RESTORING --- RELEVANCE

Interpreting the historic ritual of pilgrimage in New Zealand to restore
relevance to theological architecture

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PREFACE

At the end of 2015 I was privileged enough to take a summer elective paper that lead me to Europe for five weeks where my eyes were opened to the international realm of architectural possibilities. Despite all the new, modern, exciting architecture and construction happening, it was the large historic cathedrals that left the greatest impression. I had never experienced such an emotional response from a building before. It was in these overwhelming moments when I entered these cathedrals that I realised the true power and influence that architectural spaces could have on a person. I was intrigued by the immense beauty, intricacy of craft and history that oozed out the walls of these Cathedrals. No matter how many churches we might have visited in one day, each had their own characteristics and walking inside would leave me in awe every time. I was immediately inspired to know more. Coming from a Catholic background you could say I've always had an interest in religious architecture, although the churches I had experienced here in New Zealand didn't inspire and stimulate the same emotional reaction the historic European churches did. Churches are a special type of building that architects in New Zealand don't get the chance to design often. I took potentially the only opportunity I might get to explore this field; which lead to my research for this thesis into theological architecture. An architectural icon filled with decades of history and sacred meaning to explore. I was excited by the thought of researching and designing something so historically and architecturally significant.

DECLARATION

Choosing to research something as subjective as religion I knew this was going to be a challenging exploration, not only architecturally, but also politically & socially. The topic of religion can be rather controversial and everyone is rightly entitled to their own opinions and beliefs. However I hope these personal attitudes on religion can be omitted and this thesis can be an impartial discussion about the architectural implications.

Although I have personal ties to the Catholic religion itself, I have remained completely impartial and critical throughout the process. I have found having personal background knowledge on the religious belief system to be rather useful in the design process.

I acknowledge spiritual experience is subjective and perceptions and interpretations will vary. Thus meaning the conclusions from this thesis will never be able to be considered a definitive answer, or the only answer to the question. Nevertheless my conclusions have been informed by thorough research and critical analysis.

ABSTRACT

In New Zealand's increasingly secular society, theological architecture has become more and more obsolete. Although certainly still practiced, religion is no longer an integral part of everyday life in New Zealand culture. The church is now but a shadow of its former power and influence. This thesis seeks to reconnect theological architecture in today's modern New Zealand society by rethinking and challenging the way Catholics can practice, through the design medium of architecture. This research looks at how an element of the old can be taken and reinterpreted to generate the new. This has been tested using the ancient practice of Pilgrimage in the context of New Zealand landscape. The typically arduous and prolonged nature of this sacred journey could offer a different religious experience that doesn't currently exist in New Zealand. The increased time duration of the journey leads to increased contemplation and anticipation to ultimately lead to a deeper spirituality. The concept of pilgrimage integrates with our New Zealand culture. It parallels in a secular sense with our characteristic New Zealand outdoor hiking and adventurous culture. Taking New Zealand's beautiful clean green landscape image and framing it in a Catholic setting as the holy land that God created can be a way of applying religious principles to a new setting, one that is more relevant to current society. This concept also draws on human's natural spiritual connection with nature, highlighting the power of the earth's sanctity. This concept has been tested at two different architectural scales, firstly considering the overall route of the pilgrimage and secondly focusing on the culmination site where pilgrimage is also evident within the church building itself. The architectural solution will respond to the question, how can the dynamism of the built environment create a new relevance to the theological architypology through reinterpretation?

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"Francis said the word 'reform' is something we shouldn't be afraid of. To reform, he said, isn't just 'repainting' things, but is rather 'giving another form to things, organizing them in a different way.'" (Brockhaus)

Figure 0.01 / A glimpse of the final design solution. Authors image

INTRODUCTION

The gradual decline of religion in our country leaves an unknown and unwritten future for our theological architecture. With the church grounded in its rigid traditional ways, the developing modern world of the younger generation continues to surpass the religions historic ways. Thus threatening the existence of churches in our built environment. With the acceptance today's culture provides, pressures have been relieved to conform to society. Leading to many proclaimed 'Catholics' to no longer practice and attend mass in a traditional manner. In response, Future theological architecture needs to reflect society more closely and accurately rather than being mired in the dogma of the past. Seeking to retain the church typology's relevance in the built environment. As architects we have the ability to shape the experiences created and environments established for worship through the interpretation and approach to the design. Presenting opportunity for this thesis to explore: How can the dynamism of the built environment create a new relevance to the theological architypology through reinterpretation?

This thesis plans to answer the question and restore relevance to New Zealand's theological architecture by rethinking the approach of church design. Through testing a new approach of interpreting pilgrimage in our New Zealand context. The context pilgrimage brings leads to a new setting within the New Zealand landscape. A setting that can resonate with New Zealand modern society to restore relevance to the archetytology.

This design-led research aims to investigate the Catholic religion- through its architecture and ritual of worship to design something that will bring a revitalised relevance to theological architecture in New Zealand. It will investigate the history of church design across the decades in order to respectfully address how we can re-think the way worship

spaces could be designed in a non-traditional manner. The origins of Catholicism in New Zealand will be researched and the design aims to give the due respect to our countries religious routes. This project seeks to create a sacred connection to the New Zealand landscape and proposes a uniquely spiritually fulfilling experience for not only Catholics but all user groups of New Zealand.

A thorough understanding of the Catholic faith, its worship rituals and more importantly its history of architecture were crucial in generating informed design decisions with religious sensitivity. Naturally this lead to a heavily research based approach for this thesis.

The first two chapters are dedicated to providing the research foundation in which this project stems from. Firstly studying the Catholic faith in terms of its New Zealand setting; then the Catholic rituals of pilgrimage and Stations of the Cross, which are to be used in this thesis as a way of exploring a new approach to church design. Secondly, an understanding and appreciation for the church buildings typology and its background. This will include two differing theoretical approaches to church design.

The third chapter then applies the collated research into the design context of this thesis. Grounding the research in the site and context of New Zealand. The Far North district, the origin of Catholicism in New Zealand becomes the testing ground to analyse the question postulated by this thesis. Following in chapter four is to be the design processes explored toward the final design solution. A development of the design application from concept through to developed design. The last chapter then reaching the final design solution. Explaining the justification behind the proposed design and then reflecting on how the design has achieved the thesis' intent.

1.

RELIGIOUS BACKGROUND

Providing a brief background to the Catholic faith, this chapter will firstly look at the Catholic belief systems in a global context. Then directing focus toward New Zealand and the current condition of the Catholic faith in our country today. By assessing its issues, the windows for opportunity reveal themselves. In order for this thesis to provide a well-justified design outcome, the faith on which the design outcome focuses on must be completely understood. However this is not a research thesis on the Catholic religion itself. But in designing for the religion there needs to be a certain level of understanding about the religion and its beliefs and practices to create an appropriate outcome. Understanding where and how the Catholic faith was founded in New Zealand is important in distinguishing a New Zealand Catholic response to the question, not a universal one. Then by researching the rituals of pilgrimage and the Stations of the Cross, an understanding of their role as catalysts for this project can be attained. These two rituals will be reinterpreted into this New Zealand context to form the historical narrative for the proposal of this project.

CATHOLICISM

The Catholic Church, also known as the Roman Catholic Church is the largest Christian denomination in the world with approximately 1.2 billion members (BBC). It is the oldest institution in the western world and can trace its history back over 2000 years to the life and times of Jesus Christ. Catholics along with other Christian faiths believe in Jesus Christ, the son of God, who was brought to earth to redeem humanity's sins through his death and resurrection. They follow his teachings as set out in the New Testament of the bible as a moral guide. By worshiping and placing their trust in God, eternal life will be granted to them in heaven (Stanford). Catholics believe God to be the creator of this earth and of all things living. Gathering together for mass in the 'house of God', Catholics profess their faith, worshiping and praising God (Catholic Enquiry Office). Under instruction and leadership from the Pope who is based at the Vatican in Rome. They believe he is the successor to Saint Peter whom Christ appointed as the first head of his church (Stanford).

While occasionally perceived as a dying ancient practice, figures released by the Vatican's press office show the global growth of the Catholic Church from 1.272 billion in 2014 to 1.285 billion in 2015, a 1% annual growth making up 17.7 percent of the world's population. Although the growth varies radically from one continent to another, Catholicism is a universal faith. Everyone around the world sharing the same beliefs and worshipping the same God (Martin). The vast history of the Catholic religion gives this history and theory based thesis a large grounds to draw a design project from.

NEW ZEALAND CATHOLICISM

The Catholic faith was chosen to explore for this research, as it is currently the largest Christian denomination in New Zealand with roughly one-eighth of the population. That's 492,000 Catholics (according to the 2013 census). Given the overall decrease in Christianity in New Zealand and the rise of the non-religious, Catholicism has managed to more or less sustain its numbers over the last 30 years (Sweetman). Refer to figures 1.1 and 1.2. Thus giving this research a reliable client foundation to design for.

Although there are still a significant number of identified Catholics in New Zealand the issues lie with practising Catholics and the validity and use of our countries churches. Christchurch's Rev Mark Gibson said, "There's a lot of people who believe in God but don't want to be constricted by the church organisation." This is a natural result of today's modern society moving forward and away from tradition, with shifts toward individualism and relieved pressures to conform to society. Many people still sustain their Christian spirituality without attending Sunday church services (Crudge).

As the strictly traditional religious elderly slowly die off we are faced with the up and coming young people who view religion in a totally different way. Many religious leaders are concerned and believe churches would need to re-invent themselves in order to "keep up" with modern society (Turner). A less restrictive church is needed to appeal to the younger generation.

As the younger Catholic generation grows up, the inter-generational spread of religion will change for

the decades to come (Turner). In 2017 there were almost sixty seven thousand students educated in Catholic primary and secondary schools throughout New Zealand (Ministry of Education). In order to hold onto these numbers of young Catholics they need to see there is a more relatable, changing church for the future. To address this in terms of design, we need to be looking forward at how we can make church architecture more relevant to our up and coming younger Catholic New Zealand society. As architects it is not our place to dictate how the religion operates, however, the influence that architecture can have on the worshiping experience is significant and presents opportunity. The way in which architectural spaces are formed can set the tone for the type of worship experience desired. Although it is important to note that in aspiration for change and adapting to the times, the religions principles and tradition must not be disrespected.

This thesis will explore a possible solution to these issues by allowing the architecture to craft a new way for Catholics to worship in New Zealand. Providing an architectural solution that facilitates a less restrictive environment and creates a new relevant way of worshiping for today's changing society. While our countries Catholic population grows increasingly multicultural it is important these architectural changes hold on to our New Zealand culture. It is an opportunity to showcase new theological architecture that is uniquely New Zealand, stemming from our Countries own Catholic routes.

"Religious life needs to be transformed in ways that will allow it to speak to contemporary society, while at the same time not losing sight of its all-important goal of searching for and living for God" – Susan Smith (Smith 89)

Figure 1.01 / Graph showing the decline of Christianity in New Zealand and the rise of the non-religious

Figure 1.02 / Graph showing the breakdown of New Zealand Christian denominations

NEW ZEALAND CATHOLIC ORIGIN

For the purposes of this research, a thorough understanding of New Zealand's Catholic origins was required to ground the work in New Zealand historical context. Understanding how the religion was brought to New Zealand and the significance of these events, people and places underpins this creative research. The story begins with Jean Baptiste Francois Pompallier, a young French Bishop who was the founder of the Catholic Church in New Zealand (Pompallier Hokianga Trust). From French decent, Pompallier trained as a priest in his hometown of Lyons however later realised it was mission work that appealed to him most (Cole 24). At age 36 in 1836 he was summoned to Rome for consecration of his appointment as Bishop of Maronee and Vicar Apostolic before he could set off for the Vicariate of the Western Pacific Ocean (Cole 27).

