pins and needles

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“Buildings outlast civilisations, they evolve and they are changed, but their reuse emphasises continuity. A building can retain a remembrance of the former function and value; it has a memory of its previous purpose engrained within its very structure.”

Conservation allows us to protect and preserve buildings of heritage value to ensure they retain a significant place in our built fabric. Modes of intervention range from complete restoration to adaptive re-use. Through consideration of different conservation and adaptive re-use intervention strategies, and examination of international case studies where adaptive re-use has been practiced, this research project addresses different ways that renewal of heritage architecture can challenge a community’s opinions on the value of retaining and reinvigorating heritage buildings. It shows how these buildings, in their renewed forms, can be integrated into a modern city fabric, creating an interesting diversity of old and new.

Harbourside in Dunedin is an active industrial zone with a number of under-utilised heritage buildings. ‘Urban acupuncture’ – a technique analogous to medicinal acupuncture – has been used to identify particular under-utilised buildings, which can be sensitively redeveloped to encourage their re-use and stimulate further redevelopment in the surrounding context.

The programme for this project, a tertiary fashion school, is intended to expand Dunedin’s lively fashion scene. Creating a campus that includes a business start-up incubator dedicated to fashion will offer the opportunity for fashion school graduates to base themselves in Dunedin rather than moving away to larger cities. Creating a strong focus and population base within the Harbourside will encourage new businesses, such as shops, cafes and other fashion-related industries, into the area, which will also benefit the existing activities.

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pins and needles
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1.0 introduction

1.1 research question
1.2 project outline
1.3 aims and objectives
1.4 scopes

2.0 review of current knowledge

2.1 heritage
  2.1.1 introduction
  2.1.2 heritage protection
  2.1.3 heritage value

2.2 adaptive reuse
  2.2.1 introduction
  2.2.2 current guidelines
  2.2.3 adaptive re-use

2.3 case studies
  2.3.1 Gunpowder Mill, Pollard Thomas Edwards Architects
  2.3.2 Caixa Forum, Herzog & de Meuron
  2.3.3 Congress Complex, Domenig Gunther
  2.3.4 Punta Della Dogana, Tadao Ando Architects
  2.3.5 Imperial Lane, Fearon & Hay Architects

3.0 site

3.1 introduction
3.2 history, Dunedin harbourside

4.0 design process

4.1 introduction
4.2 city analysis
  4.2.1 Dunedin’s heritage architecture
  4.2.2 Dunedin’s attractions and green space
  4.2.3 Dunedin: a university city
4.3 urban acupuncture
  4.3.1 introduction
  4.3.2 urban acupuncture theory
  4.3.3 application, urban acupuncture in Dunedin
  4.3.4 macro intervention, the tram
4.4 harbourside - investigation
  4.4.1 the railway
  4.4.2 response to the railway
  4.4.3 heritage buildings
  4.4.4 water’s edge
  4.4.5 empty spaces
4.5 harbourside - sites identified
  4.5.1 site one
  4.5.2 site two
  4.5.3 site three
  4.5.4 site four

5.0 design process

5.1 site selection
5.2 analysis of heritage buildings
  5.2.1 Otago Daily Times Store
  5.2.2 Evening Star Store
5.3 design opportunities
6.0 design process
6.1 introduction 84
6.2 a fashion school 85
6.2.1 fashion in Dunedin
6.2.2 Otago Polytechnic fashion school
6.2.3 FIDM, Clive Wilkinson Architects
6.3 fashion school requirements 89
6.4 fashion incubator 89
7.0 design process
7.1 introduction 93
7.2 architectural intervening 94
7.2.1 introduction
7.2.2 response to the street
- the entrance
7.2.3 creating connections
7.2.4 the programme
7.2.5 strategies of adaptation
7.2.6 interventions
7.2.7 additions
7.3 wider site 114
7.4 case studies - specific
7.4.1 Parc de la Villette, Paris
7.4.2 Silo Park, Taylor Cullity Leathlean; Wraight + Associates
7.5 connections to the waters edge 121
7.6 site response conclusion 123
8.0 conclusion
8.1 summary and design appraisal 126
8.2 future direction 129
9.0 bibliography
10.0 list of figures
11.0 appendix
11.1 appendix 1 141
11.2 appendix 2 142
pins and needles
1.0 introduction

Figure 1.01 Dunedin’s First Church.
1.1 research question

How can the adaptive re-use of existing heritage structures give under-utilised buildings renewed purpose within the built fabric of our cities and encourage further developments of a similar nature?

1.2 project outline

The structure of well-designed, well-crafted buildings is, at some point, likely to outlive their function and, once this occurs, buildings are often abandoned to decay, demolished, or refurbished and reused. Although views are changing on the subject of re-use, many building owners, developers and architects still have the attitude that demolition is the easier, cheaper option.\(^2\) However, the process of adapting old buildings for new uses is beginning to be seen as better practice.

New Zealand has had to confront issues that have developed as a result of recent seismic activity in Christchurch. Two major earthquakes resulted in a major loss of Christchurch City’s heritage architecture. The events of September 2010 and February 2011 have prompted much discussion on heritage protection throughout the country, posing real threats for the future of the country’s historic architecture.

Because of these events, it is particularly appropriate that this research project has addressed the protection of New Zealand’s built heritage. This project has investigated the concept of adaptive re-use to understand why conserving our built heritage is important. Dunedin was selected for the design development of this project and, more specifically, the Harbourside area, once Dunedin’s main port.

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1.3 aims and objectives

This research project investigates how one can treat old, under-utilised buildings, and how re-using heritage buildings can reinvigorate them, give them status, and create relationships with new forms. Contemporary interventions that can transform these spaces to suit a new function are explored, as well as how the re-use of a heritage building can be expressed or used to expose a part of a city's past. A design will be developed as a response to these ideas, and achieved through pinpointing areas of ‘stress’ that are in need of revitalisation, and areas that are worth restoring.

This research project reintegrates an existing heritage structure, in a state of neglect, by adapting it to a new use and allowing it to operate viably again. The concepts developed during the research phase will be used as tools for exploring ways to approach the design, and to analyse the selected heritage building. Its historic, physical, cultural and contextual identity will direct this project to ensure that the way in which the building design is approached will be appropriate.

Utilising the process of ‘acupuncture’ as an approach to revitalise a heritage precinct, Dunedin’s Harbourside, forms the method this project follows for its initial site investigation. Later, a specific site is selected to ‘kickstart’ the area’s regeneration, from a number of sites identified through the process of pinning points of stress.

1.4 scope

This project investigates ways in which heritage buildings can be successfully reintegrated into our functioning city fabric through adaptive re-use. The design of a specifically selected building will take into consideration current techniques of adaptive re-use and architectural transformations, and will explore how to combine new architectural elements within an existing fabric while ensuring its heritage integrity is not lost, yet being aware that there will be unforeseen restrictions and limitations.

The project addresses the site investigation through ideas of urban acupuncture and then through this process a specific site will be identified to develop. Through careful investigation of the site, and city, and the historical and social influences, a adaptive re-use of the selected site will carefully inform the design in a way that aims to encourage future development of surrounding heritage buildings.
2.0 review of current knowledge

Figure 2.01 Speights Brewery demolition, Dunedin.
2.1 architectural heritage

2.1.1 Introduction

“...people identify with places because these places have a unique character or perceived history. Heritage, the means by which people in the present associate themselves with people in a past, is a major instrument in the creation of identity.”3 It is important to have an understanding of its history”.4

However, what factors should be considered when deciding the heritage value of our built architecture? The New Zealand Historic Places Trust was formed to protect significant heritage places, buildings and monuments. The Trust defines that significant buildings shall “possess aesthetic, archaeological, architectural, cultural, historical, scientific, social, spiritual, technological or traditional significance or value.”5 The Trust created two categories: Category 1 for “special or outstanding historical or cultural heritage significance or value”6 and Category 2 for “historical or cultural heritage significance or value”.7 However, these definitions are intentionally left loose to allow for informed judgments as to which buildings may be eligible for protection.

6 Ibid.
7 Ibid.
This chapter discusses why and how one might identify a building's heritage value, and what contributes to a building or place having “historical or cultural heritage significance or value.” This forms a foundation for the investigation of Dunedin and its context, informing the selection of a heritage building for a design.

2.1.2 Heritage Protection

“Heritage is a finite resource of immense importance. People often fail to understand the significant contribution heritage brings to our cities' sense of uniqueness and individuality as a nation.”

It is the combination of old and new, and the presence of historic forms that gives our cities their identities, and provides them with cultural diversity. The heritage architecture that lines our streets, telling stories of our past, should have a role in our future. So, when designing for the present and future, architects must ensure the “intergenerational exchange or relationship” between modern-day design and what we inherit is included for future generations to experience.

Historic buildings change through time, adding to, and exhibiting the cultural and historic identity of our country through the rich emotional associations which heritage significance can evoke. It is important to preserve elements of the past which have particular significance and contribute strongly to a rich and satisfying experience of community life. Therefore, a key reason for preserving our historic buildings is their ability to “give substance to half-remembered events, and act as evidence of the past” through their “physical relics”.

Heritage buildings have faced the test of time, showing a stable presence and constancy while surroundings change. They are the surviving traces of the values practiced when the structure was built. This notion of survival through time while surroundings change develops an impression that age is a key element in the historic significance of buildings. It is the strongest buildings that survive social developments, and through this the building may acquire the “scarcity value or the important quality of patina”, further expressing that it has been in existence for a long time, giving it an established feeling. However, not only large civic buildings should be considered worthy of protection. Smaller, more mundane buildings are equally important in maintaining a sense of the heritage value in an area.

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8  Ibid.
11 Ibid., 75 – 76
12 “Harbourside Report, an Assessment of Heritage Values in the Old Port Area of Dunedin,” (Salmond Reed Architects, 2005), 5
13 Ibid.
14 Ibid.
15 Ibid.
2.1.3 Heritage Value

What qualities are identified to contribute to a building’s heritage value? Each person will hold an opinion about how heritage qualities should be defined, but for the purposes of this project, value and heritage buildings are defined as follows.

‘Value’ is “the regard that something is held to deserve; the importance, worth or usefulness of something”\(^{16}\). A heritage building is one that “gives us a sense of wonder and makes us want to know more about the people and culture that produced it.”\(^{17}\) Categories include: architectural, aesthetic, historic, documentary, archeological, economic, social, political, spiritual and symbolic values.

“… but the first impact is always emotional, for it is a symbol of our cultural identity and continuity - a part of our heritage.”\(^{18}\)

Of these qualities that contribute to the significance of a building, three categories can help indicate a building’s heritage values.

These include the physical values of archeological, architectural, integrity, context and aesthetic.

Historic values include important people, events and patterns that may have significantly affected the buildings.

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18 Ibid., 1
Finally, cultural values include social, political, spiritual and symbolic viewpoints.

The physical value is the “sensual attributes perceived in terms of beauty, evocativeness, expressiveness, grandeur, landmark, presence, picturesqueness, symbolism or similar qualities of natural or human endeavor”.19 Architectural features contribute to the aesthetic value of a building and can be identified through different qualities and architectural achievements such as the “form, construction techniques, and decorative detailing, or particular classes of architectural style or period”.20 These qualities are in many ways associated with the historic aspects of the building. The historic nature of the style gives the building its aesthetic qualities, and the process of time contributes to enriching the building’s fabric, giving it a patina of age. It acknowledges the past21, allowing one to recognise a particular time that may be represented through the style of the building.22 With the partnership of new architectural elements, we can create a diversity of the past, present and future into the visual performance of our cities.

To hold heritage value is more than simply having physical, historic and cultural values. There is also a contribution from cultural and social values, for example, the meanings of the building and how they may be seen and appreciated.23 Including the way we use the building, how we represent it, and how we feel about it help to express its true worth.

19 “A Heritage Strategy for Dunedin City,” (Dunedin City Council, 2007), 27
20 Ibid.
21 Martin-Hernandez, “Architecture from Architecture, Encounters between Conservation and Restoration,”, 63
22 Ibid., 64
24 Ibid.
2.2 adaptive re-use

2.2.1 Introduction

“History does not come to an end, but opens to the future”.  

Here, Daniel Libeskind is stating that one should not see history, or a historic building, as an object approaching the end of its existence, but as something involved in the continuation of its very existence. Libeskind points out that history is a dynamic process, continuously evolving, and to ensure the past doesn’t stay in the past requires the combination of both what we have inherited from the past and what our future shall inherit from us.  

In this chapter, the ideas that make up adaptive re-use and the architectural transformations of heritage architecture are discussed. It is important that designers find common ground between conserving the heritage value of a building to ensure the adaptation will not detract from the heritage values of the existing structure, and adapting the building so it is viable for today’s needs. Techniques for approaching adaptive re-use will be discussed, along with why adaptive re-use is an appropriate response.

