

The Innovative Expression of Chinese Traditional Culture and Art in Contemporary Architectural Design

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Abstract

Recent improvements in contemporary Chinese society will not only be reflected by new economic models, cultural products, scientific and technological achievements and aesthetic values, but also manifest in diverse unconventional new methods of architectural design.

In the twentieth century, one of the main issues in architectural debate was to find a new synthesis between modernity and national tradition. However, outcomes were often reduced to borrowing some formal features from the past to uncritically combine with the ubiquitous international style and other trends. It was only at the end of the century that some authors in China began to work on a deeper connection with traditional cultural values. Their projects keep the essence of all times specific national character in a work which, however, undoubtedly belongs to our present time. This research picks selected pioneering cases to study how design and art in contemporary Chinese society develops and innovates departing from the deeply set ideologies of traditional Chinese national culture. The relations between architecture and society, architecture and man, architecture and environment, architecture and history and architecture and culture will be analyzed through the study of present-time Chinese architects' with successful attempts at contributing unique architectural alternatives for contemporary China: Leoh Ming Pei, winner of the Pritzker Architecture Prize in 1983, Cui Kai, prestigious member of the Chinese Academy of Engineering and Wang Shu, winner of the Pritzker Architecture Prize in 2012 and others.

As the main goal of the present research, it will be emphasized that it is possible nowadays to pave new ways of architectural design which are capable of fulfilling requirements and functional needs in modern times, but are simultaneously, truly, meaningfully in connection to the country's highly appreciated ancient values. These were expressed in diverse manifestations

of Chinese culture and art through the different historical periods, mainly in architecture, city design, gardening and painting.

By combining modern architectural languages and design methods with the traditional Chinese aesthetic and culture, these masters have created an architectural pattern marked with Chinese cultural features, which not only present a historical continuity with the best traditional examples, but also provides a new perspective for gaining a better understanding of the old culture as well as draws attention to the true spirit of their work.

This work tackles this question from a quite wide perspective which includes aspects from history, politics, philosophy, religion, landscape, garden design, poetry, connection to nature, light, space, materials and building techniques. The research was developed simultaneously to another one in the same research unit which focuses exclusively on -and so goes deeper into- one of the most relevant concepts of this approach: Chinese traditional painting and architectural poetics in present day architecture and design. Both researches complement each other so opening a field -a new and fertile one- for further exploration, practice and research.

Through the balance of the adoption of their own intuitions, the conscious utilization of new building materials, and the respect for Chinese history and culture, these designers have been constantly developing and improving creative ideas and aesthetic notions, and carried an unremitting practice in the creation of an all-encompassing, past, present and future Chinese architectural space. They have started the engine of a new contemporary design which is deeply committed to geographical, natural, cultural and historical context, in opposition to the globally dominant formalism that is currently repetitively sweeping across China and the rest of the world.

Keywords: contemporary China; culture; art; heritage; integration; nature

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1. Introduction

1.1 The background and significance of the research

1.1.1 The origin of the research topic

Culture has no boundaries; it is the common wealth of all humanity. In the context of globalization, human social relations and interactions tend to be globalized. It is an ongoing process marked by the increasing frequency of social, political, cultural and economic activities that crosses borders.

There is no doubt that globalization has promoted cultural exchange activities, especially since the 1990s. The rapid dissemination of information has also involved the sharing and exchange of architectural information. This tendency accelerates the spread and popularization of construction technology on one hand, and on the other hand leads to the loss of regional architectural culture.

China is a vast multi-ethnic country. From north to south and from east to west, China has a great variety of geological, geomorphological, climatic and hydrological conditions. The historical backgrounds, cultural traditions and living habits of various ethnic groups are different, resulting in many unique architectural styles.

The Chinese civilization is one of the oldest in the world. It has a long history which spans almost 5,000 years. For thousands of years, unique cultural expressions have accumulated in China, which are different from their western counterparts. Chinese people have not only their own artistic abstraction and source of civilization, but also their own harmonious ways of living. Since ancient times, Chinese people have obtained spiritual comfort and soul sublimation from art and culture, without relying on religion. The fact that

these kinds of visual cultures can be materialized and integrated into everyday life means there is a special artistic charm to Chinese culture.

However, in the recent one hundred years, due to the impact of foreign architectural cultures, people's attitude towards traditional Chinese architectural culture has become pathological. On one hand, some high-ranking managers crudely advocate that "all of the West is better and traditional culture is deficient". On the other hand, those with ulterior motives have attempted to use the drossy part of traditional culture for publicity, provoking the public to negatively comment on it and even discard it - purely as a result of the lack of understanding.

Therefore, studying the quintessence of Chinese traditional culture and applying it to architectural design should be considered an urgent task.

1.1.2 The significance of the research project

According to the book *The Essence of Chinese Traditional Culture*, Chinese contemporary culture consists of three main parts: Chinese traditional culture with Confucianism as its core, Western classical culture absorbed in the Ming Dynasty and modern Western bourgeois culture and Marxism introduced to China at the May 4th Movement. Thus it can be seen that Chinese culture is not a closed and rigid cultural system; on the contrary, while it is mainly based on traditional culture, it constantly draws on multiple cultures from both inside and outside the country, in an open integration system. Chinese culture is a dynamic structure with open pores, which integrates the essence of other heterogeneous cultures in the process of developing its own cultural identity.

Since modern times, especially the 19th century, the development and expansion of capitalism in China has intensified. Since the 20th century, with rapid global integration, the collision between Chinese and Western cultures has accelerated. Today, the presence of Western elements within Chinese culture is tremendously rich. Such richness inevitably has both advantages

and disadvantages. On one hand, China has been renewed and further developed in regards to technologies, ideas and concepts. On the other hand, as global cultures become increasingly similar, the uniqueness of regional cultures becomes scarce, and some elements of Chinese culture begin to disappear.

The value of Chinese traditional culture and art is immeasurable. If this precious treasure vanishes because of modernization, China would lose its unique national identity. Cultures that lack “nationality” may be lost among those already globalized cultures and become obscure and indiscernible. In other words, once a culture loses its uniqueness, it will be considered as a copy of any of others. Over time, it will be increasingly marginalized, or even completely disappear. If Chinese culture loses its precious “nationality”, it will be impossible to define the Chinese nation and its civilization.

1.2 Related concepts and research objects

1.2.1 Introduction of related concepts

Building originated from the basic needs of human beings to avoid wind and rain, as well to obtain shelter from wild beasts and insects. When human beings began to consciously build dwellings, building started to be produced officially. Therefore, the history of architecture is almost as long as that of human civilization.

Building was first conceived of as material wealth and treated in a materialistic way. At first, the functions of building were simple. With social development, as well as the improvement of productivity and technology, architecture adopted more and more spiritual functions beyond material ones. Since there are differences between natural and social environments, and between people’s physical and spiritual needs, buildings are too required to assume distinct responsibilities.

The formation of a building and its evolution embody the characteristics of various factors such as geography, time and culture, based on which countries, nations and regions with different forms of traditional architecture could be identified. Therefore, buildings' geographical attributes manifested in the building's physical space, form and idea constitute its identifiable features.

Building belongs to the category of material culture and can be defined as a material product of culture. Therefore, based on the basic attributes of culture, it is logical and feasible to study the influence of Chinese traditional culture and art on contemporary architectural design and its application.

1.2.2 Definition of research objects

The application of Chinese traditional culture and art in contemporary architectural design is conditioned by two main factors: China's geographical restrictions and the limitations of traditional Chinese culture and art.

This project is delimited within the geographical scope of "China", which is also regarded as the research object. China is a multi-ethnic country with Han as its main ethnic group, based on its lengthy history. People speak Chinese Mandarin and write in Chinese characters. The Han ethnic group and other ethnic minorities are collectively referred to as the "Chinese nation," and they call themselves Yanhuang Descendants or Dragon's successors.

China is one of the four ancient civilizations in the world and has a long history. About 5000 years ago, the Central Plains region began to emerge as the center for settlement, with the primary country to be formed. After many inter-ethnic communication and dynastic replacements, China now is a unified multi-ethnic country.

In this project, "Chinese traditional culture and art" is a temporal category to which the research object belong. It is "traditional" rather than "modern".

Chinese culture has a long, broad and profound history. Being a significant part within the East Asian cultural circle, Chinese culture also

occupies an important position in the world's cultural system. Due to its peculiarities of geographical location and natural conditions, it has its own social and economic profile.

The study of this project, from a diachronic perspective, focuses on the influence of Chinese traditional culture and art on architectural design and its application: in order to make the research more complete and systematic, the paper will make an investigation from ancient traditional architecture design to modern, contemporary one.

In Chinese traditional culture, the influence of Confucianism and Taoism on architectural design is greater than that of other philosophies. During the Spring and Autumn Period (BC 770 –BC 476) and the Warring States Period (BC 475 – BC 221), there were a great number of schools of thought, including the brilliant Confucianism and Taoism. For thousands of years since then, Confucianism and Taoism, as the mainstream schools of thought of Chinese culture, have had far-reaching effects. As a material byproduct of philosophy, architecture will inevitably be affected by them.

In Chinese traditional art, landscape painting and poetry have great influence on architectural design.

Chinese traditional landscape painting and ancient Chinese architecture have always been treated inseparably as landscape art. In history, landscape painting and ancient Chinese architecture have a clear and intensive interaction. Also, Chinese classical poetry and traditional Chinese architecture always share the same aesthetic and have strong mutual integration, as both pursue the typical features of natural beauty, implicit beauty, emotional beauty and aesthetic beauty within certain time and space. In the absence of ancient architects, even literati sometimes played the role of the architect and project leader. In such background, people are encouraged to re-evaluate ancient Chinese architectural culture and construction methods. How traditional Chinese art can forge its identity from ancient buildings has become a problem.

1.3 Research status of the subject

1.3.1 Brief overview of traditional Chinese culture

Research on the application of Chinese traditional culture and art in architectural design will involve Chinese traditional culture, Chinese traditional art, design methods and so on. Relevant research results are worth learning from.

There are quite a lot of studies on Chinese traditional culture from different perspectives. Among them, cultural backgrounds and artistic techniques embodied in architecture are seldom used as starting points. Therefore, this paper is intended to be taken as an example to explore the influence of culture on architecture, in order to understand local culture and art. The history of China in the previous five thousand years, coupled with its vast territory, is rich in traditional culture. Due to the limitation of both the time for the subject and author's ability, the paper can hardly interpret all the aspects of traditional culture. Instead, it will take the most important philosophical thoughts and religions, traditional landscape painting and poetry to present the architecture formed by traditional culture along history.

1.3.2 Summary of contemporary Chinese architecture design

China's contemporary architectural design has undergone a long period of development. In the process, it has produced many outstanding works of art as well as failures and inappropriate exaggerations. After the accumulation of several generations of architects, a great deal of outstanding architects have emerged: Yung Ho Chang, Wang Shu, Liu Jiakun and Zhang Lei, among others. These architects have different backgrounds, educations, points of view and subject studies. Today's economic development in China is in good shape. Under such circumstances, although the most vigorous period for construction activities has passed, the momentum of steady development

remains. Although in the process of urban renewal and modernization, brand-new modern buildings that are in line with Chinese local culture are being developed at a very low speed, it is reasonable to believe that in the future, China's contemporary architectural landscape will show a more diverse composition.

1.4 Research goals and methods

1.4.1 Research goals

The research goal of this subject is to systematically and comprehensively study the application of Chinese traditional culture and art in architectural design through an interdisciplinary study. First of all, on the basis of a comprehensive and systematic collection of historical documents, as well as an investigation on existing construction examples and relevant practices, this paper will study the relationship between Chinese traditional culture and the influence of art on architectural design and its historical application, taking the social and human development of all historic periods into account. Secondly, the paper will analyze the influence of several specially influencing elements of traditional Chinese culture and art on traditional architecture and the process and result of concrete applications. Furthermore, it will study the application of foreign traditional culture and art in architecture. Finally, through the research of this topic, the mechanism, regularity and future trend of the application of Chinese traditional culture and art in architecture will be concluded, so that suggestions for the contemporary protection and utilization of Chinese traditional architecture shall emerge. This paper will also, in addition, provide the basic principles and reference methods that can be followed for the development of contemporary Chinese architecture in the context of globalization.

1.4.2 Research methods

The present research sets mainly to investigate the diachronical application of Chinese traditional culture and art in architectural design and discuss the influence of foreign architectural culture on the development of Chinese architectural culture in ancient, modern and contemporary times. Therefore, it mainly serves of historical research, comparison, synthesis and interdisciplinary study as its methods.

The historical research method

The method of historical research consists in objectively describing and analyzing the natural process of research object so as to reveal the law of its historical development. Since we are exposed to a contemporary environment, it is inevitable for us to draw on the feelings and cognitions that are exclusive to the current historical stage when using historical research to analyze past historical facts. Therefore, it is necessary to understand the social environment at certain historic moment, and ensure that the result of the research conforms to the objective existence. Empirical research, including literature survey and field investigation, is the most basic method of historical research.

This research needs to combine literary investigation with field investigation, and focus on the different stages in which the research object is located. Due to ancient buildings' poor physical resistance, or the remodeling and transformation of their original version, it is logical to rely mainly on literary investigation and material collection for its analysis when it comes to the ancient part. As for the modern part, buildings preserved til now can provide important historical facts for our research. The combination of literature and field investigation can make for a complete and scientific research base. For the modern part, mainly through a large number of case studies, people should combine the research with the literature to gain a holistic perception, cognition and interpretation. The use of historical research method enables us to understand the basic mechanisms of the application of Chinese traditional culture in architectural design through a series of historical facts.

Comparison and synthesis method

The method of comparison and synthesis consists in comparing similar things, analyzing their similarities and differences, and synthesizing them on the basis of comparison. Using the comparative method helps to broaden our horizon in our research and recognize the nature of the research object.

The method of comparison consists of horizontal comparison and vertical comparison. We can sum up the application of Chinese traditional philosophical thought in architectural design by comparing how the theories of Confucianism and Taoism have been applied to architecture in history. By comparing the Chinese traditional arts horizontally, including the application of landscape painting and poetry in architectural design, we can sum up the influence of different elements of traditional Chinese art on architectural design. Through the horizontal comparison between the application of traditional culture in Chinese and in foreign architectural design, this paper analyzes the similarities and differences between several countries and synthesizes and summarizes their law of development and internal mechanism of the application of traditional culture in architectural design. Through the longitudinal study of several historical stages, we can grasp the influence of Chinese traditional culture and art on architecture design and its application in different periods and further explore how Chinese traditional culture and art are applied to contemporary architectural design in the context of globalization.

The interdisciplinary study method

This subject, the application of Chinese traditional culture and art in architectural design, involves four disciplines: philosophy, literature, art and architecture. Its course of evolution and development are outside the traditional architectural disciplines. In addition, the subject also involves theory and knowledge of related disciplines such as cultural communication and intercultural communication. Therefore, the use of interdisciplinary research methods can more easily reveal the nature and regularity of the research object.

This subject establishes a multidisciplinary research system based on architecture, philosophy, literature, art, culture and communication, and intercultural communication. Based on the interdisciplinary research perspective and the theory of related disciplines, this paper analyzes the development of the application of Chinese Traditional Culture and Art in Architecture Design. On the basis of emphasizing the collection and textual research of literature, case study and analysis, we pay attention to the analysis and summary of the theory. Through the analysis of the objective existence of the construction examples, the discussion of the key factors and effects of the influence, the concrete method and practical connotation, the method of interdisciplinary research broadens the depth and breadth of the research of this subject and helps to explore its deeper meaning and value through representation as well as to make the research more comprehensive, systematic and scientific.

1.5 Research content and framework

1.5.1 Research content

The study of the application of Chinese traditional culture and art in architectural design needs to be placed in the general context of social development, from the diachronic perspective, with time as a clue, combining the characteristics of Chinese traditional culture and art. Through combining the history of China's architectural design in different disciplines, studying the background, mode and characteristics of China's architectural design in ancient and modern periods as well as the mechanisms that have an impact and role in different historical stages, we can summarize the application of Chinese traditional culture in architectural design. Therefore, this thesis is divided into six chapters.

The first chapter serves as the introduction. The thesis begins with a

discussion of the research background, research significance and the application of Chinese traditional culture and art in architectural design. The research on Chinese traditional culture and art is quite rich and comes with a great deal of achievements. The paper reviews the relevant academic research. In the long history of architectural design in China, the influence of Chinese traditional culture and art plays an important role. This paper sticks only to the one type of architectural works designed by the rising star architects in China of recent times. There is a lack of systematic and comprehensive holistic research on the application of Chinese traditional culture and art in architectural design. Accordingly, this topic puts forward a clear target, the proposed research methods and the main research content.

The second chapter is mainly about the research of interdisciplinary studies. Based on the theoretical studies of Chinese traditional culture, including philosophical, literary and visual art, the paper discusses the characteristics of Chinese traditional culture and art and their corresponding features and application in historical architecture.

The third chapter discusses the background conditions of Chinese architectural design in ancient times. The natural environment and social historical environment are the preconditions and foundations of construction activities. With the development of society, the construction activities in the corresponding times also change and upgrade. Based on the historical data collected and the case study, this paper analyzes the application of Chinese traditional culture and art in architectural design in different periods. According to the overall economic situation of the society and the combination of political background and geographical environment, we can sum up how the construction activities "dance" in the "shackled" situation.

The fourth chapter analyzes the environment and expression of modern

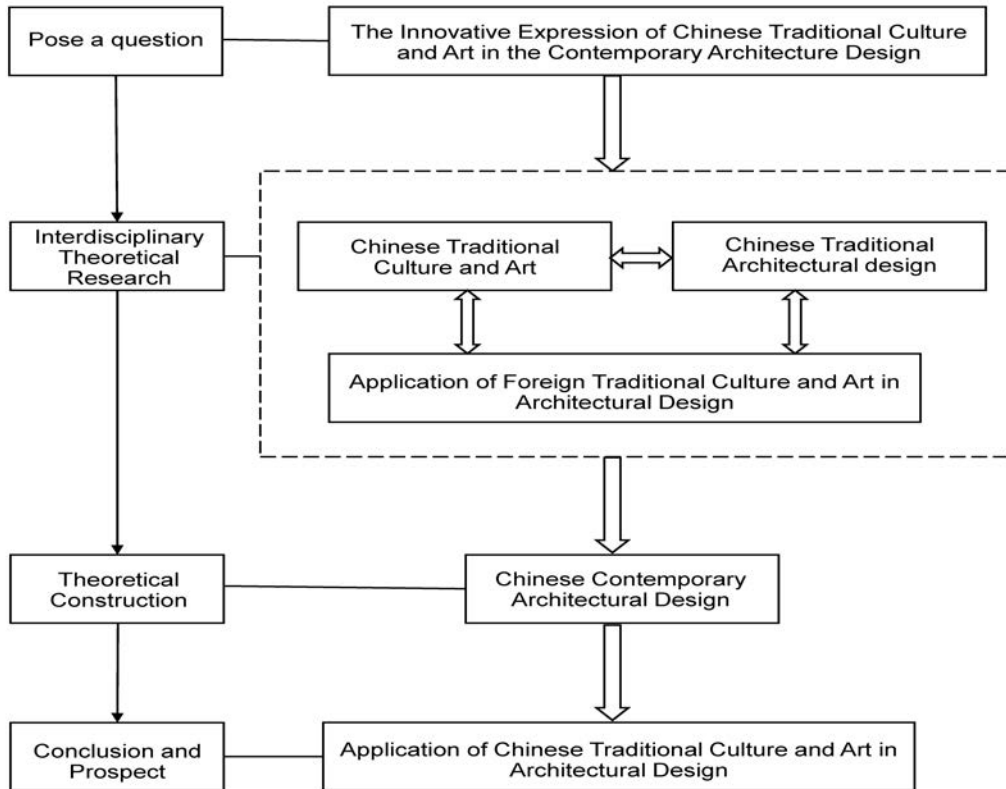
and contemporary Chinese architectural design. Apart from Chinese traditional culture and art, Chinese modern architectural design has been greatly influenced by the external architectural culture and even once covered the traditional method of building. In the historical process, China has experienced different styles of external architectural presentation in its different stages. Eventually, foreign architectural culture will merge with the local culture, resulting in new forms and expressions of suitable venues. Firstly, new architecture has to meet demand in terms of building use. Secondly, new architecture, a continuation of traditional culture, is to meet people's emotional requirements. Last but not least, non-stereotyped architecture of a unique style can help Chinese culture maintain creativity.

The fifth chapter analyzes foreign traditional culture in architectural design. By means of horizontal comparison, this article analyzes how the traditional culture of other countries is applied in architectural design and learns its essence and refers to its specific practices to promote the development of architecture and architectural education in our country.

The sixth chapter analyzes and summarizes the application of Chinese traditional culture and art in architectural design, analyzes its practical approach from the practical design case to the application of spatial linguistic forms such as lighting, materials and colors. Architects can choose a point of view as an entry point in architectural design activities and use it as a key point to present the architecture, as well as grasp the overall space to create with a variety of key presentations. In today's architectural design, architects tend to be succinct in architectural works, which highlights the richness of the space and its partial complexity. Over time, architects present different architectural pieces at different stages. At the same period, architectural works presented by multiple architects may vary a lot. The diversity of individuals and the diversity of the overall architectural environment promote the development of

architectural culture.

1.5.2 Research framework



2. Chinese Traditional Culture and Art 99999

2.1 Characteristics of Chinese traditional culture

Chinese traditional culture is a kind of national culture that reflects the national characteristics and styles gathered together by the evolution of Chinese civilization. It is an overall representation of various ideological cultures and concepts in the national history. It is the traditional culture which was created by the Chinese nation and its ancestors and inherited and developed by its generations, with distinct national characteristics, a long history and profound connotations. It is the crystallization of the civilization of the Chinese nation for thousands of years. In addition to the core content of Confucianism, Chinese traditional culture also includes other cultural forms, such as Taoism, Buddhism and so on.

The notable features of Chinese traditional culture are as follows:

1. Inherited from generation to generation. The traditional Chinese culture was interrupted in some short historical periods and changed more or less in different historical periods. However, in general it changed little.

2. National characteristics. Chinese traditional culture is unique to China and different from other ethnic cultures in the world.

3. A long history. Chinese traditional culture has a history of 5,000 years.

4. Great and profound. "Great" is the breadth of traditional Chinese culture - rich and colorful; "Profound" is the depth of Chinese traditional culture - unpredictable.

2.1.1 Influence of Confucianism on Architectural Design

The cradle of civilization for all mankind is the Yellow River basin in East Asia, the Ganges basin in South Asia, the Nile basin in North Africa and the Tigris and Euphrates basins in West Africa. The birthplace of philosophy is the ancient East, especially China, where the philosophy of mankind can be traced back to. Followed by ancient Greek philosophy and ancient Indian philosophy, these three philosophies are referred to as "the world's philosophical system."

Confucianism and Taoism are Chinese indigenous philosophical ideas and occupy an extremely important place in Chinese philosophy.

Confucianism gradually formed a complete system of Confucian ideology and became the mainstream of Chinese traditional culture with far-reaching effects. It is the most influential sect in China and also the mainstream of ancient Chinese consciousness.



Figure 2-1 Confucius

Confucianism advocates blood relations, worldly affairs, self-cultivation and moral reason. Its central idea is benevolence, righteousness, courtesy, wisdom, faith, loyalty and filial piety. Confucianism maintained "rule of rites," advocated "rule of virtue," and attached great importance to the "benevolent rule." It greatly influenced feudal society and was for a long time enshrined by feudal rulers as orthodox thought.

Among them, the fundamental meaning of the Confucian "rule of righteousness" is "difference". Everyone has his own special code of conduct. There is politeness between the noble and the civilian, the emperor and his inferiors, the old and the young, the husband and his wife and the father and his sons, in order to achieve the ideal society of Confucianism. The country's governance depends on the stability of the hierarchical order. Confucian "courtesy" is also a form of law, with the maintenance of patriarchal hierarchy as the core.

The most obvious manifestation of Confucian "courtesy" is in architecture. Taking a Beijing quadrangle as an example, individual buildings have the front yard and the back yard. The front yard has the distinction between the main room (upper room), wing rooms and side rooms. From the whole social classes, the distinctions are reflected in the size and decoration of the quadrangle. The order from top to bottom is: The Imperial Palace - The Palace of the Aristocratic Mansion - The Sectarian (Official) - The Rich Business People - The Civilians.

According to regulations, buildings outside of the Forbidden City should not be higher than the Imperial Palace, so Beijing's quadrangles are almost entirely bungalow, unlike the rest of the country where the courtyard houses have two or even three floors.



