A Choreography of Human Transition

Strategic Insertion of an Intervention

Performance of Architectural Interiority
Masters Thesis

Toby Paton Laing

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Toby Paton Laing

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'Having so little research in New Zealand on what is simultaneously a critical event and difficult process in each released prisoner's life is itself an indication of how a monolithic institution (the prison) has long been the subject of greater interest among researchers.'

*'There is an absence of international historical and current evidence of prison as a site of rehabilitation and reform, and imprisonment and reimprisonment data suggest that current modes of managing prisoners and offenders constitute an extraordinarily expensive means of failing to secure public safety or rehabilitate prisoners and **resettle offenders**.'*

- Dr Anne Opie

Preface

Spatial anxiety is very real. Historically this concept has been utilised in the architecture of restraint (Johnston, 42), where punishment is based heavily on isolation and the limitation of freedom.

Under these conditions of incarceration one does not have the choice to circulate throughout spaces to find environments in which one will thrive. If for whatever reason prisoners are allowed to move without complete containment, movement is conducted under the most extreme of supervision (Fairweather, 31).

In most societies the right to privacy and most other human privileges are removed once a severe crime is committed. Although it would not be controversial to suggest that living under these conditions is inhuman, the traditional criteria for becoming forced into incarceration requires that the convicted commits acts considered to be 'inhumane' (Rodham, 2013).

Most specialists in the architecture of restraint turn to the safety of traditional prison design, responding without much consideration for innovation.

This Thesis engages with an ongoing focus on reform, (**see fig 0.01**) specifically exploring the domain of transition. In attempts to define an appropriate mid-point between two worlds; prison and society (**see fig 0.02**). However, achieving this within the realm of interior architecture first requires the establishment of a strategic design process.

Fig 0.01 Reform Diagram

Fig 0.02 Transition Proposal

Chapter 1
Thesis Introduction

Introduction

Various correctional departments throughout the world have faced ongoing problems in attempts to deter past convicts from returning to a life of crime. In New Zealand alone the modern recidivism statistic for first time prisoners is 30% and 60% for those who have re-offended before ("Corrections Department NZ," 2014).

There are many reasons as to why re-offence is still so prominent in society. According to the New Zealand Department of Corrections some of the largest contributors include, low levels of parental support of young people, a lack of male role models, lack of affection between family members, poor supervision (in the case of young offenders), the antisocial behaviour of parents involving substance abuse, and poverty (Opie, 13).

Furthermore past criminals allow the shadow of their imprisonment to imprint negatively, leading to a life of low self worth (Opie, 13). This is a burden that can have the utmost impact on someone who has quickly moved from such an encased environment to one of utmost freedom, often resulting in re-offence or mental disturbance.

This research attempts to answer the question; how can architectural design assist in the prevention of recidivism and help past offenders to re-enter society more easily?

A base focus will be placed on the exit of prison itself, providing ideas in contribution to healing, re-education and re-connection during what should be a positive transition period.

Strategic concepts have been conceived with design-led research in response to this statistic explicitly in congruence with existing innovative solutions, working against traditional themes of incarceration. The architectural interiority of a developed environment should be therapeutic.

Specific Problem

In most cases the past convict leaves a system of incarceration and directly re-enters society without adequate intermediary programming (Opie, 14). Therefore reinsertion into society is accompanied by anxieties and uncertainty (Haney, 55). **(see figs 3.10 - 3.12 on page 60).**

The Department of Corrections in New Zealand have put in place specific programmes for varying offender types, post sentence ("Corrections Department NZ," 2014). However, most of these take place once the offender has already been reintroduced back to the home immediately after release, already having to cope with the stresses of life in open society such as: family reconnection, paying bills etc.

Based on very traditional beliefs in the complete separation of criminals from law-abiding citizens, prison and home have subsequently been placed on opposite ends of the living quality spectrum. This has always been for the purpose of creating a supposedly safer community (Johnston, 42).

Ideally, a positive solution would involve providing an architectural program encompassing these activities set up by the department (with room for other appropriate activities) to support individual needs. (Opie, 67).

This design-led research offers a solution in the form of a transition based centre. This should become a threshold between prison and society with concentration placed on stress relief.

Addressing the Problem

- **Method**

The method that will be undertaken for achieving appropriate design will involve developing a strategy surrounding renegotiations of traditional prison design pressed upon largely in research by Norman Johnston and Leslie Fairweather.

As transition design is a new concept, a development of three base design principles associated with typical prison living will be outlined to assist. This includes **notions of authority**, **appropriation of space** and developing opportunities for **movement**, encouraging circulation. It is suggested that renegotiating these principles for the purpose of design will improve positive mental stimulation for past offenders.

In pursuit of this, research will be primarily based on the works of Dr Anne Opie. She outlines a 'gap' (Opie, 13) between prison and home where transition should occur. This invites opportunity for architectural exploration. In addressing her written material, certain contemporary texts by theorist Jacques Derrida accompany the idea of the gap with philosophical insight.

Environmental design will also be considered as an influence for internal design, through the works of Timothy D. Crowe. He outlines the role of social deterrents in space management.

Furthermore an evaluation of the sensual will be addressed, concentrating on the role of light and materiality in architecture through explorations by Henry Plummer. This information will accompany and influence design phases while testing research.

- **Initial Design Criterion**

The design does not need to be fixed but conceived as an interior intervention with several spaces required for short-term stay. It was felt more appropriate that the centre be based on the transition of male inmates.

As this thesis is based categorically on architectural performance and the relationship of body-to-space, cultural diversity will not be considered at this stage. There is of course potential for this to be explored in later research and is a subject that should not be completely omitted.

- **Time Frame and Programme**

The design and scale of the centre will be structured around a fifty day period per resident.

Within this period of time, each resident will enter, receive appropriate room placement, be issued an individual daily routine designed around personal interests, medical background and meal times, as well as having the opportunity to fully exploit varying social activities offered inside.

As part of the daily routine, residents will also be visited or have the opportunity to visit a councillor who can decide on the frequency of meeting, and organize opportunities for family visitation.

* * *

Chapter 2

Background: Traditional Prisons, Past and Present

Past, Present and the Introduction of Reform

It is foremost important to understand the incarcerative system and its historical context prior to the development of the interior architecture of a transition environment so that outdated strategies are not replicated.

Only after 1780, detailed reports were recorded on conditions of incarceration with new spirits of rationalism influencing an expectation for promoting reform in Europe. As described by late French historian Michel Foucault, this movement in turn required the development of bureaucratic routines established by governments to control the behaviour of both inmates and their keepers.

Through architectural intervention, the new ideal for prison structure was to then separate the worst criminals from the milder offenders, men from women and adults from juveniles. With precision, the prison was to allow for surveillance and inspection at all times (Johnston, 42).

New demands on the architecture were also being made for other introduced means of reform including religious instruction, often education

and labour. Furthermore new humanitarianism resulted in greater concern for the health of inmates and the expectation that the abuses of earlier prisons would be replaced by a more humane treatment.

By the end of the eighteenth century architects were increasingly designing prisons to provide an appearance that characterised the institutions' nature and purpose, referred commonly to as architectural 'parlante.'

Prerequisite demands were made that the new architecture would allow for, punishment still, security from escape as well as defence from the outside, systematic supervision of both guards and prisoners, prevention of corruption arising from prisoners' mutual contact, reformation by means of labour, religion and possibly education (Johnston, 42). Jails were also to be equipped with alarm bells and each cell was to have double doors and locks so that they were extremely secure on the inside.

In parallel with the newly instated internal and external unforgivingly dense walls, it was found that the utmost push for continual surveillance became the most effective formula for inducing reform (**see fig 2.01**).

Such inspection coupled with a system of either grouping of prisoners into classes according to certain offender types or characteristics and placing them in individual cells was now regarded as the correct standard for prison administration. This systematic architectural plan was distributed around Europe and filtered into younger countries under British rule including Australia and New Zealand.

Fig 2.01 Presidio Modelo Panopticon Design in Cuba

Acts of the nineteenth century officially sanctioned this use of 'classification association' in order to bring an improved degree of uniformity and organisation to the local prisons. But this idea of categorisation initiated varying attempts at a new concept involving prisoner solitary confinement (Johnston, 45).

This was later recognised through reports in American correctional facilities stating this general separation would prove effective across the entire prison system. Instead of categorising offender types, solitary celling systems were established in these contemporary American prisons in 1830, despite previous earlier attempts to test this concept in Europe proving far too costly and unfeasible with overcrowding (Johnston, 46).

However in actual practice, the separation of prisoners into too many categories was often awkward for architects to design for. This system of isolation still creates controversy today. It was in the influential writings of architect Richard Elsam where it was first suggested in 1818 that the nature of classification association was the most effective system.

'By keeping the young and least experienced offenders from the old, it cannot be doubted that numbers will be reclaimed and their future lives rendered more happy and comfortable, than they had previously any notion of' (Elsam qtd. in Johnston 46).

However, Jonas Hanway had earlier written in 1776, 'solitude in imprisonment with proper profitable labour, and spare diet is the most humane and effectual means of bringing malefactors to a right sense of their condition' (Hanway qtd. in Johnston 46). Referring to the Quaker philosophy, he further remarked: 'It is obvious that the use of an apartment for each prisoner is the only effectual means of calling forth reflection.' ("Quakers in the World - Reformers in Criminal Justice, 2014").

Traditional Typologies

The earliest prison designs were based on three main types: **the rectangular**, or non-radial, based on earlier eighteenth century jails and earlier church buildings; **the circular**, including polygonal layouts; and **the radial**, which were to become by far the most prevalent after 1790 (see fig 2.02).

In the construction of these prisons inexpensive materials such as cast iron became of particular value to architects and builders from the 1770's onward (Johnston, 47).

Fig 2.02 Radial Surveillance Diagram

Fig 2.03 Jeremy Bentham's Panopticon Design, 1787

Style

Later on, as reforms began on a larger scale and many purpose-built prisons were erected, a self-conscious architecture evolved. Architects and the public alike also had opinions on the way that the exterior should be presented and the impact that the interior should have. In its public face the prison must present an image likely to deter crime on the part of those who viewed it. Interiors adopted a gloomy nature, leading to melancholic contemplation (see fig 2.04). An internal motif that often lingers today (Johnston, 60).

Fig 2.04 Nuernberg Jail Interior, 1945

Psychological Effects of the Modern Prison Environment

Often no clear relationship can be established between behaviour and prison design, as too many variables exist to challenge the results. Changes in behaviour may be as much a result of management procedures and personal characteristics of inmates and staff as the environment. Because of this the architecture constantly changes, inviting new theories and philosophical concepts in order to achieve positive development (Fairweather, 31).

The most fundamental design change of the last 30 years has been the switch from radial layouts to the idea of direct supervision through 'new generation designs,' where a greater degree of staff to inmate contact has been encouraged (Fairweather, 31).

It is true that for some prisoners this new system is uncomfortable due to constant exposure to guards, preferring the mutual antipathy of the traditional. Obviously there is a major safety factor for guards in this new system, no longer having the freedom to retreat from direct supervision and possible attack.

Fairweather argues that in modern prisons there has been too much reliance on technology to eliminate danger and reinforce control. In modern penitentiaries the use of CCTV, and automated cell doors not only create inmate anxiety for safety with limited supervision, but also a great threat to staff if failure occurs. The use of electronic devices can be counterproductive.

The prison experience is more often than not detrimental to the physical and mental wellbeing of many. Within a range of physical and social conditions, inmates do adapt, but not always in ways that would meet with official approval. Stress levels vary throughout, often preventing adequate rehabilitation, with the highest levels occurring during reception and are in fact most prominent **prior to release** (Fairweather, 32).

A prisoner's major problem is more to do with disconnection from family and friends, loss of freedom, concern about life post release, maintaining their self-esteem or self-identity, and how to manage their time. Therefore inmates generally approach their new environment of constraint with negativity.

This is obviously no foreign concept to architects and reformers, but it is infrequent that they actually complain about the standard of accommodation. It has been recorded in fact that inmates respond more positively to newer accommodation and tend to keep it tidier (**see fig 2.05**).

Stress-related factors surrounding isolation are fairly obvious, and this is why traditionally it has been deployed in some facilities as a nonviolent form of punishment. But an overcrowded maximum-security facility can sometimes be just as stressful. (Fairweather, 32).

Leslie Fairweather outlines key points (excluding overall institution populous) of reducing stress through design, providing certain guides on what should be greatly considered.

Fig 2.05 Danish State Prison Concepts, by C.F Moller Architects, 2011

- **Location of the Prison**

It is generally agreed that prisons should be situated within reasonable approximation to and have a rather close connection to a community of which prisoners have their closest ties. In the past prisons have been positioned outside of major towns as icons of punishment, but for psychological purposes inmates should at least feel a detached presence to a close-by-home or series of memorable locations (Fairweather, 34).

One of the most important factors in an inmate's successful return if granted a reasonable sentence, is to facilitate and encourage the social and emotional support that can be provided by family and friends (Opie, 62). Being within a self-contained environment that provides medical support, means of exercise, and places of worship can provide psychological reassurance as well.

Lastly, spaces or external areas for inducting voluntary support in social activities can have positive effects. Not only can prisoners now see staff becoming more willing to socialise, but also a select few enthusiastic members of society willing to try and understand.

- **Layout**

In recent times it has been found far more effective to design around direct supervision prison plans. This allows for more, but limited, contact between guards and prisoners.

With this method of supervision staff can see first hand the development of prisoner hierarchies and cultures, monitor involvement and quickly eliminate misconduct. Indirect supervision, a very traditional method, is far less effective especially for observing character types.

Direct supervision prisons however have a much larger central association area surrounded by only one or two storeys of cells. The central space is usually triangular or rectangular, and officers are expected to roam and mingle there with the inmates.

Greater staff-inmate contact has been found to lead to increased positive relationships, allowing for better security and for more efficient monitoring of the health of prisoners also. Because of this, violent incidents are drastically reduced, homosexual rape virtually disappears and vandalism and graffiti are almost eliminated.

‘New generation’ prisons and future structures should continue to be designed most importantly with established connections between staff, inmates and the public, including volunteers, family and friends. One way of doing this in recent times has been through extending recreational facilities to the outside, which could potentially allow for community involvement, or at least exposure (Fairweather, 35).

Furthermore it has been shown that using standard materials found in more modern domestic environments such as porcelain sanitary fittings will deter prisoners from vandalising. It has been shown that more costly vandal-proof fittings, lighting fixtures and materials are far more likely to be vandalised than those recognisable in the home etc (Fairweather, 35).

Additionally, complaints are often made that confining most activities to one or two spaces can be very monotonous, leaving inmates bored; one of the biggest triggers for acting out. However, utilisable areas in modern prisons are becoming more vast, especially for recreation. (Fairweather, 36).

It has been suggested that the symbolic and physical right to variety, movement and exercise is key for psychological rehabilitation (Buckaloo, Krug, and Nelson, 2014).

- **Visitors and Outside Community Involvement**

Visitors should be welcomed opposed to 'ushered' inside a premises. The architecture should cater to this (**see fig 2.06**). There should always be a clear entrance way or lobby designed for short term wait or direct communication with reception before the introduction into some form of visiting hall. (Fairweather, 36).

Within certain boundaries of security, every effort should be made to provide a relaxed atmosphere for visitors and inmates, making for relaxed conversation.

Meetings should be undertaken to boost confidence in both inmates and families (Fairweather, 36). Ongoing international debate still exists as to whether physical contact should be allowed between visitors and prisoners in any case (Fairweather, 36). It is believed that complete contact in some cases would be relished and appreciated and therefore no harm would come to either party.

Fig 2.06 Inviting Reception of Grove Spa Resort, Cyprus

- **Accommodation**

Overcrowding is a subjective variable, but under certain conditions it can foster aggression and stress when there is a lack of privacy (**see fig 2.07**). Privacy can provide an emotional haven; it allows for the opportunity of self-reflection, self-evaluation, permits communication and establishes psychological boundaries from others. It provides personal autonomy and a sense of individuality and control over one's situation.

Research indicates that a lack of personal control exacerbates the effect of overcrowding (Fairweather, 38). Privacy in institutions is related to occupancy patterns, single versus multiple rooms, and density, the number of people per unit area. The manipulation of distance or barriers in the environment is a critical mechanism in achieving privacy (doors etc).

A barred cell can provide physical separation but little visual or auditory isolation; in a dormitory for example, no separation is possible. An inability to achieve socially accepted norms for bodily functions has a dehumanising effect. An exposed toilet for example, shows little respect for privacy or dignity of the inmate concerned, and may further hinder sensibility.

Double-bunking is often another solution used for accommodating more prisoners in less space. What should never happen (although often it does), is the introduction of additional beds to a space designed for one, especially if the room is already intended for other uses like eating and sanitation (Fairweather, 38).

This however, has provided for ongoing international debate about inmate appreciation for the comradeship that comes with double bunking, or at least room sharing. Some inmates even prefer the larger quarters of a dormitory for the comradeship and potential for developing closer relationships inmate to inmate. Ideally there should be a sufficient variety to cater for individual needs and preferences, in accordance of course to the required level of security and safety for the inmate (Fairweather, 38).

Dormitories can be considered spaces for intimidation, bullying and are often considered to be inhumane in design, often depriving residents of privacy and invariably fostering extortion and blackmail.

In an ideal situation, prisoners should get to choose his or her room type and room-mate, as found to have positive and consoling effects in a recent New Zealand prison double-bunking study (“Prisoner Double-Bunking: Perceptions and Impacts, 2012”).

In basic summary it was found safer to assume that greater spatial density, and increased spatial accessibility will play the most important role in achieving safety and reform. Many inmates are often more concerned about the lack of space outside their cell than inside (Fairweather, 38 - 40).

Fig 2.07 Prison Overcrowding in a Dormitory, California, 2010

- **Environmental Perception**

Fairweather states that in modern times there is no excuse or justification for deliberately designing unwholesome accommodation or choosing a dim colour scheme and excessively harsh materials. This sends out quite the wrong message and inhibits the hopes of encouraging prisoners back into society.

Many would argue, but even in environments such as this, design quality must present positively benign in scheme. Oppression and ugliness can lead to alienation and aggression. Flat, square concrete yards, executed without any thought for the aesthetic, overlooked by cells often littered with rubbish could effectively for example be designed as a series of terraced, grassed and softer landscaped areas.

It is important that a positive flow exists between the inside and the outside, which can be just as important, inducing moods of calm (**see fig 2.08**). At the very least prisons should exist without smell and limited echo, be well lit, warmed and ventilated (Fairweather, 41).

Fig 2.08 Large Atrium of Justizzentrum Leoben Prison, Austria

Fig 2.09 Danish State Prison Grounds Concept,
by C.F Moller Architects, 2011

Sensory Deprivation

According to Fairweather sensory deprivation basically implies a severe limitation to one or more of the bodily senses. While very little is known about complete confinement or restriction of the senses, it has been said to have a significant effect on the mind. Much deprivation has been known to develop into longing for personal expression, often manifesting itself in the form of vandalism or damage.

In order to accommodate the physical senses (or not) in building, we consider the following; thermal comfort (temperature, humidity and air movement), noise, light, view, and smell. In prison, the outcome will depend on an individual's level of activity, exertion of energy, quality of clothing and control over thermal conditions in space.

Aggressive behaviour undoubtedly increases with the irritation of thermal discomfort, especially if it is too hot (Fairweather, 42).

This is often due to the location of the prison, a vastness of dense materials (such as concrete) and certain metals that can harbour greater thermal

mass, varying volumes of space, and of course overcrowding. The complex building structure of prison can increase the difficulty in designing and installing mechanical systems for ventilation.

Noise is one of the prison environment's most persistent problems, pervading even the new 'soft' prisons (Kaufman, 19). When communication becomes difficult, conversations are shouted, sleep is often disturbed and stress and discomfort are experienced.

Currently there are two recorded main issues with noise in prison: the source of the noise, and the hard materials used, which exacerbate the problem. In many prisons the clang of metal on metal is common.

Very few soft and absorbent materials are used, possibly because of their limited durability in such environments, often requiring more maintenance and more frequent replacement.

Noise levels can be reduced by isolating or dispersing audio systems, using sound-absorbing materials such as carpet or acoustic tiles, and limiting the metal on metal contacts of structure, equipment or furnishings.

Where inmates have limited control over unwanted noise, they all exhibit physiological reactions typically associated with stress (Fairweather, 42 - 43).

In terms of light and view, certain research suggests that windows are more than just a luxury for the incarcerated, and that lack of contact with the outside world heightens stress and depression. In such a restricted and monotonous setting, a view out becomes a necessity. The highest stress levels are felt the more isolated the environment is (Fairweather, 43).

It has been suggested that natural light provides consolation and breathes life into the architecture (Plummer, 6).