26 Ibid.
2.2.2 Current Guidelines

ICOMOS (International Council on Monuments and Sites) is an international organisation established in 1965 to promote conservation of the world's historic monuments and sites. Various charters have been written over the years, and New Zealand's first charter was established in 1987, and revised in 2010. The New Zealand Charter supports the conservation of New Zealand's cultural heritage with a series of guidelines, and heritage architects, designers and local government bodies in New Zealand use the guidelines it has developed.27

As well as establishing professional standards for conservation, the New Zealand Charter is designed to develop expertise among anyone involved in cultural heritage conservation. The purpose, principles, practice, and processes of conservation are all discussed in the Charter, which includes guidelines and categories of conservation terminology.28

Every project will follow different guidelines formed from analysing its specific requirements. The degrees of intervention for heritage structures developed in the New Zealand Charter is most relevant to this project. These degrees of intervention are ‘Adaptation’, ‘Preservation’, ‘Restoration’ and ‘Reconstruction’. Of these, the first three have most relevance to this project.

‘Adaptation’ is a process of altering or adding to a heritage building in order to maintain its continuing use. The Charter states that if any changes are made, they should be done to the “minimum necessary, should be substantially reversible, and should have little or no adverse effects on the cultural heritage value of the place.”29

‘Preservation’ involves as little intervention as possible for the heritage building, any work merely to stabilise, maintain and repair. It is done to ensure that the building will survive, allowing its cultural heritage values to be appreciated by future generations.

‘Restoration’ incorporates reinstating heritage buildings to their original form, and may include removing any additions that may detract from cultural heritage values of a place.”30

‘Reconstruction’ involves rebuilding as closely as possible to a documented original form. “Reconstruction is appropriate if it is essential to the function, integrity, intangible value or understanding of place.”31

27 “Icomos New Zealand Charter for the Conservation of Places of Cultural Heritage Value” (ICOMOS New Zealand, 2010), 8
28 Ibid., 7
29 Ibid., 8
30 Ibid., 7
31 Ibid., 8
2.2.3 Adaptive Re-use

The re-use of buildings has been practiced throughout history. Kenneth Frampton explains how architects in the past were driven more by functional or financial factors\(^3\). In the nineteenth century ideas started evolving through the influence of romantic and historic “nostalgias from the past”\(^3\) where the notion of preserving and protecting the historic values of buildings began to develop.

The nineteenth century brought two influential contributors to the discussion of architectural restoration: Eugene-Emmanuel Viollet-le-Duc and John Ruskin. Viollet-le-Duc, an advocate of gothic architecture and restoration, believed that buildings should be restored to a condition one might assume the original designers intended, or desired the building to look like, adding new gothic elements such as spires and steeples where he saw they could have been added when initially built. In other words, Viollet-le-Duc attempted to return buildings to their original built form. Ruskin strongly opposed this view, and believed that one can’t complete what is already finished and that buildings should be left the way they are, however maintaining what is there to ensure it does not deteriorate any further, leading to the development of the anti-restoration movement.

These two distinctly different approaches informed the debate that influenced architectural conservation in the nineteenth and twentieth centuries, and continue to inform today’s thinking. The ideas drawn from the two diametrically opposed opinions of conservation and restoration are reflected in our modern practice, and influence the discussion of how best to treat a heritage building. Today, approaches like adaptive re-use are more in line with Ruskin’s views that buildings should be maintained to prevent further deterioration. However, adaptive re-use builds on this through sensitive, physical adaptations, inserting new uses as a way of preserving the integrity of the buildings, and integrating them into a modern city fabric.

The word adaptation is derived from the Latin word, adaptare, ad meaning ‘to’ and aptare, ‘fit’\(^4\), and for an existing building, to connect the old with the new. There are many ways to achieve this fitted connection. To be viable, re-use of a heritage building for other purposes may require alterations: treatment of a building of heritage value and the appropriate degree of intervention are questions at the forefront of the debate.

For a project to meet the needs of rapid developments in technology and changes in society so it can use existing structures effectively may mean both architectural and programmatic changes. Such adaptive re-use allows the building to retain parts of its original form and heritage, and with new architectural elements it can also function successfully in the future. Although new supportive construction makes many buildings more functional, others require only minimal work such as updating thermal insulation, electrical works, plumbing, and fire safety features. Others again may require more advanced adaptation work, such as additional space, external attachments, acoustic insulation and significant structural re-strengthening. “Sometimes adaptive re-use


\(^{3}\) Jukka Jokilehto, History of Architectural Conservation (Burlington: Taylor & Francis, 2002), 1

\(^{4}\) “New Oxford Dictionary.”
is the only way that the building’s fabric will be properly cared for, revealed or interpreted, while making better use of the building itself.”

Graeme Booker and Sally Stone discuss, in their book on architectural re-use, the notion that an architect needs to “regard the building as a narrative, a story to be discovered and retold and, through a process of uncovering, clarification and interpretation will reveal and reactivate the place.” The history of the building’s past forms its narrative, and how the architect interprets and expresses this narrative, and how he intervenes with the building, allows the story to continue, to be read and rewritten.

Adaptive re-use is a process that aims to utilise the benefits of working with an existing building with heritage values, using a design that “celebrates, protects and re-interprets existing interior and exterior features with a new use”. It is common that old buildings become no longer capable of satisfying the requirements of the occupants. This does not mean the building’s structure and fabric is no longer capable of accommodating occupants at all, but that, due to time and changes, it may need upgrading to perform satisfactorily. In this situation one must design what is best for the new purpose, and to an appropriate degree of adaptation, major or minor. The extent of an intervention should be made in accordance with certain factors. These are the new programme and its requirements, the existing building, the site and the context. A building’s durability, adaptability, energy efficiency and, finally, how weathertight and comfortable it is for its occupants, must also be considered when adapting a building.

Today there are many methods for adaptively reusing existing structures. With the above factors in mind, the building’s aesthetics, the ability to continue the life of a building, and the sustainable practice of adaptive re-use can help inform the selection of an existing structure that is viable for adaptation.

Aesthetics

The physical aspects of old buildings, such as their form and fabric, and the values they contribute to the identity and diversity of our cities are major reasons for maintaining heritage buildings. It is not unpopular to re-use heritage buildings in contemporary designs, and the historic importance of a building could be sufficient reason for its re-use. However, the architect’s responsibility is to ensure the originality of the existing building is not compromised, and how the architect engages the old building with the new elements draws the most attention. Kenneth Powell, in Architecture Reborn, notes that today’s adaptive culture is about the expression of overlapping the old and new, and how the two “mediate and confront each other fearlessly”. He says that “deferring to the past is pointless” as we are no longer in a time where restoration is of key importance, but in a period where we must utilise our current building stock and futureproof it through architectural transformations.
One view is that through the adaptation of heritage buildings, using additions and interventions, a building will be subject to loss of heritage value, but, to ensure such buildings are there for future generations to enjoy, some action must be taken. This may even lead to new value being added. As Powell says, the “issue is no longer about new versus old, but about the nature of the vital relationship between the two.”

Continuation of the Building’s Life

Adaptation is about “ensuring the long-term future of buildings threatened by dilapidation, vacancy and eventually demolition.” The continuation of a building’s life and the sustainable nature of such a process are among the main reasons for conserving an existing structure. Through time, all buildings evolve; therefore adapting an existing building and extending its life contributes to the continuing evolution of the building. To ensure the building is stable for future use requires a combination of restoring the old building to a standard that is acceptable for today’s society, while still acknowledging how the building functioned in the past, and incorporating new construction to allow new functions to operate. Communities value their historic assets, and maintaining heritage buildings within the building fabric of a city is to continue engaging with a physical remnant of the past.

Sustainability

The re-use of existing buildings is an option that not only provides connections between the past, the present and the future, but is also a more sustainable approach to design. Energy conservation, reduction in pollution and waste are prioritized in the developed world. By adapting existing rather than developing new buildings, resources are saved, waste taken to landfills is minimised, and with less construction and transportation requirements, pollution is reduced. The re-use of existing structures reduces these costs, and gives life back to a building in a state of disrepair, even improving its physical performance. The sustainable practice of re-use is one that will become more feasible and popular over time.

The embodied energy of an existing structure is one of the many reasons that working with old buildings can be seen as utilising a sustainable asset. When addressing a project that involves an existing building, the energy costs of demolishing and rebuilding versus the embodied energy of the existing building need to be weighed up. Energy is used in both demolition and rebuilding, while an existing building represents an asset as energy has already been invested in the building process. Therefore, reusing an existing structure ensures existing energy is retained and the expenditure of further energy is minimised.
As mentioned, many architects have explored the different forms of architectural conservation by means of intervention or adaptation. This project has investigated two different written studies, Build On: Architecture and Transformed Buildings and Rereading: Interior Architecture and the Design Principles of Remodeling Existing Buildings. These books suggest possible categories of adaptation and transformation of heritage architecture and discuss relationships between old and new as the most “influential device” 46 of an adaptive project’s design.

Addition:
Described as a method of adding new elements to the existing, where the new is superimposed on the old, whether it is bold and contrasting, or more harmonious and sympathetic.

Insertion:
The architectural idea of inserting new into the old. Here, the new fits within the existing boundaries of the old. This technique allows both the existing heritage structure and the new elements to stand independently whether connected or not, and speak for themselves, yet still allowing each different component to help express or strengthen the design of the other.

Installation:
Allows for the development of new structures that are designed alongside the old, touching lightly, a concept that is sensitive to the existing, and it is most revisable of all categories.

pens and needles
2.3 case studies - general

International Case Studies
Addition
Caixa Forum, Herzog and De Meuron, Madrid, 2008

Intervention
Congress Complex, Gunther Domenig, Nuremberg, 2002
Punta Della Dogana, Tadao Ando Architects, Venice 2009

Local Case Studies
Insertion
Imperial Lane, Fearon & Hay Architects, Auckland, 2011

The following are a variety of different case studies identified as appropriate influences for the design development of this project, selected to help form an understanding of the different strategies identified, and in particular, the design strategies this project has adopted.
2.3.1 Gunpowder Mill, Pollard Thomas Edwards Architects, Essex, 2009 Addition

PTE Architects converted a derelict 18th-century Victorian Gunpowder Mill into headquarters for Hill Partnership. It is made up of two existing buildings, the Power House and Water Tower, plus a modern, three-storey glazed structure. At the top of the building PTE designed a terrace to connect the three buildings and provide significant views of the surroundings. All new elements were designed cautiously to ensure the existing structure still had impact.

The project was to reinvigorate the abandoned industrial building, transforming it into flexible office space. The building’s state of deterioration meant its existing fabric needed repair, and this was done through a sensitive, light touch. The design of the new is sympathetic to the qualities and character of the original buildings. The architect has approached the new elements through reference to the industrial nature of the existing. For example, new structural steel work is exposed with industrial detailing to indicate the qualities of the existing structure. The scale of the new design ensures it doesn’t dominate the formal composition of old and new, and its design enhances the value of the heritage building that was abandoned and derelict.

The way the architects have internally expressed their light touch through detailing the floor-to-exterior wall connection has influenced this project. This influence is also seen in the new floor designs where a gap separates the two elements to allow for natural lighting and ventilation through the building. The use of materials also reflects this – the careful use of glass for the junctions between the old and the new, and the use of wood and galvanized steel subtly indicates the industrial qualities in the interior retrofit.

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Figure 2.03 Gunpowder Mill, Essex.
Figure 2.04 Caixa Forum and Plaza, Madrid.
2.3.2 Caixa Forum, Herzog and De Meuron, Madrid, 2008

Addition

The Caixa Forum in Madrid was originally built in 1899 as a power and gas station, and developed by Herzog and De Meuron into a museum and cultural centre in 2008. The exterior shell is the only remnant of the original building. The interior was stripped back and the elements were retrofitted “surgically, separating and removing the base and other unwanted sections.”

The base of the building was removed to create a covered plaza on the ground level with the entrance stepped back, and the heavy mass of the existing building and additions floating above the ground in a “balletic defiance of gravity.” The architectural reason behind removing the base was to create a separation of zones, the aboveground zone and the zone below ground, which the architects have termed the underworld, “buried beneath a landscaped plaza.”

The addition of the Corten steel-wrapped exhibition space and the assertive placement on top of the existing brick building achieved a great critical response. The steel wrap contrasts with the existing brick, dominating the original structure and continuing the existing façade. The silhouette of the addition reflects the roofscape of the surrounding context.

