like in the context of Aotearoa with our cultural conversation around water bodies?

47. Lynch, “NEXT Architects”

Fig 22. Zalige Bridge in Flood 1

Fig 25.Flood Play 1

Fig 23. Zalige Bridge in Flood 2

Fig 26. Flood Play 2

Fig 24. Zalige Bridge in Flood 3

Fig 27. Zalige Bridge in Open

Fig 28. Flood Play 3

Fig 22. Zalige Bridge in Flood 1, NEXT Architects. 2018. Netherlands, <https://vimeo.com/252362798>
Fig 23. Zalige Bridge in Flood 2, NEXT Architects. 2018. Netherlands, <https://vimeo.com/252362798>
Fig 24. Zalige Bridge in Flood 3, NEXT Architects. 2018. Netherlands, <https://vimeo.com/252362798>
Fig 25. Flood Play 1, Rutger Hollander. 2016. Netherlands, https://www.archdaily.com/889097/zalige-bridge-next-architects/5a852f93f197ccbd8c00016c-zalige-bridge-next-architects-photo?next_project=no

Fig 26. Flood Play 2, NEXT Architects. 2016. Netherlands, <https://urbannext.net/zaligebrug/>
Fig 27. Zaliage Brudge in Open, Jeroen Bosch. 2016. Netherlands, https://www.archdaily.com/889097/zalige-bridge-next-architects/5a852f93f197ccbd8c00016b-zalige-bridge-next-architects-photo?next_project=no
Fig 28. Flood Play 3, NEXT Architects. 2016. Netherlands, <https://urbannext.net/zaligebrug/>

TWIN STREAM PROJECT.

2003 - Present - Auckland

LIVING ENTITY COMMUNITY STRUCTURING

Project Twin Stream is an umbrella name for numerous initiatives centered on two streams, in the former Waitakere City Council area of Auckland. The project involved the relocation of 78 homes on the flood plain of the Opanuku and Oratia streams flowing from the Waitakere Range.⁴⁸

Expressions of Twin Stream Project

This content is unavailable. Please consult the figure list for further information.

Fig 30. Community Engagement 1

This content is unavailable. Please consult the figure list for further information.

Fig 31. Community Engagement 2

This content is unavailable. Please consult the figure list for further information.

Fig 34. Millbrook Edible Garden

This content is unavailable. Please consult the figure list for further information.

Fig 35. Community Engagement 3

This content is unavailable. Please consult the figure list for further information.

Fig 29. Twin Streams Project Principles

This content is unavailable. Please consult the figure list for further information.

Fig 32. Twin Streams Re vegetation Before

This content is unavailable. Please consult the figure list for further information.

Fig 33. Twin Streams Re vegetation After

This content is unavailable. Please consult the figure list for further information.

Fig 36. Twin Streams Project Overview

Housing relocations were undertaken as part of the dual stream restoration to achieve a range of benefits, including improved flood control and ecological health. The vacated properties made way for storm water management reserves to absorb flood waters and reduce flood risk in the surrounding urban area. They also created an enhanced recreational and ecological asset for the community. What is key, is how the project established community leadership and governance. Local communities ultimately lead aspects of how the project runs and develops⁴⁹. Relevant to this research is how the project goes about acknowledging the breath of the living entities (streams) in giving them more spaces, yet also, how the project creates and cements relationships within and for the community. The shared acts of doing and direct engagement is inspires ideas for Plimmerton. The project is driven by an ethic and practice of inclusiveness rather than rules or the form of a ‘design’. At its forefront

are key objectives that act as values to ‘order’ the project. Furthermore, it prevails against the more common habit of solution-driven design priorities. This prompts me to wonder about the value of master planning and form driven designing of shared (public) spaces. Not only does this project question habitual tools of representation within landscape design, but it demonstrates the importance of relationship-making by way of affective encounter, but also the community.

48. Knight, “New Zealand Rivers”
49. Project Twin Streams, “Community”

Fig 29. Twin Stream Project Principles, *Waitakere City Council*. 2006. *Auckland*, <http://projecttwinstreams.com/wp-content/uploads/2012/10/Evaluation-Framework1.pdf>
Fig 30. Community Engagement 1, *Unknown*, <https://projecttwinstreams.com/where/henderson-creek/>
Fig 31. Community Engagement 2, *Unknown*, <https://projecttwinstreams.com/where/opanuku-stream/>
Fig 32. Twin Streams Re Vegetation Before, *Unknown*, <https://www.aucklandmuseum.com/discover/stories/blog/2017/marker-mayflies>
Fig 33. Twin Streams Re Vegetation After, *Unknown*, <https://www.aucklandmuseum.com/discover/stories/blog/2017/marker-mayflies>
Fig 34. Millbrook Edible Garden, *Kquill*. 2012. *Millbrook*, <https://buhaynzpinay.blogspot.com/2012/>
Fig 35. Community Engagement 3, *Unknown*, <http://www.communitywaitakere.org.nz/index.cfm/about-us/community-waitakere-team/>
Fig 36. Twin Streams Project Overview, *Project Twin Streams*. 2019. https://static1.squarespace.com/static/5aebd0c5365f022d58ade961/t/5de074b136c6c83d60746ab2/1574991050424/Project+Twin+Streams+Final_compressed.pdf

Cooks Beach.

LIVING ENTITY COMMUNITY STRUCTURING

Cooks beach is a small popular coastal settlement on the east coast of New Zealand. What is unique about the coastal front housing arrangement, is the lack of boundaries i.e. fences creating separation between neighbours - that is neighbours being either house or dune or park etc. Although each property has council legal markings, due to the shifting nature of the dunes and the organic movement of the vegetation, the cadastral boundaries are constantly blurred. Hence the formal separation between public and private space on the coast side is never fully certain. Furthermore, due to the lack of clear boundaries between the houses, vegetation creates a role in negotiating each other's "space". This inbetween space prompts my consideration with respect to an investigation between the urban and living entity at Plimmerton - how could this space be negotiated with vegetation?. Perhaps small interventions around blurring boundaries could begin to create a step forward into the community accepting uncertainty?

Fig 37. Informal Path

Fig 38. Dune Paths

Expressions of Cooks Beach

Fig 37. Informal Path, Holidays Houses. *Unknown*, <https://www.holidayhouses.co.nz/listing/6189>
Fig 38. Dune Paths, *Beach Weddings*. <https://www.beachweddings.co.nz/wedding-packages/cooks-beach-wedding/>

PRECEDENT REVIEW

REFLECTION.

Reviewing the given precedents as a study of practice has generated approaches and ethics with regards to how to encounter and engage such uncertain terrain, as they each provided insight on different levels of submaking and resulting in new relationships and values. The following outlines ways in which this review of precedents has served to propel the research to engage with uncertainty within landscapes:

- The research is shifting towards is to catalyse an attunement to affect.
- That process or method elevates above form making, allow to shift thinking.
- Patience is a virtue. Rushing things creates design disaster.
- Stop, and breathe and look around you what is working in the landscape.
- It is ok to turn to the banal e.g Cooks Beach. Simple yet affective
- Speculation is ok, it is what the receiving end more exciting.
- Allow yourself and the landscape to create knowledge together.
- Landscape practice may not need to have direct masterplan focus, can it be represented in other forms – art?
- Design does not need to be complex, simple processes and methods can go a long way
- A great level of knowledge of your situation can excel far more
- Adding to the already uncertain creates excitement

Not only has this study illuminated an opportunity to query the role of design tool representation in landscape architecture practice, but also the role of how representational affects can employ design behaviour. With allowing the precedents to unfold from different environments of practices and locations, it assisted in sharpening my orientation that there is a way in to work with the uncertain, but it comes down to what the values are you are mining for. Furthermore, it suggests being subjective to my approach. All of the prevailing projects challenge that final design is not the bear all end all, but perhaps operative concepts or values are more suitable and beneficial for the nature of this research.