Figure 2-2 the largest Beijing Quadrangle- Forbidden City

A Beijing quadrangle is a kind of courtyard building, the so-called courtyard houses which were built with houses around all sides, with the empty center of these houses as the courtyard. The layout of the courtyard buildings

is symmetrical, with a north-south vertical axis and an enclosed independent courtyard. According to the size of the Beijing Quadrangle, there is one courtyard in the Beijing Quadrangle, two courtyards along the longitudinal axis plus four or five courtyards.

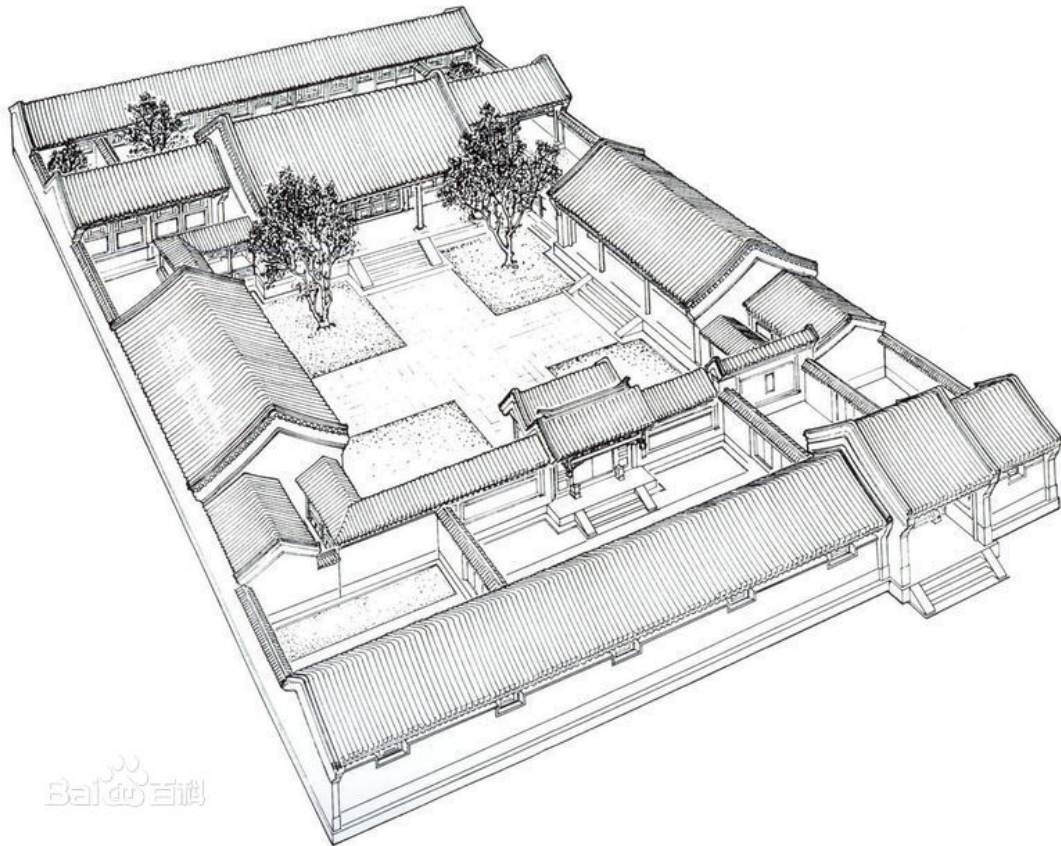


Figure 2-3 a Beijing Quadrangle with three courtyards

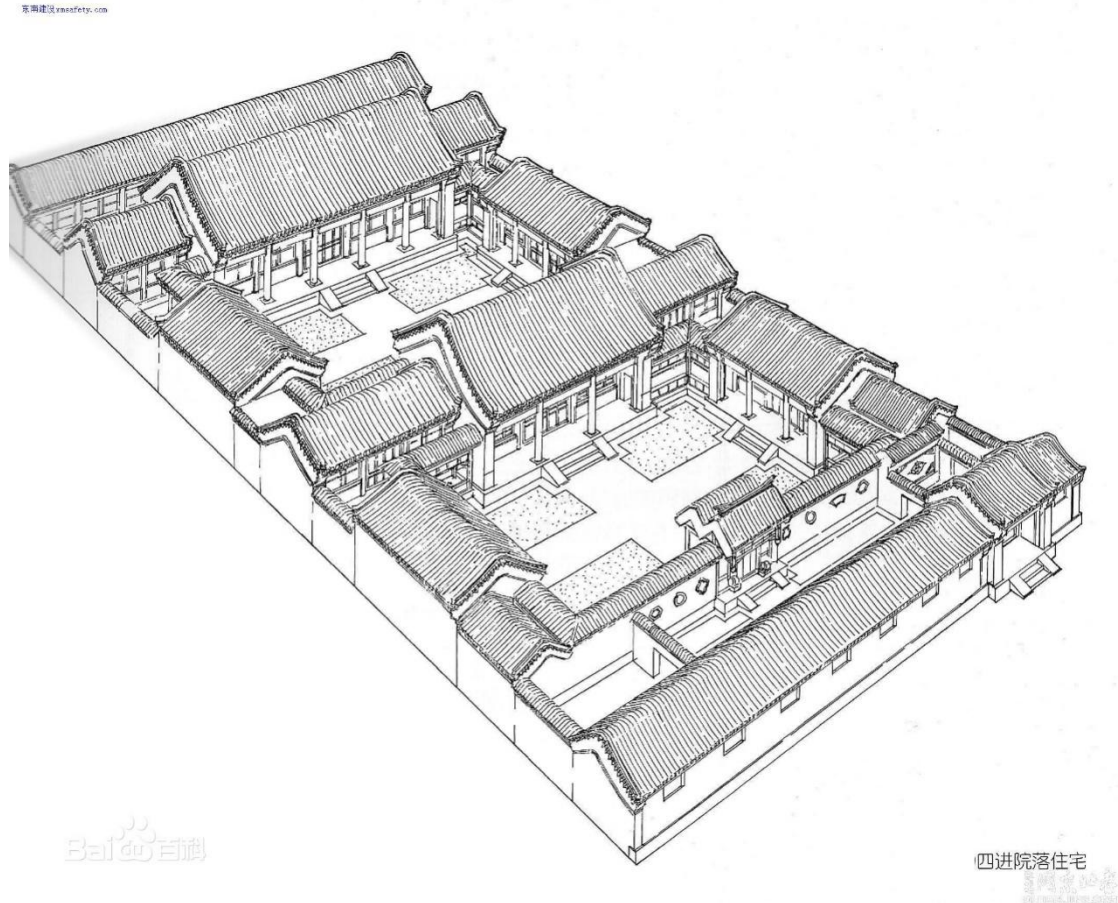


Figure 2-4 A Beijing Quadrangle with four courtyards.

Confucianism courtesy is in the order of living quarters in the courtyard. The North House is the main room, with the larger depth and the higher base of the room, mostly for the elders. The East and West rooms have less depth and a relatively shorter base, often for younger generations. The South Room, where the door is open to the north, is usually used as a guestroom, private supplementary school, male servant or miscellaneous room. The main room is generally divided into three rooms, the middle one for the ancestral hall, the eastern room for grandparents and the western room for parents. The eastern room of the main room is slightly larger than the western, under the Chinese belief that "left is superior". The hierarchy of residential order in Beijing quadrangle reflects Confucian courtesy.

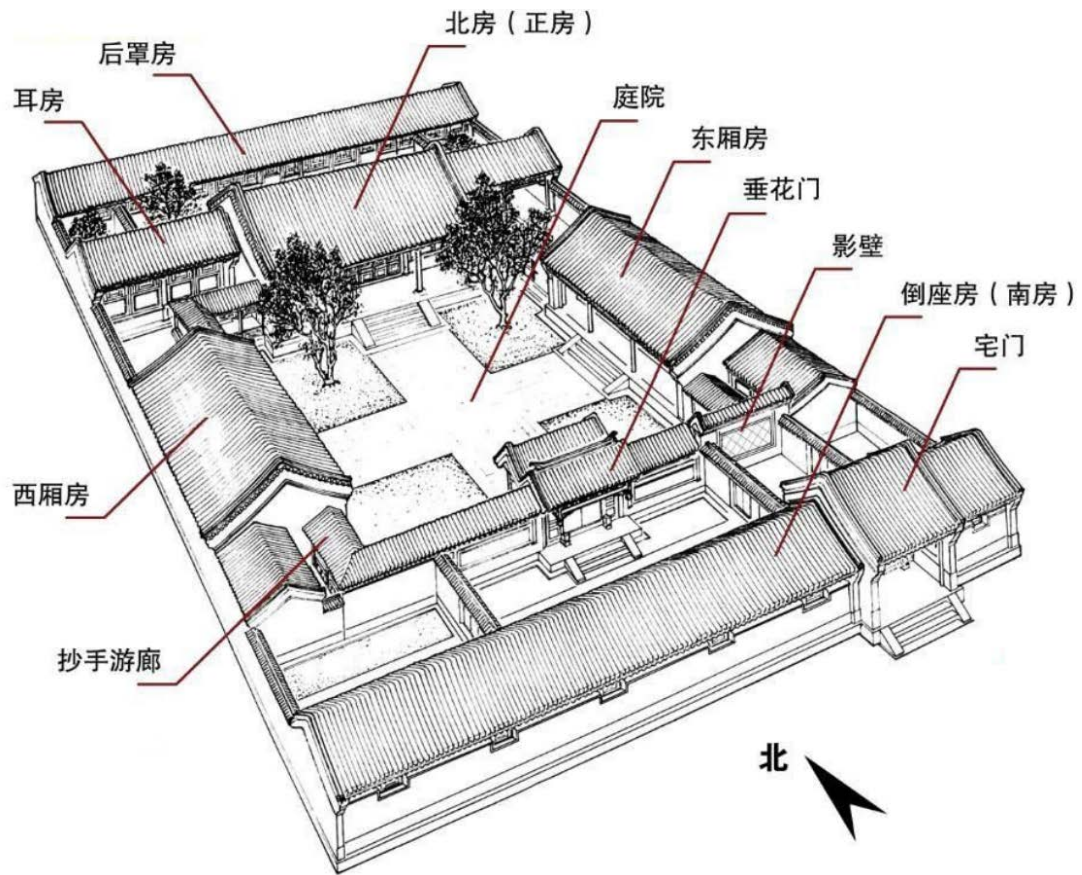


Figure 2-5 A typical Beijing Quadrangle

In a Beijing quadrangle, family members, servants and guests live in accordance with the principle of the order of age, the difference of gender and the relationship of master-servant, which vividly shows the courtesy of Confucian philosophy.

Confucianism pursues harmony between man and nature. It is reflected in the traditional Chinese architectural design, in its affinity with nature. The flat layout of the introverted enclosed courtyard means mixing the element of nature into the building. Plants in the courtyard, which could be planted in pots or in water, also pursue harmony between man and nature.



Figure 2-6 The main courtyard of a Beijing quadrangle

Since the beginning of the Han Dynasty, Confucianism became the governing tool of the feudal ruling class after "the promotion of Confucianism and the elimination of hundreds of other thoughts". It maintained the order of feudalism and deified the autocratic monarchy, which was respected by the ancient feudal rulers in China and became the orthodox and mainstream ideology of Chinese traditional culture for more than two thousand years. Therefore, traditional architectural design in China is infiltrated by Confucianism as a whole, which, having already permeated people's lives, runs through everything; from the most comprehensive idea to the smallest detail.

2.1.2 Influence of Taoism on Architectural Design

Taoism (Philosophical Taoism) originated in the late Spring and Autumn

Period (BC 770-BC 403). Taoism advocates a sort of natural inaction, that it sees in line with promoting harmony with nature. Although the number of disciples in Taoism is far less than that of Confucianism and Maoism in the pre-Qin period, its special cosmology, personal understanding and social thinking saw Taoism gradually spread broadly through history in various fields.

Taoism was founded by Lao Tzu in the Spring and Autumn Period and inherited and developed by Chuang Tzu. Lao Tzu's book *Lao Tzu* mentions that "Tao" is a law of nature that defines all things in the natural world and "Tao" has a consistent and constant value. Both Lao Tzu and Chuang Tzu advocate "Tao" and their ideas contain simple dialectics. They think that things are changing at any time, and there is no absolute value, but a relative one. Taoism holds that "Taoism" is the origin and essence of everything and is the highest philosophical theoretical system. Lao Tzu's "*Moral Classics*" begins, "The Tao that can be told isn't the real Tao. The definition of everything isn't its real name. The world begins as unknown. All things are known for their names." It is generally believed that Lao Tzu's "*Moral Classics*" is an important source of Taoist Philosophical Thought. In addition, *Lao Tzu*, *Chuang Tzu*, *Guan Tzu*, *Huai Nan Tzu*, *Lie Tzu*, *Dao Yuan*, *Cheng* and *the Sixteen Classics* are all examples of Taoism Important works of different ages, which have an extremely important position and value.



Figure 2-7 Lao Tzu



Figure 2-8 Chuang Tzu

In general, Taoism aspires to the laws of nature and advocates "do everything by the natural rule". It is the ideology of dialectical movement and of yin and yang. At the same time, it can be said to be a simple school of thought which advocates calm and inaction.

The connotation of implicit simplicity in Taoism is embodied in garden design, interior design, and architectural carving patterns and styles in Chinese architecture. Among them, the implicit and simple aesthetics of Taoism are especially obvious.



Figure 2-9 a Chinese traditional window

In Chinese gardens, much could be seen through small windows and spaces. Water front buildings, rocks, bridges and other elements are often used as divisions, resulting in twists and turns further expanding the space of the garden. The implicit beauty of the garden represented by the deep twists and turns makes people feel the space is larger and engages their imagination with subtle touches reminiscent of paint strokes. Garden builders see the separation method as a stratification of the landscape that underscores the

garden's implicit beauty. For example, tortuous bridges or stepping stones are often erected on the water pool, making the originally mediocre water surface become rich in space. Likewise the flower walls, bamboo, the various flower windows and doors in the promenades define and enrich the space without completely cutting it off.



Figure 2-10 the Promenade of the Humble Administrator's Garden



Figure 2-11 the flowers Window of the Humble Administrator's Garden

On the Suzhou garden tour, one can feel the implicit beauty in the smallest corner. Sunshine passes sparsely through several white bamboos on the wall. Ivy wrapped on the window hides the landscape at the other side.



Figure 2-12 white wall and bamboos in the Humble Administrator's Garden

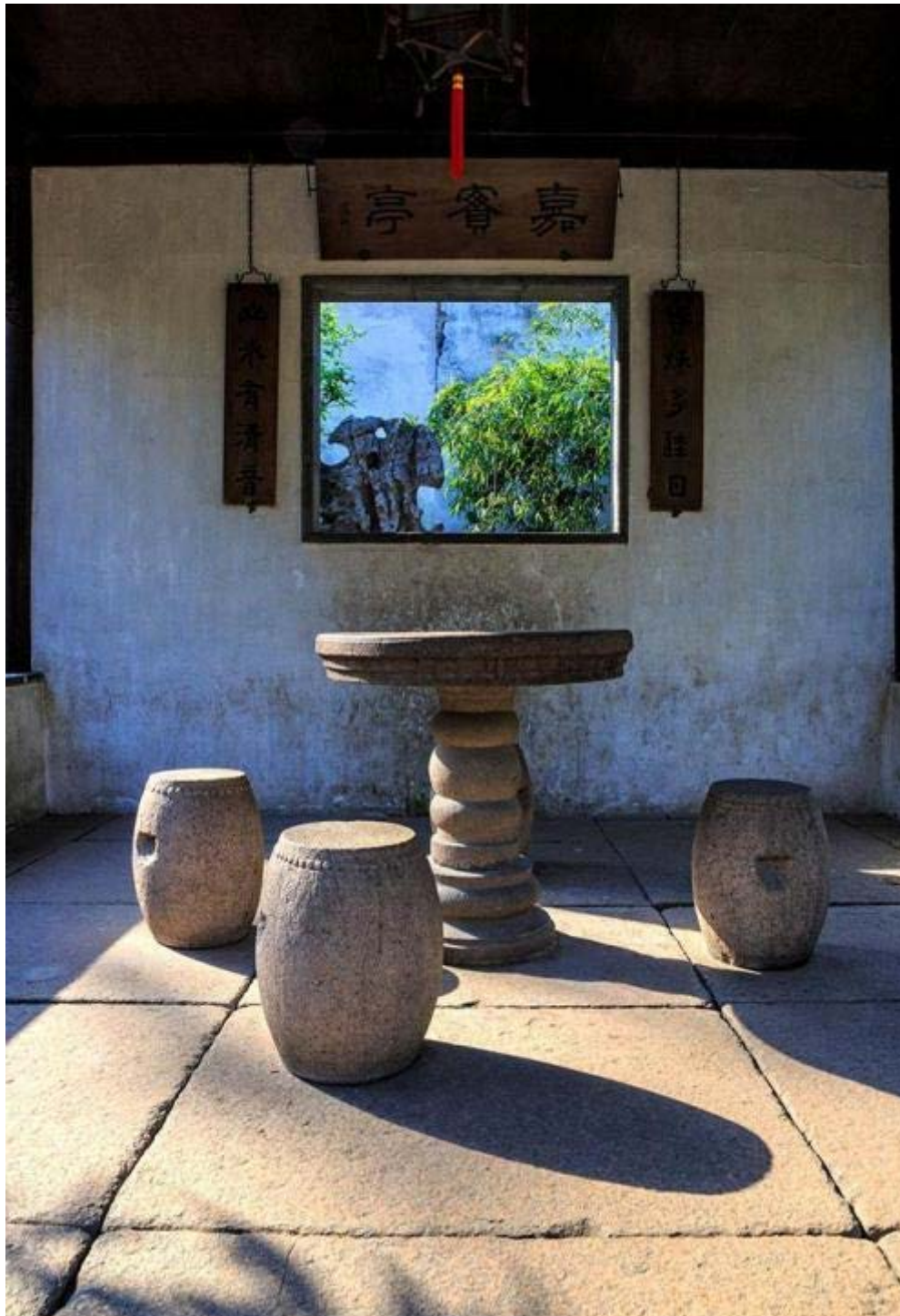


Figure 2-13 Jiashi Pavilion of the Humble Administrator's Garden

When it comes to Taoism, I must mention the Taoist religion. The Taoist

religion is one of the most important in China. Taoism originates from Fang Xian Tao of the Spring and Autumn Period and the Warring States Period, combined with ancient Chinese concepts of spirit worship and god worship, based on the theory of the Yellow Emperor and Lao Tzu. A large number of Taoist Religion organizations emerged in the Eastern Han Dynasty. Taoism has a history of over 1800 years.



Figure 2-14 Yellow Emperor

Taoism places special emphasis on health, longevity and immortality. These thoughts are not only popular in folklore, but also welcomed by the ruling class who has repurposed them. The prevalence of Taoism led to the appearance of Taoist temples, spreading from cities and their suburbs to remote mountainous areas. With the mass construction of temples came an upgrade in their level of architectural design as a whole.



Figure 2-14 Xuanmiao Temple in Suzhou (founded in AD 276, the largest existing wooden buildings of Song Dynasty in Jiangnan Area)

A temple in the city is not only a place for religious activities, but also a sort of community hub for public activities. Various religious festivals, Buddhist assemblies and so on attract a large number of people to participate. People

participate in religious activities, watch entertainment performances and visit Taoist temples and their gardens. The gardens of larger temples open regularly or often. Garden activities flourished at that period.

It can be said that the temple building and its affiliated gardens served as public places that played a unique, unmatched role in entertainment and social contact beyond daily life - there was no public building in ancient China.



Figure 2-15 Baiyun Temple in Beijing (founded in 739)

The philosophical symbol of the Eight-Diagram in Taoist culture has a profound influence on the layout, structure, decoration and interior design of traditional Chinese architecture. Taking the layout of the Beijing Quadrangle as an example, respecting the axis of symmetry, the door opens to the southeast, facing away from the main room. In this way, the door opens in the southeast of the courtyard. This is based on the orientation of the Eight Diagrams, the main building to sit north of the Kan house. In a Kan house, one must open the Xun door --- this implies that the door is located in southeast, which is purported to bring luck and fortune.



Figure 2-16 the Eight-Diagrams

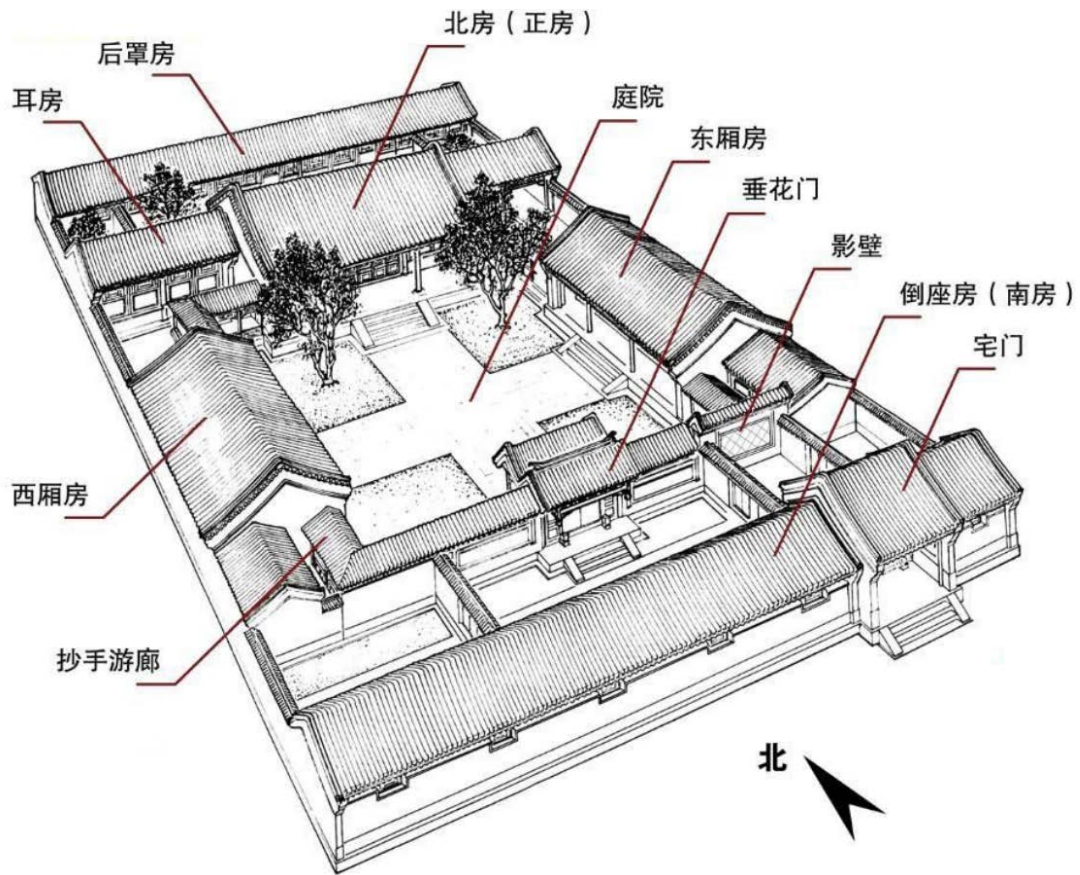


Figure 2-17 A Beijing Quadrangle

The graphic style of the Eight-Diagram is also displayed in the traditional layout of Chinese architecture, flower windows and doors and other architectural details of the structure. For example, the Zaltian Building in Guanjiao Town, Fujian Province, has an octagonal outer structure in its outer ring. The outstanding feature of the plane layout of the inside and the outer circle embodies Taoism's idea of the Earth as square and Heaven round. A round circle symbolises how the heart should be harmonious and accessible, while life on Earth, square, is strict and supposes regulations.