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49 R Klanten; L Feireiss, Build-On: Converted Architecture and Transformed Buildings (Berlin: Gestalten, 2009), 95
50 Ibid., 94
51 Ibid., 95
2.3.3 Congress Complex, Gunther Domenig, Nuremberg, 2002

Gunther Domenig’s design of the Dokumentationszentrum Reichsparteitagsgelände or Centre of Documentation at the Nazi Party Rally Grounds in Nuremberg, Germany, commissioned by Adolf Hitler and designed by Albert Speer, “sensitively breathes light and life back onto the Nuremberg Kongresshalle, a relic of Nazi History.”52

Domenig’s design tactics were confrontational and the main element inserted into the building was an “arrow-like structure”53, both a “literal and symbolic wedge”54 thrust through the middle of the building “to illuminate its past and its role in history.”55 The “deconstructivist intervention”56 of spear is designed to be confrontational and stand out, causing an “uneasy co-existence between old and new”57, symbolic of the building’s past and ties with the Nazi party. The spear contrasts the old “making a bold proclamation about the history of the building and its relationship with the new function.”58

The 130m-long spear’s steel form starts at the building’s main entrance and cuts through on a diagonal axis, finishing where it penetrates the northern façade into the unfinished Congress Hall where the Reich parties congregated.59 Domenig’s architectural intent and treatment of old and new is evident, with an initial glimpse of the spear projecting “menacingly from the building at the entrance.”60 This uneasy treatment is further evident internally where the new spear penetrates the old as it “bores obliquely through the body, disrupting the orthogonal grid.”61

The treatment of Domenig’s spear has influenced this project. Designed so it does not interfere with the existing building’s internal structure or layout and “the blade-like element lacerates the space”62, it allows access to rooms off the central circulation corridor. The spear is designed in lightweight materials like glass and metal to contrast with the existing structure’s heavy masonry and granite design and, as stated by Domenig, “cuts through the heavy stone like an arrow.”63

52 Claudia Kugel, “Letting in the Light,” Architecture Review 212(2002), 64
54 Kugel, “Letting in the Light;”, 66
55 Ibid.
56 Schittich, Building in Existing Fabric: Refurbishment, Extensions, New Design., 158
57 Kugel, “Letting in the Light.”
58 Rereading: interior architecture and the design principles of remodeling existing buildings, Graeme brooker and sally stone, P47
59 Schittich, Building in Existing Fabric: Refurbishment, Extensions, New Design., 156
60 Ibid.
61 Ibid., 158
62 Ibid., 158
Figure 2.07 (above) Congress Complex, perspective.

Figure 2.08 (below) Congress Complex, axonometric and perspective.
2.3.4 Punta Della Dogana, Tadao Ando Architects, Venice, 2009

Intervention

The Punta Della Dogana, Venice, originally built as a warehouse over 300 years ago, was converted in 2009 by architect Tadao Ando into a museum for French art collector Francois Pinault. Ando’s revitalisation of the building is sensitive, partly a result of guidelines set by city authorities. Ando left the external appearance of the existing building intact, with no references to the transformation and the only exterior work being essential repairs to the stucco brick masonry walls. All interior work over the last two centuries was removed, leaving only the original structure; the original roof structure was maintained and skylights added. Ando left much of the interior unsurfaced to expose the gritty character of the brick, and missing bricks were replaced with new ones that blended in with the character of the existing.

Ando’s significant main change was to design a concrete cube and central exhibition spaces spanning two of the eight rectangular spaces dividing the building, to represent the ‘new heart’ of the building and transform the space.

Ando’s new elements contrast with the old through his choice of materials – polished concrete, glass and steel. The smooth surfaces contrast with the rugged nature of the “irregular brick walls and rough wooden beams”.\(^\text{64}\) The relationship between the new and old “form a new entity”\(^\text{65}\) rather than compete. This relationship “symbolizes the union of the past, present, and future: the shell stands for the past, the architecture represents the present, and the art is that which transcends the present.”\(^\text{66}\) Other aspects exhibiting Ando’s respect for the building are new elements such as doors and windows, which, although modern, were designed in a way that “effectively employed Venetian traditional craft.”\(^\text{67}\)


\(^{66}\) Old and New: Design Manual for RevitalizingExisting Buildings, 69

\(^{67}\) “Tadao Ando: Punta Della Dogana Museum in Venice.”
Figure 2.10 Punta Della Dogana, refurbished interior space.
Figure 2.11 Imperial Lane, ramping café.

Figure 2.12 Imperial Lane, new spiral staircase in old services shaft.

Figure 2.13 Imperial Lane, rooftop restaurant and bar.
2.3.5 Imperial Lane, Fearon & Hay Architects, Auckland, 2011

Insertion

Imperial Lane, completed in 2011, comprises three heritage buildings dated between 1886 and 1911. Two were theatres and are now a mixed-use complex of offices, bars, and restaurants that has activated a social connection between lower Queen Street and Fort Lane. The three nineteenth century theatrical and industrial buildings, vacant for over 40 years, have created a successful hospitality precinct.

The biggest challenge in the development was making an inaccessible area into a shared lane accessible from both Fort and Queen Streets. A change of Fort Street into a shared lane for cars and pedestrians gave the architects the opportunity to “open the building to the rear and integrate with the new urban fabric.” The aim was to create a sense of place, through a non-traditional approach – opening up the Fort Street façade, removing a floor, and inserting a ramp with a café.

The building's existing brickwork is exposed and raw, along with the existing “stone, timber trusses and weathered concrete structure.” New elements include the blackened steel circular staircase in the old service shaft of the buildings, and corrugated metal panels complement the industrial nature of the building and “support these original elements without distracting from their industrial character.”

What is influential about this design is the way the architects have maintained the industrial feel of the buildings through the treatment of materiality, and developed sophisticated new elements that suit the rustic nature of the building’s former purpose, and the way they have successfully integrated the “language of black steel, slick tiles and glass with rough brick, exposed concrete and timber”.

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71 “Fearon Hay Architects: Imperial Buildings Revitalization”.
72 “The Imperial Buildings”.

Figure 2.14 Imperial Lane, Fort Lane entrance.
Figure 3.01 Harbourside, between 1929 and 1938.
For the focus for this research project, Dunedin City has been selected - in particular, the heritage precinct in Dunedin’s Harbourside: a promising area in need of attention. This area has a collection of buildings that hold qualities expressing their time and telling stories of Dunedin’s early industrial development. It is an area filled with richness, now in a state of disrepair.

The existing heritage and historic buildings contribute to the distinctive look and feel that define Dunedin City’s built environment. Its heritage stock enriches its built fabric; the City Council defines Dunedin as a place that treasures its “heritage buildings as a living inheritance from its past and a legacy for future generations.” Many heritage buildings are industrial, dating from Dunedin’s gold boom, and with the changing fortunes of businesses, many have fallen in a state of disrepair, and are abandoned or under-utilised.

Dunedin’s Harbourside is an active industrial area on the southeast of the railway, spreading from the lower end of Rattray Street up to the Water of Leigh, and is separated from the city. It is on reclaimed land developed in the early twentieth century, and in Dunedin’s heyday, the port was the main connection between the city and overseas markets, attracting many businesses to the area, and creating what is now a heritage precinct with an interesting mix of buildings.

3.2 history, Dunedin, Harbourside

In the 1870s Dunedin was New Zealand’s leading manufacturing centre, its Harbourside area was New Zealand’s busiest port, and industries such as engineering, manufacturing, and warehousing sprang up. From the 1930s, activity developed rapidly, but by the 1980s, container shipping left this once-busy port largely deserted, as activity moved to Port Chalmers. Since then, the Harbourside, cut off from the city by the railway, has been neglected with deteriorating wharves and warehouses.

These businesses reflect Dunedin’s industry, and the port and its activities have helped shape the character of the area. The remaining buildings from this time reflect the area’s rapid industrial development and mirror its history – a ‘tangible link’ to Dunedin’s past that should be recognised.

The area’s distinctive characteristics are worth preserving and the buildings are of similar character, scale, and aligned with the street edge. Wide streets, disengaged street facades and containers on the roadsides contribute to what is described in the Salmond Reed Harbourside Report as a “general air of ‘wasteland’ [which] pervades these intermittent spaces”. The report concludes that the “Harbourside is an area of distinctive character”, has a character “worthy of preservation”, and the value of the area is “significantly enhanced as a group, and for common historic themes of maritime service, warehousing and freight handling.”

In 2001 the Dunedin City Council proposed redeveloping the Harbourside area. Plans included bars, cafes and restaurants, apartments, tree-lined boulevards and walkways, and a connection with the water’s edge. The plan was to incorporate a “mixture of styles and forms that create a distinctive streetscape character” and express the different qualities of the historic fabric. The aim was “to recognise the unique qualities and sense of place of the Harbourside setting and respond to and enhance these qualities in new development and alterations.”

Architect Alice Duthie developed a scheme for the area, arguing that any new designs should have their own “coherence and integrity”. Any additions should “be sympathetic to the expression of the original building” and she deemed replication of heritage buildings as “neither necessary nor desirable” as it may “undermine the integrity and authenticity of both the original building and the streetscape.”

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74 Heather Bauchop, “Registration Report for a Historic Area, Dunedin Harbourside Historic Area Volume 1,” (2007), 11
76 “Harbourside Report, an Assessment of Heritage Values in the Old Port Area of Dunedin.,” 4
77 Ibid.
78 Ibid., 9
79 Ibid.
80 Ibid.
83 Ibid.
84 Ibid.
85 Ibid.
86 Ibid.
87 Ibid.
Duthie discussed how new buildings should be “innovative and reflect contemporary technology and culture while still adhering to the context of the location”. Planning changes to the district plan embraced mixed-use zoning. In 2010 the northern side of the development was dropped, but the promotion of the scheme suggests Dunedin City Council sees potential for this area, and the development of a regeneration plan as plausible. Salmond Reed suggests that businesses currently in the area will relocate, which will “be a part of significant change, which will erode some of the historic values whilst replacing them with other new values. This is called ‘progress’ and is to be regarded as an indication of normal urban and social regeneration.”

88 Ibid.
89 “Harbour Scaling Back.”
90 “Harbourside Report, an Assessment of Heritage Values in the Old Port Area of Dunedin.”

Figure 3.03 Aerial photo of Harbourside, 1856.

Figure 3.04 Harbourside, 1937.
4.0 design process - site investigation

Figure 4.01 Harbourside, 1963.
The design process of this project is broken down into three phases. The first phase deals with the process that leads to the selection of the most appropriate site. Through an in-depth analysis of the selected area for renewal, the most appropriate site will identify itself for the next phase of the design process.

Subsequently to the selection of a site, the design process was broken down further into three phases or design elements. Their influential nature throughout the design process has resulted in the design outcome:

The existing (selected heritage buildings: Otago Daily Times and Evening Star stores), the exploration of the existing structure identified, and the design opportunities they can stimulate.

The programme (a fashion school).

The adaptations (‘Additions’, ‘Interventions’ and ‘Renovations’ made to the existing), influenced by the above two categories; this final phase is the development of the adaptations to the building, and the development of the site adjacent to the building.
The analysis of Dunedin City was relevant to help formulate a solution to integrate the selected sites and heritage buildings within the current activities of the surrounding context.

Through the ideas summarised from urban acupuncture, developments must work with the city’s current asset base. Dunedin has a great wealth of heritage buildings and has developed an identity around its prestigious university. These are two key drivers that attract people to the city, with the heritage creating an individual tourist destination, and the university creating an active social agenda that fluctuates seasonally with the university semesters.
4.2.1 Dunedin’s Heritage Architecture

Dunedin’s rich abundance of heritage architecture contributes to establishing the city’s identity and sense of place. The Dunedin City District Plan lists and locates 740 different heritage buildings in the greater boundaries of the city, establishing it as one of New Zealand’s main heritage centres. At one point, Dunedin was the largest city in New Zealand, however, when the gold boom ceased, much of Dunedin’s population left, while Auckland, Christchurch, and Wellington continued to grow. Dunedin’s development was slower, which has been resulted in many of the grand historic buildings, which were built in its prime, to remain intact, whereas in the other major cities, many heritage buildings have been demolished to make way for new development.91

91 “A Heritage Strategy for Dunedin City”, 32-33
4.2.2 Dunedin’s Attractions and Green Spaces

The diagram shows the attractions of Dunedin such as the Early Settlers Museum, the Octagon, First Church, the Railway Station and green spaces such as Queen’s Garden. Integrating the tramline with such attractions encourages tourist as well as locals to utilise the tram as a way of getting around the city.

Figure 4.04 Analysis of Dunedin city’s attractions and green spaces.
4.2.3 Dunedin; a University City

Dunedin universities are an influential part of the city’s culture and economy. A large tertiary precinct (including both University of Otago and Otago Polytechnic) dominates most of North Dunedin, and is a distinct area of the city. Not only does the campus dominate this area, the surrounding area is predominately student accommodation. Although integrating the university into the city can help break down the barriers formed by a dominant campus, it can also spread the campus further, creating a less connected campus.

One solution is a city tram route resembling the meridian flow of Dunedin City, connecting the university buildings integrated into the city with the main hub, the city’s heritage, the waterfront, and attractions such as its gardens, churches and the Octagon.

The University of Otago has developed a master plan to unify the campus. Positive changes are the proposed allocation of certain streets to be pedestrianised, which can be integrated with the tramline developed in this project. Another feature of the master plan is to encourage integration between the city and university. The university aims to achieve this through creating public friendly spaces and encouraging public use of them. These include improvements to the street, creating a “more attractive public realm”, and improving social spaces such as the edges of the river Leith to “create a public waterfront accessible to the public”.

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92 “Options for Future Campus Developments Publication,” (University of Otago).
93 Ibid.

Figure 4.05 Analysis of Dunedin city’s university campus.
4.3.1 Introduction

Through researching possible ways of addressing under-utilised areas, the concept of urban acupuncture was discovered. It has been utilised as a tool for developing both a macro intervention, and for the investigation of possible micro sites.

The concept of ‘acupuncture’ has been used as an investigative tool in approaching the Harbourside area, in an investigation to understand the area, its derelict nature and to help inform the selection of the most appropriate site to ‘kickstart’ the area’s regeneration and reintegration back into the working city fabric of Dunedin.

