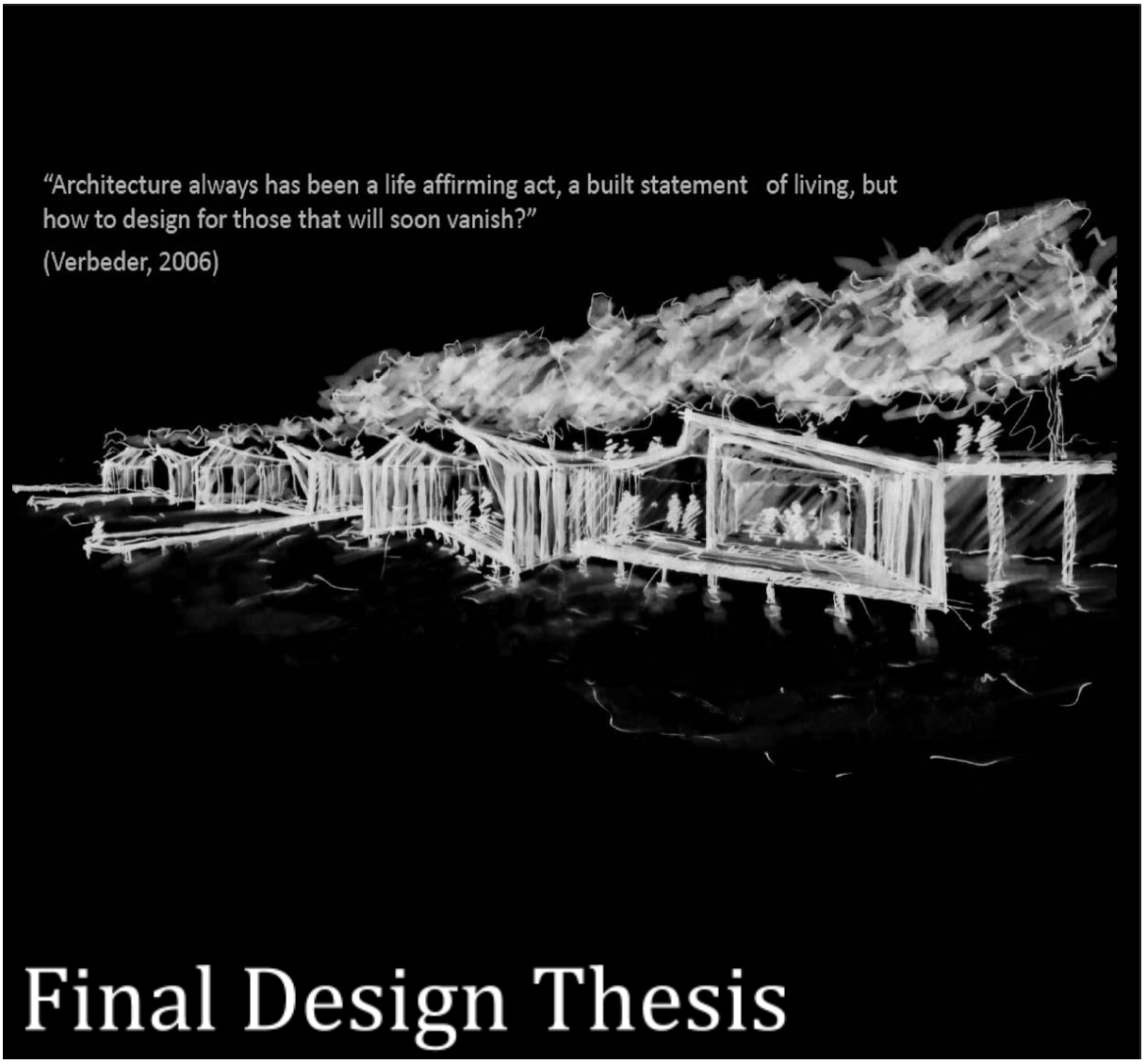


Final Design Thesis

Healing by Architecture

Arch 482 Architectural Design

8th September 2009

[Stefan Beconcini Salazar]

Contents

[1] Synopsis

[1.1] Introduction

There comes a point in the attempt to treat a patient when the reality of death becomes imminent. In the case of terminally ill patients, recovery is not an issue, rather comfort of the patient and their loved ones should take precedence.

In this thesis I will attempt to analyse and understand the program of the Hospice, reflecting on the hypothesis that architecture can contribute to the healing process of patients and their families, focusing on the particular needs of Māori people regarding palliative care.

[1.2] Architectural question / proposition

Can architecture contribute to healing?
This question reaches the essence of architecture and its core purpose of maintaining and improving the human condition.

By researching different theories and architectural precedents in healthcare design, I aim to identify what factors can actually trigger recovery for patients in a healthcare environment, and what is the real correlation between health and the built environment.

[2] Research Field and Architectural Argument

[2.1] The Western Denial of Death

In present western society, death if often viewed as an inappropriate and unacceptable phenomenon. Despite its inevitability and universal nature, fatality has strangely become an “unspoken topic” among us being ultimately concealed within hospital walls. (Verderber, 2)

The institutionalised setting present in today’s hospitals, sadly neglects the emotional needs of patients and their loved ones when dealing with the fear and stress related to death and a terminal disease. It is a cold, impersonal and medicine driven environment, which makes it extremely difficult for people to find the strength and acceptance to peacefully transcend the end of life. (Verderber, 5)

Patients cannot engage with the metaphysical experience of dying, families have lost touch with the grieving process, and death has become impersonal.

Architecture always has been a life affirming act, a built statement of living.

But how to design for someone facing death and their families? And how to envision a building for those who will soon vanish?

[2.2] The Traditional Hospital and its Institutional Setting

According to Stephen Verderber, Medical technologies of the twenty-first century have shielded us against deformity, disease and even death. The more cures we discover, the worse death appears as an option. Western culture, in particular, remains for the most part unable to be reconciled with death and the inevitability of its occurrence. We tend to blame death on some failure of medical science. *(3)*

Hospitals around the world continue to hide their dying patients away from their activity centres, relegating them to rooms at the far end of long depressing corridors. The culture of denial has been highly choreographed in dealing with the dying. This situation has ultimately detached the person from their families and has relegated them to an institutionalized setting where the ill have to die alone and with fear. *(Miller 8)*

Verderber and Swaan, both agree in their publications by categorizing traditional hospitals as "anonymous built catastrophes run by vast bureaucracies, making them totally unfit for the purpose they have been designed for". *(Swaan 53 & Verderber 15)*

In their vision the mega-built institutional environment is hardly ever functional and instead of making patients feel at home, they produce stress, anxiety and fear.
The incident of staying in a hospital is an alienating experience that separates the patient from their family, relatives and friends, confronting the ill with a labyrinthine structure that makes them feel lost and lonely. *(Mendelsohn)*

But why does it have to be like this? We need to reassess the effectiveness of the mega-healing complex and once again cater to the needs of patients who are confronted with the most private and terrifying experience imaginable: illness and death. (Miller 15)

[2.3] The Monolithic Fortress

The design of mega scale Hospitals has transformed healthcare architecture into a hard to solve logistic puzzle that doesn't respect it's surrounding or its inhabitants. But what are the reasons for hospitals to acquire such gigantic dimensions as they often do?

The only argument I can find that can justify its monumental proportions is the creativity that promotes among specialists of different medical disciplines, stimulating their scientific progress through collaboration and proximity. But this pragmatic approach to medicine and architecture has fallen into the fallacy of denying its core purpose: to care and provide therapy for the ill without considering the ill. *(Swaan 34)*

Modern hospitals have evolved to become a large conglomerate of health related functions where the relationship between them is often more institutional than functional.

For instance, there is no need to group them all together creating a mega-building but instead, smaller and more intimate units would be more pleasant for both patients and staff, benefiting also the social and physical surroundings of the city. *(Swaan, 280)*

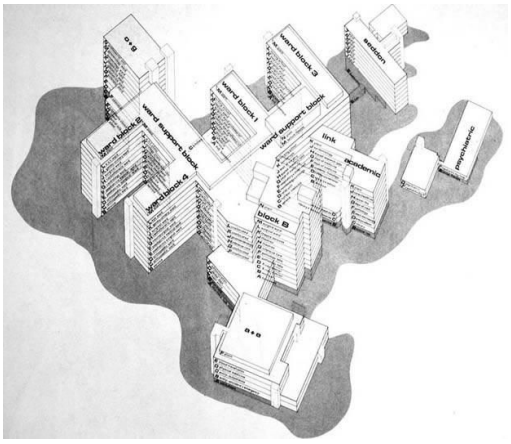


Figure 1 illustrating Wellington Hospital's monumental proportions during the 60's compared to Newtown's urban fabric. Figure 2 illustrating Wellington's Hospital volume and "logistic puzzle" architecture.
Images retrieved from www.ccdhb.org.nz

But why modern hospitals deliberately destroy the urban fabric by ignoring its existing urban tissue? The answer could be that their monumentalism wants to create a landmark or symbol in the city, but instead it sets the building apart as an intruder creating a world of its own similar to a shopping mall. The monolithic building doesn't respect its environment, the community or its patients.

A hospital was always intended to be a representative building with the special societal function of healing, bringing people together and expressing the community's cultural dimension. But does its architecture really make a difference between sickness and health? In the following paragraphs we will discuss the correlation between the hospital's built environment and the healing process.

[2.4] Architecture and Evidence Based Design

According to Swaan the architecture of hospitals can indeed affect its people and contribute to the overall well-being and recovery of its patients. This bold proposition dates back to the late 18th century, and has been a recurring theme in the functional development of hospital architecture ever since, but has never been based on credible research. *(255)*

Thanks to the development of 'Evidence-Based Design' during the 1980's, we can finally empirically prove the correlation between architecture and healing. This methodology compares the effects of various spatial factors providing indisputable evidence that architecture does contribute to healing , creating either a positive or negative influence among its inhabitants. *(Swaan, 280)*

Like Evidence Based Medicine, Evidence Based Design analyses not only clinical outcomes, but also staff satisfaction and retention. It looks at a building design not only as a physical space, but includes the total sensory environment of sight, sound, touch and smell. This new approach focuses on analysing important data and to provide useful guidance for designers and health managers highlighting key points to create a successful building. *(Swaan, 283)*

Among these key points we can point out the theory of supportive design developed by Roger Ulrich. This theory centres its attention in the understanding that stress exacerbates every known clinical condition, and focuses therefore on designing an environment that can help reduce stress for patients, staff and visitors. (*Ulrich, 22)*

Ulrich in his research identifies sufficient credible data to suggest that stress reduction can be achieved by the designer's understanding of three main factors: promote social support, provide sense of control including privacy, and finally provide access to nature and positive distraction. (*Swaan 285)*

- Social support for patients has an important impact on stress and among the implications of these findings, we can highlight: the need for a building to be welcoming to patients, staff and visitors, the need to include family accommodation within the patients room and finally the need for appropriate family support and social spaces nearby that promote social interaction.