A balanced judgement should be made on how much natural light can be provided and where, but the general rule is, the more accessible it is, the better. Standards of artificial lighting should be those acceptable in normal and similar situations outside of prison (the domestic, or commercial). The height of windows should be considered as well, as views out are just as important as views in (Fairweather, 43).

Design and Colour

Generally it is accepted that colour has to play a major role in affecting behaviour, but there is limited research in the correctional field. Only certain advice can be given.

For the purpose of achieving a positive outcome in rehabilitation, cell walls should be given lighter hues as studies have shown a positive inmate response to brighter colour, as long as it isn't overwhelming. Even more significantly, if rooms can be painted or decorated by the inmates themselves the outcome is even more positive. But of course there are always problems relating to personalisation. In large gang-infested penitentiaries in the US for example, certain groups use this opportunity to denote sectors of the prison that they control (Fairweather, 43).

The interior design should make the prison more attractive, brighter, lighter, airier and less institutional looking. Improving the positive physical appearance, especially where inmates can take part in one way or another, can improve morale and lessen tension.

Colour can enhance light by either brightening or subduing spaces, provide sensory stimulation, give directional and other information, and optically change the proportions of a room. 'Saturated' colours are thought to be inviting and reassuring, although only a moderate level of stimulation is advised. It is therefore recommended that more attention is made to the hue and materiality rather than the colour itself. Certain prisons use pink for 'calming rooms,' however pink is closely associated with red, historically noted to be a colour of aggravation (Fairweather, 43).

According to research, certain hues of blue, red, black and yellow should be avoided, due to their psychological or cultural connotations. Also a swift change in colouration such as purple spots on a yellow background can prove to be psychedelically torturous. Colours associated with nature are a safer options and often used in contemporary rehabilitative environments.

However using a colour scheme based around a subtle changing of materials can assist in the management of large open spaces, allowing safe movement and guidance without the need for corridors and additional doorways. A different kind of flooring material can create a path alongside a carpeted area for example, resulting in natural use as a circulation route.

Contemporary architects as Tadao Ando design with masterful plays of light against materials which perform in the same way (**see fig 2.10**). Even with a dense use of materials as concrete and hints of timber, certain treatments and form work allow the atmosphere to gain warmth with little need for artificial colour at all (Tadao Ando: “From Emptiness to Infinity,” 2013).

Fig 2.10 House Design by Tadao Ando, Sri Lanka, 2011

Furniture

Furniture plays its own role on the prisoner psyche. Cell furniture has to be designed in such a way that is secure, usually fixed to the ground, lacking pores and cavities, often one or two materials, hard and smooth in completion. Anything slightly more luxurious, in social areas for example will be leather or plastic covered for easy replacement or hygiene and cleaning reasons (Fairweather, 44).

However, for a centre of transition furniture should be comforting to levels again associated with a domestic environment.

In New Zealand

The New Zealand Department of Corrections undertook local research involving some major national prisons surrounding the effectiveness of room sharing or 'double-bunking.'

Throughout the last decade specifically the department has been faced with the need to accommodate significant increases in the number of prisoners in a cost effective manner. Therefore the need to strategise methods for accommodation and testing double-bunking has become a priority. This particular research to discover any feasibility in more intimate room sharing was recorded over the period of 2009-2011 and conducted in two major phases ("Corrections Department NZ," 2014).

The **first phase** recorded the immediate perceptions of inmates and staff after the introduction of double-bunking, and the **second phase** examined the consistency of perception after an elongated period of extended double-bunking ("Prisoner Double-Bunking: Perceptions and Impacts," 2012).

Key findings during phase one showed that prisoners interviewed preferred single cell accommodation in prison, as it provided privacy and reduced exposure to conflict. However, the research also showed that prisoners simply got on with the new assignment without much verbalisation of disapproval and found the new arrangements to be satisfactory.

This may have been for the most part in accordance with giving the inmates the opportunity to choose a suitable roommate. Some prisoners expressed a distinct preference for being double-bunked, stating that it had positive effects such as companionship, mutual support and the sharing of resources.

The **risk management** of this procedure included major factors as:

- Consideration of placement to avoid prisoners being placed with others who have the potential to cause them emotional or physical harm.
- Monitoring of cellmate combinations by staff to ensure that interpersonal conflict and tension do not become unduly elevated.
- Facilitating time away from the cell so that cell-sharing prisoners have time to themselves.
- Providing options for prisoners to securely store personal items.

In addition, providing improved ventilation, installing fittings such as modesty screens and access to extra toilets in the wider unit were regarded as important for mitigating personal hygiene-related aspects of cell-sharing for prisoners.

Staff found at first the management of such arrangements to be challenging, but coped through a display of professionalism, good practice, processes and system placement. This makes the difference in ensuring the safety, security and humane containment of prisoners and the effective running of units where cells are double-bunked.

Key findings from the **second phase** indicated that analysis of the change presented no measurable increase in rate of incidents involving prisoners in those units during periods of when the proportion of double-bunking increased from 0% to around 70% of each unit. In fact during analysis period, statistics showed that the change produced less incidents as double-bunking increased over a 19 month period.

Although the overall majority (58%) of prisoners interviewed, expressed an actual preference for single cell living, next to no conflict was experienced.

39% stated they preferred serving their sentence in a double cell; with a single individual expressing a more complex view, preferring to be in a double when on remand, but once sentenced to be in a single cell.

Conclusive to the research, the two phases point to a general summary that, while some prisoners find sharing a cell with another prisoner disagreeable, the actual practice is consistent with principles of safe and humane containment of prisoners.

Inmates who preferred a single cell reported that the most common reasons were for privacy, having ones 'own space,' and avoidance of conflict. While prisoners who preferred a double cell reported companionship and 'support' as the main reasons, claiming that having a cellmate distracts from negative thoughts ("Prisoner Double-Bunking: Perceptions and Impacts," 2012).

Some quotes were taken from prisoners on the subject:

'To learn from each other. This is a dark place so it helps to have an experienced cellmate. If you're locked up it gets lonely and you start worrying about things.' (Prisoner)

'Double bunking makes prison easier for me, time goes faster. When you're alone there is too much time to think about like family, kids etc.' (Prisoner)

("Prisoner Double-Bunking: Perceptions and Impacts," 2012)

Reflection on Research: Past and Present

This reflection outlines the most appropriate concentration points for ongoing design research believably most significant for improvement on environments of reform. This has been gathered through interpretation of the discovered research and data showing significant negative and positive response to psychological barriers of the traditional. The points of concentration will be used in aid of designing an extension of prison explicitly for healing. The new design should be executed through the reassessment of these concentration points.

As shown in the research, it is conclusive that there are still definitely problems with achieving positive reform. Most of which surround physical constraint, surveillance, certain atmospheric qualities, deprivation of the senses, lack of philosophical and design innovation (resorting to the traditional), and space. International departments for the most part have recognised these issues.

When filtered into the most basic of categories, this research reveals the **three** largest opportunities for architectural renegotiation:

1. Notions of authority

2. Improvement of spatial appropriation

3. Developing circulation to encourage movement

These seem to be the most important values for developing an appropriate setting in combat of recidivism and stress. With an accurate re-evaluation of **authoritative** elements, inmates of whom will now be referred to as 'past convicts' or 'residents' as concentration in this thesis is placed on those who have completed a prison sentence, will be met with architecture that does not psychologically overwhelm, visually encase, impair movement or distort objectives for individual rehabilitation.

This re-evaluation should rather reinforce notions of freedom, and slowly reintroduce themes associated with the domestic.

A development of **spatial arrangement** should allow for more effective connectivity between spaces designed for major, minor and intermediate interaction as well as clear differentiation between the public and private.

Lastly, improving **circulation** to encourage movement after placement in a facility of monotonous lighting, frequent isolation and overcrowding should again simulate notions of freedom. A methodical placement of access ways in cohesion with appropriate lighting and subtle order should also support activity and daily routine (see fig 2.11 on page 42).

For the purpose of interior design, existing case studies of more modern environments will be considered to aid in precedent analysis. In the case of design research, it would be useful to put a method in place firstly introducing an existing prison structure in order to specifically address the renegotiation of these principles.

With the consideration of a location also, this prison structure will play host to an internal redevelopment dictated by these principles, existing dimensions and reassessment of atmospheric qualities. This collation of work will allow us to test a system for post sentence healing.

With such a lack of exposure in the community, the activities within prison are questioned even today. With the traditional objective of 'safekeeping,' and 'keeping safe' within the current system (Johnston, 41) there may be an opportunity to deploy a philosophy surrounding public and external monitoring apposed to strict internal surveillance.

It seems as though further opportunity to improve reform in prison living exists with much potential for architectural intervention. In earlier prison developments, certain methods were considered including invitation for public interaction, reintroducing and removing total isolation, improving means for ventilation by introducing mechanisms, enlarging cells and surveillance of staff as well as inmates (Johnston, 51). (See Page 33).

As technology develops and research becomes more vast, other attributes of prison have been considered to improve reform. These mostly include ongoing measures taken in recognition of overcrowding; the most constant and problematic issue, (see page 38) addressed to date through room arrangement schemes, the separation of sharing inmates during the day, providing exercise yards and of course building expansion.

In newer generation prisons measures have been taken (in varying situations) to improve family connection, keep inmates busy preventing boredom, substitute distant and electronic surveillance for more direct approaches, providing more spaces for different activities, using transparent materials to simulate more natural surveillance and condensing prison types according to category.

However, even in these recent times stigmas still exist for re-entry of the community and the largest stress as stated in the research is felt just prior to release (see page 37). This will require its own therapeutic process, not so much for reform but healing.

The following chapter provides a foundation for research most relevant to design application and explicitly outlines transition definitions.

* * *

Opportunities for Design Research

Fig 2.11 Diagram of Discovered Opportunities for Design Research

Chapter 3

Opportunities for Design Research

Groundwork for Design Research

Prior to establishing a basis for design it should be noted that transition is a complex process with on-going demands, shaped by individual efforts to move on from offending post-prison release (Opie, 7) which, for the purpose of this thesis, will require architectural intervention with concentration on the interior.

As a new innovation, it cannot become another rehabilitation centre, but a new product in addition to prison. However, as it promotes certain rehabilitative and therapeutic qualities it would be ignorant not to study rehabilitation centres in addition to traditional environments of reform. This will form the strategy needed for the applicable design work.

This chapter represents an amalgamation between researchers in the previous chapter who have outlined prison design principles in much need of renegotiation and an introduction of new theorists who enlighten methods for achieving renegotiation (**see fig 3.01**).

This will be done through psychologically influenced research, which will be highly applicable to an architectural response in an environment for transition. Instead of making the mistake of reusing traditional, brutalist architecture in this 'extension' of prison, we can introduce design research informed by the traditional but 'influenced' by the psychological. This however requires design testing to reinforce effectivity.

The chapter establishes methods for design testing through first re-evaluating traditional prison attributes outlined in the initial research against the prison design principles in order to achieve a renegotiation. This is then applied to research by the new psychological theorists. The **first** theorist outlining the specific need for innovative transition in New Zealand, the **second** exploring deterrence from crime through environmental consideration, and the **third** exploring the benefits of appropriate lighting.

The work of these theorists have become applicable to developing an environment for transition with their varying backgrounds. **Dr Anne Opie** herself approaches the subject of transition with a rather direct, anthropological and historic approach that has come from professional experience in corrections.

Whereas **Timothy D. Crowe** comes from a background of design through criminology and **Henry Plummer** from architectural design and light art. It is argued that these modern theorists will provide accurate insight to research. One directly connects to the concept of transition and two connect directly to design application.

Once the range of research has been explored and evaluated for design testing against traditional prison attributes, the result will outline three condensed areas of consideration for experimentation. When these areas are discovered, it is critical that we ask two questions according to the initial research:

Are these attributes part of an ongoing problem in traditional reform?
(prison)

And

Once identified, will they prove effective in an environment for rehabilitation?
(Most relevant to Transition)

Fig 3.01 Traditional Prison Research vs Psychological Theory

Achieving Renegotiation

To achieve renegotiation, both psychological approaches to research and the outlined problematic traditional prison design principles will have to be assessed with the aid of a structured method. A renegotiation matrix will then outline the traditional problems with highlighted psychological solutions reinforced in research by 3 modern theorists (pink, blue, grey).

Fig 3.02 Diagram of Psychological Theorists

Problematic Design Principles (as discovered in traditional research)

Fig 3.03 Principles for Renegotiation

Method for Achieving Renegotiation

Fig 3.04 Renegotiation Process

Renegotiation Matrix

Opie

Crowe

Principles for Renegotiation	Senses	Public vs Private	Surveillance	Social Opportunities
Authority and Control	Sensory deprivation is most apparent in environments like prison. In the past this has even been deployed for reason surrounding torture. Small protrusions of natural light and lack of ventilation cause aggravation and stress also. Encouraging the use of bodily senses can simulate freedom.	Public and private spaces can be heavily dictated by placement of figureheads (people or spaces) associated with authority. A clear separation between communal areas, closed off offices for example symbolise notions of distrust and obvious human disapproval. Authoritative notions can be stunned when public and private boundaries are blurred.	The role of surveillance has to date been the biggest factor in achieving utmost control and often causes alienation in such environments of restraint. As shown in research, the idea of direct surveillance is becoming more relevant to modern prison systems, encouraging staff and inmate interaction.	In prison opportunities to interact are heavily monitored traditionally because of staff stigmas relating to conniving and rebellion in larger groups with potential for riots. But interaction in a less densely populated institution will abolish simulations of overcrowding and relieve stigmas.
Spatial Appropriation	The senses become restricted in environments like prison as the interior architecture is heavily based on containment with limited regard for the arrangement of spaces that can encourage healthy routine through sensual association. Spatial qualities should invite the senses, kitchen smells etc.	It is good practice to define architecturally certain areas of access and the prohibited. But prison architecture is taken to the extreme where private boundaries in particular are made too obvious. Privacy should be indicated instead of forced. Staff offices for example can be deceptively 'out of reach.'	Mass voids are often used in traditional prisons, stories high, to denote authority and inequality in human rank. The height and open sectors on mass scale can trigger a 'small fish' syndrome. Voids should be smaller across floors to relieve stress, so only hints of movement are detectable.	Rooms or sleeping units are often not positioned in such a way that allows for immediate access to casual, communal spaces with comforting amenities, TV or kitchen facilities. This would encourage informal interaction. Even a trip to a nearby bathroom can influence post or pre conversation.
Circulation and Movement	Often prison circulation is not associated with bodily senses in positive ways. Walkways and floors are clad with dark, noisy, unventilated cells which do not invite movement. The senses can play a huge role in invoking movement. Well lit paths, transparent balustrades etc denote clarity and safety.	Paths in prison are defined by a basic grid around templated cell clusters, with exclusive tracks for guards and skinny walkways for inmates often torturously and artificially lit for surveillance purposes. The floors could be amalgamated for both, pushing human equality and boosting morale.	In more modern times, more electric equipment as cameras have been deployed as a weak and unreliable method for achieving surveillance, controlled from one point. But this often hinders a need to move and dismisses privacy. Staff rooms/ offices should be placed more methodically.	Walkways in prison are often never wide enough to encourage friendly conversation at a comfortable distance. A less wide path, in prison for example, can cause aggravation between passers-by if shoulder contact is made etc. But paths should be wide enough to invite subtle eye contact and create easy movement.

Plummer

Plummer and Crowe

Materials	Natural light vs Artificial	Spatial Constraint	Community and Family	Religious Involvement
It is often too evident in such environments that certain materials are used in contribution to dehumanisation rather than reform. Steel locks, iron bars, and dense concrete can contribute to this visually and acoustically. More domestic materials could be used instead to provoke memory etc.	Notions of authority are often achieved through the control of natural light, inviting slivers of sunlight without full exposure through small windows etc. The healthy qualities of natural light are often substituted for artificial, when artificial should only be used where the natural is inaccessible.	Constraints in space are applied with very dehumanising effects often dictated (especially with cells) by cost but more often by overall structure. This restraint is inhuman and comes with notions of punishment, where certain dimensions are insisted upon. To relieve long-term psychological damage optional access to larger spaces is paramount.	Traditional notions of authority include enforcements of segregation from the community and separation from the community for safety reasons. However new schemes could be designed for community interaction and exposure to a prison etc so society feel less stigma towards prison activity.	In the past religious practices, mass and biblical teachings in prison have been used to aid in achieving reform. However it is often force-practiced without flexibility or consideration for the nonreligious. It can induce enlightenment and boost moral but teachings should be optionally attended.
In prison materials are often used throughout varying spaces without much change according to space type often because of expense. For effective interior design there should be consistency so users still feel a sense of location, but materials should stimulate and indicate spatial types.	In prison a more significant use of light, whether natural or artificial, is utilised more for reasons involving surveillance of space. Like materials, appropriate use of lighting should be one of the largest factors in sculpting different categories of space. Lack of access to light induces stress.	Cells and social spaces in prison are sized for purpose, but in many prisons rooms are still used for multiple reasons: sleeping, eating, recreation and other activities. But rooms and social spaces should be arranged methodically according to numbers, with more access, spread out.	Traditional prisons often don't allow for the comfort of family members and any visiting community. Entrance ways and spaces have to be comforting, help desks visible and invitingly light and spacious. Feeling welcome is important. However inmates should still have access to private spaces.	Traditionally mass is held in the centre of prison in larger spaces with noise projected towards cells with explanations of how religious acceptance can be positive for change and healing. But having such spaces dedicated to the holy can be just as oppressive as a prison setting itself.
In prison materials do often not encourage movement, unless perhaps furniture introduced for socialising are brightly coloured etc. Richer and more aesthetically comforting, perhaps textured materials could be used to guide and invoke a need to move, perhaps patterns on walls etc.	With such a lack of arrangement of enticing light in prison inmates are not encouraged to circulate and use more obvious paths to indulge in different spaces. Light should offer guidance and visibility, reducing stigmas for interaction with space and people and simulate freedom notions.	Pathways and halls in prison are often designed with bare minimum dimensions with basic human movement in mind. Social areas are often placed on opposite sides of a wing in order for staff to monitor daily pilgrimages to dining halls etc. Methodical spatial integration is required.	Prison environments are often confusing to visitors and anyone who doesn't live or work on site. Circulation should be obvious to visitors to relieve stress from any confusion surrounding disorientation or remembering how to exit. Clarity of entry/ies, exit/s and meeting space/s is imperative.	Often in prison these spaces dedicated to spiritual connectivity are positioned with much value in the centre of a prison for example, which prisoners often skirt around because of moral guilt. This can discourage movement and such enlightenment can be felt on certain walkways or sunlit-thresholds etc.

Fig 3.05 Renegotiation Matrix

Dr Anne Opie: Transition in New Zealand

Much drive to undertake further research on transition post-prison release has been heavily influenced by the research of Dr Anne Opie. Dr Opie has written a large volume of material on criminology and the nature of the New Zealand prison system as well as on the transition back into society. Her interest in the subject developed after her contracted time working for the NZ Department of Corrections as project manager of out sourced research.

Her published research entitled *From outlaw to citizen; Making the transition from Prison in New Zealand*, is based largely upon Alfred Shutz' 1964 essay 'The Homecomer,' centring on challenges facing those returning home from war predominantly after long absences (Opie, 15). However her recollection of Shutz' essays was only the starting point in formulating her research in connection to criminology and the complex nature of transition.

Opie has noted throughout her research that transition as a human process is very much personal, social, psychological and economic. Most of which she discovered during her time at corrections, while conducting multiple interviews with the recently released (Opie, 7).

She found that the process of transition is shaped massively by the individual's efforts to change as well as the respect they have for themselves.

It is suggested that due to the government of the days' recent policies to 'get tough on crime,' (to date we house the second highest population of convicts in the western world) (Opie, 16) public attitudes towards offenders have hardened, especially towards acceptance of release. Opie's studies provide insight into the lack of New Zealand research specifically on the process of transition, placing most emphasis on two aspects in strategising the inertia of recidivism, which are often omitted (Opie, 7 -8).

These aspects include **A.** Improving offenders' actual knowledge about what transition involves and **B.** Providing knowledge of different modes of engagement with offenders (Opie, 8).

The difficulties associated with the transition from modern prisons are multiple. Stresses arise in having to immediately manage the consequences of moving from the highly reductive, closed society of prison and adjusting to the differently complex reality of living in a democratically open society (Opie, 13).

Ceasing to offend or re-offend does require that offenders make choices about their futures. **It cannot however be an autonomous procedure.** Mark Halsey writes about the respect and responsibility in custodial and post release contexts in his book Risking desistance. 'Desistance' in specific criminological definition meaning the 'cessation of offense.'

'Indisputably, desistance from crime requires, perhaps above all, the 'choice' to make good. But this choice or the decision to act 'responsibly' or with appropriate degrees of interdependency) is a socially and culturally mediated event. It is not the work of the autonomous subject because there is no such thing as an autonomous subject.'

