

THE JOURNEY TO THE INNER PEACE OF YOUR HEART  
Modernization of traditional Chinese Buddhist temples

by  
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## AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.



## ABSTRACT

This thesis aims to explore the method of designing contemporary Chinese Buddhist temples in terms of investigating how Buddhist temples should develop without repeating traditional forms nor losing the sacred sensation.

While the Chinese society has developed drastically in the past several decades, Buddhist temples in China remain the same typology as traditional courtyard buildings. Even though materials and construction techniques have changed, people build fake traditional courtyard buildings by using fake wood components covering original concrete structures. These fake traditional temples not only infringe the authenticity of materials but also fail to provide the feeling of holy as religious architecture. Criticizing fake traditional Buddhist temples, this thesis suggests that the essence of religious architecture is the spiritual journey rather than forms and appearances. As the spiritual journey consists of three parts (the entrance, the path and the place as destination), this thesis includes three parts as well, completing the process of the journey. The first part opens the conversation by introducing the context and explaining the issue. The second part profoundly explores Chinese Buddhism and investigates the contemporary religious architecture both in theory and through selected precedents. The third part offers a design of a contemporary Buddhist temple in China, which proposes a journey as the foundation for the design. The journey responds to the pilgrimage sequence of Buddhists, in the meantime, connects the history with the present in the same temple.

This thesis attempts to stop architects from duplicating historical forms of Buddhist temples, meanwhile, to show them a better way of how to create spiritual experiences in religious architecture.



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## TABLE OF CONTENTS

Author's Declaration	iii
Abstract	v
Acknowledgement	vii
Table of Contents	ix
List of Figures	x
PART ONE BUDDHISM IN CHINA	
1. The Development of Buddhism in China	2
2. The Traditional Temple Typology	4
3. The Recession of Traditional Chinese Architecture	8
4. The Fake Antique Controversy	10
PART TWO DECODING BUDDHISM AND SACRED SPACES	
1. Modern Architecture and Buddhism in Contemporary China	16
2. Buddhist Spirits, Rites and Typical Program of the Temple	22
3. The Sacred, the Sacred Space, and Constructing the Sacred space	28
4. Precedents of Contemporary Religious Architecture	42
PART THREE DESIGN PROJECT	
1. Introduction	84
2. The Program and The Client	84
3. The Site	86
4. The Design	96
5. The Spaces and the Use of Light	126
6. Details and Materiality	136
CONCLUSION	143

## LIST OF FIGURES

### Part One

- Figure 1.1 Jinghua Ru 茹竞华; Hualiang Peng 彭华亮, *Chinese Ancient Architecture* 中国古建筑大系, Vol. 6. Beijing: China Building Industry Press 中国建筑工业出版社, 2004, page 57
- Figure 1.2 Jinghua Ru 茹竞华; Hualiang Peng 彭华亮, *Chinese Ancient Architecture* 中国古建筑大系, Vol. 6. Beijing: China Building Industry Press 中国建筑工业出版社, 2004, page 44-45
- Figure 1.3 Guixiang, Wang. The history of Chinese Buddhist architecture, Volume 1. Beijing: Tsinghua University Press, 2016, page 742
- Figure 1.4 Ssu-ch'eng, Liang. *The Chinese "order"*. The complete works of Liang Ssu-ch'eng, Volume 8. Beijing: China Architecture & Building Press, 2001, page 23.
- Figure 1.5 Nan-shan temple.  
Source: <https://baijiahao.baidu.com/s?id=1591913685969289213&wfr=spider&for=pc>
- Figure 1.6 Jiang, Lei; Cheng, Jianjun. *Design and Construction of Pseudo-classic Building with Concrete*. Construction Technology. Beijing: China Academic Journal, Jul 2013, page 106

### Part Two

- Figure 2.1 Rowe, Peter. *The Metropole Hotel, Shanghai, by Palmer and Tuner, 1933-1934*. Architectural encounters with essence and form in modern China. London: MIT Press, 2002, page 59
- Figure 2.2 Rowe, Peter. *The Soviet Exhibition Hall, Beijing, by Sergei Andreyev, 1953*. Architectural encounters with essence and form in modern China. London: MIT Press, 2002, page 93
- Figure 2.3 Illustration by author
- Figure 2.4 Illustration by author
- Table 2.1 Illustration by author
- Figure 2.5 Gate of Fo-kuang Ssu. Source: [http://tupian.baik.com/a4\\_38\\_51\\_20300544188908149463510665424\\_140\\_jpg.html](http://tupian.baik.com/a4_38_51_20300544188908149463510665424_140_jpg.html) (Accessed Jun 16, 2019)
- Figure 2.6 Illustration by author
- Figure 2.7 Illustration by author
- Figure 2.8 Guixiang, Wang. The history of Chinese Buddhist architecture, Volume 1. Beijing: Tsinghua University Press, 2016, page 752

- Figure 2.9 Cristobal Palma. *Sacred Spaces: Contemporary Religious Architecture*. London: Phaidon Press Limited; New York: Phaidon Press Inc, 2015, page 209
- Figure 2.10 Helene Binet. *Sacred Spaces: Contemporary Religious Architecture*. London: Phaidon Press Limited; New York: Phaidon Press Inc, 2015, page 127
- Figure 2.11 FG+SG-Fotografia de Arquitectura. *Closer to God: Religious Architecture and Sacred Spaces*. Berlin: Gestalten, 2010, page 218
- Figure 2.12 Photograph by Enrico Cano; Drawings by Studio Architectto Mario Bota. *Closer to God: Religious Architecture and Sacred Spaces*. Berlin: Gestalten, 2010, page 213.
- Figure 2.13 Marcello Bonfanti. *Sacred Spaces: Contemporary Religious Architecture*. London: Phaidon Limited; New York: Phaidon Press Inc, 2015, page 144
- Figure 2.14 Helene Binet. *Sacred Spaces: Contemporary Religious Architecture*. London: Phaidon Press Limited; New York: Phaidon Press Inc, 2015, page 131
- Figure 2.15 Enrico Cano. *Closer to God: Religious Architecture and Sacred Spaces*. Berlin: Gestalten, 2010, page 211.
- Figure 2.16 Yukio Futagawa. *Church with cross of light*. Religious. Tokyo: A.D.A Edita, 2012, page 167
- Figure 2.17 Plummer, Henry. *Undulating carpet of light in passage to church*. *Cosmos of Light, The Sacred Architecture of Le Corbusier*. Bloomington and Indianapolis: Indiana University Press, 2013, page 79
- Figure 2.18 Plummer, Henry. *Upward view to twin projections at either side of western canon a lumiere*. *Cosmos of Light, The Sacred Architecture of Le Corbusier*. Bloomington and Indianapolis: Indiana University Press, 2013, page 139
- Figure 2.19 Yao, Kris. *Architecture of Kris Yao/ARTECH*. Mulgrave: Images Publishing, 2011, page 217
- Figure 2.20 Yao, Kris. *Architecture of Kris Yao/ARTECH*. Mulgrave: Images Publishing, 2011, page 224
- Figure 2.21 Yao, Kris. *Architecture of Kris Yao/ARTECH*. Mulgrave: Images Publishing, 2011, page 222
- Figure 2.22 Yao, Kris. *Architecture of Kris Yao/ARTECH*. Mulgrave: Images Publishing, 2011, page 223

- Figure 2.23 Yao, Kris. Architecture of Kris Yao/ARTECH. Mulgrave: Images Publishing, 2011, page 219
- Figure 2.24 Yao, Kris. Architecture of Kris Yao/ARTECH. Mulgrave: Images Publishing, 2011, page 220
- Figure 2.25 Cheng, Jeffery. Sacred Spaces: Contemporary Religious Architecture. London: Phaidon Press Limited; New York: Phaidon Press Inc, 2015, page 160
- Figure 2.26 Cheng, Jeffery. Urban Environment Design (UED) Magazine. Beijing: Urban Environment Design (UED) Magazine Press, May 2014, page 76
- Figure 2.27 Cheng, Jeffery. Sacred Spaces: Contemporary Religious Architecture. London: Phaidon Press Limited; New York: Phaidon Press Inc, 2015, page 165
- Figure 2.28 Cheng, Jeffery. Architecture Technique. Beijing: China Architectural Design Research Group Asian-Pacific Construction Technology& Information Group, Sep 2014, page 92
- Figure 2.29 Cheng, Jeffery. Architecture Technique. Beijing: China Architectural Design Research Group Asian-Pacific Construction Technology& Information Group Sep 2014, page 92
- Figure 2.30 Cheng, Jeffery. Sacred Spaces: Contemporary Religious Architecture. London: Phaidon Press Limited; New York: Phaidon Press Inc, 2015, page 163
- Figure 2.31 Cheng, Jeffery. Sacred Spaces: Contemporary Religious Architecture. London: Phaidon Press Limited; New York: Phaidon Press Inc, 2015, page 163
- Figure 2.32 Tadao Ando. Inside Japan. Tokyo: Nobuyuki Endo, 2008, page 161
- Figure 2.33 Tadao Ando. Inside Japan. Tokyo: Nobuyuki Endo, 2008, page 164
- Figure 2.34 Tadao Ando. Inside Japan. Tokyo: Nobuyuki Endo, 2008, page 173
- Figure 2.35 Tadao Ando. Inside Japan. Tokyo: Nobuyuki Endo, 2008, page 172
- Figure 2.36 Tadao Ando. Inside Japan. Tokyo: Nobuyuki Endo, 2008, page 168
- Figure 2.37 Tadao Ando. Inside Japan. Tokyo: Nobuyuki Endo, 2008, page 167

- Figure 2.38 Tadao Ando. *Inside Japan*. Tokyo: Nobuyuki Endo, 2008, page 167
- Figure 2.39 Tadao Ando. *Tadao Ando*. Vol. 5, 2008-2015. Tokyo: A.D.A. Edita, 2015, page 229
- Figure 2.40 Patrick Lynch. “Tadao Ando Envelops Giant Buddha Statue in Lavender-Planted Hill Temple” 08 Aug 2017. ArchDaily. Accessed 28 Aug 2019. <<https://www.archdaily.com/877329/tadao-ando-envelops-giant-buddha-statue-in-lavender-planted-hill-temple/>> ISSN 0719-8884
- Figure 2.41 Patrick Lynch. “Tadao Ando Envelops Giant Buddha Statue in Lavender-Planted Hill Temple” 08 Aug 2017. ArchDaily. Accessed 28 Aug 2019. <<https://www.archdaily.com/877329/tadao-ando-envelops-giant-buddha-statue-in-lavender-planted-hill-temple/>> ISSN 0719-8884
- Figure 2.42 Patrick Lynch. “Tadao Ando Envelops Giant Buddha Statue in Lavender-Planted Hill Temple” 08 Aug 2017. ArchDaily. Accessed 28 Aug 2019. <<https://www.archdaily.com/877329/tadao-ando-envelops-giant-buddha-statue-in-lavender-planted-hill-temple/>> ISSN 0719-8884
- Figure 2.43 Patrick Lynch. “Tadao Ando Envelops Giant Buddha Statue in Lavender-Planted Hill Temple” 08 Aug 2017. ArchDaily. Accessed 28 Aug 2019. <<https://www.archdaily.com/877329/tadao-ando-envelops-giant-buddha-statue-in-lavender-planted-hill-temple/>> ISSN 0719-8884
- Figure 2.44 Dow, James. *A 10-metre-long cantilever elevates the temple over the large parking area required by the municipality, allowing the building to fit on its site*. Canadian Architects. Toronto: iQ Business Media Inc., Jan 2017, page 20.
- Figure 2.45 Dow, James. *The sacred space sits on a two-way concrete slab integrated with slender piers, tied to a robust raft foundation*. Canadian Architects. Toronto: iQ Business Media Inc., Jan 2017, page 22.
- Figure 2.46 Dow, James. *The site plan of the Wong Dai Sin temple*. Canadian Architects. Toronto: iQ Media Inc., Jan 2017, page 21.
- Figure 2.47 Dow, James. *Section of the Wong Dai Sin temple*. Canadian Architects. Toronto: iQ Business Media Inc., Jan 2017, page 23.

- Figure 2.48 Single whip. Source: sohu.com, <http://roll.sohu.com/20130419/n373305786.shtml>
- Figure 2.49 Dow, James. *On the opposite side, a 5-metre cantilever provides a raised entry courtyard to the building.* Canadian Architects. Toronto: iQ Business Media Inc., Jan 2017, page 21.
- Figure 2.50 Dow, James. *The memorial hall is a bamboo-lined space within the temple, where congregants leave offerings and incense in memory of loved ones.* Canadian Architects. Toronto: iQ Business Media Inc., Jan 2017, page 23.
- Figure 2.51 Dow, James. *Second floor plan of the Wong Dai Sin temple.* Canadian Architects. Toronto: iQ Business Media Inc., Jan 2017, page 23.
- Figure 2.52 Dow, James. *Custom luminaires lend a red glow to the skylit interior, and are designed for suspending incense coils.* Canadian Architects. Toronto: iQ Business Media Inc., Jan 2017, page 22.
- Figure 2.53 Photograph by Kexin (Catherine) Tan
- Figure 2.54 Photograph by Kexin (Catherine) Tan
- Figure 2.55 Photograph by author
- Figure 2.56 Photograph by author

### Part Three

- Figure 3.1 Illustration by author
- Figure 3.2 Location of the site, Benxi, Liaoning, China. Source: Google Earth © DigitalGlobe. (January 21,2019).
- Figure 3.3 Illustration by author
- Figure 3.4 Location of the site, Benxi, Liaoning, China. Source: Google Earth © DigitalGlobe. (January 21,2019).
- Figure 3.5 Illustration by author
- Figure 3.6 Photograph by author
- Figure 3.7 Photograph by author
- Figure 3.8 Photograph by author
- Figure 3.9 Photograph by author
- Figure 3.10 Photograph by author
- Figure 3.11 Illustration by author
- Figure 3.12 Illustration by author
- Figure 3.13 Illustration by author
- Figure 3.14 Illustration by author
- Figure 3.15 Illustration by author

Figure 3.16 Illustration by author

Figure 3.17 Illustration by author

Figure 3.18 Illustration by author

Figure 3.19 Illustration by author

Figure 3.20 Illustration by author

Figure 3.21 Illustration by author

Figure 3.22 Illustration by author

Figure 3.23 Illustration by author

Figure 3.24 Illustration by author

Figure 3.25 Illustration by author

Figure 3.26 Illustration by author

Figure 3.27 Illustration by author

Figure 3.28 Illustration by author

Figure 3.29 Illustration by author

Figure 3.30 Illustration by author

Figure 3.31 Illustration by author

Figure 3.32 Illustration by author





PART ONE BUDDHISM IN CHINA

## 1. THE DEVELOPMENT OF BUDDHISM IN CHINA

Buddhism is one of the most popular religion in China, with the largest population of Buddhists in the world (224 million in the year 2010<sup>1</sup>). It has profoundly influenced Chinese culture for about 2000 years in philosophy, morality, epistemology, literature, as well as art and architecture. There is still no conclusion about whether Buddhism was spread along with the trade on the Silk Road or across the ocean to the central region of China<sup>2</sup>. However, either way, the outset of Buddhist preach in China is around the same time. The time that is generally approved by historians and detailed recorded in books is during the 10<sup>th</sup> year of Yongping, Eastern Han dynasty (67 A.D.) when Emperor Ming sent the envoy to India to solicit Buddhist Dharma<sup>3</sup>. Since then, the adventure of Buddhism conquest, in the land of China, started.

As Ernest F. Fenollosa phrases it, *“the greatest truth ... is that Buddhism, ... has been an evolutionary religion, never content with old formalism, but, filled with spiritual ardour, continually re-adapting itself to the needs of the human nature with which it finds itself in contact.”*<sup>4</sup> Buddhism has re-adapted itself to the ancient Chinese society after it was imported from India. It merged with native Taoism and folk religions and became mostly distinctive from Buddhism in other countries.

Besides being distinctive from any other Buddhist schools around the world, Chinese Buddhism has developed several different schools and sects domestically. First, based on geographic locations, it can be classified as Han Buddhism which spreads in most of the provinces in China, and Tibetan Buddhism which is more prevalent in several autonomous provinces in the northwest region of the country.

Second, there are eight subdivisions of Han Buddhism, which are Three Sastra School (三论宗), Pure-land School (净土宗), Lotus School (天台宗), Dharmalaksana School (法相宗), Discipline School (律宗), Ch'an or Dhyana School (禅宗), Garland School (华严宗), and Esoteric School (密宗)<sup>5</sup>, based on different choices of sutra, different focal points, and fusion with different local religions. Among these Buddhist sects, the thesis is going to focus on the predominant and most influential one, which is the Ch'an school of Han Buddhism. Like Reginald Fleming Johnston says, "*the Dhyana (Chinese Ch'an) school has so extended its boundaries that in Buddhist China (or at least in Chinese monastic Buddhism) there is comparatively little territory left for it to conquer.*"<sup>6</sup> Ch'an Buddhism has expanded the influence beyond China to Japan, which evolved as Zen Buddhism and became the dominant religion of the country.

## 2. THE TRADITIONAL TEMPLE TYPOLOGY

Like the distinctiveness of Chinese Buddhism, the typology of the Buddhist temple in China is also quite different from it is in the rest regions of the world. Instead of imitating Indian temples, Chinese Buddhist temples applied the domestic wood structural typology, which was already highly developed by the time, with large upturned roofs on top of wood frames.

This difference initially reflects on the terminology, the temple, itself. In Chinese character, the term *temple*, 寺 (*Si*), originally means *the government office*. When Indian Buddhist preachers first travelled to China, they lived, as well as preached Buddhism, in the governmental accommodation for diplomatic envoys called *Hong-lu Si* (鸿庐寺). Since then, people started to use the term *Si* (*temple*) referring to the place where monks live and practise Buddhism. Moreover, during the early stage of Buddhist development, numerous temples were reconstructed mansions and government buildings donated by wealthy governors and merchants<sup>7</sup>. Hence the Buddhist temple made its first impression to the country as a palace-like building.



Figure 1.1 Main Hall of Fo-kuang Ssu, Wu-t'ai Shan Mountain, Shanxi Province



Figure 1.2 The Hall of the Kuan-yin, Tu-le Ssu, Chi Hsien, Hopei

Another significant difference between Chinese Buddhist temples and any other Buddhist temples is that the layout of Chinese Buddhist temples is similar to the typical layout of the royal court. The typical Buddhist temple layout is, like the Forbidden City, a complex of buildings arranged through a sequence of courtyards. The whole plan contains a central axis on which stand the main halls usually accessible to the public, while on the lateral sides assort the accommodation, service facilities and the administration of internal affairs that only concern the inhabitants<sup>8</sup>. This central-axis temple layout initially appeared in T'ang dynasty (618 - 907 A.D.) and lasts until now. The traditional temple typology, as a significant part of the Chinese architecture, represents the ritualistic and moral aspect of the Chinese culture as well as the hierarchical organization influenced by the feudal society.

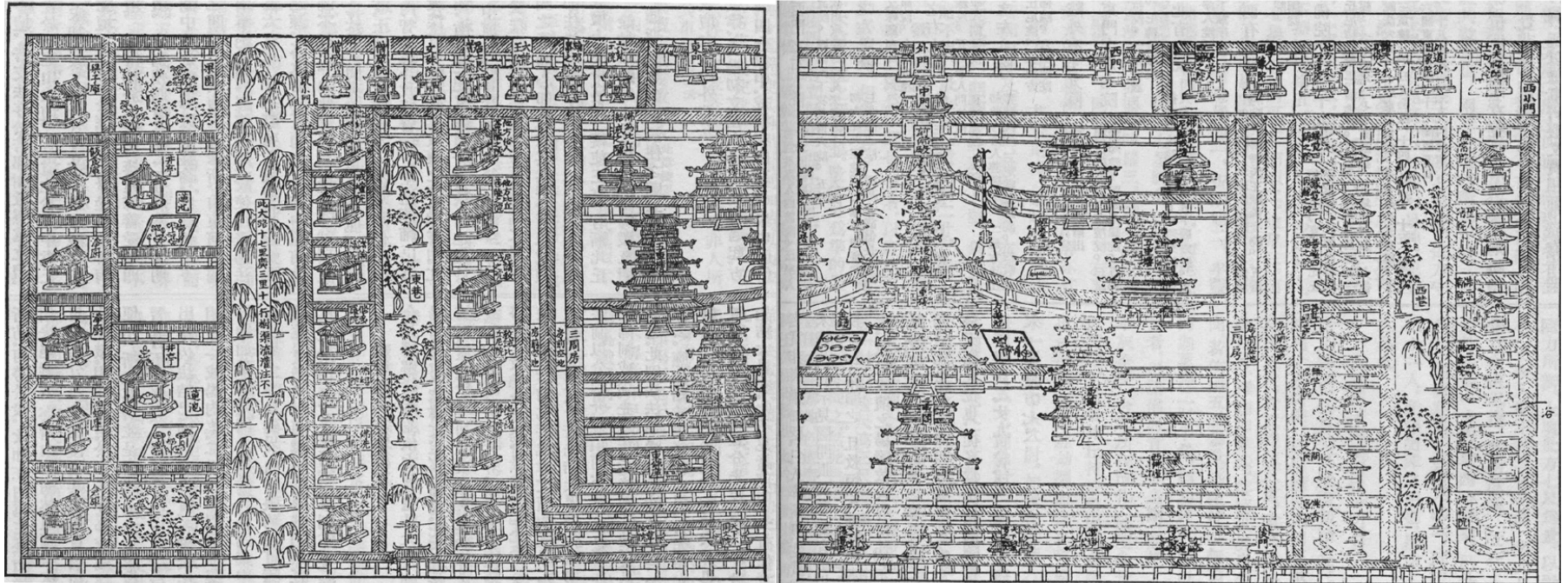


Figure 1.3 Plan of Buddhist Temple, Drawn in the 12th Century

### 3. THE RECESSION OF TRADITIONAL CHINESE ARCHITECTURE

The traditional wooden structure is a momentous icon of Chinese architecture and the country. The most significant characteristic of this structure is the use of timber framework which the connections are constructed with joinery and dowelling alone (without using nails). It is, as one of the greatest Chinese architects Mr. Liang Ssu-ch'eng phrases, "*a highly 'organic' structure, ... throughout the thirty centuries encompassed in this volume the structure has retained its organic qualities, which are due to the ingenious and articulate shape, and position of every member is determined by structural necessity.*"<sup>9</sup>

Nevertheless, the development of the traditional wooden structure came to an end in the early 20<sup>th</sup> century. The recession of traditional Chinese architecture seems to be predictable. First, the structural system relies entirely on the only material, timber, it applies. Meanwhile, the shortage of timber in Ch'ing dynasty (1644 – 1912 A.D.)<sup>10</sup> started to impede the traditional Chinese architecture going further. Second, despite the complication of building techniques, artisans kept the building knowledge as commercial secrets to support their lives and only passed it down through verbal instructions as well as on-site practice to the next generation<sup>11</sup>. It is inevitable that the building knowledge died out gradually during the chaotic period of Modern China and along with the massive casualty during World War II.

The Opium War broke out between the Ch'ing government and Britain in 1840, declared the collapse of the feudal society in China and the outset of a semi-feudal, semi-colonial society. It also proclaimed the usher in an era of modern architecture in China<sup>12</sup>.