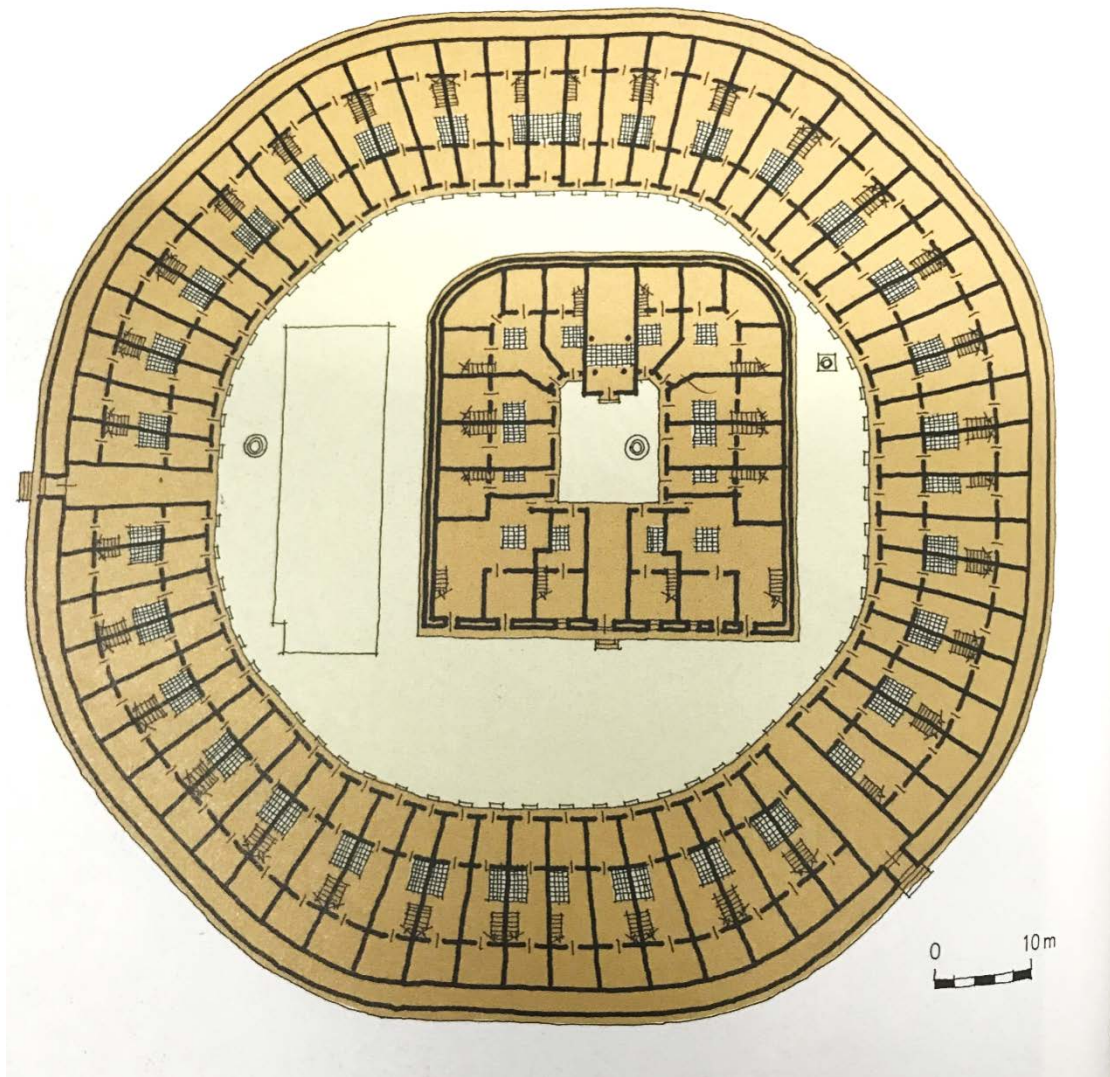


Figure 2-18 the ground plan of Zaitian Building

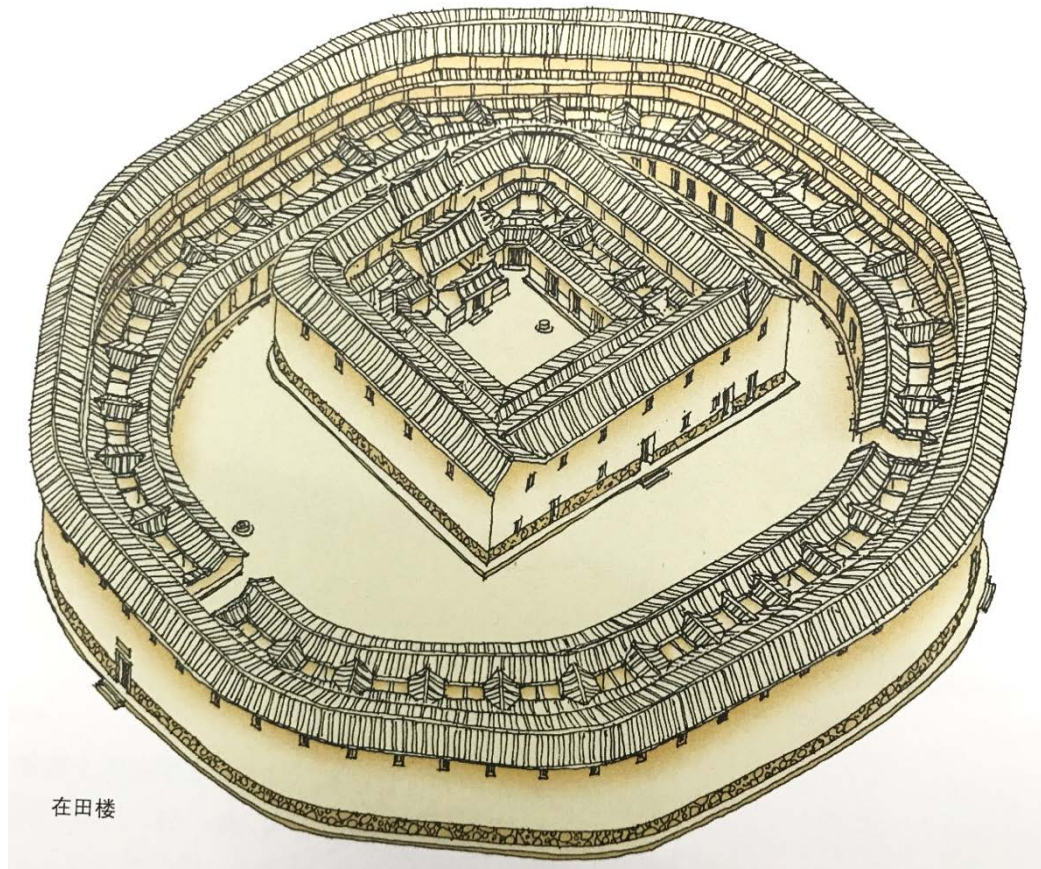


Figure 2-19 Zaitian Building in Fujian Province



Figure 2-20 an empty octagonal window



Figure 2-21 an octagonal window



Figure 2-22 An octagonal door in the former residence of Lu Xun

The Eight-Diagram also appears in interior design, like in the Eight-Diagram tally. When holidays come, people visit the local Taoist Temple to burn joss sticks, pray, then bring the Eight-Diagram tally back home and hang it at the back of their door, or else fold it into a small triangle and keep it in their wallet, as an amulet for peace. Specifically, the role of Eight-Diagram tally includes expelling evils from the home, bringing good fortune, health, protection and so on.



Figure 2-23. Eight-Diagram tally

As an important philosophical sect in China, Taoism is still widely ingrained in urban design, architectural design, landscape design and interior design. The understanding of Chinese contemporary design and traditional culture doesn't rely solely on the traditional form, but on the understanding of traditional thinking. Design, philosophy, art and Chinese spiritual elements are all included in a vivid expression that emanates the depth of meaning of tradition rather than a mere imitation of form.

2.2 Characteristics of Chinese traditional art

2.2.1 Influence of Chinese traditional landscape painting on architectural design

Chinese classical garden architecture is usually poetic, deeply related to the poetry and painting of the time. The three art categories of garden architecture, literature and painting maintain a symbiotic relationship through Chinese history. The signs of such mutual infiltration are obvious. Chinese classical garden architecture is not only an artistic form of spiritual wealth, but also of social wealth. (Zhou Weiquan, *History of Chinese Classic Gardens*)

As a shining pearl in the traditional architectural design of China, classical Chinese garden architecture is of great significance and a microcosm in which to identify the presence of traditional art in architecture.



Figure 2-24 the Humble Administrator's Garden

2.2.2 The impact of Chinese traditional landscape painting on architectural design 99999

Classical gardens and Chinese landscape paintings have the same

meaning. Chinese traditional gardens adopt the implicit method of Chinese landscape paintings, the subtle expression of the sentence "After endless mountains and rivers that make you doubt whether there is a path out, suddenly, one encounters the shade of a willow, bright flowers and a lovely village". Garden uses the expression of compliment after criticism, the use of rockery, plants, pavilions and other elements make the scene change continuously as people move. The previous dull scenery through the ingenious layout becomes fun. Walking in the garden, visitors are often unable to take in the scenery in a single glance, but rather need to explore it step by step and appreciate its mystery.



Figure 2-25 Taihu Lake, Wuxi, Jiangsu Province

Landscape paintings often depict a scene of twists and turns. But in

Chinese classical garden architecture, the scenery is almost plain invisible. People often design architectural space with twists and turns in order to find beauty in a space. For example, the architectural form of a zig-zag bridge alludes to the beauty of winding paths. Obviously, the bridge can be made straight, more convenient to walk through, but the path is designed with a wide range of corners so you are forced to slow down and appreciate the environment. In every step forward, scenery is changing in a way which makes you clearly feel the passage of time.



Figure 2-26 "Spring Map" of Zhan Ziyu, Sui Dynasty



Figure 2-27 West Lake, Hangzhou

Maybe the bridge appears to be flat in the layout, but its elevated and depressed areas can be perceived in the elevations of the garden, like hills upon the hills. In other words, the design of Chinese classical garden architecture strives to achieve the state of natural landscape, much as Chinese landscape painting.



Figure 2-28 a bridge in Taihu Lake, Wuxi, Jiangsu Province

In addition to the practice of using bridges and pavilions in plan or elevations to imitate the natural landscape in architecture, the most typical application of Chinese landscape painting, which we can also find on Chinese traditional architecture, is the framing of scenery. Framing is one of the elements from art applied to garden design. Keeping spatial landscape from dullness and enhancing the scenery's interest. Using door frames, window frames, tree frames, caves, etc, to emphasize selected areas of beauty. The most commonly used framing element and the one having the widest range of patterns is the window frame. The main types of window frames are: long windows, half windows, empty windows and leaking windows (flower windows), among others.



Figure 2-29 long windows and half windows



Figure 2-30 an empty window and a leaking window

The long window, also known as "partition", is usually set to the ground. It fulfills the function of a window and a door, so it is also called "landed long window" or "landed door window". In the gardens of Suzhou, the long window is one of the most practical windows. Long windows open to ensure indoor lighting, ventilation and convenient entering and leaving. The closure of the long windows has the function of lighting, keeping warmth and providing outdoor scenery views. The long windows allow the building to co-exist with nature and conform to the mood of architecture and nature in Chinese landscape painting.



Figure 2-31 Indoor Yuan Xiang Tong of the Humble Administrator's Garden in Suzhou



Figure 2-32 Yuan Xiang Tong of the Humble Administrator's Garden.



Figure 2-33 The picture of Xiuye Xuan, Zhu Derun, Yuan Dynasty

An “empty window” consists of partially or totally hollow window. The window is like a picture frame around the landscape within. The scenery inside the frame is also generally well arranged, often including depth of field where the landscape fades into the distance or a culturally characterized landscape. In addition to the single window frame, there are also multiple window frames. A window frame within another one, layer by layer, where the more obscure the

view in the rear frame, the more PIP background for the front window. This is the same as the background of Chinese landscape paintings hidden in clouds and fog, casting that characteristic beautiful atmosphere on the whole space.



Figure 2-34 Fan-type Empty windows of Guo Zhuang, Hangzhou



Figure 2-35 a moon door in the Humble Administrator's Garden

In addition to doors and windows, gables also have the potential effect to create landscapes. For example, the curvilinear gable in the picture below, in its way of overlooking the mountains and streams, creates a unique atmosphere among the landscapes.



Figure 2-36 a curvilinear gable in the Humble Administrator's Garden

2.2.2 Influence of Chinese traditional poems on architectural design

The most important link between Chinese traditional art and poetry and traditional Chinese architectural design lies in the so called literati or scholars; the most typical arena in which it operates, in garden architecture.

In ancient Chinese feudal society, "farming and reading" were the main cultural foundations for establishing a nation's identity. Farmers engaged in agricultural production, as the core activity for the creation of material wealth. The intellectuals of the landowner classes used to master culture. Some people became pure literati and some of them became officials and bureaucrats. In other words, literati always belonged to the elite social class. On one hand, poems created by literati represent contemporary aesthetics as a whole, indirectly affecting the aesthetic of traditional architectural design after extensive recitation. On the other hand, the emergence of literati gardening architects enabled the literati to give shape to buildings through the practical action of gardening.

Garden architecture generally belongs to the elite class and therefore there are many literati among the elite classes. That is, literati, as owners of some garden architecture, decide the main directions of architecture design. Garden architecture aims to express the visual beauty of the landscape and the spirit of the people. Some elite classes invite the literati to participate in garden-making activities in order to pursue the spiritual expression of garden architecture. Of course, some literati themselves are also painters. In traditional Chinese garden architecture, gardening is done by artisans, literati and artists altogether. Gradually, garden building literati became a part of Chinese cultural tradition, and therefore literati gardeners emerged.



Figure 2-37 The first literati gardening architect, Bai Juyi

Garden architecture is divided into different types: royal gardens, private gardens, temple gardens and any other kind of garden. This research will mainly focus on the analysis of private gardens. In the private garden architecture, the garden architecture of Yangzhou and Suzhou are typical examples of southern garden architecture.

The nature of Suzhou City is that of a bustling consumer city, but the

atmosphere of studying is also greatly noticeable. Many people there become officials. They purchased real estate and built gardens to entertain themselves. Bureaucrats and landlords also came to that region to enjoy their retiring years. Therefore, Suzhou gardens are built mostly by literati, bureaucrats and landlords. Their gardens are mostly of orthodox family-style. The vast majority of them took place on homesteads inside the region's big cities, with only a few built in nearby towns.

The layout of Suzhou city is fully crossed by vertical and horizontal channels. The water level is shallow, allowing people to easily reach the ground. Nearby Dongting West Mountain is a famous Taihu stone producing area. Yaofeng Mountain produces yellow stone of high quality; stoning is also easier. The prosperous garden in Suzhou is generally based on an economic foundation and also contributes to the geographical landscape. The literati, as the most important human factor here, is the icing on the cake.



Figure 2-38 Taihu Stone of Liuyuan in Suzhou, Jiangsu Province

Among the most famous works, The Pavilion of Surging Waves of Suzhou classical garden architecture was built during the Northern Song Dynasty and the Lion Grove was built in the Yuan Dynasty. The Humble Administrator's Garden, the Lingering Garden and Fangcaoyuan were built in the late Ming Dynasty. These gardens have lost their original appearance after a series of repeated reconstructions. According to relevant literature, most landlords of that period were also bureaucrats as well as good at poetry and painting; or else hired scholars and painters to supervise the gardening. These gardens have therefore followed the same style of literati gardens. (Zhou Wei-quan, *"Chinese Classical Garden History"*)

Pavilion of Surging Waves, located at No. 3, Pavilion of Surging Waves

Street, Sanyuanfang, Suzhou, is a Chinese Han classical garden built in the Northern Song Dynasty. It was originally a private garden for the scholar Su Shunqin. Covering an area of 1.08 hectares, it is now the oldest remaining ancient garden of Suzhou. After buying the deserted garden, Su Shunqin had often steered his boat to play there and called himself the man of Surging waves. He wrote a novel named "the Pavilion of Surging Waves" and had often written poetry with Ou Yangxiu, who wrote also a long poem about the Pavilion of Surging Waves, Mei Shengyu. Since these events took place, the name of the Pavilion of Surging Waves has widely spread. The story of the Pavilion of Surging Waves is a typical case of scholar garden. Because of the intense popular feeling about the ancient poem "Song of the Surging Waves" in the Warring States Period ("The clean surging waves can clear my mind and the dirty surging waves can wash my feet"), Su Shunqin built the Pavilion of the Surging Waves. The pavilion not only reflects the influence of traditional Chinese poetry on architectural design but also shows that the literati inherited the art of traditional Chinese poetry through garden-building practice giving place to new poetry creation, and these new poems themselves spread and influenced new architectural designs.



Figure 2-39 the Pavilion of Surging Waves

The narrow road of a rocky park in the Pavilion of Surging Waves can accommodate only one walking person, taking on the appearance of an endless path.



Figure 2-40 the artificial hill of The Pavilion of Surging Waves at the beginning

After taking a few steps all the way to the end, you can reach a place of

broad visibility over the garden from the elevated spot on the rocky hill. Once, the poet Tao Yuanming wrote in *Peach Blossom Spring*: at first the road is narrow, only one can pass; then walk dozens of steps and suddenly it broadens. The path in the Pavilion of Surging Waves happens to be the very reproduction of the scene of the work; the *Peach Blossom Spring* has symbolized Utopia to Chinese people for years.



Figure 2-41 the view from the artificial hill in the Pavilion of Surging Waves

A round door in the Pavilion of Surging Waves fully demonstrates the very image of the winding path. The winding path itself is taken from the poem *A Winding Path Leads to Quiet Seclusion*, written by Tang dynasty poet Chang Jian. It can be said that the shadow of traditional Chinese poetry lies in most of the creative ideas of the Pavilion of Surging Waves.



Figure 2-42 the Pavilion of Surging Waves

Humble Administrator's Garden, located in Suzhou City, Jiangsu Province, was founded in the early years of Ming Zhengde (early 16th century). It is the most representative work of classical gardens in the southern Yangtze River area. Humble Administrator's Garden and Beijing Summer Palace, Chengde Mountain Resort, Suzhou Lingering Park are reputed as the four most famous Chinese gardens. Humble Administrator's Garden is Suzhou's largest existing classical garden, covering 78 acres (about 5.2 hectares). In the early years of Ming Zhengde (early 16th century), Wang Xianchen, a censor who returned home because of an official frustration, extended the site of the Great Hong Temple into a garden and called it the Humble Administrator'. From the history of the Humble Administrator's Garden we can see that the idea of its creation originated in the poet Pan Yu's "Free Life Fundamentals," and when it was completed, there were more scholar creations in humanities and poetry. This is a very typical story which fully shows the mutual promotion between architecture and poetry, that tells us that the creative ideas of Chinese traditional architecture design are mainly drawn from poetry and when the architecture is completed, it benefits poetry back.



Figure 2-43 The aerial photography of the Humble Administrator's Garden

There are many similar cases of scholar made gardens, such as the Master of Nets Garden, Lingering Garden, Garden of Pleasance, Liang's Garden, Qing Hui Yuan and Yuyin Shanfang. They are not only located in Suzhou but also in Yangzhou and the south of the Five Ridges.

In general, the scholar garden is one of the major characteristic cases of traditional architectural design. It has spanned over a large geographical area and broad period of time. The work "Garden Metallurgy" comprehensively expounds the principles and concrete methods of building home gardens and villas, summarizes the experience of building gardens and reflects the achievements of ancient Chinese garden-building.

2.3 Chapter Summary

Chinese traditional culture has direct and indirect influence and application on Chinese traditional architectural design, which is obviously reflected in the creative concept, layout, structure and interior decoration. Among them, the philosophical ideas of Confucianism and Taoism (extending to Taoism Religion) in traditional Chinese culture and art and the artistic forms of landscape painting and poetry, have particularly far-reaching influences on traditional Chinese architecture. China's traditional architecture has inherited its traditional culture and strongly contributed to the development of traditional culture at the same time.

3. Chinese traditional architecture

3.1 The impact of natural environment on Chinese traditional architectural design

As a creative activity of mankind, buildings are bound to be limited by time and place. Buildings present different styles in different historical periods and cultural backgrounds. Throughout history, due to man's gradual mastery of tools and social progress, the choice of building materials changes. The progress of human society has increased the amount of available building materials. People in different areas of the country choose different building materials in different periods, giving the building different attributes.

4-6 million years ago, the first Homo sapiens set foot on the land of China. They were weak and with limited knowledge and could only live in caves. Natural caves, large or small, deep or shallow, soon did not satisfy. Critically, caves have a limited number of holes. As the growth of population accelerated, people had to find new homes. Ten thousand years ago, a human brave enough to innovate decided to use his hands to create a home really suitable for living. He used rough stone tools, digging day after day on the deep soil cliffs, and finally dug a cave fit for shelter. As a result, one of China's earliest residential buildings, the cave, was born.



Figure 3-1 Cave where the Upper Cave Man lived about 30,000 years ago

Cave dwelling evolved and developed from the initial horizontal cave. There are many cliffs on the Loess Plateau, where you can dig a hole easily with simple tools. Initially, people just dug a hole until conditions improved; then dug other new holes nearby. Many cave dwellings are dug according to the conditions offered by mountains resulting in vertically stacked dwellings reminiscent of modern buildings.



Figure 3-2 Cave dwellings in Chi Niuwa Town, Jia County, Shanxi Province

Developed and expanded by several dozens of generations, cave dwellings have occupied the entire cliff, forming a spectacular cave dwelling building.



Figure 3-3 Cave dwellings in Mizhi County, Shanxi Province



Figure 3-4 Xiao Taze village, Zhaoxian Town, Lin County, Shanxi Province

Not only could the cave be dug in the cliff excavation, but people, too, could dig down from the ground, forming a square pit of 7-8 meters deep and

about 15 meters long: a pit courtyard. Pit courtyards were arranged in rows and columns, like a fan installed in the skylight.



Figure 3-5 Pit courtyards in Beiyong village, Shanzhou



Figure 3-6 Pit courtyard in Shanzhou, Sanmenxia

Soil

However, the construction of cave dwellings is still subject to terrain and not applicable outside the Loess Plateau. 4000 years ago, people in the North China Plain began using rammed soil and timber to build houses on the ground. Not only they had their own independent residence, but also their houses were enclosed together with their parents' and children's residence, forming courtyard houses where large families lived together. Hedian, Sanhe, and even the most classic quadrangles were born after that.

Combined courtyard houses have flexible distribution and strong privacy and have been spreading from the North China Plain to the whole country since their appearance. However, people construct the courtyard houses

adapted to local conditions, according to the local climate and geographical environment. Therefore, the courtyard building types across the country are different. Generally speaking, a Shanxi Grand Courtyard is deeper than a Beijing quadrangle and it is higher than the latter. Most of Shanxi grand courtyards are built by wealthy businessmen. Rich businessmen often go out for business and wish for their families to stay safe. Therefore, the buildings are made very high. The height of buildings in Shanxi is not as strict as the hierarchical system in the city of Beijing, therefore, it is permitted to construct a second floor or even third floor to make an effective use of space. The courtyard of Shanxi Grand Courtyard is narrower than that of Beijing Quadrangle. The roof is also a single slope rather than the double-slope top of the Beijing Quadrangle, reflecting Shanxi merchants' ideas like "fertile water doesn't flow into other fields".

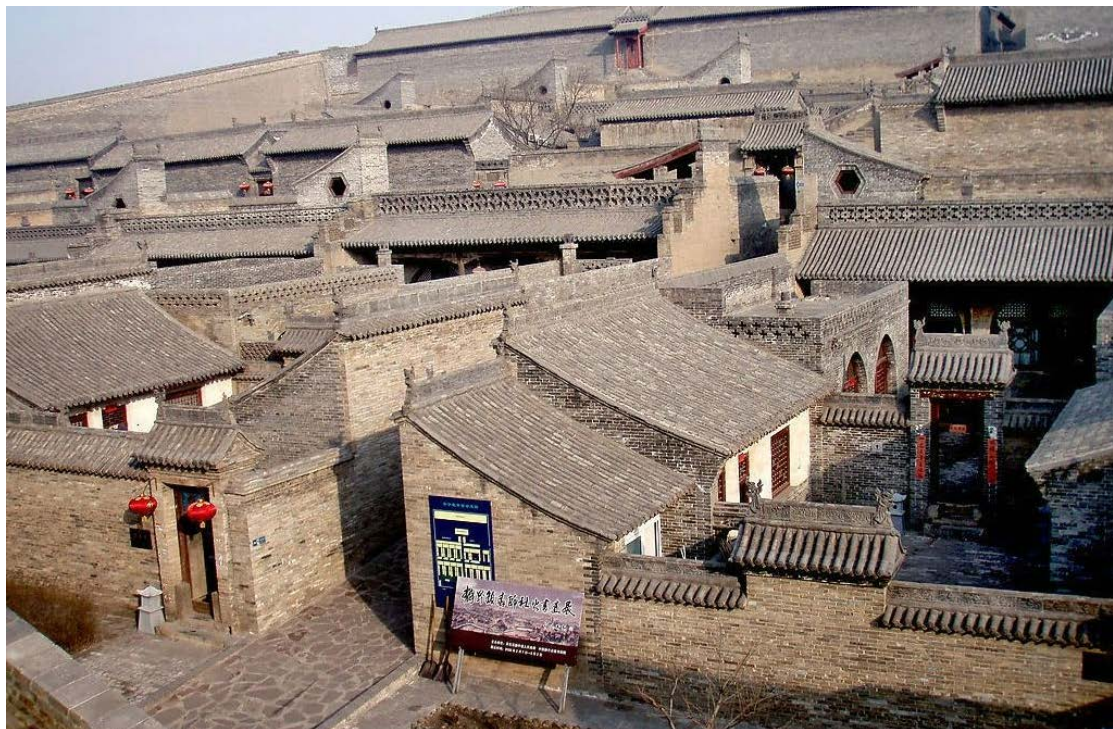


Figure 3-7 Shanxi Grand Courtyard



Figure 3-8 Wang's Courtyard, Lingshi County, Shanxi Province



Figure 3-9 Qiao's Courtyard, Shanxi Province



Figure 3-10. Beijing Quadrangle

Hakka folk architecture is also built with the building materials of rammed soil and wood. 1700 years ago, the world was at wars in the Wei, Jin, Southern and Northern Dynasties. After the An-shi Rebellion in the Tang Dynasty and the War of Jingkang in the Song Dynasty, the Northern Han nationality saw three large-scale southward relocations. They gradually got differentiated in different areas of the Southern lands and formed five distinctive and relatively independent ethnic groups in the South: Wu Yue Group, Hunan and Jiangxi Group, Minnan Group, Hakka Group and Canton Group.