- Patient's sense of control over their environment also represents an important factor as lack of control over their circumstances and the course of the treatment can create stress and detrimental effects on the patient. Providing control over design elements such as degree of privacy, lighting, temperature and noise are examples by which the patient's stress can be reduced.

- Evidence Design also indicates that connection to nature and positive distraction can take the patient's mind off the situation, contributing also immensely in reducing stress. Beneficial types of distractions can include appropriate music, art and the influence of nature. (*Swaan 259)*

[3] The hospice: towards a new model in healthcare design.

[3.1] Palliative architecture and the modern Hospice

The term Palliative care derives from the Latin world "*palliare" which means* to cloak, to cover or protect, representing the ideals of the Hospice, caring, embracing and looking after people facing an incurable disease. *(Miller, 8)*

Palliative architecture differs in many ways from Hospital architecture characterised by being compassionate and aiming to relive any unnecessary pain, stress and discomfort for its patients, giving back the dignity to its people

We can classify palliative care as any form of medical care or treatment that concentrates on reducing the severity of disease symptoms, rather than striving to halt, delay, or reverse progression of the disease itself or provide a cure. The goal of Palliative care is to prevent and relieve suffering and to improve quality of life for people facing terminal illnesses and their families. (Ministry of Health)

The rise of the modern hospice movement came into being with the opening of St. Christopher's Hospice in London in 1967. A central figure in the founding of this movement was Dame Cicely Saunders. She trained as a medical doctor after first working as a social worker and volunteer at Saint Luke's House in London. (*Worpole 5)*

She was inspired by a Polish patient she had befriended in 1948, David Tasma, they both discussed the idea of establishing a more home like place where people could die in greater tranquillity than in a hospital. *(Verderber 15)*

They envisioned a place where people co find relief from pain, where the ill and their families can meet with encouragement and for self awareness and socialization. A setting that would be uplifting and not depressing. (*Worpole 6)*

After the opening of St. Christopher's Hospice, the modern hospice movement quickly spread around the world. In June 1979 New Zealand's first hospice, Mary Potter Hospice, was opened in Wellington. Later that year, Te Omanga Hospice in Lower Hutt, and Saint Joseph's Mercy Hospice in Auckland were also opened, just twelve years after Saint Christopher's. (Ministry of Health)

[3.2] Developing a New Building Type

In essence the modern Hospice is a collection of buildings with associated external gardens and grounds, for the care of those with life threatening illnesses. It is principally used to provide short term residential accommodation and treatment for small numbers of people. It also offers day care for non-resident patients, and outreach services for people treated at home. (*Worpole 8)*

Its architecture is a designed and constructed setting where the quality and harmonious sequencing of the spaces and functions matters more than for almost any building type. The quality of time and the opportunity to bring closure is in essence the most important priority for those experiencing the end of life; this is a major difference of the culture between the hospital and the hospice. *(Verderber, 17)*

An important figure in the modern development of Palliative architecture is artist Maggie Keswick, diagnosed with cancer in 1988. Her direct experience dealing with death made her understand the weaknesses of the existing healthcare built environments and helped by her husband, architectural critic and designer Charles Jencks, led to the development of the growing networks of Maggie’s Centres. (Swaan, 449)

They both understood the need to reinvent healthcare architecture by pushing for the most innovative building programmes related to cancer care in the UK. They commissioned renowned architects such as Richard Murphy, Frank Gehry, and Zaha Hadid (often working for free) under the premise that thoughtful architecture could make a difference and contribute to the overall wellbeing of cancer patients. (*Worpole 9)*

[3.3] The example of Maggie's Centres: utilizing architecture as a placebo.

To help me answer my initial question investigating if architecture can contribute to healing, I would like to use the example of the Maggie's centres as their design ethos exactly casts light on the topic of my research: the effect of the built environment on health and the use of architecture as a therapy. (Swaan, 449)

It has been empirically proven that architecture has the power to affect doctors and nurses. If they are not happy with their working environment it will have negative consequences on how they will perform their roles as care givers. Ambiance can indeed affect both patients and caregivers. Architecture can influence the health of patients just as a placebo could help cure a disease. (*Wrensch, 407)*

A placebo is defined as a fake cure that works because it operates on the beliefs of the patients. Thanks to the work undertaken by Dr. Henry Beecher during the 1950's, inoculating patients with salt water instead of morphine, the scientific community has taken the role of the placebo seriously agreeing about its effectiveness in many cases. *(Daily Record, 3233)*

We can find voluminous literature on the subject proving the effectivity of placebos improving health of patients by up to a 33% compared to a standard treatment, particularly in situations involving pain, inflammation and psychogenic problems. (Swaan, 451)

The argument here is that studies show that the architecture of Maggie's centers do make a difference in the quality of life and survival rates of patients and we could explain its placebo effect by analyzing three main factors:

1. The Style Effect - The implication here is that style and architecture matters for patients and caregivers. Brand and image matters producing a clear effect on people's minds.
2. The Cultural Effect – Culture and the environment have an influence in people that matters, not just the individual's psychology.
3. The Care-Giver Effect – This might be the most important of all and we could also call it the Doctor's effect. Studies have shown that the more convinced a doctor is that a drug will work the more likely it will, transmitting its conviction to the patient. (Swaan, 451)

Maggie's centres are a strange hybrid, a building type that yokes together functions previously divided. It has elements of a day-care centre and hospice combined with the technology and image of a large hospital. (Swaan, 454)

Its architecture effectively combines four building types into one:

1. They are warm, friendly, familiar and domestic; a house that is not a home.
2. With artworks and garden, it has an expressive architecture that in places goes beyond the expected; they are a museum that is not a museum.
3. It provides spiritual counseling and helps patients facing life threatening illnesses in an appropriate space and atmosphere; a church that is not a church.
4. Lastly, there are the many complementary therapies on offer together with the latest technology and care giving support; a hospital that is not a hospital.

Figures illustrating the Maggie's centres unique architecture. Images from left to right showing: Zaha Hadid– Maggie's Fife, Frank Gehry – Maggie's Dundee, David Page – Maggie's Highlands. Images retrieved from http://www.maggiescentres.org

I would like to particularly review Frank Gerhy's Maggie's centre located in Dundee, as an example of how thoughtful architecture can make a diffrence.

The building opened in 2003, was designed for day-patients who are undergoing cancer treatment aiming to create a personal bond with its occupants. Its residentially sized architecture gently sits within the rolling Scottish landscape, dialoguing with its environment and taking advantage of the natural views to the nearby Tay Estuary. *(Verderber 44)*

Designed as a freestanding structure close to Ninewells Hospital, the layout is composed of principal interwoven spaces: an arrival area and main lounge, a kitchen, an informal sitting area and a library located within the tower. All of these spaces where covered by a cloak like roof structure that protectively shelters the building from the elements alluding to the vernacular rural farm cottage.

The beautifully sculpted sheet metal roof, uses plenty of natural timber in its exposed structure providing an elegant construction that organically embraces the communal areas below. Gehry mentioned he was thinking of a Vermer painting, a woman portrayed in a silken shawl, when he conceived the idea of the roof. *(Verderber 45)*

Figures illustrating Gehry's inspiration from Johannes Vermeer's "Young Woman Seated at the Virginals" for his roof, Images retrieved from www.galinsky.com/.../maggiescentre/index.htm

The exterior of the building clearly contains Gehry's signature elements, such as the collated, curvilinear volumes mixed with layered transparency of the spaces. But the indeterminacy between walls, ceilings and floors is what I think makes the difference in this building by creating a very pleasant open, inviting and readable layout that welcomes the patients.

Figures illustrating Gehry's modern interpretation of the country cottage, expressing an inspiring human- scaled composition for the building covered by a folded roofscape. Images retrieved from www.galinsky.com/.../maggiescentre/index.htm

Gehry's building has provided an innovative design that promotes social interaction by versatile and expandable semi-open spaces with a few "closed cells" when privacy is required. The architecture of this building conveys residential warmth in its imagery and successfully rejects the monolithic and institutionalized hospital setting.

Figures illustrating the Maggie's centre floor and roof layout. We can retrieve how the interior spaces are deployed as five elements, loosely organized around a "torso" and a vertical circulation tower. This layout completely rejects the institutional setting by avoiding a rigid grid and endless corridors. Images retrieved from (Verderber, page 48)

The architecture of Maggie's centres has been proven to inspire both care givers and cancer patients. Good architecture says to the team, "We care, and to show it we have spent extra attention and money on you. Inspiration indeed matters, and can change things. Don't give up." (Swaan, 452)

That's why Maggie's centres are so successful and represent in my opinion, the future of healthcare architecture.

[4] Cultural sensitivity: creating a cross-cultural approach

[4.1] Maori traditions in the Contemporary World.

So far in this thesis, we have identified a proven correlation between architecture and health based on the information retrieved by Evidence Based Design. We have also identified that stress is a major factor to consider when designing a healthcare environment. But what factors do we need to consider when designing a healthcare environment for Māori communities dealing with the dying?