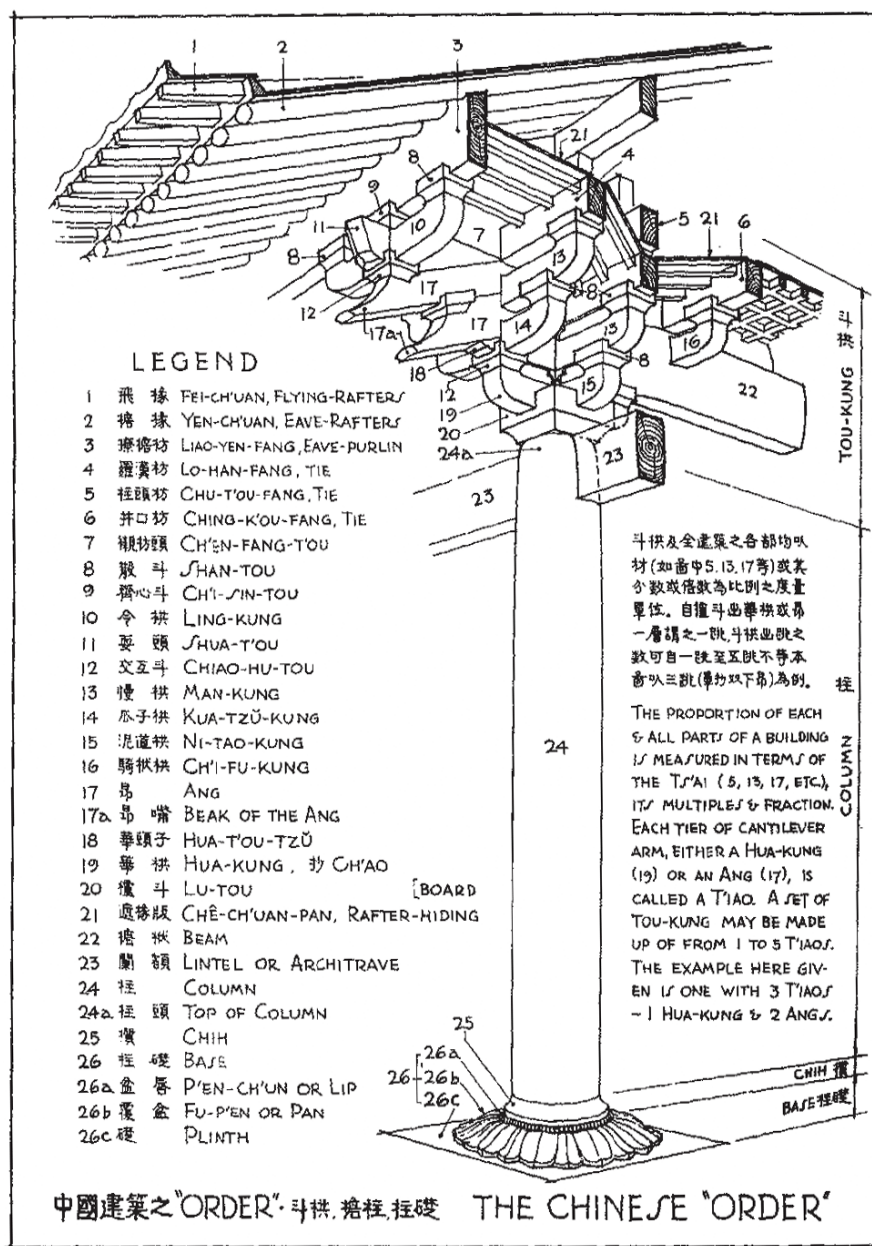


Figure 1.4 The Chinese “Order”

#### 4. THE *FAKE ANTIQUE* CONTROVERSY

Modern architecture was introduced into China at the beginning of the 20th century along with the foreign invasion<sup>13</sup>. The conflicts between traditional and modern architecture have started since then. There were two different approaches to design which are still the two mainstreams architects applying recently. First is to completely ignore Chinese traditions and use only modern design methods and architectonics. The other one is trying to combine these two. The second approach is not a facile path. Generations of Chinese architects have been struggling when they are trying to reconcile the traditional and the modern. Mr. Liang expressed this question in 1946, “*Now, with the coming of reinforced concrete and steel framing, Chinese architecture faces a grave situation. Indeed, there is a basic similarity between the ancient Chinese and the ultramodern. But can they be combined? Can the traditional Chinese structural system find a new expression in these new materials?*”<sup>14</sup> After seven decades, Chinese architecture is still facing the same “grave situation.”

To solve this dilemma, some architects came up with the idea of *Pseudo-traditional architecture*. *Pseudo-traditional architecture* refers to buildings that imitate traditional forms and appearances using modern structure, materials and construction technologies<sup>15</sup>. *Pseudo-traditional architecture* has been massively applied to Buddhist and other religious temples, historic villages, as well as cultural relics architecture. In these fake traditional Buddhist temples, the load-bearing system is a concrete frame instead of a wood frame. For instance, the significant structural component in traditional wood structure, *Tou-gong* (the brackets system), has lost its function and is attached to a concrete column as the ornament.



Figure 1.5 Fake Brackets on N'an-sh'an Temple, H'ai-nan Province

Regarding the application of *pseudo-traditional architecture* in Buddhist temples, both architects and the public have controversial opinions. Some people believe this is the way of inheriting traditional cultural and establishing Chinese identification in architecture. Others assert this is ‘*fake antiques*’ and waste of workforce and money.

Is *pseudo-traditional architecture* the right solution for the “grave situation” Chinese architecture is encountering? Apparently not. Mr. Liang answered this question 73 years ago, “Possibly (that the traditional Chinese structural system can find a new expression in new materials). But it must not be the blind imitation of ‘periods’. Something new must come out of it, of Chinese architecture will become extinct.<sup>16</sup>” *Pseudo-traditional architecture* was, is, and will never be the right solution to combine the traditional and the modern.

The problem of *pseudo-traditional architecture* is that it infringes the authenticity of the materials it applies. By contrast, the ancient wood structural system was established based on the notion that “*materials are to be fully utilized according to their nature.*<sup>17</sup>” Architects should respect the nature of the materials while designing. Like Louis Kahn phrases: “...it is important, you see, that you honor the material that you use... You can only do it if you honor the brick and glorify the brick instead of shortchanging it.<sup>18</sup>” Contemporary architectonic and materials should never be the substitute for traditional wood structure and being “*shortchanged.*”

Therefore, the thesis aims to explore a contemporary form of the Buddhist temple that conveys traditional cultures meanwhile creates sacred spatial experiences in the light of the nature of contemporary materials. Holding the same belief as Mr. Liang and Louis Kahn in mind, I, along with many architects around the world, start the journey of discovering “*something new.*”

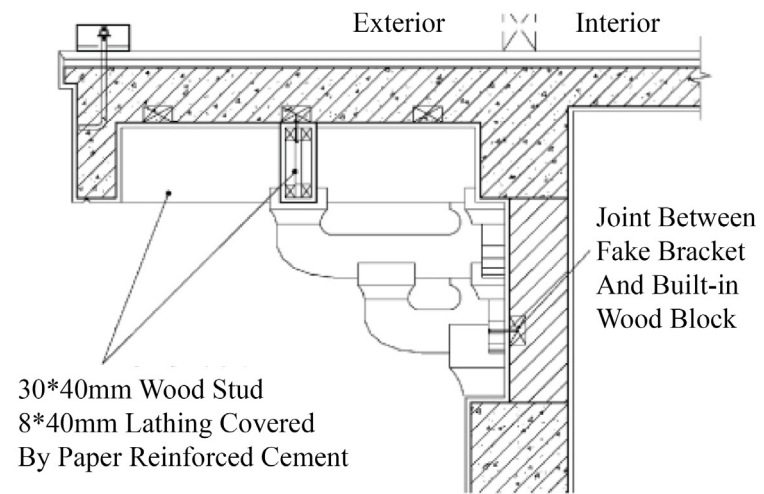


Figure 1.6 Construction Details of Fake Bracket Attached on Concrete Frame

## ENDNOTES

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PART TWO DECODING BUDDHISM AND SACRED SPACES

## 1. MODERN ARCHITECTURE AND BUDDHISM IN CONTEMPORARY CHINA

### 1.1 The Development of Modern Architecture in China

Modern architecture in China has experienced a different route from western countries. The modernization of architecture in China can be categorized into two phases chronologically. The first phase is the Republican period ranged from the year 1912 to 1949. The second one is the People Republic of China (PRC) period from the year 1949 until the present-day, and It was in the early 1990s the postmodern architecture started in China<sup>1</sup>.

In general, modern architecture took an utterly uncompromising attitude toward traditional Chinese architecture — the reason for this approach due to the special politic situations in those periods. During the Republican period, modern style buildings were mostly built in the Concessions, parts of the cities foreign countries administered as colonies. China, as a defeated nation, did not have the rights to intervene in any decisions and affairs in those regions. Besides, the weakness and impotence of the Ch'ing government made people questioning all traditions and blindly considering anything from western countries as advanced (Figure 2.1). Once the PRC established, modern architecture was influenced by the Soviet Union since it was the communist role model for China. Most of the modern-style buildings were either designed by Soviet experts who were invited by the government or copying from the landmarks in Moscow (Figure 2.2)<sup>2</sup>. Neither of the foreign invaders nor the Soviet experts did take traditional Chinese architecture into their consideration.





Figure 2.1 The Metropole Hotel in Shanghai Concession, 1933-1934



Figure 2.2 The Soviet Exhibition Hall, Beijing, by Sergei Andreyev, 1953

Furthermore, the discord between modern and traditional architecture is not merely the conflict between the functionalism and the formalism, but also between the creed of the feudal society and modern society. The traditional Chinese architecture represents the idea of rigorous hierarchy and order, while modern architecture depicts freedom and equality. The opposite notions of these two architectural types make it challenging to coordinate with each other.



Figure 2.3 Timeline of the Development of Churches in Western Countries

In this context, the progression of modern Buddhist temples in China was likewise disparate compared to the evolution of modern churches and chapels in the western countries. Since the 19<sup>th</sup> century, modern church buildings have evolved continuously for over 200 years (Figure 2.3). As to Buddhist temples in China, the process of modernization happened belatedly and rapidly in a few decades (Figure 2.4). Hitherto, Chinese Buddhist temples are still built in traditional forms without significant developments.



Figure 2.4 Timeline of the Development of Buddhist Temples in China

## 1.2 Buddhism in Modern China

Chinese Buddhism has been through plenty of alterations along with the profound social, political and economic changes have happened in the past several decades. Amid the turbulent time from late Ch'ing dynasty to 1980s, several persecutions of the Buddhist groups caused the knowledge gap between monastic generations in China. Especially after the drastic economic increase since the Reform and Opening-up Policy in 1978, the monastic economy has changed at the same time and impacted upon the monastic life.

Most of the Buddhist temples became tourist attractions to boost the local economy. Some of the Buddhist rites, such as solo chanting, can obtain considerable financial rewards. In some prime pilgrimage sites, monastic inhabitants endure inspections from tourists daily as they are in a "living history" display. It becomes increasingly difficult to maintain a quiet ambiance for monks, which they ought to have, to concentrate on meditation and study sutras. Raoul Birnbaum condemned this phenomenon in the following way, "*...from a Buddhist point of view there is a complicated mix of purity and defilement, dedication and sensual abandonment, all jostling in the same space.*"<sup>3</sup>

It is very different from Buddhist temples that pursue financial rewards to the ones that chase a pure and peaceful life concentrated on mindfulness of the Buddha. Buddhism in contemporary China has lost parts of genuine and sincere merits, like the fake wood buildings delivering the value of falseness. For Buddhists, Buddhism should be a lifetime study and practice to ascertain the truth of the world rather than a tool for collecting money.

Despite that Chinese Buddhist population is the largest in the world, the proportion of Buddhists in mainland China is the lowest<sup>4</sup>. The average age of the Buddhist population in mainland China tends to be older during the past decade. It becomes more and more difficult to preach Buddhism to the young generation. As an ancient religion, Buddhism is obsolete to people living in the contemporary society. As Master Xue-cheng said, “*Buddhism has not developed fast enough to keep up the steps of contemporary China. We need to make a difference to adapt to this advanced, modern society we are living in.*”<sup>5</sup>

## 2. BUDDHIST SPIRITS, RITES AND TYPICAL PROGRAM OF THE TEMPLE

Buddhism has profoundly influenced the epistemology and outlook of the Chinese people. Buddhist teaching aims to enlighten and awaken people to find out the truth of the world. Buddha, in Sanskrit, means the one who has awakened. According to Buddhism, life is an endless, continuous changing circle, where things take place based on karma. Life is full of suffering, and the cause of the suffering is desire. To cease the agony, one should suppress all egoistic cravings and free oneself from entanglements of life<sup>6</sup>. The ultimate goal of Buddhist practice is to attain nirvana, which is a state of blissful tranquility<sup>7</sup>. It refers to a mental state of rebirth without reincarnation that one can achieve in this life.

The *Ch'an* school of Han Buddhism regards meditation as the primary practice. Books are neglected, and the monks concentrate more on self-reflection. The Chinese word *Hsin* (心), which means heart, is the keyword of *Ch'an* Buddhism. The purpose of meditation is to “*look for the truth in the depths of their own being.*”<sup>8</sup> Buddhists believe that the truth could never be taught by others. It is until one searches out deeply in his or her own spirit that one can eventually understand the meaning and attain nirvana. “*Sink into thyself and will find Him, says Bodhidharma. Find whom? Buddha*”<sup>9</sup>.

Based on the focus on self-awakening, repetitive meditations take up the most time of the day of the monks. Table 2.1 shows the schedule of the monks and activities happened in monastic Buddhist temples. Buddhists remain ascetic lifestyle, and their schedule is relatively intense, and rigid compared with the lives of the secular people. All the Buddhist rites, like chanting, meditation and circumambulation, take place in one big group which every monk in the temple must attend. Other than self-practicing, the abbot, as the most sagacious and respected monk of the temple, holds lectures about the selected sutras they read and answers questions regularly. The sutras are materials lead the monks to achieve a particular mental state. There are no specific instructions but rhetorical descriptions in them<sup>10</sup>. The answer to all the questions can always be *nothingness*. *Nothingness* is not merely nothing or nihilism. It is the ultimate place of experience that cannot be perceived objectively<sup>11</sup>. It conveys the unspeakable meanings that even the sutras can only depict it rhetorically. As the Four Sacred Verses of Bodhidharma expresses, “A special transmission outside the scriptures; no dependence upon words and letters; directly pointing at the soul of a man; seeing into one’s nature and the attainment of Buddhahood (教外别传, 不立文字, 直指人心, 见性成佛。——达摩四圣句).

### The Daily Life of A Monk

Time	Activity	Location	Description
3:00am	Wake Up	Monk's Quarters	
3:30am	Morning Chanting	The Grand Hall	
6:00am	Breakfast	The Dining Hall	After breakfast, the work of the day will be distributed.
7:00am	Meditation & Circumambulation	The Meditation Hall or The Grand Hall	Multiple rounds; Time ratio of meditation and circumambulation is 2:1
11:00am	Lunch	The Dining Hall	This is the last meal of the day. Tea is served for the first time of the day.
12:00pm	Break & Work Session		The work is normally the chores in the temple.
2:00pm	Meditation & Circumambulation		Tea is served for the second time of the day.
4:00pm	Break & Work Session	The Meditation Hall or The Grand Hall	
5:00pm	Remedies	The Dining Hall	Another name for dinners. Leftovers for young and strong monks who need more food.
6:00pm	Evening Chanting	The Grand Hall	
8:00pm	Meditation & Circumambulation	The Meditation Hall or The Grand Hall	Tea is served for the third time of the day.
11:00pm	Lights Out	Monk's Quarters	

### Special Events

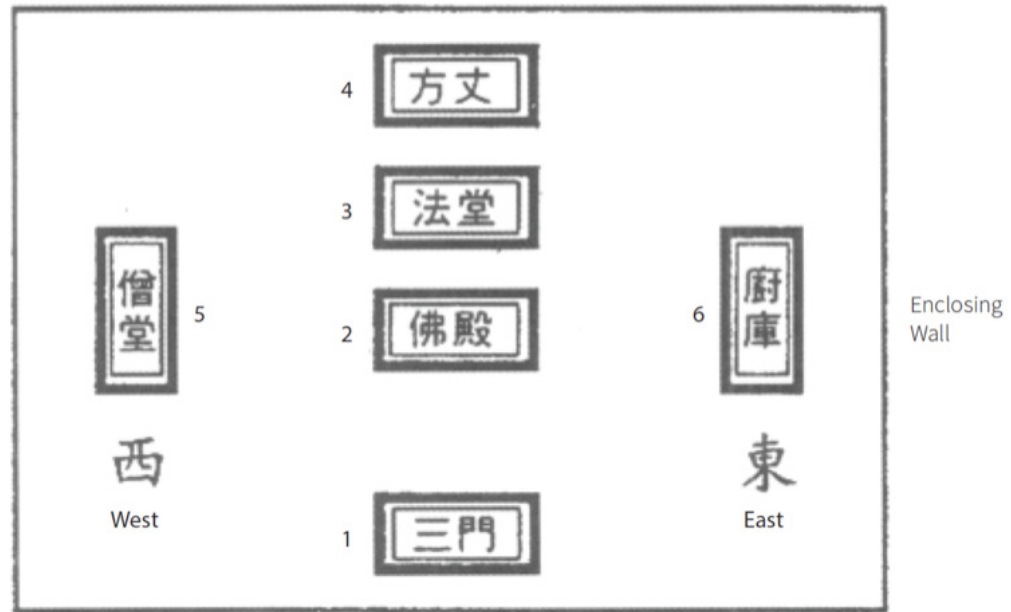
Time	Activity	Location	Description
1st, 5th, 10th, 15th, 20th, 25th every month	Lecture from The Abbot	The Teaching Hall	Actual time of the day will differ and depend on the schedule of the abbot.
Special holidays	Public Chanting Meditation & Circumambulation	The Grand Hall	These holidays are based on lunar calendar.

Table 2.1 The Daily Routine of Monks in Buddhist Temples



The program of Buddhist temples can differ from one to another according to the scale of the temple, the combination with different local folk religion or the geographic location. Nevertheless, as it is shown in the table above, the most frequently used spaces are the Grand Hall (大雄宝殿) and the Lecture Hall or *Dhammasala* (法堂) as the gathering places for Buddhist rites. Meanwhile, there are essential spaces for the living (the quarters) and dining (the dining hall and the kitchen with storage). These functional rooms consist of the typical program of the *Ch'an* Buddhist temple.

The diagram in figure 2.5 came from a *Ch'an* Buddhist literature called *B'aizh'ang's Commandments* (百丈清规). This commandment was compiled in Yu'an dynasty (1271-1368 A.D.) while the original edition written in T'ang dynasty (618-907 A.D.) was lost, and it had a deeply influence on *Ch'an* Buddhist temples. The layout of traditional Buddhist temples is usually symmetrical with the most important rooms, where the Buddha statue is, and the abbot lives, locating on the central axis. The lateral axis consists of serve purposes only for inhabitants and the administration of its internal affairs<sup>12</sup>. The layout embodies the idea of hierarchy and order the same as any other traditional courtyard buildings in China (Figure 2.6).



From Baizhanq's Commandments 《百丈清規》, Yuan Dynasty (1271-1368)

- 1. The Gate
- 2. The Grand Hall
- 3. The Teaching Hall
- 4. Abbot Quarter
- 5. Monks Quarter
- 6. The Dining Hall with Kitchen and Storage

Figure 2.5 Typical Program of Buddhist Temples in China

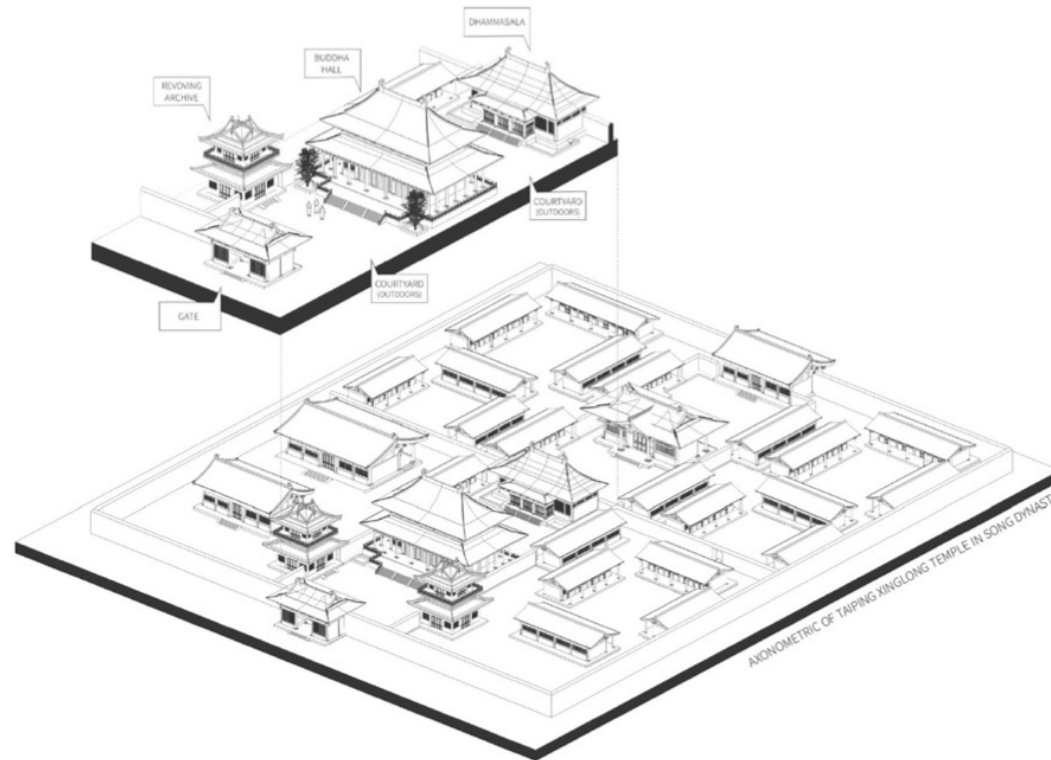


Figure 2.6 Axonometric of a Traditional Buddhist Temples in China

### 3. THE SACRED, THE SACRED SPACE, AND CONSTRUCTING THE SACRED SPACE

#### 3.1 Define the Sacred and the Sacred Space

People started worship long before the presence of civilization and architecture. The feeling of the divine is a primitive sensation which relates to everyone despite different regions or religions. It was until the twentieth century that philosophers and theologians started to define and describe this ineffable feeling in words. Among which, a book on spiritual psychology called *Das Heilige (The Idea of Holy)*, written by German theologian Rudolph Otto, contributes most to form the contemporary comprehension of the sacred. In the book, Otto employed a Latin term “*mysterium tremendum*” (meaning terrible mystery) to depict the mixture of awe, dread, as well as the instinctive bliss when people encounter with the higher power (the God in Christian, the Buddha in Buddhism and the Allah in Islam etc.).

According to Otto, sacred is an irrational feeling that “*cannot, strictly speaking, it can only be evoked, awakened in mind; as everything that comes ‘of the spirit’ must be awakened*<sup>13</sup>.” The sacred space is a place or a building where this feeling can be evoked. Architecture, as a physical demonstration of the divine will, undertakes the responsibility of evoking and awakening the feeling of sacred. The sacred space, as the Romanian philosopher Mircea Eliade, defined it in his book *The Sacred and the Profane*, is “*the manifestation of something of a wholly different order; a reality that does not belong to our world*.<sup>14</sup>” It is the opposite of our profane world that we live in, meanwhile, integrating with our profane world since all the objects that composed of the sacred space belong to the ordinary world. Generally, the sacred space provides a mental shift from an ordinary mode to an extraordinary mode. Therefore, it sets a clear boundary between the holy world, where the God or Buddha dwells and the outside world where human beings reside.

### 3.2 Constructing the Sacred space

This chapter illustrates the design principles of how to construct sacred space in religious architecture. These principles are applicable to all contemporary religious buildings, regardless of different religious sects or congregations. This chapter consists of two parts, the journey to the holy, and design methods of sacred space that applied throughout the journey. The journey to the holy demonstrates the pilgrimage sequence and the spatial arrangement in the religious building. Meanwhile, the design methods of sacred space contribute to enhance the spiritual feeling in each space of the journey. These two parts are inseparable and indispensable for constructing sacred spaces.

#### 3.2.1 The Journey to the Holy

To evoke the feeling of the sacred, the religious architecture usually creates a journey for the prayers to walk through until they eventually achieve the spiritual enlightenment. Based on categories of architectural elements, this journey can be divided into three steps which are the entrance, the path and the place (Figure 2.7). In ancient time, the processes of the pilgrim in most of the religions were usually journeys to the sacred sites in nature. This process can be either indoor or outdoor. During the pilgrim, the prayers have different spiritual quests in different stage, which shifts from ordinary to extraordinary, from questioned to enlightened. The final stage, which is the enlightenment, is not easy to achieve. This journey to the enlightenment, as Douglas Hoffman phrased it, *“is never a single occurrence, rather it is a cycle repeated almost mantra-like in the life of the devotee to achieve an ever-higher level of spiritual fulfillment<sup>15</sup>.”*

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Figure 2.7 Three steps of the journey to the holy

The first step is the entrance, which is the outset of the journey. In most cases, the entrance is part of the boundary to separate the sacred world from the secular world. It sets a clear entry point to inform the prayer that you are about entering a sacred realm. In traditional Chinese Buddhist temples, the entrance is generally a gate since the boundaries of the temple are solid enclosing walls (Figure 2.8). Not only in traditional temples, but the gate is also used in many contemporary religious buildings, usually locates in cities, as the entry point. While in some other religious buildings, the entrance may not be a functioning gate but be open and barrier-free. Mainly when the religious building locates in a natural environment, the boundary is usually set by landscape or the topography of the site (Figure 2.9). Once the prayer passes the entrance, they have entered a protected “*precinct and the world beyond*”<sup>16</sup>.



Figure 2.8 Gate of Fo-kuang Ssu, Wu-t'ai Shan Mountain, Shanxi Province



Figure 2.9 Entrance of Chapel Del Retiro, designed by Undurraga Deves Arquitectos, Chile, 2009

Following the entrance, a path is leading the prayers moving forward. A path in religious architecture is different from the typical paths we see on the street or corridors in houses. In the book *Temples, Churches and Mosques, A Guide to the Appreciation of Religious Architecture*, J.G. Davies gave a precise definition of the path inside the religious building, which must contain “*strong edges, continuity, directionality, recognizable landmarks, a sharp terminal and an end-from-end distinction*”<sup>17</sup>. The path provides the time for the prayers to set the mood, to prepare for the ritual, and most importantly, to “*evoke the consciousness*.”<sup>18</sup> The path can be either outdoor (Figure 2.10), which usually employs the landscape, or indoor (Figure 2.11), which is easier to control the light and shadows.