This project has looked into how urban acupuncture has been used as a method of approaching urban renewal. The analysis of the concepts behind urban acupuncture help inform the most successful approach to acupuncture, and how it may be applied to an architectural scenario. Through exploring the processes, framework, and outcomes of examples of urban acupuncture, this project can develop its own framework for approaching the adaptive re-use of heritage architecture.
4.3.2 Urban Acupuncture Theory

Urban acupuncture identifies alternative ways of reforming or repairing a city where the urban environment needs revitalising. This theory links to architecture, urban planning and medicinal ideas, and the main notion is the idea of repairing or regenerating the wider urban context of the city. By pinpointing areas of stress, urban acupuncture can carry out small actions and tactical interventions. Like medicinal acupuncture, urban acupuncture liberates the chi, or life force of the city’s body (refer to Appendix I for further information on Medicinal Acupuncture). It relieves stresses from selected points in the urban environment, viewing the city as a living organism, pinpointing sites that need repair; intervening and releasing stress from the whole city.

The identification of sites as points of stress involves understanding the city’s environment. Questions to consider include where a specific site could be and where the stress points might be; what types of stress are present, and what causes them? Other influences include the scale of intervention, its significance to the area, and how the community can interact with and relate to it.

Because urban acupuncture is a site- and context-specific experience-based concept, it can be a framework and an alternative way of urban renewal. Los Angeles architect and professor John Southern draws attention to the value of using methods such as urban acupuncture to develop cities. Southern says the use of abandoned or dead spaces such as “street medians, foreclosed homes, and vacant lots” encourages a sustainable approach to urban development through upgrading and adapting available, empty and under-utilised spaces into pocket park-type spaces integrated into an urban environment, as these will be most beneficial. For example, in Berlin, city officials could not locate the owners of vacant sites from World War Two, so they became “playgrounds, pocket parks, urban forests, or benches where locals can relax”, not looked after by the local government.

Medicinal acupuncture practitioners understand how the body works and insert needles at points where a block in the flow of energy is indicated. In order to successfully regenerate an area of neglect in the city, it is essential to understand the site and its context to develop appropriate and tactical interventions. In this investigation of urban acupuncture, these principles will be utilised in the initial stages of project development to inform the selection of a heritage building in need of development. Instead of giving purpose to under-utilised no man’s lands, this method looks at regenerating under-utilised buildings.

The concept develops the idea of a city’s regeneration through small-scale interventions to achieve wide-ranging impacts through rigorous research of the city. With in-depth investigation, a site or series
of sites can be selected, perhaps because of a city’s social tensions. The interventions can be expressed as the needle that alleviates the city’s stress, and by relieving particular parts the action can heal the surrounding area. Urban acupuncture aims to bring life into the city by revitalising what already exists and animating the city’s architectural resources.

Urban acupuncture has several exponents, but there is common ground between the different individuals who have used the concept of medicinal acupuncture to discuss urban regeneration. The ideas of Spanish architect Manuel de Solas Morales have influenced this project, as his approach to urban acupuncture was the most architecturally related. He developed his theory on urban acupuncture in the 1980s when Barcelona was going through a period of urban regeneration, and it was used in the city.

One of de Sola-Morales’ key skills was his ability to find “potential richness” in an underdeveloped urban space. This gave him opportunities to breathe new life into areas lacking character or urbanity, to make a start in areas with little available. De Sola-Morales began with minor modifications, enough for a starting point. He suggested that the most interesting outcome of new building activities or interventions are a result of using existing energy, as he said, from the “bundles of nerves and arteries that relate each point in the city with neighbours and strangers.”

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100 McCartney, “Better Blocks: One of Many Urban Acupuncture Needles”.
102 Ibid., 12
103 Ibid., 18
104 Ibid., 12
105 Ibid., 14
4.3.3 Application, Urban Acupuncture in Dunedin

As part of the process of understanding the concept of urban acupuncture and to help inform the investigation of potential sites, a set of tools was developed.

The investigation of urban acupuncture initially considered a number of questions. The process began by identifying an area, then asking what its major stress points might be. From here, it was asked why these pressures are present. Answering these questions provides a foundation for addressing the pressure points in the chosen site.

Urban acupuncture considers points of stress to be sites that are under-utilised, both buildings and sections, empty, and abandoned spaces, and street medians, that through upgrading and adaptation can contribute to urban renewal. Urban acupuncture as a concept helped develop an understanding of the site selection process and investigation for this project. The concept of urban acupuncture added richness to site investigations, ensuring an appropriate heritage building was selected to create further growth; it has been used as a tool and not a main design driver.
Finally, why are these pressures present? The separation was a consequence of the railway line. The line cut off the links with the city, and there were minimal connections across the railway line. Also contributing to the area’s under-utilised nature was the abandonment of the area when wharf activities moved to Port Chalmers. Although not a working port any longer, the Harbourside still has a working industry but limited places to go that aren’t industry-related, i.e. it has no green spaces or attractive waterfront development to draw visitors.

De Solas-Morales attempted to breathe new life into these places through a form of urban regeneration appropriate to the area. He began with minor modifications, achieving maximum effect through minimal intervention. To develop the Harbourside, the first intervention was in the introduction of a tramline that looped through the area and around the centre of Dunedin. The tram and crossings over the railway line were designed to help create an initial connection with the city.

De Solas-Morales uses the existing energies in an area as a starting point. In the Harbourside, energies that could be utilised were found within the area’s richness. One of site’s key assets is its relationship with the water; and this has been maximised by making the wharves more user-friendly – still allowing small commercial fishing activities to run, to maintain existing energies.

Why Dunedin? When initially addressing the most appropriate area for this project, Dunedin was indicated as somewhere that, although a small city, has a wealth of heritage architecture and good promise for future development. Because of the city’s small size, population and economy, however, it was considered more appropriate to undertake a series of small-scale interventions – which is where the discovery of urban acupuncture has come to play a role. It has been introduced as a technique to help identify and analyse site potential. The city’s substantial historic building stock offers architecture that could be considered for possible sites, and development of the area for multi-purpose, adaptive re-use will ensure the survival of the buildings, while small-scale acupuncture influence is more appropriate than large-scale master planning when working with an under-utilised area that shows promise but not certainty of ongoing use. By considering these factors, Dunedin’s Harbourside answers the first question – where - and was therefore selected as an area showing potential for development.

Manuel de Solas-Morales is presented as having influenced this project’s site investigations due to his approach to regeneration. De Solas-Morales developed a technique to find potential richness in under-developed spaces. In Dunedin’s Harbourside this richness is found in the old port and industrial relics, the heritage architecture, and the industrial typology such as saw-tooth roofs, wide streets and connections with the water’s edge.

To answer the second question on the pressures, for the Harbourside the most evident pressure causing a disconnection with the city and the consequent under-utilisation, was its physical separation.
4.3.4 Macro Intervention – The Tram

The tram is the main urban intervention to integrate the site and programme with the city and the university.

Trams have significant ties to Dunedin’s history, as they were a dominant form of transport between the 1880s and the late 1950’s. Since this project investigated the idea of developing a tramline as a form integrating the project’s development ideas through the city, it has been found that a tram has been proposed as a viable mode of transport under the University’s master plan, connecting the different university buildings together and benefiting the city as well. The suggested route was for a tram to run the length of Union Street, down George Street, through the Octagon and back along Anzac Street, looping up to Union Street again.

The different indicated activities; tourist, university and heritage, are in small clusters, and a tramline, a live dynamic pathway, can link these clusters together to better connect the city’s assets, as well as reintroducing the Harbourside as a key aspect of the city.

Through the ideas summarised from urban acupuncture, development should work with the present assets of the city. Dunedin has a great wealth of heritage buildings and has developed an identity around its prestigious university. These are two key drivers that attract people, with the heritage creating a tourist destination, and the university creating an active social agenda that fluctuates seasonally with the university.

semesters. The tram is seen as a path of intervention, like medicinal acupuncture's meridian flow, with architectural interventions relating to the re-establishment of the tram, and further areas pinpointed around the tramline for growth as a flow-on effect.

For this project to become more specific in its selection of a direct site for re-use, urban acupuncture was used to investigate the Harbourside area on a micro scale. Through development a macro intervention – the tram – has assisted and further encouraged the interventions that have occurred on a micro scale.

4.4.1 The Railway

In micro investigation, an understanding of the stresses, assets and found energies within the area can help identify possible sites. The stresses present in the Harbourside, which have led to it being abandoned and under-used, stem from its disconnection with the city.

As indicated, Rattray Street and Stuart Street once connected the Harbourside with the city, with Stuart Street providing a direct link between the centre of the Octagon and the Harbourside. To reassert historic ties between the Harbourside and the city, a crossing, which was once Lower Rattray Street, has been established to connect Rattray and Fryatt Streets. This will provide a level crossing for cars, pedestrians and new tram.

Figure 4.09 Analysis showing the barrier between the city and Harbourside created by the railway.
4.4.2 Response to the Railway

Re-establishing the Stuart Street connection is slightly more difficult as the railway station is positioned where this link once was. However, the large empty spaces to the south of the station, used for car parking, have been developed as a public park, with a gently sloping footbridge for pedestrians and cyclists.

With better access established over the railway and between the city and Harbourside, identifying an appropriate site that would attract the public was the next phase. By analysing the context of the Harbourside, a number of sites were identified as possible development options. Each site that was identified featured characteristics unique to the area, and was considered to have the potential to allow, or encourage, further growth in surrounding sites subsequent to their development.
The three key elements that make up the Harbourside’s character and that indicate possible sites for developing the Harbourside, are:

4.4.3 Heritage Buildings

These buildings have been identified in the Dunedin District Plan as possessing characteristics that contribute to the overall character of the area. They are also able to be adaptively re-used.
4.4.4 Water’s Edge

The wharf and water’s edge is an asset of the area worthy of development, as reinvigorating the Harbourside is likely to create an area that the public will visit and use for social activities. Such activities are not currently available in the area.
4.4.5 Empty Space

Vacant land has also been addressed through urban acupuncture as having the potential for urban renewal. There is a large amount of vacant space in the Harbourside, and development of this could encourage development of other sites in the Harbourside area.
Figure 4.17 Sketch of Dunedin’s tramline through the Harbourside.
The places identified as possible development sites are as follows;

4.5.1 Site One – New Zealand Loan and Mercantile Agency

Why?
This is one of the grandest heritage buildings in the area, and is a key, pivotal site with great possibilities as an influential cornerstone building. Located on the corner of Fryatt Street and Thomas Burns Street at the entrance of the Harbourside, it is the closest of the identified sites to the city and the level crossing extending from Rattray Street.

Why not?
For the purposes of this project and the programme selected, this building was further identified as not suitable. It has been identified as better suited to a programme such as a boutique hotel.

4.5.2 Site Two – the wharf sheds

Why?
The potential of this location is in its connection to the water’s edge. Connecting the Harbourside with the city is a crucial component of this research project, and creating links with the water’s edge is another key aspect, as this is one of the strongest assets of the Harbourside. By developing the wharves as part of a waterfront development as, for example, with Wynyard’s North Wharf in Auckland, the city can re-establish its once-strong ties with the water. The wharf and sheds are largely vacant, however one shed is still used by a small commercial fishing company.

Why not?
Although the character and history contribute to the ambience of the area, the buildings have limited heritage value and are probably too small for the purpose of this programme.
4.5.3 Site Three – the silo and empty space

Why?
Like Site Two, this site presents opportunities to create connections with the water’s edge, and has a large mass of empty or under-utilised land with excellent potential.

Why not?
The main reason for not using this site relates to its limited existing architecture. This site would be better suited for an urban development such as Auckland’s Silo Park. Additionally, as the silos are still used for concrete production, the possibility of intervening with minimal impact or disturbance to the business is unrealistic, and therefore this is not a desirable option.

Figure 4.20 Fryatt Street silos.

4.5.4 Site Four – Otago Daily Times, Evening Star Store and neighbouring site

Why?
The key asset of this site is its two adjacent heritage buildings. The site is also on the intersection of a number of the roads, and making it likely the site will be a nodal pivotal point of the Harbourside with other sites directed towards it.

Why not?
Although one asset of this site is that it is a pivotal point for a number of roads, this creates the possibility that cars could dominate the area – a disadvantage when creating a public space.

Figure 4.21 Otago Daily Times Store in the foreground, with Evening Star Store in the background.
5.0 design process - phase one
existing heritage

Figure 5.01 Historic aerial photo of Dunedin’s Harbourside.
Figure 5.02 Map of selected site, Evening Star Store and Otago Daily Times Store.
It is important to investigate a site in Dunedin’s Harbourside that will appropriately demonstrate the ideas this research project has investigated and aims to address. The building selected needs to be as follows; of heritage nature, currently abandoned or under-utilised, within the Dunedin Harbourside historic area, and capable of encouraging or influencing further developments and re-use of the area.

From the investigation of the Harbourside the above sites were identified. Of these sites, one was selected – the Otago Daily Times (ODT) and Evening Star (ES) Stores

The building initially selected was Site One, the New Zealand Loan and Mercantile Agency Building. However, after further investigation into the area, and developments of a building programme, the site was changed.