[4.2] Understanding Māori Perceptions of Death and Ritual

When providing palliative care for Māori it is essential to see things through the patient's eyes. This includes understanding cultural influences on the pathway of death, acknowledging the strengths and resources of whānau and finally taking the time to understand what is important to the patient and family. (Ministry of Health)

For Māori people death is a sacred time during which integration of cultural values and customs is paramount. Cultural sensibility can positively influence attitudes, and improve the treatment of sickness, the care of the dying and also the grieving process. (Ngata)

The ritual surrounding death and the mourning process is one practice that has remained more or less intact among traditional Māori. The Tangihanga reflects not only the endurance of Māori tradition but also reveals Māori perceptions of the soul and the afterlife. (*Mataa)*

The Māori believe that illness and dead should be addressed, revered, and remembered, encouraging the living to come together and to offer support to each other in the Marae. Through this process of social support the living become aware of their place in life and also remember the role of the deceased loved one, acknowledging their continuous influence of his or her spirit after death. *(*Schwass 79)

This traditional view differs in many ways from how western society deals with death and the dying. For Māori culture, social support and public grieving becomes fundamental in the process of overcoming an important loss. *(Schvaneveldt 4)*

General Practitioner Dr Paratene Ngata has described Māori perceptions of death and dying as follows: "Perceptions of death, illness, grieving and healing are all centered on the notions of unity, harmony and balance. Tangi… provides a culturally safe environment for the free, open and shared expression of grief and sorrow, helping recovery of whānau strength after the… burial". (Scwhass 25)

[4.3] Understanding Māori Perception of Health

The conventional model of healthcare creates a cultural barrier difficult to overcome for Māori people. It disrupts the needed social interaction among their community and delays the process of returning the body to the whānau. These barriers sadly create a detrimental effect in the health of patients and also seriously disrupt customary grieving practices among their community. (*Mataa)*

The New Zealand Ministry of Health and hospice movement are currently pushing to incorporate a wider cross-cultural approach to healthcare by introducing respect to cultural diversity and developing strategies to overcome cultural barriers, especially among Māori and Pacific people.This new approach seeks to widen our understanding of the meaning of health, helping us recover from an excessively narrow focus on medical illness and introducing a more balanced and holistic perspective on wellness. (Ministry of Health)

Dr. Mason Durie has developed a new integrated model of health that invokes traditional Māori values and that has the ability to translate health into terms of cultural significance, balancing the traditional medical model with awareness of social and cultural factors based on the concept of hauora. *(Durie, 57).*

His model, known as Te Whare Tapa Wha (four-sided house), brings together the physical, mental, social and spiritual dimensions of health and healing, acknowledging:

- Te taha wairua - the spiritual elements.
- Te taha hinengaro - thoughts and feelings.
- Te taha tinana - the physical elements

- Te taha whānau - the family

Image showing Dr. Mason Durie's the concept of Hauora, image retrieved from:
http://www.teiho.org/MaoriHealthPerspectives/TirohangaMaoriByMasonDurie.aspx

[4.4] Understanding Māori Architecture

We have already identified that the physical coldness and isolation of the traditional healthcare system is contrary to Māori customs, disrupting their need for social support and public grieving. We have also identified the need for a new cross-cultural approach to healthcare that acknowledges the Māori perception of health or hauora.

But how do we design a cross-cultural building that can cater for the specific spatial needs of Māori people? First of all we need to understand how Māori inhabit the space.

European architecture is characterized by the compartimentation of the space based on the grid of squares, rooms and walls, promoting privacy and individuality. (*Brown 14)*

Māori architecture instead, is structured differently to western architecture and is organised around the idea of sheltering roofs and open space, promoting social interaction and communal living. (*Brown 15)*

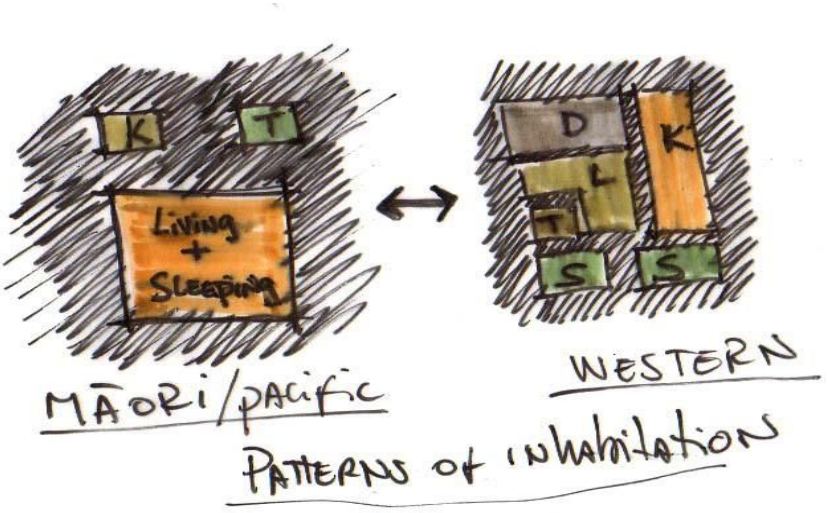


Figure illustrating the Māori and western patterns of inhabitation

This pattern of inhabitation has identified once again the intrinsic Māori desire for social interaction, but how to design a cross-cultural building that can cater for the needs of both Māori and non Māori? Biculturalism in my project means the respect for Māori traditions and the adaptation of western design processes to suit the new needs of its people.

I would like to present the following precedents analysing how biculturalism and social interaction can be applied in architecture.

[4.5] Putahi-a-Toi School of Māori Studies building by Royal Associates (1987)

The Putahi-a-Toi School of Māori Studies Building in Palmerton North, was the first example of bicultural architecture being constructed on a tertiary Campus to support the expanding cultural needs of staff and students regarding Māori culture.

In this project, architect Perry Royal successfully identified the Māori desire to live and work communally by designing large rūnanga (meeting) rooms and communal dining spaces placed at the heart of the building. *(Brown, 146)*

The project addresses the treatment of the internal spaces by the use of a large open communal space/hall contained by the more private rooms, an organized by a straight spine articulating the ceremonial entry space.

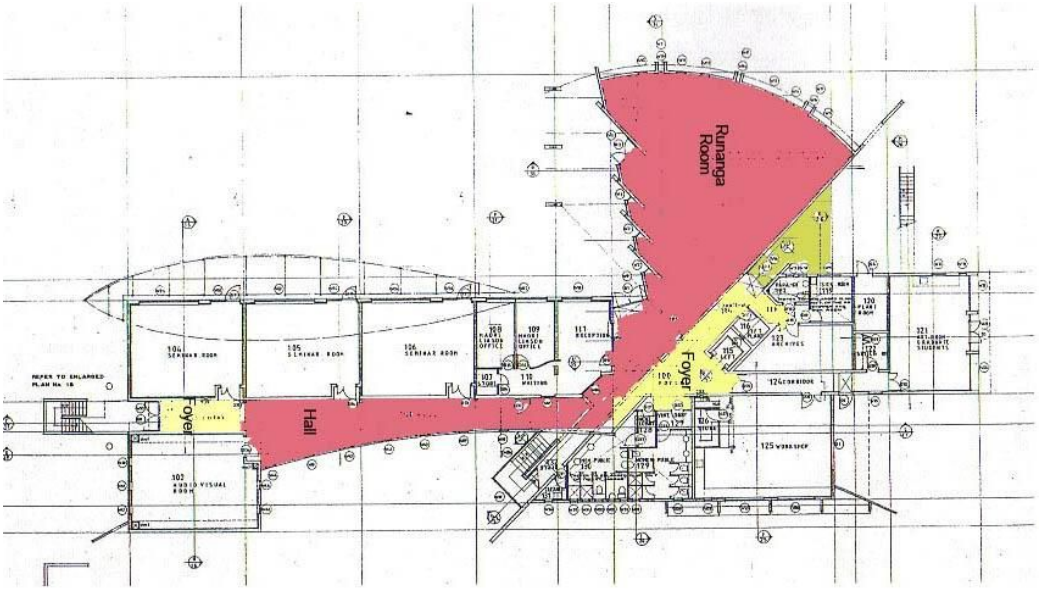


Figure illustrating the Putahi-a-Toi's floor plan dividing tapu and noa areas. We can also identify its layout with is social spaces shown in red and arrival spaces in yellow. Image retrieved from Brown, page 147.

Another particular design feature identified by Royal Associates was separating tapu (sacred) and noa (non-sacred) areas determining the location of the ablutions and food preparation areas in relation to teaching and meeting office space in the building.

The building as a main concept uses architecturally the idea of the korowai (cloak) embodied by a large protective wall that had the acoustical function of reducing the noise from the nearby motorway. The Putahi-a-Toi complex at Massey University is a great example of biculturalism and illustrates how respectful customary concepts can be articulated in western forms and aesthetics. *(Brown 147)*

[4.6] Pukenga Māori Studies Building Rewi Thompson (1993)

The Pukenga Māori Studies Building was designed by architect Rewi Thompson and opened at Unitec in Auckland in 1993. This building, similarly to the Putahi-a-Toi School of Māori Studies, was designed to contain office spaces, classrooms, ceremonial entrance spaces and a formal rūnanga space under one single roof. *(Brown 148)*

The architecture of this building clearly presents two different accesses separating the tapu areas, containing the ceremonial entrance and formal meeting space, from the noa area, which contains an informal entrance where the washrooms are located. We can also observe in this building the importance of semi-open covered spaces at the formal entrance, being useful particularly for Māori people as a congregation space that complements the formal entrance of the building.

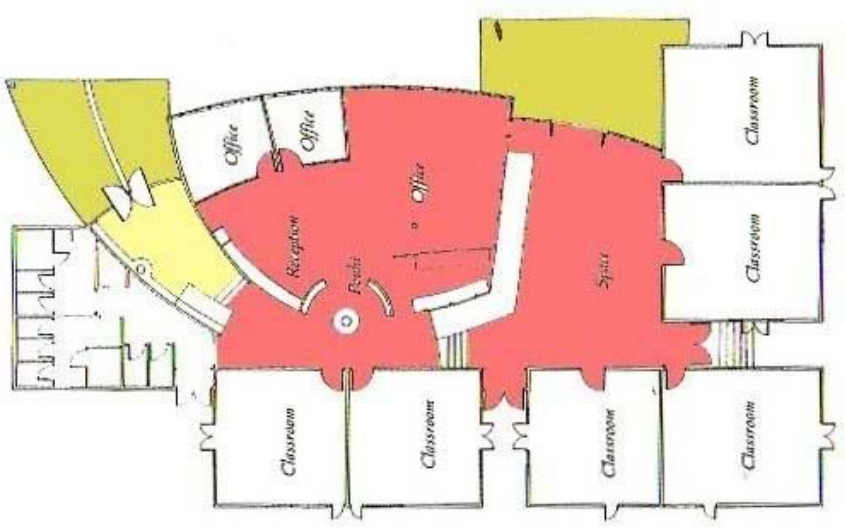


Figure illustrating the Pukenga Māori *floor plan dividing tapu and noa areas. We can also identify its layout with is social spaces shown in red and arrival spaces in yellow.*
Image retrieved from Brown, page 149

Thompson in this building illustrates the idea of utu-ea or balance, utilizing the analogy of the complementary roles of men and women in Māori society. The female part of the building is clad in natural wood presenting soft and curved spaces, while the rectilinear male area presents three galvanised-steel clad classrooms that also represent the baskets of Māori knowledge. *(Brown 149)*

Rewi Thompson acknowledges in this building the important influence of Kawa and Tikanga (customary protocol) as two strong forces helping him shape the building. By utilizing these customary protocols, Rewi acknowledges the Māori identity of the building enriching its architecture and giving it a deep meaning.