Expressions of all Precedents.

LITERATURE + PRECEDENT REVIEW

EXPERIEMNT

I find being able to sketch out a feeling or affect in quick diagram, encourages and refines engagement to allow more meaningful personal reflection with the precedents value. This exercise glosses somewhat fine detail to focus upon the various values within the studies that have resonated. Whilst these physical drawings are not overtly ‘useful’ in regards to furnishing the research question response, they open my capacity to exercise and expand the inner reflections preceding reading and research.

The layering of the affective sketches allowed me to visually represent the overlappinness of selected topics and themes across both precedent and literature. It created an ability to develop a certain narrative within the research method without a didactic language. Aligning with the research object, *uncertainty*, this abstract approach allowed me to ‘map’ a field of literature by way of sense.

LITERATURE REVIEW

PRECEDENT REVIEW

THE SITUATION.

ABSTRACT.

ACKNOWLEDGMENTS.

TABLE OF CONTENTS.

INTRODUCTION.

LITERATURE REVIEW.

PRECEDENT REVIEW.

THE SITUATION.

GROUNDING.

EXTENDING.

HOLDING.

CONCLUSIONS.

THE SITUATION.

DYNAMICS

Landscape dynamics refer to every change that occurs in the physical, biological and cognitive dimensions of a landscape. The land is a by product of its own agency, driven and intermingled by external perturbation or internal perturbations.

External perturbations:

- eruptions, earthquakes, erosion, extreme climate events, fires, and human intrusion

Internal perturbations:

- physical flows of matter and energy, succession, population fluctuations, and community turnover

Land dynamics thus involves properties of the landscape such as stability, persistence, resistance, resilience, and recovery, that operate along a broad range of temporal and spatial scales.

It is difficult or impossible to separate one moving aspect from another as they all overlap or interrelate. The dynamics of the landscape present a complex conversation. This complexity of processes occurs at different scales where all living entities, whether individual or collective respond to environmental constraints. Acknowledgment of landscapes complexity suggests a starting point. It is important for the context of this project to be able to recognize and come into a conversation with the various yet constant major and minor dynamics of the landscape.

A NOTE FROM THE AUTHOR:

When trying to understand the dynamics of the landscape it become a messy complex situation. Thus it sparked a question of how can we just focus on one areas when all aspects are important?

I did many variation of this throughout the research and i came to the conclusion that not one is superior to the other, different variances of each aspect is apparent different times.

THE SITUATION.

THE SITE - JOURNEY THROUGH 24/7 TIME

What follows is a section that displays general desk analysis. Although the information is general it is also relevant. Due to the expansive nature of the site Desk analysis I was able to scope out scales that could not have emerged being directly on site.

As communicated in the Presence of the Place in Chapter one, Place Norton has undergone various geological, and spatial changes across its existence. Beginning to unpack and translate these movements through own expression of understanding, creates an insight into moving away from general homogeneous desk analysis but to one with representation of affect through manifold time. Thus the drawings are not of harmonious representational nature but one of expression of affect.

The sequencing of this section is of no particular order but of the order it revealed / emerged itself through the time of this research. Jumping in and out of scales and time frames allowed me to consistently change scale thought.

THE SITUATION.

SIMILAR RECONCRETUCTIONS

The following coastal water bodies in the Wellington region are determined from sediments accumulated in the last 7000 years.¹ Each water body is located between two major, active fault lines and all have been inlets of the sea at some time in the past. What as been learned from looking at similar sites with similar dynamics, was that through the tool of drawing and sketching out the different movement it has had over time allowed me to familiarize myself with patterns of geological and hydrological shift / direction of movement.

1. Adkin, "Porirua Harbour"

OKUPE LAGOON

Okupe Lagoon
Old Beach Sediments
Modern Beach

Predominantly Open Lagoon
-1270 - 550 BC

Predominantly Closed Lagoon
Ephemeral Waterbody
-550 BC - 910 AD

Permanently Closed Lagoon
Permanant Waterbody
-910 - 1370 AD

Permanently Closed Lagoon
Favourable Phase
-1370 AD to present

500m

LAKE KOHANGAPIRIPIRI

Crest of Oldest Raised Beach
Modern Gravel Road
Beach Sediments

Predominantly Closed Lagoon
-5500-4810 BC

Permanently Closed Lagoon
-4810 - 3260 BC

Permanently Closed Lagoon
Deep Phase
-3260 BC - 30 AD

Permanently Closed Lagoon
Litoral Phase
-30 AD - present

100m

THE SITUATION.

WHY PLIMMERTON

What I have learned thus far about Plimmerton and much like the majority of Porirua and Aotearoa, our urban environments and settlements have this dualism approach, we have become a society of lines and edges. Plimmerton is a landscape rich in dynamics yet the urban grain is very much divided, your land my land, through roads, fences, having a sense of permanence. Plimmerton provides the perfect site to experiment with as it is rich in dynamics and of uncertain nature but also it is a site that I can easily visit time and time again. I have also experienced the major floods that occurred at Plimmerton and have seen the impacts such uncertainty has on its environment. Furthermore with Plimmerton under rapid growth and a growth strategy plan in place of the foreseeable future, Plimmerton is the best suited site.

Water colour painting, showing a different expression of contours within Plimmerton. Each colour represent 10m

INLAND KAIKOURAS
MT COOPER
BRIDGE PT
MARLBOROUGH SOUNDS DISTRICT
MUNAJI
MOUNTAINS OF WESTERN NELSON

Scale
1/2 mile

INLAND KAIKOURAS
MT COOPER
BRIDGE PT
MARLBOROUGH SOUNDS DISTRICT
MUNAJI
MOUNTAINS OF WESTERN NELSON

Evolution of Porirua coast-line.
A young drowned coast, caused by
the drowning of Pahautanui - Porirua
Valley System

Evolution of Porirua coast-line.
A submature coast, resulting from the
cliffing of the headlands and the closing
of the embayments by spits of shingle (or
detached beaches). The complete filling
of the embayments with deltaic deposits
and the formation of the outer shingle
spit at "The Narrows" took place towards
the close of this stage

Evolution of Porirua coast-line.
An uplifted coast. 1855 earthquake
produced the raised shore platform
(shown by irregular line along the
shore), inland cliffs, and uplifted
beach-ridges which form conspicuous
features of the present coast line

	Catchment Name	River Name	Area / Sqkm	Catchment Predicted Streams
1.0	Coast	Plimmerton / Kapati Coast	13.0	Coast Taupo Stream
2.0	Taupo	Taupo Stream	8.0	Taupo Stream
3.0	Kakaho	Kakaho Stream	14.0	Taupo Stream Horokiri Stream Kakaho Stream
4.0	Horokiwi	Horokiwi Stream	41.0	Horokiri Stream Whakatikei River Wainui Stream Pautahanui Stream
5.0	Pautahanui	Pautahanui Stream	163.0	Pautahanui Stream
6.0	Duck	Duck Creek	10.0	Duck Creek Pautahanui Stream Kenepuru Stream Korokoro Stream
7.0	Porirua	Takapu Stream	8.0	Korokoro Stream
8.0	Porirua	Porirua Stream	31.0	Korokoro Stream Porirua Stream Kenepuru Stream Ohariu Stream Mitchell Stream
9.0	Coast	Porirua / Titahi Bay Coast	51.0	Porirua Stream Takauwahia Stream Makara Stream Coast