He sailed from France in December 1836 with a missionary band of four priests and three brothers of the Society of Mary (Pompallier Hokianga Trust). On their journey stops were made at many small islands establishing missions before arriving in Sydney on 9 December 1837. In Sydney, Bishop Pompallier presented himself to Dr Polding, the Roman Catholic Bishop of Australia. It was through Dr Polding that Pompallier gathered information about New Zealand and decided Hokianga was to be the site of his headquarters. The Hokianga region was chosen as Irish Catholic timber workers settled there (Cole 28). Among them Catholic settlers Thomas and Mary Poynton, who lobbied tirelessly to have priests sent out to New Zealand. Managing as best they could without a formal clerical presence, the Poynton's maintained the faith by holding services in their own home at what is now known as Totara Point. These services were attended by their Pakeha and Maori neighbours. (White 8)

Pompallier and his missionaries arrived in New

Zealand sailing up the Hokianga Harbour on 10th January 1838 (Pompallier Hokianga Trust). They were met by Thomas Poynton who took the missionaries further up the river to their own cottage which they lent to the missionaries until a new place could be built. Meanwhile the Poynton's lived in a converted store that they owned. Here the Bishop's first care was to convert the main room of the house into a temporary chapel. Pompallier erected the portable altar he brought with him from France, some pictures and a statue of the Blessed Virgin. It was there in the Poynton's house on Saturday 13th January 1838, when Bishop Pompallier led the first mass in New Zealand (Keys 92). Now known as Totara Point, the 'centennial plinth' (figure 1.03) marks this spot and every year a commemorative mass is held in January.

Figure 1.03 / The Centennial plinth at Totara Point overlooking the Hokianga harbour. Authors image

Figure 1.04 / Map of Pompallier's arrival into the Hokianga harbour and early mission station settlements. Authors image

Soon after his arrival, Bishop Pompallier bought land from Thomas Poynton and by June 1838 he had set up a mission station at Papakawau on the south side of the harbour. Although it soon became apparent that the site was too far away from the Catholic heartland of North Hokianga so in 1839 a new mission was established directly across the harbour at Purakau (figure 1.05). Father Servant described the Purakau Mission in 1841 in a letter to his parents. "In the midst of this little hill there is situated a wooden house. A small distance away from the house some tribes have constructed huts to rest in when they come to Mass on Sundays" (White 9).

In 1839 Pompallier then declared Kororareka (now know as Russel) the New Zealand Catholic mission headquarters, having identified it as a busier and more influential place (White 10). Being a place of central administration the Hokianga was too isolated and few large vessels would risk the tidal river of the Hokianga with its treacherous bar (Keys 94).

Figure 1.05 / Purakau mission site from the North, captured 1990

Bishop Pompallier continued his mission around New Zealand in the following years with the help of more missionaries from Europe and considerable financial aid from France. By 1844 he had travelled and set up 16 mission stations (Pompallier Hokianga Trust). Although in later years his church became deeply indebted, due partly to his desire to continually expand the mission and partly to his weaknesses in administration. Sick and elderly, he left New Zealand in February 1868 and announced his resignation a year later. He later died on 1st December 1871 and was buried at Puteaux, near Paris. Almost unknown in France, or rather forgotten his grave was neglected and predominantly visited by travellers from New Zealand. His grave had been the focus of many pilgrimages from New Zealand. Voices began to call in the 1990s for the return of his remains to New Zealand. In 2000 the Pompallier Hokianga Trust was established, initially with the primary purpose of ensuring the return of Pompallier's remains. Given his lack of due respect in his birthplace it was felt his remains would be more at home in New Zealand (White 41).

The trust's wishes were at last fulfilled and in 2001 the New Zealand Catholic Bishops announced Pompallier's return. A delegation of 37 pilgrims left New Zealand to accompany the remains back to New Zealand. The pilgrims arrived back in New Zealand with the remains on 24th January 2002 (figure 1.06). Each of the countries six dioceses were visited with special ceremonies before eventually putting Pompallier to rest beneath the altar at St Mary's church in Motuti (figures 1.07 and 1.08), on April 20th 2002 (Pompallier Hokianga Trust). Thousands of people witnessed the placing of the Bishop's coffin beneath the altar. Amongst those present were bishops from New Zealand, France and the Pacific Islands, a great-grand-niece of Pompallier, the Maori Queen Te Arikunui Te Atairangikaahu, the French Ambassador to New Zealand and representatives from many sectors of church and society (White 44).

Figure 1.06 / Pompallier's remains being carried from Ngai Tupoto marae in 2002

Figure 1.07 / St Mary's church, Motuti. Authors image

Figure 1.08 / Pompallier's coffin that lies underneath the altar at St Mary's. Authors image

St Mary's church holds special significance in that half of the building itself is the original mission building from Purakau that Pompallier built. In January 1922 the Purakau church was barged down the harbour on six bullets, to Motuti (White 21). Later in the 1950's the original Purakau building was rotated 90 degrees to its current position and was added to, to portray its current form. To this day you can see the join in the floor boards (figure 1.09) where the old building meets the new. The original bell tower and sacristy remain however other interior elements have had to be restored over the years with either Kauri or Rimu. Paint work and window replacements have also had to be done but have been done so as exact replicas. The red roses growing either side of the entry gate are cuttings that were taken from rose bushes that Pompallier planted himself at the Purakau site (Sheahan). Prints of the 12 stations of the cross that Pompallier brought with him 179 years ago are placed along the interior Kauri walls (Light). Mass is still held at St Mary's every Saturday at 5pm with a very strong and passionate local community of approximately 25 attendees. The links this building has to Pompallier are integral to its sacred nature.

Pompallier's mission work around the country set up the foundation for the Catholic faith in New Zealand. His importance to our country's Catholic history is huge. The significance of Pompallier's founding mission work and the specific locations of these historic events, directly prescribe the framework for the proposed pilgrimage. His story is part of the catalyst in restoring relevance by bringing New Zealand worship back to its historical routes and celebrating it in the way of a pilgrimage.

Figure 1.09 / The join in floorboards at St Mary's where the original Purakau church meets the addition. Authors image

PILGRIMAGE

In proposing a pilgrimage for this design project, one must first understand what it is, what it represents and how it eventuated from Catholic practice. Pilgrimage provides the platform for a means of reinterpretation that this thesis seeks.

A pilgrimage is a journey or search of moral or spiritual significance. Typically, it is a journey to a location of importance to a person's beliefs and faith. Pilgrimage is traditionally an enduring journey done as an act of religious devotion that can inspire and be a life changing experience. It is as much about the journey as it is the destination.

Pilgrimage is rooted deeply in the Catholic religion. Dating back to 957 B.C where all Jewish men were obliged to visit the temple of Jerusalem three times a year for their major feasts. Traditionally this was a hardship as pilgrims walked barefoot, begging for their food along the way. Pilgrimage was seen as a sacrifice to show their devotion to God. Pilgrimages were also assigned to people as penance for grave sin (Villarrubia). Today its nature is far less harsh and interpretations vary. People go on pilgrimage for various reasons, some not even religious. Typically pilgrimage is used as an act of penance searching for forgiveness or healing. Or for the devout searching for a deeper spirituality to feel closer to God. Although now it can too be simply used as an exercise of personal growth or wellbeing, as a time for reflection, in times of need, or searching for answers or clarity (Van-Sloun).

There are currently no prescribed pilgrimage routes in New Zealand, although groups devise their own pilgrim journeys up in the Far North district due to the locations significance. However as there are no specified routes, the area is rather remote, and there are no facilities they can only be done by car and merely stopping at specific destinations (Prenderville). Far from a proper pilgrimage, the sacred walking ritual of

the journey has been completely lost.

Overseas in countries that have incredibly significant points of land or buildings that are considered valuable to the religion, pilgrimages are expected. They vary hugely from the likes of the famous 780km Camino de Santiago in Spain, to the 500m Via Dolorosa in Jerusalem. The Via Dolorosa is the greatest pilgrimage a Christian can take part in, to the holy land itself. Via Dolorosa is the name of the street believed to be the path Jesus walked on his journey to crucifixion. The 500m winding route is marked by way of plaques with the Stations of the Cross along the way, illustrating Christ's passion (Sacred Destinations). From the fourth century onward, the holy land became the typical goal for pilgrims. Many traveling to Jerusalem to walk the route of Jesus' last hours. However most Christians from Western Europe could never make it that far as it was too expensive and extremely dangerous, especially in times of conflict between Christianity and Islam. The Stations of the Cross then evolved so the pilgrimage could be made from anywhere around the world (Radcliffe 9).

Reinterpreting the historic ritual of pilgrimage for this thesis will have certain implications on the design that allow a new relevance to be brought to the architecture. The notion of journey and contemplative time that pilgrimage presents, opens up a new approach that can have implications on the way the worship space is designed. By continuing the concept of journey through into the planning of the church, pilgrimage offers a different way of designing and experiencing. Worshipers can become active participants in this proposed form of theological architecture as apposed to spectators.

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Figure 1.10 / Visial representation of pilgrimage

STATIONS OF THE CROSS

The integral relationship the Stations of the Cross have with pilgrimage highlighted the opportunity for their place as narrative for this project. The proposed pilgrimage will follow the narrative of the Stations. Spanning the pilgrimage with the Stations provides an opportunity for architectural interpretation along the journey. Understanding the importance the Stations of the Cross have to the religion is necessary to then establish how they will be interpreted into an architectural realm.

The Stations of the Cross are a series of 14 moments (figure 1.11) that recall Jesus' last day on route to crucifixion two thousand years ago. They tell the story of his short journey from the palace of Pontius Pilate in Jerusalem, where he was condemned to death, to the cross and then to his tomb (Proctor 231). The same journey the Via Dolorosa pilgrimage illustrates. The Stations of the Cross are an important devotion to the Catholic faith with a prominent place in almost every Catholic Church. They are represented in churches by either paintings, carvings or sculptures that express the core of the faith (Proctor 231).

Although always acknowledged, the Stations of the Cross are particularly relevant to Catholics at Easter time on Good Friday. This is one of the most important days in the Catholic calendar as it is the anniversary of Christ's death. Catholics will walk from station to station and contemplate the sorrow associated with Christ's passion (Kennicott). Station comes from the Latin phrase "to pause" and at each station the devoted would pause, pray and reflect on Christ's death (D. Rose).

St Mary's,
Motuti Stations
of the Cross.

V. Simon helps Jesus
carry the cross

X. Jesus is stripped of his
clothes

I. Jesus is condemned
to death

VI. Veronica wipes the
face of Jesus

XI. Jesus is nailed to
the cross

II. Jesus carries his cross

VII. Jesus falls for the
second time

XII. Jesus dies on the
cross

III. Jesus falls for the
first time

VIII. Jesus meets the three
women of Jerusalem

XIII. Jesus is taken down
from the cross

IV. Jesus meets his
mother

IX. Jesus falls for the
third time

XIV. Jesus is placed in the
tomb

Figure 1.11 / The Stations of the Cross at St Mary's church Motuti. Authors image

Today, visual interpretations of the Stations of the Cross vary widely, although this wasn't always the case. Pre Vatican II, the Stations of the Cross were very literal illustrations of the events. However post Vatican II the stations were revised with more relaxed rules. Paul VI announced in 1967 that indulgences were to be reduced, simplified and loosened. 14 stations were still required however their visual forms were undefined. These changes increased the latitude for creativity in the design of the stations (Proctor 236). Modern architects then wanted to integrate this devotional function more rigorously into their designs, rather than a simple plaque or painting attached to the wall. At the church of St Martin at Castlemilk in Glasgow the architects attempted to make the stations an articulating element. Plaster casts of typical church furnishers' images were cut down and inserted into the 14 separated window frames on the side walls (figure 1.12). These stations gave ritual meaning to the architecture of the nave walls as a strong visual feature of the church's interior (Proctor 233-35).

Overtly modern and abstract interpretations evolved in more recent years such as Virginia Maksymowicz's sculptures at St Thomas Episcopal Church in Lancaster, Pennsylvania (figure 1.13). Her 14 stations were cast from real life human models into hydrocal squares (Maksymowicz). Although Maksymowicz's interpretation is less integrated into the architecture, the relation created through the sculpting process provides an alternative human relationship between the worshiper and these stations.