Figure 2.10 Brother Klaus Field Chapel by Peter Zumthor, Germany, 2007

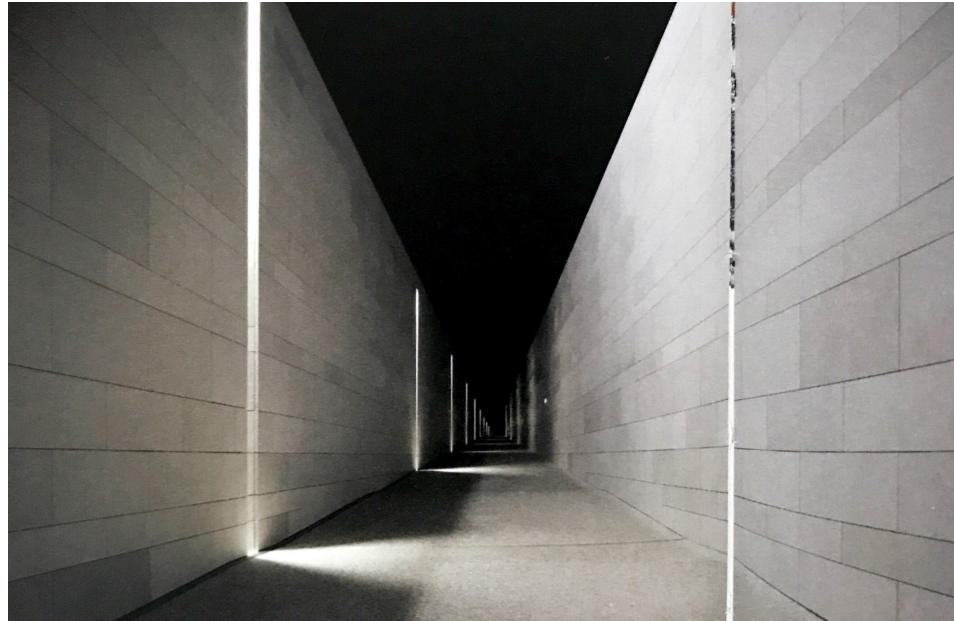


Figure 2.11 Sanctuary of Fatima, Church of the Most Holy Trinity, designed by Meletitiki, Portugal, 2007

At the end of the path, the prayers eventually reach the place. The place is the terminus and the highlight of the whole journey, the central focal point, and the locus of the sacred. As it is identified by J.G. Davies, the place *“must be concentrated in form with pronounced borders, a readily comprehensible shape, limited in size, a focus for gathering, and capable of being experienced as an inside in contrast to a surrounding exterior...<sup>19</sup>”* The place is usually one singular space for worship, which is the largest or the highest space of the whole building (Figure 2.12). It is the space where people meet the higher power, and where the prayers are awakened and spiritually fulfilled.

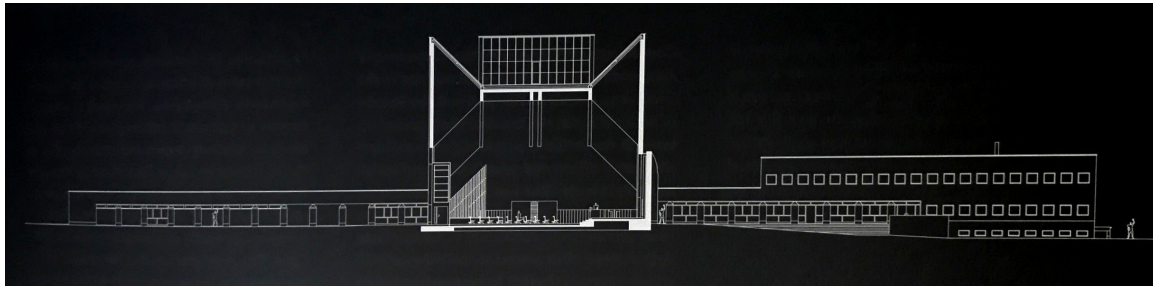


Figure 2.11 Sanctuary of Fatima, Church of the Most Holy Trinity, designed by Meletitiki, Portugal, 2007

### 3.2.2 Design Methods of the Contemporary Sacred Space

The journey to the holy alone cannot provide the entire experience of the sacred. Throughout the process of the pilgrim, lots of design methods are applied to create the religious atmosphere, distinguishing with regular spaces in the profane world. To link the prayers to the sacred realm, there are two fundamental mythologies usually applied in the religious architecture. Nature, as the primeval worship object, appears in almost every religious building. It exists as either outdoor landscape as a constituent part of the project like gardens, courtyards, or water ponds (Figure 2.13), or part of the building in a relatively abstract way to represent natural elements like domes or skylights (Figure 2.14). Basic geometry, such as square, circle and triangle, is the other mythology most used in religious architecture “to convey the sense of a higher power and the dialogue of human with the divine.”<sup>20</sup> It is applied on a larger scale as the shape of the worship space (Figure 2.15).



Figure 2.13 Prayer and Meditation Pavilion in Sudan, designed by studio tamassociati, 2007

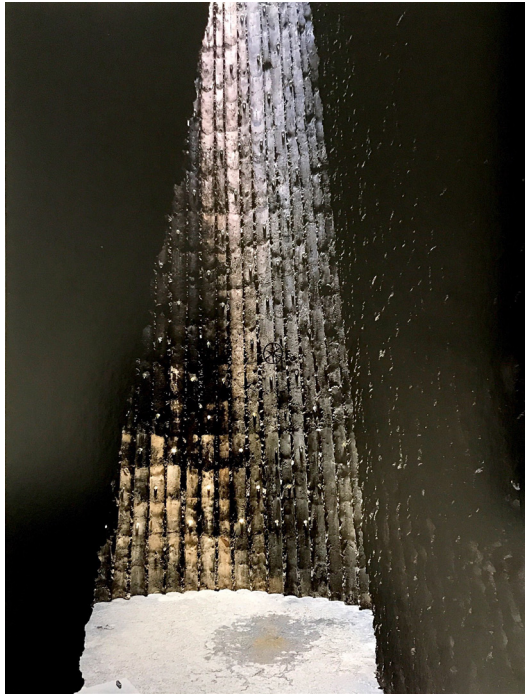


Figure 2.14 Interior of the Brother Klaus Field Chapel by Peter Zumthor, Germany, 2007



Figure 2.15 Sanctuary of the Church of Santo Volto by Mario Botta, Italy, 2006

The sensation of the sacred is not only expressed through these underlying meanings and obscure mythologies but also through the atmosphere in which people can feel straightforwardly. The atmosphere, which is created basically through architectural methods, contains four aspects. The first one is silence, which means speechless for the prayer in an encounter with the higher power. Otto defined silence as “*a spontaneous reaction to the feeling of the actual numen praesens (divine presence).*”<sup>21</sup> The silence of the prayers let them focus on the ritual music, the sound of the surrounding and the sound of their chanting during the ceremony. To keep the silence is one of the reasons that the worship space is isolated from outside to block the noise and focus on the ceremony.

The second one is the dramatic interchange of the sunlight and the shadows, the drastic contrast between light and darkness in the worship spaces. Light, in the religious buildings, represents the enlightenment, the truth, and the presence of the high power. It is the visual focus inside the dark space and attracts the attention of people (Figure 2.16). The third one is the interplay of the emptiness and the profusion, usually through the contrast between the sparseness of one single architectural element, and multiple, rhythmic components or elements (Figure 2.17). Lastly, is the through the massive scale of the worship space to create the sense of the monumentality and contrast it with the humbleness of the prayers<sup>22</sup> (Figure 2.18). Another aspect of contemporary religious architecture is that architects tend to use authentic materials. As the components enclosing the sacred space, the texture of the materials can affect the reflection of light and sound, which is a significant contribution to enhance the spiritual experience.

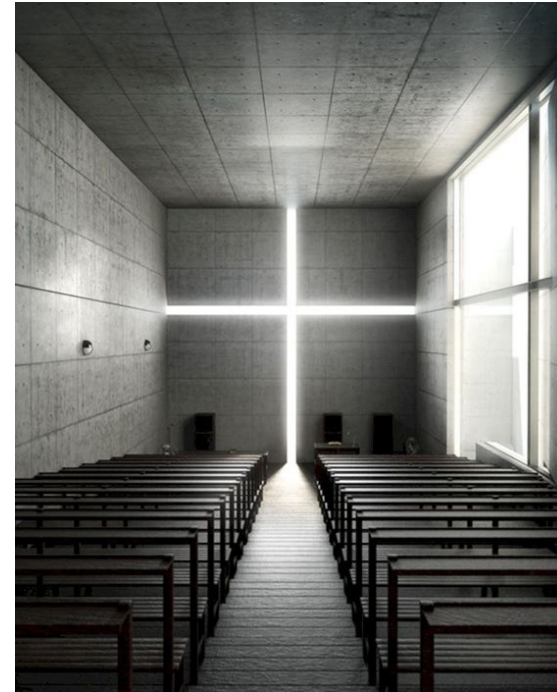


Figure 2.16 Church of light by Tadao Ando

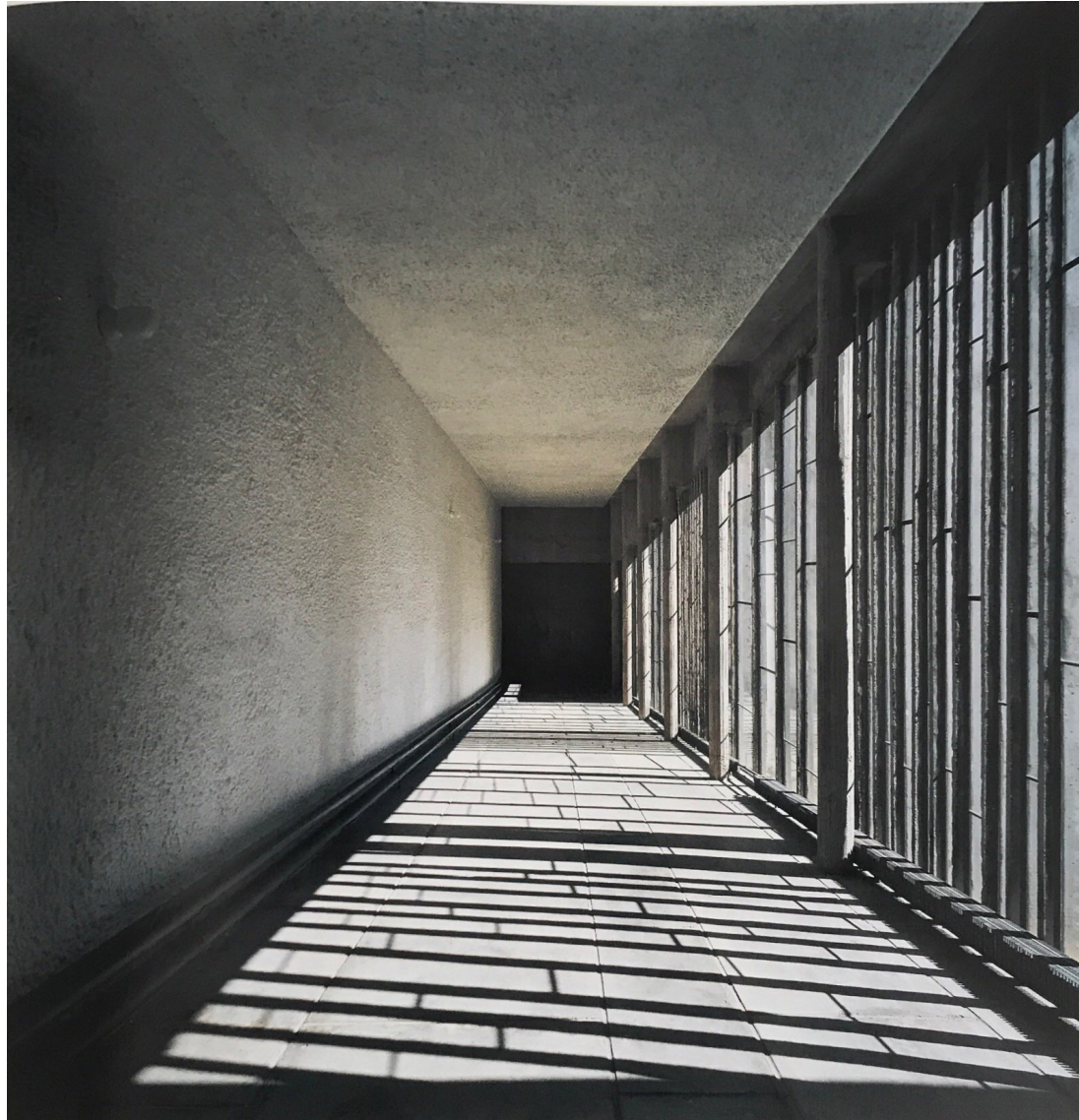


Figure 2.17 Monastery of Sainte Marie de la Tourette by Le Corbusier



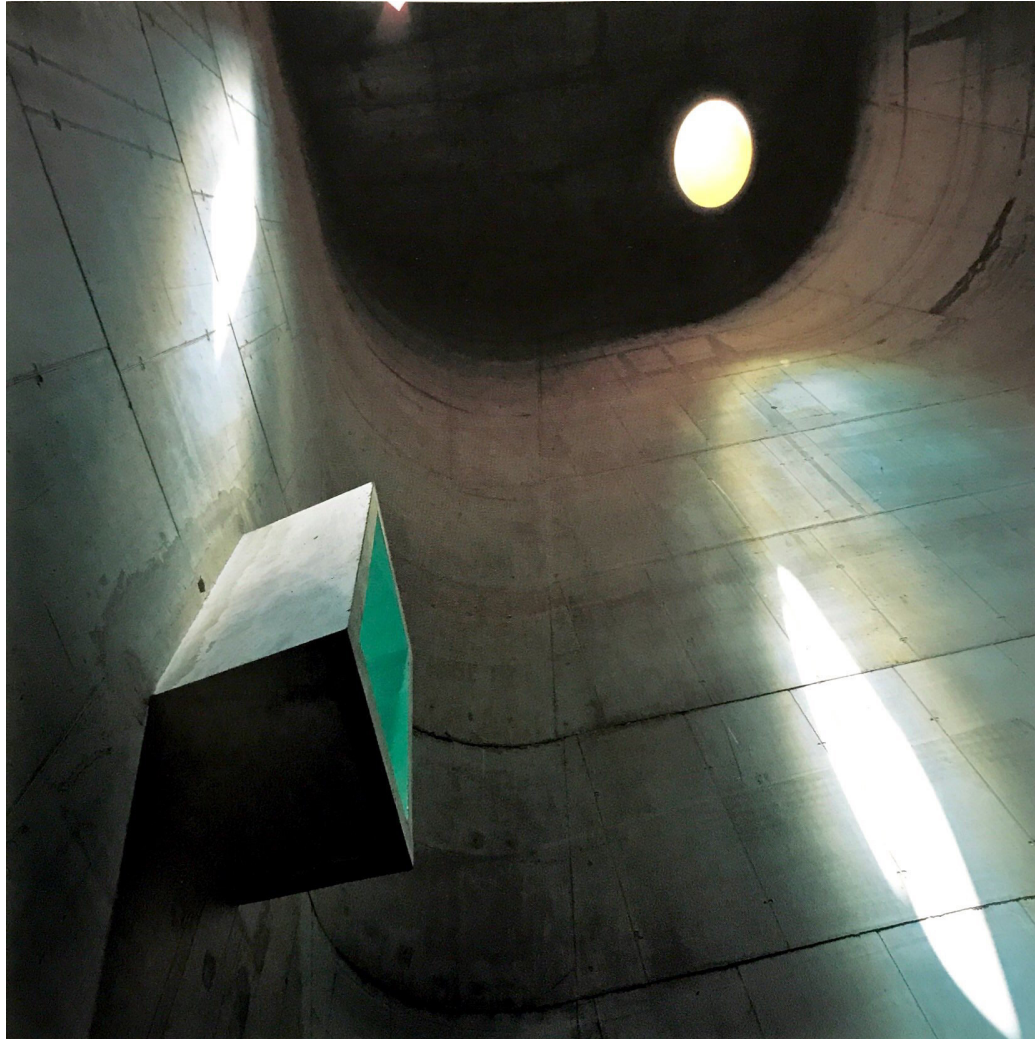


Figure 2.18 Church of Saint-Pierre by Le Corbusier

## 4. PRECEDENTS OF CONTEMPORARY RELIGIOUS ARCHITECTURE

### 4.1 Projects in Taiwan: Kris Yao

#### 4.1.1 About Kris Yao and His Buddhist Architecture

Regarding the form of contemporary Buddhist architecture, the Taiwanese architect Kris Yao has confronted the same question. What should a contemporary Buddhist temple look like? Kris Yao answered, “In fact, the form of the temple is never a problem. It is how to avoid formalism that matters the most.<sup>23</sup>” He also criticized the misuse of symbolism in some of the religious projects. He thinks architects should be more careful and subtler when using symbolism rather than crude without any refinement. “Trying to borrow cheap symbolism does not go too far ... Moreover, it is deplorable.” The wood structure building is regarded as the symbol of traditional Buddhist temples. Kris thinks this form is one of the reasons that people do not profoundly connect to Buddhism and the temples. “They all look the same, those temples. It seems that you are familiar with them, but somehow not quite acquainted. Like when you read a book, you recognize every word in it. However, you feel like it has nothing to do with your life.<sup>24</sup>”

Like the Chinese Ch’an Buddhist saying phrases it, “no dependence upon words and letters; directly pointing at the soul of a man.” Architects should not rely on the form, the same as the Buddha does not depend on the words and letters. Kris said, “I think architects still have to go back to the basics: the space, the materials, the light, the emotions of people. All these basic things are what is important.<sup>25</sup>” As a Buddhist believer himself, Mr. Yao did plenty of modern-style Buddhist temples both in Taiwan and around the world. Here I chose two projects he designed in Taiwan. Each one shows a unique appearance and profoundly affects people’s souls.

#### 4.1.2 Luminary Buddhist Center (Buddhism)

The Luminary Buddhist Center was the early attempt of Mr. Yao to break through the constraint of the traditional form. After completed in 1998 in Taichung, Taiwan, it attracted numerous visitors due to its abstract modern architectural form and became an archetype for new religious buildings (Figure 2.19). This Buddhist Center, unlike the traditional wood buildings arrayed through courtyards, is a multistory concrete tower standing in the middle of the bustling metropolis. Due to the limited size of the site, a 13.5m wide and 34m deep storefront lot surrounded by buildings on its left, right and back, it was impossible to configure the courtyard sequence of the temple horizontally. As the traditional way was a cul-de-sac, it was an opportunity for the architect to come up with a new strategy. In the Luminary Buddhist Center, Mr. Yao altered the courtyard sequence vertically into a central atrium, with each level containing a different hall. People can explore the building level by level, just as they visit a traditional temple courtyard by courtyard<sup>26</sup>.



Figure 2.19 Night View of the Luminary Buddhist Center

Walking through the entrance, visitors enter directly into the central atrium, which is illuminated by the skylight on the roof. The latticed skylight casts patterned shadows on the ground floor (Figure 2.21) and allures people to look up. The Grand Hall, which is the most majestic space in the center, is located on the third floor and can partially be seen by visitors from the central atrium (Figure 2.20). The half-released view leads people towards the Buddha; in the meantime, retains the mystery for them to reveal until they reach the third floor.



Figure 2.20 Atrium of The Luminary Buddhist Center



Figure 2.21 Shadow casting from the skylight above the atrium

This project is inspired by the Buddhist introspective philosophy and provides a place for meditation as well as self-examination. The monolithic pebble stone façade encloses the building, like a shield, segregating the Buddhist center from the chaotic urban environment. The entrance, which is the only significant opening on the façade, leads people to enter a tranquil space without distractions from the outside world. The red wooden partitions and the spiky walls (Figure 2.22) show a wholly different appearance from the exterior, which can remind people of traditional Buddhist temples.

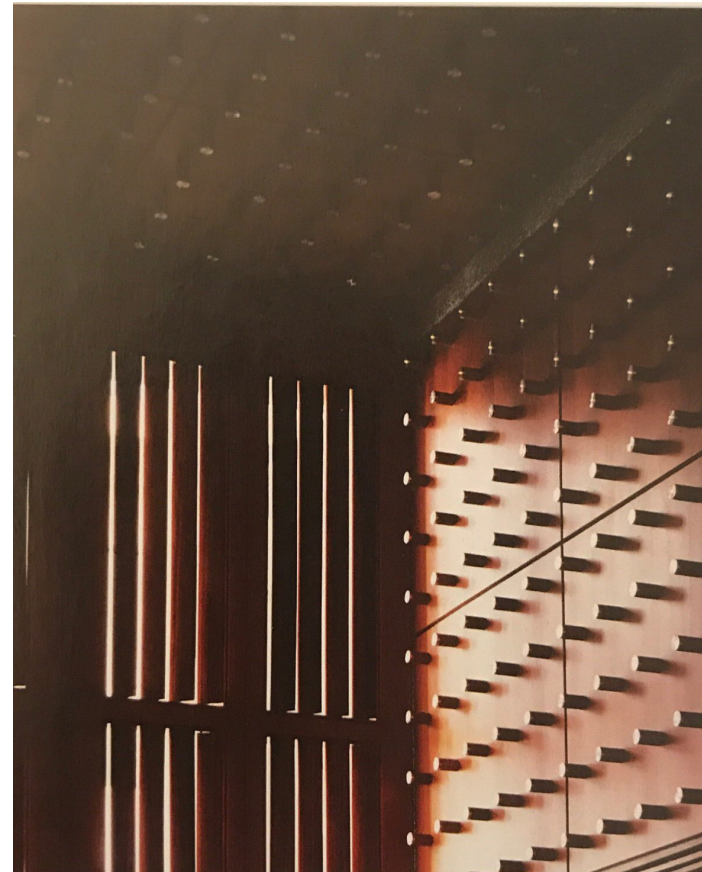


Figure 2.22 Red wooden partitions and walls in the meditation hall

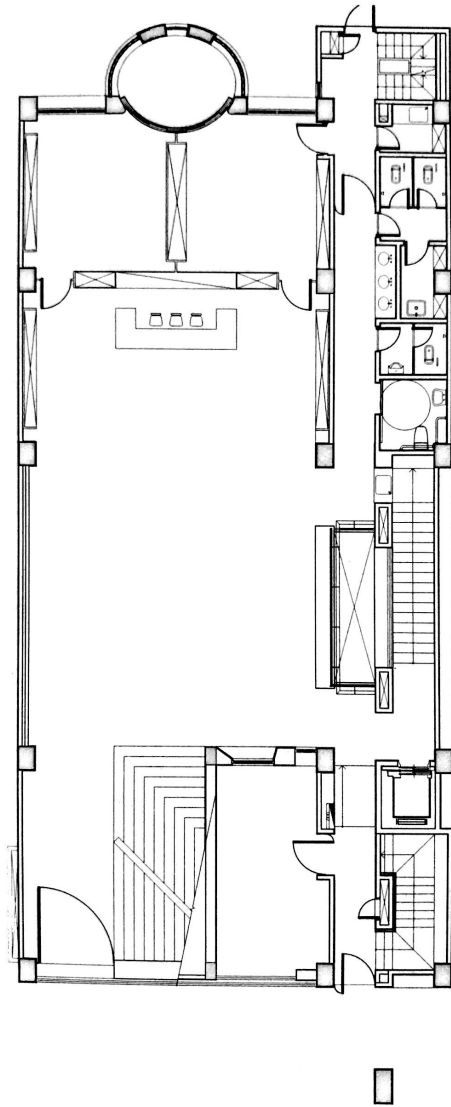


Figure 2.23 First Floor Plan of the Luminary Buddhist Center

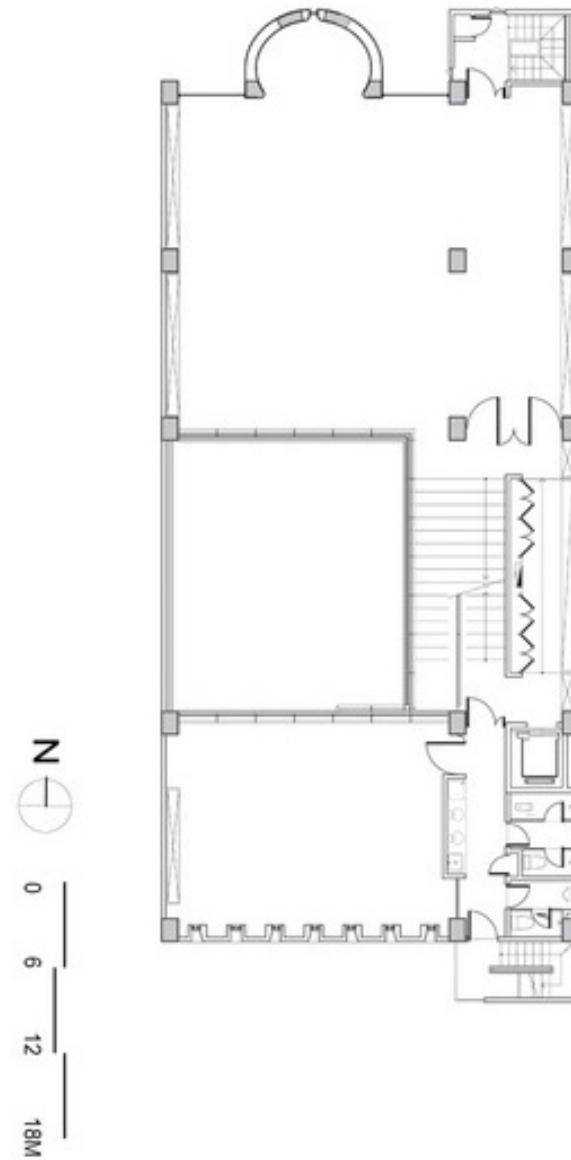


Figure 2.24 Third Floor Plan of the Luminary Buddhist Center

#### 4.1.3 Water-Moon Monastery (Buddhism)

The Water-Moon Monastery, located in Taipei, Taiwan and completed in 2012, is the most famous project that Kris Yao designed in terms of religious architecture. The name of the monastery, Water-Moon, derives from the meditation Dhyana of Master Sheng-yen who was the abbot during the design process. “When asked what his vision for the future temple would be, Master Sheng-yen ... answered... ‘It is a Flower in Space, Moon in Water.’”<sup>27</sup> The flower is suspending in the space, and the moon is reflected in the water. Evoked by the name, suspension and reflection became the keywords of this monastery.