Figure 3-11 The great migration of the Hakka people

Hakka houses are concentrated in the mountainous areas of Guangdong, Fujian and Jiangxi provinces. They migrated from the North and lived in the mountains. It was necessary to defend themselves from foreign enemies and to protect themselves against beasts, so the same clans gathered to build a variety of enclosed courtyards and lived together in round-dragon houses, round houses and earthen buildings, among other architectural models.



Figure 3-12 Hakka round houses, Longnan, Ganzhou, Jiangxi Province



Figure 3-13 Round-dragon Houses, Xingning, Guangdong Province

Taking the round buildings of the Fujian province as an example, there is nothing as a main room or a wing-room in the building, nor is there any front yard or backyard. All rooms are the same size, free of distinction or hierarchy. They all face a center, namely the central ancestral hall, where common ancestors bring all them together.



Figure 3-14 a village full of earthen buildings in Fujian Province



Figure 3-15 Earthen building in the Fujian Province

Since the Canton Group, not far from the Hakka Group, lived in the Greater Pearl River Delta and western Guangdong, where the climate was humid, hot and stormy, ventilation and shade are common features of Lingnan architecture. According to the site's natural conditions (including geographical conditions, climate characteristics, etc.), Lingnan architecture reflects some functional characteristics like protection against moisture, sun radiation, fire, good ventilation and others. In the early period of Guangfu, residential buildings were more obviously influenced by the architectural patterns in the Jiangnan area. The bureaucratic landowning class often lived together for generations to form a closed complex of buildings. The original wall materials are trigeminal soil, pebbles, oyster shells, bricks and so on. After the Qing Dynasty, brick, stone pillars and stone slabs took greater protagonism.



Figure 3-16 Lingnan Impression Garden, Foshan City, Guangdong Province

The most prominent part of Cantonese dwelling buildings is the construction of two wind-shielding walls at both sides of the house. Huo Er is the handle of a large ancient iron pan. Because of its gable-like ears, it is called Huo Er house. Its architectural features are roof tiles and gable roofs built on the roof of a wharf, used for pressing roofs. Huo Er house is generally made of brick and wood structure, brick (granite) wall, step brick shop, red, white stone paved patio. Chaoshan, Hakka's residential buildings also have

similar Huo Er gable, Hakkas and other places in northern Guangdong called "cloud wall" or "teapot ring." From the front, towering walls on both sides are Huo Er-shaped, appearing like a "convex" character. The ears on both sides of the house are pressed from the cornice to the top by two rows of tiles and sealed with gray plastic. The construction technology is the most difficult and expensive part of such projects. Gurgling gables can wind up and again into the lane, letting the wind go through the doors and windows into the house. Towering gables were used, as well, to stop burglars from violating the property and fire from spreading.



Figure 3-17 Huo Er, Shang Yue Village, Fogang, Guangzhou

The shape of the Huo Er house is the official hat ears symbol, which means "champion" (only distinguished gentry shall be adopted) and represents the family's noble intentions. Ming and Qing dynasties, as long as

the villagers made a fortune, would build a Huo Er house to show off their wealth and style. Sometimes there would also be houses built of oyster shells instead of blue brick, which are very distinctive: warm in winter and cool in summer. Huangpu Ancient Port and Xiaoczhou Village in Haizhu District of Guangzhou City, the ancient villages in Panyu District of Guangzhou City, and ancient villages in Shunde District of Foshan City all have HOS flats that are used for the construction of oyster materials.



Figure 3-18. Streets in Shang Yue Village, Fogang, Guangzhou

In general, as the most important part of traditional Chinese building materials, soil includes all kinds of extended materials such as rammed soil, triptych soil, earth bricks, clay bricks (green brick, red brick, etc.) and has a very wide range of applications in most of areas of the country. It is easy to draw, cheap and easy to process, making a simple and elegant architecture that the locals are fond of.

Wood

In ancient times, people could only rely on nature, using the very raw soil or wood as construction materials. In the northern cold and dry areas, the principal dwelling building living was the type of cave dwelling that had evolved

from the first caves. Whereas in the hot and humid southern area, it was the dry-column buildings that had evolved from the nest living systems.

Archaeological findings suggest that the earliest dry-column building is the Hemudu (5000 BC to 3300 BC), in the ancient popular residential area of the Baiyue Group in the south. This kind of building used bamboo as the main building material and had generally two floors. The lower for animals and piling up debris and the upper for people. Dry-column buildings can not only be shockproof and effectively avoid snakes and beasts, but protect against moisture and the elements.



Figure 3-19 Stilt house

The most typical dry-column building is the stilt house, although only half of the stilt house is lifted, so, to be exact, it can only be called a

semi-dry-column building. The stilt house is the traditional building of Miao, Zhuang, Buyi, Dong, Aquarium and Tujia nationality, mostly found in the southeastern city of Chongqing, the northern Guangxi province, the western Hunan province, western Hubei province and southeastern Guizhou province.



Figure 3-20 Stilt houses of Tujia nationality

The main material in traditional stilt houses is wood. The roof used to be covered with thatch or cedar bark until later periods, where the concept of soil roofs emerged. The most basic feature of the stilt building is that the main house is built on the ground. Except from one side of the room on the ground and which is connected to the main room, the other sides of the wing-rooms are all vacant and supported by pillars. Stilt building has many benefits. The high-hanging surface of the stilt building provides good ventilation and drying as it is simultaneously protected against vipers and wild animals, making full use of cantilevered floors.



Figure 3-21 Stilt houses in Fenghuang old city, Hunan province

Stilt building is mainly made of wood. In case of fire, it spreads from house to house easily, so fire blocking walls are used to avoid this. Given that Fenghuang, in Chinese, means Phoenix, there are carvings of images of the mythic bird Phoenix on the fire walls all along the old city of Fenghuang. The phoenix symbolizes "auspiciousness"; expressing good wishes and longing for peace and joy.



Figure 3-22 Streets in Fenghuang old city



Figure 3-23 Gables in Fenghuang old city

Stilt style dwelling buildings were created by ancient peoples, in accordance to their geographical environment to the best use of their wisdom.

Stilt building is generally built in front of a protective wall of mountains or facing water, a residential style answering to people's need to combat harsh natural conditions.

Timber is one of the main materials in traditional Chinese architectural design. At some point in the history of the world, people invented the tenon-and-mortise method for connecting wood as well as the brackets. Brackets are a key load structure in traditional Chinese architectural design. It plays the role of simultaneously increasing the distance between columns, effecting seismic resistance and constituting a decorative element.



Figure 3-24 Dougong

Glass and reinforced concrete

Although China had been producing colorless glass since as early as the Shang dynasty, the use of glass has not spread widely for various reasons. At about the second half of the Ming dynasty, plate glass was introduced into China thanks to the flourishing maritime trade and was also favored by the royal family. During the Qing dynasty, after imported glass was processed into screens in the local style by artisans, princes and kinsman families chose it as their favoured type of furniture to show off.



Figure 3-25 The glass screen with gold paint, Qianlong Emperor, Qing Dynasty

In early modern times, glass was less used in building because all Chinese glasses were imported and they would only occasionally found on church windows. Its popularity gradually grew, but its use remained limited to windows.

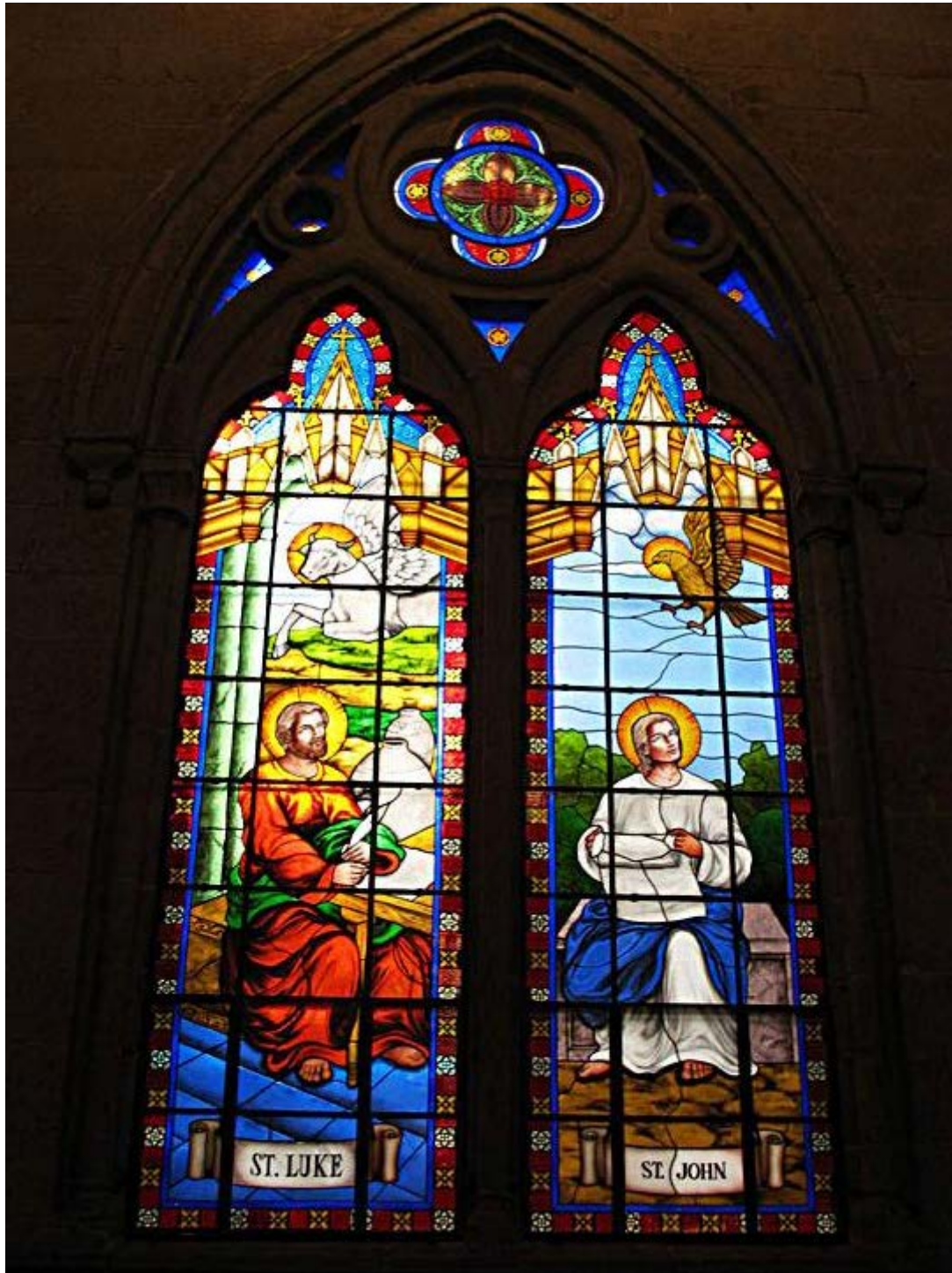


Figure 3-26 Stained glass windows of Guangzhou Sacred Heart Cathedral

After the introduction of glass into China, the wave of glass curtain wall grew popular across the country until present times, and especially since the

year 2000 onwards. The reasons for this slow process are of political, economic and technical nature. After entering the new millennium, in order to be in line with the international community, China has started large-scale construction projects. Many high-rise buildings are rather rapidly appearing. At the same time, the appearance of the city is transforming, revealing a "Thousands of cities, one cityscape" type of texture that starts to liken it to a reinforced concrete and glass forest.

Due to its late appearance, the introduction of reinforced concrete is relatively recent in China's architectural design. However, due to it greatly reducing the cycle time of construction and its application in high-rise buildings, it has quickly become the mainstay building material in many modern construction activities.

Stone

In traditional Chinese architecture, stone is mainly used for stylobate structures, pavements, railings, rockeries and details, rather than as main building materials. Each new dynasty arrival in ancient China would come with the demolition and reconstruction of the previous' buildings. Since stone buildings required the carving work of dozens or even hundreds of years, too lengthy a time for new rulers seeking remodel the city, speedy, practical wood would often be opted on. After a new ruler ascended to the throne, and given that several decades were needed to construct a tomb, his half made tomb stone would still be decaying in the ground. The passage of time formed a tradition: stone tombs and wooden houses.

It is true that in some remote areas one can find stone-built houses or Western churches, which were constructed under the influence of religious

forces, but they are largely isolated examples in a vast area and historical time period, which are not relevant to the focus of this paper.



Figure 3-27 Sacred Heart Cathedral in Guangzhou

Among history, the influence of the natural environment on traditional Chinese architecture can be summarized as follows: soil (which includes rammed earth, clay bricks, clay bricks and others) and wood, as the main materials used in traditional Chinese architecture, and stone, glass and reinforced concrete as the less commonly used, less characteristic, more modern and fashionable materials.

3.2 Historical environment on Chinese traditional architecture

3.2.1 The Influence of political factors on Chinese traditional architecture

The political structure of ancient Chinese society has two main characteristics:

1. A very complete patriarchal clan system. 2. Strict absolutism. The characteristics and strength of these two aspects is unmatched in the world, therefore understanding traditional Chinese social and political structure is absolutely necessary if one is to at all understand the workings of traditional Chinese culture. The Beijing Quadrangle is an excellent focus point that will serve us to see the influence of political and historical influence on traditional Chinese architectural design. Beijing is one of the six ancient capitals of China. As early as 1122 BC, Beijing was the capital of the state of Yan and was then named "Yan Du". Since AD 938, Beijing became the secondary capital of the Liao Dynasty, as well as the capital of the Jin, Yuan, Ming and Qing dynasties.

In 1271 AD, the Yuan Dynasty came to being and set its capital in Beijing. With this development, Beijing progressed to become the all-encompassing state capital of China and underwent a major urban reconstruction that disregarded old relics and documents and marked the beginning of a new era. The capital of the Yuan Dynasty had the status of a world-famous metropolis. Its reconstruction included new, large-scale residential buildings and the alley and the quadrangle became its signature design. The residential buildings would be distributed on either side of small streets or alleys.

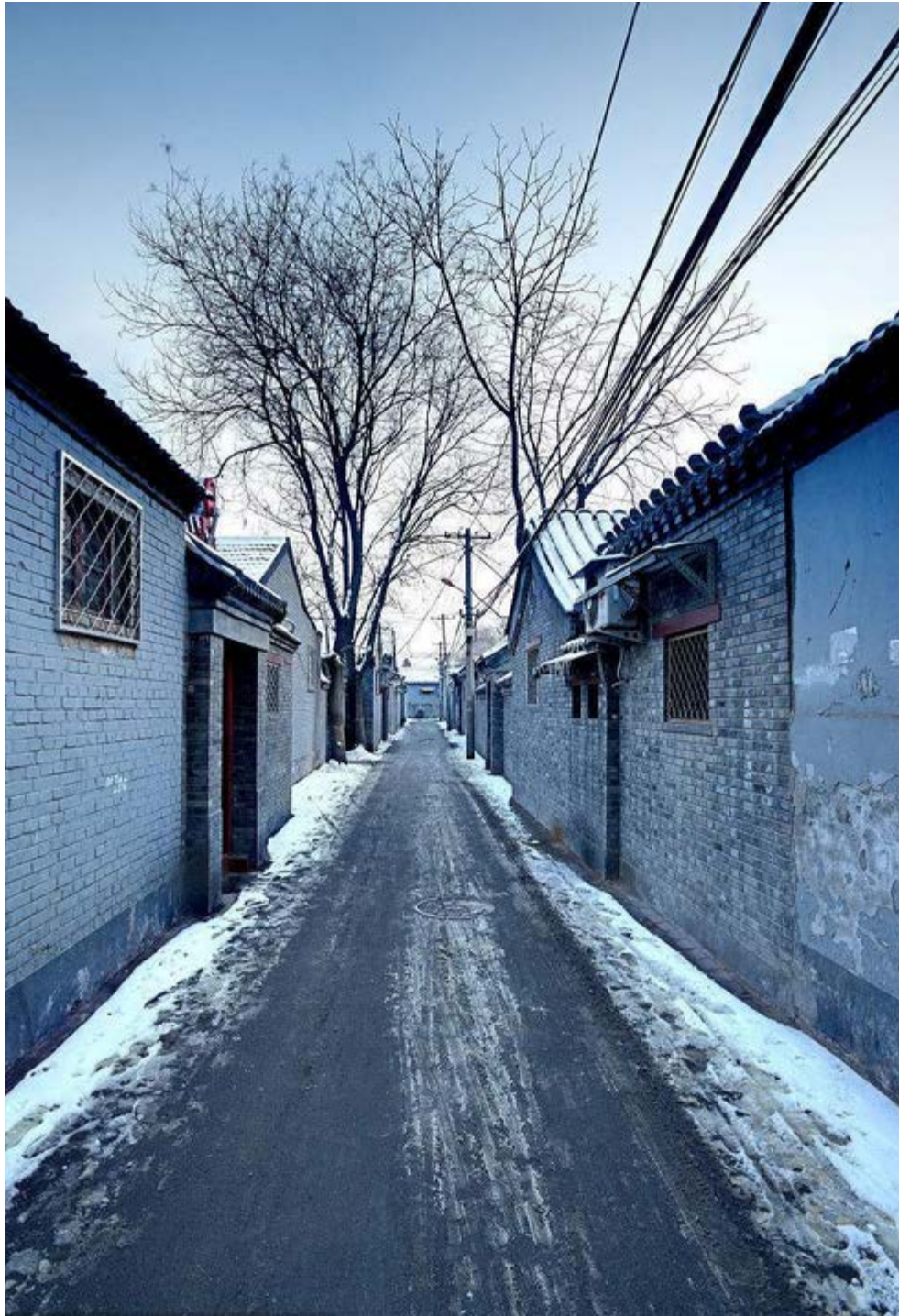


Figure 3-28 Beijing Hutong in winter

At that time, Kublai Khan, the emperor of the Yuan Dynasty, ordered the residence of the old capital to move to Beijing, prioritizing distinguished

wealthy people with him (like the court) and customizing a land of 8 mu for them. That is to say, in the context of the imperialist authoritarian system, once the emperor gave his command, people had absolutely no choice but to obey the order of relocating to Beijing with their family. This highly centralized system had the advantage of producing a highly efficient system in terms of rebuilding a city. The Kublai Khan of the Yuan Dynasty kick-started a fresh vigorous process of rebuilding the Yuan capital, which laid the distributional pattern for the city of Beijing, as it still sits in the present.

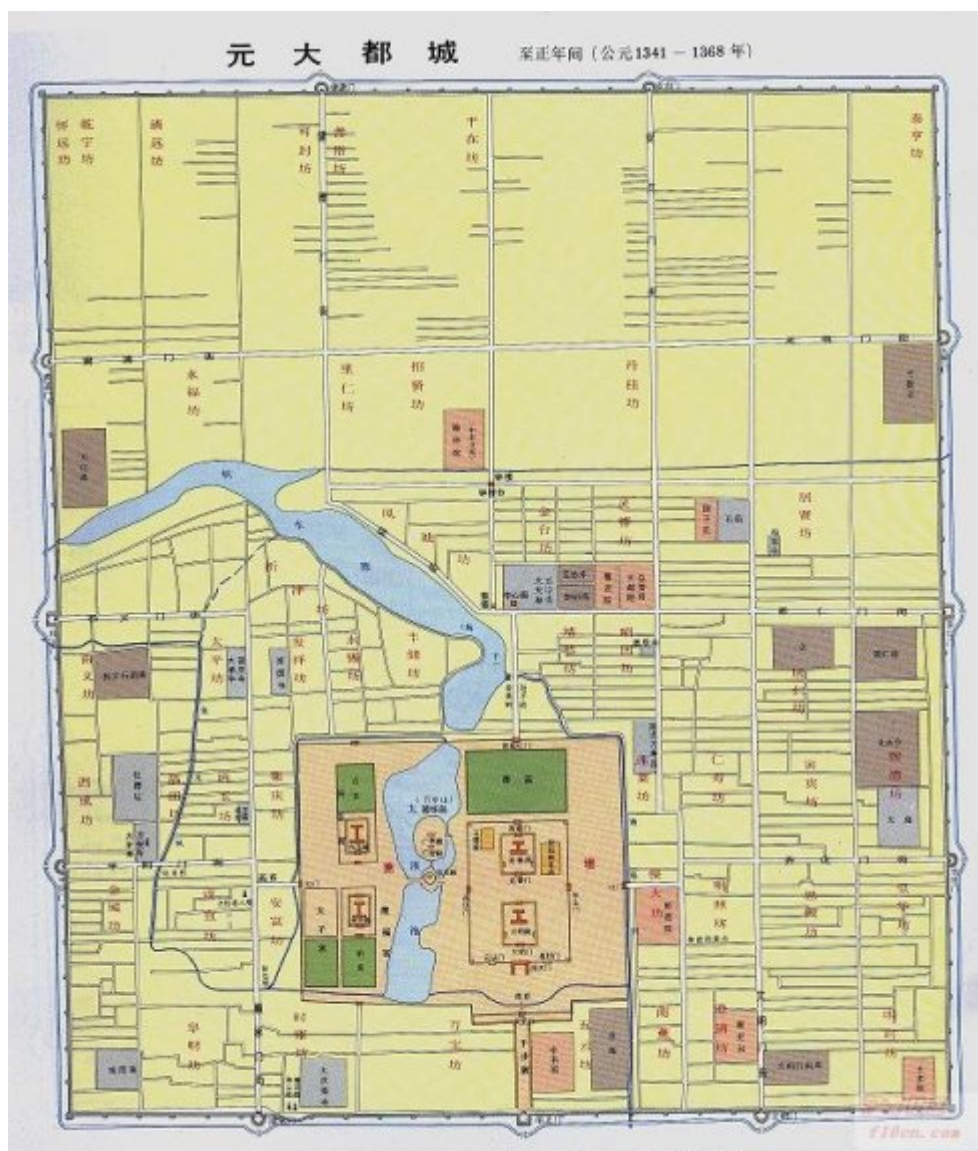


Figure 3-29 Layout of Yuan capital

With the arrival of the Ming dynasty, social economy developed rapidly. The capital of the Ming dynasty moved from Nanjing to Beijing, and with it, thousands of wealthy households came over from the Zhejiang province, the Shanxi province and other places, impulsing a new high of economic development in the city. The Ming Dynasty is known for its unprecedented brick-making technology, with which came the further development of the housing and construction industry.

When the Qing Dynasty later made Beijing its capital, it absorbed a large amount of the existent Chinese culture and fully inherited the architectural style of its predecessor. No alteration was seen in any of the Beijing courtyard houses. In the early years of the Qing Dynasty, the residence system of the government set its site in Beijing, and with this expelled all the Han people in the city into farther, outer locations, restricting the inner city to its distinguished circles. This measure objectively promoted the development of the outer city and emboldened the level of exclusiveness in the mansions of the inner city. The most representative residential building in the Qing Dynasty is the palace-style house, with large and medium-sized courtyards where bureaucrats, landlords and rich merchants resided. The Qing Dynasty is considered the peak time period in terms of the development of the Beijing quadrangle.