This human relationship is something hoped to be achieved through the architectural design of each of the stations in this project. Using the emotive power of architecture to reinterpret these human experiences into a built form, that illustrates each particular stations essence. Considering the stations integral relationship with pilgrimage and the journey its narrative follows, this created a natural design generator to synthesis the journey for this project from Start to finish. Using this creative platform, the Stations of the Cross will be uniquely represented and experienced through abstracted architectural installations along the pilgrimage. Reinterpreting these ideas of pilgrimage and the Stations of the Cross in a New Zealand Catholic context sets the foundations for this project.

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Figure 1.12 / Window integrated Stations of the Cross St Martin, Castlemilk, Glasgow

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Figure 1.13 / Virginia Maksymowicz's sculptures at St Thomas Episcopal Church in Lancaster, Pennsylvania

2.

CHURCH DESIGN BACKGROUND

In order for this thesis to establish an appropriate and well-planned church, it is necessary to fully understand the history behind the typology. Although this project will not carry out a typical church design it is still vital to tackle this aspect of research. The chapter will begin with a chronological study of the church typology's evolution from origins to present day; focusing on key moments or changes to the church across history. Assessing changes in church plans, form and liturgy across the decades. Understanding the motives behind the changes and whether they were successful or not gives the knowledge to make informed design decisions about a future theological change for New Zealand.

Next addressing the main vital components that make up the interior layout of a church, assessing their meaning, significance and placement within the interior. Following this, the research then focuses on two different theoretical perspectives on church design. Firstly Michael Rose and his case for three laws on church design, relating particularly to the aesthetic design of the church. Secondly Peter Hammond, who supports a functional church with the main focus being on the liturgy. Taking the perspectives of these theorists and the aligning church design research will provide a thorough knowledge base to make informed design decisions from.

HISTORICAL BACKGROUND

Christian worship space emerged in a very private and inconspicuous manner. It was in a time when worship was not yet legalised and non-conformers were persecuted, worship resultantly took place inside houses (Yates 3). Ordinary private homes of the time were converted into a space for worship and were considered the first type of built church known as the *domus ecclesiae* (the 'house church') (The Slayer foundation 1). This third-century building modification sets up the first prototype for a church.

The secrecy of Christian gatherings disappeared after the year 312 when the Roman Emperor Constantine put an end to the persecution of Christians, declaring his political allegiance with the rapidly growing Christian community. In response Christians began to build their own churches around the Roman Empire, beginning with unassuming designs then growing in size with the rise in popularity of the Christian faith (The Slayer foundation 4). They began to take the form of a longitudinal market hall or basilica. A high central nave with aisles to the left and right, separated by columns, and a semi-circular apse protrusion in the centre of the end of the nave (Stegers 13). This was where the bishop sat, facing the people with the altar sitting in front, away from the apse. The building was oriented with the altar toward the east, for majority of the Roman Empire this was the direction of Jerusalem (Where Jesus was crucified). Eastward orientation is also toward the rising of the sun, a symbol of the lord's resurrection in Christianity (Wilkinson 46-47).

The original basilica was fairly simple in plan but soon developed to add a large lateral bema at the east end (figure 2.01). This created the cruciform plan that began the association of the church's plan with the body of the lord on the cross (figure 2.02). The church was now seen as an image of the body of Christ. The heart of the lord represented at the crossing where the altar of sacrifice stood (Schloeder 187-88). By the year 440, four main basilicas had been erected in Rome, all illustrating the same typical linear basilica layout (Stegers 13). The basilica form belonged to an age which was constrained by the limitations of stone and timber that somewhat informed their designs. Although its layout was informed by a more biblical understanding of the church and its liturgy (Hammond Liturgy and Architecture 26).

Figure 2.01 / Traditional basilica plan showing the addition of the lateral bema. Authors image

Figure 2.02 / Image showing the church as the body of Christ

As the concept of Purgatory developed we started to see more developments in the plan. Purgatory is where the prayers of the living are said to relieve the sufferings of the dead and purify them before entering heaven. This led many wealthy benefactors to endow special altars in side chapels of churches in which service could be said for the repose of the souls of members of their families. This abundance of side chapels cramped the once spaciousness that early churches had and further complicated the plan. (Yates 5-6).

Developments in the mass such as the sermon necessitated the furnishing of the nave as well as the sanctuary. Pulpits were installed for preaching either at the sanctuary end or in the middle of the nave and benches for people to sit on were gradually introduced. Towers were erected at one end, or over the central part of the building to house bells to summon people to church; and the nave was given a central aisle (Yates 5-6). The church plan was no longer spatially just a nave and sanctuary, the complexity of the church was developing.

Over time with developments in the liturgy the laity slowly but surely became mere spectators instead of participants in a communal act. The priest 'said' the mass on behalf of the community, diminishing the congregation involvement. The previous inclusivity and even distribution of jobs virtually disappeared and all sense of participation in a corporate action had been lost. The setting of the liturgy began to mirror its actions with the position of the clergy seats moving around to the front of the altar. This move enabled the clergy to say the mass facing the direction of God, although this meant having their backs to the congregation. The altar was consequently pushed back against the east wall and by the 14th century this had become its normal position (Hammond Liturgy and Architecture 19). Finally this led to the adoption of the 'two-room' plan, where there was one room for the clergy (the sanctuary) separated by an

iconostasis or rood screen from the room for the laity (the nave) (figure 2.03). This was a product of a theological and liturgical revolution that sharpened the distinction between clergyman and layman. The people lost all sense of participation in the mass and came to accept that their role in the liturgy was to 'hear and receive' rather than participate (Hammond Liturgy and Architecture 20). The readings were frequently spoken from the top of the screen however important action of the mass could no longer be seen. And because the mass was spoken in Latin it was very difficult for many people to understand what was happening, hence the need for ringing of the bells to signify certain important points in the liturgy. The links between clergy and laity were infrequent and highly formalised (Yates 4-6).

Figure 2.03 / The Basilica of Our Lady's Assumption, Sicily, Italy showing 'two room' plan. Authors image

This separation draws links to the 10th Century B.C Solomon Temple in Jerusalem; also known as the first temple. Although no images, the temple's plan is intricately described in the Hebrew Bible (1 Kings 5-9), allowing a fairly accurate plan to be drawn up from its description (figure 2.04). The plan showcases the same procession of spaces with the entrance portico, main hall and then ending in a separated shrine (the holy of holies). The holy of holies was the most sacred part of the temple, a separated room housing the Ark of the Covenant that included the two stone tablets Moses received with the 10 commandments inscribed. This most holy room was where God's presence was said to dwell and only the high priest was allowed to enter (Telushkin). Similarly the common church model commences in the most holy part, the sanctuary, where the altar and tabernacle are found. The separation of the church sanctuary with a rood screen appears to have followed example from Solomon's Temple. At Solomon's temple the holy of holies is separated by a curtain, the 'veil of the temple' and only clergy would enter. The parallels between Solomon's Temple and the church model show Christianity's strong link with its Jewish roots. The layout of the temple may have been prime precedent and have had great influence on the spatial arrangement of churches from early Basilica's through to churches today.

Figure 2.04 / Authors own Solomon's Temple plan analysis. Authors image

Across the following decades, different architectural periods came and went, characterising the traditional basilica form. Developments in building techniques and new materials of the time branded each era. When the modernist movement gained steam by the end of the 19th century it caused a substantial stumbling block for the Catholic Church. Additionally, the development of the industrial revolution brought in scope for new opportunities and potential for change in theological architecture.

Auguste Perret's Notre Dame du Raincy was considered the first 'modern' church, built in 1922. It constituted a fundamental turning point in theological architecture. It illustrated that modern materials could be used in a modern expression to create an architecture, which was both sacred and relevant to an industrial age. It was a result of a change in liturgical thinking allied with a grasp of modern technology and construction. Notre Dame du Raincy was a pioneer of the expressive use of reinforced concrete (Proctor 7). The introduction of new material technologies allowed for a different way of designing with new possibilities never thought of before. Du Raincy still modelled the traditional basilica layout however with a much more open space with slender tapering columns and vast glass windows (figure 2.05). The idea that new building technologies should be frankly expressed rather than concealed under historicist cladding or ornament was an important principle of modernism in architecture (Proctor 78). Otto Bartning's Stahlkirche (steel church) followed in 1928 achieving the same modernist ideas but except in steel (figure 2.06). Bartning used the structural capabilities of steel to free the walls from their load bearing responsibility to create even larger glazed walls than Notre Dame du Raincy (Heathcote 33).

By 1930 Rudolf Schwarz's St Fronleichnam church in Aachen had taken church modernism to the extreme. The buildings starkly plain white mass has no expression of the liturgy and doesn't exude any theological relation (figure 2.07). It belongs to a modernism developed from the functional requirements of the changing liturgy. The interior hierarchical separation had diminished even further with only a few steps separating the sanctuary from nave. Instead highlighting the distinction between the two areas with stark contrasting colours. By the mid 1930's we see the plan of the church becoming wider and shorter. Here is where designs began to break away from the traditional 19th century basilica layout and hint toward the desire of a more active participation (Heathcote 33-34).

Figure 2.05 / Notre-Dame-le-Raincy interior

Figure 2.06 / Otto Bart Otto Bartning's Stahlkirche (steel church)

Figure 2.07 / Rudolf Schwarz's St Fronleichnam church in Aachen

World War II sparked the beginning of the Post-Modernist era. It was a time where the world was characterised by rapid change and by new and exciting products and materials. It was a time of optimism for the future (Proctor 47). Although the church advised against excessive modernism, encouraging balance of tradition with modernity and that it should still contain an ecclesiastic character and essentially look like a church. Corbusier's controversial chapel at Ronchamp in 1954 (figure 2.08) completely rebelled this request and was a leader in the Post-Modern era. Ronchamp was a fundamental turning point in the modern movement, the point at which a kind of expressionism, a sculptural approach to architecture found its way (Heathcote 46). The chapel stands as a manifesto within contemporary religious architecture because it breaks with patterns of the past, questioning the traditional plan and aesthetic

form of a church (Pauly 126). Corbusier rejected traditional ideas about church planning in terms of liturgy and it seems the requirements of religion have had little effect on the design. But it is the unspoken link between Corbusier's early sketch of a 'primitive temple' and Ronchamp that seem most interesting (figure 2.09). Corbusier's illustration is derived from the 10th century B.C.E Solomon Temple (Telushkin). This is seen as Corbusier's vision of a more temporary scheme after the original temple was destroyed by the Babylonians some 2500 years ago. His sketch matches the temple's layout given in the bible, yet additionally features a draping fabric over the structure, giving it a provisional nature (Vale and Campanella). This can be seen in parallel with Ronchamp's smooth curving draped roof. Solomon's Temple worked as a source of inspiration and an archetype for Corbusier's religious work.

Figure 2.08 / Corbusier's Notre Dame du Ronchamp

Figure 2.09 / Corbusier's sketch of a primitive temple

By the 1960's the church responded to the challenges of the changing industrial, commercial and political structures with Pope John XXIII's announcement of the Second Vatican Council. Taking place from 1962 through to 1965 (Komonchak). The council called thousands of bishops from around the world to the Vatican to discuss the future of the Catholic Church. A resulting 16 documents were released that laid the foundation of what the reformed church was to be, outlining a huge set of changes for the church (Wedig 140). However these changes had already been developing in the previous 20 years following the war. The council only acted on formalising these rules after seeing the changes churches were already undertaking.

The main document, *Sacrosanctum Concilium* reformed liturgical practices, embraced new ideas with regard to the lay community's role in the Church, and allowed for alteration of existing church buildings while encouraging new designs for future churches (Farah 1).

The liturgy was no longer to be said in Latin and was then allowed to be carried out in the local language and understood by all (Proctor 206). Previous divides of altar rails and screens were taken away, as the mass was now allowed to be said facing the people. High Altars were replaced with low table altars in an effort to bring the people closer for the liturgy. Altars also had to be moved away from the south wall in order for the priest to preach from behind it (Doorly 5). The preferred seating arrangement was now to be circular as traditional linear forms were rejected as being too hierarchical and authoritarian (Farah 9). Removing these traditional hierarchies allowed a certain blurring of the distinction between sanctuary and nave in an effort for a more unified worship.