This building is another exceptional example of biculturalism that combines both cultural and academic functions under one roof. The architecture of this building was able to respectfully combine important Māori customary concepts with the modern shapes and techniques of a westernized building, creating a place for people to engage with culture.

[4.7] The social spaces at the Vidar Clinic.

Finally I would like to use the example of the Vidar clinic as my main architectural precedent showing how social interaction, social support and sense of community can play a fundamental role in the healing process.

We can find a very close similarity between the anthroposophical medicine practiced at the Vidar Clinic and the way Māori culture perceives health. Both seem to challenge the traditional western model of health and actively promote a more holistic approach to it.

Designed by architect Erik Asmussen, the Vidar clinic is a great Swedish example of a healthcare design that uses architecture as a therapeutic instrument for healing. Located in Jarna, about 50km south of Stockholm and positioned overlooking the fantastic views of the Baltic Sea, the clinic opened in 1985 following the Anthroposophical doctrine of Austrian-German philosopher and scientist Rudolph Steiner. (*Marcus,36)*

The architecture of the Vidar clinic promotes the anthroposophical view in which doctors, nurses and patients work together in a non-hierarchical layout. Here, the sense of community finds architectural expression by breaking the complex bulk into three clusters of buildings sensibly laid out to complement the local topography. *(Marcus, 36)*

The clinic layout is organized by two arms containing the patient's wings, connected by a central elongated "C" shaped core that contains the hospital program and communal areas. This central core wraps protectively on three sides embracing a central courtyard that symbolizes wholeness and the heart of the complex. *(Coates, 246)*

Figure illustrating the Vidar clinic's layout identifying its social spaces in red, private spaces in yellow and circulation spaces in purple. image retrieved from Coates, page 241

In this clinic, Asmussen addressed several architectural strategies based on the idea of promoting access to social interaction. Its architecture creates a sequence of social spaces that range from the very private to the very public, artistically expressing volumes, materials, colours and a great sensitivity to daylight. *(Coates, 72)*

Figure 1 illustrating the Vidar clinic's patient wing layout identifying its social spaces in pink, private spaces in yellow, service spaces in red and circulation spaces in purple. Figure 2 illustrating a section through the patient's wing showing the design aiming to maximise daylight. Images retrieved from Coates, page 244 and 245

In the following paragraphs I would like to identify the four main topics I believe have contributed to create social life and a sense of community in this clinic:

- Corridors as streets: to avoid long and institutionalized circulation spaces, the clinic's corridors have been broken into smaller segments by means of providing small changes in direction. This strategy stops patients and staff from seeing the far end of the corridor while circulating through the building, making it a more organic and stimulating sensorial event.

  Another feature here is that corridors widen into glazed alcoves with places to rest or socialize. This strategy promotes the possibility for regular informal contact between the members of the clinic and helps bring daylight into the middle of the building, while providing stimulating views of the landscape and central courtyard. (Swaan, 410)

- Day Rooms that invite: Day rooms have been located in the middle of each patient's wing, allowing patients, doctors and nurses to socialize together in an informal manner. These glazed domestically sized spaces can be seen from the corridor and reinforce the feeling of being at home and avoid institutionalization. *(Coates, 75)*

- Common areas at the heart: the clinic's intention to promote social interaction between its members has found a variety of spatial expressions. Most of the social spaces, including the dining room, cafe and assembly hall have been placed in the heart of the complex. This heart becomes the social and spiritual centre of the hospital, while patients in the patient's wing are kept more private if they decide to do so. (Swaan, 411)

- Cafe overlooking life: Finally, the cafe overlooking the central courtyard provides a place where people can sit, eat, socialize and watch the life of the clinic unfold, constitutes a very important part of daily Swedish life. Another important feature is that this cafe serves not only the members of the clinic but also people from the surrounding community who live or work outside the complex. This creates a strong sense of community and successfully integrates the hospital within its environment. *(Marcus 38)*

In my opinion the Vidar clinic sets a great example of how architecture can be used as an instrument of healing, where social interaction and a sense of community can contribute in the health outcomes of patients, staff and visitors.

[5] Program and Design application

[5.1] Design Application

"He Oranga Ngakau - The Wellbeing of the Body
"He Oranga Wairua - The Wellbeing of the Spirit
Te Ha o te Tangata - Respect for Clients
Te Herenga Tangata " - A Community Focused Approach

These words express the Mary Potter Hospice philosophy and emphasize the approach I have undertaken in my project, aiming to develop a bicultural building that would express Porirua's cultural dimension and contribute to the healing of its patients.

The core idea for this Hospice is to develop respectful architecture that can cater for both Māori and non-Māori, promoting respect for Māori culture and recognizing Māori values, adding with this a richer dimension to its architecture.

[5.2] Site selection and historical background

The Māori name "Porirua" is possibly a variant of "Pari-rua" ("two tides"), a reference to the two arms of the Porirua Harbour.

Māori People settled in what is now Porirua City in three main movements:

- The first was several centuries ago, when tribes from northern areas became the first human inhabitants.
- The second was in the 1820's when another tribe from the north (around Kawhia), the Ngāti Toa, migrated under chief Te Rauparaha and eased their way into settlements, primarily at Takapuwahia west of the harbor and Hongoeka Bay on the north shore at the mouth.

- The third and final was the State housing boom starting in the 1950s, when large areas were developed for housing people, mostly from middle-to-low-income. A large proportion of them were Māori, from all around the country.

Originally planned in the late 1940s to become a satellite city of Wellington mainly populated with state housing, Porirua has grown to a city population approaching 51,000, with state housing no longer in the majority.

According to the 2001 Porirua City census, Porirua City is characterized by its strong Māori and Pacific community representing over 47% of the population compared to the whole of New Zealand comprising just over 20%.

The city has evolved to become a strong urban centre servicing the northern suburbs of Wellington and has developed a strong cultural identity acknowledging its strong Māori and Pacific heritage. (Wellington City Council, 2009).

Image showing the extent of Porirua City, image retrieved from http://en.wikipedia.org/wiki/Porirua

The selection of the site in Porirua was based on the previous research, showing a need for cross-cultural development in healthcare architecture and the idea that palliative therapy could benefit from social interaction, especially among Māori people.

[5.3] Client, site and urban setting

The site comprises an undeveloped strip of land bordering the Porirua Harbour and benefiting from the strong proximity to several Māori/public and communal buildings such as: Whitireia Community Polytechnic, Ngati Toa marae, several Christian and Catholic churches, Pataka Museum of arts and cultures, Porirua public library and Ngāti Toa School.

The current lack of palliative nurses and the proximity to the Whitireia Community Polytechnic was a defining factor when selecting the site for the new Hospice.
The idea here is to develop and promote a symbiotic relationship between both institutions by linking the Whitireia's current nursing school with the Hospice's need for caregivers. This association would benefit both institution just as the Mary Potter Hospice and the Wellington Hospital contribute to each other.

Its privileged location next to Whitireia Community Polytechnic and the existing Wharewaka (boat house), also offers the opportunity to develop a public and "social promenade" along the park, benefiting from the beautiful natural setting and the existing (but undeveloped) social life on the site.

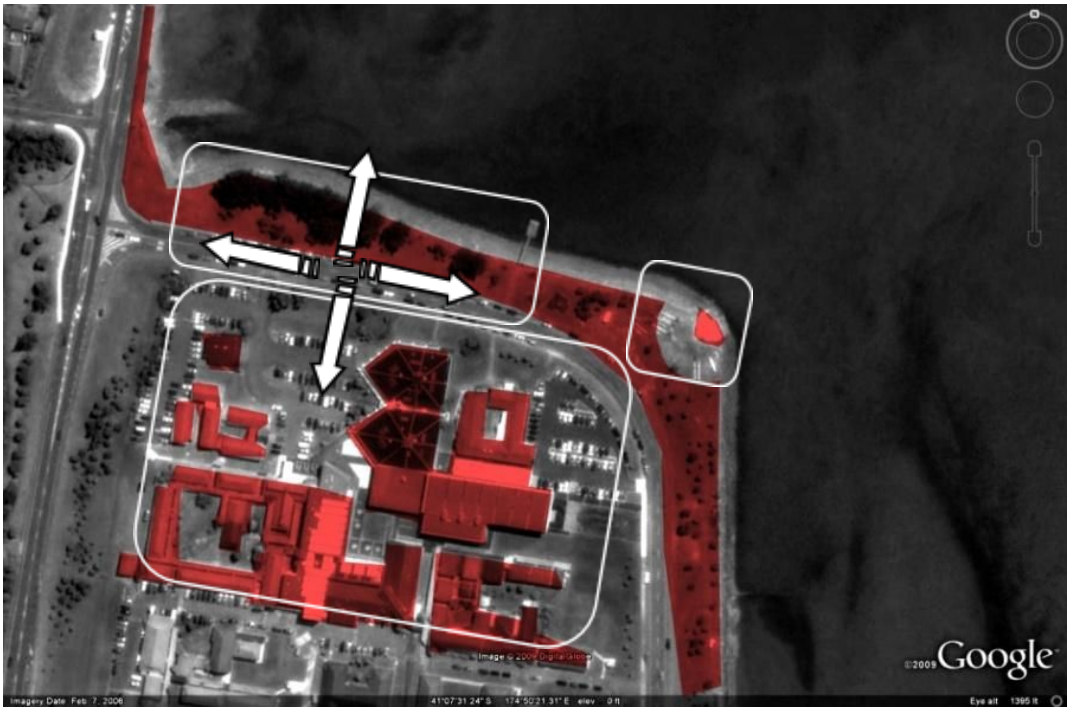


Image showing the proposed site located along Wi Neera Drive and its proximity to Whitireia Community Polytechnic and the existing Whare Waka, image retrieved from http://maps.google.co.nz

The site's accessible proximity and connection to Porirua Hospital and the central business and commercial districts, opens the prospect for this project to feed from public services and the strong cultural identity present in Porirua city. The aim of this project will be to develop a building that will respond effectively to the bicultural needs of its community.