Figure 2.25 The Main Hall and the reflection in the lotus pond



Walking between two walls of different height (Figure 2.26) as the buffer space to separate the highway and the monastery, you can see the Main Hall at one end of an eighty-meter long lotus pond (Figure 2.25). The Main Hall, in the center of the site, is a double-height concrete block with a glass curtain wall on the south elevation. To create a suspending illusion, Kris puts timber screens above the top two-third of the glass curtain wall, leaving the bottom transparent. The timber screens give the impression of a wooden box floating in the air, especially during the nights when the indoor lights illuminate. Smooth and still, the lotus pond reflects the Main Hall and the two walls like a mirror on the ground, giving an ethereal and mesmeric ambient<sup>28</sup>.



Figure 2.26 Two walls with different heights and their reflection in the water

One major design highlight in Water-Moon monastery is the engraved Buddhist sutras, in Chinese characters, on two façades of the building. One of them is the Hear Sutra carved on the timber screens in the Main Hall, and the other one is the Vájra-cchedikā-prajñā-pāramitā-sūtra Sutra carved on the GRC (glass-reinforced concrete) panels in the corridor outside the nuns' quarters. The sunlight on the south side imprinting the sutras onto the inside surfaces of the building, as the Buddha's teaching reveals indescribably<sup>29</sup>. During the day, the characters that cast on the columns of the Main Hall (Figure 2.27) rotate as the sunrise up and goes down, like the Revolving Archive in the traditional Buddhist temples.



Figure 2.27 The Heart Sutra on the timber screen of the Main Hall and the light casted on the columns

This idea of carving the sutra on the walls also affects the life routine of the nuns living in the monastery. Every morning, when the nuns step out of their quarters, they can see the Vájra-cchedikā-prajñā-pāramitā-sūtra Sutra on the walls of the corridor (Figure 2.28 & 2.29). Instead of heading to the Main Hall, they would walk slowly through the corridor while reading and chanting the sutra silently.

This monastery attracts thousands of visitors all around the world. People feel calm and peaceful once they enter the site. Even little children can quiet down after a short time. On the one hand, the monastery appeals to more people to come and become acquainted with Buddhism. However, this project also contains design issues that cause problems for the nuns living in the monastery. The massive amounts of tourists cause some issues to the inhabitants. Because there are no enclosing boundaries around the monastery, the site becomes a public park for people. The nuns have been complaining about the disturbance visitors made, and it is becoming harder and harder to concentrate on their daily practice. It is essential to have a clear boundary around a religious building to separate the sacred realm from the outside world. A monastery is not a public square for casual gatherings, but a place for specific religious ceremonies.



Figure 2.28 & 2.29 The Vájra-cchedikā-prajñā-pāramitā-sūtra on the corridor wall

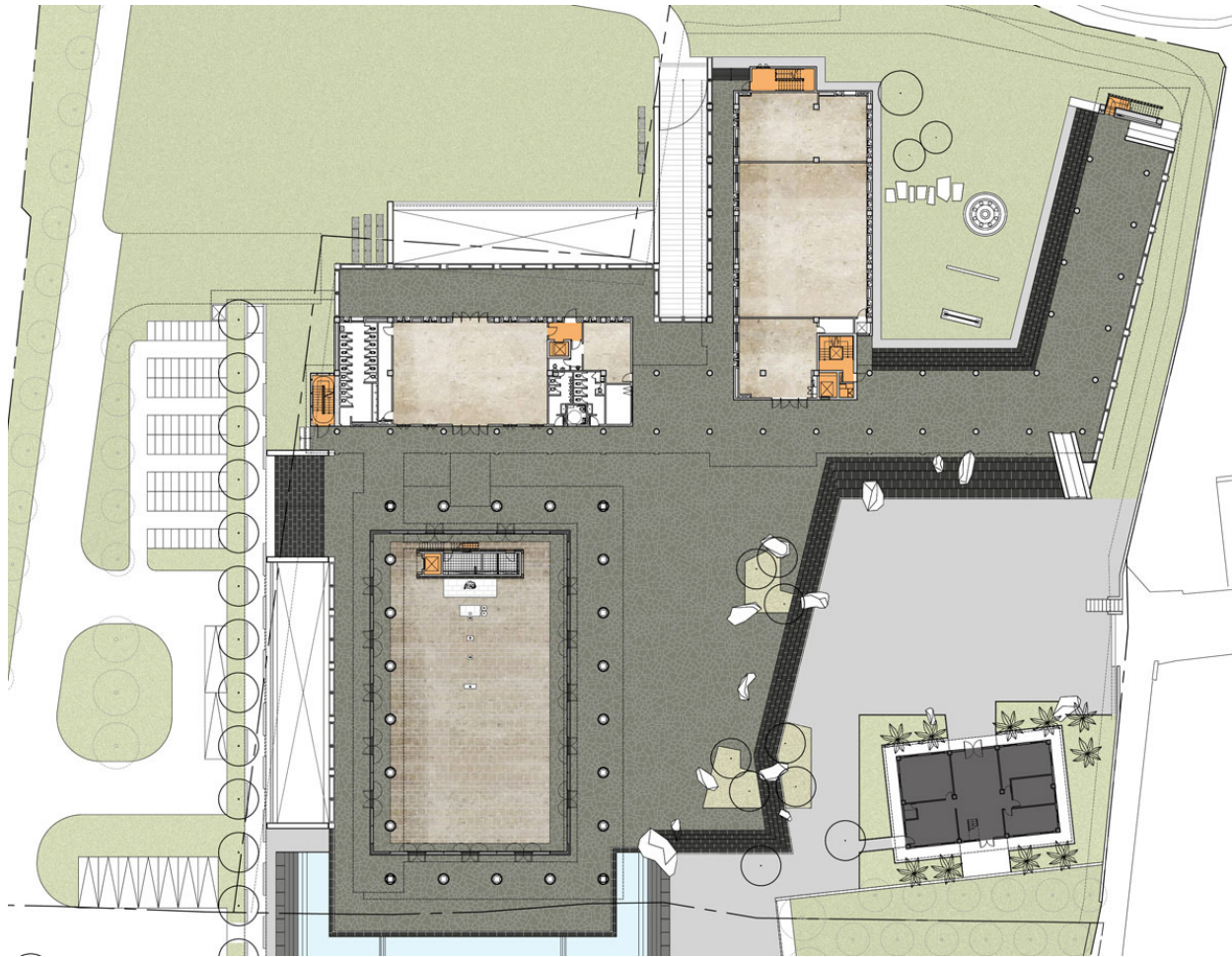


Figure 2.30 First Floor Plan of the Water-Moon Monastery

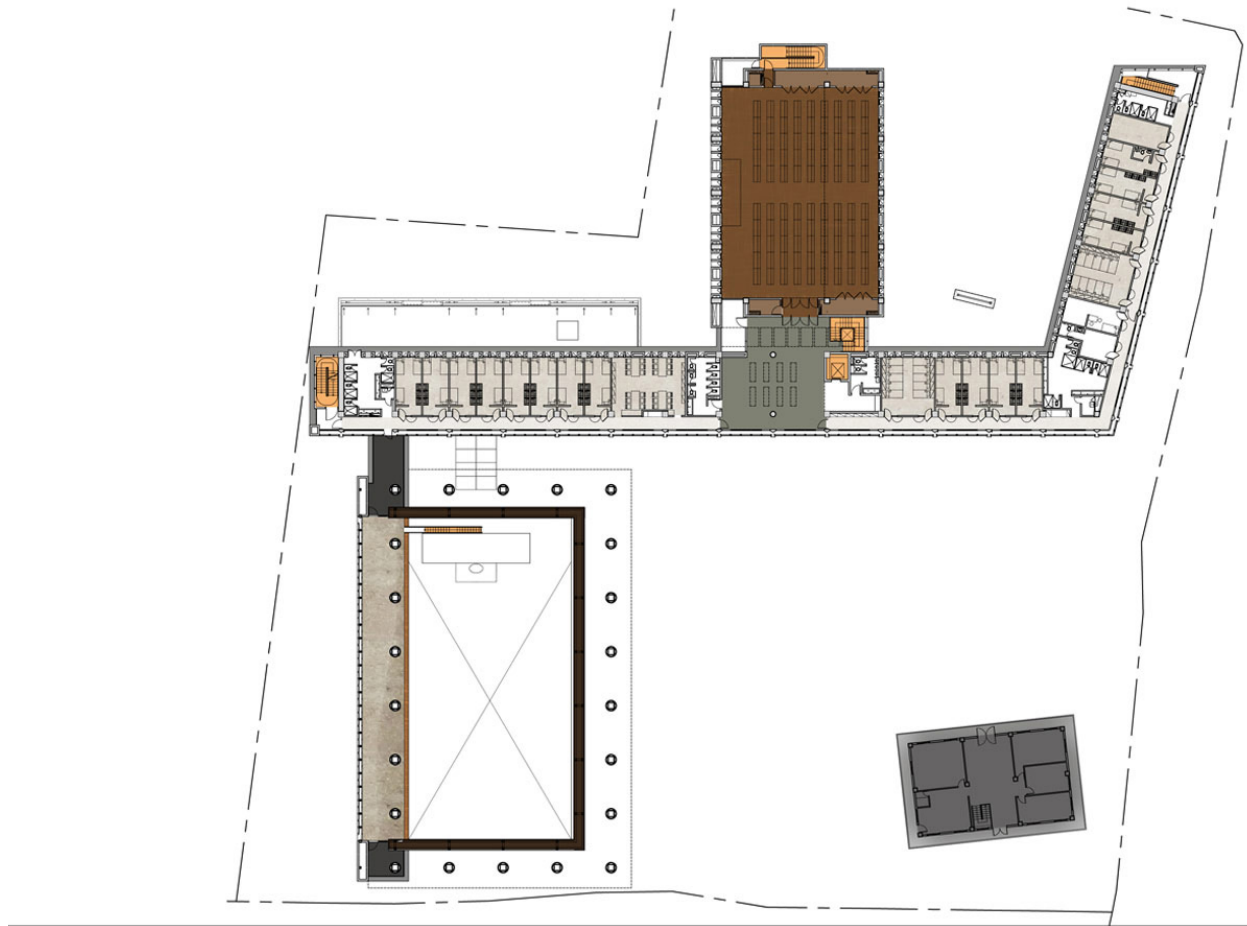


Figure 2.31 Second Floor Plan of the Water-Moon Monastery

## 4.2 Projects in Japan: Tadao Ando

### 4.2.1 Tadao Ando's Sacred Spaces

Tadao Ando has designed plenty of contemporary Buddhist temples in Japan. It is his iconic concrete, the combination of square, circle and triangle in his plan, and the manipulation of natural light in the space that create the hollowed ambience in his projects. As an architect without a degree of architecture, the inspirations of Tadao Ando's design derive mostly from his personal experiences during his trip in Europe and traditional Japanese houses, which filled with philosophies of *Zen* Buddhism. These two impacts unite and permeate in his design, showing a unique combination of western and eastern, modern and traditional.

Throughout his career, there are three elements that Tadao believes are essential for crystallizing architecture. These elements, in my opinion, are particularly applicable to religious architecture. In the article 'Materials, Geometry and Nature' which was written in 1990, Ando explained these three elements, "*The first is authentic materials, that is, materials of substance such as exposed concrete or unpainted wood. The second is pure geometry, as in the Pantheon... The last element is nature. I do not mean raw nature but instead domesticated nature-nature that has been given order by man and is contrast to chaotic nature.*<sup>30</sup>"



It is not a coincidence that we share the same concern of the authenticity of materials. Because of the belief in authentic materials, Ando keeps the marks of construction on the concrete surfaces and makes them the icon of his work. However, it does not mean he pays all his attentions on the materials. On the contrary, in 'Light, Shadow and Form: the Koshino House,' Ando wrote, "*My intent is not to express the nature of the material itself but to employ it to establish the single intent of the space.*"<sup>31</sup> The materials, on the surfaces that enclose the space, contribute to defining the space to a certain extent.

As a Japanese architect, the eastern epistemology has deeply rooted in his mind. For Ando, the sacred space is different from it is in the west. As he wrote in 'From the Church on the Water to the Church of the Light,' "*In the west, a sacred space is transcendental. However, I believe that a sacred space must be related in some way to nature. Of course, this has nothing to do with Japanese animism or pantheism. I also believe that my idea of nature is different from that of nature-as-is. For me, the nature that a sacred place must relate to is a man-made nature, or rather an architecturalized nature. I believe that when greenery, water, light or wind is abstracted from nature-as-is according to man's will, it approached the sacred.*"<sup>32</sup> When designing Buddhist temples, this abstraction of nature is one of the crucial strategies for Ando to express the Buddhist sense of the holy.

#### 4.2.2 The Water Temple (Buddhism)

The Water Temple was the first Buddhist temple that Tadao Ando designed; it was designed in 1989 and completed in 1991. This project is the main hall of the Honpukuji Temple, which places at the summit of a hill, in the northeast of Awaji Island. The rest of the Honpukuji Temple are traditional wooden buildings. The primary issue was how to amalgamate the new Buddha hall with the traditional building complex. To solve this problem, Tadao Ando concentrated more on how to respond to the theme of tradition and the underlying meanings rather than the form of the traditional temple<sup>33</sup>.

The whole arrangement of the Water Temple is to provide an experience of a dramatic shift from the normal secular world to an abnormal sacred one. The profane route, as part of the temple, starts from the foot of the hill. With greenery on both sides, this lane ascends to a white-gravel-covered front garden, in which two concrete walls stand, one straight and one curved (Figure 2.32). These two walls define the boundary of the next spatial sequence as they block the views on the other side. One has to go through an aperture on one side of the straight wall, then walk around the curved wall to reach the main building. Once past the curved wall, the scope of the view suddenly opens, and an elliptical lotus pond shows on the ground level.

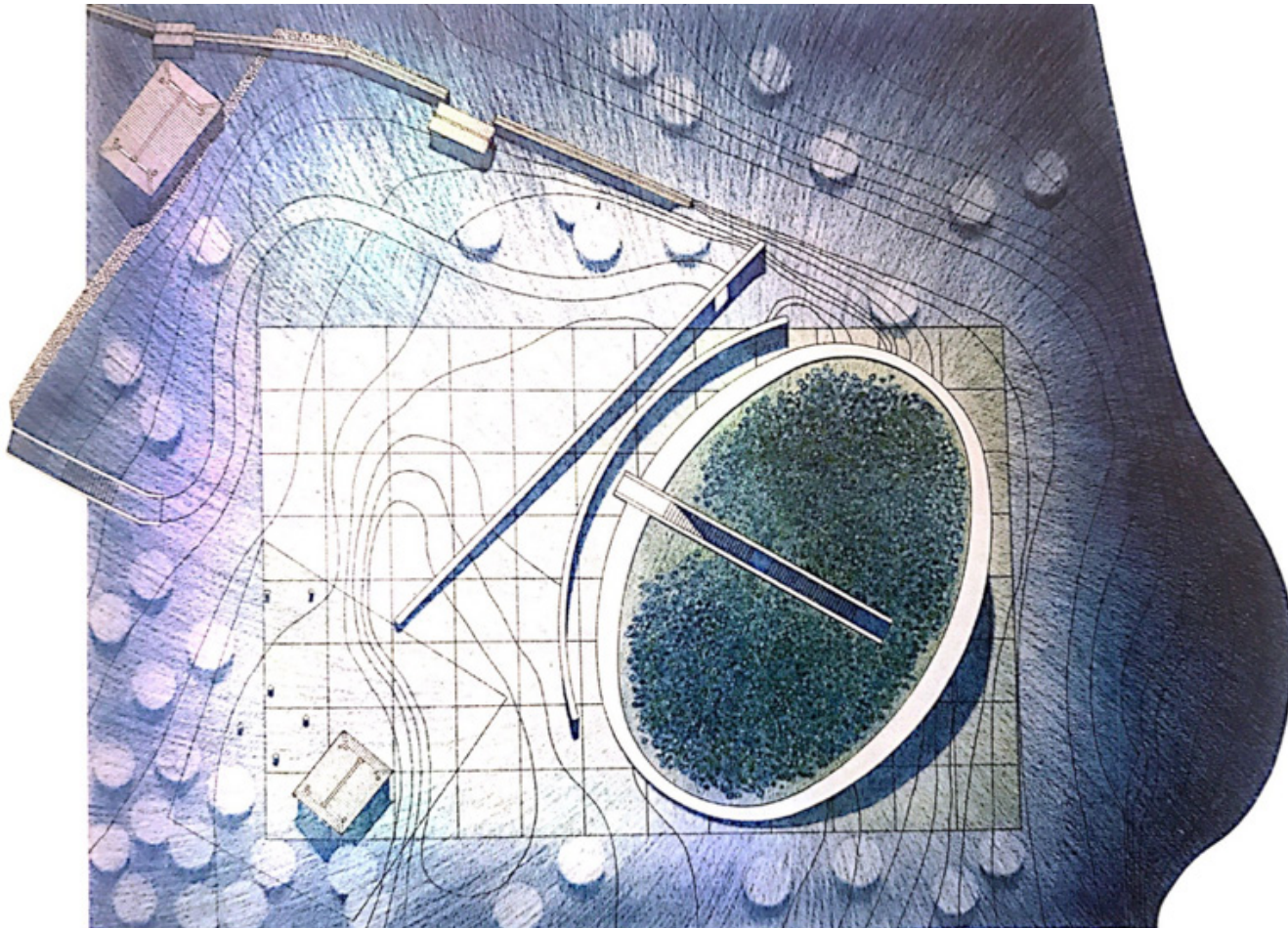


Figure 2.32 Site Plan of the Water Temple

The lotus is the fundamental symbol of Buddhism, representing the purified, enlightened Buddha. In the middle of the pond, there is a descending staircase leading to the main hall under the pond. Here the sacred route begins. Walking down the stairs, one experiences the sudden transition from the bright and open environment to a dark and narrow space (Figure 2.33 & 2.34).

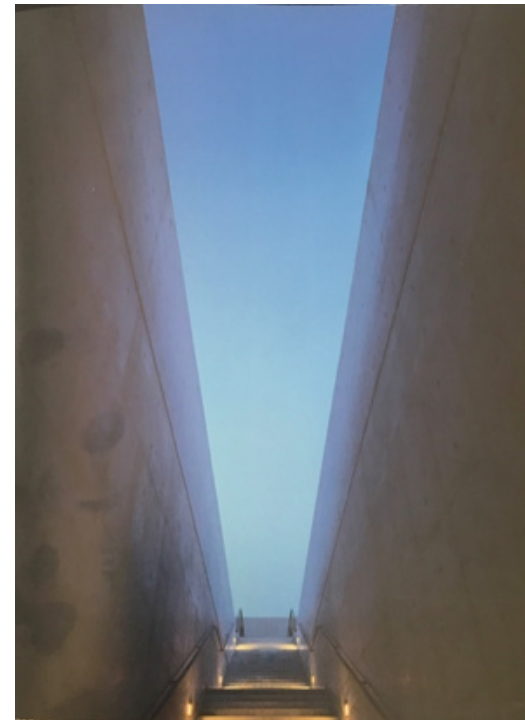


Figure 2.33 & 2.34 The Descending Staircase as The Entrance of the Main Hall

With solid enclosing walls and roof, the only light source inside the building is the light well on the west side, from the rear of the statues in the inner sanctum. The interior partitions are wood lattices, and all painted in vermilion. The natural light permeates through the vermilion lattice partitions, creating the light and space like the “Western Pure Land” described in Buddhist sutras (Figure 2.35 & 2.36).



Figure 2.35 The Inner Sanctum of the Main Hall



Figure 2.36 The light well and the corridor

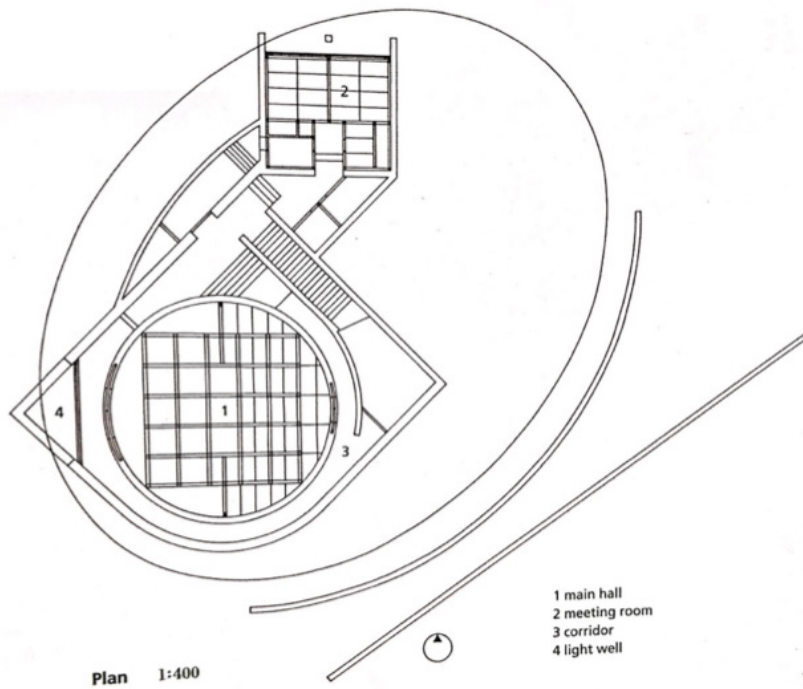


Figure 2.37 Plan of the Water Temple

In the plan of the Water Temple, Tadao Ando applied the three shapes in the plan (Figure 2.37) which are the square, ellipse and circle. About the difference between the elliptical shape and the circle, Ando has explained during the interview with Michael Auping on October 10, 1999. He said, “... *the circle belongs to the sacred world, the world of the gods, and has eternal symbolic meaning. The ellipse belongs to the human world. It is a humanly expressive shape that represents a kind of movement.*”<sup>34</sup> The elliptical lotus pond, as the boundary between the temple and the outside environment, represents the profane world. Meanwhile, the main hall in the middle, where the Buddha statue sits, is a circular shape space, representing the sacred precinct.

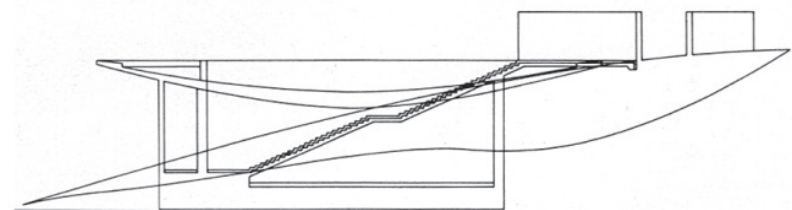


Figure 2.38 Section of the Water Temple

#### 4.2.3 The Hill of Buddha (Buddhism)

The Hill of Buddha is also called Buddha Head or Head-out Buddha. It is located on one of the largest cemeteries in Sapporo City of Hokkaido. On the site, there is a 13.5-meter high stone Buddha statue existing alone for 15 years. Right after the statue was completed, the owner of the cemetery realized that the statue is out of scale comparing to the surroundings and making visitors uncomfortable. Due to this issue, the client hired Tadao Ando to design a prayer hall as an improvement of the situation.

Instead of covering the statue indoors, Tadao Ando integrated this project to the landscape and sculptures around it. Ando enclosed the statue with a concrete mound with a hole on top where the Buddha's head appears (Figure 2.39). The mound is planted with lavender, which displays the alteration of seasons through the change of colour, green in spring, purple in summer and white in winter (Figure 2.40). From a distance, only half of the Buddha's head can be seen, merging into the landscape while prominent enough to attract the prayers to worship.