SEA LEVEL RISE - EXTREME 2.4M RISE

Expressions of Movement of
Flood and Sea Level Rise

FLOODING - 1 IN 100 FLOOD

NOW

LIFE CYCLES PRESENT AT TAUPO SWAMP

HABITATS - VEGETATION

Cabbage Tree Cordyline australis
Harakeke Phormium tenax
Raupo Typha orientalia
Toetoe Austroderia toetoe
Bracken Fern Pteridium esculentum
Manuka Leptospermum scoparium
Mahoe Melicytus ramiflorous
Swamp nettle Urtica linearifolia
Swamo buttercup Ranunculus macropus
Rautahi Carex geminata

SPECIES - BIRDS

Australian bittern Botaurus poiciloptilus
Marsh crake Porzana pusilla affinis
Spotless crake Porzana tabuensis tabuensis
Grey warbler Greygone igata
Kingfisher Todiramphus santus vagans
Little shag Phalacrocorax melanoleucos
Paradise shelduck Tadorna variegata

SPECIES - REPTILES

Brown mudfish Meochanna apoda
Giant kokopu Galaxia argenteus
Banded kokopu Galaxias fasciatus
Inanga Galaxias maculatus
Longfin eel Anguilla dieffenbachii
Shortfin eel Anguilla australis
Redfin bully Gobiomorphus huttoni
Common bully Gobiomorphus cotidianus
Giant bully Bobiomorphus gobiodes
Bluegill bully Bobiomorphus hubbsi
Common smelt Retropinna retropinna

SPECIES - REPTILES

Raukawa gecko Woodworthia maculata

NAIONALLY THREATENED AND AT RISK SPECIED AT TAUPO SWAMP

AT RISK - DECLINING

FRESHWATER FISH

Longfin eel Anguilla dieffenbachii
Giant kokopu Galaxia argenteus
Inanga Galaxias maculatus
Bluegill bully Bobiomorphus hubbsi
Redfin bully Gobiomorphus huttoni
Brown mudfish Meochanna apoda

PLANTS

Swamp nettle Urtica linearifolia

AT RISK - RELICT

BIRDS

Marsh crake Porzana pusilla affinis
Spotless crake Porzana tabuensis tabuensis

THREATEND

BIRDS

Australian bittern Botaurus poiciloptilus

PRE HUMAN ECOSYSTEMS

The singers and rogers classifciation of pre-human ecosystems in New Zealand indicates that three ecosytem typs were present within the KNE site

FLAXLAND

RAUPO REEDLAND

KOHEKOHE-TAWA FOREST

TAUPO SWAMP EDGE

Longfin eel

Redfin bully

Brown mudfish

Banded kokopu

GROUNDING.

ABSTRACT.
ACKNOWLEDGMENTS.
TABLE OF CONTENTS.
INTRODUCTION.
LITERATURE REVIEW.
PRECEDENT REVIEW.
THE SITUATION.
<u>GROUNDING.</u>
EXTENDING.
EPHEMERAL HOLDING.
CONCLUSIONS.

GROUNDING.

EMBODIED ENCOUNTER WITH THE SITE

What I have learned thus far about Plimmerton and much like the majority of Porirua and Aotearoa, our urban environments and settlements have this dualism approach, we have become a society of lines and edges. Plimmerton is a landscape rich in dynamics yet the urban grain is very much divided, your land my land, through roads, fences, having a sense of permanence. However, the public space planners include into our landscapes are an attempt to operate against this, but really it is just another drawn out line enforcing if not more, a society of lines and edges. With Plimmerton area under rapid growth and a growth strategy plan in foreseeable future, this could assist in altering their approach.

BREATHE.

GROUNDING.

HIKOI

Fieldwork helps to see the landscape as dynamic; we might register the epiphenomena of change on first landing, or perceive patterns and trajectories of change through return visits.

As the site is part of the Te Araroa, there was an urge to

To ground myself in this place I felt it was essential to become familiar with 'on the ground life' at Plimmerton. Furthermore as the site is part of the Te Araoa Track there was a further urge to get on the ground. Thus, the beginning of this grounded started with a Hikoi. A hikoi seemed relevant as is it not pressured by time and a way of walking with the landscape.

MOUTH OF THE STREAM. - STREAM SIDE.

MOUTH OF THE STREAM - OCEAN SIDE.

Taupo Stream

Pummerton Coast.

Taupo Swamp.

TE ARAROA Walkway Along Taupo Swamp.

CURRENT WAYS OF ENCOUNTER.

PROPOSED WAY OF ENCOUNTER.

AUTHORS REPONSE TO PLIMMERTON

A one line drawing evokes historical events, journeys and self experiences all emerging from one continuous line, attempting to juggle a present tale and the depth of history, a rich dynamic landscape.

I felt there was a challenge to how can one attempt to create a dynamic looking map that goes against the power of separating a ~~line~~ line. This drawing was pure freedom.

AUTHORS RESPONSE TO PLIMMERTON

This sketch is an initial reaction to how I responded to the site from coast to upper Taupo swamp.

During the process of creating this sketch it came apparent that there were four different section within the stretch all of which has some kind of separation between human and "nature" - a bifurcation affect.

MOUTH OF THE STREAM. - STREAM SIDE.

MOUTH OF THE STREAM. - STREAM SIDE.

MOUTH OF THE STREAM. - STREAM SIDE.

MOUTH OF THE STREAM. - STREAM SIDE.

MOUTH OF THE STREAM - OCEAN SIDE.

MOUTH OF THE STREAM - OCEAN SIDE.

MOUTH OF THE STREAM - OCEAN SIDE.

MOUTH OF THE STREAM - OCEAN SIDE.

TAUPO STREAM.

TAUPO STREAM.

PUMMERTON COAST.

PUMMERTON COAST.

TE ARAROA WALKWAY ALONG TAPO SWAMP.

TE ARAROA WALKWAY ALONG TAPO SWAMP.

GROUNDING.

EMBODIED ENCOUNTER WITH THE SITE REFLECTION

Given the complexity of everything, I found myself often being overwhelmed or lost in this process and the question was how do I carry on and finding limit conditions for myself in order to structure the complexity. What became evident was the importance of understanding the area from a geological scale and on the ground scale simultaneously.

However this is only one way of doing this, there are many others but this is what I have chosen to do.

During this phase began to raise a question around some our terminology we tend to use within our discipline. The word edge was something that continuously played on my mind, what does edge really mean? What is an edge? When does an edge start and stop.

Following on from this conversation around “edge” came further thought around how important the was we communicate / “draw” our work and the terminology that comes with this too.

This thinking allowed me to mobilize into the next stage of testing.

LINES

A line creates certainty - when the line is compromised we have “disturbances”

After unpacking and understanding my own understanding of an edge what time speaks realizing the way we represent these constructs are through line. However we tend to disregard that the line is temporal and in the true landscape when we create drawings we are creating a singular snapshot of time, disregarding the external elements.

Thus it is important for me to note that I am acknowledging that these lines I am drawing are temporal and acknowledging this is already a step in to being open about a temporal process and less static..

TIME

the indefinite continued progress of existence and events in the past, present, and future regarded as a whole.

Thus far through the progress of the situation, and grounding, the project brings to light the importance of time. What surfaces is not 24/7 urban time but manifold time.

EDGE

edge is a arbitrary form - it consists of constant folding

Extending.

ABSTRACT.

ACKNOWLEDGMENTS.

TABLE OF CONTENTS.

INTRODUCTION.

LITERATURE REVIEW.