After the demise of the Qing Dynasty and the period of the Anti-Japanese War, the Cultural Revolution and the arrival of the reform, the quadrangle became increasingly more difficult to maintain its role as the tranquil, elegant and warm space it fulfilled in the old days. It later became common practice to divide the quadrangle, letting it be transformed and destroyed. As the most “dazzling pearl” or remarkable features of residential buildings, the original

Beijing quadrangle and its spiritual functions have not survived in a whole sense.



Figure 3-30 Beijing Hutong

On the whole, it is easy to say that dynasty after dynasty, Chinese architecture has endeavored to mark social status. The size of the building area would depend on the political status, judicial position or imperial power rather on the wealth of the occupants. For example, officials above the fifth grade were eligible to build five dwellings, while ordinary people would only be allowed three dwellings. Therefore, in the same style of living quarters, and although Shanxi Grand Courtyard's owners had great financial resources, they would not be permitted more than five residential dwellings and were only allowed two or three residential floors. Developing the building higher would not draw away from imperial power, so there were no strict restrictions in that regard. In contrast, in the capital, Beijing quadrangles obeyed to height

restrictions related to imperial power, and so to avoid surpassing the height of the Royal Palace, buildings were no higher than cottages.

3.2.2 The Influence of economic factors on Chinese traditional architecture

As a creative, physical activity of mankind, construction activities are bound to be affected by overall social and economic conditions as well as individual economic conditions. Buildings in the same area will reflect these differences accordingly. For example, Shanxi Grand Courtyard and Shanxi Cave dwellings are located in the same area, but their architectural style and use of scale are far apart.

Shanxi Grand Courtyard is a model of Chinese residential architecture also known as "North in Shanxi, South in Anhui". The dwellings of the southern province of Anhui are renowned for their earthiness, lightness and freshness, while the Jinzhong Grand Courtyard is famous for its deep, rich beauty. In Shanxi, there are nearly 1,300 existing residential houses left from the Yuan and Qing dynasty eras. The most notable of these is perhaps the Jin mansion located in Jinzhong area, with its majestic architecture, carving work, ingenuity of detail and artful integration of both Northern and Southern architectural culture.



Figure 3-31 Aerial view of Qiao's Courtyard, Shanxi Province

Shanxi's Grand Courtyard is known for its magnificence. Master of architecture Liang Sicheng has praised its simple form. Unlike the Beijing quadrangle, which is a square as a whole, the Shanxi courtyard is more large-scaled and with multiple layers. Its courtyard has a long rectangle positioned on the cardinal points and along an axis of symmetry. The wing-rooms of the Shanxi Grand Courtyard tend to be smaller on the inside of the yard, blocking most of the main room and granting the yard a sense of protected enclosure. This layout answers to the harsh winter weather. The narrow courtyard is effective against the wind and keeping a warm temperature.



Figure 3-32 Qiao's Courtyard, Shanxi province

The Shanxi Grand Courtyard complex merges wood, brick and stone carving, painting, calligraphy, poetry, the representation of characters, animals and plants into one same courtyard space, in a full reflection of the vast and rich creativity of the working people of the time.



Figure 3-33 Brick carving of Qiao's Courtyard, Shanxi Province

The Shanxi merchants who were good at management were rich and powerful and often spent a lot of money to assemble several narrow courtyards into mansions. This could be seen from Yuci, Qi County, Taigu, Pingyao to Lingshi. Examples would be Qiao's, Li's, Wang's, Cao's and other courtyards.



Figure 3-34 Aerial view of Wang's Courtyard, Shanxi province

The same thing happens in Shanxi Province, where there is another typical Chinese residential style: the cave dwelling. Shanxi cave dwellings are generally built either on the southern face of a hillside, to the Sun, mountains at their back, facing an open area dotted with a few trees offering shelter - space formulations that are very suitable for living. A cave-dwelling generally contains either 3 or 5 cavities and a kiln, before and after which there are 1 to 3 openings. From the outside, we can see the 4 openings, which open into a door, which then leads to a small tunnel. The top of the door is semi-circular, so as to be space efficient.



Figure 3-35 Cave dwellings of Small Taze Village, Zhaoxian Town, Linxian County, Shanxi Province

Shanxi Grand Courtyard and the Shanxi cave dwellings are both located in the Shanxi province, but their architectural styles are quite different, mainly due to the economic factors in their historical environment. As far as the overall social and economic level is concerned, Shanxi's dwellings were older than the Shanxi Grand Courtyards. At the time, social development was still rather poor. The overall economic level was did not afford much in the way of varied materials. Digging out living space directly from the land was, therefore, the most sensible approach. In the era of the Shanxi Grand Courtyard, the overall level of social development material production was significantly higher. The development of brick-making technology in turn promoted the development of construction. As far as individual economy was concerned, owners of Shanxi Grand Courtyards were much better off than those of the cave dwellings. The owners of Shanxi Grand Courtyards were mainly

businessmen, who, after earning large profits in their trade, wished to build their own residences. They then enjoyed a better range of choices in terms of site selection, number of homesteads to be purchased, aesthetic style and decorative detail. The people inhabiting the Shanxi cave dwellings, by contrast, were mainly peasants who worked in agriculture and lived off the very land. As the bottom stratum of society, they were heavily taxed, owned little and did not enjoy the choice to purchase large housing sites or high status' buildings. Scarcity then gradually forged its own decorative style and details, creatively made with the few available materials.



Figure 3-36 Pit courtyards of Pinglu, Shanxi province

Although the Shanxi Grand Courtyard could only build three dwellings under imperial hierarchical restrictions, rich merchants could still purchase a large amount of land, build several small quadrangles in it and enclose them in

a fence, forming a large courtyard. As an example, Qiao's Courtyard was founded in 1756. The whole courtyard is shaped as double Xi (a Chinese character which means joy). It is then divided into 6 courtyards, further divided into 20 small courtyards and 313 houses. It spans a total area of 9,000 square meters, of which 4,175 are built on. It has three sides facing the street, is surrounded by a brick wall of up to 10 metres and has a gable type. Cao's Courtyard in Taigu, in the Shanxi province, covers an area of 10,600 square meters and the Wang's Courtyard of Lingshi in Shanxi, 80,000 and the Chang's Courtyard of Yuci in Shanxi province, 120,000. By contrast, in the cave dwellings of the same province, a pit courtyard fills an area of about 500 square meters out of which 250 are constructed on and contain 10 to 14 rooms. In the cliff-style cave dwellings, the average family cave dwelling has only three or five entrances and a construction area of approximately 70 to 120 square meters. The size of Shanxi's Grand Courtyard and cave dwelling construction areas are a direct mirror of the economic position of their dwellers.



Figure 3-37 Pit Courtyard perspective, Shanxi Province

Aside from the initial site selection and purchase of homesteads, the more important things for construction activities are the subsequent labor and purchase of construction materials. The larger the housing site, the more human resources and material resources will be needed and the more financial resources will need to be invested. Therefore, Shanxi merchants not only had the advantage of choosing the address and size of their home, but had the resources to fill that home in high level labour and materials.

In short, both the overall economic level of society and the level of individual economy had an impact on construction activities. The most direct manifestation of this is in the size of the building, materials and aesthetic choices of the construction. Buildings in the same area would have a different appearance due to the varying economic level at a societal and

individual level.

3.3 The integration of natural environment and historical environment in architectural design

Any construction activity can't exist independently of its specific historical period and therefore is inevitably affected by many factors, such as natural environment and political climate. China spans a vast territory of a great range of geographic conditions. The architectural style in each reflects all of its natural and societal conditions.

Traditional Hakka architecture is a typical case of the convergence and integration of natural and historical elements in traditional Chinese architecture. The Hakka Group is considered to be an important part of the population in Guangdong, Fujian, Jiangxi and Taiwan provinces of China. A group of migrant Han people moved southwards across China in ancient times, covering such a vast area of land, that at present they remain one of the most geographically wide spread ethnicities in the world. From the Jin to the Tang and Song dynasty times, Han people that lived on the central plains of the Yellow River Basin were forced to move southwards due to war. After five large-scale migrations, they settled successfully in Guangdong, Fujian, Jiangxi and Hong Kong. Since they left their hometown of the central plains, Han people who moved southwards have always called themselves the "Ha" (guest). Therefore, it is said that "every mountain has guests and every guest lives in mountains." When ancient local officials registered these immigrants at their new-found locations, their details were registered in so-called "guest books", intended for "clients" or "Hakka." Such was the origin of the Hakka appellation. Hakka people gathered and lived together in protective round-houses, townhouses, Tulou, quadrilateral towers, in a communal shield against the elements, enemies and beasts. Among the largest most popular

architectural styles of Hakka culture is the round-house. Hakka culture consists not only of the inheritance of the ancient and orthodox Han people, of which it is honored as being the living relic, but also of the integration of Southern indigenous cultures, such as the Lignan.



Figure 3-38 Round houses in Huangtong Village, Nibeitown, Xingning City, Guangdong Province

The round house emerged during the Tang and Song dynasties and remained relatively popular throughout the Ming and Qing dynasties. The Haka's beam lifting technique was the most advanced in the traditional construction technology of the Central Plains, which allowed them to build round-dragon houses in hilly areas or sloping terrain. The main structure of their buildings used to comprise one entrance, three halls, two wing-rooms and

one bounding wall. Most of their locations were in remote mountainous places and their housing, in the style of closed, hermetic camps which aimed to set protective boundaries against villains and unwelcoming locals.

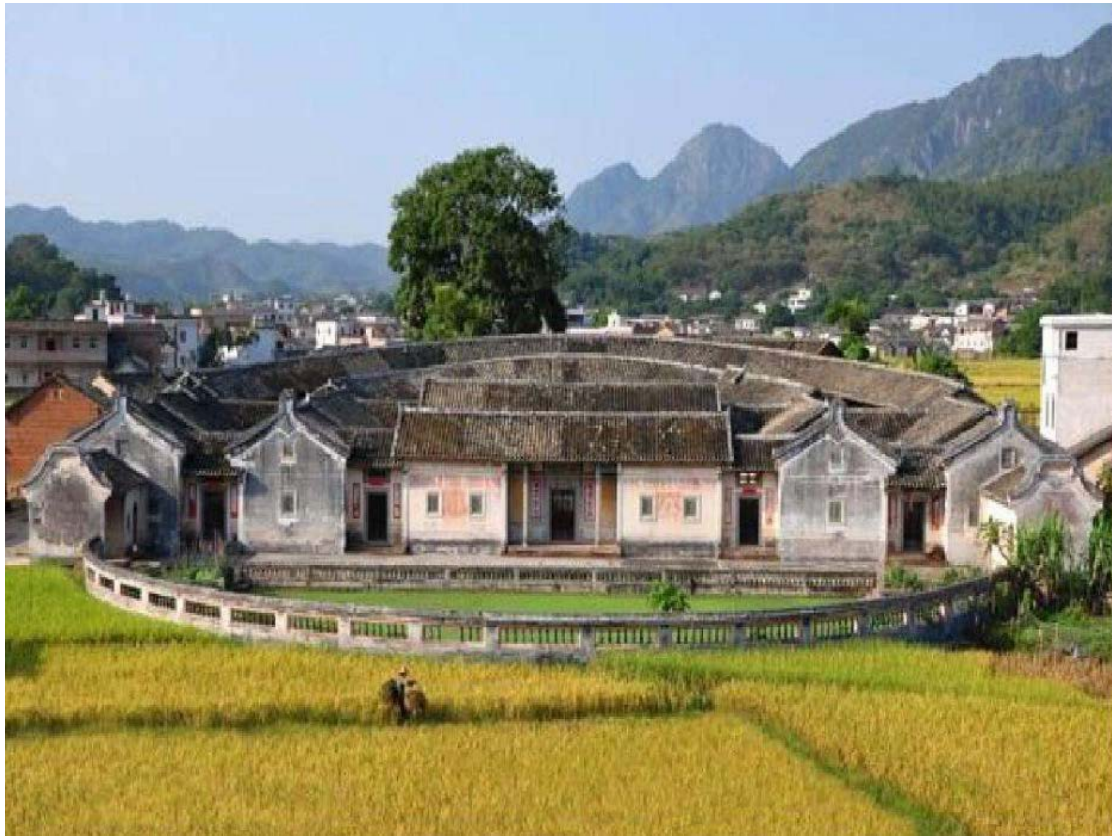


Figure 3-39 Shanben Houses, Mei County, Guangdong Province

Common features in the construction of the round house are: a North-South meridian axis, East-West symmetry, highly differentiated essential parts, strict order, clear structure and the combination of a pond at the front of the house and the "dragon" behind the central hall. Dozens or hundreds of living units with halls and patios at their centers, suitable for dozens of inhabitants. Hundreds of people would sometimes live together in one house, which could sometimes contain a variety of designated activity spaces, such as study rooms or martial arts studios.



Figure 3-40 Pan'an house, Xingning, Guangdong

Round-dragon houses of Hakka pay special attention to their layout regardless of their extension. An empty ground and a half moon-shaped pond in front of the gate are mandatory features. The empty ground was used for drying grains in the Sun, among other activities. The pond, an element which, from a Fengshui point of view, promoted the accumulation of wealth, was also used primarily for the purpose of storing water, fish-farming and fire and drought prevention.



Figure 3-41 the lake and Shanben Houses, Mei County, Guangdong Province

The roundhouse of Hakka originated from the buildings of the Central Plains, but its architectural style is different from the typical courtyard, as it always features an extension on both sides and the back of the courtyard building. Despite the fact that roundhouses are always located in a vast expansion of land, they are organized one by one in the way of the typical courtyard (unlike the Shanxi Grand Courtyard), as can be seen in their overall layout. The evolution of the Hakka round-house has been greatly influenced by historical factors, namely the fact that migrant people lacked a sense of safety out of their native land and felt impelled to build such shielded, inward structures to protect themselves and their families.



Figure 3-42 Courtyard in Hakka round-house

The inner courtyard of a Hakka round-house is, however, generally on the small side, compared to the larger sizes seen in the pit courtyards and Northern quadrangles. This is due to the temperate, continental climate in the Northern region of China: Cool and dry, with distinctive seasons, a small amount of rainfall and no heavy storms. This milder climate is suitable for the cave house dwellings' and quadrangles' courtyards; the Hakka round-houses, however, located in a subtropical climate with regular monsoons, require more protection from the elements in the way of smaller courtyards.

3.4 Chapter Summary

Primitive human beings, in order to survive in harsh natural conditions, would establish their living spaces by the use of either caves or rocks, as evidenced by archaeological sites such as the Lascaux caves in France, the Altamira caves in Spain and so on. However, it is worth to note that not just any cave would do - criteria was followed to find the cave with best living conditions. As the Earth became warmer, and animal and plant life multiplied, humans gradually left their caves to emigrate to food-rich areas. In doing so, they searched for living spaces which would afford them the same living conditions they had.

As the population grew and more dwellings were needed, new styles emerged which evolved from the original caves, which were divided into horizontal and vertical burrows. In traditional Chinese architecture, a typical cave is a horizontal burrow. A cave dwelling is a type of residential dwelling adapted to the geographical conditions of the Loess Plateau. It is cost-effective, easy to build, warm in winter and cool in summer. Therefore, on the vast territory of China, there are marked differences between the dwelling styles of the North and South. Since the South is hot and humid, its architecture tends to pursue a shade-rich environment with natural internal ventilation, mainly with the use of dry-column construction, like stilt building and wooden staves, as well as flat-type houses made of rammed earth. Hakka houses, however, which originated in the North, still kept some of their Northern features.

China has a vast territory and a variety of traditional architectural styles. Restricted by natural environments, as well as political and economic factors along its history, it produced architectures of very different regional styles. The traditional architectural styles of local cultures produced a lot of essential valuable architectural features, as well as enduring certain shortcomings,

limited by their particular contexts. There are many places worthy of study that can enrich and benefit contemporary architecture.

4. Chinese contemporary architectural design

4.1 Foreign architectural culture in China

4.1.1 The expression of foreign architectural culture

Jin Qiupeng said that Chinese civilization has a long history, and although Chinese culture was based on an agricultural civilization, China's scientific and technological research enjoyed a leading worldwide position for a long stretch of time before the 15th century and heavily influenced its surrounding territories. Chinese architecture not only has its own style, but influenced that of North Korea, Japan and other neighboring countries.

Before the turning point in the development of world civilization in the 15th century, Eastern and Western societies developed independently with their own diverse methods. With Europeans' first expeditions into the East in the late 15th century came an acceleration of intercultural communication and the frequent architectural exchange.

The influence of foreign architectural culture on China's architectural scene brought both advantages and disadvantages. On the one hand, it promoted the exchange and integration of Eastern and Western civilization and accelerated the spread of advanced architectural techniques in China, but on the other hand, it sped up the rate of decline of traditional Chinese architecture.

Foreign architectural culture introduced new style trends to traditional Chinese architecture in a process which can be divided into three stages. The first stage, referred to as the ancient period, corresponds to the time period before 1840. This is time during which the first foreign designs arrived to the country. The second phase, known as the modern period, runs from 1840 to 1949 and it is the period which saw the merging of external and Chinese

architectural culture. The third stage would then be the contemporary period, which runs from 1949 to the present, which is characterized by the coexistence of Western modern architectural culture and Chinese architectural culture.

The influx of foreign architectural culture into China in the initial stage consisted mainly of the introduction of religious buildings, most of which were Buddhist. Buddhism, one of the oldest religions in the world, originated in Nepal and was introduced to China by the Ming Emperor Yongping on the tenth year (AD 67) during the Eastern Han Dynasty. It was, however, only popular within a minority of the upper classes. During the Wei, Jin, Southern and Northern Dynasties (AD 220~AD 589), however, Buddhism's popularity grew exponentially and emperors made a large number of monasteries to be constructed throughout the country. Du Mu, a renowned poet in the Tang Dynasty, there were "four hundred and eighty temples in the Southern Dynasties and countless towers in the misty rain." With strong support from the rulers of the empire, Buddhism reached its peak of popularity during the Tang Dynasty. Since Buddhism became part of China, it adopted a whole set of Chinese traits. This is especially true of the period that came after the Han Dynasty, which endeavored to reshape Chinese Buddhism. Stupas from the original lamaist pagoda were turned into the Louge pagoda, pavilion pagoda and further Miyan pagoda became the Louge pagoda. Numerous Buddhist temples and stupas still remain in China, often visited by crowds honouring traditional rites of prayer. The oldest and biggest lamaist pagoda in existence is Beijing Miao Ying Temple's White Tower (Figure 4-1), which dates back to 1271 AD. Shanghai's Longhua Temple (Figure 4-2) is a typical Louge pagoda, whose architectural form comes from pavilions in traditional Chinese architecture. Miyan pagoda is regarded as one of the main types of Chinese pagoda. An example of this is the Songyue Pagoda in Henan (Figure 4-2).

China has lots of stupas with various forms and styles, whose appearance

is unique in the world. The varied scope of pagodas, adorned in their rich, detailed decoration, merged with the view of a range of mountains, rivers and villages are the elements of the distinctive Chinese landscape.

In general, regardless of the shape and size of the stupa, its basic shape is composed by the tower's base, body and brake. The tower's base has different forms, such as square, round and polygonal. The tower's body is contains multiple floors, each of which is smaller than the one below. The tower's brake is the decoration on the top of the pagoda, and the most meaningful, symbolic part.



Figure 4-1 Beijing Miaoying Temple's White Tower



Figure 4-2 Shanghai's Longhua Temple



Figure 4-3 Henan's Songyue Pagoda

After the First Opium War in 1840, China became a semi-colonial country. In particular, most of the coastal cities, located at the gateway, were ceded to foreign countries, after which foreign-style buildings started being erected. Exotic buildings emerged across these cities, such as German buildings in Qingdao (Figure 4-4), the French concession and the Bund in Shanghai and Shamian Island in Guangzhou (Figure 4-5), among others.



Figure 4-4 German buildings in Qingdao



Figure 4-5 Shamian Island in Guangzhou

In the earlier part of the contemporary period, the imitation of Soviet

communism brought a wave of communist architecture into a China. In the period of Khrushchov's reign, many five-story small apartment buildings were built in the Soviet Union. In 1955, the Central Committee of the CPSU published a document demanding that residential buildings be economically focused and restricted in design and construction. According to this document, the Soviet Union started building identical five-story small sized apartment buildings across the country. This was later introduced to China as a solution to the problem of its growing population and rising demand for urban housing. In 1966, the Four Old campaign ("Old Customs, Old Culture, Old Habits and Old Ideas"), brought a devastating blow to traditional culture in which a great quantity of high value, historical, traditional buildings were destroyed.



Figure 4-6 Khrushchev House in Beijing

After the reform and opening up in 1978, modernist architecture became popular in the country. In 2001, China joined the World Trade Organization and in order to match international standards, skyscrapers began being built at a

speedy rate. Skyscrapers changed skylines and cities started gradually giving up the old traditional styles and embracing the new. It seemed that, for a period, demolition and construction turned into the constant background soundtrack of urban locations. Modernist styles, keen on the use of concrete and glass boxes all across cities produced a specific set of spatial problems, such as light reflections, etc. These problems did not only concern the buildings themselves, but the whole plan, use and quality of the city and as such, impelled architects to think of a solution. After modernism, architecture, then, began to show signs of a return to site-specificity, regionalism and nature within a modern architectural language. At present, Chinese contemporary architectural design can be described as the extraordinarily rich, multi-layered merging of hundreds of schools of thought.



Figure 4-7 Hangzhou Qianjiang New City

In general, the spread of foreign architectural culture in China is owed mainly to cultural exchange or commercial trade. Thanks to the development

of navigation technology, cultural exchange has become an increasingly frequent phenomenon and with it, the external architectural styles which were introduced to China are, too, gradually nurtured and enriched.

The exotic architecture in China consists mainly of pure Western-style traditional architecture, such as the original lamaist pagoda, western churches, embassies and houses. Then there are Chinese-Western architectural styles and foreign architecture after Chinesization, modernist buildings and new Chinese modern architecture. When the surge of modernism passed, more and more new Chinese modern architecture emerged. Compared to the monotony of modern architecture, those buildings were eye-catching and fashionable, but designed with a new focus on site specificity, regionalism and nature.

4.1.2 The influence of international tendencies on contemporary Chinese architecture

It is undeniable that the impact of new philosophical trends on China's architecture has had both advantages and disadvantages. It's not the new technologies that are either good or bad per se, but rather the use one makes of them. International architecture trends come to the scene to completely alter China's traditional concept of architecture. The implementation of new materials, such as concrete and glass, has brought new great time-efficiency into the construction progress, subsequently being able to adapt to rapid urban expansion and fulfill to the accommodation demand of a rapidly growing population.

Likewise, the negative impact brought in by new international architectural trends is also obvious. At this moment in time, China's rapid urbanization and the developments undergone by the construction industry point to the

country's largely switching to a mass producing, "shortcut" approach to construction. High-speed, large volume, ultra-high-rise buildings are seen to constantly emerge. Notably, however, China's construction industry is simultaneously facing great changes and challenges. Since joining the World Trade Organization, the phrase "Thousand Cities, One Side" and "Manhattan District" is reflected all across the country, beginning to suggest that cities are not only geographically close, but lacking their essential authenticity and uniqueness.

Why are there so many Chinese cities that appear generic - lacking in distinct character?

There are three main reasons.

Firstly, there is an element of fierce competition among cities to build more and build higher, instigating the mass creation of high rises.

Secondly, urban residents gravitate towards modern urban culture, leaving Chinese tradition behind. Urban culture is the soul of the city, and urban features the hallmarks thereof. As they lose their unique culture, thousands of cities adopt the same appearance - like the CBDs of Beijing, Shanghai, Guangzhou, etc.

Thirdly, cities consider foreign architectural culture as their new aesthetic, while local culture loses confidence. This is chiefly due to the fact that most of decision-makers lack knowledge of humanities, aesthetics and urban management, and a reflection of the political power reigning over such vast a territory in the planet.