Image illustrating the proposed site in Porirua and its proximity to Kenepuru Hospital and several main communal buildings (highlighted in red). Image retrieved from http://maps.google.co.nz

[5.4] Design Strategy.

Based on all the information retrieved from the previous research, the location of the site provides the perfect opportunity to challenge the traditional healthcare approach that separates the ill from society by locating them at the end of Hospital sites. The proposed Hospice will be centred within the core of the community and will explore a new cross-cultural approach to healthcare architecture based on:

- Utilizing architecture as an instrument of healing: the hospice will be based on the Maggie's centres ethos, stating that thoughtful architecture can contribute to the overall well-being and recovery of its patients, family and caregivers. (Swaan, 454)

  The core idea for this Hospice is to develop an iconic building that will respectfully express the community's cultural dimension, rejecting the institutionalized setting created by traditional hospitals.

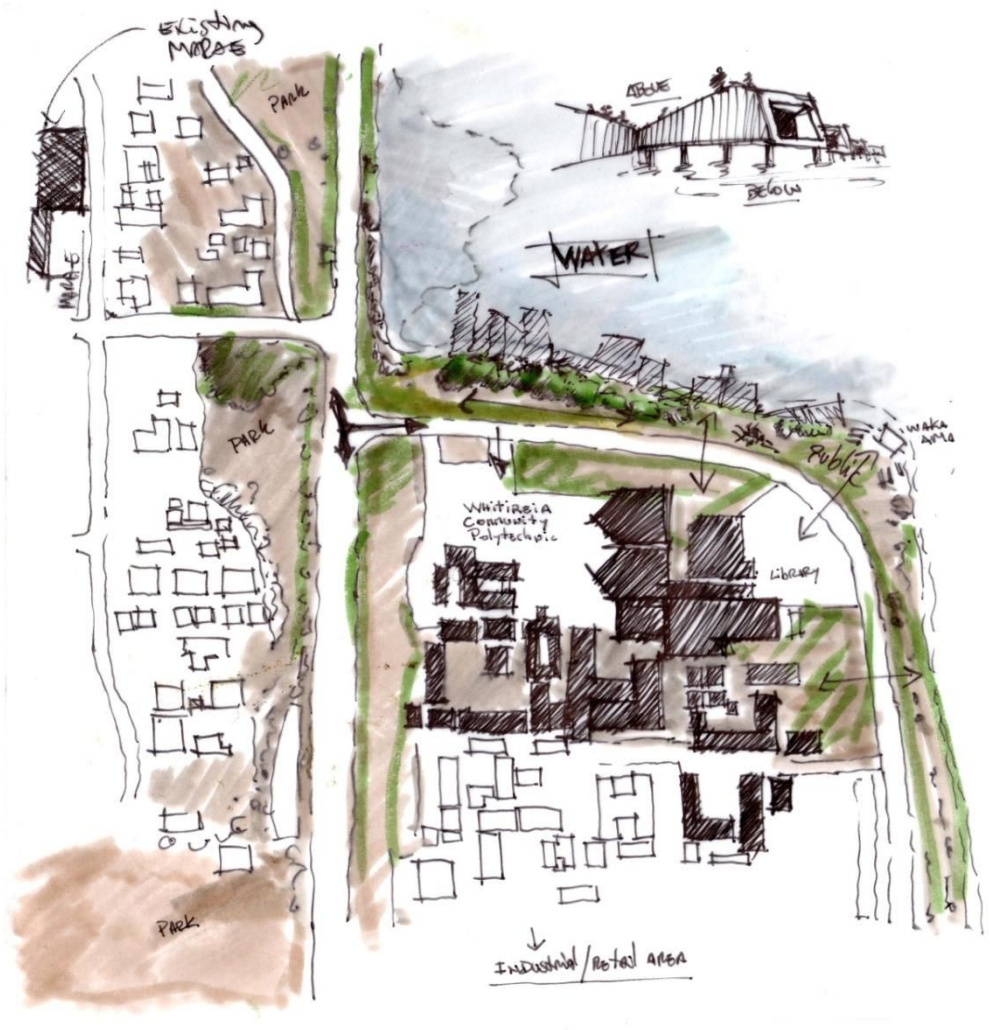
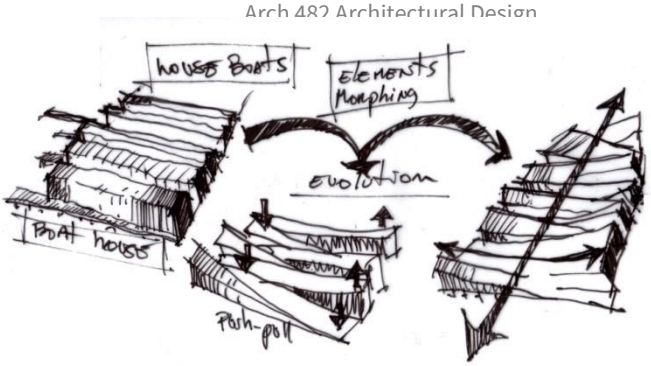


Image illustrating the location of site and proposed footprint of the hospice along the waterfront.

Images illustrating the morphology of the proposed hospice alluding to a coastal village

The idea here is to promote a sense of community by breaking the traditional hospital bulk into smaller clusters of buildings that resemble the morphology of a coastal village complementing the local topography. These residentially sized buildings will then be sensibly laid out along the waterfront, dialoguing with the existing boathouse community located on the other end of the harbour.



Images illustrating the morphology of the existing boathouse community located next to the site.
Last image showing the initial design concept for the hospice based on the interpretation of the boathouse.

- Satisfying the specific cultural needs of its patients: the hospice will promote a holistic vision of health or "Hauora" based on te Whare Tapa Wha model, acknowledging te taha wairua (the spiritual elements), taha hinengaro (thoughts and feelings), taha tinana (the physical elements) and taha whānau (the family). *(Durie, 57).*

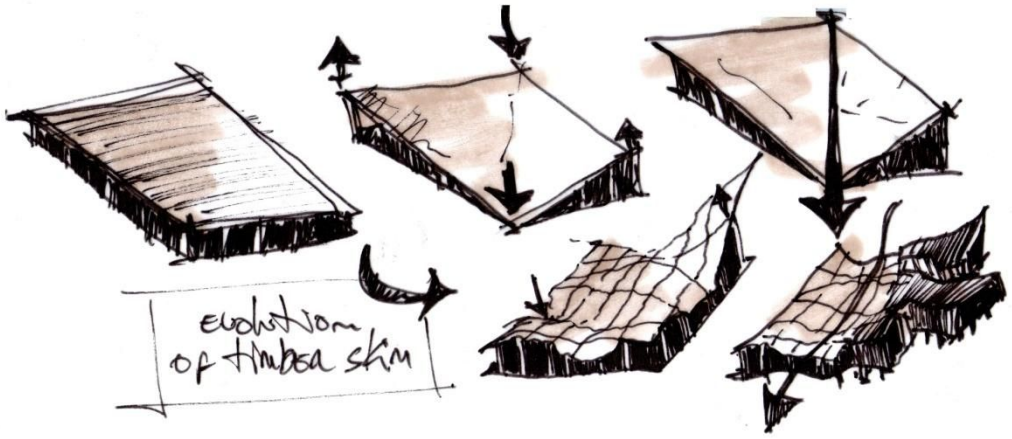
The new hospice will attempt to cater for the specific spatial needs among Māori people, taking into account their pattern of inhabitation and need for social interaction with whānau and the community. The proposed built environment will avoid the physical coldness and isolation of the traditional hospital by promoting access to social interaction, social support and sense of community as fundamental factors in the healing process of patients.

Architecturally, the Hospice will also recognize the Māori spiritual dimension of health by working with the natural attributes of the site located next to the water, alluding to concept of te taha wairua (spiritual wellbeing) also translated as the "dimension between two waters."

Image illustrating the concept of transitory space and "world in between" for the hospice.

The architecture of the proposal acknowledges the traditional Māori belief of afterlife by developing the transitional concept of a "world in between", fostering and preparing the ill for their final journey between the real world and the spiritual world underwater.

This proposed “world in between” will then be covered by a protective korowai (cloak) symbolizing mana and the philosophy of the hospice, caring, embracing and looking after people facing the end of life.



Images illustrating the concept of transitory space and “world in between” for the hospice.

- Promoting social interaction: influenced by Roger Ulrich’s theory of supportive design, the hospice will be exposed and linked to the community making its patients and staff members become part of it instead of outsiders. (*Ulrich, 22)*

  Understanding the particular social and spatial requirements among Māori has been incorporated as the base and design brief for my project.The proposed spaces in the hospice will avoid institutionalisation by abolishing long dreary corridors and traditional undifferentiated rooms on both sides whilst also respecting patient’s needs for privacy.