(Halsey qtd. in Opie 13)

Transitions are obviously times of uncertainty and change. Not only do the routines of the past convict change, families are forced to quickly undergo mass change to accommodate. Often it is this process that can lead to riffs in the family (Opie, 13).

At least while the convicted is incarcerated a family can adjust to this type of change slowly and safely. When the past convict departs from prison he or she is often expectant of an invitation home (Opie, 61). Not to mention having to invite strangers, or 'help,' into the house to assist in re-adjusting home life management, which can undoubtedly cause levels of discomfort, especially under the watchful young eyes of children (Opie, 62).

Past convicts could be exposed to various programs over a short period of time away from the home environment, designed to accommodate feelings thoughts and frustrations about the return home, while actually **learning what it is to transition** and the importance of this type of education.

The Metaphor of the ‘Authoritative Wall’

Opie refers greatly to the works of philosopher Jacques Derrida, said to be the founder of ‘Deconstruction,’ a theory applied explicitly in architectural and political research (Lawlor, 2014). Derrida explored the notion that social space is not neutral but is filled with ideologies, politics, imaginaries, power, domination and subordination (Lawlor, 2014).

These of course run in parallel with process and program, more often than not rendered by a form of containment, walls or borders which Derrida has explored in an essay on those known in France as ‘Sans-papiers’ or illegal immigrants (Dictionary reverso), (Opie, 22).

‘No longer places of passage; they are places of interdiction, thresholds one regrets having crossed, boundaries back towards which one urgently escorts, threatening figures of ostracism, of expulsion, of banishment, of persecution.

(Derrida qtd, in Opie 22)

Derrida refers to borders more symbolically here, but the principles and oppressive nature of an invisible authoritative wall are the same as the physical **(see fig 3.09 on page 59)**. Derrida designed the concept of ‘singularity,’ as outlined by Opie, to explain the stigmas or ‘invisible walls’ that exist, preventing societal interaction with convicts or past offenders that are only beginning to be renegotiated in modern communities (Opie, 23). **(see fig 3.08 on page 58)**.

This concept may be imperative for reform or transition post release. As Halsey claimed, transition is not an autonomous subject (Halsey qtd. in Opie 13), Derrida through ‘singularity,’ stated that positive transition cannot occur without societal interaction (Derrida qtd. in Opie 23).

The concept of singularity consists of what Derrida refers to as two ‘selves’ or two different kinds of people. One is classed as the ‘other;’ groups who tend to be excluded in society, including convicts, considered to be incapable of exhibiting fundamental human qualities. The second is the ‘self’ who lives in fear of the ‘other’ and seeks to close barriers of contact between them. Ironically however, the behaviour of both cannot be considered humane without support for each other (Opie, 22).

The 'others' actions (or behaviour) are considered inhumane through acts of crime and the second 'self' is considered to be just as bad, as he or she lacks compassion or refuses accommodation for the other self. When these two groups can amalgamate in some way, you achieve a 'discursive' personality, improving the likelihood of the 'others' successful transition. (Opie 22 -23). (Description simplified by the Author).

Any person who does not fall under these mentioned categories becomes known as '**singular**' or a '**discursive self**' exhibiting supposedly true qualities of humanity (Opie, 21 - 23). **(see fig 3.07 on page 57)**.

Transition is defined by Derrida as being the 'initiation of a journey' (Derrida qtd, in Opie 21), and when responded to via an architectural intervention, design solutions should accommodate for this.

Fig 3.06 Re-entry Problems Diagram by Dina R. Rose, 2001
(Figure redrawn by the Author)

Fig 3.07 The Concept of 'Singularity'
(Reinterpreted by the Author)

Fig 3.08 Stigma Relief Diagram

Fig 3.09 Basic Diagrams for Improving Physical and Visual Relationships in Space: Appropriation by Francis D.K Ching (Reinterpreted by the Author)

What is happening

Stage 1

Fig 3.10

Stage 2

Fig 3.11

Stage 3

Fig 3.12

Fig 3.10 - 3.12 Current Prison Exit Process Stages

What needs to happen

Fig 3.13 Proposed Process with Transition

Timothy D. Crowe: Environmental Design

Criminologist Timothy D. Crowe insists that his published work on 'crime prevention through environmental design' is not intended to be an academic study but rather a summation of experiences. Such contents represent observations, consulting work and lectures etc, based on a considerable amount of time spent in schools, shopping malls, fast food restaurants, hotels, residential housing and downtown street systems (Crowe, 1).

His research expands upon the idea that the proper design and effective use of environments can lead to a reduction in the fear of crime and the incidence of crime. He also provides certain fundamentals for those trying to make an accurate use of such CPTED strategies.

Crowe notes that the United Nations recorded statistics of common crime in modern day across 64 countries, whether conducted in an internal or outdoor environment, produced ratios showing that 72% is against property, 20% is against persons and 8% is drug related (Crowe, 9 -10).

These statistics reinforce the fact that the built environment also remains an easy first target for the aggravated, and can often be an attractive solution to releasing aggression. 'Crime prevention through environmental design' suggests however that under certain conditions and with certain features, acts of crime can become inert.

Crime. Prevention. Through. Environmental. Design.

The conceptual, strategic thrust of the CPTED program is that the physical environment can be manipulated to produce behavioural effects that will reduce the incidence and fear of crime, thereby improving the quality of life (Crowe, 30 - 29), based majorly on outdoor environments but just as important for within the interior.

In relation to the research on traditional prison environments it is important to emphasise now on deviations from traditional 'target-hardening' approaches to crime prevention (Crowe, 29). Traditional focuses were based predominantly on the denial of accessibility through obvious instalments of oppressive elements and barrier techniques (such as locks, alarms, fences and gates) (Crowe, 30).

These elements enforcing restraint from enjoying space are not to be confused with visual deterrence. These elements are harsh 'enforcers' of the prohibited, whereas deterrents are deployed to 'allude' to the inaccessible (Crowe, 29). Basically the deterrent is designed to discourage certain inappropriate contact, opportunities for aggravation or provoking of aggression (see fig 3.16 on page 69).

In terms of design application, as an example, a strategy for improved street lighting must be planned and evaluated in terms of the behaviour it promotes or deters for different user types of the area.

It must be noted however that observations surrounding improved street lighting have shown to be ineffective alone against crime without the conscious and active support of citizens (public surveillance). So methods for positioning of the area against more publicly used areas or housing for example become just as important (Crowe, 30).

There are three overlapping strategies in CPTED which include Natural access control, Natural surveillance and Territorial reinforcement.

Access control and surveillance have been the primary design concepts of physical design programs as conspicuous concepts in the field of CPTED, which have in the past received the most attention. Access control and surveillance control are not mutually exclusive classifications since certain strategies achieve both, and strategies in one classification typically are mutually supportive of each other. However the operational thrust of each is distinctly different, which have only been recognised through analysis, research, design, implementation and evaluation.

Access control is a design concept directed primarily at decreasing **crime opportunity**. These control strategies are typically classified as organised (e.g. guards), mechanical (e.g. locks), and natural (e.g. spatial definition). The primary thrust of an access control strategy is to deny access to a crime target and to create a perception of risk in offenders (Crowe, 30).

Surveillance is a design concept directed primarily at keeping intruders under observation. The primary thrust of a surveillance strategy is to

facilitate observation, although it may accomplish the effect of an access control strategy by effectively keeping intruders out because of an increased perception of risk. Typically these strategies are classified as organised (e.g. police patrol), mechanical (e.g. lighting), and natural (e.g. windows and voids).

Traditionally, access control and surveillance, as design concepts, have emphasised mechanical or organised crime prevention techniques while overlooking, minimising, or ignoring attitudes, motivation, and use of the physical environment (**see fig 3.14 on page 67**). More recent approaches to physical design of environments have shifted the emphasis to natural crime prevention techniques, attempting to use natural opportunities presented by the environment for crime prevention. This shift in emphasis led to the concept of territoriality (**see fig 3.15 on page 68**).

The concept of territoriality suggests that physical design can contribute to a sense of territory. That is, physical design can create or extend a sphere of influence so that users develop a sense of proprietorship (or a sense of territorial influence) and potential offenders perceive that territorial influence (Crowe, 31).

At the same time, it was recognised that natural access control and surveillance will promote more responsiveness by users in protecting their territory (e.g, more security awareness, reporting and reacting) and promote greater perception of risk by offenders.

For the most part, design in the past has been about achieving balance between the strategies. However the push for more natural security is becoming preferred more and more where feasible. This is because natural strategies exploit the opportunities of the given environment both to naturally and routinely facilitate access control and surveillance, reinforcing positive behaviour in the use of the environment.

Natural surveillance operates to increase the likelihood that intrusion will be observed by individuals who care but are not officially responsible for regulating the use and treatment of spaces. If people observe inappropriate behaviour but do nothing about it, then the most carefully planned natural surveillance tactics are useless in terms of stopping crime, violence and vandalism (Crowe, 32).

For successful spatial or environmental assessment with CPTED the national crime prevention institute recommends the use of the **Three-D approach** (Crowe, 33). This is used as a simple guide for determining the appropriateness of how a space is designed and used. The 'Three-D' concept is based on the three functions or dimensions of human space:

1. All human space has some **designated** purpose.
2. All human space has social, cultural, legal, or physical **definitions** that prescribe the desired and acceptable behaviours.
3. All human space is **designed** to support and control the desired behaviours.

Spaces may be evaluated by asking the following types of questions:

Designation

- What is the designated purpose of this space/s?
- What was it originally intended to be used for?
- How well does the space support its current use? Its intended use?
- Is there conflict?

Definition

- How is the space defined?
- Is it clear who owns it?
- Where are its borders? Are there signs?
- Are there social or cultural definitions that affect how that space is used?
- Are the legal or administrative rules clearly set out and reinforced in policy?

Design

- How well does the physical design support the intended function?
- How well does the physical design support the definition of the desired or accepted behaviours?
- Does the physical design conflict with or impede the productive use of the space or the proper functioning of the intended human activity?
- Is there confusion or conflict in the manner in which the physical design is intended to control behaviour?

The three CPTED strategies of territorial reinforcement, natural access control and natural surveillance are inherent in the Three-D concept.

Examples of Strategies in Action

According to the Institution there are a number of exemplary procedures put in place in conjunction with CPTED rules and strategies (Crowe, 34). Below are specific examples that will aid in deterring crime in both internal and external environments:

- Providing clear border definition of controlled space.
- Providing clearly marked transitional zones that indicate movement from public to semi-public to private space.
- Relocating gathering areas to locations with natural surveillance and access control.
- Placing safe activities in unsafe locations to bring along the natural surveillance of these activities to increase the perception of safety for normal users and risk for offense.
- Redesignating use of space to provide natural barriers.
- Overcome distance and isolation with design efficiencies.

Fig 3.14 Typical Access Control and Surveillance Concepts and Classifications
Diagram by Timothy D. Crowe (Redrawn by the Author)

Fig 3.15 The Conceptual Shift from Organised and Mechanical Concepts has led to the Natural CPTED Concepts
Diagram by Timothy D. Crowe (Redrawn by the Author)

Fig 3.16 Elements of Crime Prevention through Environmental Design

Environmental Cues: Effecting Human Behaviour

The basic reactional elements of man can be subdivided into three main categories (Crowe, 78). These include the metabolic, perceptual and skeletal-muscular systems. The metabolic relating to the biological, instinct and what we are born with. The perceptual system involves human senses that we have the right to develop, including touch, taste, smell, hearing and sight (**see fig 3.17**).

Because of the vast demographic of person types, background, history and training it becomes harder for designers to invent environmental or sensual cues to please the psyches of clustered people in environments such as prison. However providing the ability for people to individually indulge in the exercising of these perceptual senses, differing from basic metabolic reactions (defending one's self for example) will at least invoke notions of freedom in such situations.

This will ensure more positive behaviour, but it must be executed with balance (Crowe, 78).

How can the perceptual senses be used to effect behaviour? Mainly through experimenting with the relationship between time and space. As an example involving temperature, a warm classroom will prove to be terrible for maintaining attention immediately after lunch. A hot room will also induce anxiety. People often complete their work in a small office and leave immediately for comfort reasons (Crowe, 79).

Fig 3.17 Human Perceptual Senses
Diagram by Timothy D. Crowe
(Redrawn by the Author)

Use of Light and Colour

It has been estimated that 90% of all information about the external world comes in the form of visual perceptions. Because of this, appropriate lighting and colouration are essential. Humans generally have a directional orientation to light. Its source is commonly from above. We are 'cast in the most favourable light' when its source is above (Crowe, 84).

Light affects human functions. Industry research has demonstrated that lighting levels have an impact on productivity and on the rate of accidents (Crowe, 85). Lighting levels must increase directly with the complexity of the job. Bright lights can have an adverse effect on less critical human activities (Crowe, 85).

Illumination consultants emphasise on planning for lighting to enhance natural opportunities for light to come through the window as the light quality from the sun still has a more positive behavioural effect on a person (Crowe, 85).

Crowe notes that acute depressions, which are suffered by everyone, are generally caused by a lack of natural light (Crowe, 85), reinforcing ongoing problems with depression and anxiety in institutions such as prison (Fairweather, 43). However with the deployment of artificial light, fixtures should be placed in numbers and locations sufficient enough to provide complete floor coverage (Crowe, 90).

Henry Plummer: Light and Materiality

In the works of Plummer, explorations are made into the phenomenological role of light in constructing metaphysical space and the benefits of opening architecture to harness the positive stimulation it provides. His research refers to the encapsulation of natural light specifically as a majorly effective component in constructing psychologically advantageous expanses.

While humanity have invented many kinds of artificial light to supplement the light of the sun, the radiation of such alternatives lack the tempo and wavelength, nuance and tone necessary to replace our need for frequent exposure to natural light (Plummer, 5).

To overcome this predicament, builders resort to modulation, inventing a repertoire of light-controlling elements that perform in ways designed to allow for light flow according to time. Rooves and walls, openings and finishes, screens and membranes are shaped into optical instruments that can obstruct or admit, focus or disperse, absorb or reflect the traffic of incident light they receive with desired intensity or frequency. This depends of course on the subjectivity of the architecture (Plummer, 6 - 7).

In Christianity for example, light, including daylight at a metaphoric level, became a symbol of God himself (Plummer, 7), a divine light that 'shines in the darkness' and was incarnate in Christ, who proclaimed: 'I am the light of the world' (English revised Bible, John. 8: 10). One of its architectural expressions and most apparent mediums is weaved through the soaring masses and voids of Gothic cathedrals are tall arrays of glass and in particular stained glass windows creating a mystical thickness in the air as light pours through, producing a presence in the atmosphere that is almost textured. A substance creating the illusion of a protective entity.

Frank Lloyd Wright stated that 'light is the beautifier of the building,' although it was Le Corbusier who was more direct in pronouncing that 'light is the key to well-being.' Louis Kahn considered light to be a physical presence. It was these architects who truly started to question whether light exists in its own right, visible in itself and not merely a vehicle for making other things visible (Plummer, 10).

Plummer divides his explorations of work in to seven categories in an attempt to demonstrate the physical and physiological effects of light in space, time and human intervention (**see fig 3.18**).

Qualities of the Light in Space

Fig 3.18 Light Quality Evaluation

1. Evanescence:

Orchestration of light to mutate through time

This is basically an architectural allowance made for certain penetrations of light to indicate time. The architecture may be designed in such a way that the light manipulates the colour of the glass etc, or sculpts certain shadows resulting in patterning or the thickening of interior atmosphere when projected or transmitted through varying mediums Plummer,18).

(See figs 3.19 - 3.20).

Fig 3.19 Koshino House 1 by Tadao Ando

Fig 3.20 Koshino House 2 by Tadao Ando

2. Procession:

Choreography of light for the moving eye

Plummer refers to this as the proverbial 'light at the end of the tunnel,' or 'lamp in the window at night,' both exerting a physical attraction and electrifying space with strong perceptual and emotional forces. The loss and then recovery of light in darkness (Plummer, 54). **(see figs 3.21 - 3.22).**

Fig 3.21 Chapel Notre-Dame-Du-Haut by Le Corbusier

Fig 3.22 Tunnel Light Procession, Author Unknown

3. Veils of Glass:

Refraction of light in a diaphanous film

There are two modes for the execution of this, one is to provide the architecture with glazing that is open and lucid exposing the content of the structure and the interior etc, the other involves using materials of translucency to interfere with maximum intakes of sunlight creating ambiguity (Plummer, 82). (see Figs 3.23 - 3.24).

Fig 3.23 Kanagawa Institute of Technology Workshop
by Junya Ishigami

Fig 3.24 Library IKMZ, Germany
by Herzog and de Meuron

4. Atomisation:

Sifting of light through a porous screen

This is another controlled method for introducing light into a space. The use of porous screens can involve a utilisation of tight mesh work, paper, plastic or weaved materiality, allowing many small cavities to project through, often in mass quantities for sufficient illumination of space (Plummer, 114). (See figs 3.25 - 3.26).

Fig 3.25 Interior of a Traditional Japanese House

Fig 3.26 Suspended Steel Mesh Ceiling, Zurich Airport
Grimshaw Architects

5. Canalisation:

Channelling of light through a hollow mass

This is the methodical use of, positioning, angling and instalment of light passages tunnelling through architecture in a concentrated way. This allows for even the lowest depths of the building to have certain exposures to the healthful benefits of penetrating natural light. These permeations and pores set into the building transform the paradigm of a cellular mass into something new - a spatial lattice riddled with tunnels for daylight to travel through (Plummer, 150). (see figs 3.27 - 3.28).

Fig 3.27 The Tate Britain Gallery, London

Fig 3.28 Leon City Morgue, Spain
BAAS

6. Atmospheric Silence:

Suffusion of light with a unified mood

This is architectural design that allows for natural light to create its own spirit of place when imbuing a building with mood. A light of this kind does not merely illuminate form or episodically dazzle the eye, but creates an overall atmosphere, whose phenomena have become so intimately linked that they blend into a 'radiant whole,' vibrant with modulations (Plummer, 180). (see figs 3.29 - 3.30).

Fig 3.29 Church of Light by Tadao Ando

Fig 3.30 Serralves Museum of Modern Art by Alvaro Siza

7. Luminescence

Materialisation of light in physical matter

This is accomplished through constructing means for light penetration in combination with certain materiality/ surfaces that allow the light to become an entity of its own. By utilising more light-sensitive materials, luminescence of space can occur where the light becomes fuller and more dense as it asserts a dominant characterisation over the atmosphere (Plummer, 218). (see figs 3.31 - 3.32).

Fig 3.31 Pius Church by Franz Fueg

Fig 3.32 Tirschenreuth Chapel, Germany
Bruckner and Bruckner

Assessment of Light

Certain connections between the qualities of light and how they perform in space can be identified (see fig 3.33).

For example both 'Atmospheric Silence' and 'Luminescence' embody a quality of light that is more independent of space, manifesting its own character and thickness. This light can be rather oppressive, engorging itself through the use of certain materials, powerful in nature and therefore often used in religious settings for reasons surrounding the metaphorical.

Comparisons can be drawn between Procession and Canalisation as they are both modes of lighting that are purely methodical, introducing concentrations of light to certain areas of importance or hierarchy producing very memorable space. These types of lighting have very guiding and alluring qualities, mimicking human movement.

Upon research and assessment of light quality it would seem as though the most appropriate mode for design testing would be a mode that possesses

certain qualities that will play a significant role in the renegotiation of authority, spatial appropriation or invoking movement. Procession of light will be tested as a highly utilisable mode for promoting exploration, accessibility of space, points of guidance, succession and routine.

Fig 3.33 Connectivity of Light Quality

Applying Research to Design

In pursuit of developing design research, following an analysis of opportunities based on psychological theories, certain conclusions can be considered. The initial aim of the research for opportunities was to reevaluate and then renegotiate traditional attributes of prison design to develop a new strategy for transition design in combat of recidivism.

The most applicable renegotiations were then applied to the research of particular psychological theorists. The first addressing specifically the process of transition in New Zealand and reviewing the 'gap' or 'void in corrections' (Opie, 189) still apparent in the successful execution of reform. Opie outlined that **A.** Past offenders should be educated not just about how to re-enter society and the home, but about the process of transition during that period post release. In addition **B.** society should be educated on how to interact safely with past offenders to eliminate stigmas from both parties.

We can draw from this that one of the biggest problems is in developing certain levels of interaction between past offenders (or currently imprisoned offenders even) and the community, inviting a first major opportunity.

Although it must be noted that however persuasively, attractively or invitingly the architecture represents such opportunities for interaction, truly abolishing stigmas surrounding individual safety and traditional ignorance will only realistically become effective with further community outreach etc.