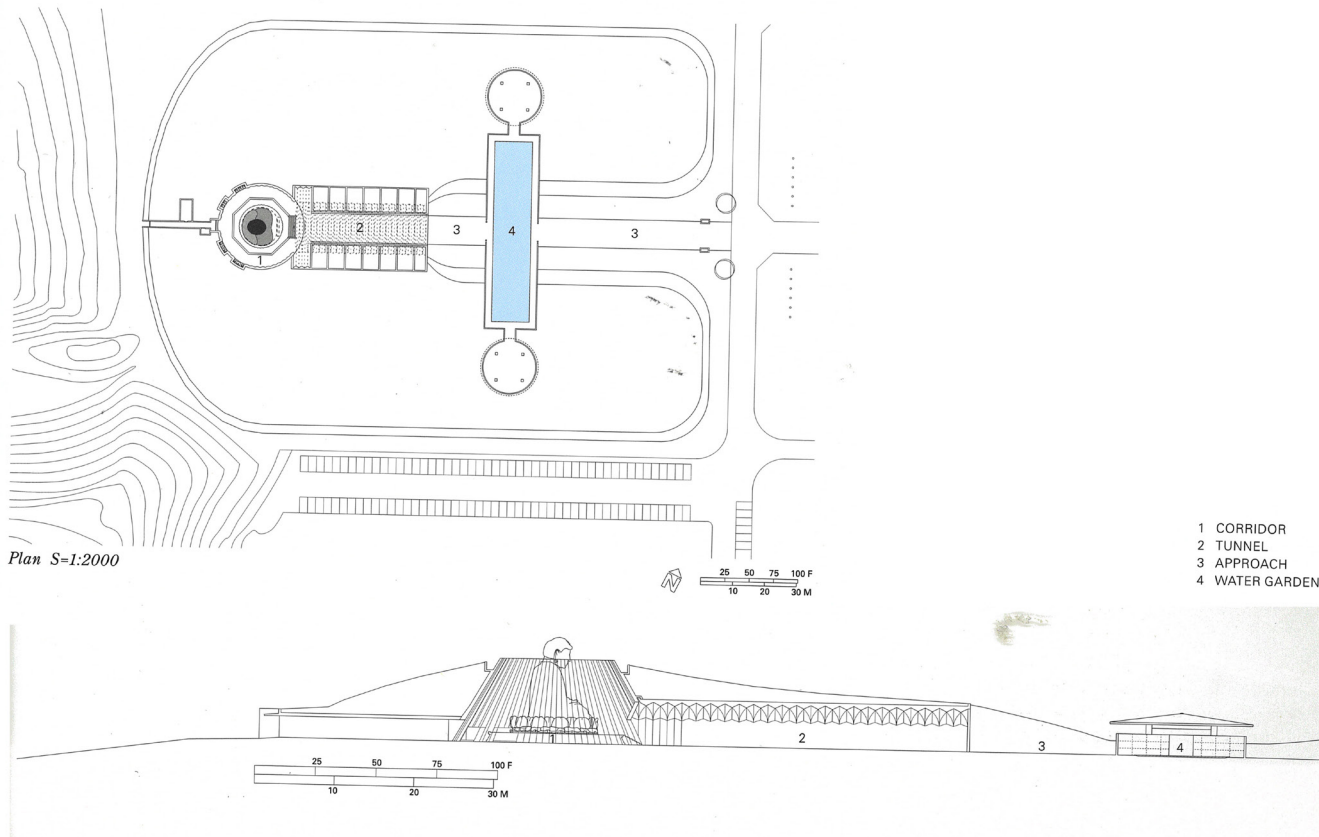


Figure 2.39 Plan and section of the headout Buddha





Figure 2.40 Buddha head appears on top of the mound

The sequence of the pilgrimage also consists of three parts: the entrance, the path and the place. The entrance starts from the pond in the middle of the straight road, which leads to the main hall on the central axis (Figure 2.41).



Figure 2.41 Entrance of the prayer hall

To enter the project, one has to walk around the pond, then come back to the main road. After a short walk on the road, an arch shape tunnel represents the second part of the sequence. The arch draws a 1/6 of a circle. It is a dark and relatively low space, which looks like a womb (Figure 2.42).



Figure 2.42 The tunnel leading to the main hall

The only light resource is the opening on top of the mound, where the head of the Buddha come out. Following the light, the prayers eventually reach a circular hall where the Buddha statue awaits in the center (Figure 2.43). The main hall is a quite small space. The prayers have to look up to watch the head of the statue, which is encircled by circle opening, like a halo of the sky. The contrast of height between the tunnel and the statue makes the latter even higher.

In this project, Ando managed to apply three strategies he mentioned to create sacred spaces. First is the connection of the man-made nature. In this case, nature, which is the lavender landscape, is not brought into the building but becomes part of the building. Second is pure geometry, which expressed through the circular main hall, the central axis and the symmetrical configuration. The third is the authentic material -- the exposed concrete wall and ribs.



Figure 2.43 The statue of the Buddha in the main hall

#### 4.3 Project in Canada – Wong Dai Sin Temple (Taoism)

Both Kris Yao and Tadao Ando are Asian-born architects who have profoundly influenced by the Buddhist philosophy. It is interesting to see how architects respond to the same question from a North American perspective, architects who are neither Buddhists themselves nor have lived in an eastern country. The Wong Dai Sin Temple, designed by Waterloo alumni Brigitte Shim and her husband Howard Sutcliffe, is an answer given by Canadian architects.

The Wong Dai Sin Temple is located on a narrow rectangular site in the Markham region of Toronto, surrounded by two-story-high houses. It is a concrete box “suspending” on a second-story level, the same height with the houses in the neighbourhood (Figure 2.44).



Figure 2.44 The Wong Dai Sin Temple and the parking on site

The architects create a suspending sensation for two reasons. The first one, according to Shim, is that “*the temple might have been birthed through divine intervention hints at the fact that this is no ordinary building*”<sup>35</sup>. The other reason, which is more practical and urgent, is to create more parking space on site (Figure 2.45 & 2.46).



Figure 2.45 Sheer walls supporting the main building & skylights on the terrace

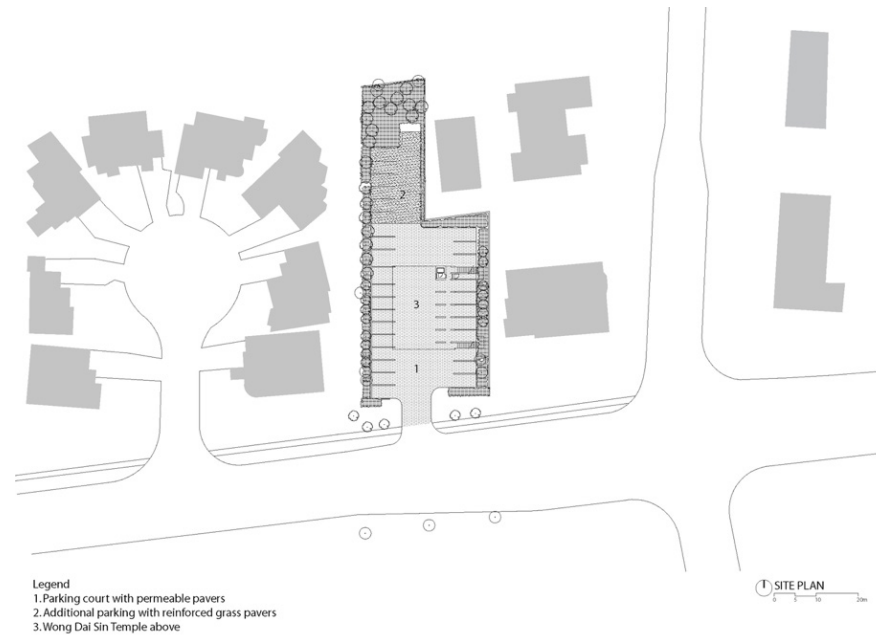


Figure 2.46 Site plan of the Wong Dai Sin Temple

To lift the prayer space up, the middle of the main building is supported by several sheer walls on the ground level, creating a 10m-cantilever on the west side and a 5m-cantilever on the east side (Figure 2.47). The balance between the cantilevers on both sides happens to look like the centrepiece of *tai chi* called *Single Whip* (单鞭 Figure 2.48). The Single Whip is an asymmetrical posture but creates a balanced state that is ready to face resistance. The similarity is a piece of serendipity since neither Shim nor Sutcliffe knows anything about *tai chi*<sup>36</sup>.

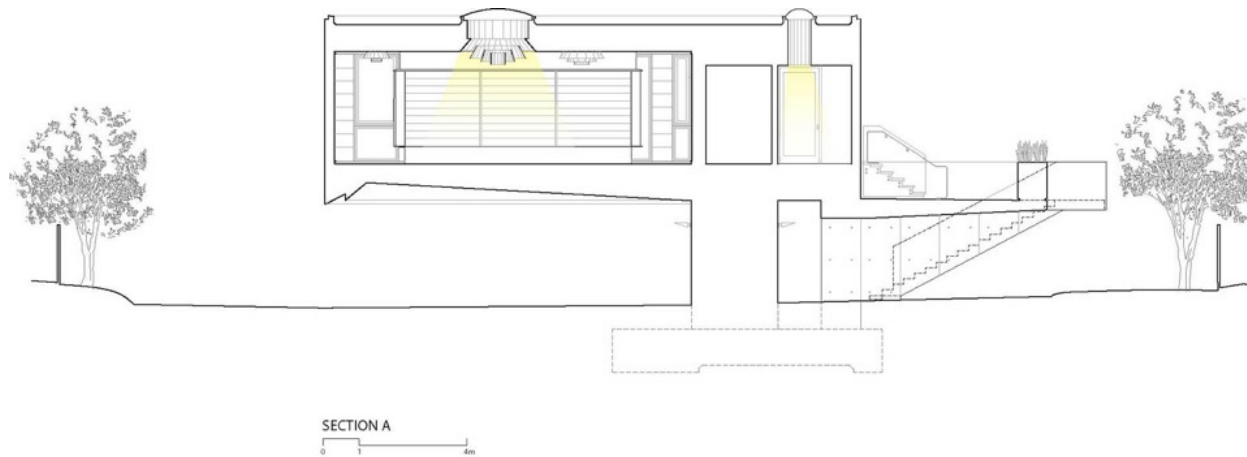


Figure 2.47 Section of the Wong Dai Sin Temple



Figure 2.48 Single Whip in tai chi



After walking up through the staircase, the prayers reach the exterior terrace on the eastern side. The bushes on the east edge merge the boundary into the greenery beside (Figure 2.49). On the terrace floor, there are rectangular skylights illuminate the spaces below. Once entering through the main entrance on the south corner of the building, the prayers first arrive at the prayer hall, which is the primary worship space of the temple. On the back of the prayer hall locates the memorial hall, there is a narrow rectangular space with names carved on the bamboo plaques on the wall (Figure 2.50).



Figure 2.49 Exterior terrace with skylights

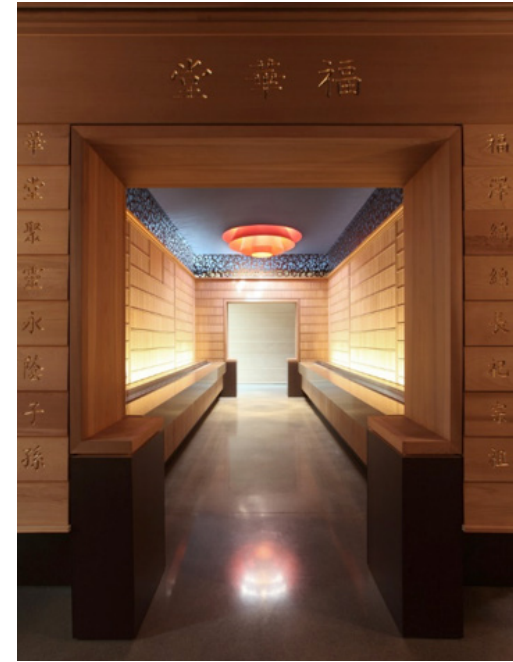


Figure 2.50 The memorial hall

The washrooms are on the eastern side of the prayer hall, private and well concealed. (Figure 2.51). The architects arrange these spaces in a minimal and straightforward way to clarify the hierarchy of the temple. On the roof of the prayer hall, circular skylights bring natural light inside through the red spiral shades hanging below, which are similar to the traditional Chinese red lanterns (Figure 2.52). These red circular lanterns with different diameters distribute on the ceiling as the symbol of the cosmos, linking this temple to the sky where the high power reside.

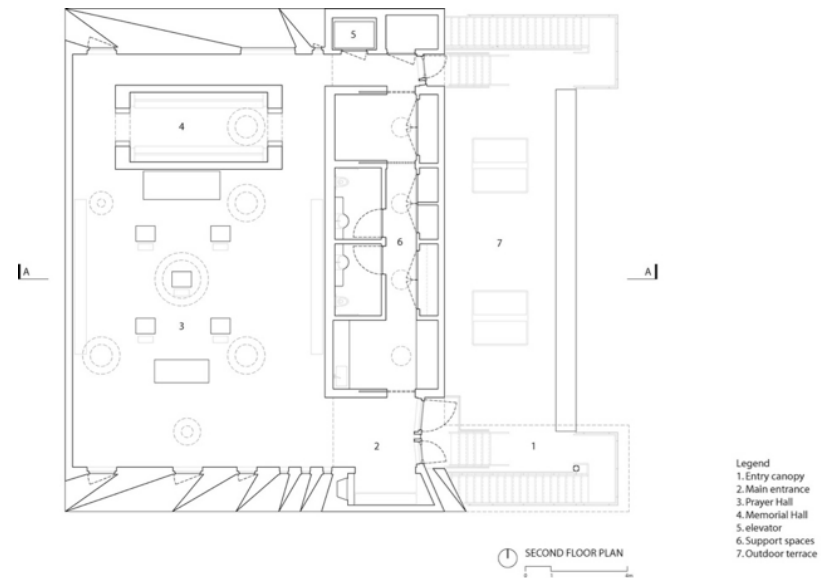


Figure 2.51 Second floor plan of the temple



Figure 2.52 The prayer hall with red lantern skylight

#### 4.4 Precedents of the Pseudo-traditional Buddhist Temples in China

Apart from the good precedents, I have also researched and visited several existing Pseudo-traditional Buddhist temples in China to explore whether there are any other problems in these temples. Except for the infringement of the authenticity of the materials, the following paragraphs illustrate three significant problems in these temples and the solutions of how to avoid these problems when designing Buddhist temples.

The first one is the abuse of the traditional symbols, colours, and forms without understanding the idea of the hierarchy and the underlying meanings. In the temples inside the He-yuan Resort in Hunan province, the architect seems to use all the icons that represent traditional Chinese architecture in one project. The image of figure 2.53 shows the pagoda in the temple of He-yuan Resort. The gold phoenix symbol on the front door should never be applied in Buddhist temples. Phoenix, in feudal China, was the icon can only be used by the queen of the emperor. Meanwhile, the dragon icon, which can only be used by the emperors, also appears in this temple (Figure 2.54). Designing a Buddhist temple is not an easy task for architects. Before applying traditional symbols, colours and forms, architects should understand the meaning of each element and respect the principle of the hierarchy.



Figure 2.53 Pagoda in the Temple of He-yuan Resort, Hunan, China



Figure 2.54 Dragon Icons on top of the roof, Temple of He-yuan Resort, Hunan, China

The second problem is the disorganization of spatial sequence in these temples. To attract more tourists, some Buddhist temples expand recklessly ignoring the sequence of pilgrimage. Even in some newly built temples, the routes of the visitors are confusing and absent of thoughtful planning. Some of the bodhisattva halls repeat more than once in the same temple, interrupting the progression of the sacred journey. In the Zhong-hua temple, which locates in Shenyang, Liaoning province of China, there are two main gates leading to two different courtyards. However, only one courtyard contains the Grand Hall and the route of pilgrimage, while the other route connects to a secondary courtyard and misleads the visitors (Figure 4.55). The spatial sequence should be a precise journey that directs people to finish the pilgrimage. Every step of the journey should be organized elaboratively for the visitor.



Figure 2.55 The prayer hall with red lantern skylight

The third one is that the construction quality of these pseudo-traditional Buddhist temples is usually bad and lack of details. Especially in the northern part of China, the temperature changes drastically from 30°C in the summer to -15°C in the winter, same as the change of humidity in summer and winter. This drastic change of temperature and humidity makes the wood components easily to distort while the concrete remains relatively stable. Without proper connecting details, the wood components are commonly seen detached from the concrete wall and need replacement frequently (Figure 2.56). When designing Buddhist temples, architects should pay more attention to the construction details. Well-designed details can make the temple sustain for a long time.



Figure 2.56 Bracket detaching from the concrete wall, Zhong-hua Temple, Shenyang, Liaoning, China

#### 4.5 Conclusion

The precedents, chosen in this chapter, represents both eastern and western interpretation of traditional Chinese architecture in the contemporary era. These precedents also demonstrate the fact that every project is unique based on specific situations of the site and the local history. Two projects, even though designed by the same architect, can be different. Lessons can be learned not only from the good precedents designed by famous architects but also from the problematic ones. After learning from the precedents, I have a better understanding of Chinese Buddhism, the religious architecture and the issues which I need to focus on specifically while designing a contemporary Buddhist temple.



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### PART THREE DESIGN OF KUAN-YIN TEMPLE

## 1. INTRODUCTION

The design project of this thesis is called the Kuan-yin temple. The design of Kuan-yin temple is based on the research of Chinese Buddhism in the contemporary context, Buddhist spirit and Buddhist practices. It is the application of the design principles and methods of how to construct the sacred space. There are two significant challenges in this project. The first one is to bring the demolished temple back to its original site as well as revive and redefine it by modern architectural approaches. The second one is how to combine the existing building on-site with the new temple. The primary objective is to generate a sacred journey leading people to the Buddha, and eventually, find the inner peace of their hearts. The Kuan-yin temple is an advocate representing that contemporary Buddhist temples should connect the history while embracing the advantages of contemporary architectonics.

## 2. THE PROGRAM AND THE CLIENT PROFILE

The premise of every project must be a client and a program customized for the client. The client of Kuan-yin temple is an imaginary old monk named Master Hua-yan, who is built up based on the image of typical monks in China. He is the abbot of Kuan-yin temple. Other than Master Hua-yan, there are two young monks live in the temple as his apprentice. Apart from basic accommodation, their life in the temple would be mostly taken up by Buddhist practicing. Also, this temple will be open to the public and lay Buddhists to visit and participate in the ritual events.

Based on these requirements, the research earlier, and the site investigation, I have drafted a program of Kuan-yin temple as two parts, the ritual area and the living area. The ritual area includes:

- The Entrance: sets up the boundary of the temple.
- The Grand Hall (central courtyard): this is the most significant space in the temple, where the statue of Avalokitesvara (K'uan-y'in) stands.
- The Teaching Hall: this is an open space for Buddhist practice, lectures and events.
- Kitchen & The Dining Hall: For monks on a daily basis, and open for the public on special days.
- Bell & Drum: used as time signals for group activities; monks strike the bell in the morning and drum in the afternoon.
- Life Release Pond: above the water; this is a space for the annual Buddhist event of freeing captive animals which lay Buddhists bought from the market, usually birds and fish.
- Washrooms: for the public.
- Parking lot: 36 parking spots for visitors.

Meanwhile, the living area consists of the following:

- Monks' Quarters: one for the abbot, half of them are for the young monks, and the rest of quarters are for lay Buddhists to stay temporarily.
- Administration: services for internal affairs.
- Archive & Study Area: these are spaces for Buddhist literature reading and research.

### 3. THE SITE

#### 3.1 General Information and The History of the Site

The site locates at shore-side of the K'uan-y'in-ge Reservoir, which is built to prevent Benxi Manchu Autonomous County from flooding every few years. This county is in Liaoning province, the northeast part of China.

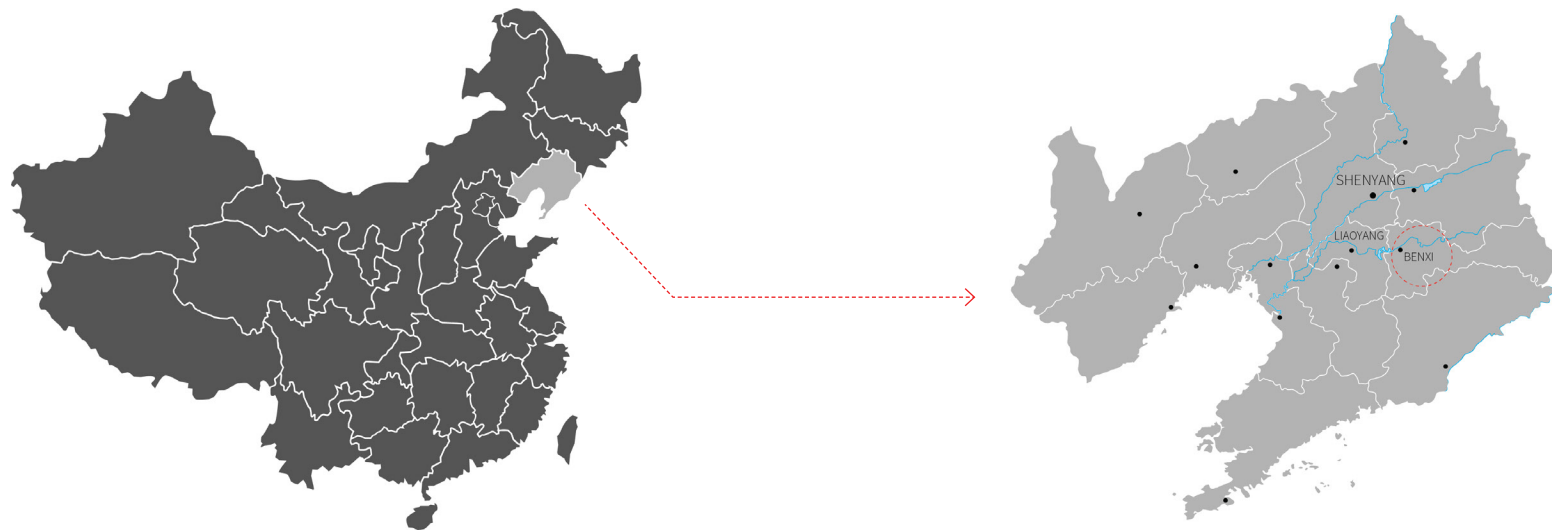


Figure 3.1 Location of the site: Liaoning province, China

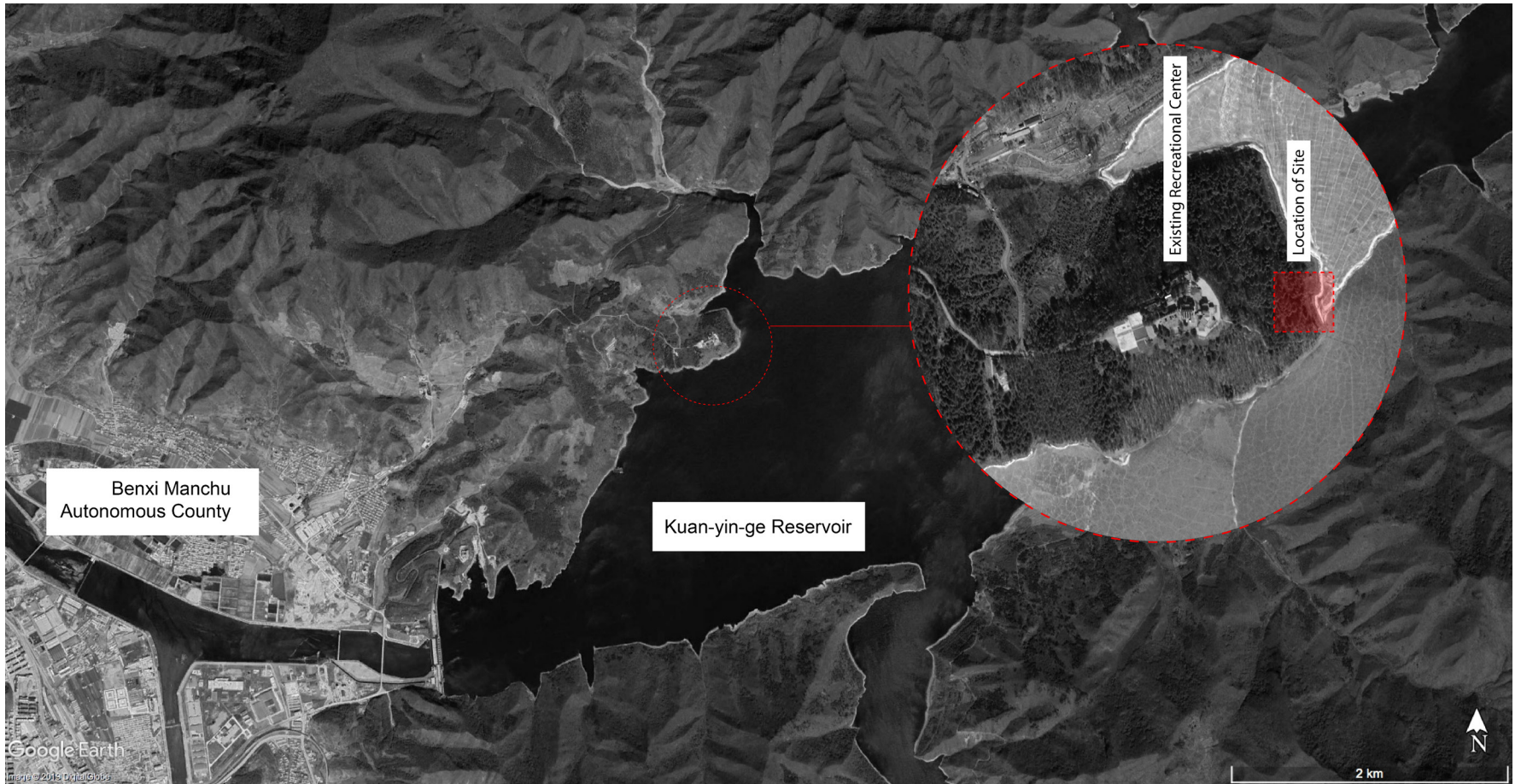


Figure 3.2 Location of the site in Kuan-yin-ge Reservoir

It belongs to the middle-temperature humid zone. 80% of the whole city is the mountainous area. The annual average temperature of this region is between 6.1°C and 7.8°C. The hottest month of the year is July, with the monthly average temperature of 24°C. While the coldest one is January, with the monthly average temperature of -12°C. There has been frigid winter in history. The lowest temperature was -34°C. Rainfall is relatively abundant in this region, with an average precipitation of 700-800mm and concentrated between July and August.