PRECEDENT REVIEW.

THE SITUATION.

GROUNDING.

EXTENDING.

EPHEMERAL HOLDING.

CONCLUSIONS.

SUBMAKING.

This phase sets forth various drawing experiments employing the method of submaking. Here I work through knowledge bought about from Grounding in the sited situation. The experiments aim to bring site dynamics to the forefront and challenge preconceived intentions or desires are showcased. The experiments involve time across different scales.

The experiments do not aim to conclude with any intended design outcome, but rather give discover how tools, concepts and values may be extracted from certain conditions of this phase. Furthermore it is important to note that the duration of this process is to be given no end time factor. Sporadic critical reflection is fundamental to this process.

A NOTE FROM THE AUTHOR:

These series of images were taken on a journey through areas of Wellington prior to the following set of experiment. They represent the landscape trying to have dialogue with its environment. This small exercise was a level of encounter to become open to not seeing imperfections in the landscape. Some see it as a mess, or failed design, or requiring maintenance, yet in my eyes I see it as the landscape voice is larger than ours as a human. This mobilizes an intention of needing to work with the landscape rather than against. If we know these breakthrough are going to happen how can we mobilize this further into our designs or methods. A small discovery, yet holds such large positioning.

This drawing relates back to the grounding phase of understanding how edges can be seen. This set of drawings raised awareness to not only how the movement of water blurs boundaries created on land, but also blurs boundaries within drawings. Observing the impacts of wetness in the drawings I ask can such movements be translated into design itself?.

SCHEMATIC STRUCTURE OF AN ESTUARY

As stated in 'The Situation', Plimmerton is constituted by an estuarine condition. Here dynamics that are at play through an estuary are illuminated. Although Plimmerton is not visibly showing the estuary to the everyday, the scenarios of flooding and disasters are what communicates this movement. Can such movements catalyse adaptive design, rather than preconceived tools of fixture?

- Erosion
- Deposition
- Dynamic
- Time
- Transitional
- Temporary

DEPOSITION.

DYNAMIC.

TIME.

EROSION.

TRANSITIONAL.

TEMPORARY.

DEPOSITION.

DYNAMIC.

TIME.

EROSION.

TRANSITION.

TEMPORARY.

MATERIALITY MODELING

Materiality could be referred to as the metaphysical reality of matter as alive. It is both possessed by force yet alive with its own vibrancy. This set of experiments mobilizes the dynamics conditions of the estuary being, Time, Erosion and temporality. Its important to note that this test trials the imposition of design to see how the surrounding environment responds. What follows are a series of variations of model testing over a time period of 8 months, entering almost all seasons.

TAUPO SWAMP MATTER

PLIMMERTON BEACH SAND

CONCRETE MIXTURE

MODEL METHODS

The material that is used through these model testing are:

- Concrete
- Taupo Swamp Matter
- Plimmerton Sand
- Plimmerton Seaweed / Rocks

Each model has a different variant of how the matter is mixed and poured into cast. The beauty of this experiment is using material from site and challenging it against the hard dominating concrete. 6 Models were experimented with.

1.0

- Matter placed first and concrete second - No external mixing
- 60% Concrete 40% Matter
- Swamp matter quickly eroded with rain yet remnants of plant life remained
- Obvious erosion occurred

2.0

- 70% Swamp Matter 30% Concrete
- 50% was pure material 50% was mixed together
- Matter eroded almost entirely remaining separate pieces
- Significant erosion occurred

3.0

- 40% Concrete 60% Swamp Matter
- Both materials were mixed together before pouring.
- Overtime model has changed colour and created habitats for certain organisms
- Model is very fragile yet intact despite being exposed to external conditions
- Little erosion occurred

4.0

- 70% Concrete and 30% Sand
- Sand was placed before concrete
- The stones in the mixture created interesting textures for possible organisms to grow
- Obvious erosion areas occurred

5.0

- 60% Concrete and 40% Sand with large stones and seaweed matter
- Sand was placed before concrete
- The stones in the mixture created interesting textures for possible organisms to grow
- Obvious erosion areas occurred

6.0

- 50% Concrete and 20% Sand and 20% Swamp Matter
- All matter was mixed together and poured.
- Areas where sand and soil were near each other create air pockets resulting in small holds in the model.
- The holes created environments for organisms
- Little erosion occurred

OCTOBER 2020

MARCH 2021

MATERIAL TESTING - MODEL

This experiment allowed me to work with material and form, but allow the uncertainty of the environment that is placed in to create the ongoing change in form. What was interesting was when creating the individual mixtures for each model my mind was beginning to fall back onto prevailing mindset of thinking what the outcome may be. Yet, due to the nature of uncertainty the environment challenged my preconceived ideas and created outcomes that I did not see coming. Seen in model 3.0. The experiment became vulnerable to its environment.

This experiment brought patience to the forefront. It reflected the importance of time through the evolving models.

What has been tested and brought to light is that one material or surface is not more superior to the other e.g. concrete vs. landscape matter. All elements are invited and it is the level of vulnerability that each of the materials have to the surrounding environment will showcase the forms it may become.

What this experiment can challenge in design terminology is possible path structures or 'boundaries' as when the environment takes over it blurs the edges to fit in with the surrounding context.

As the nature of this research has an element of speculativeness to it, getting dirty with material and physical modeling allowed me as a designer to really focus on the importance of process.

Weather is a valuable reminder of change. It reminds us as humans of the changing nature of matter and the eventual dissolution of a body.

VARIATION OF ENVIRONMENTS

Derosmon.

DYNAMIC.

TIME.

EROSION.

TRANSITIONAL.

TEMPORARY.

LIVING ENTITY PLAY

As the overall condition that mobilizes this experiment is of the estuarine movements, this experiment of living entity play proposes more of a focus towards the dynamics of the spit movement that was also once present at Plimmerton.

What follows are a combination of sketch and physical model experimentation.

LIVING ENTITY PLAY

The following drawings are sketches / iterations of possible play with water movement and deposition that occurs within Plimmertons living entity's. They explore how water interacts with possible structures. Can structures in a living entity create spit like environment.

Each of the sketches experiments with different positions and spacing and size of structures and speculating how water may move through it. If these structures were situated within Taupo Stream could they begin to create an organic like structure within a linear environment.

LIVING ENTITY PLAY

Here the previous sketches are translated into physical model testing. The previous sketch held a level of speculation however, creating a flume like structure enabled me to explore the hydraulics of water flow over a rough or flat bed.

Through this experiment the movement of long shore drift, erosion and deposition became apparent. Deposits were being made behind the structures creating possible new mounds within the course of the living entity.

REFLECTIONS.

LIVING ENTITY PLAY

What surfaced through this experiment of living entity play was the ability to actually step out the way as a designer and let the movement of the landscape take over and continue designing / playing with the scenario. Through the experimentation of drawing and modeling was the level of speculation able to lessen. The craft of modeling scale became significant factor as the variety of scales that were worked with resulted in different outcomes of speculation.

DYNAMIC.

TIME.

TRANSITIONAL.

TEMPORARY.

DANCING WITH PLANTING

As the overall condition that mobilizes this experiment is of the estuarine condition, this experiment of dancing with planting proposes more of a focus towards a particular organism within this system. Here planting is used as it is consistently engaging uncertainty yet also able to adapt to its environment.

What follow are a combination of sketch, and digital diagrams that engage the movements of planting, the dynamic quality, time, Transitional and temporary qualities.