The second theorist explained the role of environmental design in deterring crime itself, most of which is fuelled by aggression, certain deprivation of the senses, and stress, most of which are felt in such concentrated environments as prison. This is applicable to post-release transition, as discovered in research by Fairweather, because the highest stress levels tend to be felt towards the end of a sentence. Another immediate act of crime involving violence or vandalism etc will result in a return to prison so this should be a major point of consideration.

Most of what is stress inducing is visual. As stated in research the brain reacts quickest to what we physically see than any other senses and providing positive environmental cues within the interior will play a major role in deterrence from crime just as it would in an urban environment.

Although this environment will promote deterrence from crime, this deterrence will be based on more natural schemes without emphasis on physical boundary, meaning that only those who are court ruled 'safe' for transition or rehabilitation may be inducted (Stanley - "Human Rights and Prisons in NZ," 2014). This allows for design work that can be perceived as less harsh than prison while remaining a strategic operation.

The third theorist introduces different modes for achieving illumination in certain environments, with much concentration placed on natural light. This is very relevant to transition design and is an aspect that should be greatly considered as lighting in prison, even in newer generation facilities, has always been an issue (see pages 49 and 93). The healthful benefits of natural light particularly and the appropriate substitution of artificial fixtures are vast (Crowe, 88 - 89).

Introducing all of these modes for improving lighting will obviously have separate effects on the architecture and its inhabitants however it may prove beneficial to place concentration on testing a mode of lighting that is relevant to movement etc (see figs 3.35 - 3.37 on Page 84).

Fig 3.34 Procession of Light Photography
Napier Prison, by the Author, 2013

Creating Initial Design Tests

Design Test 1: **Levels of Interaction**

Fig 3.35 Levels of Interaction Diagram

Design Test 2: **Visual Deterrence**

Fig 3.36 Visual Deterrence Diagram

Design Test 3: **Procession of Light**

Fig 3.37 Procession of Light Diagram

Reflection on Opportunities for Design Research

The research in this chapter has revealed vast areas for preliminary testing that can now be explicitly explored through existing case studies and allow for the design 'approach' research to commence. However, in filtering the research three main areas have been decided upon for design testing that have been influenced by innovative psychological research that will aid in transition design.

Upon completion of this process the areas for design testing have come down to exploring '**levels of interaction**,' as observed in research by Opie, '**Visual Deterrence**' in prevention from immediate crime, observed in research by Crowe, and '**procession of light**' for positive environmental guidance, observed in research by Plummer (**see figs 3.35 - 3.37**).

With the initial three ideas for design testing, a **first method 'A.'** testing diagram will be completed where each will be researched specifically against the prison design principles in order to achieve renegotiation and a more accurate approach to design development (**see fig 3.38 on page 86**). Each area of design research will then be interpreted into developing iterations involving an existing context.

As previously mentioned in the chapter introduction, after exploring the range of research prior to design experimentation (in relevance to transition) we had to ask the questions:

Are these attributes part of an ongoing problem in traditional reform?

And

Once identified will they prove effective in an environment for rehabilitation?

Method for Testing A.

Design Test 1: **Levels of Interaction**

01

Design Test 2: **Visual Deterrence**

02

Design Test 3: **Procession of Light**

03

Fig 3.38 Method 'A' Process

The conducted research has shown that these areas are a major part of ongoing problems in traditional environments for reform, however there is still a lack of research in to environments of rehabilitation, of which the concept of transition is still most closely associated.

We now have opportunities to improve environments of reform in combat of recidivism. But to accurately design an environment for transition, certain specific environments for rehabilitation, health based or therapeutic case studies should be considered more thoroughly. This will also allow for a more accurate method for design testing to be developed.

Fig 3.39 Subject-Specific Case Study Structure

Chapter 4

Case Studies and Approach to Design

Design Research with Existing Environments

This chapter explores more intimate spaces and environments designed specifically for areas involving rehabilitation, further revealing varying approaches to notions of transition. Again it is important to note that the eventuality of this design research **will not** result in the design of a rehabilitative sector but an environment for transition.

The idea of producing a centre for transition is closely associated to ideas involving rehabilitation but will be more so based on immediate **healing**, **re-education** and **reconnection**, without a huge emphasis on medical structure but with the common factor of therapy.

This chapter is conducted in three major parts. The **first** exploring 3 typical, contemporary, but categorically different, environments for rehabilitation, reinforcing relevant architectural qualities. The **second** presenting a post-mediation for more accurate design testing after analysing environments for rehabilitation. The **third** explores subject-specific case studies in response to the research of the prior chapter, outlining opportunities for design testing (spatial appropriation informed by levels of interaction) etc.

Scheme of Environments

Fig 0.02 Transition Proposal

Case Studies: Part One

Analysing Environments of Rehabilitation

R1

Children's Centre for Psychiatric Rehabilitation

by Sou Fujimoto Architects

Location: Hokkaido, Japan

Project Year: 2006

Site Area: 14, 590 sqm

Constructed Area: 2,536 sqm

Fig 4.01 Interior View of Communal Space 1,
by Sou Fujimoto

Fig 4.02 Interior View of Communal Space 2

Fig 4.03 Interior View of Communal Space 3

This centre in Hokkaido, Japan is being examined as a design for children with the idea of living together to regain their mental health. This study will allow insight into design with the consideration of youths undergoing psychotherapeutic development, giving us a broader understanding of interior architecture that responds to a certain age group. It has been stated by Sou Fujimoto himself that the 'loose method' of the design proposal involved forming a series of truly rich life spaces, conceptualised with the intimacy of a house but also with the appearance of a small city. A method of being 'random' (Fujimoto, 2014).

Fujimoto comments that the created series of environments is dreamlike, contemplative and enlightening (Fujimoto, 2014). Arguably the perfect place for the dwelling of children who may have undergone a series of traumatic events, especially in the home. These environments represent the idea of 'home' through a renegotiation of the domestic, now allowing for selectivity, contingency, freedom and convenience (Fujimoto, 2014).

The appropriation of space, although random in conception, does not only test human behaviour in a cross variance of space, but the visual lack of spatial allocation pushes certain notions of freedom further, while youths can still develop a sense of ownership over a favourite healing space.

The small alcoves produced between the randomly placed boxes where children can feel free to hide while connected to a communal space are an example of this. Although it is the 'left-over' space with no real function, usually avoided, children utilise the space, actively exploiting every crevice and area ("Children's Centre for Psychiatric Rehabilitation / Sou Fujimoto," 2014).

Within the architecture however, it is hard to understand functionality and visually establish hierarchies with so much consistency of major space scale etc. The spaces do seem to change in scale, and the lighting does vary, but the area of construction is so vast and minimalist that holistically it is hard to establish a centre.

The large white plaster walls are quite oppressive in nature, most scaling two stories without much incorporation of transparencies, however they are made up for by the more relaxing hues of the mass bamboo flooring, not overpowered with 'clinical' light reflectance, allowing for significant walking, running space between tables etc. The clear lack of path organisation evident in the architecture may prove difficult in introducing notions of routine to youths. Also the lack of social indication (excluding the clarity of furniture placement) may foster alienation.

R2

Rehabilitation Centre Groot Klimmendaal

by Architectenbureau Koen Van Velsen

Location: Arnhem, The Netherlands

Project year: 2010

Forest Site Area: 9.4 ha

Constructed Area: 14,000 sqm

Fig 4.04 Groot Klimmendaal Exterior,
by Koen Van Velsen

Fig 4.05 Interior View 1

Fig 4.07 Interior View 3

Fig 4.06 Interior View 2

This project offers a rehabilitation centre, based in Arnhem in the Netherlands, placed in the very calming setting of a forest within a large park, for the use of children, adolescents and adults who have had an accident or illness. However it is also an effective example of a rehabilitation building that encourages public usage.

Koen Van Velsen refused to adopt the conventional mode of navigation for the typical health care building, inviting features as a long corridor with suspended grid ceilings and bump rails. He rather put in its place a series of more humane circulation spaces with no dead ends, which offer both fast and slow routes across the plan (Van Velsen, 2014).

To link all levels, a generous double-height foyer runs the full length of the building. Parallel to this is a six-flight stair connecting plinth to roof on one axis, providing direct access between all departments and leading to other roaming routes that encourage physical exercise. Also deep in the plan, four patios connect different levels and bring daylight to the centre of the 30m-wide building, articulated by vibrant colours.

These elements are all helpful guides, aiding users in finding their way between staff and service spaces on the lower-ground floor, communal and social spaces on the double-height ground floor, clinical treatment spaces on the first floor and accommodation for 60 patients on the second floor. The top floor is a self-contained and separately accessed Ronald McDonald house, which provides homely accommodation where the friends and family of resident children can stay (Van Velsen, 2014).

This component, together with the incorporation of public functions, such as a theatre, sports facilities and a restaurant, of which are directly accessible from the outside, is seen as being central to a rehabilitation process that encourages the reintegration of the patient into the local community. The ground floor works as a sort of plaza where the patient can work with the community, a new system of care with the integration reasserting focus on what the patient can achieve.

Every level has been vertically clad in blocks according to program. But these remain somewhat connected visually with the methodical placement of tall voids performing as lightwells (3 two-storey and 1 three-storey) and two elevator shafts. Each void contains a tree and canals light into

deeper sectors of the building's interior, providing controlled amounts of natural light during the day and denoting metaphorical notions of 'growth' ("Rehabilitation Centre Groot Klimmendaal / Koen van Velsen," 2014).

Natural light is also well utilised from the point of entry, clearly highlighting the entire process of entry, leading both new patients and public users through the double-heightened foyer to the rear of the building, where a library is positioned, encouraging quiet interaction (Velsen, 2014). Having such a large and clear path to a larger public area, rather than deterring new patients directly to their private rooms is informative of opportunities to socialise.

Continuing on the second floor the patient rooms have been positioned right around the rectangular perimeter of the level. The protruding light through masses of exterior glass into each room allowing for healthy but manipulable task lighting. It also means that views are available. The natural aesthetic of the outdoors can have calming, zen-like qualities.

The saturated colours trimming the predominantly white palette decor have stimulating qualities and are effectively eye-drawing, but are rather random

in application. They highlight the odd stairwell or area inviting human use, however the patchy, playful scheme is inconsistent and unsoothing (Fairweather - see page 51). **(See Appendix 1 for section drawings and fundamentals).**

R3

Sowa Unit

by Kensuke Watanabe Architecture Studio

Location: Saitama, Japan

Project year: 2010

Site Area: unknown

Constructed Area: 288.84 sqm

Fig 4.08 Interior View 1 of the Sowa Unit,
by Kensuke Watanabe

Fig 4.09 Interior View 2

Fig 4.11 Interior View 4

Fig 4.10 Interior View 3

Fig 4.12 Rendered Floor Plan by Ken Nagasaka Engineering Network

Fig 4.13 3D Simulation by Hatsukari Construction Company

This facility, located in Saitama Japan was designed to support local sufferers of varying mental disorders. The Architect Kensuke Watanabe explained that as far as research and the client was concerned, there were two ways in which to approach the project.

The first involved providing the utmost protection for the resident, physically and psychologically, greatly limiting contact with the outside world. The second was to stimulate and encourage residents beyond usual comfort. The second method, agreed upon by both client and architect was deployed, creating spatial connections and opportunities for socialisation between units, encouraging the users to become physically and visually connected with other people (Watanabe, 2014).

The building has been composed in a series of what Watanabe calls six 'bands,' or structural units, of which three are parallel in height and three are slightly lower units sitting in between, shifted to the right (Watanabe, 2014).

The spatial setting of the architecture has been designed basically with a programmatic succession of public to private from front to rear.

The shift between units allows for a sort of interconnecting hall to form across both storeys of each unit, however the shift still allows for small opportunities of privacy when required (Watanabe, 2014). An individual or smaller groups of people can break away into the outermost points of each unit so they are not in direct line of contact.

Unlike the overly random spatial design of the first case study based in Japan, there is a clear pattern presented here, which will inspire routine. There is a reasonably well established hierarchy between spaces mostly represented through scale change and the vertical height changes that allow for more natural light in more communal spaces as the living room etc ("Sowa Unit / Kensuke Watanabe Architecture Studio," 2014).

In addition, the transparent openings towards the direction of the street allow for a clearly transmitted direction of light, highlighting the programmatic succession of public to private from the morning onwards. This further encourages certain connections to be made between residents and the street public (Watanabe, 2014). This seductive light motivates rather than authorises (Plummer, 54).

Reflection on Case Studies: Part One

Upon analysis of the contemporary environments for rehabilitation, it seems that some of the common and more successful factors in design work are based most heavily on subjects including appropriate plays of light, successions of light, exercise and movement. Also clearly defining schemes in arranging the public and private, more so in the deployment of natural light, spatial scale and materiality rather than with physical boundaries.

Another factor is the simplification of space. A minimalist series of spaces defined by basic form-work/ geometries, for example, without an over-injection of furniture allows for user personalisation (Kaufman, 27). It invokes a sense of freedom that is not restricting. An over use of walls and furniture can dictate restriction throughout available, utilisable space (Kaufman, 27).

In most relevance to the design research of the thesis, the 'Groot Klimmendaal' rehabilitation centre in the Netherlands inspires the most innovative environment for the subject of healing.

The first case study in Japan was obviously designed with the playfulness of children in mind and is possibly too sterile and unstructured of a setting for developed adult minds.

The Sowa unit is an effective design for allowing interaction between patients and the passing public, while still remaining a comfortable domestic setting, straying from the traditionally clinical or institutional style of centres. It portrays a great use of mixed architecture, incorporating a cafe etc, while still ensuring areas of quiet and reflection, just as the Groot Klimmendaal incorporates publicly accessible sports facilities, as an example.

The Groot Klimmendaal presents a lot of accessible areas to patients, with clear circulation, room allocation, varying amenities, well-lit spaces, cross exposure of both the surrounding forest/ park location and the movement within, pushing the concept of natural surveillance (Crowe, 30).

The idea of surveillance is not as crucial in an environment of medical rehabilitation. However the public being able to see certain programs taking place on lower levels is key to understanding the environment from their perspective and removing stigmas about interaction (Crowe, 34).

Mediation

As the opportunities for design research have revealed, most concentration should be placed on achieving different levels of interaction, installing visual deterrents and procession of light. But contemporary rehabilitation environments had to be considered before design testing can commence as the most applicable, existing architectural link to therapy and transition.

It has become conclusive that the prior research factors based on theories by Anne Opie, Timothy D. Crowe and Henry Plummer have been reinforced, and are relevant in environments of rehabilitation. This allows us to continue with the design testing of spatial appropriation defined by levels of interaction, movement invoked by visual deterrence and a renegotiation of authoritative notions informed by processions of light.

However, this **process of mediation** has been instated in consideration of other possible factors that may require re-arrangement of the design test subjects. For the most part the subjects are relevant to design testing for transition architecture, however certain variables may need to be changed.

Firstly, the case studies revealed that although a re-negotiation of movement could be achieved through visual deterrence, movement is also highly associated in rehabilitation design with plays of light, especially the natural. Subsequently visual deterrence has proven to play a much more important role in defining levels of authority.

This should also provide more solid grounds for allowing interaction, reinforcing theories by Crowe, Opie and Derrida (see page 77), so that direct links can be made between inviting the public to interact and visually down-playing authority. For example: maximising the use of glass, increasing internal exposure etc. As another example, within the interior itself, placement and scale of voids across varying floors can be adjusted so that visual surveillance can be purely dependent on natural methods and more friendly staff engagement (“Halden - Norwegian Prisons,” 2014).

Secondly, there seems to be no direct outlining of light mode most relevant to rehabilitation, although the most common factor is an utmost allowance for natural light, which gives much relevance to theories by Plummer. Although veils of glass and canalisation (both displayed as major light modes in the Groot Klimmendaal centre) possess effective lighting

qualities impacting on human mood, procession is most relevant to movement and luring (Plummer, 54). The architecture will obviously not be restricted to exploiting all of these positive natural lighting modes, but they are not all part of the critical subjectivity.

In addition to the subject of movement, the transition centre design at this stage will not allow for indoor sports facilities, as in the Groot Klimmendaal centre, however the design should allow for many clear pathways and many accessible stairways to promote exercise with subtlety. Although it is noted in copious sources that exercise and gym attendance is one of the most positive and distracting pass-times for offenders in prison (Buckaloo, Krug, and Nelson, 2009).

Because of this slight change in applicable factors toward more relevant design testing, a second more appropriate method for testing will be established with less case studies (**See fig 4.15**).

As the design testing commences, after the introduction of a physical context, continual referencing will be made to both the rehabilitation centres of the part one case studies (with more explicit reference to the Groot

Klimmendaal), and the following part two case studies, involving environments that are existing examples of the three new design test subjects.

This new diagram displays a more appropriate rearrangement of the subjects for design testing. For more successful architecture the three subjects should not only work in harmony but reinforce one another. Shown here, common links can be drawn between movement, procession of light and spatial appropriation (green) for example (**see page 109**).

In further detail, a procession of light can become a visual deterrent, or notions of authority defined by an unnecessary placement of a visual deterrent (a thick concrete wall) can hinder levels of interaction. This can be effective for defining the architecture, however it further reinforces a need for case studies specifically addressing positive examples of these particular subjects.

This new procedure should now however only require one case study for each, as the rehabilitation environment studies have already confirmed the appropriation of subjectivity for design testing.

Method for Testing B.

Design Test 1: **Levels of Interaction**

01

Design Test 2: **Procession of Light**

02

Design Test 3: **Visual Deterrence**

03

Fig 4.14 Method 'B' Process

Case Studies: Part Two
Analysing Subject-Specific Environments

Appropriate Spatial Arrangement informed by Levels of Interaction

A1

Nykredit Office Headquarters

by Schmidt Hammer Lassen Architects

Location: Copenhagen, Denmark

Project year: 2001

Constructed Area: 24,000 sqm

Fig 4.15 Interior View 1 of Nykredit Office Headquarters,
by Schmidt Hammer Lassen Architects

The headquarters Nykredit, one of Denmark's leading banks, has been designed as a large transparent cube to provide clear visual connections with Copenhagen harbour. The ten-storey glass structure features a dramatic atrium with an allowance for a flooding of natural light, offering links to all levels.

The ground floor or entrance level with a clear reception area and large auditorium are met with a vast staircase, which takes on its own entity in a sense becoming the most obvious vessel for vertical movement. This leads up to the atrium where suspended meeting rooms, glass elevators, staircases, balconies and walkways create a lively work environment; three cantilevered glazed meeting rooms are suspended from the third and fifth floors.

The thick glazing of an outer facade acts as a transparent shell, invoking in the public a sense of trust for the operations going on within. Operations however are just as transparent from the inside, with much internal use of glass providing natural surveillance and the massive central void mapping human circulation in open plan ("Nykredit Headquarters," 2013).

Fig 4.16 Atrium/ Void of Headquarters

Vertical rows of office flooring indicate a more intense working environment where the most formal interaction occurs throughout the outermost parameters of the interior. These environments and floors not only become the largest entity, scaling the entirety of the interior height, but provide the most major level of interaction.

These floors are positioned to achieve the best task lighting and although privately segmented from each other without much use of double-heighting, they are linked horizontally by large cross-void bridges for convenient work interaction ("Nykredit Headquarters," 2013).

Fig 4.17 Private Meeting Rooms

The 'floating boxes' provide a very clear minor level of interaction, designed for more intimate, private conversations, where meetings are held, but are still viewable from above and somewhat from below.

Warmer more comforting hues in the wooden palette used, juxtaposed with the heavily utilised white office floors are indicative of hierarchy, even privilege. But even these boxes have been designed with openings for natural examination in denotation of trust (see CPTED strategies). These private spaces, being so clear, can also be daunting to pass beneath however, especially if crossing the mass void, thus potentially hindering intermediate interaction.

Fig 4.18 Main Vertical Access

The entities responsible for intermediate interaction are also defined by their lighter, wooden, mid-tone between the hues of the meeting box and the white of the office floors. These are the stairways and central paths which create clear links between floors and the cantilevered meeting areas, extending all notions of accessibility.

The stairs are especially effective in providing a mode for interaction that is quick, invoking a sense of continual movement with guiding wood grains and light fixtures beneath landings drawing the eye upward. The rise and run of the obviously placed stair promotes exercise and traces clear thresholds for entry between levels.

**Positive Circulation/ Movement invoked
by Processions of Light**

A2

Therme Vals

by Peter Zumthor

Location: Graubunden Canton, Switzerland
Project year: 1996

Fig 4.19 Interior View 1 of Therme Vals,
by Peter Zumthor

This series of varying space was designed for visitors to luxuriate and rediscover the ancient, healthful benefits of bathing. The combinations of light and shade, open and enclosed and linear elements make for a highly sensuous experience. The underlying informal layout of the internal space is a carefully modelled path of circulation, which gently leads bathers to certain predetermined points with allowances for exploration ("The Therme Vals / Peter Zumthor," 2014).