The Vatican II documents brought about a whole shift in the way the church was laid out and a new form of church architecture was now required in response to the liturgy. When the church adopted this new liturgy instructed by Vatican II, existing churches began to be 'reordered' so they could best reflect new ideas about the celebration of mass (Doorly 5). While new churches brought rise to an experimental phase in church architecture (Stroik 6).

In an effort to fulfil the Vatican's wishes for a more integrated liturgy, closer to the altar; architects responded with the construction of many circular and radial church plans (Doorly 7). Although the circular plan copped much criticism as it failed to define the sanctuary and the importance of the altar. Such as at the Church of St Peter, Yvetot, France by Yves Marchand where the sanctuary is swallowed up by the vast cylindrical space and the enormous band of stained glass that wraps the room (figure 2.10). The vast space lacks focus and direction toward the sanctuary. Churches like this give the impression of having been conceived in terms of structure, and only secondarily as a building for liturgical worship (Hammond Liturgy and Architecture 87).

More elliptical plans such as Henry Bernards St Julien's, Caen can help make the visual focus toward the sanctuary more obvious (figure 2.11). The converging walls and design of the perforating windows which stop when they reach the altar help focus our eye toward a fixed point

Some architects who had a desire to see radical change took advantage of what they considered as a certain amount of freedom that Vatican II provided. Which has resultantly lead to some architects of today designing buildings such as The Prayer Chapel in Phoenix, Arizona, 2007 (figure 2.12). Solutions that have not been informed by the Catholic Church and its liturgy and evoking no religious symbolism. The concept for this prayer chapel was a lantern on a hill and is described as powerfully minimal (Debartolo Architects). A large portion of contemporary religious architecture has evolved in parallel with the modernist movement into a medium stripped of ornamentation, tradition and culture; revealing nothing specific to the religion or its beliefs. Some churches have even been referred to as "like museums, spaces that do not suggest prayer or meditation" by the Vatican itself (Kington). For church architecture not to suggest prayer is bizarre and virtually an act of disrespect toward the religion. The architecture becomes mute when it loses its ability to speak through ornamentation or symbolism. The focus instead becomes on generic space rather than specific ideology and programmatic functions of the religious teachings. "We want churches, not museums or religious art" exclaims author Peter Hammond (Hammond Liturgy and Architecture 161). Sadly the church's politically, culturally and socially anchored traditions and its rich history and imagery passed down from the old testament through two thousand years of history is gradually disappearing (Stegers 10)

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Figure 2.10 / Church of St Peter, Yvetot, France where the sanctuary is swallowed by the circular stained glass form

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Figure 2.11 / Optical form of St Julien's church, Caen, France shows direction to the sanctuary through the architecture

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Figure 2.12 / The secular architectural form of the Prayer Chapel in Phoenix, Arizona, 2007

There are many clashes of opinions when beginning to talk about church architectures relationship to the past, whether it should echo ancient and traditional forms or draw upon the current modern design movements. Architectural writers Michael Rose and Steven J. Schloeder argue that architectural modernism - relying upon stark spaces that lack the previous richness of material culture; "diminishes the individual worship experience by not sufficiently encouraging an encounter with the transcendent, with divine power." In their view, modernist churches are "instead mired in the everyday, in the ordinary rather than the extraordinary" (Kilde 161-62).

In trying to find a balance between ancient and modernist forms the Kuokkala Church in Finland by OOOPEAA stands as great precedent (figure 2.13). The idea was to create "a church that looks like a church." For example the interior exposed structure recalls Gothic cathedrals (figure 2.14). A combination of glue-laminated timber framing and a wooden grid shell express a contemporary design solution that's reflective of its predecessors (Tiainen). The roof detailing works as a feature piece of the architecture that represents traditional church building. The exterior aesthetic form is also a contemporary solution that fits with today's architectural style. The form emulates a gable with a separate bell tower in front. These forms recognisable and relatable to theological architectural language.

Behind the development of the church typology as we know it today lies two thousand years of history. This is something that cannot be ignored and in looking at the key moves and changes to the design over time we gain a better understanding and appreciation for the building. The buildings history tells stories about the religion and is important to understand when designing a church that is to be sympathetic of its historic routes. It is important to understand the present in light of the past and learn from the past to shape a better future.

Figure 2.13 / Kuokkala Church in Finland by O.O.P.E.A.A

Figure 2.14 / Kuokkala Church interior showing gothic inspired structure

CHURCH PLAN BREAKDOWN

To design a church one must know and understand the breakdown of components that make up its interior program. The spatial arrangements and planning principles of its components are what determine a church from other buildings. Understanding their meaning, significance and preferred placement within the interior is vital to designing a well-considered church. A breakdown of each of the components follows.

NARTHEX is the traditional name for the entrance way or lobby area at the west end of the building, often containing a covered porch and a baptismal font before the main doors.

Traditionally the **BAPTISMAL FONT** is found at the main doors for Catholics to bless themselves with the holy water in the sign of the cross before entering. This reminds Catholic's of their baptism and welcoming into the church family, also symbolically washes away their sins before entering for worship. Location right at the entranceway is so as baby's can be baptised and initiated into the faith before entering the holy doors of the church (D. Rose).

The **NAVE** is the main body of the church that sets apart the laity from the clergy. This is where the congregation gather and experience the mass from. It lies along the central linear alignment. Traditional plans with less developed structural integrity will sport a series of columns that create an aisle either side of the seated area of the nave.

The **TRANSEPT** lies across the main body of the church, separating nave from sanctuary. It's alignment perpendicular to the central axis. It was added to the original linear basilica layout to spark the association of the plan with the image of Jesus on the cross, forming the cruciform plan.

The **CROSSING** is where the four arms of the cruciform plan meet in the middle. Often covered with a spire, tower or dome above it separates the Nave from sanctuary. A pivotal point in the geometry of the plan.

The **SANCTUARY/CHANCEL** is the often elevated area around the altar that is restricted for the ceremonial rituals of the mass. Considered the most holy part of the church and is typically only entered by members of the clergy during worship. Sanctuary comes from the Latin word "sanctus" meaning "holy." Prior to Vatican II the sanctuary was completely separated from the Nave to show its dominant holy nature. Today the sanctuary is a lot less defined with Vatican II's call for more inclusiveness.

The **ALTAR** is the table in the sanctuary that the clergy use for the preparation of communion during the mass. It is the main focus of the church along the central alignment as it symbolically represents Jesus – the laity bowing toward it and the clergy kissing it. "Altar" comes from the Latin word meaning "a high place" and refers to the high mountain tops where in the Hebrew tradition people encountered God. Sacred high places were thought of being a little closer to God in the heavens and a place where heaven and earth could meet. Church Altars are usually elevated as a continuity of this ancient biblical symbol (D. Rose).

Historic church plans have two speaker stands at the front of the church, the **PULPIT** and the **LECTERN**. The pulpit having more importance is elevated and is used by the clergy to read the gospel and preach the sermon. The lectern to the right is for the laity to read prayers and scriptures (Collins). There is an element of preference whether the pulpit and the altar have equal significance on either side of the central axis, some saying the liturgy of the word and the liturgy of the Eucharist have equal importance. However tradition favours the altars central placement.

The **BELL TOWER** has two functions. First to support the bells that are rung to summon parishioners or at times of significance, secondly acting as an icon or landmark for the faith that can be recognised from a distance. It can either be attached to the building or free standing (Hammond Liturgy and Architecture 48).

Figure 2.15 / Typical church plan and its components. Authors image

THEORETICAL INFLUENCE

Embarking on theological based design it was beneficial to explore and learn from the views of experts in the field. Investigating the words of both Michael Rose and Peter Hammond provided two contrasting views on church design; offering their recommendations and strategies for church design. It is important that whilst in responding to the question for a new relevance, the historic religious significance of the building typology is not lost. The perspectives of both Rose and Hammond will set out principles to design from. Using these principles throughout the design process will ensure a calculated design response that reinterprets the typology in a respectful manner to the religion.

Michael S. Rose- author of five Catholic Church centred books, various articles, editorials and essays is famous for his penetrating and reliable coverage of the Catholic Church. Although Rose's writing covers many various issues in contemporary Catholicism, this thesis will be focusing particularly on his case for three laws Catholic Church design should follow, written about in his book 'Ugly as Sin.'

1. A Catholic Church must have verticality,
2. A Catholic Church must have permanence, and
3. A Catholic Church must have iconography.

"These three natural laws are indispensable to successful Catholic church architecture" Rose exclaims. Although seemingly simple, Rose believes these laws are the foundation to designing a worthy house of God. "They're the most obvious starting points, primarily because these qualities create the proper atmosphere for worshipping God" (M. Rose "The Three Natural Laws of Catholic Church Architecture").

1. A Catholic Church Must Have Verticality

Michael Rose believes a church's architectural success relies on the vertical element dominating the horizontal. He exclaims "The soaring heights of its spaces speak to us of reaching toward Heaven, of transcendence -- bringing the heavenly Jerusalem down to us through the medium of the church building" (M. Rose *Ugly as Sin* 17). Architects should therefore reinforce this heavenly aspiration through architectural elements to highlight the relationship and vertical transition from profane to sacred. This creates "cavernous space where the worshiper is physically dwarfed reminding him or her that God is all-powerful" (Farah 15).

The effects of this extreme verticality often sparks sublimity, as explained by Edmund Burke in his essay: *A Philosophical Enquiry into the Origin of Our Ideas of the Sublime and the Beautiful*. The insignificance amidst vastness, and the exhilaration of experiencing something huge and greater than us evokes sublimity. The sublime can then evoke the powerful presence of the Holy through Rudolf Otto's concept of the 'numinous.' Otto, a German religious scholar devised the term 'numinous' to describe the power or presence of the holy. He says we tremble in the presence of it, not in fear but tremble in awe. (Crosbie 225) Otto claims that architecture cannot be numinous, but it can represent the numinous in the sublime (Crosbie 227).

The effects of this verticality can be even further enriched Rose suggests by incorporating mysterious plays of natural light into the architecture (M. Rose *Ugly as Sin* 20). Using light to highlight the verticality of the architecture. The degree of sublimity evoked in darkness can be heightened when paired with light, creating a stronger contrast between illumination and darkness (Doudouh and Ginderen).

For example the San Jose Maria Escrivá church in Mexico City (figure 2.16) shows its modern parametric aesthetic twisting up to the sky, signifying a spiritual heightening (Sordo Madaleno Arquitectos). The execution of filtered natural light from above draws our attention, highlighting the enormity of scale. The building evokes a true illustration of grandness as the form completely engulfs you, lifting hearts up towards the heavens (Sveiven). Light can be used in this way to direct our attention to specific elements of the church. The effect of overwhelming scale is also enhanced by the converging walls, lifting your focus up to the inner most central heightened point. Contrast of low threshold entrances either side of the nave additionally amplifies the sublime height.

It is through verticality and emphasis of light in the architecture that we can evoke sublimity; which subsequently leads to the numinous, giving worshippers that sense of holy presence.

Figure 2.16 / Verticality shown on the interior of the San Jose Maria Escrivá church in Mexico City

2. A Catholic Church Must Have Permanence

Rose's law for permanence is based upon the idea that the church is "a building that will serve generation after generation, transcending time and culture" (M. Rose Ugly as Sin 23). This meaning firstly a long lasting building; but more importantly referring to permanence of the church's presence routed in a place or community.

The buildings permanence reflects qualities of a universal church, having its own language of church architecture routed deeply in ancient history and tradition (M. Rose Ugly as Sin 21). "Architects of future generations need to comprehend the language of church architecture in order to build permanent sacred edifices for their own times and future centuries (M. Rose Ugly as Sin 26).