This project focuses on creating connections between the two buildings, and, how development will reinvigorate the under-utilised buildings, and in turn help re-establish the area.
Figure 5.03 Evening Star Store.
Initially a different building was selected for this project. The first was the New Zealand Loan and Merchantile Agency Building on the corner of Fryatt and Thomas Burns Streets. It is one of the most prominent heritage buildings of the historic Harbourside precinct. The site has great potential for city access as it is across from the railway line at the entrance of the Harbourside area. Due to further developments in the project it was decided that this site has potential for development. However, its grander appearance and location would suit a different function such as a boutique hotel.

The site selected as more appropriate is on the intersection of Devon, Cresswell and Mason Streets. Both buildings have double street facades, with the ODT Store on Mason and Cresswell Streets, and the ES Store on Cresswell and Willis Streets. East of the ODT is an empty section, which along with a small connection lane, has potential for new development. East of the ESS a large site has six small, randomly placed, prefabricated offices. This could also be utilised for development.

Before the Harbourside was split from the city by the railway line, both Rattray and Stuart Streets ran straight to the harbour. Now, Rattray Street stops at the railway line and Stuart Street stops at the railway station. On the other side of the line Stuart Street becomes Mason Street and Rattray Street becomes Fryatt Street. The two main access routes to the Harbourside are the overbridge southwest of the site, connecting Cumberland Street with Wharf Street, and the second connecting Anzac Avenue with Ward Street, north of the site, and the St Andrews Street level crossing to the north of the site. There is little road traffic around the Harbourside unrelated to the workings of the industrial businesses in the area.

As there are few pedestrian crossings over the railway line, and no level crossings, the area has limited foot traffic. Pedestrians can cross via a footbridge adjacent to the railway station, northwest of the site, at the St Andrews Street level crossing.

The Dunedin City Council has recently developed and upgraded cycle lanes in many streets, including a lane running around the waterfront along Fryatt Street.

5.2 analysis of heritage buildings
5.2.1 Otago Daily Times Store

The Otago Daily Times Store has undergone adaptation over the years. The original ODT Store, built in 1916, consisted of only the western wing of the building we see today. It was originally built to be the paper store for the local newspaper, and is still owned and used for its original purpose. In the 1930s it was expanded and architects Mandeno and Fraser designed a second wing to be similar to the existing building. This wing continues the angle of the original building and replicates the original wing as closely as possible given the constraints of the site, but fits within slightly narrower boundaries. The building footprint is smaller and entrance doorways are also slightly different.\(^{107}\)

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\(^{107}\) Bauchop, “Registration Report for a Historic Area, Dunedin Harbourside Historic Area Volume 1.”, 23-24
Figure 5.05 Otago Daily Times Store, elevation.

Figure 5.06 Otago Daily Times Store, section.
pins and needles
5.2.2 Evening Star Store

Today’s Evening Star Store was originally a warehouse for agricultural equipment manufacturing company Massey Harris Ltd. The company became the leaseholder of this section in 1908 and was one of the earliest leaseholders for land in the Harbourside area. It is unclear when the warehouse was erected, however it is most probable that it was sometime between 1908 when the section was leased and 1910 when it was recorded in the Stones Directory that a building was on the site. Massey Harris discontinued the lease in 1960 and the ES Store moved into the brick masonry warehouse. In 1975 Allied Press Ltd was formed when the ES and ODT, the two oldest operating companies in New Zealand, merged. When Allied Press took over the ES they retained the ES Store, directly across from the ODT paper storage, and the building is still owned and used for the same purposes today.

Figure 5.08 Evening Star Store, Willis Street facade.

108 Ibid., 64
Figure 5.09 Evening Star Store, elevation.

Figure 5.10 Evening Star Store, section.

Figure 5.11 Evening Star Store, interior photo of the saw-tooth roof.
Figure 5.12 Evening Star Store, interior.
Both the ODT and the ES Stores are still used for their original purpose, storage. However the two buildings are no longer the main storage facility. The ES Store is still used to store paper rolls and the ODT Store is used as storage for other purposes. Although the buildings are not vacant or abandoned, they are both under-utilised and neglected and in need of attention.

Both are minimally decorated brick masonry buildings and each has an identical double street frontage. Parapets are a way of organising the façade of a building and are about creating an appearance, and this is exactly what the ES Store is trying to achieve. The ES has a large parapet on each street façade that appears to almost double the height of the building and the ODT Store reflects the roof behind with small, extended parapets. The ODT Store has two wings, accessed separately via the street facades, with gable roofs and supported by a steel structure. The ES Store is one long warehouse with a timber structure supporting a saw-tooth roof.

As the buildings were designed as warehouses, they have few fine details and are industrial in appearance. This raw and industrial nature gives them a gritty character. The volume of the ES Store is large; giving the interior space a grand, open feeling, with sufficient height to fit in a mezzanine level, and timber columns through the centre, supporting the roof trusses. The two wings of the ODT Store are single storey, with a smaller interior volume. In their current state there is no internal access between the two wings.

Figure 5.13 (right) Evening Star and Otago Daily Times Stores from Mason Street.
As these buildings are not grand civic buildings, their main significance lies in their ties with Dunedin’s port and industrial past, and the part they play in forming the collective identity of the Harbourside precinct’s heritage. To ensure they are viable for a new use and of an acceptable standard for future use, restoration can be in a more adventurous and less restorative manner.

Due to the close relationship between the two buildings, located across the street from each other, this design project will address the connection between them and how links can be created to add value to both. As the streets of the Harbourside area were designed in a grid-like layout, it is possible to utilise the road between the two buildings as part of the site, raising the possibility for cars and pedestrians to share the street space, and heavy trucks to be diverted elsewhere. As the eastern exterior walls of both buildings have limited architectural merit, there is potential growth for expansion in this area. As well, the site is near the water’s edge and future development has the potential to exploit connections with the water.
Figure 6.01 Model walking down Dunedin’s Fashion Week catwalk, held on the Railway Station platform.
Finding the most appropriate use for the two selected heritage buildings required careful consideration. Firstly, the function had to be a good match for an active industrial zone, and secondly, the function needed to attract a regular stream of visitors, to create exposure and encourage future development.

As the Dunedin City Council intended the development of the Harbourside to become a mixed-used waterfront precinct with bars, restaurants, accommodation, office and park space, any new activity should fit comfortably into this scheme, but still function independently with or without further development. A tertiary facility would be a good fit for these criteria.

Figure 6.02 Historic photo of the cutting division of Hallensteins’ sewing house.
6.2.1 Fashion in Dunedin

Since the 1800s, when Dunedin was given the status of the ‘City of Style’, the fashion industry has become a recognised feature giving the city a reputation as the ‘fashion capital of New Zealand’ and, with over twenty designers residing there, its style is emerging as unique and distinctive.\(^\text{110}\)

iD Fashion was started in 1999 by a group of local designers who saw potential in the city’s fashion industry and showcased it in a single fashion event a year. Now, the fashion show is one of the main events on Dunedin’s fashion calendar, and is growing every year.\(^\text{111}\) This event is one of larger fashion events in New Zealand, bringing both international and local fashion markets together, allowing the “fashion sector to grow and evolve”\(^\text{112}\) further. The iD fashion show is held on the Dunedin Railway Station platform, and features the longest catwalk in the Southern Hemisphere.\(^\text{113}\)

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111 “History,” http://www.idfashion.co.nz/content/history.php.
112 “About Id,” http://www.idfashion.co.nz/content/aboutid.php.

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Figure 6.03 Models wearing two of Dunedin’s fashion labels, (left) Moodie Tuesday, (right) Company of Strangers.
6.2.2 Otago Polytechnic Fashion School

Otago Polytechnic is home to New Zealand's top fashion school.¹⁴ The fashion school is currently located on the Polytechnic’s main campus, and the fashion school, design communications, interior design, and product design departments, which all come under the Design Department, extend over three floors.

The heads of the fashion and design departments have said that the department’s current location suffers from a lack of space. Parts of the current facilities that work successfully are the connections between the studios, production rooms and social spaces, with the studio spaces linked to the side of the production rooms for ease of access between the two. The shared student spaces allow for informal interaction, and are also used as student critique spaces. Both department heads see the need for department’s facilities to move or expand to a larger, more convenient space to adequately provide for current students, and to cater for growth in student numbers.

The current location of the fashion and design departments was not designed specifically for this purpose, and they are currently looking to move to a larger, specially designed space. Ideally there would be space to provide a desk per student, which is not possible in the current facility.

Figure 6.04 Otago Polytechnic fashion department production room.
6.2.3 FIDM, Clive Wilkinson Architects, San Diego, 2008

The San Diego campus of the Fashion Institute of Design and Merchandising is on the third floor of a high-rise office building in downtown San Diego and was completed in 2008 by Clive Wilkinson Architects, who have also developed the FIDM campuses in Orange County, San Francisco and Los Angeles.

The environment was designed in response to the requirements of the school campus and is programmatically defined by three zones: the public entry zone, an education zone where the classrooms, library and technology resources are found, and a zone for student support services and administration with the staff offices. These zones are all distinguished by colours, and are connected through a continuous circulation corridor to encourage interaction between different spaces. The use of glazed classroom and administration office walls onto corridors is also a feature encouraging this interaction. In areas where users could interact, circulation zones have been widened to allow for “carved out media spaces.” These spaces and other social lounges are located off classrooms to allow for spontaneous meetings.

The head of Otago Polytechnic’s fashion department has identified a number of specific design requirements that would ensure the layout suited the department’s needs. These were:

- Shared studio spaces connected to production rooms
- Connection between production rooms and incubator – shared facilities
- Social spaces that connect to studio spaces for informal gatherings, and as a possible informal critique space
- Staff offices closely connected with student studio spaces

Further spaces required were:

- Fashion Incubator
- Exhibition spaces
- Apparel store for selling the work of students and designers from the Incubator
- Material supply store
- Café
- Library
- Open-plan staff offices
- CAD labs and printing facilities
- Storage and locker space, big enough for students to fit garments in
- Technician and student assistant office space
- Auditorium – can be also used for public events
- Textile room – requires an extraction system for the fumes

The Fashion Incubator, located within Otago Polytechnic’s design department, was established to provide space where up-and-coming designers can work, with access to “resources, business mentoring, and networking opportunities”117, and its aim is to develop Dunedin’s fashion scene and “support the next generation of designers in New Zealand”.118 The incubator was based on the Toronto Fashion Incubator, an incubator started in the 1980’s to “stimulate business growth and ensure vitality in the industry”119 when the fashion industry took off in the city of Toronto. The Polytechnic’s Fashion Incubator is currently the only university-owned and -run incubator in New Zealand.

The concept was initially developed by students and later picked up by the Dunedin City Council, and now run by Otago Polytechnic. Its fashion design course is highly regarded; however, many students that graduate head elsewhere to develop their careers. The incubator run by the Polytechnic provides a starting point, giving students an opportunity to develop a label of their own after finishing university. It also creates a connection and integration between education and industry. It aims to encourage the development of local labels and to provide opportunities for local job creation and retention, for cultural growth, trade development, tourism and business expansion via fashion120.

117 “Design,” http://www.op.ac.nz/study/creative/design/study-areas-and-facilities/.
118 Ibid.
120 “Bachelor of Design (Fashion),” http://www.op.ac.nz/study/creative/design/bachelor-of-design-fashion/.
pips and needles
7.0 design process - phase three adaptation

Figure 7.01 Interior photo of Otago Daily Times’ aged patina.
This section discusses the development of the final phase of the design process, the treatment of the selected buildings, ES and ODT Stores. The design decisions were made according to adaptive re-use principles, fashion school requirements, and the surrounding context.

The strongest qualities of Dunedin’s Harbourside heritage precinct are evident through its remaining heritage buildings. Adapting two heritage buildings in the Harbourside area ensures that both buildings remain part of the collection, encouraging the development and restoration of other buildings in the area. As the buildings are not grand civic buildings, but are of an industrial warehouse typology – with less sentimental or well-known historic value – this allowed more exploration into adaptation opportunities while still retaining the character of the area.

This project was developed with anticipation of future development resulting from the re-use of this site. The site was identified through performing urban acupuncture, pointing out the area’s potential. It was crucial that these buildings were upgraded in a way that is viable with or without further development nearby.

A further design consideration was the industrial typology of the area. It has always been an industrial area and is still a functioning industrial zone, any developments had to respect this character and purpose, while also attracting non-industrial activities. The gritty, industrial typology attracts the public; however adding a sense of softness through new design elements also had to be addressed.
7.1.1 Response to the Street – The Entrance

As both buildings have double-ended street access, the initial exploration of how to treat them was by developing the primary entries into the buildings and exploring how to make the street facades more open and inviting.

The primary entrances were developed in the facades facing Cresswell Street, as one architectural goal was to establish connections between the two buildings. This created the potential to activate the space between the two buildings, and establish its importance upon arrival. Access through Mason and Willis Streets will still be available, however the treatment of these facades expresses their secondary nature.

As Cresswell Street runs between the two buildings, reducing the street to a single lane and establishing it as a shared street, access between the two is safer, enhances interaction between them, and emphasises the process of arrival. Defining the street as a shared street was established by introducing bollards to narrow it to one lane, a level change, paving in a different texture, landscaping and planting. As the streets are wide, cars and pedestrians easily share it.