Figure 4-8 Beijing CBD



Figure 4-9 Shanghai CBD

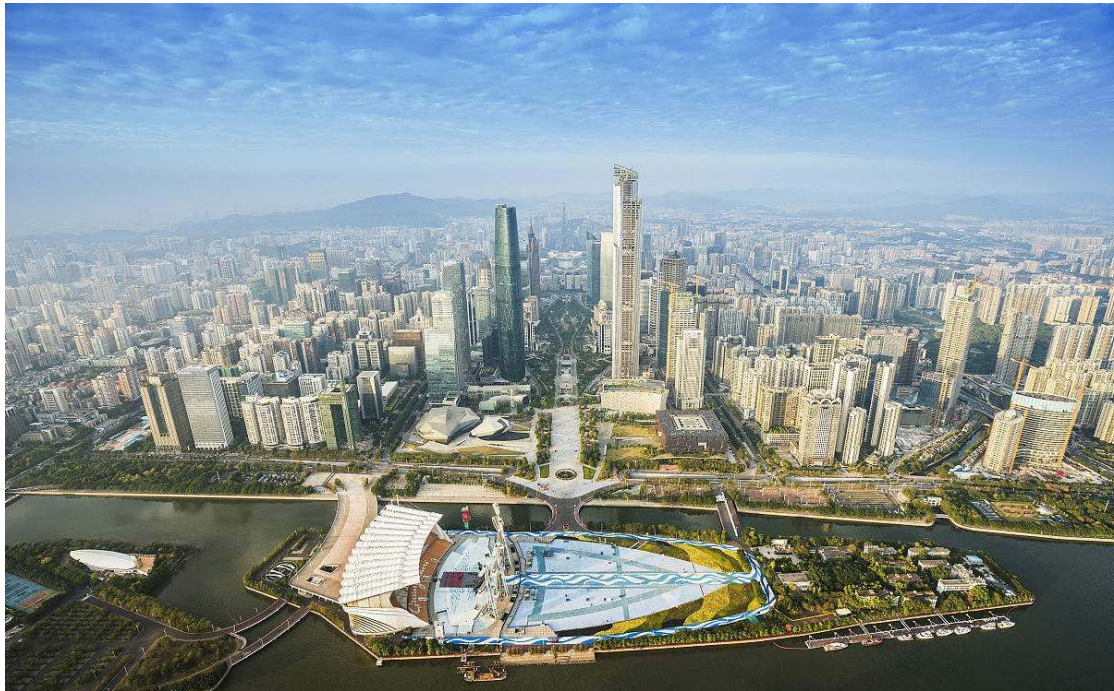


Figure 4-10 Zhujiang New Town, Guangzhou CBD

Adding to the “A thousand Cities, One Face” phenomenon and cities’ low self-esteem in local culture, there is the fact that foreign architects always seem to win the bid for construction projects, especially when it comes to large-scale major construction programs. The obvious perceived benefits of doing these projects were: On the one hand, the city would gain access to and learn from novel architectural concepts and techniques. On the other, the cities would draw visitors from their surrounding areas based on their new wonderful monumental structures, and thirdly, they would embolden their reputation with the names of renowned architects - and use the gathered attention to pay for the works. However, as the constructions were completed, unforeseen disadvantages were revealed.

Firstly, most foreign architects lack proper in-depth understanding of local culture. Designers usually avail themselves of their own creativity but seldom consider the correlation between architectures, the context of cities or the

inheritance of traditional architectural culture. Second, some foreign architects lack knowledge of the local geography and climate, leading to inconsistencies between the architecture and the environment.

Shenzhen library was designed by Japanese architect Arata Isozaki. In Shenzhen, the sun shines all year long and the users of the library can be seen using sun-blocking umbrellas in the library's interiors to be able to read, exposing a gross miscalculation by the designer, who, unfamiliar with the local climate, focused on style and aesthetics and forgot basic needs. While the library was built as a public service, it brought with itself great inconvenience. Shenzhen Library is in a prime geographical location. In addition it is most civilians in the vicinity's only choice, and so for now people must to continue to go to the library and spend time under an umbrella.



Figure 4-11 Shenzhen library



Figure 4-12 Shenzhen library interior

The manifestation of umbrellas itself can be seen as a silent protest against the failure of architecture and a reminder that architecture is not whole without utility. For decision-makers, this is also a silent reminder that, in architecture, an art of context, a famous name is not enough. Instead, local architects should take the time to become familiar with the local culture, climate and geographical environment, so as to ensure their designs avoid major miscalculations. Additionally, the long-term emphasis on foreign architects, which has left domestic architects far behind, is mentally and intellectually detrimental to the development of local talent. After all, our capacity to nourish our local designers is limited. Local architects are losing the chance to implement their craft, which is causing the decline of local talent and harming the inheritance of domestic culture.

In all, the new international architecture trends are a double-edged sword for Chinese contemporary architecture. Due to the late start of domestic architecture, the subject knowledge, practical basis and technology are still relatively weak and so we do benefit from learning from foreign architectural culture. At the same time, we should also try our best to reduce the negative impact of new international architecture on the development of Chinese contemporary architecture.

4.2 Chinese Contemporary Architecture

4.2.1 The context of Chinese contemporary architecture

The new wave of urbanization has brought with itself a whole new look to Chinese architecture. However, much like in the urbanization in other countries in the world, the modernization of Chinese architecture inevitably needs to return to local character. Chinese architecture, should, even while adopting new trends, and to be able to have the potential for long-term development and sustainability, be able to stay anchored in its local needs, cultures and uniqueness of character.

However new buildings emerge in an endless stream of reforms, while the old buildings quickly disappear. From the point of view of an architect, China is an irresistible playground for experiment. Unlike Europe, which has little empty land left to edify from scratch, the amount of empty land and open-minded, extravagant clients in China make it an unparalleled blank canvas for dreaming up possible futures.



Figure 4-13 Lujiazui, Shanghai

On the one hand, the city is erecting a large number of new buildings in order to catch peoples' attention. Each city competes in a frenzied quest for height and holding the position of owning the tallest building. The new building, thoughtful only of its own individuality and in deliberate disregard for its context, causes the skyline of the city to lose balance. These selfish buildings contribute, therefore, to the gradual creation of a visual and experiential chaos, much opposed to the contextually anchored, deeply studied considerations of traditional Chinese architecture. It is not only the design of the skyline that is disrupted. Disruption gradually and inevitably extends to street walls, urban distribution, navigation and experience.



Figure 4-14 CCTV Headquarters building, Beijing

Shenzhen Civic Square, as its name implies, is a square which opens to the public. However, despite such well intended meaning, few people walk into this huge square. This is partly due to the real estates that surround it being rather up market and exclusive. Nearby residents belong mainly to the middle-classes, who in general do not do large amounts of walking, due to being busy and having other modes of transport. In addition, a large open square is not a suitable feature for the climate of Shenzhen. During the hot Shenzhen summers, the square will absorb high amounts of heat and reflect it back up. Since the amount of trees in it is not enough to provide effective shading, the result is a square which remains uncomfortably hot for the twenty-four hours of the day and harming its chance of providing a useful, pleasant public space. During winter, by contrast, it is the cold winds of Shenzhen that put people off spending their leisure time in there. As an additional inconvenience, the surface of the square is a vast, tiresome

expanse to walk through which is completely empty, devoid of any interactive or interesting features. It is a very rare occasion to see anyone walking through it. This situation involving a lack of consideration for basic human comfort in vast urban styles can be seen replicated in many of the other cities undergoing renovations, like, for example, Hangzhou's Qianjiang New City.



Figure 4-15 Shenzhen Civic Square



Figure 4-16 Hangzhou's Qianjiang New City.

On the other hand, in order to build these new buildings, cities dismantle valuable traditional buildings and villages, often without so much as giving a clear notification of it. Cities rely on the sale of land and on towering buildings

to obtain fiscal revenue and support governmental achievements. So it is not difficult to understand why there are constant news of landowners trying to set new auction records, announcing how X city is looking to erect its first sky-rise, etc.

Originally, renovation is an organic development in cities, countries and around the whole world. However, the problem China faces is that the speed of building renovation is increasing dangerously. Meanwhile, the essence of traditional architecture and villages which had gone through such long history has been lost. The new constructions, which replace old buildings, exclusively pursue their own ruthless individuality and forceful cacophonous dominance through their boastful shape, materials and eye catching visual effects. The urban context and space are overlooked. The huge scale of single buildings destroys the urban landscape, disrupts the city's balance and harms its original lifestyle. Modern buildings use mostly new construction materials, such as reinforced concrete and glass. The mass overuse of glass for glass curtain walls is, for instance, currently giving into a problematic light pollution situation.

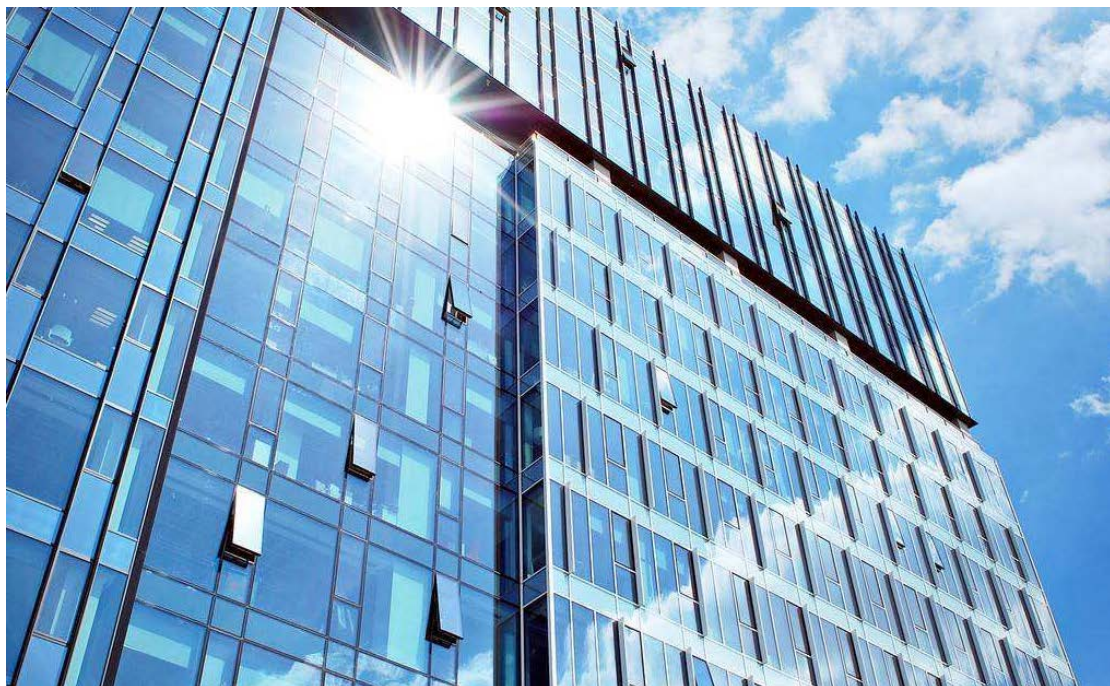


Figure 4-17 Uncomfortable light reflection

The current situation of China's contemporary architecture could be summed up as both old and new buildings coexisting, while the new have their sights on replacing the old. At the same time, technology advances in the way of gradually increasing its speed of performance and then so does the rate at which the old architecture disappears. The problems at hand with the current situation are, then, how to protect and renew older buildings, how to keep the concentrated wisdom of traditional architecture into the new constructions, and how to establish a functioning, symbiotic relationship between urban architecture, man and nature. The positive side of this moment of rapid change is of course, that, China, as a playground for new ideas, is open to the widest spectrum of possibilities and so there is equal room and possibility, too, for the genuine positive innovation that it needs. One that gathers the aforementioned requisites.

4.2.2 Localization of foreign architectural culture

The arrival of foreign architectural culture in China has meant, for example, that Chinese architect Yonghe Zhang gets left behind. Yonghe Zhang is a well-known Chinese architect, architectural educator and United States registered architect also known as "the father of modern architecture" in China. He was in the first group of students to leave China and study architecture in the United States as soon as China's opening took place. After this, he resolutely gave up his faculty in the United States to return to China and start a business.

Vertical Glass House was designed by Yonghe Zhang as an entry for the

annual Shinkenchiku Residential Design Competition, which was organized by the Japanese Architecture Magazine in 1991. For this design he received an Honorable Mention Award. Twenty-one years later, in 2013, the West Bund Biennale of Architecture and Contemporary Art in Shanghai decided to build it as one of the permanent pavilions (World Architecture, 201710,P70)



Figure 4-18 Vertical Glass House

In the architect's own words:

"Vertical Glass House is a prototype for a high-density contemporary city and discusses the notion of transparency in verticality while serving as a critic of Modernist transparency in horizontality. On the one hand, Vertical Glass House looks spiritual, because it has enclosing walls and transparent floors as well as roof. The house opens to the sky and the Earth, and it positions the inhabitant right in the middle. What's more, it creates a place for meditation. On the other hand, Vertical Glass House is material; Vertical transparency visually connects all the utilities, ductworks, and furniture, including staircase, into a system of domesticity and provides another reading of the modern theory of 'Architecture as living machine'."

Yonghe Zhang's work, while naturally influenced by his Western modern architectural education, also breathes the elements of Chinese traditional architectural culture. For example, the fact that Vertical Glass House gives an effect of being a transparent, overlapping space that exists outside gravity, seems to allude to Liu Ling (AD 221~AD 300), poet of "Seven Worthies of Bamboo Grove", who famously dreamt of heaven and Earth as shelters and homes as clothes.



Figure 4-19 Interior space in Vertical Glass House

The Split House, by the Great Wall, embodies the Chinese tradition both

in its overall layout and its details. It is well integrated in its environment, successfully living the ideal of harmony between man and nature. Its dichotomous architecture imitates the mountainous terrain around it resulting in a coherent, unified environment. The space enclosed by the dichotomous buildings can be seen, as well, as an updated model of the traditional inner courtyard.



Figure 4-20 Courtyard of the Split House

The house split in half gives its interiors different, artistically conceived, strategically framed views into the landscape outside. A stream flows straight into the house, sparkling and glistening under the glass floor at the entrance. The atrium is surrounded by the mountain and both sides of the house, softly dealing with the transition between nature and the man-made building. The designer placed, as well, mountains and water coming into and merging with the space of the house, to then place humans in the midst of it, just like in the scenes of traditional Chinese landscape paintings.



Figure 4-21 Aerial view of the Split House

The house is also eco-friendly: its load-bearing wall is made of rammed earth, one of the most widely used natural materials in China. Aside from reducing its impact on the environment, it solves thermal and sound insulation, keeping spaces warm in winter and cool in summer. Instead of merely imitating the appearance of traditional architecture, its particular, thoughtful combination of traditional and modern architecture supposes a step into the direction of meaningful innovation.



Figure 4-22 Rammed earth wall of the Split House

With the tradition of rammed earth and wood as the main building materials of China, architects have built a house that not only has less impact on the environment but that can also be removed easily and cleanly. The texture of rammed earth wall will change with the wind and sun, showing the passing of time (Figure 4-23). As a further measure to grant the house ease of operation and reduce maintenance costs, only one wing of the house can be opened.



Figure 4-23 Detail of rammed earth wall in Split House

The structure of the house is composed purely of load-bearing walls. No pillars or other structures can be found in the interior of the space, granting it a sense of purity. The architects had the choice to create smooth ceilings and walls but opted for the earthier, richer texture. The use of beams and columns not only expand its sense of depth and three-dimensional interest, but also serve as picture frames, which, stacked one after the other, result in the effect of overlapping windows found in classic Chinese garden design.



Figure 4-24 Living room of the Split House



Figure 4-25 Overlapping windows in Guo Zhuang, Hangzhou

Yonghe Zhang maintains a humble way of life despite being highly regarded. His architectural work is hard to classify into a particular style. He claimed that "the starting point of our idea may be materials, may be space, but may also be a concept, especially the concept of lifestyle, and all of them eventually create the architectural form." In line with his humble attitude, Yonghe Chung himself keeps designing every one of his masterpieces to the detail, with each building usually showing a multitude of levels and a different character. His particular merging of Chinese and Western culture can be seen to run through each of his works. He uses modern architectural language to flesh out the core values of that of traditional Chinese design, giving his work the depth that make him worthy of study by other architects.

4.2.3 Regional expression of international style

When it comes to regional Chinese architecture, three senior architects are worth mentioning: Qi Kang, Wu Liangyong and He Jingtang. These three traditional academic architects are the major figures in China's domestic architectural community and role models of their respective regions.



Figure 4-26 He Jingtang

He Jingtang has long worked in the field of architectural design and is an architect of the Lingnan School of Architecture, with a large number of works of international influence. He is mainly engaged in architectural practices and theoretical work which typically explore region, culture and time.

At the age of 69, He Jingtang took part in the competition for the Chinese Pavilion at Expo 2010 in Shanghai. He led his team into an artistic treatment of traditional Chinese architecture, gardens, cultural impressions and Chinese architectural elements - integrating them as their theme. However, in June of the same year, when Expo Bureau initially selected 20 programs out of the competing 344, his proposal was left out. The judges, whose plan was to select 8 out of the pre-selected 20, concluded that none of them was indeed worthy of it, upon which a second selection process was started from scratch. This time, Jingtang's proposal emerged successful under unanimous approval.

The Chinese Pavilion is more than 70 meters high; its light constantly changing. The use of color is important, therefore, to ensure the right light effect from different distances and in different external conditions. In order to determine the best color to present the Chinese Pavilion, He Jingtang spent 10 months in deliberation. Using red on a building this size is a high risk. At the end, there was a tie between Imperial Palace red and the flag's red. In order to ensure the solidity of this final decision, he invited Professor Song of the China Academy of Fine Arts Institute to study the shades of red and, after further testing and narrower adjustments, produced a winning shade, which was mixture of four others. After this, came the question of the material and surface texture. For this, He Jingtang hung 23 panels of different materials in a small building next to the construction site and from morning till night, observed the behaviour of these materials from all angles, taking in their rich range of colour in changing light. At the end of this, he opted for metal plate. The details of the carved lines on the plate are elaborate and the width was adjusted many times

from 3 to 9cm. Lastly, he went for a 4.2cm wide, 2.5cm deep decorative stripe. He Jingtang perfected his work carefully and patiently - this is the professionalism and pursuit of excellence that so characterizes him.



Figure 4-27 Chinese Pavilion at Expo 2010 in Shanghai

With the theme of Chinese wisdom in urban development, the Chinese Pavilion at the 2010 Shanghai World Expo endeavors to show the spirit and temperament of Chinese culture. China as "Flourishing China: Crown of the East, the world's granary, wealthy people."

The Chinese elements in the Chinese Pavilion include: the use of a traditional Chinese shade of red, adventurous and powerful expression and architectural design by of the abstraction of Dougong - all characteristics of traditional Chinese architecture. In the Chinese Pavilion, one can find Chinese traditional writing arranged according to the four directions: East, South, North and East- in compliance to the requirements for good Fengshui. Then in

addition to this, the surface of the outer wall is decorated with writing in the same Chinese characters, arranged in the structure of the twenty-four solar terms of the traditional Chinese calendar. The overall landscape environment of the pavilion obeys to Qing Yan elements from Yuanming Yuan's classical garden.

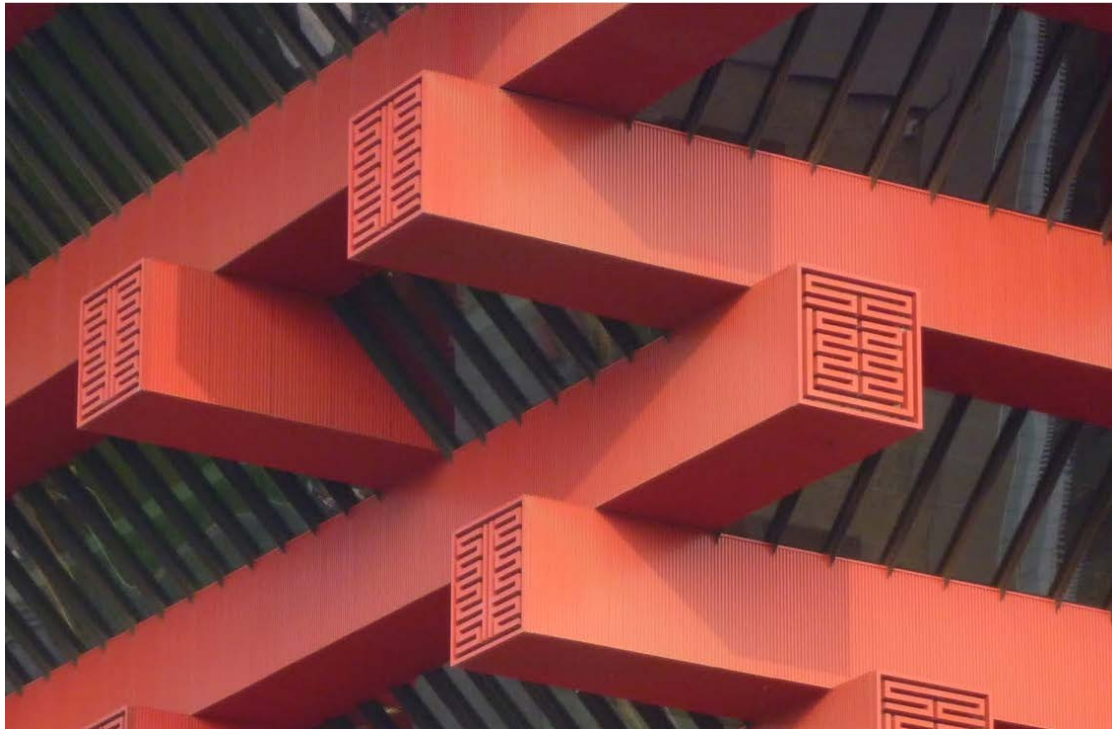


Figure 4-28 Writing in traditional characters on the Chinese Pavilion

The Chinese Pavilion, with its red shade, resembles a Dougong. The use of a "Chinese Red" that could be said to contain 5,000 years of Chinese history in the 159th World Expo is symbolizes an intention to welcome everyone from every part of the world. While in ancient times eaves could be ejected up to 4 meters through a Dougong, the modern building's use of steel and concrete afford it greater advantages. Incidentally, in the process of its construction, the Chinese pavilion carried with itself boldly innovative reinterpretations of traditional elements. Traditional curves were straightened and structure,

stratified. The shortest space in the Chinese Pavilion reaches 45 meters, while the most oblique place measures 49 meters. The main shape shows then, at once, the power of modern engineering technology and the beauty of traditional Dougong structures. The use of simplified lines, instead of the curves of original Dougongs, were only the natural way to complete this modern expression of traditional architecture.



Figure 4-29 Traditional Dougong timber element

Since the Chinese Pavilion looks like an ancient Chinese cap it earned the title of "Crown of the Orient". The twenty-four solar terms of the traditional calendar, printed in traditional characters, not only aim to celebrate Chinese writing culture, but to make for the fun interactive experience of recognizing the

words.

The overall landscape design contains the elements of the classical garden Jiuzhou Qingyan of Yuanming Yuan (also called The Old Summer Palace). Jiuzhou Qingyan (Figure 4-28), the original landscape design, was redone on the site of the Chinese Pavilion by the architect. After the redesigning, the eight types of landscape in the new Jiuzhou Qingyan (Figure 4-29), which include its farmland, bog, lake, hill, forest, meadow, ravine and desert, were shaped into a half-moon around the Yong (Chinese Pavilion), symbolizing ultimate source and harmony. According to topography and range of climate, these are the eight representative type of landscapes of China. In each of these landscape compartments, then, their corresponding plant varieties were planted, laying out a colorful representation of the whole country. Metasequoia and other wetland plants were planted in bog, while populus, tamarisk and others can be found in the desert section. The pavilion's urban landscape manages to merge harmoniously with its natural landscape; the complete, rich range of elements at display make for a rare occasion to witness so much in one place.