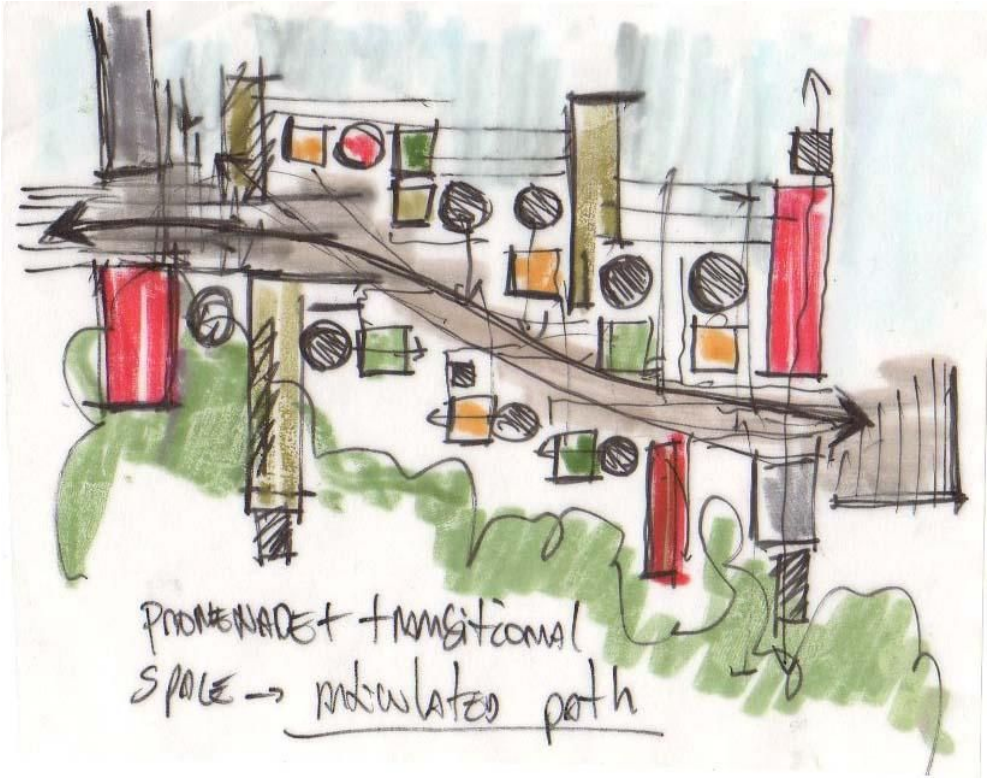


Image illustrating the initial project's sketch aiming to create an articulated path or social promenade that would avoid long and boring institutionalized corridors.

Inspired by the architecture of the Vidar clinic, I will address three main topics I believe will promote of social life and the sense of community in my project:

1) Corridors as boulevards: a central wide corridor composing the main spine of the complex will become the main meeting space, promoting the possibility for regular informal contact among its members. This corridor has been carefully planned and broken into smaller segments, creating subtle changes in direction and width, not allowing patients and staff to see the far end of the corridor. This strategy will arouse a sense of anticipation of what might be coming next while making the action of travelling along the building a pleasant sensorial event.

   Another feature of this main circulation space is the sequential widening into alcoves and day rooms providing a place to rest or socialize. This layout will make walking through the building an enjoyable experience enriched by stimulating views of the landscape on both sides, bringing air and daylight into the middle of the building.

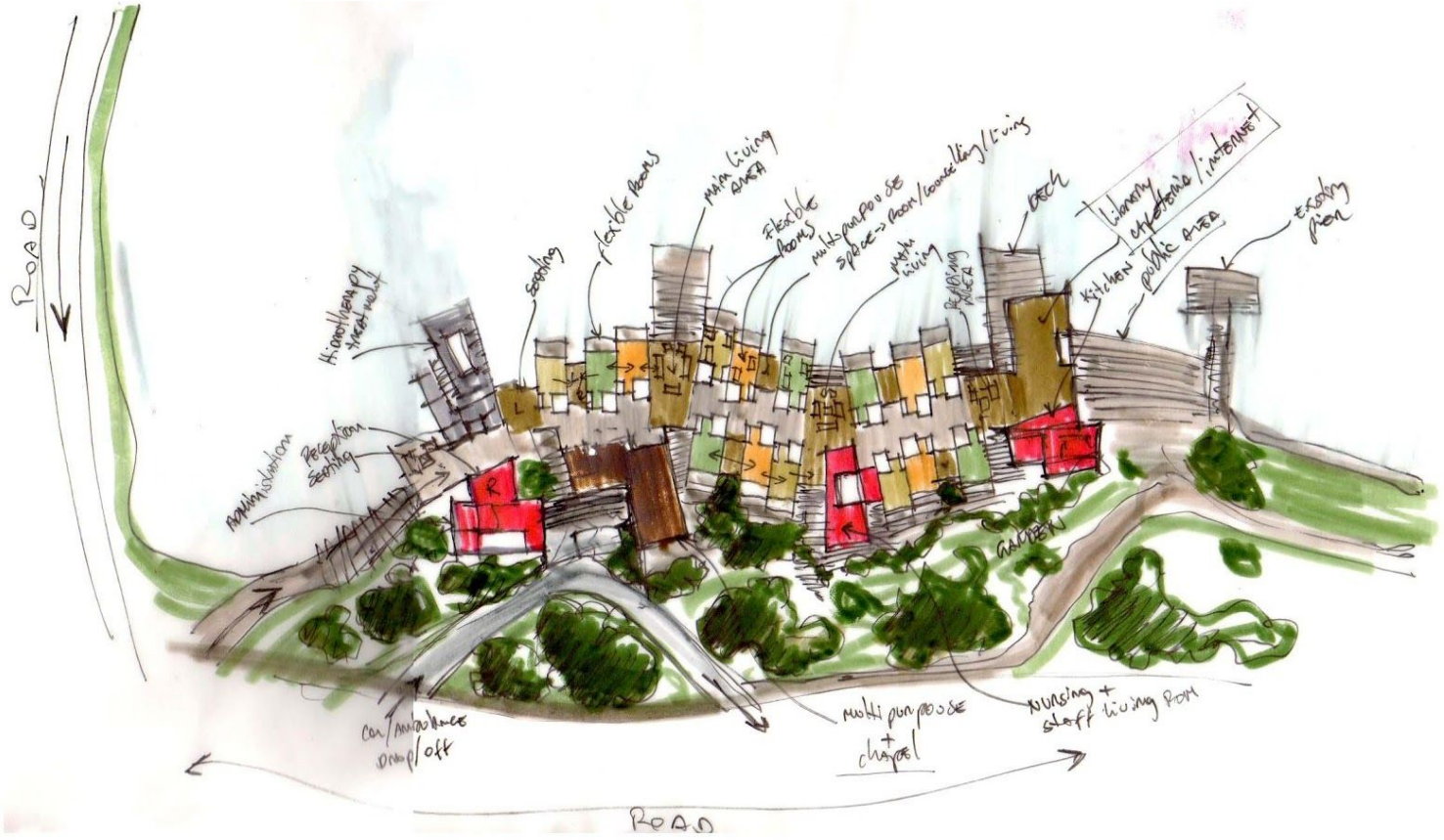
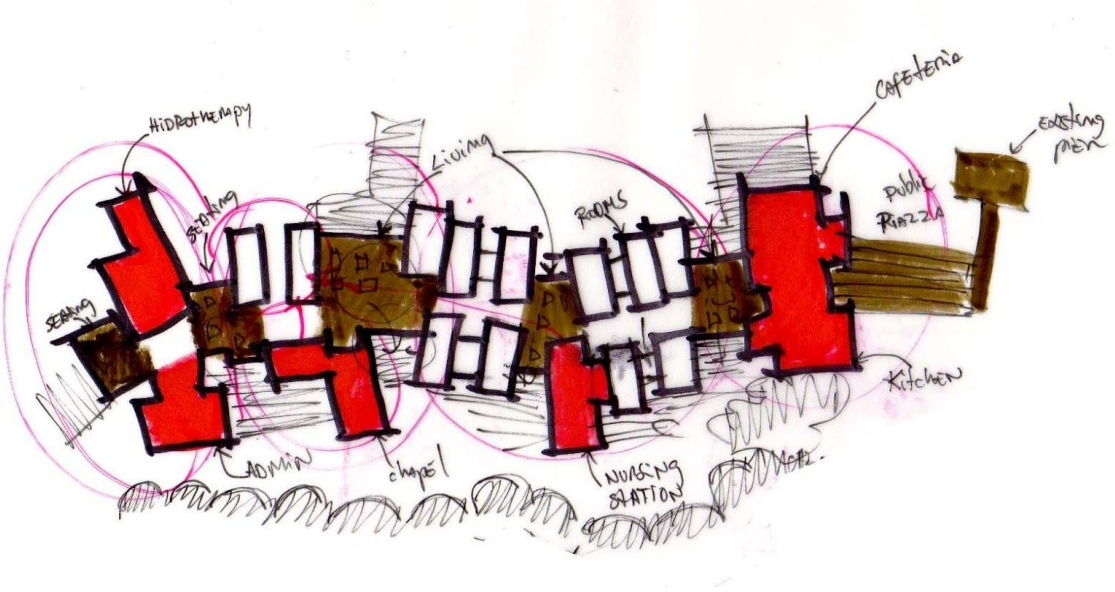


Image showing the design strategy aiming to shorten the corridors by creating clusters of rooms linked by seating areas. This will promote periodic breaks, informal transitions and views to the outdoors bringing daylight to the interior spaces

2) Serialised and sequential common areas: the Hospice's intention to promote social interaction will be reinforced by locating the common spaces as milestones along the central transitional spine. These domestically sized spaces have been



carefully located as links or "pit stops" between each patient's clusters, promoting social interaction and the feeling of being at home.

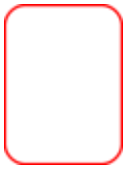


Image showing the serialised common areas along the articulated path. Coloured in red we can see the hospice's main programs-services and in brown the informal seating spaces and exterior public areas

This sequential layout has been designed with the intention to feed and activate the central "social promenade", alluding to the concept of organs in the human body working and interacting with a main artery.

Special consideration has also been taken when designing the central Nurse's station. Its location at the heart of the patient's area provides easy accessibility

and patient control for nurses, while not appearing as an intimidating and controlling space that disrupts the social life.