Figure 7.02 These two images show the treatment of the Otago Daily Times Store and Evening Star Store. One possibility to animate the street façade of the ODT is through inserting glazing into the window-like pattern repeated across the façades to make them more transparent and expose the activities occurring inside. The large barn doors of the ES Store could be permanently opened with new glazed doors put in their place.
7.2 architectural intervening

7.2.1 Creating Connection

During initial site visits, the volume of the ES Store indicated the possibility of adding a mezzanine floor. The addition of this element created the opportunity to connect the two buildings via a bridge on a second level, and the bridge concept in turn led to the development of a second level in the ODT Store.

Creating a long bridge – or catwalk – linking the buildings introduced an element symbolising the fashion industry. It also created a strong and dominant axis through the buildings. As the bridge is above ground level it provides a more private connection between the buildings, linking student spaces with staff offices.

A bridge penetrating the buildings' facades required exploration of options that did not diminish the exterior character of the buildings. The most obvious fit was to design a structure that gave the illusion of being a loose fit, emphasising the heavy brick masonry of the existing building. The bridge was designed as a lightweight construction, in strong contrast to the buildings' heavy, thick appearance.

(from left to right)
Figure 7.03 (left) This image shows the process of exploring the angle in which the bridge could connect the ODT with the ES Stores, the top row shows two bridges, which was further refined to one bridge.
Figure 7.04 (middle) This image shows the exploration of how the bridge could penetrate the façade of the ES Store.
Figure 7.05 (right) This photo shows a model made to explore how the bridge may be connected between the two buildings.
pins and needles
These ideas relate to a design by architect Mario Botta for a house at Riva San Vitale, designed in 1971. Botta designed a lightweight steel lattice truss that penetrated the heavy masonry building through a large hole that engaged visually with the image of the bridge entering the building.

Figure 7.06 Mario Botta’s Riva San Vitale.

Figure 7.07 Mario Botta’s Riva San Vitale lightweight bridge contrasting the heavy brick masonry building.
Figure 7.08 Concept perspective of the bridge spanning across Cresswell Street.
The bridge between the Otago Daily Times and Evening Star buildings can be seen as a thread that has stitched them together through a strong, formal connection. Further emphasis on its dominant axis has been expressed through other elements such as the angle of the paving below the bridge, extending the bridge through the Evening Star and continuing it out through the eastern façade.

The idea of the bridge stitching the two existing buildings together was then explored further by looking into different stitching patterns, in particular the zigzag stitch; this has influenced the bridge design.

The more zones the catwalk connects, the more significant it becomes. Investigations into possible angles for the bridge to approach the Evening Star from the Otago Daily Times highlighted a directional pull towards a gap between two sheds located on the wharf and over the water. Extending the bridge out from the eastern façade of the Evening Star and continuing it across the site has created a physical connection between the building, the site, and the water’s edge, another key feature of the Harbourside.
Figure 7.11 Sketch identifying the elements the bridge/catwalk links together.
7.2.2 The Programme

The programmatic requirements of the fashion design school have determined a major part of the re-use. The two buildings were given different purposes, with the ES Store’s focus on classroom spaces such as studios, production rooms, computer rooms, and other related functions, due to its large open flexible space, and the ODT Store being utilised as the staff building, and for amenities such as the library, exhibition space and cafeteria. The ES Store was identified as most appropriate for student learning due to its open, flexible nature.

The programmatic layout of the spaces was arranged according to the public or private nature of the different facilities, with more public areas located in the additions, merging into the heritage building through cuts in the facades. Facilities not intended for general access were located on higher levels. Also, function was considered and areas with specific design parameters such as the auditorium with its acoustic requirements were located in new elements.

Figure 7.12 Diagram showing the different groups of people the buildings’ programme needs to accommodate (students, staff and incubator members), the facilities they will use independently, and those that will be shared.
7.2.3 The Strategies of Adaptation

The criteria for approaching the development of the architectural elements, both how the additions were treated, and how the heritage details were respected, have been discussed in the section, Forms of Adaptation (pg32). This project used the strategies of adaptation which best suited the individual requirements, worked with, and complemented the existing built forms for the development of the ES and ODT buildings.

The dominant strategy in the development of the ODT Store was through ‘Addition’. This relates to the treatment of two new roof gables developed between the two existing gables. The new elements, a staff office and a café, were superimposed on the old, distinguishing them through the choice of materials, yet still sympathetic in the use of the existing gable formation and angles.

‘Addition’ and ‘Intervention’ were the strategies developed for the ES Store. Here, new elements such as mezzanine floors were added internally. The way these elements were connected with the existing, and the materials used, have provided a contrast between the old and new. The additions of the Incubator, auditorium, computer rooms, circulation lobby and bathrooms were designed to read as new elements on the exterior of the ES Store, but the internal flow between old and new is seamless.

Figure 7.1.3 (right) Sketch plans identifying the new and the old elements.
7.2.4 Interventions

The Intervention of new architectural elements into the existing heritage buildings was planned to accommodate the requirements of the new fashion facility.

An architectural challenge of this project was to integrate and express the structural re-strengthening required for the existing building. As new elements such as the mezzanine floors needed to be structurally supported, the re-strengthening of the existing structure and the brick masonry façades was integrated into the design. This could be seen as the project’s ‘micro-acupuncture’ process. Some of the main issues with re-using heritage buildings are their structural capacity and the requirements that must be met to make them habitable for future use.

Respecting interior heritage detailing is another aspect of any re-use project. In the ES Store, the roof trusses and saw-tooth roof were identified as elements worth preserving, as they are typical features of industrial buildings of this era. Adding a second level has strengthened a connection between the structure and the occupants.

In the ODT building, a second floor with open-plan staff offices was added. The floor was supported by a new structure, in between the two existing gable roofs, and appears to hover over the existing structure. Like the ES Store, this integrated the new with the old, forming a connection between the occupants and the existing structure.

Figure 7.14 (left) Interior photo of the Evening Star showing the volume and its potential for a mezzanine floor.
Figure 7.15 (right) Concept model of mezzanine floors inserted into the Evening Star.
A further adaptive strategy used in the ES Store was ‘Renovation’. The original building was altered by removing a section of the existing roofing to create an indoor/outdoor environment within the perimeter of the existing building walls. This creates two entries for the ES Store, the main entrance through the large industrial doors and a second skin that sits back from the street façade. In between these two skins is a space that can be utilised as a protected outdoor area for social interaction.
Figure 7.18 Concept image looking to the Evening Star and further on into the open indoor/outdoor entrance area. Note, image was developed prior to the bridge/catwalk’s support structure being designed.
Figure 7.19 Concept sketch of the interior circulation platform in the ODT linking the staff office floor, the ground floor and the bridge/catwalk.
As with the integration of new architectural elements inside the existing building, new architectural elements were also added externally. These were driven by the fashion department’s programmatic requirements; with the spaces in new structures having more complex design requirements.

One main design consideration was to ensure the additions were an individual response to each heritage building. As a result, the ODT and ES buildings were addressed differently in response to the architecture of each.

Because the original architecture of the ODT building is the more detailed of the two, the new architectural elements were designed to provide a subtle reference to the existing façade with its gables. The treatment of the new gables was important, with new materials used to distinguish them from the existing gables. The ends of the gables were glazed to draw attention to them as the existing gables are out of sight behind the brick masonry façade. On the north-facing façade, louvres protect the gable ends from direct sunlight and establish a second point of difference. As well, stepping back the glazing to create an internal overhang and a balcony has formed an interesting space between the two existing gables, and created another subtle difference. A gabled roof on the new part of the ODT Store has continued the gable language of the building. The two new gables were treated similarly, referencing that the two existing gables were originally treated in the same way.
The ES Store’s ‘Additions’ are attached to the eastern façade of the building. The first is a glazed circulation lobby space, designed as an extension of the bridge. The bridge runs uninterrupted through the lobby, connecting to the main circulation system of the ES, and exits at the opposite end. The lobby is a public realm in the building and connects with all the different spaces. The other ‘Additions’ to the ES store are an auditorium, available for the university and for public use, the Fashion Incubator offices and computer laboratories.

Figure 7.23 Sketch showing the geometries of the existing ES Store and new bridge element.
Figure 7.24 Sketch showing the additional architectural element of the Evening Star Store, the top sketch shows the lecture theatre, the bottom shows the incubator.

Figure 7.25 Photo of the concept model showing the additions to the ES Store, expressing the directional pull of the spaces’ formal arrangement.

Figure 7.26 Sketch showing the same qualities of the previous image.
The final ‘Addition’ to be developed was the bridge, discussed in greater detail above. The bridge is a thread that stitches the two buildings together, connecting them with the surrounding context and creating links with the harbour.

Figure 7.27 Section cutting through the 200m bridge.
As a result of the site investigation and master planning of the area (alongside two other similar projects close to these sites), a green park space was developed as part of the design scheme. It also enhances the overall quality of the wider environment.

The space on the east of the site, with the removal of a small cluster of prefabricated buildings, easily locatable, created the opportunity to develop a park space. There were previously no spaces in the area that served such a function, facilitating both public and university student activities and creating connections with the water’s edge. It also connects with another proposed Otago University redevelopment project and an eco-tourism centre planned for the Fryatt Street wharves.

The biggest problem for a park on this site was the number of intersecting roads. However, low traffic volumes meant changes to the road use have not posed major problems. The introduction of trams, which will circuit Fryatt Street, run across the site and up Mason Street, will also encourage traffic to slow down. As the roads were designed in a grid-like layout, trucks and other traffic can easily be diverted to neighbouring roads, without major disruptions to business activity.

Figure 7.28 (above) Sketch of the adjacent site, with tram tracks swooping through.
Figure 7.28 (above) Sketch of the adjacent site with tram tracks swooping through.

Figure 7.29 Photos of current use site where the park has been designed for.
7.4.1 Parc de la Villette, Paris

Introducing a park to complement the architectural elements led to the discovery of concepts developed by both Rem Koolhaas and Bernard Tschumi in a competition to design the Parc de la Villette.

The Parc de la Villette was a site in Paris, originally home to an abattoir, where in 1979 an international competition was conducted to develop the 55ha of industrial wasteland. The competition’s criteria were to design an ‘urban park for the 21st century’ and to turn the space into a “major architectural complex dedicated to music,” and home to a “national science and technology museum and an urban culture park open to all.”

This competition challenged the “disciplinary distinctions between architecture and landscape” and was seen to reassert the development of form making as an alternative to using nature as the key driver of landscape design. This approach of ‘landscape urbanism’ changed many designers’ views on how landscape design should be seen to carry the same value as architecture.

122 Ibid.
123 Caroline Constant, The Modern Architectural Landscape (Minneapolis: University of Minnesota Press, 2012), 191
Although Koolhaas’s design scheme did not win, it has had a strong influence on how landscape design is now approached. Koolhaas’s design for the Parc de la Villette was developed through a purely programmatic strategy. He divided the park into bands that ran across the site and resembled the “floors of a tower”.

The design of Parc de la Villette is suggestive of an “exploitation of the metropolitan condition; density without architecture, and a culture of ‘invisible’ congestion.”

Koolhaas’s design process was approached in a series of steps; firstly he distributed his programmatic components in bands or levels that divided the site. He used the structural design of a high-rise building, and its programmatic divisions to develop a horizontal skyscraper dividing the land up in a similar manner to the division of the vertical skyscraper. Koolhaas divided these bands into a “series of parallel bands of varied standard widths, establishing fixed points for the infrastructure to facilitate replacement and change.” Then the required facilities were located within the bands, (The Great Halls, Themed Gardens and Discovery Gardens) at random or according to existing site characteristic. The circulation connections were organised through the site, connecting the bands resembling the circulation core of a skyscraper. Koolhaas designed the circulation to have “two primary circulation routes”, one which ran in line with the “programmatic

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126 Ibid.
127 Constant, The Modern Architectural Landscape., 208
128 Ibid.
129 http://oma.eu/projects/1982/parc-de-la-villette
130 Constant, The Modern Architectural Landscape., 208
strips"\textsuperscript{131}, and the other a “meandering Promenade in the form of a figure eight that winds through and connects the plazas.”\textsuperscript{132}

The method Koolhaas used to approach the site – dividing it up to reflect the arrangement of a skyscraper, then breaking it down into programmatic levels, and the way he uses circulation as a spine – have influenced this project.

The design for the two Harbourside buildings and the surrounding site divides into three bands – existing, new elements and park. The catwalk is the spine connecting the different design elements.

Figure 7.31 Diagram of Rem Koolhaas’ Parc de la Villette proposal.

Figure 7.32 Diagram breaking down the different levels developed in Koolhaas’ Parc de la Villette proposal.

\textsuperscript{131} Ibid.
\textsuperscript{132} Ibid.
Bernard Tschumi designed the winning concept for the rejuvenation of Parc de la Villette. His project was developed through three principles formulated for designing: “points, lines, and surfaces.” The design of the site was spatially arranged “through a grid of 35 points, or what Tschumi calls follies.” He developed 26 follies around the site designed to fit the parameters of a “10.8m cube and arranged according to a regular grid of 120m x 120m. Each one, however, is unique in form and function.” His design consisted of two bold landscaping moves, the first “architectural gesture is to avoid a linear character and to make experience more cinematic.” The second gesture was how Tschumi dealt with the placement of the programmatic elements across the site. He designed the park in a non-traditional way, and “envisioned Parc de la Villette as a place of culture where natural and artificial [man-made] are forced together into a state of constant reconfiguration and discovery.”