Working in intimate connection with a circulation that Plummer describes to be a 'ceremonial procession,' dictated by a balance of form and inlets of light (Plummer, 60). The Procession begins with a deliberate negation of dim subterranean tunnels followed by dark, mahogany-clad changing rooms initiating a journey for transcendence.

Luminescent trails from distant windows invoke movement, gently tugging a user through interconnected paths. Plummer describes this ritualistic movement to be a 'loose choreography,' (Plummer, 60) entitled 'the meander' by Zumthor. The light works harmoniously with contrasts of temperature. It was just as important to Zumthor to induce freedom with more seduction than control ("The Therme Vals / Peter Zumthor").

Fig 4.20 Framing of Light

Moving between every space is similar to making a new discovery.

Aside from the therapeutic benefits of bathing, the balance between dark and light induces a movement which is therapeutic in itself. Upon moving through a user can almost claim ownership over a newly discovered space. The cracks that leak light project onto dark, bisecting walls, forming shower shapes that further direct motion and reflect on the water, enforcing symbolic notions of self reflection.

Fig 4.21 Controlled Perspectives and Procession of Light

The atmosphere in this series of space becomes thick with reflections and light play on the steam and with certain alluring perspectives this combination almost manifests themes of enlightenment, and a positive induction into another world. It is spiritual.

The allowance for privacy here, executed through the density of the walls and the steam-saturated air was chosen to 'flatter' both bodies of the young and old, removing stigmas surrounding appearance. However the dark turns and blind corners require an utmost trust in space ("The Therme Vals / Peter Zumthor," 2014).

Fig 4.22 Reassuring Hints of Colour while Bathing in Darkness

The darkness here may be overpowering, which for some may induce stress (Crowe, 85) in such a maze-like structure. For most, the dark spaces, with the grayscale material palette and gloomy outcome are perceivably calming. Perhaps not however for those who have endured prison environments (Fairweather - 43).

Not being able to examine the interior in a holistic way, from certain points, more in its entirety, could be stress inducing. The notion of getting 'lost' or discovering areas in a cave is exciting but could be stress inducing without the ability for someone to visually map their journey (Crowe, 106).

Fig 4.23 Interior View 2 of Therme Vals,
by Peter Zumthor

'Everyone there is looking for a path of their own.'

- Peter Zumthor

Notions of Authority informed
by **Visual Deterrents**

A3

Contemporary Dental Office

by Estudio Arquitectura Hago

Location: Malaga, Spain
Project year: 2012
Constructed Area: 350 sqm

Fig 4.24 Interior View 1 of Contemporary Dental Office,
by Estudio Hago

This is a particular case study addressing authority with restriction between staff and patients apposed to a secure premises with notions of punishment. Spanish firm Estudio Hago designed a dental office interior that occupies a floor within an office block in Malaga, with obvious spatial definition executed through a clear arrangement of the material palette.

Treatment rooms are lined up along the north side of the building so that they can benefit from even levels of natural light. Offices and consultation rooms have been arranged in a row along the middle and their translucent walls allow some of this natural light to penetrate as far as the waiting room and reception on the other side (Said, 2012).

Provided is a well-organised, well-lit circulation scheme for the clear and continuous flow of both patients and medical personnel. The method of deploying material perimeters to visually deter patients into a waiting area after first entering the bright-white hall was an effective way of controlling accessibility without force (Fairweather - 44). This also relates heavily to spatial appropriation and also 'Crime prevention through environmental design' principles involving the insertion of a safe activity into an unsafe environment (Crowe, 106). (see page 90).

Fig 4.25 Waiting Area

The boarder between the quieter waiting area and busier corridor has been defined clearly with the material palette, rather establishing natural barriers. This means that the waiting area can still be welcoming even with the clear cut off from the rest of the interior.

In fact the transition towards warmer tones invites escape from the rather exclusive path, which even reflects the authoritative saturated white coat of medical personnel.

Fig 4.26 Arrangement of Materiality/ Natural Boundaries

Although the waiting area becomes a clear escape from authority, staff can still easily locate patients when needed or monitor movement and interaction by simply walking past. This means that there is no encroachment of authority onto the area until the time in which someone is summoned for treatment. In turn, the clarity of staff movement becomes just as visually vivid to the patient (Said, 2012).

The ability to examine authoritative movement from considerable distance invokes trust, however this could be improved here by renegotiating the still rather opaquely, oppressive walls of the vitreous central meeting room.

Fig 4.27 Continuity of Space and Circulation around Glass Partitioning

The white, translucent walls on this side of the central division host a private dental office, which would benefit from being more transparent. It is an attempt at achieving a subtle private/ public division within the otherwise open plan interior.

The division is quite obvious and a more effective solution to achieving more natural separation and surveillance would be to make a substitution of clearer glass. The patients would not feel as isolated while waiting.

Reflection on Case Studies: Part Two

After introducing the Part 2 case studies to the research, further conclusions can now be drawn from discovering explicit architectural considerations taken by contemporary designers. These conclusions may assist in achieving an appropriate arrangement of physical and psychologically impacting design features in this project of mediation.

The study of the Nykredit headquarters revealed that appropriate spatial arrangement can be informed through a clear organisation. This clarity was achieved by first setting out a transparent shell that allows exposure of internal operation from the outside, inviting business on principles of trust. Then upon entry of the building, set before entrants, is an easily understandable division of three main areas defined for three types of interaction varying in formality.

These areas are mostly defined through a contrasting, but methodically arranged material scheme. The most apparent is the **major** area of offices forming around the internal perimeter of the exterior glass facade with white walls and floors lined with internal glass increasing natural surveillance.

A small series of more private meeting boxes form the **minor** component, of which operations within have been made visual from most levels with glass increasing notions of trust, even with thick, darkly hued timber framing.

The **intermediate** points are both the vertical and horizontal modes of circulation clearly intervening between the major and minor in the form of staircases, elevators and bridges. The staircase is a particularly obvious participating point of intermediate interaction, reinforced as the medium between major and minor areas with a predominant colouration defined by medium tone wood hues. The appropriate use of material creates a clear gradient of colour and hierarchy (**see figs 4.15 - 4.18**).

This is an effective strategy design-wise, however what may be most notable is the mass void in the centre, which can be daunting to walk through with all eyes placed on the entrant. Even though an entrant can view just about the entirety of the interior, they can be just as easily looked down upon, creating mental discomfort about moving through.

In a further study of movement invoked by processions of light, positive circulation is achieved in Peter Zumthor's Therme Vals by giving visitors

the human right to 'explore' with guidance. Controlled perspectives frame certain protrusions of light that Henry Plummer refers to as the 'light at the end of the tunnel,' (Plummer, 60) an architectural device that possesses spiritual qualities relating heavily to enlightenment. In addition, thin crevices overhead lead a bather around with more subtle inlets of light that are not forceful but seductive.

In combination with the subtle Quartzite slab textures of the wall that have directing qualities upon touch and the subtle lighting, even in a densely darkened environment swimmers can feel safe to transition from space to space ("The Therme Vals / Peter Zumthor"). The vast darkness and steam filled air may place psychological stress on movement, however the biggest factor is that the interior cannot be viewed more in its entirety. Spaces lead convincingly with light from one to the other, however there is a lack of viewing opportunities for the overall space (**see figs 4.19 - 4.23**).

Here exists a slight contradiction in appropriate design work. A mass void could be deployed in the centre of the Vals, for example, or bridges overlooking the varying spaces so that visitors have a sense of choice.

However these schemes can be daunting and remove notions of privacy from such an environment that is most concerned with comforting a diverse range of people. For the most part it comes down to the interior program.

The study of the contemporary dental office again uses a simple, unconfusing material palette to visually deter visitors from overstepping authoritative boundaries. The obvious separation, spatial axis change and clean transition defined by material perimeters is a subtle way of deploying boundaries through more natural means as suggested in the CPTED.

The 'track' that defines the main route of circulation performs as a procession. This way visitors or staff can map their exact position within the entirety of the environment according to their progression through varying spaces. It also means that visitors can feel apart of the authority in a sense as they are invited onto the track, moving around to a more exclusive but user friendly, area for dental treatment (**see figs 4.24 - 4.27**).

The narrative of now 'inviting' past convicts into certain exclusive environments or on to certain paths seems very relevant.

Establishing Components of Transition

Upon analysis of these case studies, it has come to light that certain architectural components and design incorporations should be considered during the testing phase. These are illustrated on the following pages.

In doing so a relevant environment for transition can begin to form with the aid of a context. What will be explored will have the most relevance to light, movement, boundaries, exposure and atmosphere (**see figs 4.28 - 4.29**).

These include:

- Location consideration
- Renegotiating the scale of voids
- More opportunity for natural light > Artificial light
- Methods for guiding/ balanced with opportunity to explore
- Substitution of physical boundaries for the more natural
- Program Clarity/ Varying scales of space
- Simple but comforting material palettes
- Domestic finishes/ fixtures
- Opportunities for public interaction/ exposure
- Appropriate room design/ arrangement
- The use of path
- A progression of public to private
- Clarity of varying interaction spaces (Major, Intermediate etc)
- Introduction of motifs associated with nature

Location Consideration

Substitute Physical Boundaries for Natural

More Opportunity for Natural Light

Artificial

Methods for Guiding/ Exploration

Simple but Comforting Material Palette

Renegotiating Void Scale

Appropriate Room Design/ Arrangement

Fig 4.28 Components of Transition 1

Clarity of Varying Interaction Spaces

Major Intermediate Minor

Program Clarity/ Varying Scales of Space

Motifs Associated with Nature

Opportunities for Public Interaction/ Exposure

Use of Path

Domestic Finishes/ Fixtures

A Progression of Public to Private Sectors

Fig 4.29 Components of Transition 2

Chapter 5

Physical and Historical Context

Introducing a Context

This chapter examines a particular prison environment and opportunities for renegotiating traditional prison characteristics involving structure, space and atmosphere. This has been done through an analysis of a New Zealand prison wing that no longer exists, which will assist in testing spatial appropriation, movement and notions of authority.

The Prison wing, built in 1882 was built to be a fully operational solution to incarceration in Mt Cook, Wellington, as the city itself began to develop. The wing itself was only to be the first of many in the establishment of a larger campus. However, with such a disapproving response from the community, the oppressive structure and icon of authority was dismantled as a prison and reinstated as part of the Alexandra military barracks on the cusp of the twentieth century. It was destroyed shortly after in 1931 to make way for the Dominion Museum, now a part of Massey University.

Residents were against any new proposals threatening to reproduce the 'rookeries' of the 'old world.' **(See Appendix 2 for population Growth statistics from 1865).**

***This context has been selected to primarily test authoritative architecture from an interior architecture perspective.**

Fig 5.01 Old Gaol Wing from Tasman Street, 1899
Alexander Turnbull Library, Ref no: 1/2-066816-G

Prison Qualities and Simulation

In order to understand the qualities and internal atmospheres that this particular prison presented, as a true example of a traditional setting for restraint, certain measures were taken to simulate the architecture and the environment.

This involved extracting information and plans with measurements from the Wellington City archives. This information allowed for the digital re-modelling of the wing, undergoing a process of transforming the two dimensional plans into a three dimensional representation. **(See Appendix 3 for MT Cook Gaol Construction Drawings).**

This was first done in order to complete fully renewed two dimensional plans on Vectorworks for a more accurate conversion into a model, which would later be extruded in Google Sketchup for full scale heights, lengths and recreated details.

Fig 5.02 Gaol Wing/ Alexander Barracks, 1899
Alexander Turnbull Library, Ref no: EP-3276-1/2-G

Renewed Historic Floor Plans

Fig 5.03 Basement Floor Plan,
Redrawn by the Author

Ground Floor Plan

Fig 5.04 Ground Floor Plan,
Redrawn by the Author

First Floor Plan

Fig 5.05 First Floor Plan,
Redrawn by the Author

Second Floor Plan

Fig 5.06 Second Floor Plan,
Redrawn by the Author

Basic 3D Digital Modelling

Fig 5.07 Google Sketchup 3D Model Shot 1

Fig 5.08 Google Sketchup 3D Model Shot 2

Fig 5.09 3DS Max Rendered Model,
Examining Floors and Voids

Fig 5.10 3DS Max Rendered Model
Section with South Facade Removed

Fig 5.11 3DS Max Rendered Model
3D Section with South Facade Removed

Fig 5.12 Interior of the Gaol, Second Floor, 1930
Alexander Turnbull Library, Ref no: EP-3857-1/2

Fig 5.13 Prison Sectioned to Reveal Cell Arrangement

Simulation of the Prison Environment

Fig 5.14 Simulation of Prison Interior/ Atmosphere 1,
Reconstructed by the Author

Fig 5.15 Simulation of Prison Interior/ Atmosphere 2,
Reconstructed by the Author

Fig 5.16 Simulation of Prison Interior/ Atmosphere 3,
Reconstructed by the Author

Site Consideration

Fig 5.17 Routed Site Model, Mt Cook Gaol,
Original Site

Map 1: Original Gaol Site and Original City Road Grid, 1841
 Sir George Grey Special Collections, Auckland Libraries, NZ Map 3761
 (See Appendix 4 for site maps 2 - 3)

Physical 3D Site Modelling

Fig 5.18 Routed Site Model, Mt Cook Gaol, Original Site, Geographic Diagram

Fig 5.19 Physical Model of Gaol Floors

Fig 5.20 Gaol Model View 1

Fig 5.21 Gaol Model View 2

Fig 5.22 Gaol Model View 3

Fig 5.23 Gaol Model View 4

Reflection on Context

To summarise a brief consideration of context, involving the physical structure, historic connections to the public and geographical site, conclusions have had to be drawn about the relevance each category has to the design of a transitional medium.

A certain hierarchy can now be established according to the most beneficial factors that will assist in designing an appropriate intervention through design testing.

1. Physical Structure: The old Gaol wing/ prison

2. Historic connection to the public

3. Site Consideration: Mt Cook

These factors have been ordered in such a way for these reasons:

Firstly, the physical structure of the no-longer-existing prison is the most relevant to design because it provides a shell of what was considered to be an ultimate icon of authority. Its original design promoted secrecy of internal operation, which would dramatically conflict with contemporary views surrounding openness (**see figs 5.01 - 5.02**).

The oppressive nature of the prison exterior as well as the unstimulating, controlled nature of the internal structure and atmosphere provides a clear example of an appropriate environment to respond to (**see figs 5.14 - 5.16**).

Examination of the prison through modelling proves that this 'legendary' structure will make for an effective base canvas to inject newly discovered architectural methods and componentry into surrounding regulated 'notions of authority through visual deterrence,' 'spatial appropriation through clear levels of interaction' and 'invoking movement through processions of light.'

Furthermore the scale of the structure also resembles the Groot Klimmendaal centre for rehabilitation, discovered to have the most effective environments for healing during case study research (**see figs 4.04 - 4.07**).

Secondly, the historic connection that the prison had to the public has more of a narrative role in the design. Although, this connection is not insignificant to the design. It once again relates to the secrecy of operation.

Today's view would more likely see the structure completed as either a sprawl of smaller prison units, veiled by transparent glass to invite visual and physical public interaction. Small, user-friendly public complexes could have been integrated upon its boundaries, which may have eliminated public stigmas about such an urban central prison. The application of a post-prison centre for transition would be far more appreciated by the public with consideration for these features.

Thirdly, the Mt Cook site has been rendered most irrelevant as it seems pointless to introduce a prison structure back to a location that has now been richly utilised through the introduction of national monuments and widely appreciated schooling facilities (**see fig 5.18**).

Design Strategy Refined

- 1. Spatial appropriation via Levels of interaction
- 2. Invoking movement via Procession of light
- 3. Regulated notions of authority via Visual deterrence

At this stage, these principles, which have been refined through renegotiating traditional prison design against psychological factors, may arguably be too refined. However they have proven to be relevant, have proven to have harmonious relationships with one another and provide a condensed insight into the vast research category of appropriate prison design.

★ ★ ★

Fig 5.24 Refined Design Strategy

Chapter 6

Testing and Preliminary Design Development

Final Design Testing

SA - LI	Phase one Tectonic Interior (Macro)	
	SA1. SA2. SA3. Reflection ↓	
M - PL	Phase one Tectonic Interior (Macro)	Phase two Interior Design (Micro)
	M1. M2. M3. Reflection ↓	M01. M02. M03. Reflection ↓
A - VD	Phase one Tectonic Interior (Macro)	Phase two Spatial Design (Micro)
	A1. A2. A3.	A01. A02. A03.
Reflection		Reflection

Fig 6.01 Final Design Testing Table

The following design work of the preliminary design development chapter has been conducted in **two phases**.

Each phase represents design work that will be completed on both a holistic or **tectonic scale** examining an overall approach to the testing subjects and on a more **intimate interior scale** examining atmosphere and detail.

This will be achieved through creating design iterations (M1. - M3., M01. - M03. etc) for each testing subject, with the aid of an appropriate physical context.

Each iteration will be executed either through 3D Digital modelling simulation, 2D drawing or 3D physical modelling. Reflection will then take place after the analysis of every series (M1. - M3. etc)

These reflections will reveal critical areas for relevant improvement or continuation of certain design aspects in final developments.

Detailed Design Testing Process

Fig 6.02 Detailed Design Testing Process

Phase One
Tectonic Interior

SA - LI

SA - LI

Analysis of Floor Space in Prison

Opportunities with Original Plans

Ground Floor Plan

SA1.

Nemetschek Vectorworks
Recreated Plan 2

Analysis of Floor Space in Prison

Fig 6.03 Analysis of Floor Space in prison Diagrams 1

First thoughts included defining levels of interaction between residents and guards through varying, basic programmatic spaces and then considering a basic circulation. As both the original entry and exit were installed in direct centres of each longitudinal facade, it was perceived that a reassuring, memorable space would be deployed for a central point of welcome. Here the walking paths of existing residents would become immediately apparent to a new entrant. Based on the circulation pattern that developed through this, two other areas of concentration were considered also.

A form that began to develop upon a brief analysis of the ground floor shape and the circulation between areas reserved for rooms and social activities allowed for two major openings. These openings may be opportunities to define 1. public activities and 2. the more private. D3 is representative of early perceived major circulation paths.

This scheme specifically represents the major spaces of the original ground floor of the Gaol, drawing immediate attention to harshly separated cell units where in fact most of the inmates activities took place (eating, sleeping, certain recreation etc). There is a serious lack of larger intermediate spaces with the largest concentrations on holding.

Other patterns and spatial relationships have been considered during this phase also, which could be informative of appropriate form and arrangement.

SA1.

Analysis of Floor Space in Prison

Fig 6.04 Analysis of Floor Space in prison Diagrams 2

Fig 6.05

This was the first step taken in a 3D renegotiation of the entire interior projected from the 2D floor analysis. If the holistic interior space is considered in its purest form it can be divided into 3 major areas across all 4 floors; with very basic living/ sleeping dominating the circumference of the interior perimeter (green) and the central, heavily voided central core (red) designed for intense surveillance.

Fig 6.06

Initially the renegotiation of space involved first manipulating the 2 large, restricted living areas into larger areas that would first allow for obvious separation between public and private activities with obvious parameters as outlined in the CPTED strategies. Living and sleeping quarters could be relocated to one side and more social activities could take place in the other.

Fig 6.07

It was also considered that half of the living/ sleeping quarters could be relocated to a more private side of the prison separating two types of past prisoner. Perhaps leaving those with violent pasts in the more public area, which would be easily accessible to guards. However this thesis is not as concerned with the past conviction types and rather with over all environmental therapy. Different types of bedroom and choosing the room may be a more effective scheme.

Fig 6.08

The floors were then broken down to the existing, circulation system. Where the living/ sleeping areas already exist (blue) so does a circulation pattern which identifies heavily with the Groot Klimmendaal rehab centre. Except the only major paths that existed were the thin 1.2m walkways heavily utilised by guards surveying prisoners. It would be highly effective to expand the width of these paths limiting the number of sleeping units for additional space. The central core could then provide a main route of access between floors.

Public vs Private Schemes

Developing the New Intervention

The first steps in developing a new intervention involved taking the second model from the initial 3D design method placing focus on a clear cut off point between two public and private areas. The focus then shifted to how this scheme would work on the **sides** of the first design, where an area for living/ sleeping once existed.

Idea 1: Small security offices isolated but visually obvious on the public side.

Private

Idea 2: Introduce 2 glass elevators for easier vertical access between floors both public and private. Also these will perform as light wells.

Idea 3: Removing Barrel-vault style ceiling and arched braces or introduce skylight inlets to allow for central natural light for neutral lumination throughout.