Figure 4-30 Jiuzhou Qingyan in Yuanming Yuan

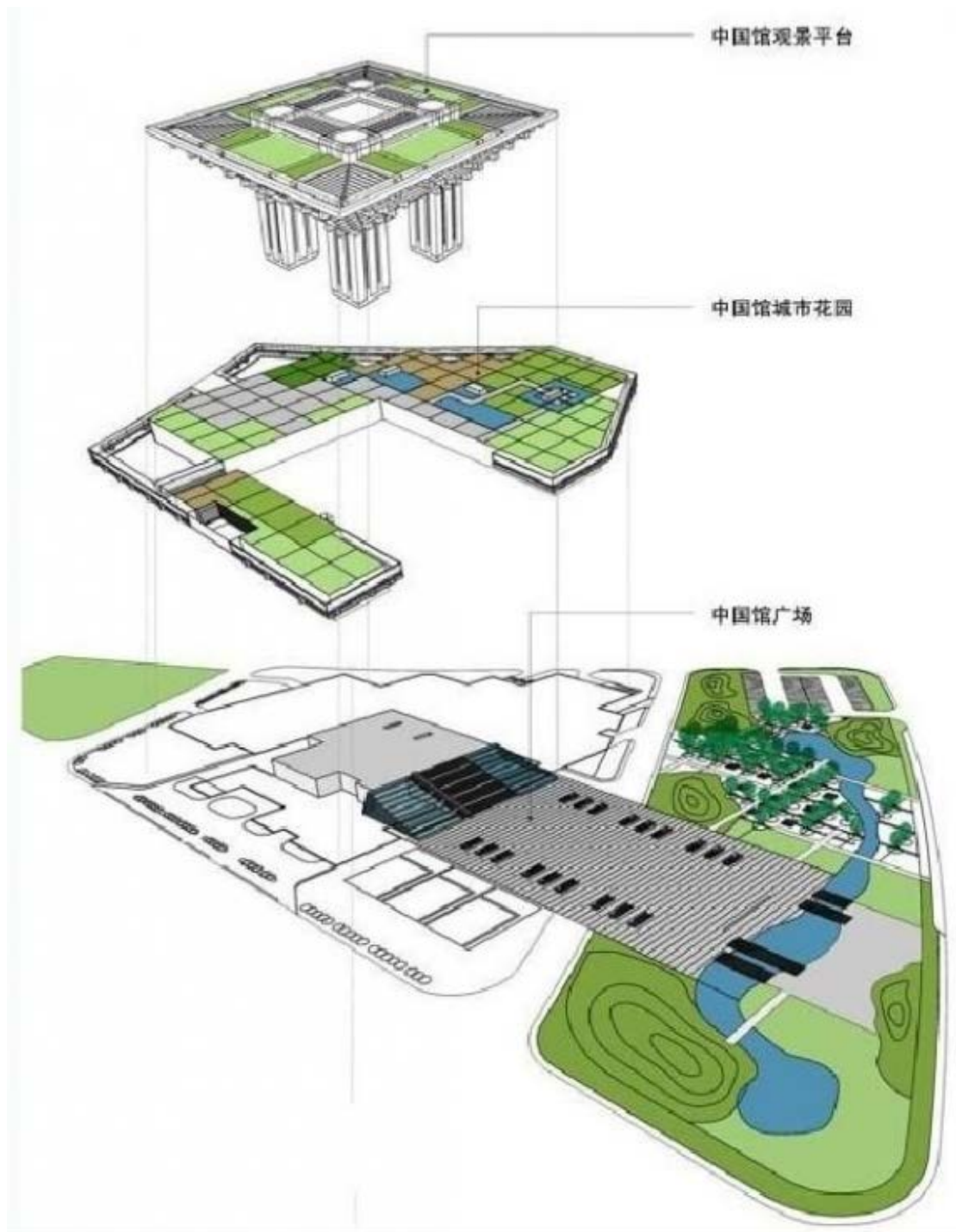


Figure 4-31 Chinese Pavilion's landscape

Despite the Chinese Pavilion's undoubtedly heavy focus on Chinese character, its approach was cause of debate and most notoriously, the claim

that the architect's way of conceptualizing deep traits of culture into shape was formalist and superficial. But the essence of architecture is in grasping the character and needs of local culture and infusing those into the design, rather than in the presence or absence of adventurous shape and decoration.

4.2.4 Return to traditional concepts of natural design

Wang Shu, the Chinese architect who won the 2012 Pritzker Prize, is another prime example of an architect that celebrates Chinese tradition in his work. Wang Shu, an active, revered innovator at the forefront of Chinese architecture, is known for frequently producing refreshing new ideas and approaches that benefit his circle of peers as much as the rest of the world. His insights regarding project sites, unique expression of Chinese traditional culture in architecture and his ingenious grasp of different material combinations have turned Wang Shu into a contemporary icon.



Figure 4-32 Wang Shu

Wang Shu's early works, it is worth noting, represented standard modern architecture - complete with a fully regular use of building techniques and materials. They didn't yet contain any evidence of traditional Chinese characteristics whatsoever. For example, the Haining Youth Center is a typical post-modern building and completely different from the later he was to produce later, which would be fully immersed in the ambitious task of architecturally playing out traditional poems and paintings.



Figure 4-33 Haining Youth Center

In recent years, Wang Shu became fond of old building materials, such as roof tiles and abandoned wall tiles, which he decided to use to give the exterior of new buildings an older, character rich look. The wall tiles (Figure 4-34) employed in his buildings are all made of old recycled roof tiles. His frequent use of recycled materials is understood, additionally, as a protest against waste in the construction industry. His wall tiles come from walls in the Jiangsu and Zhejiang Province. He is not, however, the first contemporary architect to come up with this idea. Yong He Chung had a similar one during his early work in the design of the Quanzhou Museum of Fine Art, which was inspired by the traditional method of combining stone into bricks typical of the southern Fujian Province (Figure 4-35). Unfortunately for him, however, the building could not get completed.



Figure 4-34 Tile walls



Figure 4-35 The traditional method of combining stone into brick

Wang Shu's most celebrated work of the recent years is the Xiangshan Campus of the China Academy of Art, which made it possible for a young architect like him to win the Pritzker Prize despite lacking an extensive architectural portfolio.



Figure 4-36 Aerial view of the Xiangshan Campus of the China Academy of Art, Phase 1

The Xiangshan Campus of the China Academy of Art is located on the outskirts of Hangzhou. The first phase of the project is mainly composed of buildings like Sanheyuan (Figure 4-37), which is to say a house with a courtyard surrounded by buildings on three of its sides and empty space on the other one. They are not arranged in a straight line, but rather at an angle, in the

layout. As a whole, they surround the mountain of Xiangshan. All of which evidences the importance the architect places on integration in the overall environment.

From this series of courtyard buildings, we can clearly see the influence of traditional architecture on Hangzhou. Traditional architecture in this area is characterized by white walls and black roofs, a feature that Wang Shu implemented in this construction to some extent. Facades around the courtyard are decorated with wooden window panels which, when closed (Figure 4-38), make the facade become a wall. Behind the window is the corridor, done in the style of traditional garden architecture. When some of the windows are open (Figure 4-39), people may feel they are in a traditional garden. The opening and closing of windows is, therefore, designed to produce a change of scenery. The courtyard is not closed and the empty facade facing the hills cuts off a section of the mountain view (Figure 4-40), strategically designed so that the visible remaining scene functions like the picture framing windows of classical garden architecture. The size of the project means that the most significant difference between itself and traditional Chinese garden architecture here would be in scale and proportion.



Figure 4-37 Sanheyuan in Xiangshan Campus, China Academy of Art. Phase 1



Figure 4-38 Sanheyuan with closed windows



Figure 4-39 Sanheyuan with open windows



Figure 4-40 View outside Sanheyuan

The facades facing away from the courtyard imitate the Miyan tower of traditional Chinese architecture, decorated with roof tiles (Figure 4-41), which were hand picked by Wang Shu, in order to create a specific atmosphere.



Figure 4-41 Xiangshan Campus, China Academy of Art, Phase 1

The interior is an extension of the quaint atmosphere outside, and we can see how the architect is also invested in the interior design, unlike in many projects in China where the architectural and the interior design are produced separately, by different teams. The concrete ceiling, done in a deliberately flat surface, does not only echo the ground, but reconciles with a multitude of windows, in an overall spacial in coordination where the primary and

secondary elements are clear distinct and in which visitors are afforded a lucid, immersive experience of the changing stages of light.



Figure 4-42 Canteen of Xiangshan Campus of the China Academy of Art, Phase 1

Each building in the first phase of the Xiangshan Campus is generally quite similar, interspersed by several long strips of buildings. The design method is somewhat simpler to that of the Xiangshan Campus' second phase (2007-2011). The second phase easily reflects the architect's progress and his newly gained level of experience, skill and creativity. The methods used are more advanced, the designs more sophisticated. The overall look of the second phase's architecture is more intricate, of richer detail and the size much larger.



Figure 4-43 Aerial view of Xiangshan Campus, China Academy of Art, Phase 2

Xiangshan was originally a low elevation hill. After the second phase of the campus was built, it became increasingly obvious that the mountain to buildings ratio was imbalanced. One had to keep in mind that as the number of building units increased, the campus would so become more crowded. In this particular aspect, then, one can assert that the overall environment of the first phase is more successful than that of the second.

The buildings of the second phase have sloping roofs with rising and sinking patterns reminiscent of the scenes of traditional landscape painting. Correspondingly, the staircases hanging on the walls, which are both a decorative facade element and an echo of the roof, feature similar twists and turns and achieve a great deal in terms of enlivening the facades and constituting one of the building's talking points - attracting attention for their display of imagination.



Figure 4-44 Building No. 19 of Xiangshan Campus, China Academy of Art, Phase 2



Figure 4-45 Detail of “Dwelling in the Fuchun Mountains”, by Huang Gongwang, between 1348 and 1350

The other facades feature staircases that achieve a visual effect of endlessness. The decoration is no longer composed of vertical bamboo poles, but white walls which rhyme with those in the first phase. The whole facade appears to be a free form pattern made of darker, irregularly sized and shaped, arbitrarily positioned windows on a white surface. For these windows, the architect used the most popular window opening method.



Figure 4-46 Building No. 18 of Xiangshan Campus, China Academy of Art, Phase 2



Figure 4-47 One of the free-form facades of building No. 18

Another type of facade on the building is one that at first glance appears to be a wall, but will, upon closer inspection, reveal a series of inlaid small strip-windows. Despite the successful visual effect, the amount of light permeating the building through these windows is oftentimes not sufficient and some complaints about poor lighting have been known to emerge. The big facades look very solid, while the small facades are empty (Figure 4-48) and do not have the appearance of a complete work, but rather that of one that was interrupted. This combination of an empty and a solid space afford the entire

surroundings of the buildings a more interesting quality. This relationship between reality (the solid space) and virtuality (the empty space) is the very essence of traditional Chinese garden architecture. It could be argued that this method is simultaneously an abstract integration of the essence of traditional architecture and a new, fresh look at the facades, which effectively achieves an overall spacial upgrade.



Figure 4-48 Two different types of facades in Xiangshan Campus, China Academy of Art, Phase 2

The irregular shapes of the small facade imitate artificial Chinese hills. The interior, irregularly shaped facade's especially solid constitution accentuates the exterior one's look of emptiness, in a gesture intended to welcoming visitors to walk into the building.



Figure 4-49 A teaching building of Xiangshan Campus, China Academy of Art, Phase 2

Such irregularly shaped facades abound in the second phase of the Xiangshan Campus, resulting in a general atmosphere which is very reminiscent of traditional Chinese garden architecture. Each single building has a courtyard, with corridors along it, which will sometimes lead directly to the outside of the building. These, too, are honoring the verandas of traditional garden architecture.

In summary, the second phase of the Xiangshan Campus designed by Wang Shu is close to achieving a type of three-dimensional garden architecture; whereas traditional garden architecture is more two-dimensional.

The rhythmically sloped external stairs evoke, too, the winding paths of garden architecture. The space is set up so that every last corner of it will provide people the experience of being in a classical garden.

While the Xiangshan Campus creates a good experience for visitors, it teachers and students have complained about it lacking in practicality in the day to day. As an example, some students find the dormitory's living spaces to be poorly lit, while some teachers complain about not being able to find their classrooms even well into the course. All of the continuous staircases that hang on the facade have their own doorway, but the doors in these entrances and exits remain always closed. Users of the stairs find it hard to get their bearings and know where in the building they are, even when using one of the entrances into the building. As a result, staircases are rarely used and effectively reduced to decoration.

It is not only the staircases on the facade that have lost their primary intended function: a similar problem affects the internal corridors which, instead of being flat, once more repeat the same rising and falling slopes as the external ones, making the entire building into somewhat of a labyrinth.

Should someone, for example, be looking for classroom number 302 and found number 301, his normal assumption would be that he was not far from his desired destination. However, the gradually sloping corridor would mean that a person's natural forward movement would take them first to the lower floor than to the next classroom, leaving them very far from their destination. This building is, therefore, especially unfriendly and hard to navigate for anyone who doesn't have a good sense of orientation and good memory. Consequently, there are a number of incidences where teachers and students have gotten lost and missed their classes, exams, tutorials, etc. Allegedly Wang Shu himself will occasionally get lost in his own building. When

architects view their small scaled drawings and models from the perspective of God, structures and routes look easier and clearer than they do when entering the full sized buildings as a user. Structures such as walls, pillars, floors, stairs, etc, will keepn obscuring one's field of vision, making orientation a more challenging task. Without strong spatial visualization skills and a good memory, one can not determine one's location in this labyrinthic building.

On the plus side, this makes it a particularly unique and interesting location for theatrical purposes and games of chasing or hide-and-seek. It has proved, for example, an ideal location for Zhejiang TV show "Running Man".



Figure 4-50 Internal corridor in Xiangshan Campus, China Academy of Art, Phase 2

One of the most characteristic features of phase 2 of the Xiangshan Campus are the windows of the external walls, which, being so few and so small, impair the building's proper ventilation and make for classrooms that are uncomfortably hot in summer and cold in winter. Aside from under-performing insulation, there is also a lack of light. The small openings are not enough: teachers and students are required to make use of day-long artificial lighting.



Figure 4-51 A sunless corridor in the Xiangshan Campus, China Academy of Art, Phase 2

Wang Shu used, in the Xiangshan Campus, the traditional materials that seem to extend from traditional architecture. The whole building has successfully acquired a sense of history and ancient beauty.

The traditional construction method of combining stone into brick used to be very practical in old times. Patchwork was the useful method to resort to in times of poverty. In Wang Shu's architecture, however, these old materials are just an outer layer of skin of the building which exists for the purpose of showing a traditional element. They do not effect thermal insulation and bring no contribution to the structure. These old tiles were affixed to the walls in the same way all ceramic tiles and other materials are glued in modern architecture. In this sense, they are nothing more than the imitation of a superficial appearance: the staging of a revival of traditional architecture - rather than a reinterpretation of it from its core.



Figure 4-52 One of the walls in Xiangshan Campus, China Academy of Art, Phase 2

Despite these particular issues, Wang Shu is a highly successful local architect in China, who works to incorporate a return to more natural materials and repurpose tradition in contemporary architecture. This is especially evident in his representative project, the Xiangshan Campus. Within the campus, Wang Shu has used modern language to create a very successful atmosphere that takes one back to traditional garden architecture. There are, however, also some rather superficial approaches, as is the case of the veneered old roof tiles.

While the artistic commitment in Wang Shu's work forgoes practicality, the great success of his oeuvre lies in contemporary Chinese architecture's motion towards tradition.

4.2.5 The integration of foreign architectural culture and Chinese traditional architectural culture

After many years of modernism, particular regional expressions of it started to emerge. When it comes to Chinese contemporary architectural design, one must naturally talk about I.M. Pei. Pei is a Chinese American, born in a distinguished family of distant Ming Dynasty ancestry. As a child, he grew up in the Lion Forest Garden in Suzhou. He studied at MIT and Harvard School of Architecture, where he studied under Gropius - known as "the last master of modernist architecture".

Pei has now been practicing architectural design for nearly 70 years, since 1948. His works incorporate both a typical modernist style and traditional local features.

A shadow of Mies Van der Rohe could be seen in his early works, but,

unlike Mies, who used glass as his main material, he often favours concrete. His began to gradually gravitate towards a Corbusier-like sculptural sensibility.

Since Pei lived abroad for a long time, few works of him remain in China. Suzhou Museum, which is adjacent to the Humble Administrator's Garden, would be an example of such works. It is known that a fair amount of controversy arose upon revealing the project's location to be. Those who advocated the protection of cultural relics thought the site to be inappropriate, as a small part of the Humble Administrator's Garden would need to be demolished.

The west hall of Suzhou Museum, designed by IM Pei, constitutes an example of brand new modern architecture which is also essentially a Suzhou garden. It covers a modest surface of about one hectare.



Figure 4-53 Suzhou Museum

As seen from the floor plan (Figure 4-54), the Suzhou Museum is divided

into three parts: an octagonal entrance hall, a front yard in the South and a water-based garden in the North. The area that surrounds the garden and the front yard constitutes its main body. The Museum has a garden and a typical inward courtyard, which extends from the culture of traditional courtyards. The symmetrical layout around a central axis can be noticed from the front yard. There is also an octagonal pavilion near the entrance, which is also modeled after traditional Chinese architecture.



贝聿铭建筑师/贝氏建筑事务所

苏州博物馆

首层平面图

Figure 4-54 the first floor plan of Suzhou Museum

The water view in the garden fits in very well the characteristics of Chinese classical gardens. First of all, water features are designed in irregular, natural forms. They are not as structured as, for example, those in Islamic gardens and comply with the Confucian notion of "unity between man and nature". In addition, one can see an island in the water, so that the whole of the water cannot be appraised at once, making some room for imagination. In addition, in this particular case, the island symbolizes the Penglai Islands, associated to the spiritual pursuit of immortality. Islands for people to stay in and contemplate are a feature of classical gardens and are commonly designed as an octagonal pavilion (Figure 4-55) with a zigzag bridge. In this way, people's viewing route is readily established. At the same time, people who stay on the bridge and the pavilion become part of the landscape viewed from the main building, thus bringing to life a dialectical relationship between seeing and being seen. Finally, it is worth mentioning that the bodies of water in the garden and those in the Humble Administrator's Garden are connected. I.M.Pei connected the water at the Humble Administrator's Garden with the Suzhou Museum site, establishing a natural link between the two and reinforcing their historical importance.



Figure 4-55 Suzhou Museum's octagonal pavilion

Pei employed scattered components of multiple sizes to create the building's shape. Suzhou looks less like a magnificent museum and more like a small village composed of multiple houses (Figure 4-56). This is an approach which allows Suzhou Museum to adapt to the local environment and avoid being out of place.



Figure 4-56 Aerial view of the Suzhou Museum

The main characteristic of the Suzhou Museum is its particular combination of traditional Chinese elements and modern expression. A first glance will clearly discern a Chinese feel in its puristic color scheme. The white walls and black roofs are maintaining a long tradition - one which is especially vident in the dwellings of the Suzhou (Figure 4-57).



Figure 4-57 Dwellings of Suzhou

Despite the Suzhou Museum's sacrifice of ground surface for the pursuit of Chinese traditional architecture and integration with the surrounding environment, and despite most of its construction being set underground, its strategy was largely successful and well received.

Muti-layered roofs are common in Chinese architecture, however the building material here is not the traditional wood, but lightweight steel. As it were, the same form with different materials and different stress systems, gets a new result.

Upon entering the front door, one is not only greeted by the sense of order afforded by the symmetry axis, but by a traditional Chinese vertical bar gate and an octagonal moon door.



Figure 4-58 Doors of the Suzhou Museum

The concept for the front yard was also an element from traditional Chinese architecture, very different from the common square in traditional Western design. This is an inward enclosed courtyard that, as the entrance, it functions as a buffer to prevent a direct route to the garden and enriches the space with a sense of layering.



Figure 4-59 Front courtyard of the Suzhou Museum

Except for the cruciform roads in the front yard, there is only the sand-paved ground. The atmosphere in the entire courtyard space is decidedly quiet and bare, rather in the style of Japanese Karesansui culture and modern minimalism. Meanwhile, the simplicity of the front yard is perfectly offsets the richness of the garden that lies behind.



Figure 4-60 Garden of the Suzhou Museum

The scenery reflected in the water is highly diverse and changing from different angles (Figure 4-61). It reveals artificial hills, pavilions, bridges,

museum buildings... One angle will reflect an image of solemnity and order while from another's will feel very random. Perhaps only one side of the white wall can be seen, artificial hills and plants added on top. These wide range of content shown on the surface of the water create the intricacy and richness that grant the space its interest.



Figure 4-61 Water surface in Suzhou Museum

As for the garden's pavilion (Figure 4-62), its octagonal base erected on a platform is understood to honor the traditional geometrical figure of the Eight Diagrams. Secondly, its roof is double-eaved and rafters-pointed, which is to say the centers of the both roofs converge. Despite owing to Chinese tradition in its form, using steel and glass as the materials for the double-roof's structure is very much a modern choice.



Figure 4-62 Suzhou Museum's pavilion

The north wall of the garden, where Suzhou Museum faces the Humble Administrator's Garden, features a classic work of landscape. Stone made, it imitates traditional landscape painting. As one walks on the bridge, one feels the irregular, changing texture of the stones. The stones closer to people are warm-colored and of a more rugged texture, whereas at the remote side of the bridge, at a distance from visitors, the stones' tonalities are cool and their surface smooth - less rich than the other. This achieves an effect of visually transitioning from vigorous strength to plainness which reminds us to traditional landscape painting, where mountains are rendered with thicker and articulate brushstrokes when they are at the front of the scene, and in gradually faded marks as they take distance. In Chinese traditional landscape paintings, however, only the difference between the sharpness/darkness and faintness/lightness of color is noted - the distinction between warm and cool, so significant in Western art, was of no relevance. Respecting both of these sensibilities in the same work is one way I.M. Pei externalizes his simultaneous existence inside both cultures.



Figure 4-63 The artificial hill of Suzhou Museum from a distance



Figure 4-64 "Red Cliff" (Chibi tu) by Wu Yuanzhi (act. 1149-89)

The artificial hill is not made of whole stones, but of thin slices. The sense of depth of the picture is achieved by the overlapping of stones, rather than real distance - an architectural approximation to traditional landscape painting techniques which reflects Pei's scholarliness and philosophical depth.



Figure 4-65 Close up of Suzhou Museum's artificial hill

Chinese traditional garden architecture has a major feature - the pursuit of a specific picturesque atmosphere - as one would have when strolling through the middle of a painting, which is achieved by ensuring that every possible location and point of view in the garden will produce a scenery worth seeing. In many cases, the architect ensures that no matter which window one looks through, one will always meet the sight of a poetic and intricate leafy branch offset on a white wall. Suzhou Museum makes ample use of the scenery framing technique. By looking through an hexagonal window between two buildings, we find a tree, and subsequent smaller frames (additional windows) into the distance. The sense of depth, also in honor of traditional gardens, is achieved by a layering of elements which seems to trail into the infinite.



Figure 4-66 Suzhou Museum's multiple window view



Figure 4-67 Window view in Guozhuang, Hangzhou

Steel, as a high-strength material, gives the roof an appearance of lightness and makes a pillar-less lobby possible. Instead of the bulky roof found in traditional wooden structures, which makes for rather dark interiors, the use of glass here produces a pleasant and comfortable natural lightness.



Figure 4-68 Suzhou Museum's roof

While Suzhou Museum has the forms and elements of Chinese traditional architecture (such as the layout of the front yard, the design of the garden, the water scenery and the layout of its various water-centered landscapes) it is a modern building constructed with modern materials (steel, glass, etc) and the evidence that, at least in this case, modern materials respond favorably to traditional aesthetic values as well as possess the ability to improve the space's quality.



Figure 4-69 Suzhou Museum's skylight

Consequently Suzhou Museum remains a point of reference and guidance for the successful and meaningful integration of Chinese traditional culture and art into contemporary architecture.

4.3 Chinese traditional architectural culture

4.3.1 Protection and renovation of old traditional buildings

The traditional buildings that remain are historical treasures from the development of civilization. Thousands of years in, their unmatched qualities become increasingly obvious. The current rapid economic development and rising of living standards, however, are dealt with a hastiness that becomes a challenge for the conservation and restoration of urban and rural traditional architecture. The critical question, then, is how to preserve and update existing traditional houses so as to meet the needs of the present population while maintaining and extending the life of architectural culture.

Old traditional buildings can be divided into two categories:

First, the traditional building whose value has been officially recognized. Buildings of this category are often listed in the directory of cultural relics and have a clear, visible nameplate on display at their entrance. By intervention of the government, most important historic buildings will generally lose the function they were originally intended for (may this be living, worshiping, etc) and get turned into a museum. Some cultural relics, undoubtedly, get more attention and great measures of protection than others. Some on the buildings on the not-so-famous end of the spectrum, especially in urban and rural areas outside of first-tier cities, receive little effort in terms of dedicated maintenance

personnel and lack the visibility that would corresponds their historical value. This invisibility and lack of received attention, then, can often cause problematic dilemmas regarding their maintenance and survival.



Figure 4-70 Historic building in Guangzhou

There is another common type of traditional architecture which is currently also facing a rapid demise. Traditional buildings in the city rely heavily on whether urban policymakers choose to place an emphasis on this issue. In the Guangdong Province, for example, the contrast between architectural protection policies in Guangzhou and Shenzhen, two cities that are typically spoken about together, appears to be highly obvious. Guangzhou has been repeatedly ridiculed for its slow pace of life and industrial upgrading. "Guangzhou should not be among the top four cities in China" is the commonly heard opinion of those focused on China's voracious climb into modernity. But when it comes to the matter of dealing with historical architecture and other cultural relics, Guangzhou, who has issued a number of relevant laws and regulations and taken a set of practical measures of protection, is well ahead of Shenzhen.