Tschumi approached his scheme with the intention of designing a space that encouraged users to explore and move throughout the site interacting with different elements as they come across new forms, such as ten themed gardens scattered throughout the site, giving the users the opportunity to use them as they wish. Tschumi wanted to create spaces that would attract people and encourage interaction. The development of new forms and how they are used allows “unstructured interplay amongst program, event, and activity” by the architectural elements or follies, which do not have a prescribed programme or function, allowing the user to decide how and why they might use the form.

The extension of the catwalk out of the building and towards the water was influenced by Tschumi’s concept of follies where the user determines how they will use the form. A folly adds interest and architectural elements to the landscape and can be used in a variety of ways – this catwalk can be place to sit and relax or a viewing platform.

Figure 7.33 Tschumi’s winning Parc de la Villette folly design.
7.4.2 Silo Park, Auckland, Taylor Cullity Lethlean; Wraight + Associates, 2008

Silo Park, designed by Taylor Cullity Lethlean; and Wraight + Associates, is in Auckland’s Wynyard Quarter, on the fringe of the CBD. Although close to the CBD, Silo Park and Wynyard development is a final destination rather than having the same foot traffic as the city, and before its development, the public would not have visited it. Silo Park, an industrial site by the harbour, housed a tank farm and storage sites. The site was developed with the intention of regenerating an industrial area and waterfront to create a space that establishes Auckland as a city “on the water”140 and encourages further development on neighbouring sites in the precinct.

The designers developed two strategies to help inform the design, the “retention and enhancing of fishing and maritime industries”141 which can help “form the focus of new public experiences”142, and utilising the “site’s peculiar archaeology of patterns and materiality to inform a new public future”.143

The language of the area before development was a major driver for the pattern of the redevelopment and derived from “the site, its distinct patterns, functions, materials and artifacts.”144 Although the use of the site was changed, it was designed to speak the language of its former conditions. For example, a gantry-like folly was designed as a main focal point of the park and to expose the site’s past industrial activities.

Other features designed to provide glimpses of the past are the use of bunds to “inform a topographic arrangement of open lawns”145 and tie the embankments built around the silo tanks to “prevent industrial spills”.146 As well a number of precast concrete blocks have been used as “furniture and rip rap walls for a new harbour edge condition.”147

The treatment of the Auckland site to reflect its history and nature has influenced the design of the Dunedin Harbourside site. While buildings have been removed, elements that have been added hark back to the original purpose of the area, giving visitors a sense of history and past activities.

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140 Perry Lethlean, Tickle Waterfronts.01, an Inventory of Waterfronts (Australia: Taylor Cullity Lethlean, 2012)., 15
141 Ibid. 17
142 Ibid.
143 Ibid.
144 Ibid. 18
Figure 7.35 Aerial photo of Silo Park, Auckland’s Wynyard Quarter.

Figure 7.36 Photo of Silo Park’s folly.
Figure 7.37 Concept sketch of the bridge/catwalk approach the water's edge.
The development of wharves and waterfronts into usable social spaces needs to be done without taking away their gritty industrial nature and the decay\textsuperscript{148} that forms a patina, as these elements attract us to them. "This distinctive and local identity is more likely to convey a convincing story and genuine experience".\textsuperscript{149} These characteristics have been reflected and enhanced by creating a connection between the site and the water.

Although this project does not address the development of the waterfront, this will have a direct bearing on the development of the site through the bridge connection. A connection to water will draw visitors to the Harbourside area and ensure it is well used and popular. Glimpses of park space, the addition of a jetty and a connection across a working wharf, (however lightly used) help to express the original character of this industrial heritage precinct of Dunedin's Harbourside.

This project has used a long directional element that pulls towards the water. This has been expressed through the large circulation catwalk that connects the two heritage buildings together, and the new element, a circulation lobby. The bridge has been extended out of the building like a long fashion catwalk, across the park and projecting out over the water, with a jetty shadowed underneath. Like a piece of cotton patching a dress together, this dominant element threads through all aspects of the project, stitching the old, the new, and the water's edge together.

\textsuperscript{148} Ibid., 10
\textsuperscript{149} Ibid.
Figure 7.38 Sketch of this project's take on Rem Koolhaas' Parc de la Villette level division. The first image shows the first level, the raked catwalk circulation link. The second shows the different 'levels', the existing architecture, the new architecture, and levels drawn from the structures, which were once present on the adjacent site. The third image shows the second circulation connection through the site, Cresswell Street. The final image shows all these layers combined.
The ideas taken from these different case studies have helped inform the development of this project in a variety of different ways, adding interest and complexity to the development of the park space and enhancing the development of the adaptation and re-use of the buildings. The park space should be seen as a significant aspect of the design process and as a further element of the architectural design.

Many of these discoveries have helped bring this project back to the initial research into urban acupuncture, as the development of under-utilised sites can be a small step in the healing and rejuvenation of an area. The discovery and development of this idea has helped reinforce the initial ideas of urban acupuncture. The re-use of this industrial zone, both the architecture and the land, can be informed by similar ideas, as both are part of the process of trying to reinvigorate something that holds significant characteristics.

Through an approach based on urban acupuncture’s theory of healing areas in need as demand increases, green spaces could be extended, further rejuvenating the area as required. One connection to the water’s edge has been developed, and further connections can be developed over time.

Introducing such elements creates reasons encouraging people to cross the train lines and move into the Harbourside area, not currently a desirable locality, and then start populating the area.
Figure 8.01 View from Willis Street, Evening Star Store in the foreground and Otago Daily Times in the background.
The purpose of this project was to apply the theory of adaptive re-use to heritage architecture that has slipped into disuse or been abandoned over time, with the particular aim of identifying an area and building or buildings where renewal would create new life and lead to further, ongoing improvements in the surrounding neighbourhood.

Research into adaptive re-use and conservation has contributed to developing an understanding of ways in which architects and developers in the past have addressed projects concerning heritage buildings. The design outcome of this project has been in response to the knowledge gained through the research.

Dunedin was initially selected for this project as it is a city with a significant place in New Zealand’s history, and this is reflected in its architecture. Dunedin’s Harbourside was identified as a suitable area because it is an active industrial zone that has however fallen into neglect, and its heritage architecture is under threat. It also has characteristics that make it attractive as a destination for more than those working in it. For most cities, a waterfront is an asset and a drawcard, and to date, Dunedin has not exploited this advantage.

Urban acupuncture was adopted as a helpful tool in the project. It brought depth to the site identification phase, ensuring the final site selected exhibited qualities that indicated potential for the future, even after this particular project has been concluded. The project considered that the stresses that have led to the diminishing popularity of the area could be alleviated through micro, tactical interventions, initially to the two buildings selected for the project, and supplemented by a macro intervention, the development of a city tramline, that links the area with the wider context of Dunedin.

The programme that was adopted, a tertiary fashion school, was selected because it provided the certainty of regular and ongoing activity, as students would use the campus for much of the year. The intention was that this programme formed a good, stable foundation that could easily be broadened as the Harbourside renewal extends and begins to attract visitors to the area.

Further, an architectural design response was developed in a way to not only meet the needs of the programme but to ensure the new architectural elements did not diminish the heritage characteristics of the chosen buildings. Research into various forms of adaptation helped prevent this from happening.

The New Zealand ICOMOS Charter, a current set of guidelines for working with existing structures, lists three degrees of intervention – adaptation, preservation and restoration. From these, adaptation was considered to be the most appropriate response. In addition, a number of relevant international case studies were examined to help develop a better understanding of the design approach of adaptation. Features of these case studies have influenced the final design.

The different facets addressed by this design included the response to the street, developing connections, finding creative interventions that allowed the old buildings to fulfil the requirements of the programme, and the addition of new elements to support an adaptive re-use.

As the design approach to this project started with two existing forms,
the Otago Daily Times and the Evening Star Stores, the initial design investigation looked into the nature of adapting these buildings to their new use, a tertiary fashion school. As identified through this project’s research, adapting buildings can be done in many ways. The design response to this project recognised that there were two buildings involved in the development, and each should be both respected as an individual building, and integrated to form a combined and cohesive campus.

The design initially responded to the buildings’ street facades, as this is the first view of them. The design saw the need to address the reserved nature of these industrial heritage buildings, making them more open and approachable, while also retaining their heritage character. Connections were a critical element of the design rationale – creating a connection between the buildings selected for intervention and the surrounding context. This has been achieved through the design of a bridge that runs between the two existing buildings and onwards to the water’s edge and beyond. The design of the bridge was developed through the exploration of connecting the two buildings. This led to a raking angle that picked up a view between two wharf sheds and across the water. This angle was developed as it complemented the initial design ideas of creating connections, and added another link between the buildings and the water; further integrating them with the surrounding context. Along with the addition of the bridge, further additions were made to the two existing structures. The redevelopment of these buildings was approached as separate responses to their individual characteristics. The additions to the Otago Daily Times Store were done to be respectful and integrate with the existing building. These were a new level, a gable-roofed staff office situated between the two existing gables, and a gable-roofed café. The additions mirror the language of the existing gables to create a sense of continuity between old and new. The repetition of this gable language was suggested by the history of the development of this building. The initial design had been for one shed, and a second shed later added was almost an exact replica. The additions developed in this project took a more modern approach, however, reinterpreting the building’s original language. The additions to the Evening Star Store were designed to have a stronger presence. Like the bridge, the new architectural elements stretch out of the building’s side towards the water. This exaggerates the directional pull to the water and contrasts with the geometry of the existing building.

Although the programme of this project is a private tertiary facility, many elements, for example, the public park, bridge and viewing platform, and the incubator, café, retail store and lecture theatre that were added, are accessible by the public. This has given the area a feature that draws visitors, and can be actively used by both the public and fashion school students and staff.

This project recognises and values the existing industrial characteristics of Harbourside. However, with renewal probably comes gentrification.

The intervention or intertwining of new architectural elements addressed the need to integrate contemporary building standards at the same time as meeting the requirements of the occupants. Additions to the exterior of the existing buildings were designed as a response to the existing heritage architecture, in some instances contrasting with it, and in other cases complementing it.
Reusing existing historic buildings allows us to retain and respect the individual character of our cities, and makes the most of existing resources. Sensitivity to the needs of the city, the local community and to the particular features of the heritage buildings were key elements in this project. This particular approach to the renewal of under-utilised or abandoned heritage buildings can be expanded by architects and designers in the future.

With the tool that has been utilised through this research, urban acupuncture, even a small intervention can be the beginning of the renewal of a whole area in ways that are economically as well as environmentally sustainable.

It is predicted that as the urban population increases, cities will need to utilise their existing built resources. As a result, adaptive re-use of neglected areas will become more important, both economically and sustainably, indicating an important role for urban acupuncture.

Ultimately, the methods used in this research project can lead to an alternative, and more sensitive, approach to reinvigorating neglected parts of cities – bringing them up to modern standards, without jeopardising their heritage characteristics.
“Bachelor of Design (Fashion).”’, (accessed August 22, 2013), http://www.op.ac.nz/study/creative/design/bachelor-of-design-fashion/.
“Fearon Hay Architects: Imperial Buildings Revitalization.”, 2012,


Kaye, Leon. “Could Cities’ Problems Be Solved by Urban Acupuncture?” Could cities’ problems be solved by urban acupuncture?


“Options for Future Campus Developments Publication.” University of Otago.