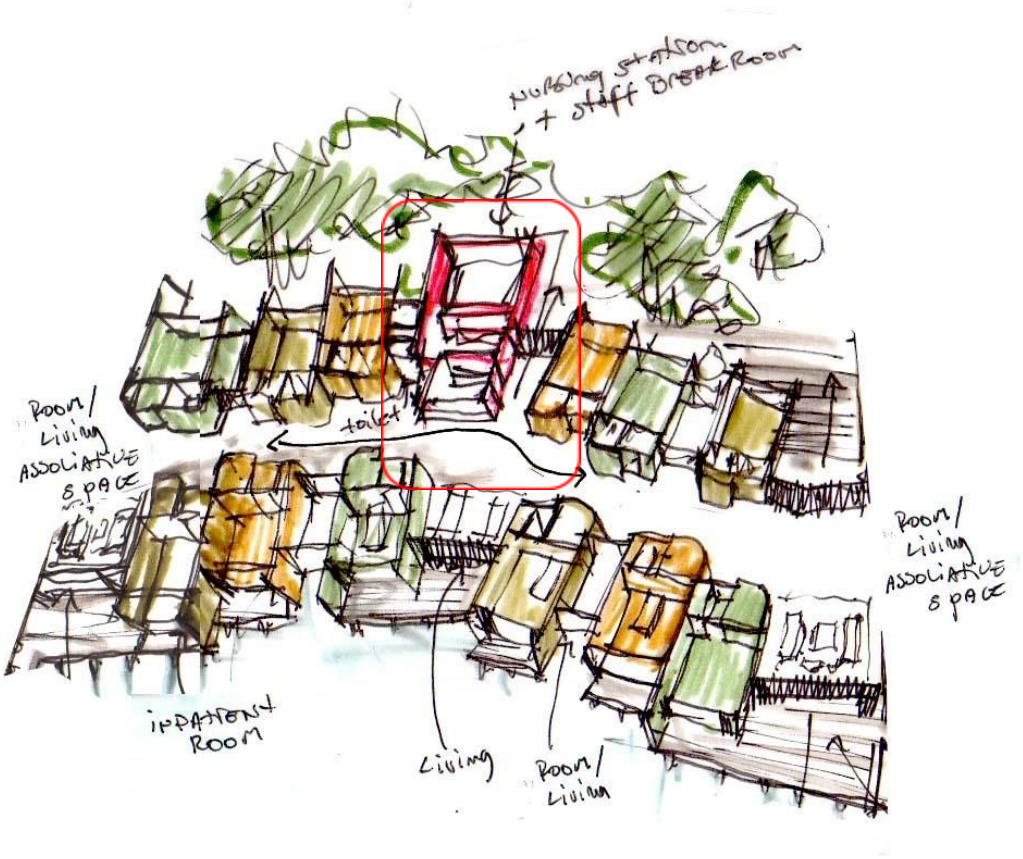


Image illustrating the location of the centralized nursing station and staff break-room providing easy access to patient control for nurse

3) Public spaces linked to the community: the cafe will provide a place where people can eat, sit, read, use the internet or share with the people from the community. The idea is to create a multipurpose and engaging space that will not only serve the members of the Hospice, but also people from the surrounding community who live or work outside the complex. This inviting space will provide the link or social glue that will integrate the complex to the community activating a public plaza at the end of the building.

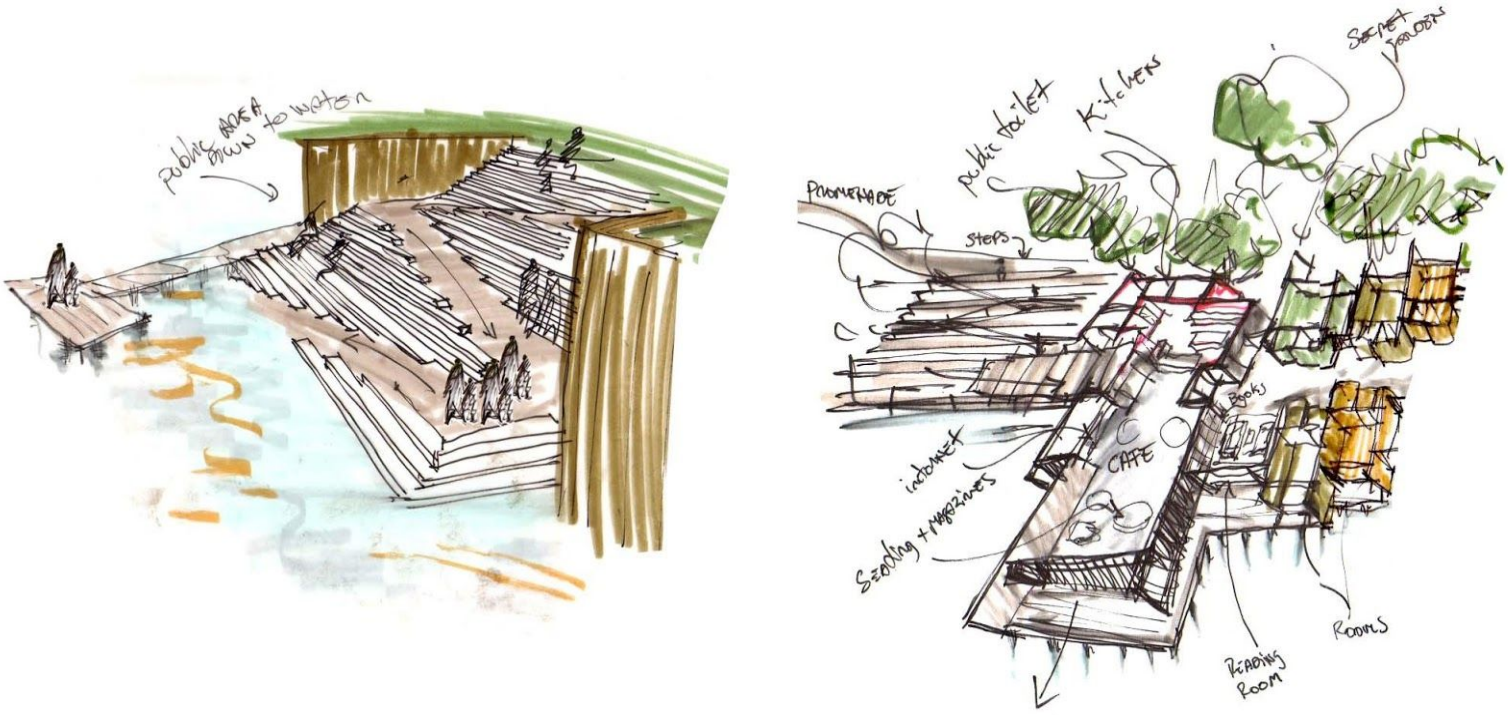


Image illustrating the hospice's cafe linked to an exterior public plaza. These two public spaces will complement each other integrating the complex to the community.

- <u>Utilizing the natural setting characteristic of the site:</u> influenced by Ulrich's theory, the hospice will utilize the connection to nature and positive distraction provided by the park and the harbour. The proximity to water will also provide a calming environment alluding to the Māori belief that water has spiritual and healing properties. (*Swaan, 259)*

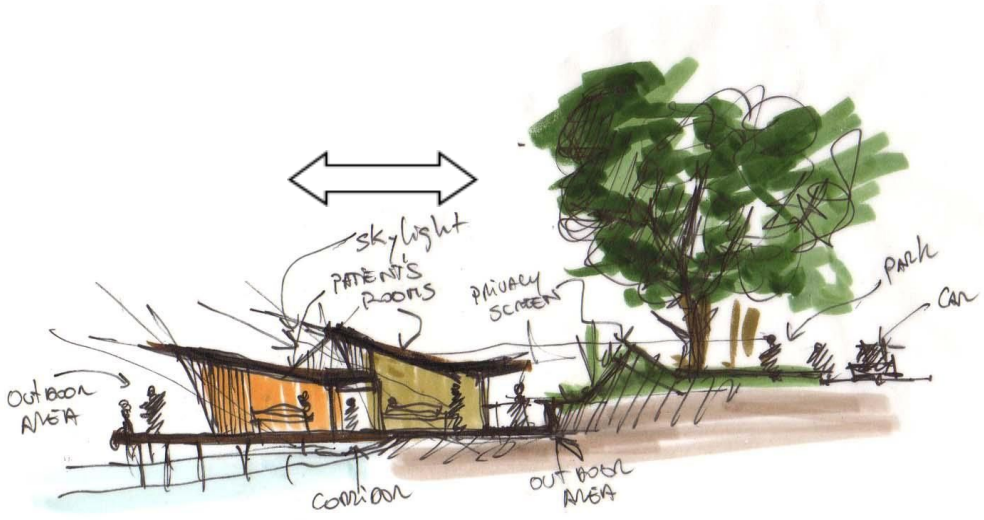
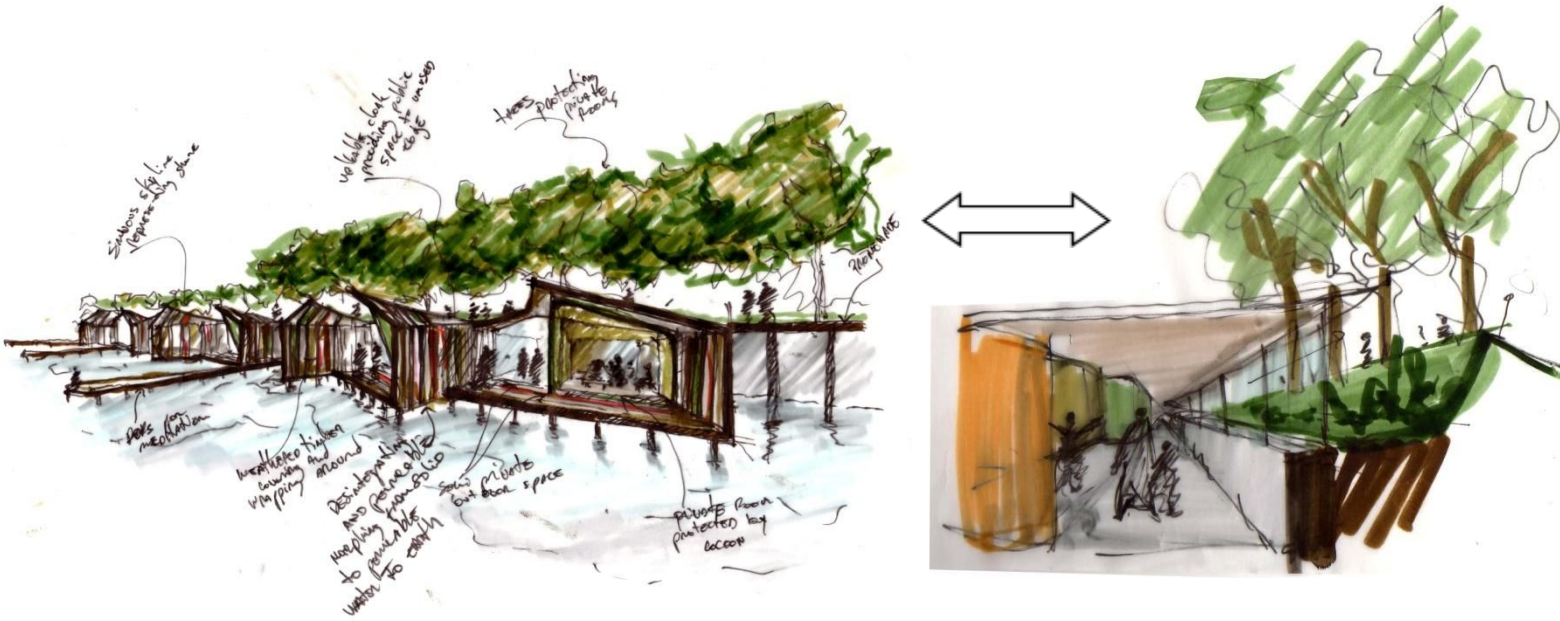


Image illustrating a conceptual section trough the hospice and highlighting its proposed interaction with the natural environment.