This language refers to the church's historical patrimony which Rose believes no architect should ignore. "The architect who breaks completely with architectural tradition robs his church of the quality of permanence that is essential to any successful church design. An authentic Catholic church building is a work of art that acknowledges the previous greatness of the Church's architectural patrimony: It refers to the past, serves the present, and informs the future" (M. Rose Ugly as Sin 26). Rose respects and acknowledges the importance of looking at our past buildings as president and believes their architectural qualities should shine through to evoke a sense of permanence.

"No successful church architect must be or even pretend to be ignorant of the Church's historical patrimony"

(M. Rose Ugly as Sin 26).

3. A Catholic Church Must Have Iconography

"The third requisite principle is that of iconography, which speaks specifically to the "sign" value of the building" (M. Rose Ugly as Sin 26). The building itself must be an icon, an icon of the religion. This is expressed primarily through the buildings form and its relation to the surrounding environment (M. Rose Ugly as Sin 26). "A church building is a 'vessel of meaning' with the greatest of symbolic responsibilities" (M. Rose Ugly as Sin 29). This meaning that the church possesses should tell the story of Christ and his church. Meaning can be conveyed through formal elements such as basic geometric shapes, symbolic representation, figural imagery or even literal representation. The symbolic meaning behind the church icon is only possible because architecture has the capacity to carry meaning (M. Rose Ugly as Sin 29).

The most common icon associated with church architecture is the traditional tent gable form roof. The iconic form not only has a huge amount of symbolism in terms of theological architecture but also has historic significance recalling tents as prehistoric places of worship. Israelites would travel with the 'tent of meeting' as they journeyed through the wilderness. This tent image is also evident in Corbusier's early sketch of a primitive temple as discussed at the beginning of this chapter (figure 2.09) (Vale and Campanella; Hammond Towards a Church Architecture). Corbusier connects the early tent dwelling to the historic Solomon's Temple. Painting the tent image as a shelter for sanctity.

These three laws outlined by Rose explore qualities concerned with the visual perception of a church. He reiterates that by designing with verticality, permanence and iconography a successful Catholic church can be achieved.

The work of Peter Hammond; writer, teacher, artist and priest, poses a valid argument toward a liturgical perspective for church design. The principal function of a Catholic Church is the liturgy, the Sunday mass being the main liturgical ritual that underpins the religion and happens weekly. (Rev. Bosco Peters). Hammond argues in his book 'Liturgy and Architecture' that the Liturgy is the very heart of the church's life, the churches primary function, and that the fundamental problem when it comes to church design lies in the function and not the style (Hammond *Liturgy and Architecture* 28). "The church must be a symbolic structure: it must be informed from the outset by a theological understanding of its purpose" (155). "The success or failure of a church, has to be judged in the light of other than purely aesthetic criteria" exclaims Hammond (81). A strictly functional approach links back to Christians earliest churches which laid the foundation for the development of Christian art and architecture (8). "If we do not built churches in keeping with the spirit of the age, we shall be admitting that religion no longer possesses the same vitality as our secular buildings" (6). Hammond articulates we must design new modern theological architecture, however express the same traditions and principles of the religion that our great early churches did.

Hammond uses the idyllic example of The Cathedral church of SS. Peter and Paul in Clifton, Bristol which employed a liturgical movement approach. This project was designed with perhaps

the most rigour of any Catholic Church project in Britain. Architects Sir Percy Thomas & Son were appointed in 1965. The architects drew analytical diagrams abstracting liturgical elements and studying them in relation to the movements, positions and meaning of the liturgy and sacraments (figure 2.17, pg 36). Symbols and lines showed relationships however leaving their spaces undefined. Experiments presented different Nave seating arrangements, different placements for the sanctuary, relationships between elements and symbolic meaning.

When the building was finally completed in 1973 the fan shaped plan was chosen over the U-shape. The U-shape was considered unsatisfactory where seats overlook others – a functional design decision (Proctor 162). The definition of sanctuary and hierarchy is clearly evident from the design of the roof form that accentuates the sanctuary and floods it with natural light (figure 2.18, pg 36). The threshold between sanctuary and nave is further emphasised along the roof line with a reinforced concrete ring beam that supports the lantern. Distinguishing nave from sanctuary these subtle and cleaver architectural moves make change from the typical stairs for division. This church proves to be a successful design in the eyes of Hammond given its dedication to functional layout. Churches which do not follow this approach merely "corrupt the aesthetic sensibilities of those who use them and obscure the nature of the ecclesia itself " (Hammond *Liturgy and Architecture* 167).

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Figure 2.17 / Analytical drawings by architects Sir Percy Thomas & Son

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Figure 2.18 / The Cathedral church of SS. Peter and Paul in Clifton, Bristol

A study on the liturgy as Sir Percy & Sons's did needed to occur in order to completely understand the process of rituals that go on inside the building. Taking a step by step look at the processes of a Sunday mass, the main movement patterns have been diagrammed in figures 2.19 through to 2.23 on pages 38-42. This exercise enables understanding of the building requirements needed for the liturgy. It is vital in making design decisions as the architecture should be a reaction of the liturgy. Then from this understanding of the processes of liturgy a summary diagram could be configured to show the most important relationships between spaces and people. As seen in figure 2.24 on page 43. Implementing this diagram in the first stages of planning will be fundamental to keeping with Hammonds function based approach to design. It will enable a certain freedom of experimentation through testing of different arrangements to explore design possibilities that still achieve the important relationships.

By exploring these two contrasting yet complimentary theories of Peter Hammond and Michael Rose, a basis of guidelines can be established for church design. Hammond contrasts Rose's aesthetic approach in that his core concern for church design is functionality. "The fundamental problem which we have to face to-day is not of style but of function" Hammond writes. It does not matter whether a church is gothic or contemporary, what does matter is whether or not the building embodies a modern understanding of the liturgy. "One cannot hope to design a satisfactory church unless one is prepared to face fairly and squarely the question of what a church is for" (Hammond Liturgy and Architecture 7). Michael Rose's three laws are more concerned with the aesthetic of the form. Following both these approaches in parallel will ensure a research-based approach to the design process is undertaken. Although this thesis explores a new approach to church design it is important to understand and be able to apply these design principles to this new approach. Using the influence of liturgy to drive the planning, along with Rose's laws on verticality, permanence and iconography when considering the form, a greatly appropriate design is sure to result.

"No matter what the building in question may be, whether it is a house, a school or a factory, the first step in the design process will be to ask basic questions about the human activities, relationships and values which the building exists to serve and to articulate" (Hammond Towards a Church Architecture 22)

Figure 2.19 / Movement study part 1. Authors image

Liturgy of the Word

Offertory

2. Liturgy of the Word

3. Liturgy of the Eucharist

Figure 2.20 / Movement study part 2 . Authors image

Eucharistic ministers

40

Holy Communion 1

Holy Communion 2

3. Liturgy of the Eucharist

Figure 2.22 / Movement study part 4. Authors image

Dismissal procession

Dismissal

4. Concluding Rite

Figure 2.23 / Movement study part 5. Authors image

Figure 2.24 / Planning relationships established from analysis of the Catholic mass. Authors image

3.

SITE APPLICATION

The approach for this thesis aims to re-think the way New Zealand Catholics can worship. This is tested by revisiting Christian's ancient practice of pilgrimage and reinjecting it into today's modern worship in New Zealand. This chapter considers the overall scheme and site location for the project, taking on the route of a pilgrimage. The research has been applied to locate the project in New Zealand context. The story of Bishop Pompallier and his mission work to bring the Catholic faith to New Zealand will dictate the pilgrimage route. This pilgrimage will pay homage to our country's Catholic origins and history. It will follow the narrative of the Stations of the Cross, in which this chapter outlines the methodology for. Showcasing the application of this methodology across designs for 3 contrasting installations along the route of the pilgrimage.

HOKIANGA

Framed by mountains and featuring a long estuarine drowned valley, the Hokianga has an air of brooding grandeur not shared with any other North Island harbour (Lee 11). Located on the West Coast of the Far North district, the Hokianga area is remote yet dotted with picturesque churches and quaint villages along the harbours edge. The Hokianga was undoubtedly going to be the area of choice for this project. The lands historic routes involving Pompallier's mission and its sacred nature qualify the Hokianga as the perfect ground for a pilgrimage.

The significance of the landscape is important for this thesis as pilgrimages stem from sites or areas of importance. The route of this pilgrimage will be devised from the points of significance from Pompallier's mission. The landscape also has an important role in that it contributes toward the sacred experience. Although the Hokianga is already considered sacred land, "natural scenes or landscapes can evoke a sacred experience through their exceptional scale, beauty, atmosphere, or illumination" according to Pallasmaa (Pallasmaa "Light, Silence, and Spirituality in Architecture and Art" 21). Catholics believe the environment is God's creation, therefore nature itself is an expression of the holy and therefore they can find the sacred in nature. Hence Catholics already have a certain sacred appreciation for the land that is only further supported by our natural human connection with nature. Hokianga's beautiful landscape plays

an important role for pilgrims to embrace and appreciate the land. Contributing to the sacred experience of this pilgrimage.

The vast landscape views of the Hokianga embrace New Zealand's image of beauty and unspoiled nature. New Zealand is known for its beautiful clean, green landscape and this scenic area highlights that, making this pilgrimage New Zealand specific. It is in our culture to explore the beautiful landscapes we are fortunate enough to have, hence the popularity of walks and hikes across the country. The idea of being able to incorporate something so 'New Zealand' into a historic religious practice is where opportunity presents itself in answering the question proposed at the beginning of this thesis.

Embarking on this project it was necessary to go visit the area and its sites to get a feel for the culture. In talking with the locals, their passion for their faith and respect for their sacred land was very evident. I was welcomed with a surprise personal Powhiri on entrance to St Mary's church by the local church community. I was incredibly privileged to have had this experience, and it certainly demonstrated the pride they had in their church. They were so welcoming, willing to help and interested in my field of research. This was very reassuring for the purposes of this project that the local community supported my ideas.

*"Spectacular sights in nature remind their delighted observer of
God the great artist"* -Francis Pound (18)

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Figure 3.01 / The sacred landscape of the Hokianga

Figure 3.02 / Location of the Hokianga Harbour in Northland, New Zealand. Authors image

BEGINNING POINT

The chosen beginning point of the pilgrimage is to be St Mary's Church, Motuti (figure 1.07). The historical & cultural significance of this church to New Zealand's Catholic history makes it an unquestionable starting point for the pilgrimage. When speaking to local Sister Magdala on my site visit she said they had at least 39 separate pilgrim groups visit St Mary's in the last year alone. Furthermore that Whangarei's Pompallier Catholic College do a year 13 pilgrimage to the area every year. As a result there is now a box that lies on top of Pompallier's coffin titled 'pilgrim intentions,' where pilgrims leave notes outlining their objectives for the pilgrimage. Thus given the popularity of pilgrimages in this area and lack of facilities it is evident there is a certain need for this topic of research.

END POINT

'Totara point' is to mark the end point of the pilgrimage and the location for the pilgrim church (figure 1.03, pg 6). A certain Poetic nature of returning to the beginning, and ending the pilgrimage where the religion started in this country. This significant piece of land is marked with what is called the 'centennial plinth,' a small monument that marks the point on which the very first Catholic mass was held in New Zealand by Bishop Pompallier (Fig.2). Other than the monument, the site is a completely empty 3,330sqm car park overlooking the beautiful harbour. Being one of the most important pieces of land in New Zealand in terms of Catholic history, its lack of attention and absence of celebration seems essentially disrespectful. Every year in January Catholics gather here to celebrate the commemorative mass. However as the site has no permanent facilities and a temporary gazebo and plastic chairs and tables are put up every year for the occasion (figures 3.03, 3.04 and 3.05), highlighting the need for the proposed design outcome (Pompallier Hokianga Trust). When speaking to Local priest Kerry Prenderville in regards to the proposed site, he reaffirmed the need by saying "it's got to come at some point" when discussing the need for facilities on the site (Prenderville). This proposal would give the historic and culturally significant point true recognition and meaning that has been absent for the past 179 years.