Cover Photo Pins and Needles (Source: Author)

Figure 1.01 Dunedin’s First Church. (Source: Author)

Figure 2.01 Speights Brewery demolition, Dunedin. (Source: Author)

Figure 2.02 Gunpowder Mill, Essex. (Source: http://www.topboxdesign.com/gunpowder-mill-bypollard-thomas-edwards-architects-united-kingdom/victorian-gunpowder-mill-exterior-facade-of-original-industrial-building/)

Figure 2.03 Gunpowder Mill, Essex. (Source: http://www.archdaily.com/262765/gunpowder-mill-pollard-thomas-edwards-architects/)

Figure 2.04 Caixa Forum and Plaza, Madrid. (Source: http://www.archdaily.com/56905/ad-special-herzog-de-meuron-by-duuccio-malagamba/0069712-421/)

Figure 2.05 Caixa Forum concept sketch. (Source: http://www.arcospace.com/features/herzog--de-meuron/caixa-forum/)

Figure 2.06 Caixa Forum, original structure. (Source: http://www.arcospace.com/features/herzog--de-meuron/caixa-forum/)

Figure 2.07 Congress Complex, perspective. (Source: http://www.domenig-wallner.at/en/projects/centre-of-documentation-at-the-nazi-party-rally-grounds-in-nuremberg/)

Figure 2.08 Congress Complex, axonometric and perspective. (Source: http://www.domenig-wallner.at/en/projects/centre-of-documentation-at-the-nazi-party-rally-grounds-in-nuremberg/)

Figure 2.09 Punta Della Dogana, aerial view. (Source: http://www.designboom.com/architecture/tadao-ando-punta-della-dogana-museum-in-venice/)

Figure 2.10 Punta Della Dogana, photo of refurbished interior space. (Source: http://www.myartguides.com/venice-art-biennale-2013/art-spaces/foundations/item/484-fran%C3%A7ois-pinault-collection)

Figure 2.11 Imperial Lane, photo of ramping café. (Source: http://architecturenow.co.nz/articles/the-imperial-buildings/)

Figure 2.12 Imperial Lane, photo of new spiral staircase in old services shaft. (Source: http://architecturenow.co.nz/articles/the-imperial-buildings/)

Figure 2.13 Imperial Lane, photo of rooftop restaurant and bar. (Source: http://www.archdaily.com/257150/the-imperial-buildings-fearon-hay-architects/)

Figure 2.14 Imperial Lane, Fort Lane entrance. (Source: http://www.archdaily.com/257150/the-imperial-buildings-fearon-hay-architects/)

Figure 3.01 Harbourside, between 1929 and 1938. (Source: Hocken Library, University of Otago)

Figure 3.02 Harbourside heritage precinct. (Source: Author)

Figure 3.03 Aerial photo of Harbourside. (Source: Alexander Turnbull Library, Wellington, New Zealand. http://natlib.govt.nz/records/30116653)

Figure 3.04 Harbourside, 1937. (Source: Sir George Grey Special Collection, Auckland Libraries)

Figure 4.01 Harbourside, 1963. (Source: Alexander Turnbull Library, Wellington, New Zealand. http://natlib.govt.nz/records/23123071)

Figure 4.02 Map of Dunedin city. (Source: Google Maps)

Figure 4.03 Analysis of Dunedin city's heritage buildings. (Source: Google Maps, edited by author)

Figure 4.04 Analysis of Dunedin city's attractions and green spaces.
Figure 4.05 Analysis of Dunedin city’s university campus. (Source: Google Maps, edited by author)
Figure 4.06 An image of Dunedin city’s heritage buildings pinpointed. (Source: Author)
Figure 4.07 Dunedin’s Harbourside. (Source: Google Maps, edited by author)
Figure 4.08 Macro Application of Urban Acupuncture in Dunedin, tramline route. (Source: Google Maps, edited by author)
Figure 4.09 Analysis showing the barrier between the city and Harbourside created by the railway. (Source: Google Maps)
Figure 4.10 Analysis showing the areas identified for new railway crossings. (Source: Google Maps, edited by author)
Figure 4.11 One of the many heritage buildings found in the Harbourside. (Source: Author)
Figure 4.12 Analysis showing the heritage buildings of the Harbourside precinct. (Source: Google Maps, edited by author)
Figure 4.13 Analysis showing the Harbourside’s waterfront. (Source: Google Maps, edited by author)
Figure 4.14 Harbourside, Fryatt Street wharf. (Source: Author)
Figure 4.15 Example of a vacant site in the Harbourside with remaining industrial relics.
Figure 4.16 Analysis showing the vacant sites in the Harbourside. (Source: Google Maps, edited by author)
Figure 4.17 Sketch of Dunedin’s tramline through the Harbourside. (Source: Author)
Figure 4.18 New Zealand Loan and Mercantile Agency. (Source: Author)
Figure 4.19 Fryatt Street wharves. (Source: Author)
Figure 4.20 Fryatt Street silos. (Source: Author)
Figure 4.21 Otago Daily Times Store in the foreground, with Evening Star Store in the background. (Source: Author)
Figure 5.01 Historic aerial photo of Dunedin’s Harbourside (Source: Hocken Library, University of Otago)
Figure 5.02 Map of selected site, Evening Star Store and Otago Daily Times Store. (Source: Google Maps, edited by author)
Figure 5.03 Evening Star Store. (Source: Author)
Figure 5.04 Otago Daily Times Store, Mason Street façade. (Source: Author)
Figure 5.05 Otago Daily Times Store, elevation. (Source: Author)
Figure 5.06 Otago Daily Times Store, section. (Source: Author)
Figure 5.07 Otago Daily Times Store, interior photo. (Source: Author)
Figure 5.08 Evening Star Store, Willis Street façade. (Source: Author)
Figure 5.09 Evening Star Store, elevation. (Source: Author)
Figure 5.10 Evening Star Store, section. (Source: Author)
Figure 5.11 Evening Star Store, interior photo of the saw-tooth roof. (Source: Author)
Figure 5.12 Evening Star Store, interior. (Source: Author)
Figure 5.13 Evening Star and Otago Daily Times Stores from Mason Street. (Source: Author)
Figure 6.01 Model walking down Dunedin's Fashion Week catwalk, held on the Railway Station platform. (Source: http://www.zimbio.com/pictures/i1QmK-vF7Oz/iD+Dunedin+Fashion+Show+Runway/
Figure 6.02  Historic photo of the cutting division of Hallensteins’ sewing house. (source: http://builtindunedin.com/2012/07/04/hallensteins-new-zealand-clothing-company/)

Figure 6.03  Models wearing two of Dunedin’s fashion labels, Moodie Tuesday, Company of Strangers. (Sources: Moodie Tuesday; http://www.moodietuesday.com/products/rosa-button-down-shirt , Company of Strangers; http://companyofstrangers.co.nz/collections/exile/)

Figure 6.04  Otago Polytechnic fashion department production room. (Source: Author)

Figure 6.05  Fashion Institute of Design and Merchandising, San Diego. (Source: http://www.archdaily.com/183480/fidm-san-diego-campus-clive-wilkinson-architects/)

Figure 7.01  Interior photo of Otago Daily Times’ aged patina. (Source: Author)

Figure 7.02  These two images show the treatment of the Otago Daily Times Store and Evening Star Store. One possibility to animate the street façade of the ODT is through inserting glazing into the window-like pattern repeated across the façades to make them more transparent and expose the activities occurring inside. The large barn doors of the ES Store could be permanently opened with new glazed doors put in their place. (Source: Author)

Figure 7.03  This image shows the process of exploring the angle in which the bridge could connect the ODT with the ES Stores, the top row shows two bridges, which was further refined to one bridge. (Source: Author)

Figure 7.04  This image shows the exploration of how the bridge could penetrate the façade of the ES Store. (Source: Author)

Figure 7.05  This photo shows a model made to explore how the bridge may be connected between the two buildings. (Source: Author)

Figure 7.06  Mario Botta’s Riva San Vitale. (Source: http://leonaegle.blogspot.co.nz/2012/11/mario-botta-house-riva-san-vitale.html)

Figure 7.07  Mario Botta’s Riva San Vitale lightweight bridge contrasting the heavy brick masonry building. (Source: http://www.flickr.com/photos/krss/8415538885/in/photostream/)

Figure 7.08  Concept perspective of the bridge spanning across Cresswell Street. (Source: Author)

Figure 7.09  Model, showing the bridge spanning across Cresswell Street. (Source: Author)

Figure 7.10  Zigzag sewing stitches, which have influenced the bridge design. (Source: http://sparet imeforsewing.blogspot.co.nz/2010/07/using-vintage-sewing-machine-older.html)

Figure 7.11  Sketch identifying the elements the bridge/catwalk links together. (Source: Author)

Figure 7.12  Diagram showing the different groups of people the buildings’ programme needs to accommodate (students, staff and incubator members), the facilities they will use independently, and those that will be shared. (Source: Author)

Figure 7.13  Sketch plans identifying the new and the old elements. (Source: Author)

Figure 7.14  Interior photo of the Evening Star showing the volume
and its potential for a mezzanine floor. (Source: Author)
Figure 7.15  Concept model of mezzanine floors inserted into the Evening Star. (Source: Author)
Figure 7.16  Sketch of the removal of the first structural bay to create an open indoor/outdoor entrance environment. (Source: Author)
Figure 7.17  Photo of model expressing similar qualities to previous image. (Source: Author)
Figure 7.18  Concept image looking to the Evening Star and further on into the open indoor/outdoor entrance area. (Source: Author)
Figure 7.19  Concept sketch of the interior circulation platform in the ODT linking the staff office floor; the ground floor and the bridge/catwalk. (Source: Author)
Figure 7.20  Sketch of first exploration of the ODT staff offices. This exploration shows the staff offices positioned in the spaces between the trusses, creating a frame within the truss to allow for movement between trusses. (Source: Author)
Figure 7.21  Exploration two. The above spaces were too small and were addressed by raising the roof height around the exterior perimeter of the building and adding clerestoreys around the edge to allow natural lighting to penetrate. (Source: Author)
Figure 7.22  Exploration three. This approach that has been used in the developed design of the ODT plays with the idea of inserting the staff offices under a new gable that has been inserted between the two existing gables. (Source: Author)
Figure 7.23  Sketch showing the geometries of the existing ES Store and new bridge element. (Source: Author)
Figure 7.24  Sketch showing the additional architectural element of the Evening Star Store, the top sketch shows the lecture theatre, the bottom shows the incubator.
Figure 7.25  Photo of the concept model showing the additions to the ES Store, expressing the directional pull of the spaces’ formal arrangement. (Source: Author)
Figure 7.26  Sketch showing the same qualities of the previous image. (Source: Author)
Figure 7.27  Section cutting through the 200m bridge. (Source: Author)
Figure 7.28  Sketch of the adjacent site with tram tracks swooping through. (Source: Author)
Figure 7.29  Photos of current use the site where the park has been designed for. (Source: Author)
Figure 7.30  Sketch of this project’s interpretation of Rem Koolhaas’ horizontal skyscraper levels. (Source: Author)
Figure 7.31  Diagram of Rem Koolhaas’ Parc de la Villette proposal. (Source: http://landscapeurbanism.com/article/the-performative-ground/)
Figure 7.32  Diagram breaking down the different levels developed in Koolhaas’ Parc de la Villette proposal. (Source: http://4.bp.blogspot.com/-ccCHsO1DDlic/UGb0EWptEfl/AAAAAAAAADs/VjUmlLWDBkg/s1600/Koolhaas_Parc+de+la+Villette_Diagrams_rev.jpg)
Figure 7.33  Tschimi’s winning Parc de la Villette folly design. (Source: http://onewaystreet.typepad.com/one_way_street/2010/01/)
Figure 7.34  Silo Park, Auckland’s Wynyard Quarter. (Source: http://www.archdaily.com/239250/jellicoe-harbour-and-silo-park-taylor-cullity-lethl%E2%80%8Bean-wraight-associates/)
Figure 7.35  Aerial photo of Silo Park, Auckland’s Wynyard Quarter.
Figure 7.36 Photo of Silo Park’s folly.
(Source: http://www.archdaily.com/239250/jellicoe-harbour-and-silo-park-taylor-cullity-lethl%E2%80%8Bean-wraight-associates/)
Figure 7.37 Concept sketch of the bridge/catwalk approach the water’s edge.
(Source: Author)
Figure 7.38 Sketch of this project’s take on Rem Koolhaas’ Parc de la Villette level division. The first image shows the first level, the raked catwalk circulation link. The second shows the different ‘levels’, the existing architecture, the new architecture, and levels drawn from the structures, which were once present on the adjacent site. The third image shows the second circulation connection through the site, Cresswell Street. The final image shows all these layers combined.
(Source: Author)
Figure 8.01 View from Willis Street, Evening Star Store in the foreground and Otago Daily Times in the background. (Source: Author)
The word acupuncture originates from the Latin acu, which means ‘with a needle’ and punctura, which can be translated as ‘pricked’. By definition, acupuncture is a system which involves pricking the skin or tissues with needles into specific points of the body to relieve pain and ‘treat various physical, mental and emotional conditions.’ The method involves a series of procedures done to encourage activity at specific points on the body through a variety of techniques. This includes needles penetrating the skin, and then further manipulations of needles, which are done by hand or with electrical stimulations to induce beneficial effects. The needles are inserted into the body at specific points, identified through a deep understanding of the body, and treat the place where the practitioner believes there is a block in the flow of energy through the body.

The fundamental purpose of acupuncture is to bring balance back to the patient’s energy or Chi, as imbalances in the Chi are believed to result in sickness or disease. The principle behind the balance of Chi is related to the theory of Yin and Yang. Yin, the shady side of the mountain, and Yang, the sunny side of the mountain, are found in all things; they are complementary opposite forces that act to form a whole, creating a dynamic system. Acupuncture is a ‘two-way communication between the skin and the internal organs and structure of the body.’ The main acupuncture points, which are found all over the body and are located in specific places to stimulate different parts, are found along the meridian, a series of pathways in the body where the qi, the vital energy, flows, and are essential for the health of a person. The meridian is a system that links the vital organs with the rest of the body and allows the body to function as an organic whole. Twelve pathways or channels connect with the different organs and ‘flow from inside the body… to the superficial body tissues of the skin’. If there is any disruption to the flow of ‘qi’ it is believed disease is responsible. Through identifying and stimulating specific points in the skin, acupuncture can correct the imbalances of this flow of ‘qi’ in an attempt to cure the cause.

The critical factors when performing acupuncture are the location of the needle, the depth the pin needs to be inserted and the methods of manipulation.
11.2 final presentation drawings