Fig 6.10 Gaol Wing South Section

Clearly dividing the public and private areas

Idea 4: Introduce well lit wall-side stairways leading up to rooms for clear intermediate interaction between floors and the promotion of exercise.

Second
First
Ground
Basement

Fig 6.09 Side of the Intervention

Idea 6: Historic entry stairs have been left as a device indicating a neutral welcoming area between the public and private zones.

Idea 5: Triple-bunk style rooms with a wall-side walkway becoming an almost dormitory style unit have been considered for the promotion of comradeship. Having a wall-side walkway will simulate more space and more natural light penetration with an eventual renegotiation of the walls.

Public

SA2.

Public vs Private Schemes

Inserting a Bedroom Arrangement

Fig 6.11 First Bedroom Arrangement

Idea 9: As deployed in the Groot Klimmendaal rehab centre, each floor could be assigned a different theme relating to different levels of interaction also. In doing so spaces could be sized accordingly. Shown here, with a removal or thickness renegotiation of the exterior walls the widths of each floor can span to nearly 13 metres. Because we are at this stage working with the initial 3D design method (M1) and are reusing the **central core** of the interior for large stairways and main access routes, the current open space reserved on each side approximates to 5m on the basement floor and 4m on the ground/ entry floor. Through scale this is one way of defining programmatic hierarchies between floors. The lowest floor is more open allowing for larger activities (workshop, Kitchen etc).

Idea 8: There were two inside/ outside access routes on both sides of the wing. One side will however be used for entry and the other for an exit. Further developments will be made for welcome space in-between.

Public vs Private Schemes

Revealing the Intervention

Idea 10: The external walls of the prison wing are in much need of renegotiation if we are to improve notions public exposure to relieve stigmas about community interaction. Ideally the removal of such iconically thick, authoritative walls will reveal, with clarity, the inner programs of the intervention and invite entry. This may have to be completed with a new external glazing scheme for visual trust and an outside understanding of the positive growth of the residents. If citizens can witness the positive operations going on within the interior, (correctional programs etc) almost as a stand-alone intervention, then the existence of the centre will be appreciated.

Second Floor: Quieter activities/
Family stays

First Floor: Sleeping/ Resident
socialising (Private)

Ground Floor: Entry/ Welcome/
Offices

Basement Floor: Larger scale
activities/ Public interaction

SA2.

Idea 12: Certain introductions of double heightened voids opposed to full heightened mass scale voids will also remove stigmas about engaging with space and human interaction while still streaming light, and providing adequate ventilation. In a space like this on the basement floor a program such as a chapel can be inserted where this streaming light can denote notions of enlightenment.

Idea 11:
New Skylight
Insertions

Symmetrical Reflection
of intervention

Channelling of Light

Fig 6.13 Revealing the Intervention

Idea 13: At this stage the west and east segregation of rooms remain separated with quite a large margin allowing the north end elevator and its surrounding pathways to remain as the threshold between. At this stage this has been done to relieve any simulations of over-crowding on this part of the floor.

Public vs Private Schemes

Privacy in Verticality (by Floor)

Idea 14: At this stage the stairs that have been introduced to the central core have been spaced well apart and have been broken into 4 major inclines (excluding the outer stairways leading to the bedrooms) with complete access to the lower 3 floors. As one method of invoking exercise and movement, the staircases should be plenty and more visual than the elevators for more frequent use. Devices such as obvious stairways and elevators also effectively direct human orientation in space. The top floor is only accessible by elevator, to emphasise upon more family oriented exclusiveness.

Fig 6.14 Intervention North and South Views

Fig 6.15 Public to Private Horizontal and Vertical Successions

Expanding on Idea 9, each floor (as in the Groot Klimmendaal case study) could represent differing but clear themes or even a vertical incline of progressing levels of needed privacy. The vast amount of open space on the basement floor (green) could be reserved for larger noisier activities, receiving community service workers or visitors from outside from the entry floor (purple) downstairs. Whereas the first floor could remain strictly private for resident sleeping and socialising (red) and the second floor (blue) for quieter private activities like more intimate family interaction. A library could be introduced.

Public vs Private Schemes

The Central Core

Idea 18: The walls of the social space are opaque, however timber slats have been used to line its borders at a horizontal frequency that still exposes human movement and interaction, while still providing notions of privacy for residents.

Idea 19: The walls of the meeting room have been lined with thicker timber slats on glass at a vertical frequency that allows a passing viewer to only see hints of movement. This will be one of the more strictly private spaces of the centre so this is an appropriate measure.

Public vs Private Schemes

Main Spaces of the Core

The next step involved giving the central core some identity and injecting certain programs defined by public and private. However it was decided that for the purpose of testing two different levels of visual interaction, a meeting room/ boardroom (private space) designed as a stricter counselling space would be inserted into the public zone of the centre and a common social space would be inserted into the private zone. Because they will be positioned in the central core, which is predominantly glazed, the walls of each space have been designed with two levels of opacity to invoke a different level of visual privacy. As we are trying to abide by certain CPTED strategies, more natural borders have been used to aid in this concept.

Fig 6.17 Common Room and Meeting Room

Idea 20: Natural Borders in the form of small voids in the floor lined with glass balustrades to deter physical and visual interruption of meetings from the sides.

Idea 21: The one sided entry must however be designed in a warm and welcoming way to encourage those who are invited in for sessions.

Stigma Diagram: A comfortably sized table with sufficient surrounding space removes stigmas about interaction, both visual and physical.

SA2.

Public vs Private Schemes

Inserting the Main Spaces

Central Core //

Idea 24: Openings for light over both entrance and exit were created, enlightening those who enter and farewelling those departing while each transparent, wide access-way frames the outdoors (light at the end of the tunnel concept).

Idea 25: Most of the openings between spaces within the centre (except to the offices) will have timber sliding doors contrasting purposefully with the symbols of limited accessibility in prison.

Fig 6.18 Insertion of Main spaces in the Core

SA2.

***Note:** The zen symbolism associated with nature may need to be renegotiated. This representation is rather literal and non-functional. An appropriate material palette may provide opportunities to inject notions of zen in a less obvious way.

Public vs Private Schemes

Inserting the Main Spaces

Fig 6.19 Intervention South Facade

Idea 26: This opening at the edge of the southern interior perimeter may invite opportunity to relocate the entry. This could become a clear entry and exit for the public **and** past convicts pushing the idea of human equality. It should reinforce the need for positive community interaction during transition and will clearly define a symbolic threshold of change between prison space and therapeutic space.

Fig 6.20 Detailed Core

Fig 6.21 Highlighted Core

SA2.

Public vs Private Schemes

The Exterior Walls and First Floor

Idea 27: The watch towers at the southern end should not remain a part of the design as they may be the most symbolic figures of control. The internal space is strangled by their dense walls.

Central Elevator

Fig 6.22 First Floor, Residents

Idea 28: This type of bastion-like structure that extended from the northern facade, designed with the intention to link additional smaller wings is another defence-aiding feature that denotes old-world authorities. This would now be highly inappropriate for developing a modern centre and should be removed to take advantage of the natural light.

Idea 29: The repetitive nature of the sash style cell windows evident in the original structure were cage-like and limited natural light greatly. These denoted themes of punishment and should be substituted for double glazed (NZ building code, clauses A2-H1 3.2) glass panelling etc, which will also allow increased inside/ outside exposure.

1. Fire Stair Exit
2. Meeting/ Conference Room
3. Public Oriented Elevator
4. Common Room
5. Resident Accommodation 1
6. Resident Accommodation 2
7. Resident Accommodation 3
8. Resident Accommodation 4
9. Private Stair Entry
10. Private Elevator

Fig 6.23 First Floor with Materials

SA2.

Idea 31: Instead of providing a large entrance (as mentioned in idea 26) at this stage an elegant staircase has been placed at the centre of the southern facade. This is entirely glazed with a simple i-beam framing allowing for passer by exposure, where the community can watch positive, intermediate interaction and movement between floors.

Meeting Room: 'Floating' over the ground and basement floors.

Common Room: Easily accessible to residents with user-friendly sliding doors.

Idea 30: This use of timber panelling predominantly throughout the first floor is a reinforcing motif of 'safety,' comfort or welcome, highly obvious in both bedrooms as well as common areas. This is a scheme designed to motivate travel beyond the confines of the sleeping quarters.

Expanding upon Idea 31, it was decided for testing purposes that in addition to having an exposed stairway attached to the southern facade for exposure purposes, an additional library feature could be linked directly to it, which members of the community can have access too. The black stairway motif highlights this to be a winding threshold. As members of the community ascend upward with access to all floors in the public zone, they will feel compelled to move to the top, following the guiding balustrades, making an effort to interact.

Idea 32: The private nature and comfortable scale of the meeting room, furnished with a warm mid-tone timber palette can cater to counselling sessions between psychiatrist, resident, family members, friends and community volunteers if preferred by a resident.

Public vs Private schemes

Exposure/ Community Integration

Idea 33: The black frame of the stairway now encroaches onto the second (top) floor, which in congruence with Idea 9, still remains the most private and family oriented floor. However with an exposed library program existing strictly within the boundaries of the public zone, residents or family members can choose to cross the public/private line. As the library space is quite large, a simulation of overcrowding should not be an issue.

Idea 34: Placed here will be an intermediate space between the large library and sleeping quarters for visiting family members. This will be a private and quiet alternative to reading within the publicly oriented library.

Idea 35: Large transparent panes of glass will allow other passing members of the community to survey visitors interacting with past convicts and progress up the stairs. The glazing will simulate a feeling of safety for any visitors as the outside grounds and urban landscape remain visible.

Idea 36: Certain interior balconies will provide glimpses of movement below without the oppressive qualities of a giant void or opening.

Fig 6.25 3D Section (Visual Interaction)

SA2.

Public vs Private schemes

Introducing a New Context Idea

As a part of design testing, it has been considered that the intervention could be completely removed from its old Gaol Wing setting and develop its own walls as suggested in previous ideas. Instead glazing will be deployed as part of a scheme for exposing the operation of transition to the public. In doing the intervention will stand alone as a structural strategy and transitional threshold between prison and home. In addition, at this stage it was decided that the intervention could be introduced more flexibly to any generic prison boundary for the direct access of past offenders. In which case a new entry/ exit scheme may need to be considered.

Generic prison wing exterior and boundaries.

Idea 37: Opportunity for the intervention to attach to a prison boundary wall. In later research there may be an opportunity for the structural strategy to be relocated into an urban environment or city setting, furthering the positive integration of community interaction.

Idea 38: Instead of limiting each floor to a certain level of privacy, designing in section or even segments could be considered. In section the spaces and programs of the intervention could be categorised to reflect a transitional journey between prison and home/ society. This way the intervention and series of spaces can map a physical extension out toward the community.

Fig 6.26 Intervention attachment to Prison Wall

Testing Idea 38: Segmenting the intervention from prison toward the community. The intervention has been divided accordingly.

Public vs Private Schemes

Segmenting the Intervention

SA2.

Public vs Private Schemes

Analysing the Segments

SA2.

Public vs Private Schemes

Detailing of Accommodation 1

Idea 39: Despite researched comments surrounding double-bunk style sleeping arrangements, this idea will remain for reasons promoting comradeship. This is definitely an appropriate substitute for triple bunking. Past convicts become used to double bunking in prison, and having someone to share a bedding unit with may help some ease into this new environment.

Idea 40: This walkway, with dark balustrades has become a motif throughout this design development as a test for highlighting intermediate areas of interaction. Most of the stairways and paths on the outer perimeters of the intervention have been designed to mark circulation routes that will be heavily used by residents. In doing so, visitors can visually see and physically replicate the walking patterns of the residents. This will be beneficial for community service volunteers in understanding the routines of residents.

Fig 6.38 Accommodation 1 Details

Public vs Private Schemes

Detailing of Private Vertical Access

Fig 6.39 Private Vertical Access Details

Public vs Private Schemes

Section with Segmentation

Fig 6.40 Longitudinal Section of iteration

Volume Study

Program in Plan

The following 3D plans reveal the newly developed, basic spatial relationships considered in **SA2**, leading into detailed schematic studies, which demonstrate a more appropriate renegotiation of programme and volume placement.

Ground Floor

1. Accommodation 1
2. Accommodation 2
3. Bathrooms
4. Private Resident Elevator
5. Main Passageway
6. Accommodation 3
7. Accommodation 4
8. Core Stairway
9. Personal Reflection
10. Public Elevator
11. Public Reception (Main)
12. Public Entry
13. Offices
14. Fire Stair Access

SA3.

Fig 6.41 Ground Floor Plan Volume Study

First Floor

1. Resident Walkway
2. Accommodation 5
3. Accommodation 6
4. Private Resident Entry
5. Private Resident Exit
6. Core Stairway 2
7. New Resident Reception
8. Walkway Bridges to Offices
9. Private Office 1
10. Private office 2

SA3.

Fig 6.42 First Floor Plan Volume Study

Volume Study

Program in Plan

Second Floor

1. Major Security Void
2. Accommodation 7
3. Accommodation 8
4. Threshold to Common Area
5. Major Common Area
6. Accommodation 9
7. Accommodation 10
8. Meeting/ Board Room
9. Private Security Office

SA3.

Fig 6.43 Second Floor Plan Volume Study

Third Floor

1. Small Common Area
2. Toilets 1
3. Toilets 2
4. Security Viewing
5. Reading Area
6. Library Entry
7. Library
8. Computer Space
9. Public Entry

SA3.

Fig 6.43 Second Floor Plan Volume Study

Volume Study

3D Schematics

SA3.

- Major Acces Between Floors
- Resident Accommodation

SA3.

Volume Study

3D Schematics

SA3.

- Accessible to Visitors
- Exclusive to Residents
- Exclusive to Staff (Restricted)

SA3.

Volume Study

3D Schematics

SA3.

- Major Access Between Floors
- Large Collective Spaces

Reflection on Developments SA1. - SA3.

Some elements and ideas developed in SA1 - SA3 are stronger than others in accordance with the previous case studies and psychological studies. All have been considered but certain features are more relevant.

For example the conference space should remain on the public side for the comfort of family, friends, visitors, and staff. This is one of the only spaces where residents have to come out of their comfort zones to enter. The floors do not necessarily have to remain within a vertical programmatic sequence or hierarchy of public to private, especially if a horizontal succession has been applied to the intervention also. The application of appropriate spatial proximity between program types should be considered more critically.

Incorporating large central figures such as glass elevator shafts are an effective solution to gaining natural light across all floors, achieving easy vertical access and providing human spatial orientation throughout the entirety of the intervention. However the intervention only really requires one central elevator alongside the injection of many stairways to improve notions of movement.

A general substitution of glazing for masonry or dense materials is a strong solution for improving natural surveillance with clear boundaries. This was one of the major reasons for the renegotiation of the original prison walls with the concentration of a design strategy to improve visual and physical interaction between community and residents. The specificity of materials need further examination (opacity levels etc).

The entrance/s to the intervention should be taken into more consideration. The current entry and exit for inmates seems too removed from the entry of the public or staff.

Designing in segmentation of the intervention also seems unnecessary. Perhaps school-style 'blocks' would be more suitable. This could be an organisation looked at in final developments, pressing Opie's ideas for transition education. Inclusion of appropriate major, intermediate and minor interaction points have not yet been explicitly addressed.

M - PL

M - PL

Voids and Opportunities for Circulation

Light and Interaction

The glass clad elevator shafts, positioned to allow for easy vertical access between floors act not only as major markers for spatial orientation, but as major light wells. Natural light will be channelled through (a form of canalisation) all floors installing illumination which will subtly diminish from the core-outward.

Simplified Circulation Plan

- Visitor Circulation
- Resident Circulation
- Full Circulation Paths

With the current spatial design, it is likely that visitors will enter and immediately find the straight core passage to be safe in-between the outer activity spaces utilised by residents. To ensure visitor interaction with residents, these activity areas must be well-lit.

Voids and Opportunities for Circulation

Light and Interaction

M1.

A Study of Light on Holistic Models (3D Physical)

Light and Materiality

Fig 6.44

Fig 6.45

Fig 6.46

3D physical abstract models for studying light and atmosphere with the aid of photography.

Fig 6.47

Fig 6.48

Figs 6.44 - 6.48 3D Abstract Physical models

A Study of Light on Holistic Models (3D Physical)

Application to Prison Model

Fig 6.49

Fig 6.50

Fig 6.51

Fig 6.52

Fig 6.53

Figs 6.49 - 6.53 Application to Gaol model

Models were photographed against the original Mt Cook prison model to test the atmospheric qualities of light. At this stage, and as analysed in chapter 5, the very limited inlets for light within the original prison would not allow these new materials to invoke a sense of freedom within the interior. Many of the ideas already conceptualised in [SA1](#) - [SA3](#) will have to be considered to make interiors lighter and airier.

M2.

The Impact of Light on a Digital model

North Side of the Intervention

As the **northern-most** segment of the intervention, allowing for the most consistent natural light, a space for sanctuary with memorable plays of light. Appropriate for a small on-sight chapel, altar or place of religious reflection.

Nearby trees bring a pleasing alternative for those who are more appreciative of the zen qualities found in nature.

M3.

Fig 6.54 Opportunities for North Side of the Intervention

The Impact of Light on a Digital model
Sleeping Rooms Design and Position

M3.

Fig 6.55 Abstract Drawing 1

M3.

Fig 6.56 Abstract Drawing 2

M3.

Fig 6.57 Abstract Drawing 3

The Impact of Light on a Digital model

Sleeping Rooms Design and Position

Fig 6.58 Impact of Natural Light on Central Core

The Core: In order to design an order and procession of light from a holistic perspective, the spaces of the central core now rely on the sunlight channelling elevator shafts to transmit consistent natural wavelengths into each end of the core during the day. The lighting can then gradually becoming darker towards the centre, especially within the private sector. Spaces of the core can lure residents to the 'light at the end of the tunnel.' (See case study A2)

Testing the influence of constant movement with parametric timber slat design, with angles that soften sunlight and curves that mimic the motion of growth.

Incorporating a warm, and embracing timber palette into the interior with user-friendly, sliding doors, denoting notions of reversed restrictions surrounding 'accessibility.'

The Impact of Light on a Digital model

Sleeping Rooms Design and Position

Fig 6.59 First Concept of Sleeping Rooms

Initially designed with a triple bunking system in each room for comradeship. Research conducted by the NZ department of corrections and Leslie Fairweather show that this may be an inappropriate arrangement, however it behaves as a deterrent for lingering within rooms.

M3.

The Impact of Light on a Digital model

Sleeping Rooms Design and Position

Fig 6.60 Movement through Sleeping Room

M3.

Fig 6.61 Holistic Sleeping Room

The Impact of Light on a Digital model

Sleeping Rooms Design and Position

The sleeping room is designed initially to influence a sense of constant movement and circulation. The transition centre needs to install a sense of routine for residents by first testing angles with sunlight, invoking the process of getting up and starting the day. Rooms would be accessible during the day with small under-bed storage lockers etc. However having three bunk beds and quite tight interior arrangements, alongside double openings out onto two parallel corridors should simulate an indoor/ outdoor flow, meaning that residents will only feel like utilising these small spaces for sleeping. In turn they should feel compelled to take full advantage of the activities in the centre and interacting with others during the day.

Large windows will allow for much natural light penetration, although the strength of which is softened by the parametrically sculpted timber slats defining each room.

M3.

The Impact of Light on a Digital model

Sleeping Rooms Design and Position

Organic parametric curves introduced as an attempt to influence notions of movement

Fig 6.64 Elevation of Sleeping Room Concept

Fig 6.63 Movement between Parallel Pathways

M3.

Fig 6.65 Section of Bathroom

The width of the rather narrow corridors will need to be revisited with specified measurements to avoid replicating oppressive traditional prison walkways.

Fig 6.66 Plan of Room Concept

Reflection on Developments M1. - M3.

While considering the most relevant elements of design testing for movement invoked by procession of light, it is important to note that the use of natural light is not only imperative for achieving positive transitional qualities, but majorly defining the atmosphere of the centre, obviously dependent on form work and material inclusion.

The use of physical modelling to aid in the understanding of light play aided immensely in developing appropriate hues against materiality and illustrating realistic results for seductive procession and framing light. This can now be applied with regulation to the final developments of the intervention.

Methods for guiding light have been applied during the testing process to three main areas including the core, receiving sifted light between the two elevator shafts, a first bedroom concept and the northern-most space of the intervention iteration, presenting ideas for a chapel or place of reflection. The light that is received within the core (and subsequently channelled into each floor) is accurate and imperative as the main walkway vessel.

The first detailed bedroom design presents a method conducted with a collaboration between light transmitted outside of the intervention periphery and the use of path. The idea of having bedrooms on the outer periphery of certain floors was adopted after studying the Groot Klimmendaal centre and is a strong idea for allowing rooms to achieve the most light.