Figure 3.03 / Priests leading the commemorative mass under a gazebo at Totara Point, 2016

Figure 3.04 / Attendees gathered under a temporary gazebo for the commemorative mass at Totara Point, 2016

Figure 3.05 / Temporary and inadequate facilities used for commemorative mass at Totara point, 2016

PROPOSED ROUTE

The pilgrimage route is planned to stretch from St Mary's Church, in Motuti, to Totara Point, 18.1kms in distance. This proposed route was devised from points of significance relating to Pompallier and his mission to New Zealand. The route has historical context drawn from New Zealand's Catholic history, giving this pilgrimage a relevance to our country. It marks out 14 pit stop points along the way, each to represent a Station of the Cross. The grave of bishop Pompallier contained at St Mary's Church marks the beginning of the pilgrimage. Starting from there the journey then follows the line of the harbour edge that Pompallier sailed on his arrival. Making their way along the harbours edge skyline, pilgrims will pass the location of the original Purakau mission site. (Here is to be the location of the fifth station of the cross). This spot looks across the harbour to the earlier Papakawau mission site (figure 3.06). The

route continues, crossing the Te Waipoka Stream then passing the iconic 1900's Church of Our Lady of the Assumption that gleams on the harbours edge (figure 3.07). Commanding attention at Motukaraka point, the church has been the subject of thousands of photographs and has become an icon of the Hokianga (White 18). The builder of St Mary's extensions, Father John Becker, is buried outside the Church of Our Lady of the Assumption thereby furthering its significance and linking back to the beginning of the pilgrimage. The route then continues following the contour of the land and harbours edge, making its way up toward Totara Point. The route hugging the harbours edge was deliberate to keep views of the harbour available to celebrate the landscape. Also to keep the track close to amenities and the main road in case of emergency or for ease of maintenance repairs on the track.

Figure 3.06 / Current view from the original Purakau mission site looking across the harbour to the earlier papakawau mission site. Authors image

Figure 3.07 / Church of Our Lady of the Assumption, an icon of the area

Figure 3.08 / Site plan of the Hokianga harbour showing the formulation of the proposed route. Authors image

STATIONS METHODOLOGY

In order to design installation pieces of architecture that illustrate each of the stations in an abstract manner, an emotive word has been extracted from each station. This word was attained by assessing a series of Stations of the Cross precedent images to gain a collectively represented word for each station. These words were then paired with architectural images that illustrated the words qualities. Showcased by the diagram in figure 3.09. The word and image were then used as the design driver for the installation.

Each of the stations designs makes reference to elements found in the church design solution at the conclusion of the pilgrimage. Each installation will serve as a landmark or point of reference along the journey that will subconsciously and consciously be pieced together in the pilgrims mind. Yet only realised once the final destination is reached. Given the 18km distance of this pilgrimage it gives the opportunity for the architecture to build anticipation over the duration of the journey. Resulting in a richer spirituality when the destination is finally reached. At the end destination, pilgrims will be reminded of each of the stations through subtle architectural elements that reoccur from the installations. Reminding pilgrims of the long way they have come, and the continual notion of journey.

There are a range of scales shown through the application of this methodology. Each providing a moment of pause or awareness as the pilgrims experience these installations along the journey. They can serve as a landmark or point of reference for one to orientate themselves on this journey. On approaching each installation a small plaque will remind pilgrims of the station that has been architecturally interpreted. A time for reflection and contemplation.

Although on a physical journey, it is as much mental as it is physical. Every pilgrim's intentions are different and the way they experience the pilgrimage will vary. Nevertheless they will all be in search for that spiritual connection with God. As they journey across the vast landscape of God's creation, the spiritual journey is prolonged and the anticipation grows for what is to come at the end.

Figure 3.09 / Methodological diagram for the design of the Stations of the Cross. Authors image

Figure 3.10 / Physical site model of the divided pilgrimage showing the three chosen stations. Authors image

Figure 3.11 / Physical site model showing the landscape context of the divided pilgrimage. Authors image

STATIONS DESIGN

The scope of this thesis allows me to test the application of this methodology at a conceptual level across three contrasting stations. Station three, five and twelve were chosen as they gave contrasting emotive qualities to explore a range of design outcomes. The installations aim to reinterpret the emotional condition expressed by each Station through architectural space. Recognising the human condition associated on an intellectual and meaningful level. As architects we have the ability to shape experience and environment. In designing these installations pilgrims are guided to participate and engage with the architecture at the same time as the landscape. This exposes them to a level of meaning beyond the boundaries of function and aesthetic. Pilgrims can interpret these installations any which way they like to induce the desired experience.

III. Jesus falls

Figure 3.12 / Compilation of the third Station of the Cross. Authors image

Three. Jesus falls for the first time and the word synthesis is WEAKNESS. A change to the regular, an irregularity to a sequence was the idea drawn from the architectural image. Through an irregularity of a pattern there is a break to the rhythm, this is the moment of weakness. The design installation seeks to show a weakness in the growing pattern sequence of perforated panels as one moves through the space. Pilgrims are initially confined by the two constraints on both sides, making them aware of the architectural space around them. The perforated panel pattern is designed specifically to reference the sliding panels on the nave façade at the final destination. There is an irregularity where panels stop and change its growing sequence. Pilgrims are made aware of this irregularity by the separation of panels, the changes in height and in the light quality where the shadows cease. The architecture evokes weakness at that stopping moment. This installation is a subtle prompt to Jesus's first moment of weakness when he fell for the first time on his pathway to death. A concept solution that addresses the emotional condition experienced at this Station.

Figure 3.13 / Compilation of sketches exploring weakness for the third station. Authors image

Figure 3.14 / Render view of the third station. Authors image

V. Simon helps

Figure 3.15 / Compilation of the fifth Station of the Cross. Authors image

The fifth station where Simon helps Jesus, the word generated is SUPPORT. This quality was shown through structural support in the chosen architectural image. Combining the basic concept structural support with the figurative idea of one element supporting the other leads to the design installation outcome. One element emerges out of the ground, lifting the walkway up and turning into a seat before retreating back to the ground. The emerging element representative of Simon. The vertical timber columns supporting this emerging element hint at the vertical timber elements found on the entrance façade at the final destination. This installation notifies pilgrims as they ascend up the walkway that the visually noticeable emerging element is providing that support. As pilgrims sit and rest on the seat looking out over the landscape, they are made further aware of the supportive nature this emerging element provides. The emotional driver of the station can be experienced through engagement between the architecture and the user in the context of the greater environment.

Figure 3.16 / Compilation of sketches exploring support for the fifth station. Authors image

Figure 3.17 / Render view of the fifth station. Authors image

XII. Jesus dies

Figure 3.18 / Compilation of the 12th Station of the Cross. Authors image

Finally the 12th station where Jesus dies on the cross. The word depicted here was FREEDOM, releasing him from his torture and agony. This station represents a fundamental and very powerful moment to Catholics. The design celebrates Jesus' freedom through the opening of a lookout point over the landscape. It is the highest peak of the walk and in a spot that looks out over the entire harbour and surrounding landscape. The reaction of freedom is explored through a moment of release, the design opening up and out toward the harbour. Ascending frames build the anticipation toward that moment of freedom. The lookout viewing deck is surrounded by a frameless glass balustrades in an effort to accentuate the lack of confinement. The rigidity of the ascending frames is taken away in that moment of freedom. The form of the ascending frames mimics the main frame of the nave design at the final destination.

Figure 3.19 / Compilation of sketches exploring freedom for the 12th station. Authors image

Figure 3.20 / Render view of the 12th station. Authors image

Figure 3.21 / Render view of pilgrims on their journey across the sacred Hokianga landscape. Authors image

III. Jesus falls for the first time

V. Simon helps Jesus carry the cross

Figure 3.22 / Sectional diagram showing the stations in context. Authors image

XII. Jesus dies on the cross

Figure 3.22 continued

4.

DESIGN APPLICATION

The architectural outcome for the final destination is to be explored in this chapter. Located at Totara Point this chapter will begin with site analysis of the existing site condition. Then exploring the design concepts for this interpretation of a church. Following is a sequence of design iterations explored through alternating sketches and 3d computer CAD. Working between plan, section and 3d form the design begins to evolve. It is in this design that elements of each Station of the Cross installation come together. Serving as a reminder for pilgrims on arrival at the final destination of the long distance they have journeyed, and the spatial and emotive experiences that have gone before.

SITE ANALYSIS

The site, Totara Point, sits right on the harbours edge with beautiful landscape views. A quiet, deserted, tranquil environment that aids the spiritual nature of the site. The site's ingrained sacred nature stems from the Catholic history surrounding Pompallier and his first mass in the country held on this land. With a 1km driveway entrance, the anticipation of arrival is further enhanced. The 3,330sqm site is owned by the Totara Point trust and its only current use is for the annual commemorative mass in January. The sites monument sits perched up on the hill surrounded by a few bench seats that provide the best viewing spot of the surrounding landscape and slopped site below. The empty site below consists of a few unattended plants but mainly a gravel car park area. An idyllic space for building upon. The absence of attention to this historically significant piece of land presents an opportunity to provide a design that will reach the potential this piece of land has. The historical context of this site will give the church design further meaning and relevance to our New Zealand Catholic society.

Figure 4.01 / Totara point site boundary . Authors image

Figure 4.02 / Totara point site analysis . Authors image

Figure 4.03 / Site photos of Totara points current condition from various perspectives. Authors image

DESIGN CONCEPTS

Figure 4.04 / Diagram summarising the design concept to frame the landscape. Authors image

FRAMING THE LANDSCAPE

After accessing the site, the design concepts need and want to frame the landscape became obvious. The stunning view of the harbour from the point of the monument should not be disrupted. Instead of the architecture disturbing pilgrim's reflective experience from the hilltop monument, it instead needed to compliment it. To frame the landscape through the design of the building implemented through the iconic tent form.

Summarising this in a diagram (figure 4.04) where the optimal design would have visual links from the hilltop monument out and through the architecture below. Additionally a visual link from the church up

to the monument as well as out to the landscape to be framed and celebrated.

The traditional tent gable form roof was to be an important aspect for the design in the execution of this framing. Following Michael Rose's third law of iconography, this form gives the building a religious symbolism recognised by Catholics. The temporary nature of a tent also reflects the current temporary facilities that are used on the site for the annual mass. The tent and its relationship to the landscape as a shelter for sanctity was the key design generator for the basic form of the nave design.

Figure 4.05 / The vision to frame the Hokianga Harbour landscape view from Totara Point. Authors image

EXPLODED PLAN

Continuing the narrative of pilgrimage and journey through into the approach of the church planning lead to the idea of exploding the programs. Carrying on the journey within the site and design, leading to the monument as the final destination. Exploding the programs of the church gives opportunity to introduce transition spaces between each function. Transitions making the pilgrim aware of each change in program, giving each space it's own identity. By separating each programmatic function allows for an understanding of each spatial condition and the rituals associated with each of these defined spaces. The different architectural qualities of each space can be experienced at various moments along the journey up to the monument.

In search of a new relevance this idea challenges and changes the way pilgrims use the traditional church space. Enforcing the continual notion of journey where the pilgrims then become participants in the architecture as apposed to spectators. Reinterpreting the idea of pilgrimage in this way presents a new approach to the design that allows a new relevance to be brought to the architecture.

Firstly by overlaying a traditional crucifix church plan on site (figure 4.06), this set up the basic axis and alignments for the design. The monument being the point of significance justified its position as the sanctuary of the church. As the sanctuary is the most holy part of the church, it was an obvious choice for the historically representative monument to emulate this function. The monument itself acting as the altar. Also for the roof form to frame the landscape when viewed from the monument there had to be this linear axis running through the site out to the harbour. Next when exploding the programs, functionally it made sense to bring the Narthex around to the south, in line with the entrance point to the site (figure 4.07). The transepts then stretch to become the main thoroughfare, driving the movement across the site. This methodology sets up the base mapping and spatial arrangement on the site, that can then be taken further in the development of the plan.