Ontology is the nature of being. As beings we are told knowledge but no one tells us how to sense, we do it involuntary. The body, whether it be human, flora or fauna can sense. Michael Marder, a philosopher, helps ground this concept of time that Johnathan discusses and relate it to the discipline. A plant has DNA that changes over time to which we also share this DNA with the plant as it has the same discontinuities that we have. The ability to talk about plants is biological from the domain of science and the domain of aesthetics. Plants and people are also weird, both in their own interest and rationale for doing things. They influence their environment and they inhibit growth of some species and encourage growth in others. They are far from being mute⁵⁰. This is where the discipline of landscape architects tends to neglect this relationship we have and ignore the celebration of shared knowledge. Marder brings attention to the idea that in a way our animalist centric account for life hasn't given the plants the adue as willful organisms and this suggests that as a discipline there is opportunity here to change this.

Having this new exchange of thinking explodes the singular meaning or separation.

50. Marder, "Plant Thinking"

DANCING WITH PLANTING

Below shows the direct force and dominance we have in the landscape. When planting begins to get out of control is when conversation around the subject begins to heighten. As humans we choose override and to direct maintenance through certain scales but why, so we can create more lines of separation in our environment? What would an environment look like if we were in dialogue and dancing with planting, not maintaining it or overpowering it.

SPATIAL ANALYSIS AT PLIMMERTON

DANCING WITH PLANTING

This design phase tests design with removing any privileged users, instead scripting an introduction and letting the space be co written. This exploitative design scenario becomes negotiation between user and the land – having a indirect conversation with each other, what either of their next move may be. What is stimulating thorough this investigation and testing is the question around space making. The following plants are what are found within the area, thus using these species as a design tool.

- Cabbage Tree Cordyline australis
- Harakeke Phormium tenax
- Raupo Typha orientalia
- Toetoe Austroderia toetoe
- Bracken Fern Pteridium esculentum
- Manuka Leptospermum scoparium
- Mahoe Melicytus ramiflorous
- Swamp nettle Urtica linearifolia
- Swamo buttercup Rananculus macropus
- Rautahi Carex geminata

174CM

A small study began to surface of re directing the normative perspective of being human orientated towards what if the perspective was from other perspectives, such as a eel or duck...

DANCING WITH SHADOW

A follow on study / experiment from dancing with planting is from the shadows it creates. Shadows are a element of stability somewhat - shadows are always going to appear but it is the extent of shadow that is uncertain. As foregrounded in the grounding phase shadow can shift peoples desired path of journey.

As the dynamics of an estuary change with tidal movements it also orientates the movements of users interactions. Low tide = more land to move on.

Can the same be said for shadows?

This experiment tests arrangement of different vegetation and its shadows vs. how a user may change walking through the space.

Shadows can have a layering quality to them, which can give further affect into the distance the user chooses to move itself from.

REFLECTIONS.

SUBMAKING

What has surfaced through this phase of submaking is a consequential trajectory that both shapes and is shaped by its environmental forces over time. This understanding makes it possible to create a new medium of using form and process to manifest design.

Through an open engagement of using form and process it has created a new medium. The new medium takes process and given form and blurs the boundaries of each.

It showcased freedom of collective and/or individual expression. All of the preceding experiments created a connection through theatre of nature's dynamics and the earth's substrate. However, some experiments valued stronger than others and taught more valuable lessons. It is also easy to distinguish which experiments fell back onto some prevailing design characteristics and were less attuned to uncertainty. This is showcased in the final experiment of growth as it is less so about process, and more about the process narrative reflection.

What was elevated in the first two experiments was the ability to take a step back and let uncertainty take its course. Perhaps the first experiment of models may not directly be able to be applied to a physical design, but it is of value to see what process can be.

Holding.

ABSTRACT.

ACKNOWLEDGMENTS.

TABLE OF CONTENTS.

INTRODUCTION.

LITERATURE REVIEW.

PRECEDENT REVIEW.

THE SITUATION.

GROUNDING.

EXTENDING.

HOLDING.

CONCLUSIONS.

Holding.

This phase of Holding brings together all the preceding chapters of knowledge production and expresses this through further experimentation of representational style. A phase such as this would typically translate to conventional drawings of design principles, master plans and renders to show case what the site is to look like. However here in this case of holding, this is not what occurs, yet it challenges against such conventional way. As values seem to be a common emergence through this research, what follows is how they could be represented.

VALUEPLAN.

VALUES

Listen. Allow open dialogue...

Script and introduction and let the rest be co-written...

Invite and layer with materiality of time...

Seek the possibility between emotion and knowledge...

VALUES

Mauri

It is me it is my uniqueness

It is our life force

Wairua

Spiritual well being.

A sense of well being.

Whanaugatanga

A sense of belonging

Connections

Mohiotanga

Sharing of information

Building on knowledge / learning new

information

RESPONDING TO THE UNCERTAINTY OF PUMMERTON THROUGH VALUES ..

HOW TO INCORPORATE IT...

Everything has a life force. Treating every
living thing with respect.

A connection to whenua, ngahere, moana,
muanga, awa

Encouraging whanau involvement.

Knowledge, teach others new perspectives
of doing

VALUE PLAN.

The value plan translates as a visual representation to my finding of learning how to engage uncertainty.

Through this research the value plan showcases all the discoveries and reflections that have been made relevant through the entire process and summarized into one plan. Although the plan looks of static nature, the layer qualities both this and the physical copy has speaks of refinement and clarity to such a complex place. Furthermore it holds a performative representation of the jumping in and out of different representational styles. With a combination of scales and perspectives of the plan allows the viewer to create a position on how I have encountered and reflected of the site, engaging with originality.

The top thick line represents the separation of urban and landscape, a separation of design to landscape. As the line follows it enters the Edy of Plimmerton, this is where the encounters emerged itself. Encounters of seeing history, embodied encounters and reflections were made here. As I began to open up to seeing affect through Plimmerton could i only then begin to understand the uncertainties the site offers.

Through out the messy yet focused method of sub making did qualities of design values surface.

As it was made clear throughout the The situation and Literature that turning to Maori values is one of key importance in the landscape. Not only were the English Values surfaced but alongside were Te Ao Maori values that also surfaced as turning to them for further guidance and agency for the English Values.

The water colour on the right translates to the movements / dynamics that the scenarios could stem from.

NORMATIVE SCENARIO

planning, plausible futures are identified, criteria for preferable futures are developed, and then planners backcast pathways for guiding the current situation toward the desired state

EXPLORATORY SCENARIO

final narratives are less important than the process of working through possibilities and drivers of change, which lets planners probe the future change of volatile, complex systems, often exposing blind spots in their thinking

Scenarios do not predict the future, but they can illuminate pathways by which divergent futures might come into being.

SCENARIOS.

The research suggests that scenarios are better suited to display given values, as the values still hold a level of speculation. Scenarios are used here as a level of grounding uncertain designs into the landscape.

Discovered back in the Grounding Phase, much like the movement of an eddy from a estuary condition, the way people move through is also of similar dynamics - a stand out is the Te Araroa Walkway. Thus this eddy location in the Heart of Plimmerton is where I have chosen to implement design scenarios.

It is this area that hold consistent flux of people moving through, nonhuman moving through but also this is where the most geological and hydrological dynamic occur. Thus this is a good area of scenario representation.

The scenarios stem from experiments testing in the Submaking phase, but now is where they begin to express themselves in a possible site.

POSSIBLE SITE LOCATIONS FOR SCENARIOS.

Geological Movement
+
Water Movement

the eyes of the eel.

the eyes of the tui.