Images illustrating the proposed connection to nature on both sides of the hospice.

- Satisfying the patient's sense of control over their environment: finally as pointed out by evidence based design, the hospice will provide to its members control over design elements such as degree of privacy, lighting, temperature and noise, reducing the patient's stress levels and contributing to their overall well-being. *(Swaan, 259)*

  The central idea behind the layout of this Hospice is to design flexible environments that will be able to expand or contract depending on the need of space, privacy or publicity required by the patients and whānau.

Image illustrating the proposed flexible layout of the hospice able to expand and contract.

In this project I have particularly focused my attention on the design of the Inpatient's room, developing a versatile and expandable layout that can utilize adjoining spaces. This design feature enables the rooms to provide additional sleeping space for whānau, accommodate large amounts of visitors at certain times and finally provide privacy to the patient if they desire to be left alone.

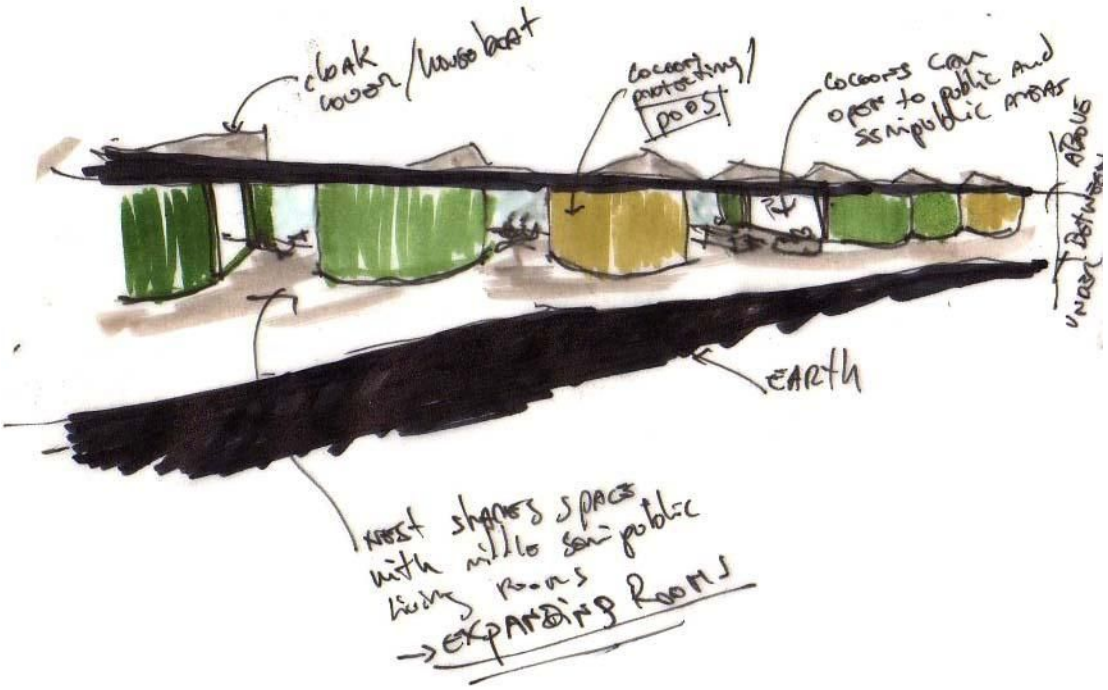
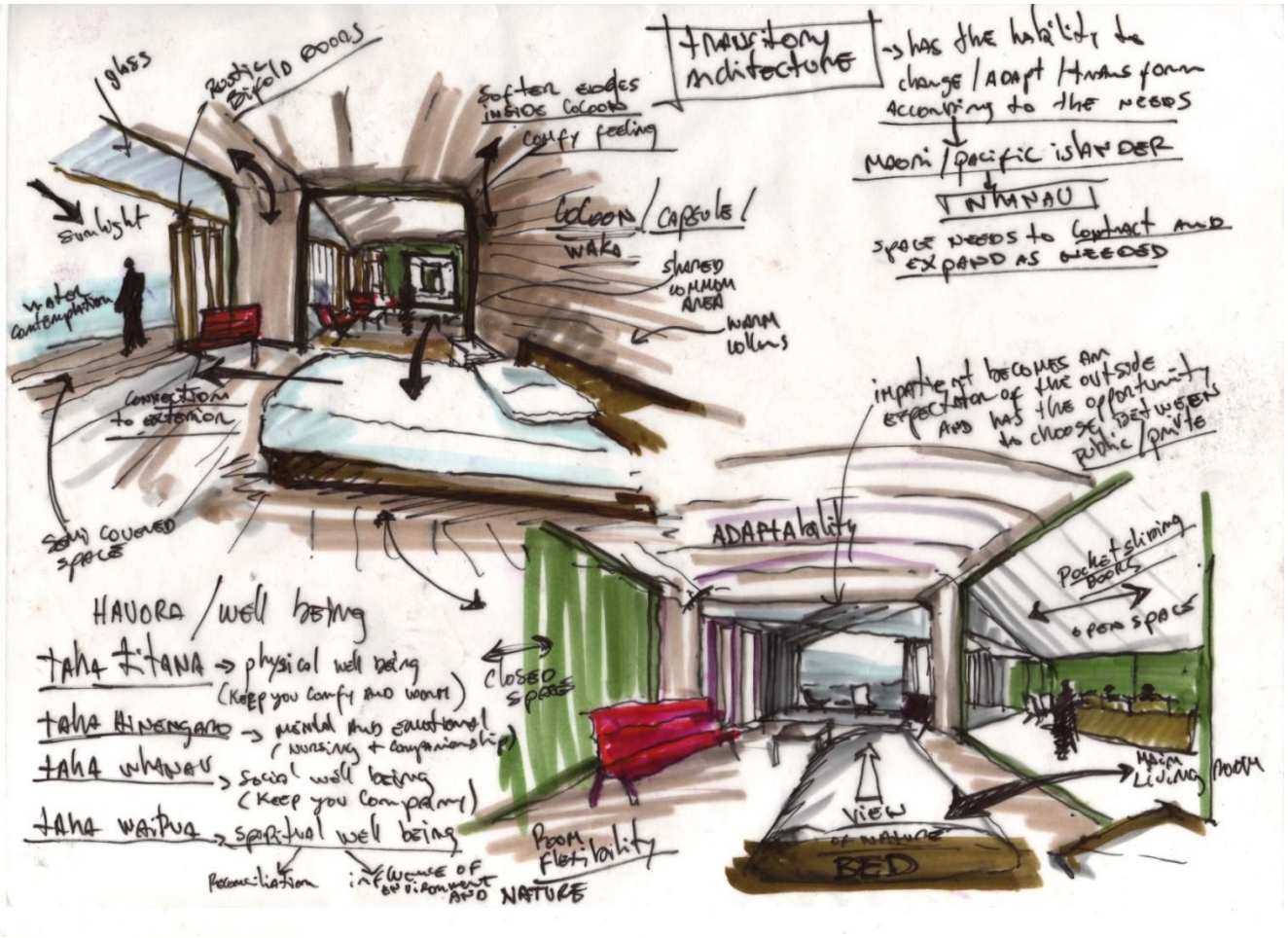


Image illustrating the initial conceptual sketch for the room's layout.

Image showing a developed concept of the inpatient room layout.

Finally, great consideration has been taken with the design of every bedroom, providing access to a private bathroom, natural light and views to nature as contributing factors.



Images illustrating the interior spatial attributes of the proposed inpatient rooms. These images highlight the flexibility of the layout and the connection to social support and nature through views.

[6] Research findings and conclusions

The aim of this thesis was to analyse and understand the program of the Hospice, reflecting on the hypothesis that architecture could contribute to the healing of patients and their families facing the end of life. I was also aiming to identify what factors I needed to consider when designing a healthcare environment that would cater for Māori communities.

I believe I have identified a proven correlation between architecture and health based on the information retrieved from Evidence Based Design. This methodology has empirically demonstrated that architecture can contribute to healing and that specific spatial factors can create either a positive or negative influence among people.

I have also identified based on the theory of supportive design that stress is a major factor to consider when designing a healthcare environment. This theory clearly suggested that

stress could be reduced by understanding three main factors: promoting social support, providing sense of control, and finally providing access to nature and positive distraction.

Finally, I discovered trough this research that the physical coldness and isolation of the traditional healthcare system is contrary to Māori customs, disrupting their need for social support and public grieving. I also understood that this system needs to overcome cultural barriers and introduce a new cross-cultural approach to health, acknowledging the Māori holistic perception of hauora and promoting social interaction.

I have thoroughly enjoyed writing this thesis and exploring the concept of helping people face the end of life. I believe it has opened my mind regarding the topic of death and has also furthered my understanding and appreciation for Māori traditions and how architecture can add to the quality of life of those that will soon pass.

The least we can do is respect and learn from Māori culture. Perhaps death is more than just something to grieve about, it brings people together, reminds us where we come from, who loves us and where we will all go someday.

Word count: 6898 words

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[9] Acknowledgements

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