WINTER WIND



SUMMER WIND

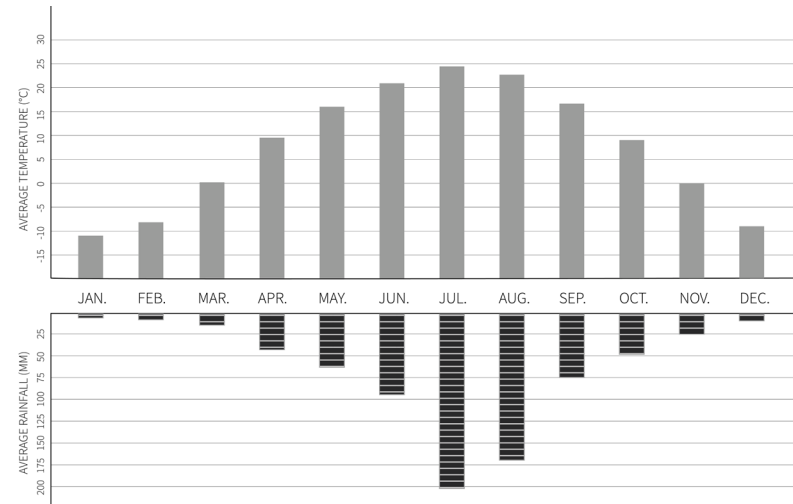


Figure 3.3 Climate data of the site

The name K'uan-y'in-ge comes from the old Buddhist temple that once existed before the construction of the reservoir. K'uan-y'in is the Chinese name of Avalokitesvara, the Bodhisattva of compassion and mercy. There is a local saying that the temple was initially built in T'ang dynasty, which was over 1000 years ago, to rescue the people living in the downstream from the suffering and damages that came along with the flood. It had been protecting this land and the people dwelling here until the year 1991 when the government decided to demolish the temple and build a reservoir. Since this place is concealed in the woods and the beautiful natural view, in 2010, a recreational center appeared on the west bank of the reservoir. It consisted of several luxurious banquet halls and entertainment facilities for corrupted governors to hold furtive meetings. After the secrets were revealed in 2015, this recreational center was shut down by the central government and abandoned since then.

The history of this site mirrors the problems that arise during the modernization of both architecture and the society in China. Chronologically, the history of this site can be divided into three phases. The first phase is when the old temple, K'uan-y'in-ge, still existed. During those one thousand years, our ancestor had been respected and made peace with nature. In the second phase, which is called modernity, people started to control nature aggressively. Especially during the 1990s, China had witnessed massive constructions and rapid growth in the economy. Plenty of historic buildings were destroyed and replaced by extensive modern facilities and rising residential towers. Likewise, along with fallen of the old temple, the history and memory of this land disappeared as well. Then the third phase is after the completion of the recreational center, which represents corruption and greed, the dark part of humanity.

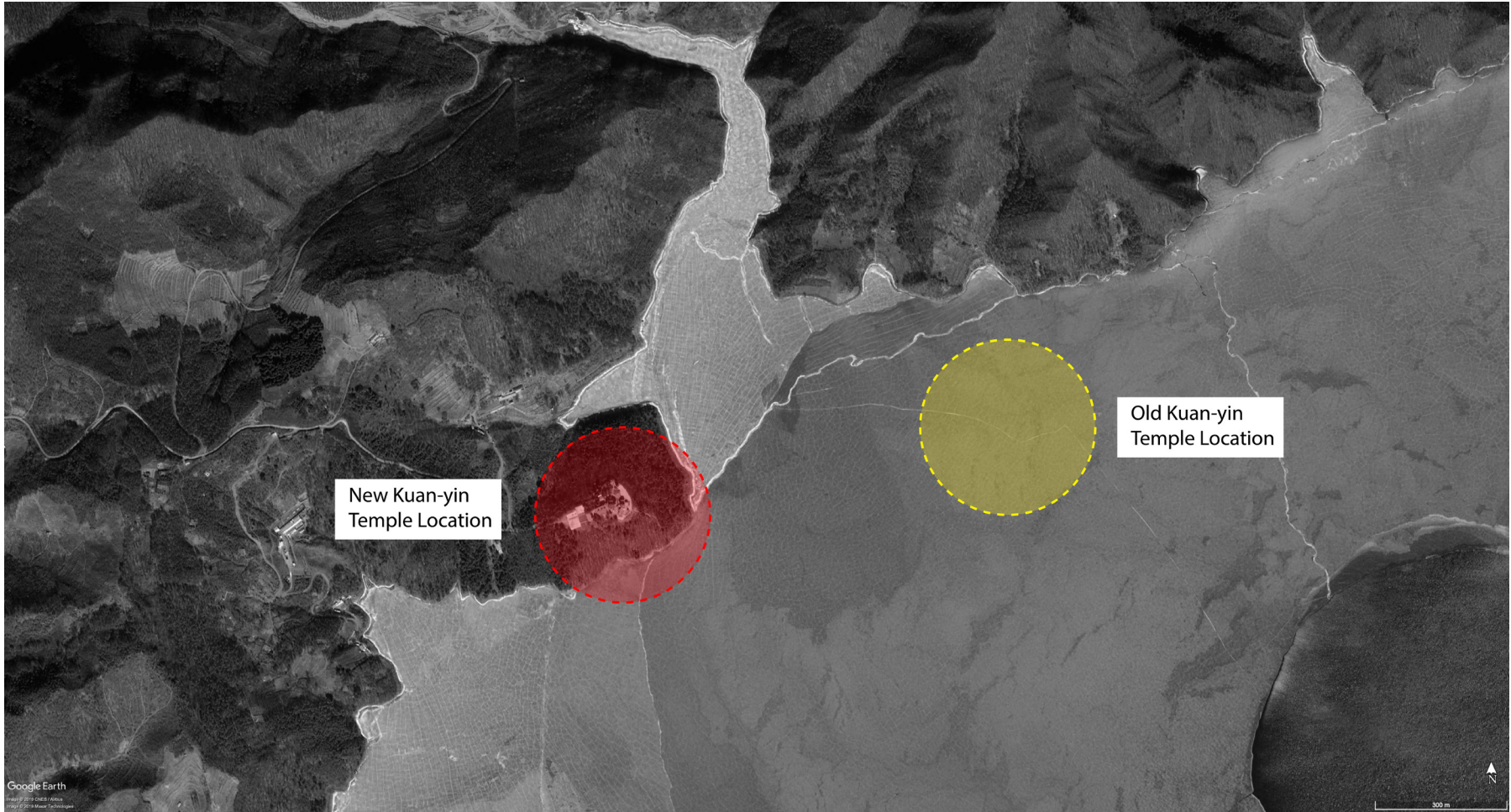


Figure 3.4 Location of the old temple and the new Kuan-yin temple

The temple was built during Tang dynasty to protect people downstream from flooding.



The government decided to demolish the temple and build a reservoir. The reservoir was completed in 1995.



Tang Dynasty (600s-900s)

1990s

2010



CO-EXISTENCE WITH NATURE

MODERNITY

Figure 3.5 Timeline of the Site

A recreational center was built for corrupted governors to hold furtive meetings. It was shutted down in 2015.



2015

A new temple is proposed to cleanse the sin and bring back the peace that was once lost.



2019

**CORRUPTION**

**REBIRTH OF THE PEACE**

### 3.2 Site Visit

After knowing the story of K'uan-y'in-ge reservoir, two site visits were scheduled. One was in December of the year 2018, and the other was in May 2019. There is only one road connecting the summit of the hill and the nearest city 10km far from here. This road was built at the same time as the completion of the recreational center. This road ends at the outside of the recreational center, and we had to park the car and walk down the hill. No path leads down to the bank of the reservoir, only hundreds of pines and birches growing all over the hill. The ground is covered by thick fallen leaves, giving the crunching sound when stepping on them. It is a large natural plot of the land with beautiful views and birds inhabiting in it.

The linear distance from the top of the hill to the bank of the reservoir is around 150m meanwhile going 40m down. The slope is quite steep at the upper level while becomes relatively flat near the water. To walk down safely, we had to use the wood branch as walking sticks to support us as well as looking for solid ground that hidden under the leaves. During the path down to the water, the outline of the mountains across the reservoir appears through the woods. Half of the peaks of the mountains reveal while the other half is covered by the misty fog and clouds, showing the same views as the tranquil as traditional Chinese landscape paintings.



Figure 3.6 Exsiting recreational center on the summit



Figure 3.7 Watching the reservoir on top of the hill



Figure 3.8 Watching the reservoir from hillside



Figure 3.9 Watching the recreational center from hillside

## 4. THE DESIGN

### 4.1 The existing recreational center

The first challenge during the design process is how to deal with the abandoned recreational center. Because of the corruptive meetings held in it, the center was shut down by the central government for four years so far. Due to the rigid political situation, it is impossible to reopen the recreational center. Meanwhile, the luxurious facilities inside this building conflict with the ascetic lifestyle of the monks. After careful considerations, I decide to demolish the existing recreational center on top of the hill with several exterior walls remain. The rest of the deserted land, as the only flat land on-site, is used as a productive garden where the monks can plant vegetables that they eat every day. Farm work was part of the Buddhist practice in history, especially in those temples isolated in the mountainous areas. By working in the garden, the meaning of life and living can be imparted not only through words and texts but also through every drop of sweat infiltrating into the soil.

The remaining walls represent the mistake that was once made by greed and lust. It is part of the story of this place that should not be erased. The plants in the garden embody the meaning of vitality, bringing new life to this land that was once tarnished. The legend goes that the Buddha was enlightened under the banyan tree. Therefore, the banyan tree conveys the denotation of enlightenment in Buddhism. In the middle of the garden, a banyan tree is planted to enlighten the lost souls and to cleanse the sin that happened on this land.





Figure 3.10 Physical model of the productive garden on top of the hill

#### 4.2 The journey to the Inner peace of your heart

The Buddha symbolizes the enlightenment and the truth, helping people to find the inner peace of their heart. The progress of the pilgrimage consists of the journey to the Buddha in Kuan-yin temple. This journey is a unique sequence based on the story of the site, linking the history to this new temple. The entire journey includes two parts which are the journey on the site and the journey inside the temple. The journey not only mirrors the progression of the Buddhist ritual but also mirrors the psychological changes while the prayers are walking in this project.

#### 4.2.1 The journey on the site



Figure 3.11 Site plan of the project 1:2500

The journey on the site can be divided into four stages following the mental states of the prayers: City Mind, Descending, Reflection and Rebirth. The first stage, City Mind, starts from the parking lot on the summit of the hill. People drive all the way here from the city, bringing their problems in secular life. The question might be how I can make more money? Alternatively, how can I be happier? Holding these problems, they park their cars and start walking on the stone footpath leading to the productive garden. The scattered concrete walls remind people of the degeneration that once occurred, while the plants and the banyan tree inform people to disregard the greed and lust.

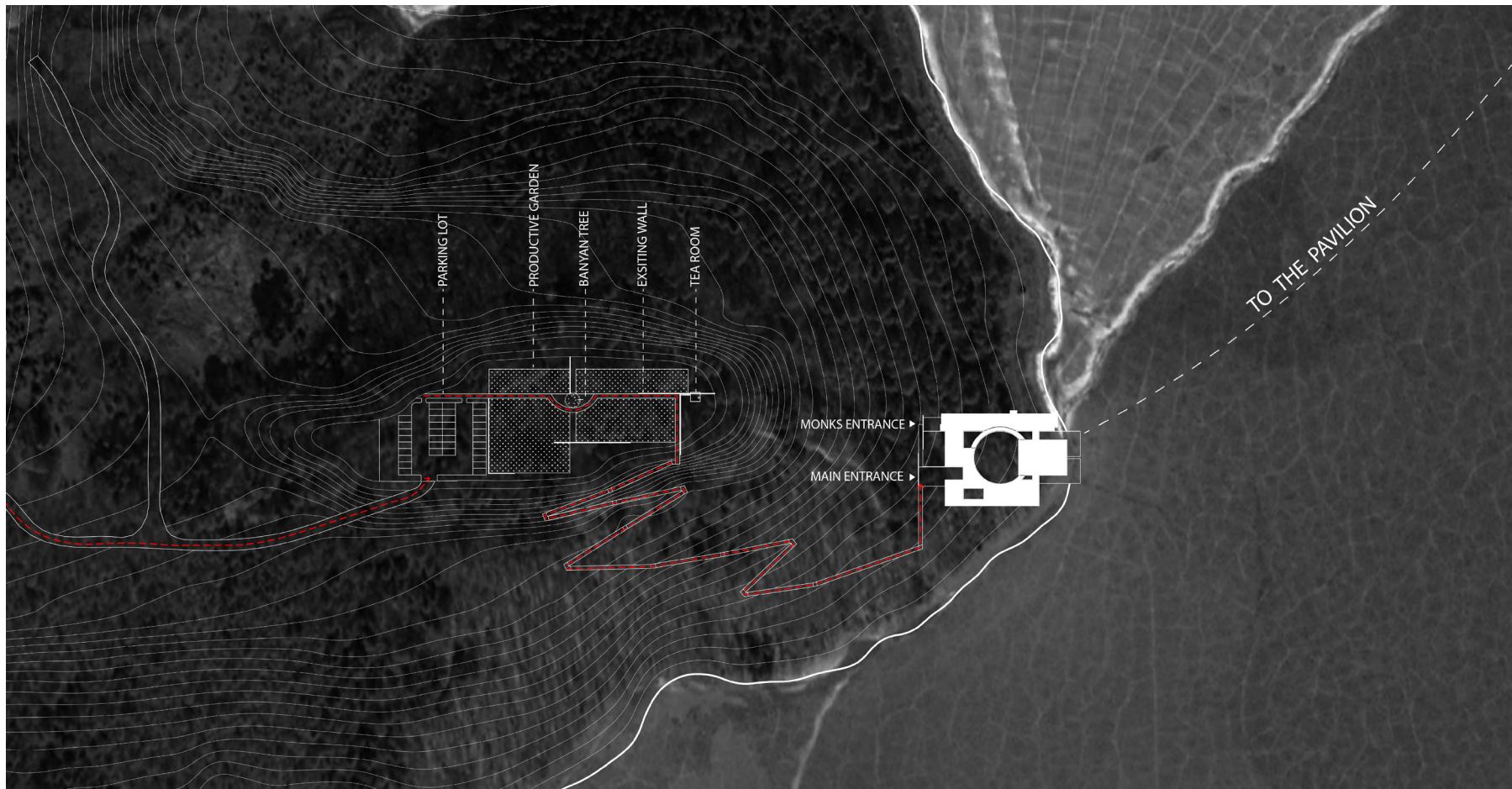


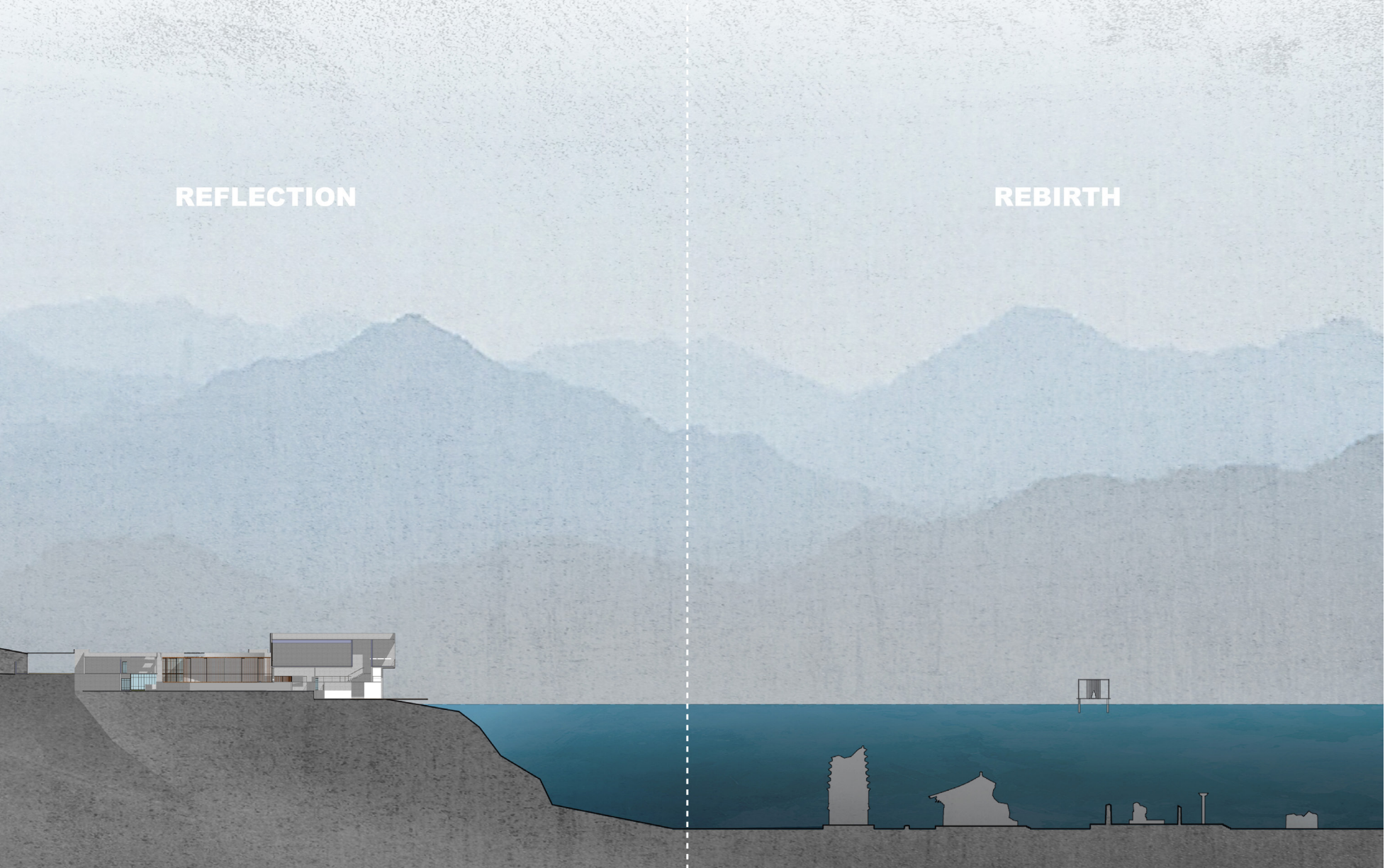
Figure 3.12 Plan of the journey on the site



Figure 3.13 Site section and the four stages of the journey 1:1500

REFLECTION

REBIRTH



At the end of the footpath, there is a wall with an opening in it. Walking through the opening, a small tea room locates at the edge of the summit. The prayers can sit down and drink a cup of tea, at the same time, watching the view of the whole reservoir. Compared to the water of the reservoir, the water in the teacup is so small, like human beings compared to nature.



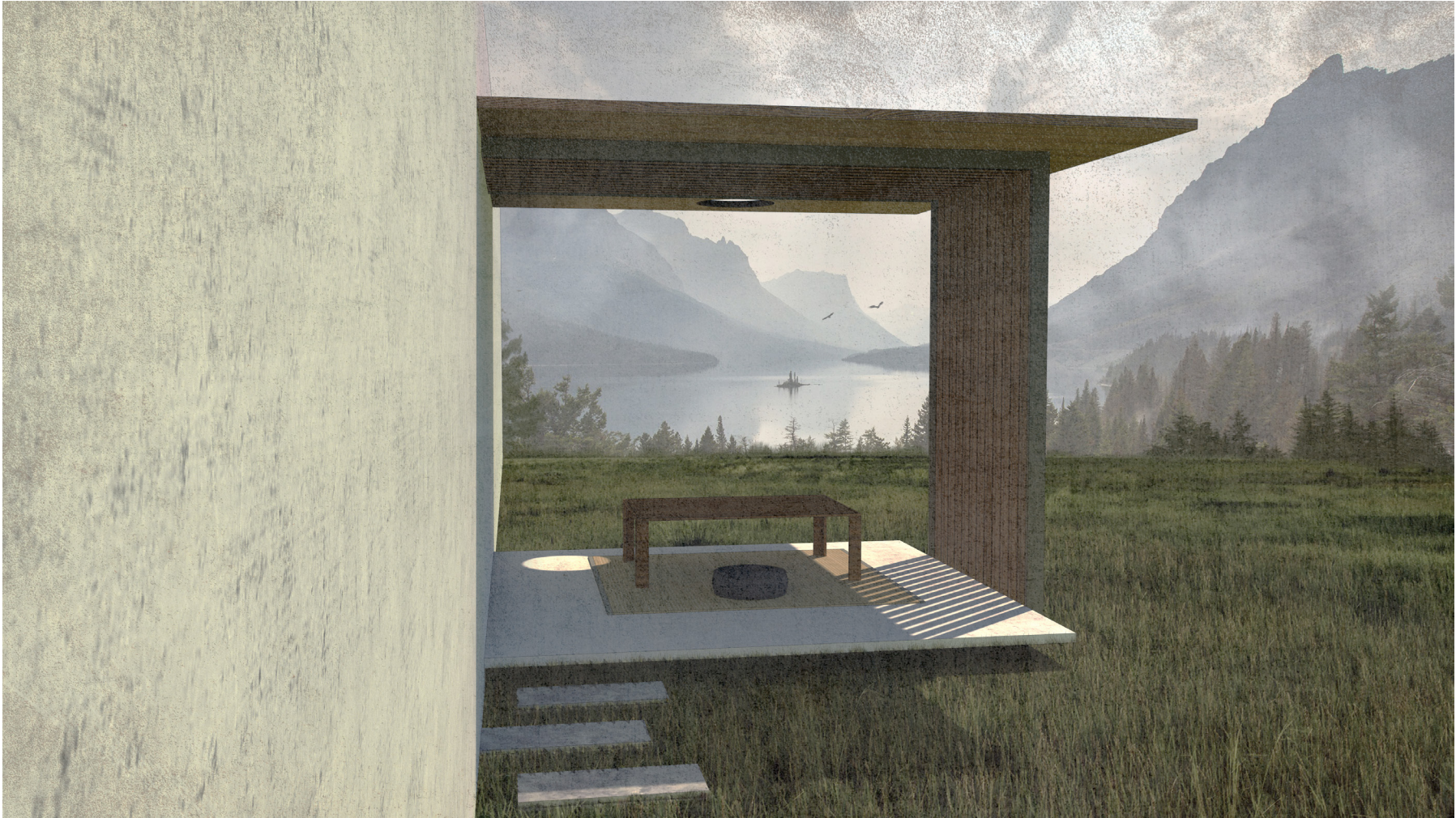


Figure 3.14 Tea Room on the edge of the summit

The stone footpath in the productive garden connects to the ramps on the south side of the hill. Here comes the second stage: Descending. The ramps zigzag down the hillside facing east and west. The journey on the ramps is an iterative process of enlightenment and self-questioning. When the prayers are walking towards the east, where the temple locates, the giant statue of Avalokitesvara appears through gaps between trees. The statue, the destination of this whole journey, stands for the truth and the answer to all the questions. With the explicit destination, the prayers walk affirmatively towards the statue while the truth becomes closer and more precise. Turn around at the corner, and the statue is out of sight. Without the statue as the focal point, the truth seems to become blurry, and the prayers start to question themselves.



Figure 3.15 Descending ramps on site

The ramps lead people walking back and forth. Eventually, they reach the temple where the third stage, Reflection, happens. The progression of the Reflection, as part of the whole journey on-site, is another journey itself on a building scale. In this stage, the prayers finally meet the statue of Avalokitesvara after all the preparation on the way. Following the path in the temples, their concerns begin to fade away, and they gradually achieve the blessed state, which is the absence of agony and desire.