1.0 INFLUENCED FROM LIVING ENTITY PLAY
EXPERIMENT IN PHASE EXTENDING

Vegetation Movement
+
Water Movement

2.0 INFLUENCED FROM DANCING WITH PLANTING
EXPERIMENT IN PHASE EXTENDING

Vegetation Movement
+
Water Movement
+
Geological Movement

3.0 INFLUENCED FROM MATERIALITY MODELING
EXPERIMENT IN PHASE EXTENDING

THE EYES OF THE EEL.

Plimmerton Domain

1.1

Max High water level

Average water level

Low water level

Ulric Street

CHANGES OVERTIME.

SCENARIOS.

Here demonstrates how the design scenario may change over time in regards to movements from the living entity. It represents erosion, deposition and temporality. Over time the original design intention slowly shifts away and the organic movements of uncertainty and estuary conditions begin to take over. Shifting in how users may choose to interact. The time that these diagrams represent speculate 50 years, yet there is an intention not to put a time stamp on them as they will evolve when they are ready to evolve.

Build up of deposition behind posts

Over time the deposition has created earth like mounds. Challenging the human to engage or not. Yet for the Non human creates a new habitat.

THE EYES OF THE TUI.

1.2

SCENARIOS.

Each of these pages represent scenarios that have undertaken the values displayed in the value plan and imagined into design scenarios. They example exploratory scenarios that hold value in the method that was used to make these interventions as well as hold value in the receiving response. These two images represent Scenario 1 of 3. The representational tools used communicating scenario 1.1 and 1.2 are to prevail against normative design renders. They challenge the dominance of human in most renders as these come from the eyes of other organisms, e.g. eel or tui. They also allow the viewer to perceive

the scenario through wide perspective, close perspective, section and in plan, all drawings are in dialogue with another. The organisms that are selected were from findings back in Chapter Four. The design that these scenarios hold engage the experimentation pulled from Chapter Five of through the method of Submaking.

THE EYES OF THE SKINK VS. SEAGULL.

1.3

REFLECTIONS.

The outcome of this design phase ties in the discoveries and findings across the preceding chapters of literature, precedents, grounding and extending.

How this phases mobilized this research agenda of engaging uncertainty is the phase of holding all stems from new insight and new emergence through representation techniques that encourage uncertainty to become the focal point.

A key implementation of this experiment is that the values that are represented in the plan perhaps still suggest to be too open to a viewer or designer who is still stuck in traditional conventional ways. However, in saying this designers who have undergone embodied encounters with the site and are attuned to affect, light and direction will be seen in this plan.

Conclusions.

ABSTRACT.

ACKNOWLEDGMENTS.

TABLE OF CONTENTS.

INTRODUCTION.

LITERATURE REVIEW.

PRECEDENT REVIEW.

THE SITUATION.

GROUNDING.

EXTENDING.

HOLDING.

CONCLUSIONS.

PROLOGUE - LIVING ENTITIES...

I knew, you knew, we all knew.

We have come conscious

We are vulnerable, we are open, we are patient

We agree

We listened, we saw

We had dialogue

We learned. We keep learning

We are one

In endless motion we dance, we are here

AUTHORS OWN

CONCLUSIONS. REFLECTIONS.

Through approaching the dynamics and complexities of spatial inquiry in an uncaded landscape via embodied encounters, this performative design research asked the question,

What happens to the practice of landscape design when uncertainty is embraced?

Reflecting on this research journey brings three overarching dimensions into light that shape an engagement with landscape uncertainty.

1. how a designer encounters the site translates into design practices, and allowing vulnerability into site study opens the movement of affect within encounter;

2. the choice of tools used for discovering, testing and representing findings impacts what and how of living landscapes can be seen;

3. design itself must become a response to the inevitable but sometimes subtle changes occurring in the receiving environment and this requires patience - or attendance to the 'time of the landscape'

These three broad points are suggestive of an ethics of design, that is an orientation grounded in respect for all forms of life.

Through exploring submaking actions of feet on the ground, hands in play and mind open, the research tested the ability to embrace landscape uncertainty and allow it emerge as characteristic of the site. This methodology, which drew on performative ways of thinking, was appropriate as it bought the experience of manifold times throughout the entire research process. The design process and discoveries were therefore open to the overlapping and messy nature of the experimenting. Furthermore, the methodology encouraged emergence of whatever that may be, being emergence of representational style, emergence of new language, emergence of more landscape uncertainty.

The tools and discussions that emerged from the submaking methods provided the means to challenge landscape design tendencies that impose known and habitual patterns on the landscape, in this way focusing uncertainty within design practice provoked an alternative way of doing landscape design. Hence this research has initiated an experimental and introductory way into challenging how landscapes comprised of dynamic living entities are approached and engaged, as well as, how such an approach can translate into design affects to provoke experiences of uncertainty within the everyday.

Here I speculate that by giving expression to submaking across phases of Grounding, Extending and Holding perhaps the practice of landscape architecture may more meaningfully and respectfully engage with the reality of uncertainty. Further, this opening of an expression of uncertainty may prompt the designer to take a place in the earth as within a body of becoming, rather constraining living landscapes to meet perceived human needs.

Considering the role of the landscape architect in regards to uncertain landscapes, this research highlights how, whether its acknowledged or not, uncertainty inevitably continues to show itself through the landscape. In fact it would seem uncertainty is a landscape chief characteristic. What is to be noted is that although this project undertakes a single case study, Plimmerton, the underlying values of engaging and doing the research can be translated to other landscapes within Aotearoa. However, this investigation is just one of many possible starting points to engage with constant change and the uncertainty it brings. Much like the landscape there is not one clear way to undertake encounter, but as demonstrated, this research creates an opportunity for design to permit dialogue between the living entities of the earth to take center stage in the design 'equation'.

This project presented many challenges, namely I had to constantly resist falling into normative thinking and the ways of 'doing landscape design'. It was often difficult to stay with the uncertainty when I could default to more knowable practices. Often discoveries were slow to come, so the fixed time of the thesis project caused me to have a light hand in the curation of landscape uncertainty. project conformed to the academic scheduling. This created a level of limitation as I believe there are far more aspects of the environment that could have been unpacked and understood with more time. Yet the conscious decision of focusing on the dynamics of the estuary created a grounding point and appropriate scope to be able to move forward with the performative approach.

An aspect that was conscious with me through the entirety of the research was possible engagement with the locals and understanding their response to how future design could be handled with such a rich landscape. Although the thought stayed with me I was confident enough with the ongoing visits and embodied encounters that this was enough for the scope of this research.

Speculation is a construct that was undoubtedly going to be present in the nature of this research. Yet the environment of a design discipline will always undoubtedly hold a level of speculation regardless. Thus, a mental agreement was made allowing speculation to occur, but what was important was being able to acknowledge such speculation. Alongside the frustration of trying not to fall back to normative thinking, I too was challenging my own usual design skills and tool kit that I may not of initially encountered. For my own reflection, a level of beauty has always played a large role in my design experience prior to this research, yet the nature of this research taught me to get messy, yet patient, as the process 'is' the beauty of it.

As a designer, if we can encounter our landscapes openly, vulnerably and patiently, through emerged values perhaps we can begin to engage in dialogue with our uncertain environments.

BIBLIOGRAPHY.