The outer path between room and the third floor windows displayed an attempt at designing a device for continual movement with morning light so that a resident is not tempted to remain in his room during the day. This path is not necessary. Because of its inclusion room sizes were compromised. This would really become an issue for aggravation with three inmates per room.

Foremost, having three men sharing one room, no matter how temporary the stay, is not recommended by the NZ Department of Corrections, especially in a bunking situation. This will simulate notions of overcrowding in such a small space, unless adjustments are made to allow for dormitories. This is not recommended either. Having one other room mate should provide enough encouragement to get up in the morning alongside the development of comradeship. Perhaps various room types should be considered.

Lastly, conclusions have been drawn about incorporating a sacred space or chapel within the intervention. Although Christian values may be considered by most as important for prison rehabilitation and positive psychological development, it can also have oppressive qualities within such an environment.

This, as previously mentioned, may trigger major remorse in residents (especially for those brought up in a religious household) who should now be preparing for an outside life that is productive. Eventually cultures and religious backgrounds of all residents will also have to be considered.

There are other ways to take advantage of protruding light and materials to produce atmospheres in space or pathways inspiring personal reflection, which is important for transition.

Fig 6.67 All Saints Chapel, Martinho Campus, Brazil

A - VD

A - VD

Effective and Ineffective Deterrents

Referencing C.P.T.E.D. Strategies

During this design testing phase some of these real-world strategies were used to influence the design of each floor of the transition centre (still at a very conceptual stage). In doing so these CPTED strategies were analysed for effectivity in regulating notions of authority and certain restrictions, removing perceived situations leading to aggravation.

The diagrams presented in this section of testing offer strategies for both effective and ineffective design.

One experiment showed that narrow pedestrian footpaths increased conflict between vagrants and ordinary users. Ordinary users look for alternative routes considered less safe and less seen by the community. The squeezed paths then lost territorial identity and 'shoulder brushing' often occurred (Crowe, 108).

Fig 6.69 Ineffective Diagram 2 CPTED, by Timothy D. Crowe

A1.

Urban Street Example (Ineffective Design)

Effective and Ineffective Deterrents Referencing C.P.T.E.D. Strategies

The use of wider walkways provides a natural barrier device otherwise acknowledged as 'distance.' Pedestrians can walk by at a comfortable distance from others either walking in the opposite or same direction without potential for 'shoulder brushing' or unnecessary eye contact. Not the most social device, but safe in design (Crowe, 110).

Subconsciously, a two-way road has been shown to influence an either 'keep-left' or 'keep-right' walking arrangement on neighbouring footpaths. (Crowe, 110).

Fig 6.70 Effective Diagram 1 CPTED, by Timothy D. Crowe

Fig 6.71 Effective Diagram 2 CPTED, by Timothy D. Crowe

Urban Street Example (Effective Design)

— Offenders will feel more at risk as an obvious 'abnormal' pedestrian.

A1.

Effective and Ineffective Deterrents

Referencing C.P.T.E.D. Strategies

Fig 6.72 Ineffective Diagram 3 CPTED, by Timothy D. Crowe

School Example (Ineffective Design)

Having one internal intermediate route between the areas for learning and the cafeteria can simulate overcrowding and congestion between major areas. This will also slow the movement between the areas and stragglers or what Crowe refers to as 'abnormal' pedestrians cannot be identified for possible theft (personal lockers are often located within halls) etc.

Fig 6.73 Effective Diagram 3 CPTED, by Timothy D. Crowe

School Example (Effective Design)

In addition, dedicating each route to either ingress or egress will define movement relationships.

Of course deploying a time schedule for different eating times in the cafeteria (e.g. between year groups) will allow more notions of natural control with the smaller numbers without enforcing authoritative physical boundaries.

A1.

Effective and Ineffective Deterrents Referencing C.P.T.E.D. Strategies

Parking Lot Example (Ineffective Design)

Assaults occur more frequently within internal lots, especially if not appropriately artificially lit.

The location of the parking lot on the periphery of the site reduces any clear transitional definition of movement from public to private space, thus allowing any intruders to feel safe or at low risk of confrontation.

Fig 6.74 Ineffective Diagram 4 CPTED, by Timothy D. Crowe

Parking Lot Example (Effective Design)

The garden strip used here upon entry to the parking lot not only guides a driver and indicates friendly access, but it restricts drivers to remaining within appropriate lanes becoming a transitional device connecting public and private sectors.

Fig 6.75 Effective Diagram 4 CPTED, by Timothy D. Crowe

A1.

Applying C.P.T.E.D. Ideas

Ground Floor (Visitor Oriented)

Spatial Proximity

Fig 6.76 Ground Floor with Deterrents

Double-entry, viewable from either access point will encourage visitors as they acknowledge multiple ways to leave if feelings of discomfort arise.

Transparent elevator shafts will perform as light-wells, illuminating corner spaces and pathways on both halves of the interventions. The glass shafts again outline who is making use of the elevator, and double-side access doors will relieve entry congestion.

The northern most end of the intervention will receive the greatest quality of natural light, perfect as a space for reflection. However it will also perform as a visible beacon with flooding light, attracting visitors who enter on the southern end to explore the entire length of the ground floor.

The vertical access ways (stairways) have been darkened to indicate that movement upwards to higher floors involves movement towards more private environments, especially on first and second floors (second floor inaccessible to visitors), where interaction with residents and counselling staff is more likely. Residents will use the wider central staircase (1) positioned on the private half of intervention and visitors can feel more comfortable with to accessible stairways. The elevators are added also.

Large, open spaces on the outer periphery of the ground floor reserved for activities are designed with a lack of partitioning so residents and visitors can enter without feeling of entrapment. Visitors can first view operations within and enter once comfortable with the idea of interacting.

This space has the most partitioning as the reception area designed for visitors where they can sit and feel comforted by the walls and double-sided entry. Before visitors enter this central waiting area, stairways and elevator shafts are viewable to the right immediately upon entry. Access points between floors can be quickly understood before exploring the intervention. Visible security offices to the left will also reassure safety.

The ground floor circulation presents a clear central route through the core. But also a circuit around the core exists so visitors can view operations going on all around the majority of the floor after leaving the reception and making decisions to interact or find residents they know to be a friend, family member or acquaintance met through community service programs.

A2.

- Elevator Shafts
- Main Spaces
- Main Ground Floor Circulation Paths

Applying C.P.T.E.D. Ideas First Floor (Resident Induction)

Spatial Proximity

This area, reserved for staff (security guards, counsellors, psychiatrists) is self contained with bathrooms on either side so that staff still feel as though they have the security of their offices.

Fig 6.77 First Floor with Deterrents

The dark hues of the entry again indicate exclusive entry for past offenders who are met at a smaller central reception to the right. Past offenders can then become inducted as residents, then have immediate access to the elevator to the left, providing quick access to the private level above with sleeping rooms.

Increasing the use of glass upon the incline of floors provide more natural surveillance for both staff and residents now, especially within the more private side of the intervention.

Wide walkways designed with the darker hues leading up to sleeping rooms allow residents to feel more exclusive and if for what ever reason visitors end up here, the colouration is an indicator that they are entering a very private sector of the floor. If visitors become lost however, the walkway has balustrades instead of walls so staff can quickly monitor 'abnormal' users of the path. It is also recommended that friendly visitor name tags are worn for example. Again two sides will abolish simulations of overcrowding and congestion.

Residents access this area via double-sided bridges, which perform as a friendly threshold defined by a slight elevation (CPTED strategy), instead of deploying traditional authoritative walls, heavy doors, steel locks, gates or wire. Staff are also expected to cross these bridges as they come to work via the elevator. This illustrates to residents (and visitors) the easy access and crossing of this boundary.

- Elevator Shafts
- Main Spaces
- Main First Floor Circulation Paths

A2.

Applying C.P.T.E.D. Ideas

Second Floor (Resident Orientated)

Spatial Proximity

Medium wood tones have been used in specific areas to assure comfort and relaxation to residents. Here wood panels have been used in sleeping rooms with grains enforcing a natural aesthetic and notions of calm.

This use of quality material usage as stated by Leslie Fairweather deterred residents from vandalism, and relates heavily to materials associated with the domestic interior.

This is the largest void currently within the intervention design and it has only really been positioned for reasons involving light distribution and as a natural distance barrier between sleeping areas (CPTED strategy) which could potentially divide two kinds of past offenders: introverted or extroverted residents. Removing large traditional voids of prison will remove stigmas about moving and exploring the interior.

An increase of glass partitioning has been used for the central common room only manipulable by residents with large wooden sliding doors, continuing the nature aesthetic. With the multipurpose role of common room and walkway, residents will have limited choice for accessing the elevator without first acknowledging other residents.

Utilising the natural distance strategy with small voids around the conference room gives the space a sense of hierarchy and privacy within the public half of the intervention. Limiting the points of visual and physical access to one entry point directly in front of the elevator illustrates exclusiveness as one of the more important spaces for resident development, hosting family support sessions and counselling.

Fig 6.78 Second Floor with Deterrents

Security Table

A2.

Security offices within this corner close to the conference room will provide safety and psychological reassurance for counsellors and family members during sessions. CPTED suggests that in such an environment the least oppressive, but safest type of corner to make use of is the elbow corner (above).

- Elevator Shafts
- Main Spaces
- Main **Second Floor** Circulation Paths

Applying C.P.T.E.D. Ideas

Third Floor (Community/ Family Orientated)

A2.

Public Interaction/ Public become the Authority

External to Internal Relationships

Fig 6.81 Past Offender/ Resident Entry

Fig 6.80 Proximity to Generic Prison

Public Interaction/ Public become Authority

External to Internal Relationships

The large library is designed to accommodate educational activities on trades, finding work, or re-entering the home. However it would be beneficial to set up a space or series of exclusive spaces for this so that the concept of re-educating can be taken seriously by residents.

Fig 6.82 Intervention Relationship with Outside

The newly transformed centre facade after substituting the dense walls for glass allows for much more visibility of the operations going on within. This should continue on methodically for the rest of the design, expanding on notions of trust for the outside community. What would be beneficial would be linking this southern end of the intervention to public walkways so that pedestrian paths can closely bypass and entice passers to visually acknowledge this far more friendly link to prison. With this new exposure the public aid in a softened approach to surveillance based on notions of outside monitoring rather than harsh internal control. (See page 229).

Rooms can be opened up and exposed during the day. As part of the private half of the centre, residents may still close curtains and draw blinds when necessary. Positioned at the rear of the centre and on the second floor, these spaces will be less visual.

Residents can enter the centre for induction and leave from either side. It may be beneficial to design one large entry where both new residents and visitors can enter together so that community members can witness their transition process from the start.

The community entry is positioned here with direct access to reception/ waiting area.

A3.

Reflection on Developments A1. - A3.

During design testing, specific strategies learned in Crowes research into 'Crime prevention through environmental design' were deployed within the intervention model.

Most of these devices are visual deterrents, designed without traditionally enforced authoritative notions of 'halt,' 'stop' or 'restricted,' but rather subtle devices used to prevent aggravation, prevent confusion, inspire interaction, explore desires for privacy and involve oneself more in the activities of the centre.

During final design work, the plans designed for the centre presented during testing in consideration of this, will be developed necessarily while keeping some of the more appropriate features of this topic. These include the use of widened paths, keeping various scales of space to denote exploration, using distance and varying elevations as natural boundaries, and the incorporation of glass and small voids (double height limit) to push natural surveillance. Also using certain materials to define areas with concentrations placed on relaxation and movement etc.

What could be considered now more explicitly are environmental cues, and how the centre environment could respond to other human senses with this in mind. Perhaps the appropriate positioning of a kitchen/s releasing pleasant smells (for example), attracting residents to lower floors and in turn possibly share a meal with visitors at certain times of the day.

Phase Two
Interior Design

M - PL

M - PL

Light Study on Model Interiors (3D Physical)

Micro Photography and Light Play

Shadows that run in parallel with the pathway are far more effective for positive guidance than shadows that bisect the pathway, unless they are purposeful deterrents indicating a turn.

Fig 6.83

M01.

Regulated repetitive devices can simulate certain notions of guidance invoking positive movement. However too much repetition of identical space types or, shadows or guiding devices can enforce notions of institutionalisation, which can be stressful and heavily related to prison environments. Although, in this example the repetitive timber slats used in this partition are long, arranged horizontally and thick, which are more welcoming than the iron bars or frequent-in-passing doors of prison cells.

Repetitive slats running overhead in the ceiling are effective guides 'forward' reinforced by the light protruding through onto the floor.

The atmosphere created by the amount of allowed light against the timber creates a meditative atmosphere apparent in the architecture of cultures who appreciate the concept of 'Zen.' However it must be realised that certain qualities in this model relate to atomisation and the disciplined nature of traditional Japanese interiors, which can simulate notions of limitation.

Fig 6.84

Light Study on Model Interiors (3D Physical)

Micro Photography and Light Play

The opening exit at the end of the path frames light, and the 'journey' towards it is lined with guiding devices. The perspective of space and the entire periphery of the area remains obvious and clear.

Fig 6.85

Fig 6.86

A framing of light creates the illusion of an objective in the process of forward movement.

M01.

M01.

Fig 6.87 Light Invoking Movement

Light Study on Model Interiors (3D Physical)

Micro Photography and Light Play

Fig 6.88

The pathways and circulation designed for the transition centre will be predominantly conducted in circuits with certain spaces such as activity areas, and bedrooms positioned on the outer periphery to allow the most natural light. Residents can then feel pulled to partake in certain positive activities (workshop or crafts etc) and stigmas surrounding containment and safety can be relieved when returning to the bedroom.

Fig 6.89

Light illuminates points freely accessible to the residents with the aid of artificial light. The more minimalist and open-plan the style in which spaces are designed, the better the caustics of lighting.

M01.

Light Study on Model Interiors (3D Physical)

Micro Photography and Light Play

Fig 6.90

M01.

Change in materiality to a more reflective tone of white, creates a visually obvious point for the departure of a space, (foreground) which may become dominated with shadows and re-entry to the safety of a public path of the floor.

Fig 6.91

Light Study on Model Interiors (3D Physical)

Micro Photography and Light Play

Fig 6.92

Many wide pathways illuminated to influence forward movement, with the aid of obvious wood grains.

Fig 6.93

Artificial lighting should be used from an over head position to soften the shadows.

M01.

Spaces as Thresholds

Light and Shade

Fig 6.94

Fig 6.95

Fig 6.94 - 6.95 Light and Shade Drawings

Fig 6.96

Illuminated Passage
with wide exit.

Fig 6.97

The more enclosed the space,
the stronger the frame of light.
The sense of balance between
light and darkness is important for
strengthening procession.

Spaces as Thresholds

Passage Illumination

Fig 6.98

Fig 6.99

Natural light is not framed here but rather captured methodically in a repetitive window pattern, protruding as a device for guidance. With the number of controlled openings this becomes an effective device, luring a resident into space.

Fig 6.100

Fig 6.83 - 6.100 Light Studies with photography

Spaces as Thresholds

Light and Natural Motifs

Fig 6.101 Common Room Concept

Fig 6.102 Common Room Walls

M02.

Fig 6.103 Atmospheric Qualities

This was considered to be a simple way of creating a warm space, bringing residents together. Residents can watch each other interacting between the tree branch openings. However, the warmth of the space seems to have been achieved with more strength through plays of light against the wooden material palette rather than the tree etchings. The idea of having the tree also symbolises growth and breaks the rigid nature of typical walls encouraging relaxation. This however may need to be renegotiated as a device. The grains and hues of the wood already simulate feelings of relaxation.

Spaces as Thresholds

Light and Natural Motifs

M02.

Fig 6.104 Natural Motifs

Fig 6.105 Accessing Common Room

M02.

Multiple Inlets and Seductive Light

Methodical Lighting

Fig 6.106

Multiple Inlets and Seductive Light
Methodical Lighting

Fig 6.107

Fig 6.106 - 6.107 Light Shade and Texture

M03.

Multiple Inlets and Seductive Light

Invoking Movement

M03.

This lecture theatre design was conducted with a series of ideas surrounding appropriate inlets of light against semi-lustrous materials (concrete and timber panels) promoting movement towards the rear of the theatre. This also allows for staff to survey all in attendance with clarity in a typical environment for education, especially at the rear of the theatre (natural surveillance).

Multiple Inlets and Seductive Light Invoking Movement

Pathways above for increased natural surveillance.

The men will be given enough space between chairs and tables with slide-out desks and foot rests so that a sense of calm can remain during presentations without reason for aggravation.

A large use of internal glass provides natural surveillance for guards and abolishes simulations of containment for residents.

Fig 6.109 Lecture Theatre Concept

A conceptual design for a small lecture theatre completed in order for residents to attend talks by inspirational figures, past residents and professionals educating on what it means to transition, reconnect with family find work etc.

Wide pathways, preventing possible 'shoulder brushing.'

Humorous artworks of famous men lift morale in modern prisons of Norway.

M03.

World's Nicest Prison Halden Prison, Norway. N. p., 2013. Film. <<https://www.youtube.com/watch?v=o38BnBMi49g>>

Reflection on Developments M01. - M03.

After analysing ideas for developing processions of light in conjunction with prior research into the healthful benefits of natural light, it has been discovered that certain qualities of light that we require for transition can only be achieved when filtered into environments with particular material palettes.

Certain materials are inappropriate if they are too reflective. The type of interior that needs to be developed should not present qualities that are too similar to commercial environments (hotels, office buildings etc). This presents false ideas about the difficult process of prison departure. There needs to exist a balance between materials that denote self-reflection and materials that promote a sense of 'new life' (change from prison). In turn these materials should work in unison with light to provide guidance, safe but seduced movement with moments of relief that are perhaps shadowed.

The methodical placement of light inlets can be used purposefully to highlight pathways to invoke routine or outline thresholds with significance to the time of day. Inlets can take the form of many small openings in

patterns along the walls of halls. Some may project shadows on to parallel walls so that guiding shapes are replicated symmetrically. Others can be large windows illuminating entire passageways, or framed light at the end of walkways, as designed in the conceptual 'central core.'

With the incorporation of the lecture theatre design, tall vertical windows have been provided on the border of the room to control mass amounts of light and still supply a neutral tone of illumination with frosted windows. However an inlet has been positioned to illuminate the rear of the theatre so that lecturers and guards can monitor back of room activity at most times of the day.

The protruding back of room lighting in turn also creates an attractive procession inviting forward movement, a methodical allowance that could be recycled in to other sectors of the intervention (in accordance of course with the time of day and programme of the area). This space now takes on sacred qualities as a space for learning with almost religious connotations. Residents move towards the seating terraces for education just as church goers move towards an alter for communion.

Fig 6.110 Museum of the History of Polish Jews,
by Lahdelma and Mahlamaki Architects

A - VD

A - VD

Material Palette

Appropriation

Materials should reflect human growth

A01.

These photographs draw attention to what materials and textures should be avoided within an environment of transition. They promote notions of authority and control, greatly evident in prison environments. Instead, materials, hues, tones and a colour palette which find a median point between an urban setting and the relaxing qualities of nature should be considered.

Fig 6.111 Photographs of Avoided Materials

Material Palette

Appropriation

To promote certain minimalist qualities. Nature inspired colour swatch would be suitable, especially the lighter hues.

Fig 6.112 Diagram of Appropriate Materials

Spider Fittings

A01.

Appropriation

Timber panels trim against polished concrete, defining borders for comfort space, consistent throughout spaces and stairs of the centre.

The multiple openings to the room denote temporary stay. The material palette of the room is comforting. This shell is more spacious than the concept presented in 'M3,' more appropriately designed to conform to NZ corrections recommendations of sleeping no more than two people.

The large timber doors mimic the shell panels, easily sliding from left to right on steel tracks embedded within the concrete ceiling and floor. The doors further denote new ideas surrounding extended accessibility and friendly entry for residents.

The doors will have large ergonomic, brushed aluminium handles without locks. Guards can still visit these rooms and open doors where needed, but will be expected to knock for reasons surrounding respect of privacy. These are the only spaces of the centre where this will be a common procedure as if a bedroom in a home situation. Visitors cannot visit these spaces.

- The grains of what would likely be stained Pine or *Macrocarpa* veneered, steam bent layers of plywood (approx 30-50mm thickness) present relaxing organic patterns reminiscent of a forest setting or the waves of a pool of water.

Although new notions of bedroom privacy are introduced here, so has an idea of having a 'staff accessible' balcony overlooking the bedroom. This somewhat contradicts the idea of privacy and may need to be renegotiated, although this is also an idea that was conjured for reasons surrounding safety and caution.

This may not be included in every room, but perhaps in the rooms of younger residents who have problems abiding by daily schedules or residents who have deeper psychological issues, even suicidal tendencies while in prison. (Details of idea introduced on pages 236 and 281).