Figure 3.16 Exterior view of the temple from the woods

The temple is placed on the shore-side of the reservoir. A wooden deck extends to water which connects the temple to a pavilion in the middle of the reservoir. On the north side of the deck, there docks a wooden boat for people to visit the pavilion. This water route is the final stage of the journey called Rebirth. The location of the pavilion is where the old temple used to be. In the middle of the pavilion, a small statue of Avalokitesvara is sitting above the water. Through the transparent glass panel implanting inside the concrete floor, the statue looks seemingly rising from the bottom of the water and suspending in the air. This statue is the emblem of the bodhisattva that was demolished reborn from the flooded temple underneath.



Figure 3.17 The Pavilion locating on top of the flooded temple

#### 4.2.2 The journey inside the temple





Figure 3.18 Ground Floor Plan 1: 400

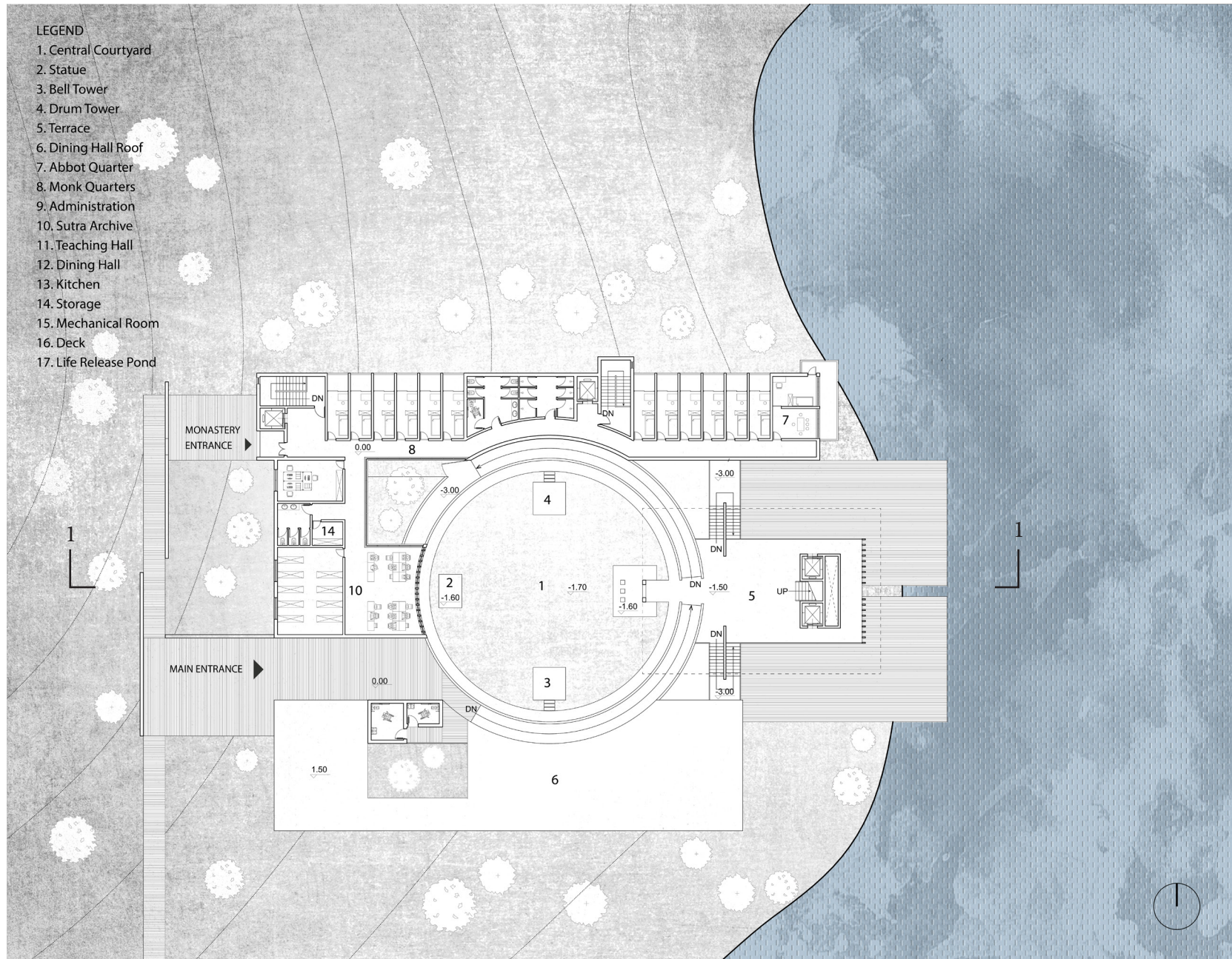


Figure 3.19 Second Floor Plan 1:400

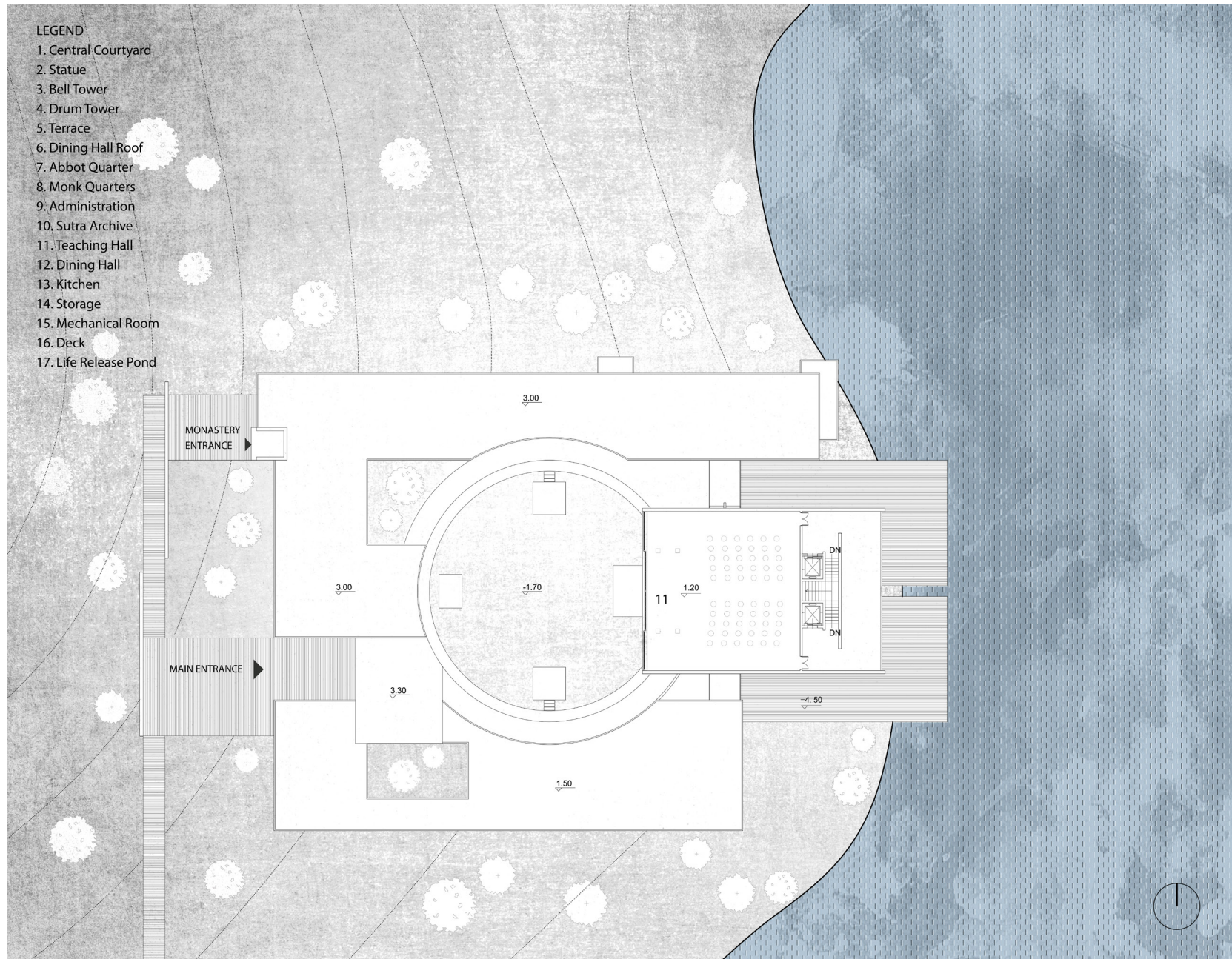


Figure 3.20 Third Floor Plan 1:400

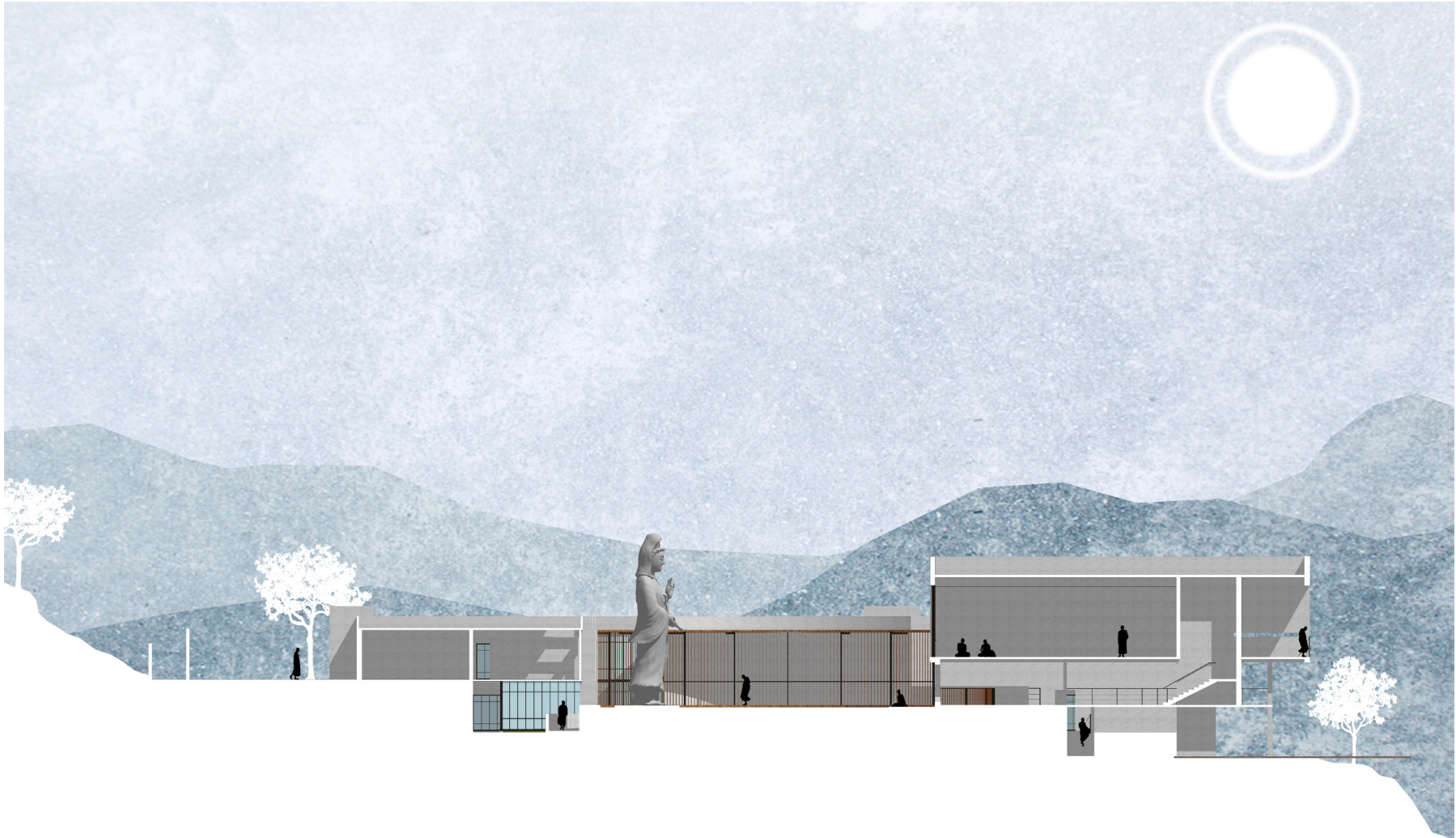


Figure 3.21 1-1 Section of the temple 1:400

The third stage, Reflection, is an integrated journey inside the temple. In traditional Buddhist temples, the sequence of the pilgrimage is a linear movement. A primary route bonds all the courtyards and halls on the central axis, directing people to visit each hall one by one. Likewise, each space in Kuan-yin temple is arranged in order according to the route of the prayers. The main path in the Kuan-yin temple is a spiral ramp surrounding the circular central courtyard. The ramp includes two equal segments and goes down 3m in total.

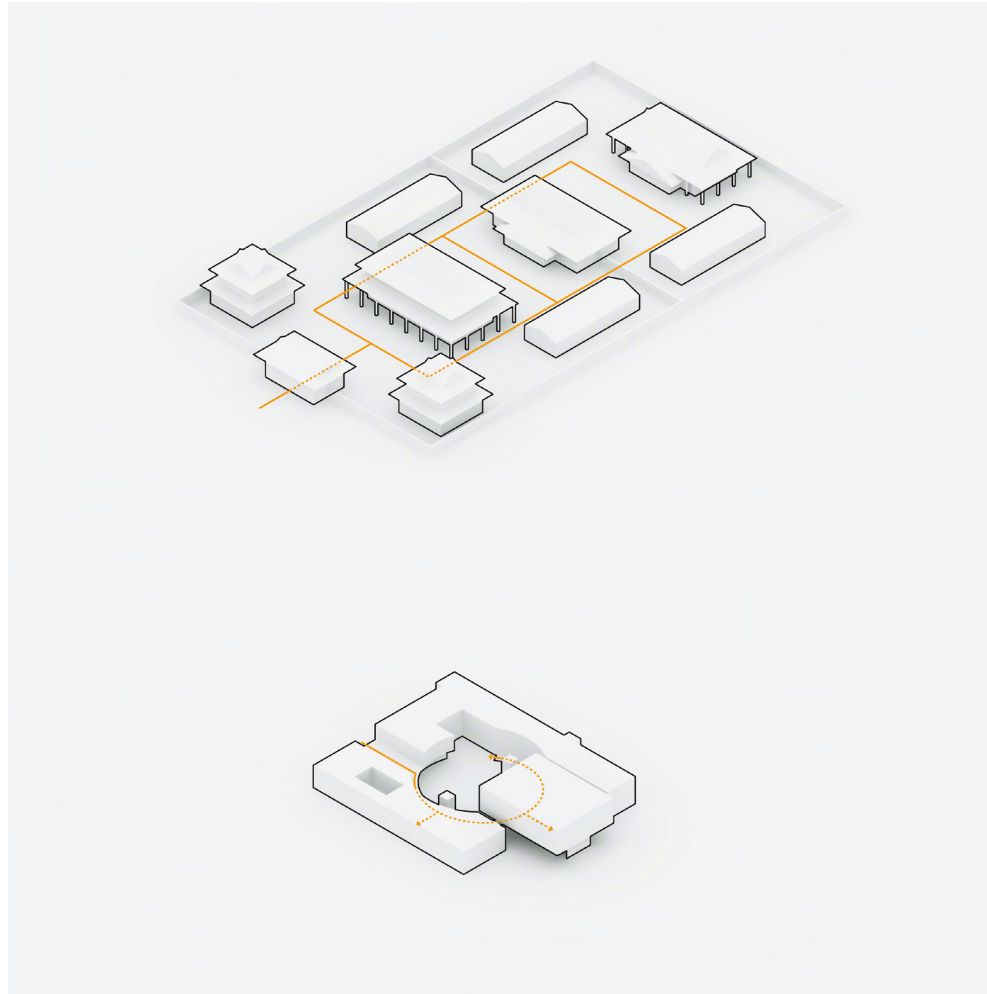


Figure 3.22 Order sequence in traditional temples vs. the new temple

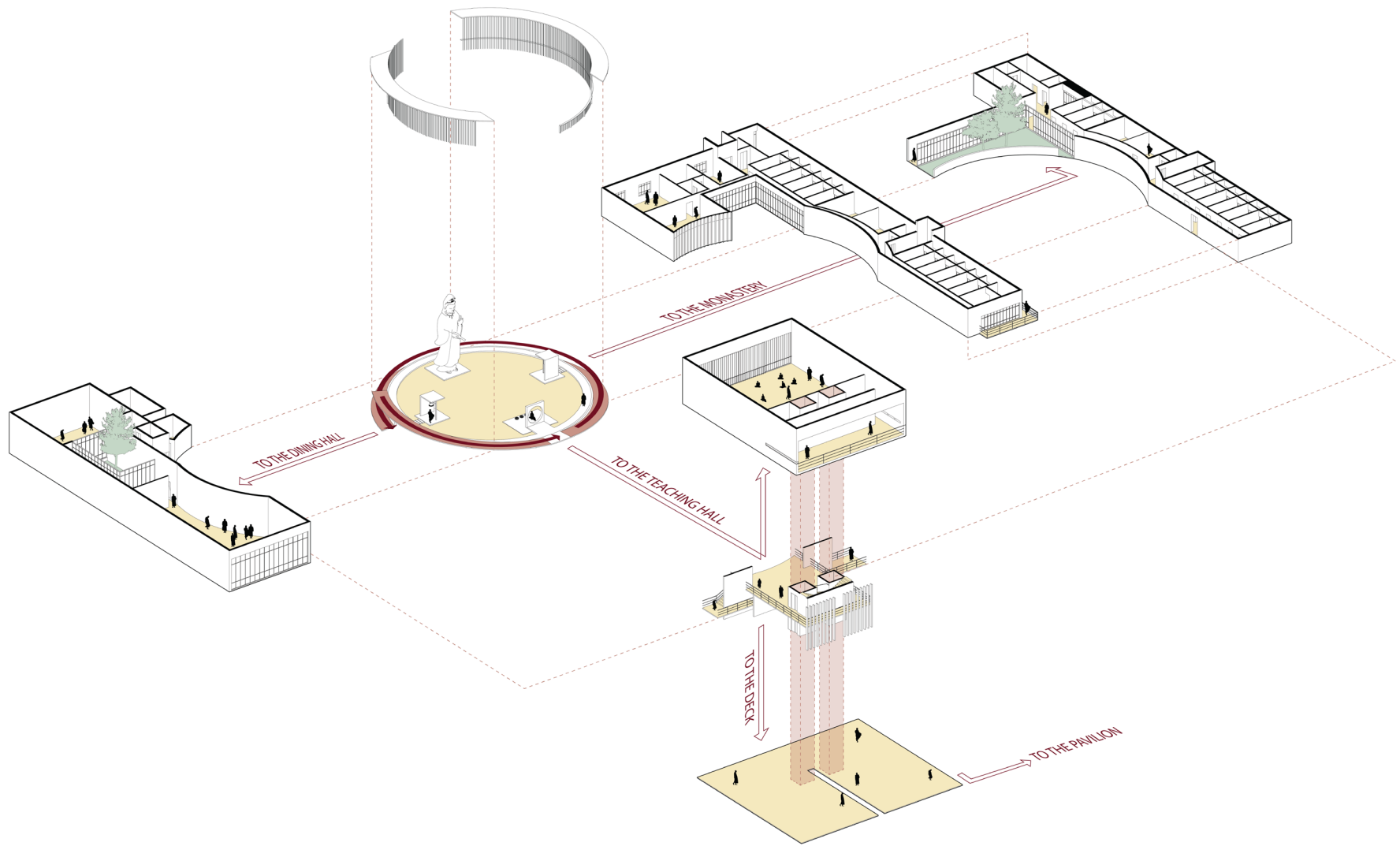


Figure 3.23 Exploded Axo of the temple

The beginning of the ramp connects the open entrance of the Kuan-yin temple. The first segment goes down 1.5m to the first stop of this journey, which is the central courtyard. The central courtyard is a circular space covered with gravels. In this courtyard, a 10m high statue of Avalokitesvara stands on the west side facing the reservoir. On the south side, there is a bell tower facing east (the side of sunrise); meanwhile, a drum tower is on the north side facing west (the side of the sunset).



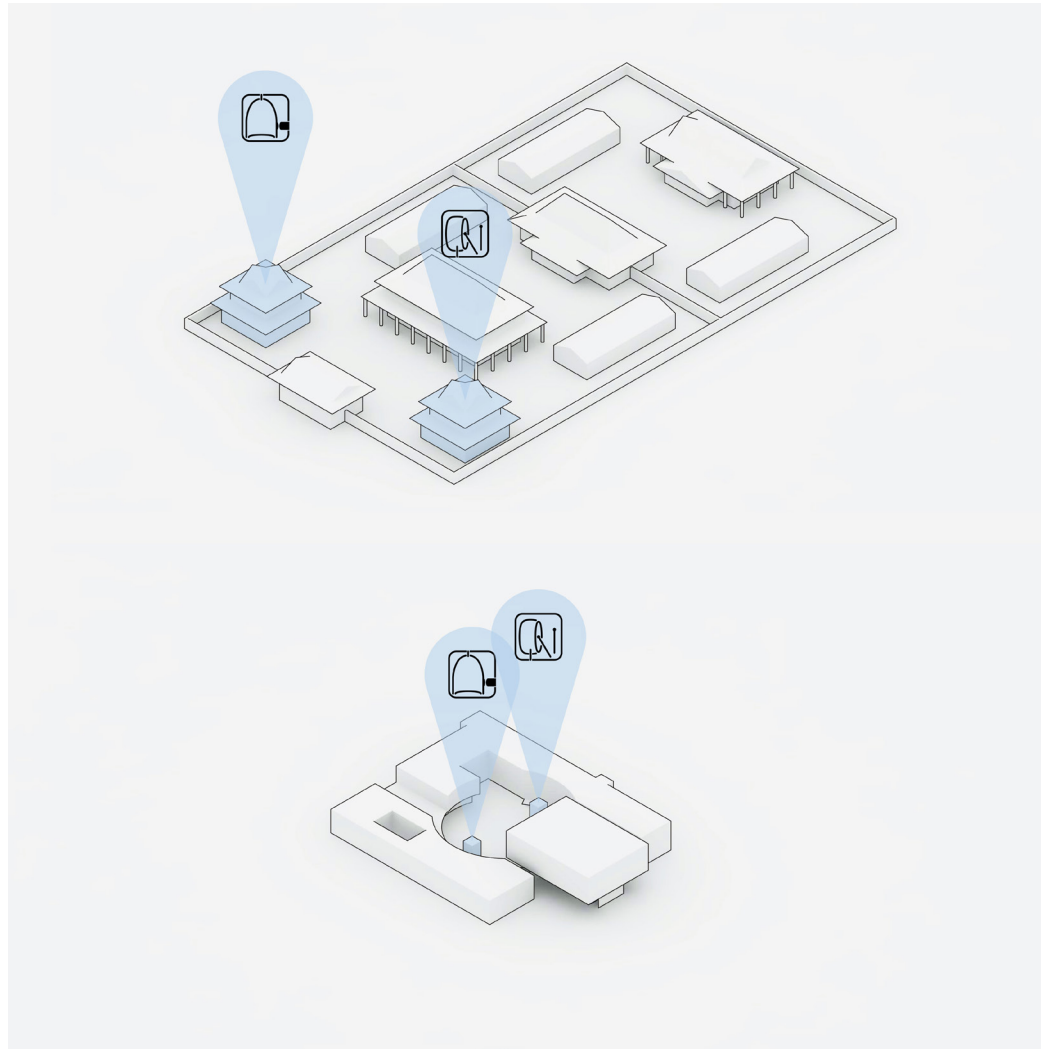


Figure 3.24 Bell and drum towers in traditional temples vs. in this temple

When the weather is nice and warm, the monks can hold the circumambulation in the courtyard around the statue. The monks walk around and around while hearing the cracks of gravels under their foot. It is an exclusive conversation between monks and nature. The prayers look up to the high statue from a low and humble level in the courtyard. It is their first encounter with Avalokitesvara and the truth on the journey inside Kuan-yin temple.



Figure 3.25 Watching the statue from the central courtyard

On the opposite side of the central courtyard, there is a terrace with open views of the reservoir. In the center of the terrace, a staircase guides people up to the teaching hall, the second stop of this journey. Inside the teaching hall, the prayers can watch the statue through the curtain wall while chanting and circumambulating. It is their second encounter with Avalokitesvara on a higher level, which is closer to the truth. The second segment of the spiral ramp goes down another 1.5m to the third stop, which is the monastery. The monastery in Kuan-yin temple includes monks' quarters and services for internal activities. It is available exclusively to monks and lay Buddhists who are living in Kuan-yin temple while the gate of a small courtyard blocks other visitors. The final stop is the dining hall at the end of the circular path. It is open to all the prayers since having vegetarian food together is the part of the Buddhist ritual.

In traditional Buddhist temples, the main halls for worship are arranged on the central axis while the secondary spaces lie on the lateral sides. This strictly structured arrangement correspondingly applies to this new temple. The main worship spaces, the central courtyard, the teaching hall and the sutra archive, are on the central axis. Meanwhile, the monastery and the dining hall are on the lateral sides. Nonetheless, there is one issue in traditional Buddhist temples that can be solved in modern architecture. Because each courtyard is visually isolated from other courtyards, there might be multiple statues of the same Buddha repeated during the pilgrimage process. In this new temple, only one statue, as the absolute focal point, exists in the central courtyard, which can be seen from different angles.