- Adkin, G Leslie. "Porirua Harbour : a Study of its Shore-line and other Physio-graphic Features." *Transactions and Proceedings of the Royal Society of New Zealand* 53 (1920): 144.
- Atelier Descombes Rampini. *Renaturation of the River Aire*. 2016. <<http://landezine.com/index.php/2016/06/renaturation-of-the-river-aire-geneva/>>.
- Barnett, Rod. *A CHANCE ENCOUNTER: FILM NOIR AN BADIOU'S CONCEPT OF THE SITUATION*. 2008. <<http://www.nonlinearlandscapes.com/new-page-4>>.
- Barone, Tom and Elliot Eisner. *Arts Based Research*. Los Angeles: Thousand Oaks, 2012.
- Belanger, Pierre. "No Design on Stolen Land: Dismantling Design's Dehumanising White Supremacy." *Special Issue: The Landscapists: Redefining Landscape Relations* 90.1 (2020): 120-127.
- Blanchon-Caillot, Bernadette, et al. "Landscape architecture in an expanded field." *Journal of Landscape Architecture (JoLA)* (2013): 4-5.
- Brierley, Gary, et al. *Why we should release New Zealand's strangled rivers to lessen the impact of future floods*. 23 February 2015. <<https://theconversation.com/why-we-should-release-new-zealands-strangled-rivers-to-lessen-the-impact-of-future-floods-153077>>.
- Clliers, Paul. *Complexity and postmodernism. Understanding complex systems*. New York: Routledge, 1998.
- Cochran, Ursula. "Paleoenvironmental Analysis of Uplifted Coastal Lake & Wetland Sequences in the Wellington Region." 2000. Report.
- Cooper Marcus, Clare and Naomi Sachs. *Therapeutic Landscapes: An Evidence-Based Approach to Designing Healing Gardens and Restorative Outdoor Spaces*. 2013.
- Crary, Jonathan. *24/7: Late Capitalism and the Ends of Sleep*. London: Verso, 2013.
- Cuzzolin, Fabio. *The Geometry of Uncertainty - The Geometry of Imprecise Probabilities*. Springer International Publishing, 2021.
- Cvetkovich, George and Ragnar Loftedt. *Social Trust and the Management of Risk*. Routledge, 1999.
- Daniel Urban Kiley Lecture: Dilip Da Cunha, "The Invention of Rivers". Perf. Dilip Da Cunha. 2019. Youtube - Lecture. <<https://www.youtube.com/watch?v=39qJ3DKnPk-g&t=926s>>.
- Deleuze, Gilles and Claire Parnet. *DLA-LOGUES*. Columbia University Press, 1987.
- Edquist, Vanessa and Harriet Bird. *The culture of landscape architecture*. Edge Publishing, 1994.
- Eiby, George. "Changes to Porirua Harbour in about 1855 : historical tradition and geological evidence." *Journal of the Royal Society of New Zealand* 20.2 (1990): 233-248.
- Giro, Christophe. *Immanent Landscape*. Vol. 36. Harvard University Graduate School of Design, 2013. <<http://www.harvarddesignmagazine.org/issues/36/immanent-landscape>>.
- Gissen, David. *Subnature: Architecture's Other Environments*. 1st Edition. Princeton Architectural Press, 2009.
- Greater Wellington . *Wellington Region - Flood Hazard Areas*. 2020. <<https://mapping.gw.govt.nz/GW/Floods/>>.
- Guibert, Eric. "The Gardener Architect: designing with the emergent natures of places." Phd Thesis. 2017.
- Holmes, Rob. "The Problem with Solutions." *Places Journal* (2020). <<https://placesjournal.org/article/the-problem-with-solutions/>>.
- Ingold, Tim and Gisli Pálsson. *Biosocial Becomings: Integrating Social and Biological Anthropology*. Cambridge: Cambridge University Press, 2013.
- Knight, Catherine Heather. *New Zealand's Rivers: An Environmental History*. Canterbury Univeristy Press, 2017.
- Laurie, Michael. *An introduction to landscape architecture*. New York: New York : American Elsevier Pub., 1975.
- Lynch, Patrick. *NEXT Architects' Zalige Bridge Transforms Into Stepping Stones During Flood Conditions*. 2018. <<https://www.archdaily.com/887623/next-architects-zalige-bridge-transforms-into-stepping-stones-during-flood-conditions>>.
- Marder, Michael. *Plant Thinking: A Philosophy of Vegetal Life*. New York: Columbia University Press New York, 2013.
- McGuire, Mary. "Is landscape surface?" *Journal of Landscape Architecture* 15.1 (2020): 18-31. <<https://www.tandfonline.com/doi/citedby/10.1080/18626033.2020.1792652?scroll=top&needAccess=true>>.
- Meenken, Esther, et al. "Uncertainty - What is it?" *Nutrient Management in Farmed Landscapes*. Palmerston North: Massey University, 2020. 8.
- Mehrabi, Tara. *Affective Method*. 19 January 2018. <<https://newmaterialism.eu/almanac/a/affective-method.html>>.
- Ministry for the Environment'. "Changes to Freshwater NPS - 2017: Te Mana o te Wai." Publication. 2017.
- Ministry of Justice. "Te Awa Tupua (Whanganui River Claims Settlement) Act 2017." *Public Act 2017 No7*. 20 March 2017.
- Olafur Eliasson installs giant blocks of glacial ice across London. Ed. Gunseli Yalcinkaya. December 2018. Article. <<https://www.dezeen.com/2018/12/12/ice-watch-olafur-eliasson-installation/>>.
- Project Twin Sreams. *Community & Creative Engagement*. n.d. <<http://projecttwinstreams.com/about/community-engagement/>>.
- Raxworthy , Julian. "Novelty in the entropic landscape: Landscape architecture, gardening and change." PhD Thesis. 2013.
- Raxworthy, Julian. *Overgrown: Practices between Landscape Architecture and Gardening*. Australia : The MIT Press, 2018.
- Ruru, Jacinta. *Who are your waters?* Unknown. <<https://www.e-flux.com/architecture/liquid-utility/259674/who-are-your-waters/>>.
- Siegrist, Michael and Heinz Gutscher. "Flood., Natural Hazards and Motivation for Mitigation Behavior: People Cannot Predict the Affect Evoked by a Severe." *Risk Analysis, An International Journal* 28.3 (2008): 771 - 778.
- Singh, Neera. "Introduction: Affective Ecologies and Conservation." *Conservation & Society* 16 (2018): 1-7. <<https://www.jstor.org/stable/26380571>>.
- Smithson, Michael. *Ignorance and Uncertainty. Emerging Paradigms*. New York: Springer, 1989.
- Smithson, Robert. *A Sedimentation of the Mind: Earth Propsals*. 1968. <<https://www.artforum.com/print/196807/a-sedimentation-of-the-mind-earth-proposals-36602>>.
- SOAK. *Mumbai in an Estuary*. n.d. <<https://www.mathurdacunha.com/soak>>.

Souter-Brown, Gayle. *Landscape and Urban Design for Health and Well-Being. Using Healing, Sensory and Therapeutic Gardens*. Routledge, 2014.

Talbot, Ceara, Elena Bennett and Kelsie Cassell. "The impact of flooding on aquatic ecosystem services." *Biogeochemistry* (2018): 439 - 461.

Taleb , Nassim Nicholas. *Antifragile: Things That Gain from Disorder*. Random House Trade Paperbacks, 2014.

Terpstra, Teun. "Emotions, trust, and perceived risk: affective and cognitive routes to flood preparedness behavior." *Risk analysis : an official publication of the Society for Risk Analysis* (2011): 1658 - 1675.

Titus, James, et al. "Coastal Sensitivity to Sea-Level Rise: A Focus on the Mid-Atlantic Region." Synthesis and Assessment Product 4.1. 2009.

"Treaty of Waitangi (Maori Version)." 6 February 1840. Legislation.

Tuan, Yi-Fu. "Surface Phenomena and Aesthetic Experience." *Annals of the Association of American Geographers* (1989): 233-241.