The central resident entry/exit and space leading to a reception to the right, has been darkened to represent resident exclusiveness. However this will need to be renegotiated as the space receives limited light. The entry itself may need to be repositioned.

Ideas surrounding the amalgamation of resident and visitor entry have been noted.

Ideally, some of these more comforting materials should be included in this space.

Fig 6.114 Material Application to Entrance

A01.

Natural Boundaries and Accessibility

Converting C.P.T.E.D. Ideas

Fig 6.115

Fig 6.116

C.P.T.E.D strategies applied to the conference room space, with emphasis placed on distance as a natural boundary, and limiting points of visual access as the most private space.

Fig 6.117 Natural Boundary Application

A02.

Fig 6.115 - 6.116 CPTED Diagram,
by Timothy D. Crowe

Natural Boundaries and Accessibility

Converting C.P.T.E.D. Ideas

Fig 6.118 Approach to Conference Room Ideas

Fig 6.119 Details of Natural Boundaries and Stigma Diagrams

Natural light denotes public access.

Artificial light highlights the privacy and importance of this space. However the lighting should be reminiscent of domestic incandescent lighting and not the fluorescent lighting of an interrogation room.

Fig 6.120 Small Voids surrounding Conference Room

The extended use of wooden detailing (overhead lighting tracks, desk, large table etc) to expand on the comforting motif of natural materials.

Distance boundaries taking the form of small 1m wide voids on either side for the promotion of privacy without forced control. Passing residents or visitors have access to comfortably wide paths on either side illuminated by natural light, contrasting with the artificial illumination of the 'floating' conference space (Details on page 227).

A02.

Natural Boundaries and Accessibility

Converting C.P.T.E.D. Ideas

Natural light falling upon boundaries of the floor periphery sculpts a 'light' and 'airy' atmosphere.

Artificial light used to outweigh the protruding natural light in the conference room is warm, more intimate and reflects certain atmospheric qualities associated within domestic environments.

The wide walkways on the periphery of the floor allow for easy circulation around the conference room. Two walkways permit pedestrians to remain obvious to security staff.

A02.

Fig 6.121 Conference Room Entry

Lighting and Interior Devices

Material Guidance

Concrete beams meet vertical concrete columns 'ribbed' against the periphery of the floor, framing a procession of light and space to provoke movement.

Fig 6.122 Wide Outer Pathways

Timber lighting tracks designed as positive spatial guides with an appropriate spread of light illuminating most pathways of the centre, when natural light is inaccessible.

Fig 6.123 Guiding Light Tracks

A03.

Fig 6.124 Incandescent Bulb Type

Fig 6.125 Conference Room without Artificial Light

With allowances made for natural light, the enclosed conference room becomes dominated with shadows. However timber details and incandescent light, reflecting light off glass partitions will re-energise the atmosphere.

Fig 6.126 Conference Room with Artificial Light

A slightly darker tint of glass as an alternative to expressing privacy and isolation from public space.

A03.

Reflection on Developments A01. - A03.

Certain procedures based on visual deterrence and strategies outlined in Crime prevention through environmental design have been tested with the intention of eliminating possible authoritative icons identifiable in the architecture of restraint (as well as outside environments).

In turn, stress can be removed from entering certain environments and therefore possible reasons for confusion or aggravation can be expelled. As this can of course lead to further crime surrounding vandal, violence and sexual abuse. The subject of crime prevention through environmental design (although rather external from interior design) was chosen in particular as a rather external topic for addressing transition because it encompasses so many simple psychological methods for crime prevention often omitted in environments as prison.

For prisons of the modern day, it seems as though themes surrounding surveillance will always take a prime position. This topic looks at ways of removing daunting architecture and substituting themes of natural

surveillance, natural boundaries and effective devices, which do not test human stress but rather eliminate the potential for stressful situation before they can develop.

Many have been already applied to testing and design developments. The most successful have been adopted through CPTED diagrams demonstrating examples of both effective and ineffective design with architectural reinterpretation. Some of the most effective applied to testing include allowances for distance as a natural boundary as well as varying elevations, introducing a larger use of glass, making allowances for light to illuminate outer pathways and a comforting material palette denoting themes of relaxation in certain areas.

* * *

Chapter 7

Final Design Work

Introduction to Final Developments

The following work presented in final developments performs as an extension of conceptual improvements in conjunction with the previous design testing. The physical interior designed to take the form of a transition centre, based specifically upon a strategic process has been further refined. Improving the functionality of this intervention required certain transformations to take place.

This has been based not only on the now rooted principles of prison design in much need of renegotiation but more realistic architectural principles based on convenience, routine, human integration and spatial relationships providing better orientation.

Some of the more important points touched upon during testing as a result of minimal refinement included a procedure for entry and exit for all who are invited to make use of the centre. This is a stage imperative to accurate design execution as it will immediately effect the way a past offender or visitor envisages the rest of his or her journey throughout the interior. Environments of this type should be understood even before entry.

This is why it has been offered as an exterior solution to introduce significant amounts of glazing types to such an intervention. Frosted or translucent glass may be incorporated into certain intimate interior spaces reserved for self reflection etc. Allowances have now been made for these devices offering solutions according to orientation and spatial clarity, while an appropriate entry and departure system has been introduced.

Other points lacking functional clarification included the way in which minor, intermediate and major spaces perform within the centre in conjunction with spatial types and programs. Most spaces have now been refined to work in cohesion with intermediate circulation, including the appropriate separation of major spaces (library, social areas etc). So there does not exist an overwhelming collective of large spaces where the most interaction will take place, the appropriate placement of 'transitional paths,' now breaks up any larger space clustering.

These paths have been designed to invoke choice and self reflection without need for religious motif, authoritative devices, and with limited material palettes. Most paths are met with allowances for natural light creating procession and framing. These transitional paths then connect

with either major spaces or minor spaces (now clustered in varying scales around the intervention to promote past offender exploration). They are clad with comforting wooden material panels and in some cases carpeted with grains and hues becoming identifiable as places of positive interaction. This can be observed in a spatial and circulation analysis.

For the purpose of understanding the intervention tectonic arrangement, methods involving designing in segmentation have been completely removed and instead a schematic presentation of zones has been developed. The zones have been created with the more important architectural components of transition in mind, sequenced throughout the following analysis of final developments. This is completed in congruence with the movement of a past offender from his room towards the more publicly oriented half of the centre with openings for enjoying the grounds.

These zones will be addressed in detail, broken down almost as blocks in a secondary school, with a mass concentration on education for transition (re-educating, as suggested by Opie), connection to areas for family stay (re-connection) and productivity (movement and exercise). Connections have been made upon zone relationships to the core and grounds also.

With the execution of these final developments (both interior spaces and the holistic intervention as an entity) with injections of appropriate materiality, identifiable atmospheric qualities have also developed. Most spaces invite qualities amalgamating much sunlight against low-reflective surfaces met with rich timber grains. This has been conducted in such a way as not to reward past offenders for their time in prison but reiterate to them that this is a place of reflection and a threshold to societal reinsertion.

Fig 7.01 Movement through Final Developments

Final Developments

Fig 7.02 North East Perspective of Intervention

Fig 7.03 Plan Diagram

Fig 7.04 Entry

A large family oriented recreational room, fully self contained with kitchen and toilets. This is available for residents to book for special occasions, family birthdays, meetings. This interaction is viewable to community by-passers from the point of entry.

3D Section

Two elevator shafts still exist for allowances of natural light between floors and user convenience. However the central elevator will receive more use for central vertical access while the entry facing elevator only travels between two floors as a more exclusive passage for family, friends and offenders who want to make use of the large family oriented recreation room.

A large library has been developed but now positioned on the private half of the third floor as a quiet spatial connection between a family stay area within the public section and resident rooms.

SE01

Rooms have now been designed differently to offer appropriate arrangements for certain offender types. Not necessarily according to criminal past but more personality types and individual experiences in prison. Still positioned on either side of the centre, the bedrooms take advantage of sunlight and views of the grounds.

Existing Prison

Fig 7.05 3D Section

A large kitchen has been incorporated for past offenders to learn basic cooking skills, producing alluring smells at the front of the centre. The eating area is positioned on the opposite side of the entry and reception for appropriate proximity to the kitchen, tempting visitors to venture into the public half of the centre.

Both entry and exit have now been fused as an iconic, warm transitional path for all users, preventing confusion. The path is the first threshold for past offenders to demonstrate a pro-active attitude toward healing, so the path rises on a gentle angle towards an inviting reception area where residents can be inducted by friendly staff.

Any surrounding grounds should be used later for sports activities, eating areas and relief from the centre interior

The entry to the centre is now only accessible via a walk between prison and the intervention, so that the grounds can first be examined by the new resident as well as the activities going on within the interior upon approach.

Offices are still accessible throughout the day for residents to make visits to counsellors in between daily routines.

The conference room remains in the core as the 'heart' of the public sector where family and friends can meet with past offenders and counsellors for more intimate, private re-connection.

Fig 7.06 Entry Reception

SE02

Fig 7.05 3D Section, Material Warmth

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Insertion of Intervention
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Transition Path One

Fig 7.23 Transition Path 1

Transition Path Two

Fig 7.24 Transition Path 2

Transition Path Three

Fig 7.25 Transition Path 3

Fig 7.26 Large Showers (SH1)

Fig 7.27 Section of Spa Bath Entry

Fig 7.28 Small Spa Bath

C. Education Sector

----- Central Elevator with all floor access

----- The townhouse shaped central space no longer performs as an entry to past offenders but as a central reception and waiting room, shaped appropriately to become a more obvious threshold between public and private sectors. It becomes symbolic of a return home for residents who pass through every day.

Fig 7.29 Education Sector Section

Fig 7.30 Relationship to Security Office

Fig 7.31 Link to Reception 2

Fig 7.32 Lecture Theatre 3D

Fig 7.33 Lecture Theatre

Transition Path Four

Fig 7.34 Transition Path 4

SR1 - SR3

Fig 7.35

Sh1 - Sh4

TR1 - TR4

Large Personal Showers reserved for the more psychologically traumatised

Fig 7.35 - 7.37 Education Sector Relationship to Sleeping Quarters

Fig 7.36

Transition Path Four - Reception to Bedrooms

Fig 7.37

Fig 7.38 Reception 2 (Residents)

Fig 7.39 Workshop Dust Extraction

Fig 7.40 Relationship to Floors

Fig 7.41 Connection to Ventilation

Fig 7.42 Entire Workshop Zone

This workshop area was introduced to push interest in trade work and learning certain skills required in areas as building, carpentry, mechanical work, furniture design etc.

Fig 7.43 Family Stay Amenities

Fig 7.44 Additional Showers and Washing

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Fig 7.47 Proximity to Large Family Recreation Room

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Major Collective Spaces

Fig 7.57 Major Collective Spaces

- Spaces of Major Interaction
- Sleeping Rooms
- Spaces of Minor Interaction
- Security Staff

Fig 7.58 Spaces of the Ground Floor

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Thesis Conclusion

This thesis has explored ways in which interior architecture can participate in the particular realm of prison reform and more specifically in the process of transition between prison and society promoted in modern theories.

This design-led research offers a focus on strategic process for designing space in the post-release of past inmates rather than placing attention on specific site, situation, locality and condition.

In an attempt to define an appropriate mid-point between two worlds; prison and society, alongside providing means for easing back into home life, this strategic process required substance.

Initial research into human needs in the transitional space between incarceration and life in society (for example accurate therapeutic response) revealed a necessity to firstly consider renegotiating traditional prison attributes and design principles. Nevertheless, research showed that the specificities of prison design should not be replicated within this realm of architectural innovation.

The three major traditional design principles in need of renegotiation were notions of authority, spatial appropriation and developing opportunities for movement to encourage circulation. These proved to be areas still lacking serious attention in contemporary environments of reform.

Placed against these principles were particular psychological concepts, selected as contributors to closing the 'gap' between prison sentence and societal reinsertion. This included levels of interaction, visual deterrence and processions of light.

This relationship between traditional prison design principles and psychological theories of reform structured the approach to design. This ensured the rehabilitative nature of the interior architecture of transition (for example interiors demonstrating levels of Interaction invoked by spatial appropriation etc).

As design and process developed it became evident that the journey of transition should not be an autonomous one. The strategic design process undertaken in detail must consider complex notions evoked by theorists. As such comments and observations promoted by Dr Opie were

documented in relation to the work of Crowe and Fairweather, the resulting focus on aspects such as education of past offenders as well as their needs for reconnection with family and friends drove the project program.

The importance of focus on interior specificity for the different situations of the person in transition, such as the need for intimacy or for interaction, was carefully considered in the design process and materialised in its spatial qualities. The work of Plummer was instrumental in supporting the exploration of these design aspects.

As a result, the product (spatial design) that is generated from a detailed process of exploration offers clear floor plans, spatial orientation, met with visual deterrent devices ensuring appropriate and safe circulation. This is to encourage an appropriation of space and freedom of movement. Schemes involving natural boundaries and more natural surveillance have been incorporated, for an effacement of authority.

Lastly, careful allowances for natural light with suitable materiality provide consolation in undertaking moments of reflection and exploring varying scales of space, promoting notions of exercise and freedom.

This design-led research offers a detailed strategy with a resulting illustrated design. In developing this strategy, we have discovered design solutions to refining an appropriate environment for true reform. It is also hoped that providing these opportunities have further addressed notions of spatial anxiety attached to the experience of post incarceration reform.

* * *

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Fig 3.18 Light Quality Evaluation

Fig 3.19 Koshino House 1
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Fig 3.30 Serralves Museum of Modern Art
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Fig 3.31 Pius Church
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Fig 3.33 Connectivity of Light Quality

Fig 3.34 Procession of Light Photography
Napier Prison, by the Author, 2013

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Fig 3.37 Procession of Light Diagram

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Fig 3.39 Subject-Specific Case Study Structure

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Fig 4.01 Interior of Communal Space 1

Fig 4.02 Interior View of Communal Space 2

Fig 4.03 Interior View of Communal Space 3

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Fig 4.04 Groot Klimmendaal Exterior

Fig 4.05 Interior View 1

Fig 4.06 Interior View 2

Fig 4.07 Interior View 3

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Fig 4.08 Interior View 1

Fig 4.09 Interior View 2

Fig 4.10 Interior View 3

Fig 4.11 Interior View 4

Fig 4.12 Rendered Floor Plan

Fig 4.13 3D Simulation

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Fig 4.14 Method ‘B’ Process

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Fig 4.15 Interior View 1 of Nykredit Office Headquarters

Fig 4.16 Atrium/ Void of Headquarters

Fig 4.17 Private Meeting Rooms

Fig 4.18 Main Vertical Access

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Fig 4.19 Interior View 1 of Therme Vals

Fig 4.20 Framing of Light

Fig 4.21 Controlled Perspectives and Procession of Light

Fig 4.22 Reassuring Hints of Colour while Bathing in Darkness

Fig 4.23 Interior View 2 of Therme Vals

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Fig 4.24 Interior View 1 of Contemporary Dental Office

Fig 4.25 Waiting Area

Fig 4.26 Arrangement of Materiality/ Natural Boundaries

Fig 4.27 Continuity of Space and Circulation around Glass Partitioning

“Dental Office / Estudio Arquitectura Hago.” ArchDaily. N. p., n.d. Web. 28 Apr. 2014. <<http://www.archdaily.com/224560/dental-office-estudio-arquitectura-hago/>>

Fig 4.28 Components of Transition 1

Fig 4.29 Components of Transition 2

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Alexander Turnbull Library, Ref no: 1/2-066816-G

Fig 5.02 Gaol Wing/ Alexander Barracks

Alexander Turnbull Library, Ref no: EP-3276-1/2-G

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Alexander Turnbull Library, Ref no: EP-3857-1/2

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Sir George Grey Special Collections, Auckland Libraries, NZ Map 3761

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SA - LI

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Fig 6.42 First Floor Plan Volume Study

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Fig 6.43 Second Floor Plan Volume Study

3D Schematic GF – F03: **Major Access vs. Resident Accommodation**

3D Schematic GF – F03: **Exclusive to Residents vs. Exclusive to Staff**

3D Schematic GF – F03: **Major Access vs. Large Collective Spaces**

M - PL

Light and Interaction: **Voids vs. Surrounding Spacial Mass**

Light and Interaction: **Major Access vs. Surrounding Spacial Mass**

Light and Interaction GF – F03: **Circulation**

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Fig 6.62 Sleeping Rooms against Pathways

Fig 6.63 Movement between Parallel Pathways

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Fig 6.65 Section of Bathroom

Fig 6.66 Plan of Room Concept

Fig 6.67 All Saints Chapel

jenniwei. "Spiritual Buildings." images materielles. Web. 17 June 2014. <<http://imagesmaterielles.wordpress.com/2013/01/09/spiritual-buildings-2/>>

A - VD

Fig 6.68 Ineffective Diagram 1 CPTED

Fig 6.69 Ineffective Diagram 2 CPTED

Fig 6.70 Effective Diagram 1 CPTED

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Fig 6.72 Ineffective Diagram 3 CPTED

Fig 6.73 Effective Diagram 3 CPTED

Fig 6.75 Effective Diagram 4 CPTED

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M - PL

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Fig 6.110 Museum of the History of Polish Jews

"Museum of the History of Polish Jews by Lahdelma & Mahlamäki." Dezeen. N. p., n.d. Web. 18 June 2014. <<http://www.dezeen.com/2013/10/03/museum-of-the-history-of-polish-jews-by-lahdelma-mahlamaki-architects/>>

A - VD

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Fig 6.113 Material Application to Bedroom Space

Fig 6.114 Material Application to Entrance

Fig 6.115 - 6.116 CPTED Diagram, by Timothy D. Crowe

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Fig 6.118 Approach to Conference Room Ideas

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Fig 6.122 Wide Outer Pathways

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Chapter 7

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Fig 7.05 3D Section, Material Warmth

Fig 7.06 Entry Reception

Fig 7.07 Prison Context

Fig 7.08 Public - Private Division

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Fig 7.12 Exploded View of Zonal Arrangement

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Fig 7.15 Double Bunk Bed Room (BR1)

Fig 7.16 Family Stay Diagram

Fig 7.17 Relationship between all Bed Rooms

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Fig 7.19 Section 03

Fig 7.20 Section 04

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Fig 7.23 Transition Path 1

Fig 7.24 Transition Path 2

Fig 7.25 Transition Path 3

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Fig 7.27 Section of Spa Entry

Fig 7.29 Education Sector Section

Fig 7.30 Relationship to Security Office

Fig 7.31 Link to Reception 2

Fig 7.32 Lecture Theatre 3D

Fig 7.33 Lecture Theatre

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Fig 7.42 Entire Workshop Zone

Fig 7.43 Family Stay Amenities

Fig 7.44 Additional Showers and Washing

Fig 7.45 Proximity to Central Elevator

Fig 7.46 Family Stay Entirety

Fig 7.47 Proximity to Large Family Recreation Room

Fig 7.48 Section of Family Stay Rooms

Fig 7.49 Family Stay FB1 (Double Bed)

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Fig 7.52 Holistic View of Zonal Arrangement

Fig 7.53 Holistic View of Intervention

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Fig 7.59 Spaces of the First Floor

Fig 7.60 Spaces of the Second Floor

Fig 7.61 Spaces of the Third Floor

Fig 7.62 Entire Spatial Mass

All unsourced images are by the Author

Appendix

Lightwells/ voids from roof to ground and subterrain level

Continuous staircase enables visual relation from top to bottom

Lightwells contain plants and trees

Terrain is returned to original condition

Strong relationship between the building's facade and its immediate surrounding

Relation between vertical circulation and lightwells/ voids

Entrance level is double-height

The glazed facade at entrance level results in an abundance of natural light, prospect and transparency

Natural daylight to programme on ground and first floor

Programme in need of daylight positioned along the facade and lightwells

Programme in need of daylight positioned along the facade and lightwells

Sports facilities also to be used separately and directly accessible from outside

An individual entrance for the Ronald McDonald house

Minimum footprint

A2. Wellington City Development

Year	Buildings	Population
1870	1,749	7,908
1875	2,619	11,160
1880	4,328	20,563
1885	4,765	25,945
1890	6,259	31,021
1895	6,631	37,441
1900	8,757	43,638

WCC Rate Books, 1865/66 - 1900/01, Statistics of the Colony of New Zealand
Ring Around the City

A3. Mt Cook Gaol Construction Drawings

Archived Documentation Drawings,
Alexander Turnbull Library, National Library of New Zealand

A4. Modern Roads of Wellington Central

Map 2: Modern 2014 Roads, (Gaul no longer existing) 1841
 Sir George Grey Special Collections, Auckland Libraries, NZ Map 3761

Map 3: Original City Reserves, (Gaol in Context) 1841
 Sir George Grey Special Collections, Auckland Libraries, NZ Map 3761

End...