Figure 4.06 / Crucifix plan overlaying the programs on site . Authors image

Figure 4.07 / Exploding the programs on site to continue the notion of journey. Authors image

DESIGN PROCESS

Figure 4.08 / Sketches exploring framing the landscape. Authors image

The design process began with initial sketching, seeking design options that could frame the landscape. The iconic tent triangular shape was used as the initial basic form, following Michael Rose's third law. This early stage of sketching was only concerned with concepts for the main nave component.

Figure 4.10 / Sketches exploring framing the landscape. Authors image

Figure 4.11 / Digital form exploring framing the landscape. Authors image

Moving these initial sketched ideas into the digital realm allowed a more precise tool to experiment with more accurate angles and proportions.

Figure 4.12 / Initial sketched plan. Authors image

Shifting focus to the plan, it was necessary to evaluate how the linear rectangular form sketches that were evolving would start to fit onto the outlined area on site. Also how the placement of spaces and movement across the site would begin to work. The axis provided by the overlaid cruciform plan set the geometric foundation for this planning. The alignment of the transepts extended out to function as the flow of movement through the site. Placing the bell tower on the east transept balanced the planning of spaces. Looking at a direct route from the entrance to the monument was considered, however not pursued given the lack of progression and journey across the site it would fail to provide. The visual link from entrance to the monument however will still exist, giving pilgrims a glimpse of their final destination. The monument being the final destination and acting as the altar of the sanctuary, it was elected to be left untouched in terms of the design, giving meaning by preserving the context and history of the site. Hammond says the altar must be an unchallenged focal point. "The altar needs no ornament or decoration" he states, reinforcing this decision (Hammond Liturgy and Architecture 38). Retreating from the monument back down to the entrance called for a direct path down along the main site axis, to leave a lasting impression on the pilgrim of the framed landscape view.

Figure 4.13 / Sketched plan introducing curved facade . Authors image

Having identified that the immediate eye line of pilgrims on entrance is toward the side of the building, the architecture needed to be designed in a way to lead pilgrims in to the narthex. This lead to testing a curved façade that would guide pilgrims to the entrance.

Figure 4.14 / Exploring curved facade in three-dimensional form . Authors image

The implications of adding a curved facade in plan then needed to be explored in three-dimensional form. Adapting the initial sketch ideas to accommodate this curve lead to a question of how the roof formation would retain its line of vision through the top of the apex. At this point deciding a solid shell façade that only revealed its transparency once reaching the monument would enrich the architecture adding an element of surprise at the final destination. Exploring this idea through hand sketching first then digital sketch modelling, a concept as to how the triangular frames would work with the curve was achieved. A continuous form that connected the narthex with crossing and nave.

Figure 4.15 / Exploring curved facade in digital realm. Authors image

Figure 4.16 / Exploring curved facade in digital realm. Authors image

Once achieving this basic three-dimensional form the plan needed further refining to scale. Playing with the circular proportions along the symmetry of the central axis to define the geometries of the spaces. The pivotal points of the two nave circles prescribing two points of possible structural anchors. This plan is also showing experimentation of how the interior nave seating might fit and how the amenities in the narthex could be configured.

Figure 4.17 / Experimentation with geometries of the plan to scale. Authors image

Making a hand crafted site model and drawing overtop of photos gave a sense for how the design would relate to the sites surrounding topography

Figure 4.18 / Form sketches over site model photos. Authors image

Figure 4.19 / Sketch design south elevation. Authors image

Figure 4.20 / Sketch design west elevation. Authors image

Formalising these ideas into elevations gave an understanding for the proportions of the spaces

Figure 4.21 / Sketch render from the west. Authors image

Figure 4.22 / Sketch render from the north through to the nave. Authors image

Figure 4.23 / Sketch render from the south-west site entrance. Authors image

Perceiving the three dimensional form through perspective views in relation to human scale sparked awareness of the forms disarray. Arriving at this point in the concept design a reflection called for a change in critical thinking. The design was becoming too large and heavy taking away from the landscape. The sites quiet and tranquil nature called for a subtlety in the design. Although transparency was already evident along the axis from the monument, it was also necessary in the perpendicular axis to integrate the design with the landscape. Allowing the environment to exist through the building.

The combination of curves and linear lines that evolved appeared to be jarring and causing a disconnect in the design. The introduction of curves to the entrance achieved the intended purpose of drawing pilgrims to the entrance; however doesn't suit the linear nature of the tent form and the geometric planning approach. A reassessment of how this could be achieved in a linear fashion was needed.

Figure 4.24 / Sketches exploring integrating the form with the landscape. Authors image

Reverting back to sketch designs, a new focus was now on integrating the form with the landscape. Keeping the verticality and tent formation at the forefront of the design however trying to increase the transparency of the building. "The church should be integrated into the neighbourhood and landscape so that its location reminds the pilgrim of the buildings importance and purpose" (M. Rose Ugly as Sin 35).

Exploration of the three-dimensional form continued to develop, testing the fusing together of the emerging triangular element with the sequencing of vertical frames. This emerging element provides the possibility for an ascending nave to give the space progression out toward the landscape.

Figure 4.25 / Sketches exploring emerging form in the digital realm. Authors image

Figure 4.26 / Sketches beginning to think about the vertical geometry. Authors image

In developing this idea for an emerging triangular element, its angle and relationships needed to be explored in section. Realising that up until this point the design in section hadn't particularly been explored. The designs aspirations for verticality and a visual link through the tip of the apex calls for design consideration in section. This being a particular downfall in the previous concept design.

Figure 4.27 / Exploring vertical relationships and geometries. Authors image

Figure 4.28 / Sketch plan exploring the emerging element and surrounding relationships. Authors image

Translating this idea in to plan, consideration for how the rest of the building was going to compliment this design started to be measured. Considering what complications this newly introduced emerging concept might have on the plan. As shown in the sketched plan, the curve of the emerging element continues alignment around the corner to form a connection to the narthex. The following sketches explore how this connection might begin to be constructed in 3d.

Figure 4.29 / Sketches exploring the connection of nave to surrounding elements. Authors image

Remembering curves hadn't worked out well previously, this connection was tested to be perpendicular instead. The narthex was to be submerged in the hill, allowing the nave full prominence with its iconic and symbolic form.

Figure 4.30 / Exploring a perpendicular connection from nave to narthex. Authors image

Figure 4.31 / Exploring interior structure possibilities within triangular frame. Authors image

Reverting back to the main nave area, the interior structure was considered. In an effort to ornament the interior in reference to traditional church vaulting, interior cross bracing options were explored. Options were explored within the bounds of a triangle, keeping the top of the apex free for visual transparency. Giving the horizontal element that separates the top apex a transparent material will allow the cross bracing below to create textured light shadows on the nave floor. By adding vertical anchors to the cross framing, a second layer to the frame is discovered. Thus letting the base exterior of the triangular shell to visually act like a buttress.

Figure 4.32 / Further sectional exploration of interior structure. Authors image

Figure 4.33 / Plan geometry analysis. Authors image

These ideas were then converted back into plan, figuring out how the double layer of frames would function and what implications that would have on the geometry of the plan. For the roof line to ascend, the interior layer of vertical frames would need to be angled in plan.

Figure 4.34 / Physical sketch model exploring geometry relationships in 3d. Authors image

To comprehend how the geometry lines established in plan and section related to the 3d form explored through perspective, a sketch physical model was made. Perceiving the basic form of the design in the context of the site gave an understanding of scale and proportion.

Figure 4.35 / Transferring relationships between exploded programs back into plan. Authors image

Through developing the plan further it was discovered that direct entrance to the crossing resulted in separating the narthex from the nave too brutally. By guiding pilgrims in and along past the amenities the geometry of the plan began to develop a nice symmetry. Bringing the pilgrims in to a confronting small entrance as opposed to an open area makes them more aware of the transition pure landscape into architectural space.

Figure 4.36 / Further refining geometries and detailed planning. Authors image

Reconsidering the transition spaces between each of the programs on the developing plan helped locate these areas as requiring further attention in the design. More refining of the plan needed to occur.

Figure 4.37 / Defining transition spaces on the developing plan. Authors image

Figure 4.38 / Plan developing the roof line geometries. Authors image

Using the geometries of the plan, these transition spaces begin to develop further. Using the monument as the point of rotation, lines drawing back down toward the horizontal plane are explored for the roof formation of the narthex. These beams overhead can emerge out of the lands hill to integrate the built form into the landscape. The phasing in and out of beams overhead is used to transition in and out of the crossing. In this plan we can also see the vestry move from the entrance to now sit along the main horizontal axis in alignment with the nave. The sacred nature of the vestry called for its placement along this main axis, meaning the transition from vestry to nave was an uninterrupted progression.

A reassessment of the interior crossing structure needed to occur now the angle of the walls had been figured out in plan. Having only a strip of glass down the middle of the horizontal roofline allowed for a higher concentration of interior filtered light. It also allowed light to highlight only that main axis, reinforcing the linear relationship between nave and sanctuary (church and monument).

Figure 4.39 / Reasment of the interior structure formation. Authors image

The section was further explored to determine the sequencing of vertical frames. Having seven sets of frames allowed for 14 interior columns in the nave, a reference to the 14 stations of the cross. Showing how programs could be defined within changes to the frames. The crossing is to be a completely open air space that then transitions into the low ceiling height of the nave. A confronting change in scale. Through section we can also see how the program of the narthex protrudes out of the hill, and its proportion against the dominant nave.

Figure 4.40 / Sectional drawings defining inter-program relationships. Authors image

Figure 4.41 / Geometry section cutting north to south. Authors image

Figure 4.42 / Pattern explorations for the nave perforated panels. Authors image

The exterior walls of the nave that sit on the inner vertical frame are to be sliding panels. This gives opportunity for change in interior light qualities with the additional purpose of allowing the venue to expand beyond the defined area for the like of large numbers at the centennial mass. The panels were to be perforated to enable vision of the landscape through the building when first approached from the entrance to the site. The perforated walls are an abstracted link back to historically ornamented cathedral walls and the pattern of perforations is generated from an abstracted cross.

Figure 4.43 / Applying the perforated pattern to the sliders. Authors image

Figure 4.44 / Initial sketch explorations for bell tower. Authors image

The bell tower finds its form from experiments with an elongated triangular shape. Pairing an angled triangle with an inverted one, together they create a tower that stands as a beckon for pilgrims in the distance. It was important that this design similarly expressed transparency when viewed from the monument however its profile held some solidity in order to be viewed from a distance. For pilgrims to be able to ring the bells from the ground, ropes had to be hung with the ability to be tied down to the ground.

Figure 4.45 / Sketch exploration of bell tower design. Authors image

Figure 4.46 / Church seat designs striving to achieve transparency. Authors image

The continual notion of transparency is evident in the detailing design of the chairs and the font. Complimentary, they both carry a linear aesthetic relevant to the entrance façade. The chairs are designed as singular entities for ease of adaptably however when lined in parallel a pew formation can be achieved.

Figure 4.46 / Design exploration for the church font. Authors image

5.

ARCHITECTURAL OUTCOME

On arrival at the Totara point site and completion of the pilgrimage, pilgrims will be greeted with the proposed design solution. Although the site and its design is seen as the end point, the notion of journey still continues within the design and the way it is experienced. Pilgrims would not be spectators of the architecture but an active participator in the sequencing and transition of spaces.

The activation and variation of spaces through progression creates a new appreciation and relevance to each functional activity, while at the same time respecting and referencing the historical function in a contemporary setting.

Figure 5.01 / Physical model of the final design solution. Authors image

Figure 5.02 / Geometry plan of the final design solution. Authors image

Figure 5.03 / Site plan of the final design solution. Authors image

DESIGN SOLUTION

From the entrance to the site on the south-west corner, people are directly aligned with the monument and can see their end destination on arrival, yet are forced to actively move through the progression of spaces to reach this end point, mimicking the pilgrimage journey. The tapered retaining wall that follows this alignment subtly draws people to the inconspicuous entrance to the Narthex.