Wilson, Helen. "On geography and encounter: Bodies, borders, and difference." *Progress in Human Geography* 41.4 (2016): 451 - 471. <<https://journals.sagepub.com/doi/10.1177/0309132516645958?i-cid=int.sj-abstract.similar-articles.2#articleCitationDownloadContainer>>.

FIGURES.

Fig 1. State Highway 1 Flooded, *Waka Kotahi NZTA*. 2020. <https://www.rnz.co.nz/news/national/431696/torrential-rain-floods-plimmerton-homes>

Fig 2. Plimmerton 2016 Flood, *1 News*. 2016. <https://www.tvnz.co.nz/one-news/new-zealand/wellington-floods-happened-trains-resume-altered-schedules-flood-clean-up-begins>

Fig 3. Karehana Park in Flood, *1 News*. 2020. <https://www.tvnz.co.nz/one-news/new-zealand/plimmerton-flood-something-havent-seen-in-my-25-years-chief-fire-officer-says>

Fig 4. Constructing the Spiral Jetty, Gianfranco Gorgoni. 1970. https://www.researchgate.net/publication/232243460_The_Material_Production_of_the_Spiral_Jetty_A_Study_of_Culture_in_the_Making/figures?lo=1

Fig 5. Spiral Jetty, Gianfranco Gorgoni. <https://www.sltrib.com/artsliving/arts/2017/09/29/spiral-jetty-utahs-most-famous-artwork-from-a-to-z/>

Fig 6. Organic Growth Louvre-Lens Museum Park, mosbach paysagistes. <http://landezine.com/index.php/2016/09/museum-park-louvre-lens-by-mosbach-paysagistes/>

Fig 7. Ground Patterining of Louvre-Lens Museum Park, Catherine Mosbach. <https://www.foreground.com.au/culture/the-delightful-dialogues-of-catherine-mosbachs-landscape-architecture/>

Fig 8. Piet Oudolf Planting Sketch, *Alex Delfanne*, <https://www.designindaba.com/articles/creative-work/lookbook-open-field>

Fig 9. Piets Studio in the Former Nursery Area 1, *Philippe Perdereau*. https://www.gardendesign.com/pictures/piet-oudolf-s-next-wave-photo-gallery_365/#8163

Fig 10. Piets Studio in the Former Nursery Area 2, *Andrew Montgomery*. <https://www.houseandgarden.co.uk/gallery/dutch-garden-piet-oudolf>

Fig 11. Extracted Ice, *Jorgen Chemnitz*. 2014. *Paris*, <https://olafureliasson.net/archive/artwork/WEK109190/ice-watch>.

Fig 12. Public Ingorance, *Daniel Leal-Oliva*. 2013. *Paris*. <https://www.telegraph.co.uk/news/2018/12/11/artist-olafur-eliasson-installs-melting-icebergs-heart-london/>

Fig 13. Off Peak Engagement, *Justin Sutcliffe*. Unknown. *Paris*, <https://qz.com/quartz/1491406/artist-olafur-eliasson-is-melting-iceberg-chunks-on-london-streets/>

Fig 14. Sensory Ice 1, *Martin Argyroglo*. 2015. *Paris*, <https://www.artsy.net/article/artsy-editorial-in-wake-of-paris-attacks-eliasson-s-ice-blocks-evoke-the-human-impact-of-rising-temperatures>

Fig 15. Sensory Ice 2, *Martin Argyroglo*. 2015. *Paris*, <https://www.artsy.net/article/artsy-editorial-in-wake-of-paris-attacks-eliasson-s-ice-blocks-evoke-the-human-impact-of-rising-temperatures>

Fig 16. Ice Reaction, *Martin Argyroglo*. 2015. *Paris*, <https://www.artsy.net/article/artsy-editorial-in-wake-of-paris-attacks-eliasson-s-ice-blocks-evoke-the-human-impact-of-rising-temperatures>

Fig 17. Design Imprint, *Fabio Chironi*. Unkown. *Switzerland*, <http://landezine.com/index.php/2016/06/renaturation-of-the-river-aire-geneva/>

Fig 18. Renaturation of the River Aire, *Atelier Descombes Rampini*. Unkown. *Switzerland*, <https://placesjournal.org/article/the-problem-with-solutions/>

Fig 19. Study of the Evolution of the River Morphology, *Group Superpositions*, 2002. *Switzerland*, <https://www.architectural-review.com/buildings/river-aire-by-superpositions-where-the-line-between-the-natural-and-planned-is-blurred>

Fig 20. River in Play, *Group Superpositions*, 2015. *Switzerland*, <https://urbannext.net/renaturation-river-air/>

Fig 21. Overlays, *Superpositions*, 2016. *Switzerland*, <http://www.riverchronicle.ch/extras/designing-a-rivergarden.html>

Fig 22. Zalige Bridge in Flood 1, *NEXT Architects*. 2018. *Netherlands*, <https://vimeo.com/252362798>

Fig 23. Zalige Bridge in Flood 2, *NEXT Architects*. 2018. *Netherlands*, <https://vimeo.com/252362798>

Fig 24. Zalige Bridge in Flood 3, *NEXT Architects*. 2018. *Netherlands*, <https://vimeo.com/252362798>

Fig 25. Flood Play 1, *Rutger Hollander*. 2016. *Netherlands*, https://www.archdaily.com/889097/zalige-bridge-next-architects/5a852f93f197ccbd8c00016c-zalige-bridge-next-architects-photo?next_project=no

Fig 26. Flood Play 2, *NEXT Architects*. 2016. *Netherlands*, <https://urbannext.net/zaligebrug/>

Fig 27. Zaliage Brudge in Open, *Jeroen Bosch*. 2016. *Netherlands*, https://www.archdaily.com/889097/zalige-bridge-next-architects/5a852f49f197ccbd8c00016b-zalige-bridge-next-architects-photo?next_project=no

Fig 28. Flood Play 3, *NEXT Architects*. 2016. *Netherlands*, <https://urbannext.net/zaligebrug/>

Fig 29. Twin Stream Project Principles, *Waitakere City Council*. 2006. *Auckland*, <http://projecttwinstreams.com/wp-content/uploads/2012/10/Evaluation-Framework1.pdf>

Fig 30. Community Engagement 1, *Unknown*, <https://projecttwinstreams.com/where/henderson-creek/>

Fig 31. Community Engagement 2, *Unknown*, <https://projecttwinstreams.com/where/opanuku-stream/>

Fig 32. Twin Streams Re Vegetation Before, *Unknown*, <https://www.aucklandmuseum.com/discover/stories/blog/2017/marker-mayflies>

Fig 33. Twin Streams Re Vegetation After, *Unknown*, <https://www.aucklandmuseum.com/discover/stories/blog/2017/marker-mayflies>

Fig 34. Millbrook Edible Garden, *Kquill*. 2012. *Millbrook*, <https://buhaynzpinay.blogspot.com/2012/>

Fig 35. Community Engagement 3, *Unknown*, <http://www.communitywaitakere.org.nz/index.cfm/about-us/community-waitakere-team/>

Fig 36. Twin Streams Project Overview, *Project Twin Streams*. 2019. https://static1.squarespace.com/static/5aebd0c5365f022d58ade961/t/5de074b136c6c83d60746ab2/1574991050424/Project+Twin+Streams+Final_compressed.pdf

Fig 37. Informal Path, Holidays Houses. *Unknown*, <https://www.holidayhouses.co.nz/listing/6189>

Fig 38. Dune Paths, *Beach Weddings*. <https://www.beachweddings.co.nz/wedding-packages/cooks-beach-wedding/>