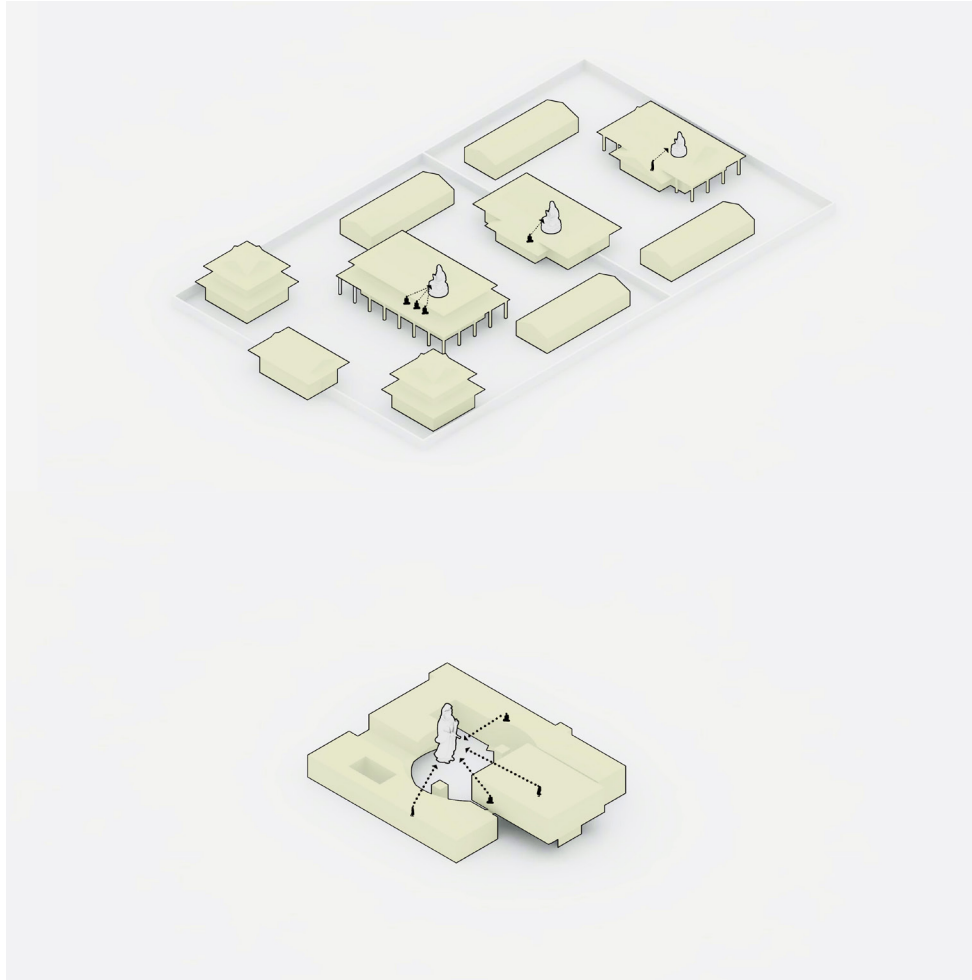


Figure 3.26 Multiple statues in traditional temples vs. one statue in this temple

## 5. LIGHT AND ENLIGHTENMENT

The Buddhist teaching intends to enlighten people to achieve a bliss state, which is an absence of agony and lust. Enlightenment is the keyword and the dominating concept during the design process. In religious architecture, light is an essential element to attract the attention of prayers leading them to move forward. When designing Kuan-yin temple, how natural light cast into worship spaces is the primary concern other than constructing the journey. To have a better manipulation of natural light inside the temple, I look into the regional sunshine analysis of the site (Figure sun study). Shadows move as the sun changes its angle, expressing the time of a day and the alteration of seasons.

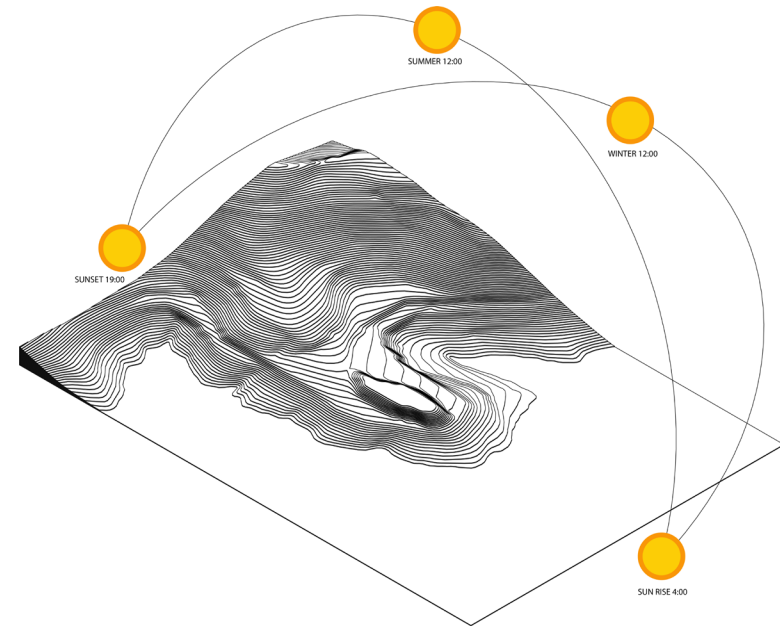


Figure 3.27 Sun study of the site

The staircase: Every day in the morning, the sun rises from the east side. It is time for monks to go to the teaching hall for their morning chanting. The sutra carved on the eastern wall let sunlight shines through in a relatively low angle, projecting the sutra on the western wall of the staircase. When climbing up the stair, monks can read the sutra on the wall since the projections are clear and legible. It is a preparation for the official practice happening in the teaching hall.



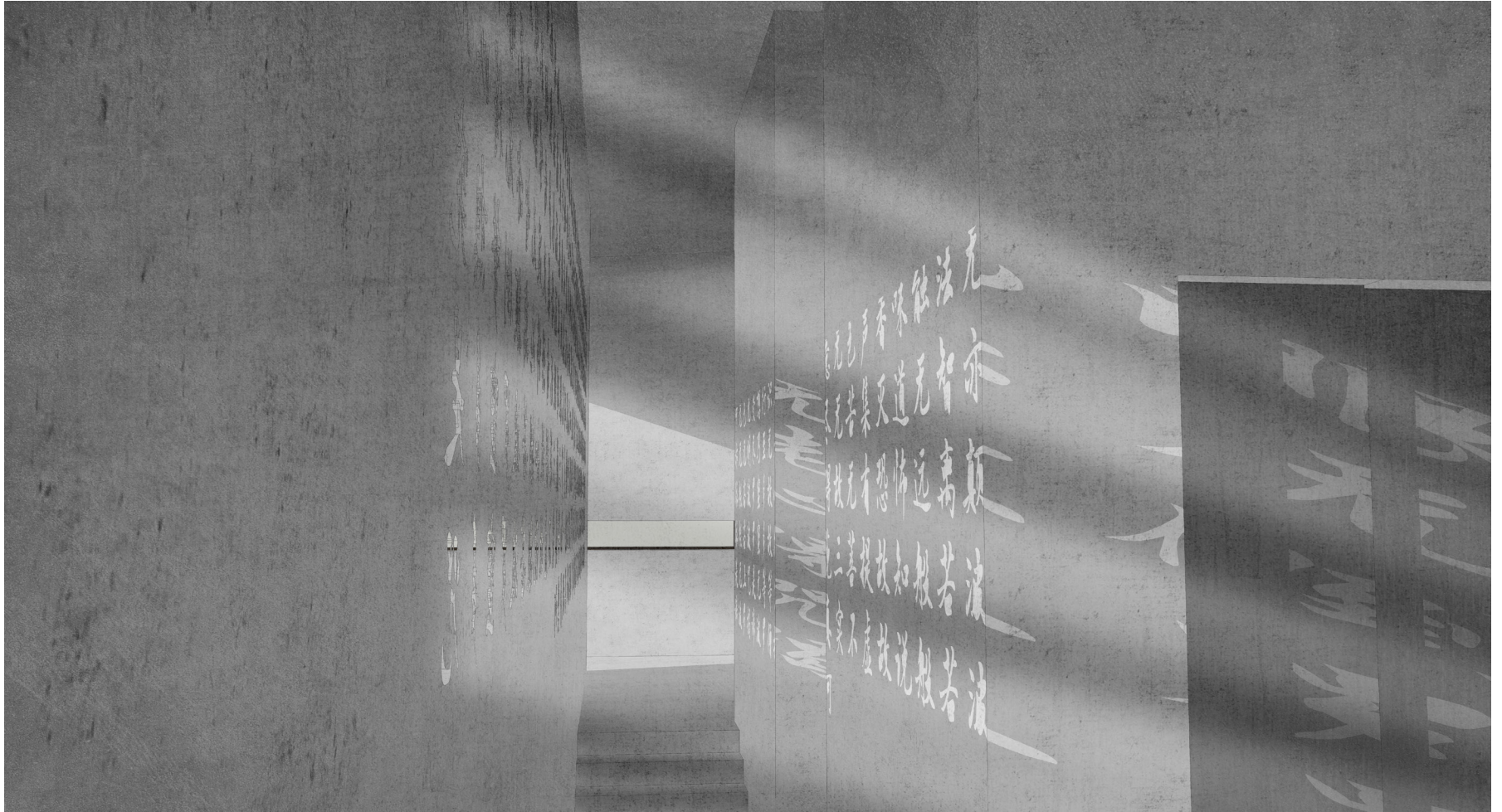


Figure 3.28 Staircase leading to the teaching hall

Ramps of the Central Courtyard: It is 11:00 in the morning, a monk walks on the curved ramp in the central courtyard. The roof of the ramp is supported by wooden panels and steel angles. The sunlight from the south side cast shadows of these panels on the solid curvy wall. The rhythmic panels and shadows create a mysterious ambience like a labyrinth.

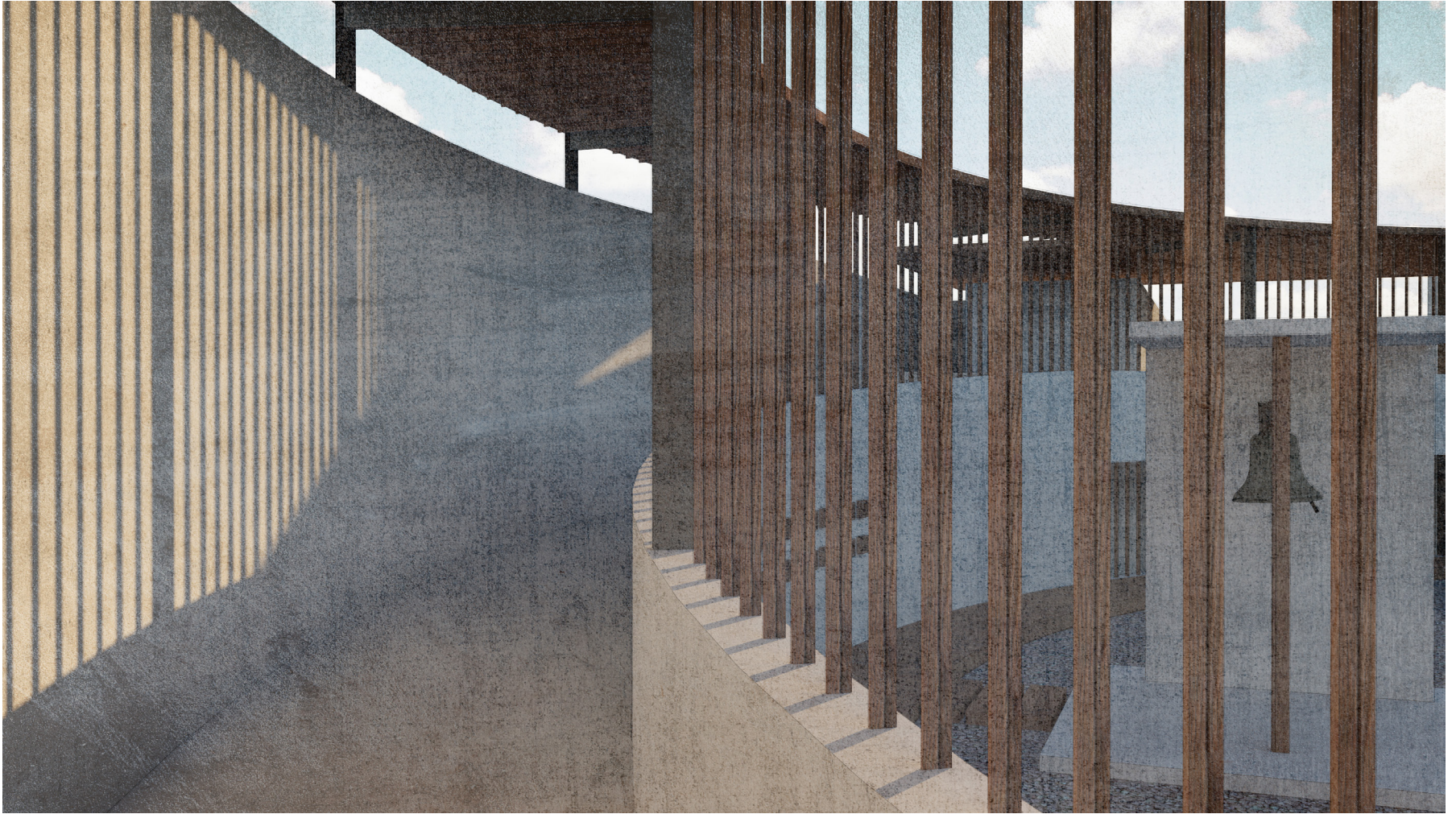


Figure 3.29 Aisle in the central courtyard

The Sutra Archive: At 2:00 in the afternoon, the abbot walks to the sutra archive to find the book he has been researching. The sutra archive is behind the giant statue of Avalokitesvara. Through the curtain wall, the shadow of the statue casts inside the indoor space, leaving the silhouette of Avalokitesvara on the floor.



Figure 3.30 Study area in front of the sutra archive

The Teaching Hall: About 6:00 in the evening, the monks sit in the teaching hall for their evening chanting. The sunlight illuminates from the west side, leaving shadows of the wooden mullions on the floor. As the sun descends, at one particular moment, it moves behind the head of the statue, becoming a shining halo of the bodhisattva.



Figure 3.31 Teaching hall

## 6. DETAILS AND MATERIALITY



The entry point of my research is criticizing the fact that pseudo-traditional Buddhist temples infringe the authenticity of materials. In Kuan-yin temple, I intend to apply authentic materials such as exposed concrete, uncovered steel beams and wooden panels. Other than materials, the connecting details, which are exposed as well, oppose the fake components in those pseudo-traditional Buddhist temples. Take the pavilion as an illustration; each component in it is indispensable as part of the structure, composing an organic system same as the traditional Chinese architecture.

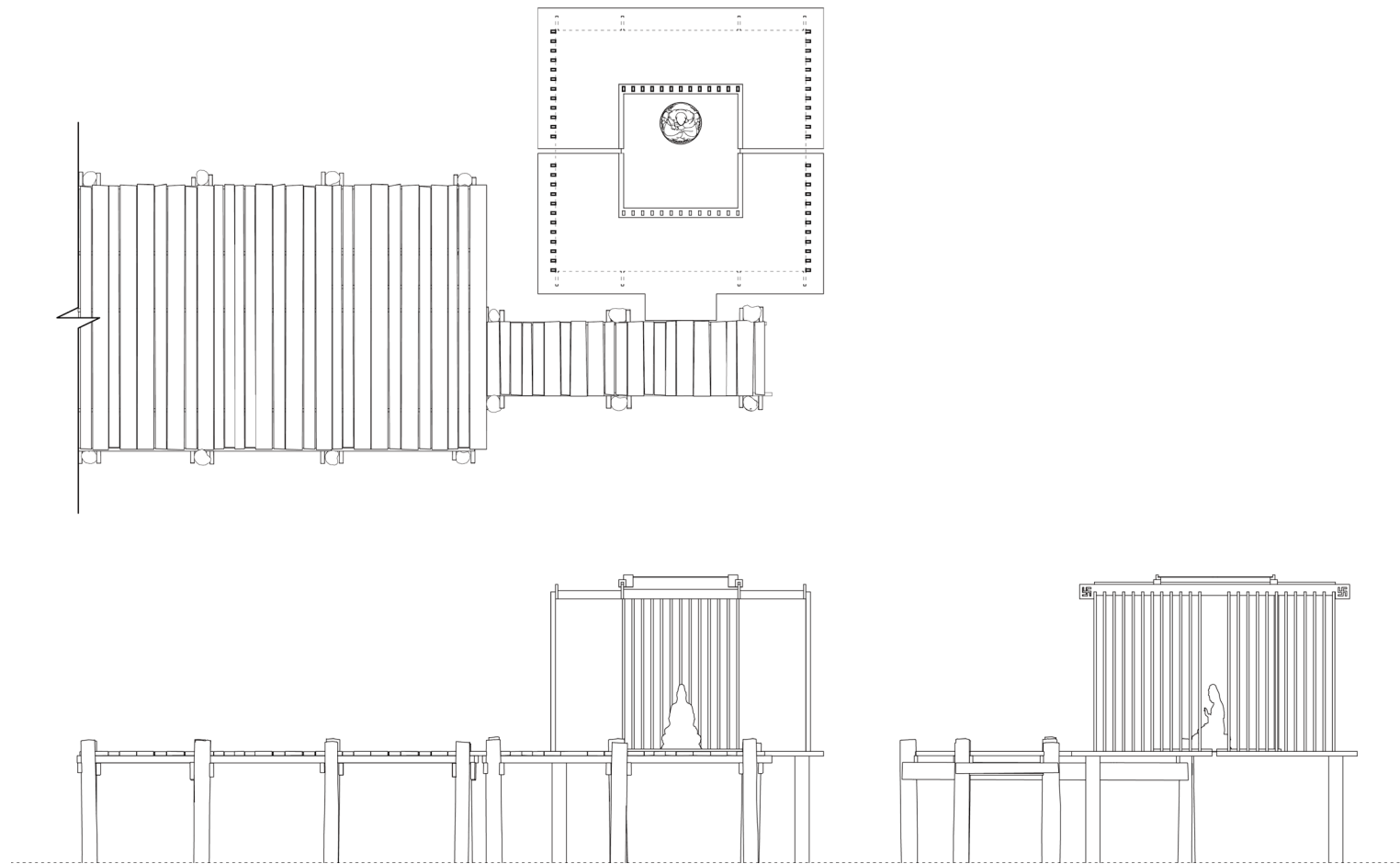


Figure 3.32 Plan and elevations of the pavilion

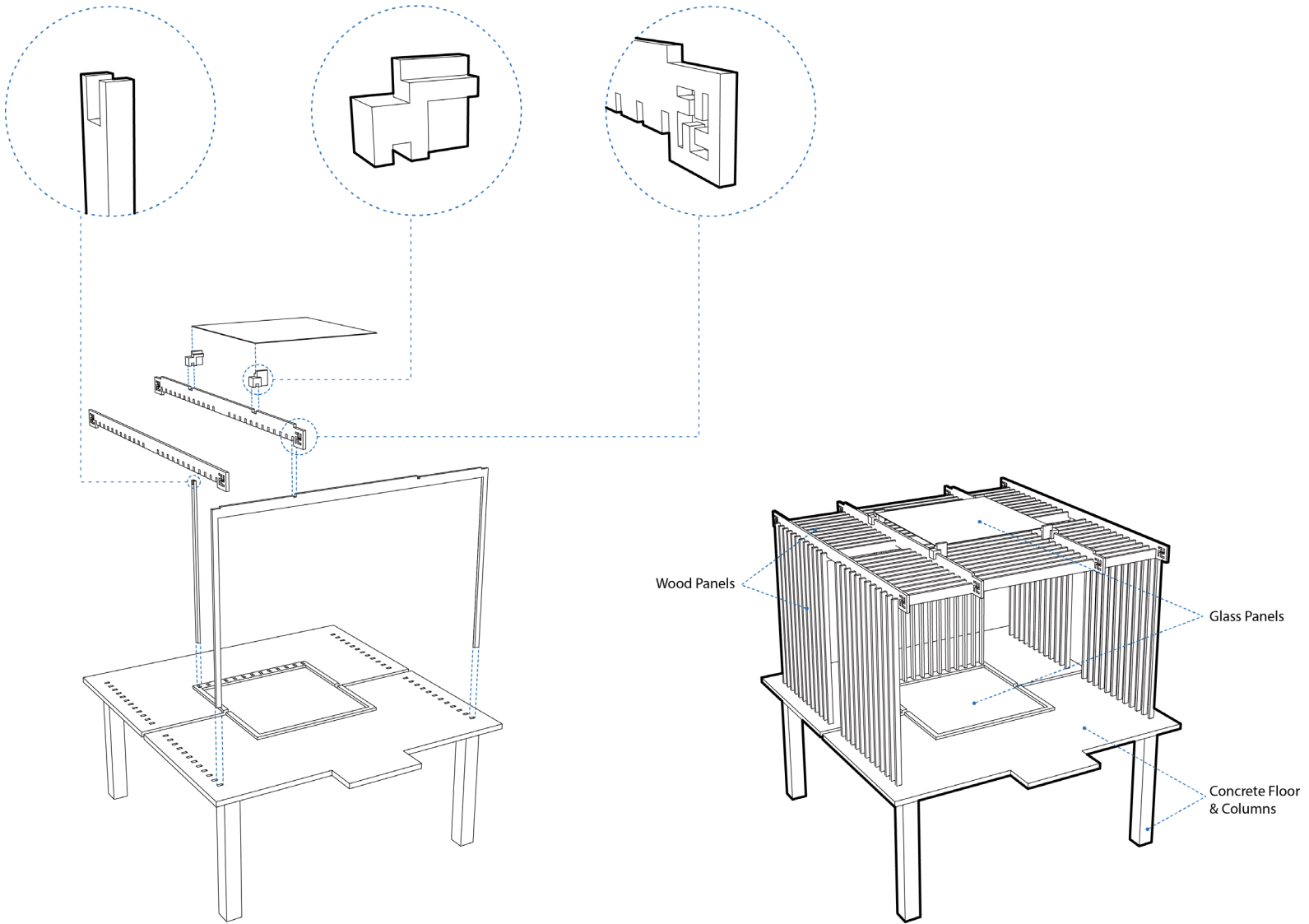


Figure 3.33 Connecting details of the pavilion



## CONCLUSION



I initially perceived the issue of pseudo-traditional Buddhist temples when I was in the second year of undergraduate school, which was ten years ago. I am very appreciative for the chance to write this thesis and design a contemporary Buddhist temple after all these years. This thesis is not only a journey to reveal the mystery of Buddhism, sacred spaces and contemporary religious architecture; it is also my journey of enlightenment and finding my peaceful mind.

Buddhism has influenced the epistemology and world outlook of generations of Chinese people. However, this impact has been declining during the past decades, especially to the younger generation. The degeneration of Buddhist temples is one reason for this situation. Throughout history, religious architecture has always been an essential tool of preaching and imparting the spirit, as a physical and straightforward visual expression. To regain the once-prosperous Buddhism, designing new contemporary Buddhist temples is crucial and efficient.

In this thesis, I propose a design of the contemporary Buddhist temple called Kuan-yin Temple. Throughout the designing process, I encountered two significant challenges and made two crucial decisions. The biggest challenge is how to connect the history and the present. Pseudo-traditional Buddhist temples illustrate one choice which is duplicating the forms of historical temples. While in Kuan-yin temple, I choose to reproduce the sacred experience instead of extracting symbols and icons from traditional Chinese architecture. This sacred experience is generated through the journey to the holy. In Kuan-yin Temple, the journey I created combines different historical events that happened on the site in one building, representing four stages of the journey. Each stage is designed according to the spiritual request of people and the Buddhist ritual process of monks. This sacred journey not only mirrors the pilgrimage sequence but also forms special rituals through elaborate design based on the story and topography of the site.

The second challenge is how to apply materials in contemporary Buddhist temples. As I criticize the infringement of the authenticity of materials in Pseudo-traditional Buddhist temples, In Kuan-yin temple, I apply authentic materials like exposed concrete, unpainted wood and steel. Apart from the texture of materials, connecting details are exposed as well, showing the structural relations between every two components. While Pseudo-traditional Buddhist temples express the value of fake, the Kuan-yin temple states the opposite. Besides, my intent of applying all these exposed materials and well-designed details is to engage them to establish the sacred sensation of the space.

Furthermore, my proposal is not a prototype of the contemporary Buddhist temples but one specific project based on a unique story of the site. It is the experience and the spiritual fulfilment that matters most in religious architecture, not the forms. Like it is written in the Four Sacred Verses of Bodhidharma,

*“no dependence upon words and letters; directly pointing at the soul of a man;”*

It does not matter what a Buddhist temple looks like as long as it can point directly into your heart.



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## VIDEO

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