Transitioning from open air into this low ceiling entrance makes users directly aware they are entering the grounds of the building, with the change in scale and light quality. Confronted immediately by a wall in front, the architecture directs users along the front colonnade. The design of vertical columns along the front colonnade hints to traditional church entrance colonnades like that of St Peters at the Vatican. The intersection of perpendicular beams provides a dim interior filtered light quality to vastly contrast the natural daylight and change the quality of the space. The pairing overhead beams align geometrically in plan back to the monument for the continual relationship to the monument across the site. The discreet gap to the left of the confronting entrance wall takes people around the back hallway where toilets and the kitchen are to be found. Toilets placed at the entrance for the convenience of the arriving pilgrims.

The bottleneck entrance then widens along the colonnade to the crossing point, transitioned by the phasing out of beams overhead. Light quality gradually increases toward the crossing which is open to the air, again another change in scale. Here the crossing space functions as a foyer and transition space. The two parallel beams overhead that immerge out of the hill and continue along the roof of the nave make the occupier aware of the geometric link back up to the monument. In plan, the crossing falls on the central crossing moment of the geometry site lines. There is a small overhead window placed along the vertical axis line that allows a glimpse up to the monument from the crossing.

Figure 5.04 / Final physical model view from the site entrance. Authors image

Transitioning down steps to the nave, pilgrims pass the baptismal font. This baptistery area acts as the transitional space. Unless there is a baptism ceremony happening Catholics simply pass through this space to bless themselves on their way into the nave. The floor level change via steps down into the nave and change from open air to a low ceiling alert users of a change in threshold before they enter the nave.

When the baptism area is to be used, friends and family can gather on the wide steps around the font or turn their seats around from the nave. There is a disguised larger font under the floor surface that can be revealed on occasions when full immersion baptism is required.

The nave is the main body of the church. It is an adaptable space with moveable chairs that can be stacked to make pews or placed individually to the user's needs. The sliding perforated panels cater for the space to overflow when the big centennial mass happens in January. The perforated panels convey an abstracted cross pattern and are perforated to bathe the interior in filtered light but also to give the building transparency when viewed from the entrance. This transparency ensures the design doesn't take away from the remote locations landscape and sanctity of absence that the site currently possesses.

Seven sets of structural frames make up 14 columns in the interior, symbolic of the 14 Stations of the Cross, a reminder of the pilgrimage and the journey. Proceeding down the nave, the interior cross-braced frames highlight the triangular tent form within a square space. The glass strip along the roof highlights the alignment with the monument and allows the cross bracing to create beautiful interior shadows, emotive of a sensory atmosphere. The strip of light beaming from above highlights the linearity of the space, focusing attention towards the altar and framed view. The cross bracing beams come down to a human scale at the sides where they meet the columns to enrich the sublime height of the frame. The roof ascending out toward the landscape also directs attention out toward the landscape. The large glazed back wall is split into three vertical sections, representative of the holy trinity that was traditional shown by three lancet stained glass windows.

Transitioning up to the bell tower, this axis follows the sites current movement axis and existing landform. Transitioning with a canopy that phases out, it mirrors the entranceway beams aligning back to the monument. The canopy designed at a human scale to give the pathway a sense of enclosure, given its boundless path.

Figure 5.05 / Nave perspective view of the final physical model. Authors image

The bell tower serves as an icon for theological architecture that can be spotted from afar. Michael Rose explain that "through its bells, the pilgrim is reminded of Christs presence, his importance in the lives of the faithful, and our need to honour him in adoration and prayer" (M. Rose Ugly as Sin 35). As people are completing this pilgrimage journey they ring the bell themselves not only to remind them of Christs presence but also as a sign of completion of the journey. The bell tower design is made up of an elongated tent frame matched with an inverted, abstracted tent frame. The two forms intertwine to create a tower that the bells hang between. Ropes for ringing hang from above and can be secured to the ground. The same perforated pattern is used to link the tower to the nave building. The use of this perforated design above creates beautiful filtered shadows on the ground below. This creates a different quality of space for pilgrims under the tower ringing the bell.

The last transition up to the monument is a series of three curved walls following the natural ascending contour of the land. The walls guide pilgrims and gradually disappear into the ground giving way to the monument in all its glory.

Finally the sacred hilltop monument is reached where pilgrims can look out over the beautiful landscape they have just journeyed across, through the frame that the building provides. This is the only space in the plan that is completely open to the outdoor environment with no architectural impact on the experience. A moment of reflection on what this pilgrimage has meant to the individual. This is the most sacred point of the site and the end point for the pilgrimage. Pilgrims may also like to take a moment to reflect and give thanks for Pompallier and his work to bring the Catholic faith to this country. On which the pilgrims would be standing on the particular piece of land he held the first mass.

Once pilgrims feel ready they then descend down the staircase following along the central alignment of the site. Disappearing down into the building they arrive back at the crossing out the inconspicuous exit passage where they can then exit the same way they entered.

Figure 5.06 / Image of pilgrims ringing the bells in the final physical model. Authors image

Figure 5.07 / Final physical model of Totara point design. Authors image

Figure 5.08 / Interior nave isle. Authors image

Figure 5.09 / Perforated panel shadows. Authors image

Figure 5.10 / Looking into the nave from the south. Authors image

Figure 5.11 / Shadows produced during the naves use at night time. Authors image

Figure 5.12 / Model showing the sliding panels open vs closed. Authors image

Figure 5.13 / Transparency of the panels viewed through the nave Authors image

Figure 5.13 / Section through the site from North to South showing geometry relationships of the final design. Authors image

Figure 5.14 / Section/rendered elevation of the sites design from the south. Authors image

Figure 5.15 / Interior configuration for a baptism. Authors image

Figure 5.16 / Interior render showing the contrast of open panels for the commemorative mass vs closed panels for pilgrim contemplation. Authors image

Figure 5.17 / Rendered perspective showing the architecture framing the landscape on the pilgrims retreat down the steps. Authors image

CONCLUSION

This thesis set out to bring a new relevance to theological architecture in New Zealand, in response to the developing modern world that is engulfing the rigid traditions of the traditional Catholic faith. At risk of being forgotten or overpowered, the architectural industry has some form of responsibility in giving the church typology as we know it, a revitalised significance in society. With theological design comes huge responsibility, a form of architectural obligation lies to retain the status the church typology has retained for centuries. The design outcome proves the relevance theological architecture can still have in our society and the positive contribution this pilgrimage interpretation can make to our New Zealand architectural history.

The design solution has successfully answered the proposed question and the objectives initially set out. Showing how Catholic worship spaces could be rethought through the introduction and fusion of pilgrimage and the Stations of the Cross. This has not been done before. It creates a new format and setting for worship to take place that links our modern day worship back to a historic Catholic ritual. In making that connection ensures this new approach is respectful of and still incorporates some aspect of Catholic tradition.

Needless to say the proposed setting and context this project has taken gives New Zealand's Catholic routes the respect rightfully deserved. The moments in history that formed our countries Catholic story shaped the route of the proposed pilgrimage. The nature of pilgrimage and the church design intent called for a celebration of the New Zealand landscape. In aiming to create a sacred connection with the landscape the church building worked to enhance the landscapes integrity. Using the landscape as the bridging connection between the religion and the growing modern secular New Zealand society to bring them closer together in this new manner. A new religious experience proposed for a future New Zealand culture.

Given the hypothetical nature of a design thesis it is difficult to speculate an emotional response or to fully understand what the space would feel like when built in real life. I can only predict what these spaces would feel like, and even then, spiritual experience is very subjective and everyone experiences it differently. The architecture itself cannot make someone have a spiritual experience, however, it can certainly aid in enhancing the experience.

By following the principles of Peter Hammond and Michael Rose ensured this new design approach was keeping with some of the most important traditional principles of designing a church.

Peter Hammond's functional aspect shines through this project in the rigorous planning. The initial planning of spaces and relationships was drawn from Hammonds liturgical aspect. Although the program of spaces has been interpreted in this exploded manner, the relationships outlined from a functional perspective at the beginning of the research are all still achieved. The processes of a typical mass are still catered for through this design, importantly for the January commemorative mass that happens annually. However the adaptive nature of the nave allows for its use as a pilgrim church where pilgrims can retreat after their journey.

Michael Rose's three laws of verticality, permanence and iconography are achieved through the form of the building. The iconic tent form being the main driver for the form gives the building Catholic symbolism. The incorporation of a bell tower also acts as a Church icon in itself. The buildings integration with the land and surrounding context gives the design its physical permanence. Links to New Zealand Catholic history amongst a modern world illustrate the church's presence rooted in its community; giving the building a historic kind of permanence Rose talks about. Lastly the verticality of the structure was ingrained in the design from the concept stage. The framing of the landscape called for a certain amount of verticality to align with the monument. The interior progression of verticality also adds to the sublime experience and emphasises the vertical transition from profane to sacred.

From this thesis we can conclude that the design solution proposed, positively responds to the question and issues raised. Although this is not going to be the answer for all churches around New Zealand and this concept cannot be replicated everywhere. It is one possible solution, one new and different way of responding to this topic. This change toward a different interpretation of what a church can be is just another chapter in the book of the Catholic Church's history. Changes to tradition are inevitable and are likely to shock at first, just as Corbusier did with Ronchamp. However look at what a monumental turning point Ronchamp has turned into now.

As intended a uniquely spiritually fulfilling experience has been designed that is grounded in the Catholic faith and would appeal to New Zealand's future culture. By fusing the historic ritual of pilgrimage, with the narrative of the Stations of the Cross, and situating it in the beautiful and historically significant landscape of the Hokianga; this proposal creates a strong Catholic response to the declining relevance of theological architecture in New Zealand. It would be a unique, revitalised and spiritually fulfilling experience for all.

REFLECTIONS

APPROACH

As part of the history and theory stream, this thesis showcases the application of research to design. Assessing historical influences and current issues in order to design a valid response. However the nature of a research based approach limited the extent the design could evolve. Takling a topic as large and complicated as religion meant time for design testing gave way to time for thorough research and understanding. The lack of iterative design explorations limited the opportunity for design critique. Resultingly, design decisions were made on intuition based from a large base of research knowledge. Largely informed decisions rather than experimental decisions.

SCOPE

The limitation of having such a large scale project with two differeing scales meant my focus and attention could only be drawn to one. This left the station installations only being able to develop at a concept level for the three chosen. However I think showing the application of the methodology across three contrasting stations was sufficient for the scope of this thesis to understanding the project concept. As a result of taking on these installation designs the scope of the church design may have been compromised and if full attention was given to the one of the two scales, further detailing could have been achieved.

DESIGN PROCESS

I carried out a number of hand drawing iterations, playing with geometries and angles in both plan and section, however once making design decisions from this 2-d platform there was little interrogation of the 3d design. It would have been advantageous to explore more physical model making on the site model to address this. The initial experimentation of geometry lines and basic structural form on the site model was great. It helped see an overall perspective of how all of the spaces worked together as a whole on the site. More developed design model testing on the site model would have helped refine further details.

I would also have liked to have worked closer with sensory elements in the design process. The process favoured the plan as indicated by Hammond, and the form as indicated by Rose. A phenomenological aspect to the research that was explored yet not pursued would have enhanced the design giving the spaces more atmospheric qualities.

Although I am happy with the design outcome I think there's room for a lot more refinement and detailing to be done if the project were to be executed in reality.

FUTURE EXPLORATION

The potential for further exploration of this project would bring additional clarity to the design and would address more practical issues that are beyond the scope of this thesis. All the Stations of the Cross installations could be designed which would further enhance the architectural relationship between the installations and the church design. The liturgical elements are necessary for worship although architectural elements still need to be specifically designed for the particular church.

For the building to function in a real-life scenario matters such as weather tight joins, building acoustics and structural capabilities would need to be accurately considered. Extending power and water capabilities to the site from neighbouring properties would need to happen. Alternatively research into making the building self-sufficient, running purely on renewable sources could be a more cost effective solution that would suit the intermittent usage of the facilities. A transport service running between beginning and end of the pilgrimage would too be required. This could provide a business opportunity for the local community to run.

If this research was to continue into a real-life practical opportunity I know it would delight many people from the New Zealand Catholic circle as well as the community of the Hokianga region. It would bring life to the Totara point site that has been yearning for attention its entire existence.

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3. SITE APPLICATION

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