In 2012, Guangzhou conducted the first survey and recommendation of historical buildings and up until January of 2018, it has 721 officially protected, listed historical buildings. A continuous census certification is in full implementation, as well as various active measures of protection. Walking in the streets of the city, one sees that many of the traditional buildings with the city's official plaque are still being used for their original function - a unique boost of vitality for the city.



Figure 4-71 Guangzhou Qilou

In contrast, Shenzhen's census and recommendation of historic buildings began in 2014, lagging two years behind Guangzhou. As of October 2017, the first batch of 45 historic buildings in Shenzhen was made public and included buildings like the International Trade Building (built in 1985), the Shanghai Hotel (built in 1985) and the Diwang Building (built in 1995).

These were mainly modern buildings that, in their time, represented and symbolized the speed of Shenzhen's rise to the top. Today, thanks to their registration, they are still in use and remain in their original shape.

The question that rests asking then is: Would it not be more valuable to craft lists of the old villages that currently host traditional architectural styles and traditional historic neighborhoods?



Figure 4-72 International Trade Building, Shenzhen



Figure 4-73 Diwang Building, Shenzhen

As Shenzhen's process of modernization went forward, the number of

traditional villages saw a drastic decline. According to "Shenzhen Place Names", published in 1987, there were over 1,500 villages in the area of Shenzhen. By the 1992 census, more than 1,200. By the year 2012, that number had shrunk to a shocking fewer than 200, exposing the precarious situation those traditional buildings in Shenzhen currently face.



Figure 4-74 Hubei village, one of the traditional villages in Shenzhen

At this point, Shenzhen's idea is to include buildings built between 1985 and 1995 into the register of protected, historical architecture. Hubei village, one of the old villages known as the origin of Shenzhen, has to contribute to the 30-billion interest. Worryingly, even if Huaiyue Zhang Ancestral hall makes it to the first batch of Shenzhen City protected historical buildings, real estate developers and local real estate owners will still propose to dismantle the village and demolish historical properties to build new shopping centres, apartments, etc. It has even been suggested that Huaiyue Zhang Ancestral

Hall be reconstructed elsewhere and made the center of a whole new project in Luohu Cultural Park: a place which is surrounded by a group of new buildings that mimic traditional architecture. Except for Huaiyue Zhang Ancestral Hall, the original way of life of traditional Hubei will vanish.



Figure 4-75 Huaiyue Zhang Ancestral Hall

Numerous experts and scholars have risen in defense of Hubei village. Cartoonists have likened Hubei to a dog who waits to be auctioned to a butcher by his master. Indeed, Hubei's shape resembles a dog, while the capital power involved in the village is not unlike a butcher. The owner of Hubei village is the dog's master, weighing his tempting options.

This iconic and ironic comic caricature made it to Shenzhen's 2017 Biennale but not without due modifications to prevent governmental dissidence: the butcher was substituted by a likable wizard.

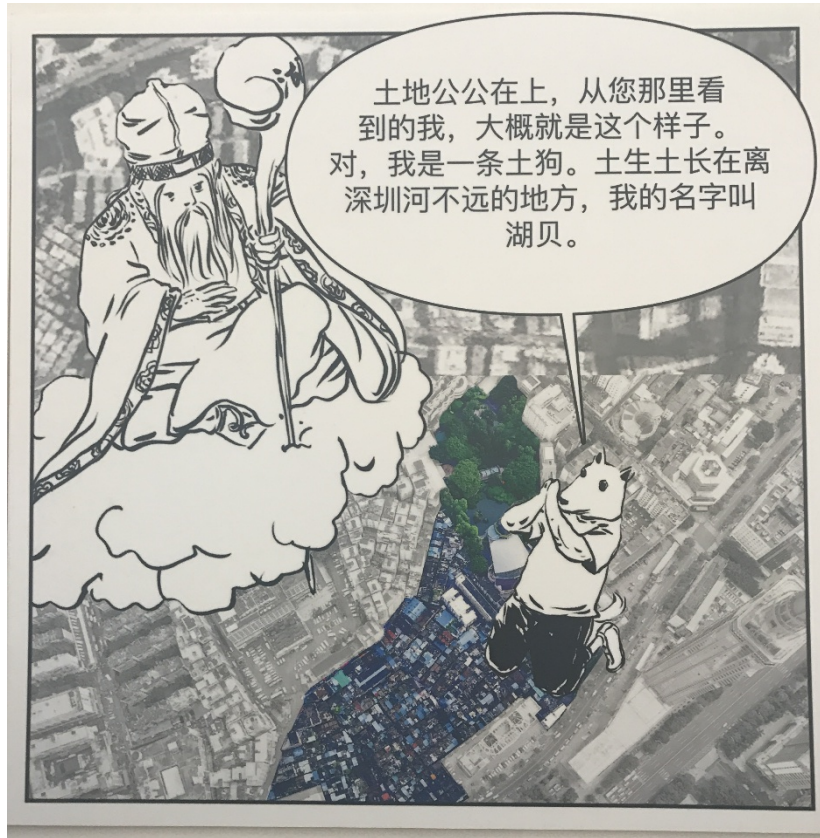


Figure 4-76 Altered Hubei village cartoon featuring a dog praying for his life

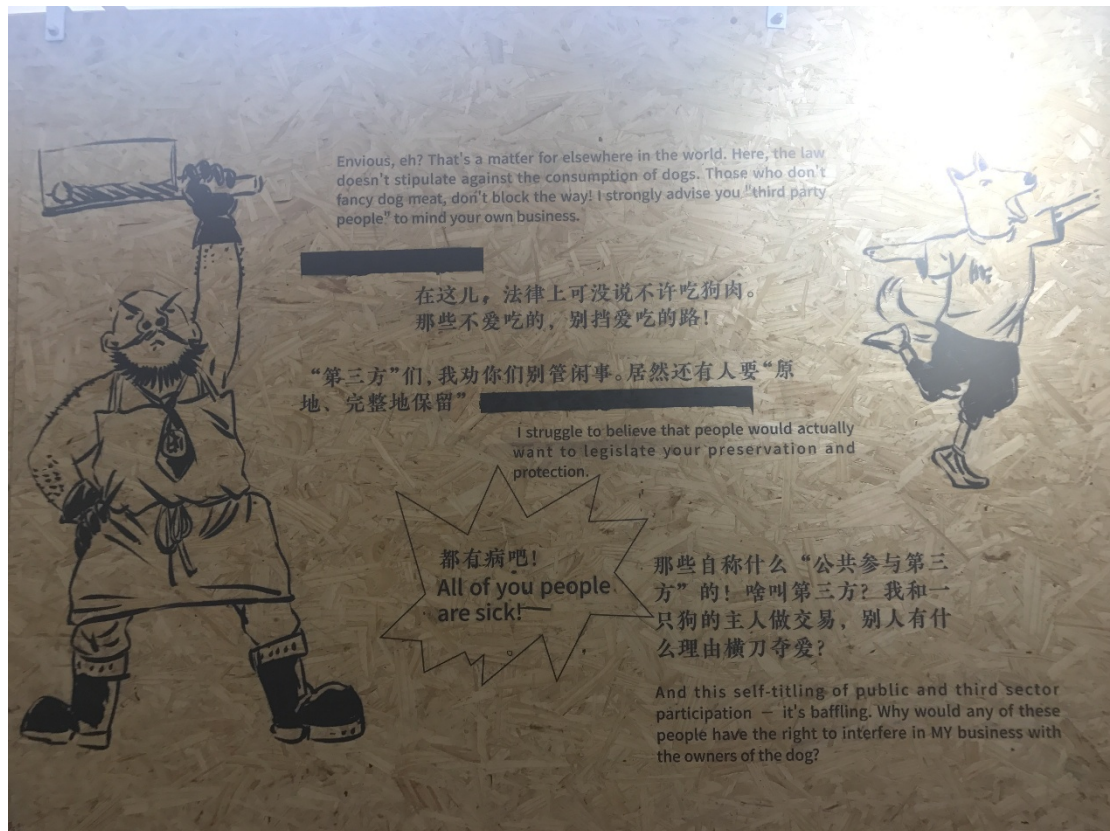


Figure 4-77 Hubei village cartoon

Regardless of these traditional villages and their historical buildings, which are located in the city and then have been fortunate enough to lead to large-scale debates and rescue operations, many traditional buildings and villages are rapidly disappearing in other, more remote locations.

In the year 2000, 3.6 million traditional villages were recorded to exist in China, of which only 2.7 million were left in 2010, meaning a whopping 900,000 villages vanished from the face of the Earth in the space of 10 years. It is estimated that there are currently around 2 million traditional villages left and, not only are they the home of many of the country's ethnic minorities, but they host most of China's 1,300 state-level heritage sites. Some of these villages decayed as inhabitants gradually deserted outdated infrastructures. Some of them were damaged in the process of land sales and reconstruction.



Figure 4-78 Damaged traditional house

Academic circles have long been discussing the issue of protection and renovation of old traditional buildings but a solution is yet to be found. Among the various talks and active measures that have thus far taken place, ideas typically range from protecting ruins, repairing damaged buildings and complete reconstruction of buildings.

Of all the methods, the complete restoration and complete protection of remains options are only to be used in extreme cases, where, for example, immovable architectural artifacts have been completely destroyed. In this case, the complete protection of relics is based on the analysis of existing resources (poor economic conditions, immature technical conditions, etc) and leaves the possibility of complete restoration in the future. In the case of Yuanming Yuan (Old Summer Palace) in Beijing, there were debates and changes in the course of action: the initial option was to protect its remains, but plans for a

complete restoration of the building were undertaken at a later stage. The usefulness of the option to protect the remains lies in delaying of decay that would otherwise automatically take place by a mere lack of attentiveness, which in turn buys time for the arrival of the right technological advances that can provide an appropriate restoration.

Complete restoration, therefore, generally comes after a complete protection of relics and is usually connected to good financial resources, advanced technology, and long time periods. Once a complete restoration does take place, however, its impact is exponentially rewarding and far-reaching. The resuscitation of the building's original appearance, structure and way of life in its original setting provides an enveloping, atmospheric experience of exceedingly successful inspirational and educational qualities.

In addition, the construction carried out after the restoration is, effectively, as well, an extension of the traditional buildings's life- and subsequently a coherent, historically relevant move forward into the progress of architectural culture.

It is established, then, that in the case of buildings which have been completely destroyed, the best course of action is: complete protection of remains followed by a waiting period (until adequate technology is available), followed by complete restoration.



Figure 4-79 Yuanming Yuan (Old Summer Palace)

When the state of a traditional building is relatively intact, repair would be the most adequate course of action and it is indeed the most frequently chosen. In these cases, it is sought to maintain the structure of the building, repair the parts that may be damaged, carefully update its facilities to fit modern life without hindering structure or atmosphere and setting up a special protection organization that is to guard the building against theft and vandalism. Chen Clan Ancestral Hall in Guangzhou (Figure 4-80) underwent this course of action and is now the most typical Cantonese ancestral art complex in existence in Guandong. These organizations are key units in the protection of cultural heritage.

These repair methods used in traditional buildings not only improve their condition but effectively prevent them from further damage and decline, which in turn makes research and conservation easier.



Figure 4-80 Chen Clan Ancestral Hall

While the repair option is commonly associated to important traditional architecture, reconstruction is generally applicable to ordinary traditional buildings that are in a reasonably good condition. The specific approach of the reconstruction method consists in making small adjustments on the basis of their original appearance and only change unimportant features such as partial characteristics, use of space and equipment and facilities - never structure. In this way, original traditional buildings still largely exist in their original appearance, but with the necessary amendments to make them a functional and vital part of the present. There are many traditional buildings in Guangzhou that were originally dwellings. When their residents moved away and left the properties empty, they were repurposed as bed and breakfasts, bookstores, restaurants, cafes, galleries and other establishments in demand, which brought them back to the centre of activity and popularity. Residents, businessmen and customers are equally pleased with and benefiting from such decision. The success is not only social and financial but architectural

and cultural: The essence of traditional architecture has been carried into the context of the present moment and, with the right tweaks, regained a fully functional position in it. With the right amendments, the building's life extends into the present.

Since reconstructions make full use of the existing buildings and facilities, they are generally less costly than building a new building of equivalent size from scratch, as well as less time consuming. It can be said, then, that reconstruction is the strongest method in terms of supporting the life extension of residential buildings and architectural culture.

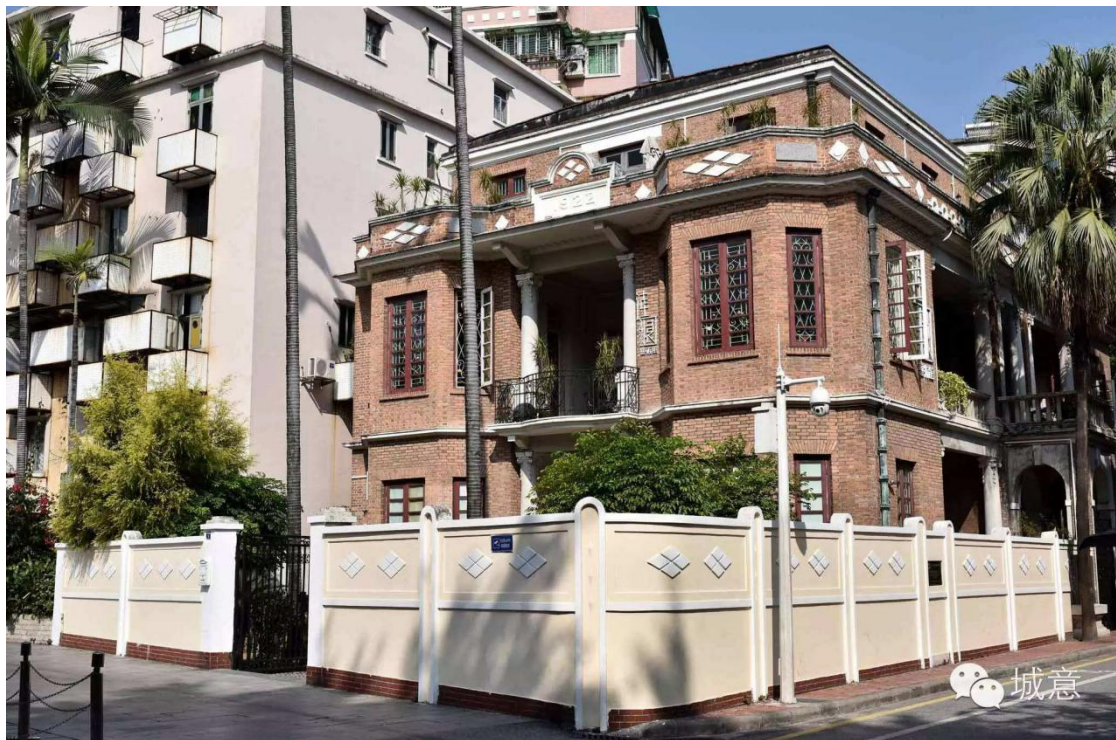


Figure 4-81 Kuiyuan Park, Guangzhou (former traditional dwelling now turned into a gallery and a cafe)

The full rebuilding option is commonly used for ordinary, traditional buildings in poor condition. Buildings that have been in disrepair for a long time,

many of which have essentially collapsed. The specific approach here is to fundamentally rebuild the original building according to the needs of the owners, taking into account the environment, using any remaining original parts and being careful to maintain its original essence.

An example of one such buildings which was dilapidated and then completely rebuilt is the ancestral home of the Wang Family on Pingjiang Road, a historical, protected area of Suzhou. The new building was designed to meet the needs of the historic area, which is characterized by low height buildings and double slope roofs. The house has, too, an inner courtyard, like traditional residences. Despite most of the old walls collapsing, the designer deliberately kept a well-preserved old wall, which he reinforced and proceeded to place in the restaurant, as a relic for all to see and a tangible anchor to the ancestral home's complete history.

The rebuilding option always endeavors to keep the essence of the original house, while bringing in the necessary improvements to make it functional, such as light and ventilation in dark and damp spaces. It is the best option for any building that has been seriously damaged. Buildings will keep their structure, remaining elements will be conserved, important features will be replicated and any shortcomings will be corrected. The new building will inherit tradition while being part of the present.



Figure 4-82 Wang family's ancestral home before its rebuilding



Figure 4-83 Wang family's ancestral home after its rebuilding

One should not forget that the process of architectural protection and renovation typically involves a great multitude of issues and is time consuming, complicated and controversial. A variety of theories and points of view regarding what the best course of action should be will typically appear at the same time and countless factors that tie the property, such as politics, budget, business, etc, will impose a multitude of particular demands. There is usually no absolute value that can be unanimously established on the issue and it is a matter of crafting strategies customized to the particular situation of every case. The strategy should take into account the importance of the building, its damage status and its potential to keep relevant elements.

4.3.2 Inheritance of traditional architectural culture

Due to geographical location, material conditions and political constraints, after thousands of years of evolution, traditional architectural culture and the art derived from it have retained both some of their core essence and some of their more random, less remarkable material that should probably be discarded. Contemporary architectural design should focus on the inheritance of core essence and meaning rather than that of indiscriminate surface.

The most obvious features of Chinese traditional architecture include: a distinguishable, streamlined layout; a complete pattern; a clear, main building within in a complex and the presence of multiple levels.

A clear divided layout functions like “a map painted in people’s hearts”, naturally leading inhabitants where they want to go. Beijing’s historical city, for example, shows this trait in its division into several major areas, which are then subsequently divided into several districts with their own roads, main streets, side streets, alleyways and alleyway houses.



Figure 4-84 Traditional Siheyuan in Beijing



Figure 4-85 Streets in Beijing's old town

Layout, then, is very important in traditional architecture. At the center of residential traditional buildings there would be a courtyard. The composition of the building would be rigorous and square; the whole complex would submit to symmetry around a vertical and horizontal axis. Such was the fixed formula that would apply to every residence, regardless of size.

The main building would control the road networks and other subordinate buildings in the vicinity, establishing a clear identity of the neighborhood one resided in. When a group of buildings or a single one was taken as the main unit, it became the core of the home, group of buildings or village. Examples of this include pagodas, temples, traditional city or village theaters and living rooms or central rooms in residential areas. A building's order was carefully arranged by starting with whatever was the central part of people's lives in the main building and placing this in the most important part of the axis, with a tall roof and a prominent volume.

It's not only a clear layout that was key in traditional Chinese dwellings; the way in which streets divided, connected and related to squares and courtyards was of equal importance. Communities were formed around a group of neighbouring buildings of varying functions, which enhanced local socialization. In low density areas, building complexes could be made of small

houses linked by cloisters, paths, bridges, flower stands, etc, whereas in high density areas, a single building itself would be treated as a combination of units. Within a small home, too, the same system would be at place by establishing such relationship between its rooms - which would be treated as different levels.

As for the architecture, the features of traditional Chinese architecture that are most worthy of study are the sharply organized layout and the hierarchical ordering of activities by building location and height. From the perspective of urban design, contemporary architectural design could greatly benefit from traditional architecture's attention to the power of distribution and coherent neighborhood unity (as well as unity at a street, block and city level), an aspect which it seems to completely disregard.

4.4 Chapter summary

Cross-cultural exchanges have been at play since ancient times. Architectural culture in China makes for an exotic, multi-layered, colorful melange. Many years on, foreign architectural culture is at a state of harmonious combination with native traditions which produces a new architectural style that fits its time and environment.

Chinese construction technology and architectural design have been greatly improved compared to previous times due to the high degree of urbanization and the popularization of modernization. However, this has brought in a new set of obvious disadvantages. Modern city buildings are monotonous and dull, lacking the consideration about context and integration into their environment. Nonetheless, China has produced many outstanding architects who have contributed meaningfully, historically innovative buildings

to China.

Chinese contemporary architectural design has gradually transformed from a completely modern style into a neo-Chinese style that incorporates core elements from indigenous traditional culture. This transformation is not the result of a determined single intention but rather the direction that can be observed in the combination of different architects' visions. It is a shift that is presently in progress with its focus set on further improvement.

5. Application of foreign traditional art and culture in architectural design

5.1 The Application of Finnish traditional art and culture in architectural design

Modernism made trends such as “cube-houses” rise in popularity. As time passed and, with it, the novelty of modernist architecture, architects started a re-assessment of this design. One of the most distinguished architects in the context of modernism which we should mention here is Alvar Aalto- known as the father of modern Nordic architecture.

Alvar Aalto's style can be broadly divided into three stages according: the white period (1923 ~ 1944), the red period (1945 ~ 1953) and the second white period (1953 ~ 1976).

In the earliest period, the white period, Alvar Aalto's most famous work, the Paimio Sanatorium, abandoned all traditional decoration and opted for modernist language throughout. This included typical long windows, free platforms, roof gardens, abstract white walls, sculptural chimneys and so on.



Figure 5-1 Paimio Sanatorium's long windows

The Paimio Sanatorium is not only a very typical modernist building, but also one that is thought to embody the architect's humanity. In the inner space, Aalto strives for pure space and uses a large amount of bright colors in the quest to create a warm atmosphere that provides patients a sense of belonging, safety and optimism, and one that encourages an attitude of vitality and activity. Aalto went so far as to design furniture especially for the users of the Sanatorium, such as the Paimio chair.



Figure 5-2 Interior of Paimio Sanatorium

The red period saw Aalto give up his obsession with abstract modernism and his insistence on white and took him to a new-found awareness about natural environment, which resulted in the use of red native bricks, other more natural materials and turn for more organic shapes in his designs. His own summer villa (Muuratsalo Experimental House) features a layout that is

composed around a dominant inner courtyard, inner spaces that are all interconnected, and a lake landscape that is strategically incorporated into the building. In the courtyard, Aalto experimented with more than 50 types of bricks arranged in a pattern. He used this building as a test site in which to observe the permutations of those different bricks through time and climate (hence the name Muuratsalo Experimental house). He found his architectural position in the use red brick, for its conduciveness to creating warm, earthy, simple atmospheres.



Figure 5-3 Muuratsalo Experimental House's courtyard



Figure 5-4 Muuratsalo Experimental House's fireplace

In the following period, the second white period, Aalto concerned himself with a high degree of integration of modernism and regionalism. He once again returned to abstract white and continuous, varied space. Shape choices here depend not only on pre-established physical conditions, but artistic preferences.

One of Aalto's most typical church work, the Vuoksenniska Church combines both aesthetic requirements and practical applications. The white walls blur the line between architecture and sky, while the jagged windows echo the rhythm of the forest environment, which successfully integrates the church into itself. This free form method which essentially allows the building to establish a connection to its environment very much departs from the disconnected rigidity of modernism. Nonetheless, the thoughtful selectiveness of this style manages to incorporate both the spirit of modernism and that of

regionalism.



Figure 5-5 Vuoksenniska Church

The different stages of Aalto's career and his eventual accomplishments

are of particular relevance in the context of contemporary Chinese architecture. Celebrated Chinese architects like I.M. Pei and Wang Shu also pursued pure modernism in their early work. All architects go through evolving stages with varying points of focus. If styles are necessarily perishable, what matters in the context of globalization is that building design be *site sensitive* - and so ensures long term success in urban, social and natural integration. A good house could perhaps adhere to the Analects of Confucius when they say that “a gentleman gets along with others, but does not necessarily agree with them”. Even though certain technologies, materials and architectural methods are common all over the world, architects can still design a unique work of design that establishes a real connection to its site’s natural and cultural characteristics.

5.2 The Application of Swiss traditional culture and art in architectural design

Well-known media platform Dezeen publishes an annual “hottest forces” list of designers, which it crafts according to who gets the highest number of views. In 2017, Peter Zumthor featured in it as the highest ranked architect, showing that this low-key and reputedly bad-tempered architect, who spent some time in seclusion in the Swiss alps, enjoys great worldwide recognition.

Zumthor, who resides in the German-speaking part of Switzerland, is good at separating his architectural work from the ongoing flux of architectural trends and at keeping focused on giving way and nurturing a building’s implicit spirit. His work involves, when compared to the average, a deeper commitment pure, bare human experience, which is in consistence with Zen worldviews. In his book *Thinking Architecture*, Zumthor states: “I believe that the language of architecture is not a question of a specific style. Every building

is built for a specific use in a specific place and for a specific society. My buildings try to answer the questions that emerge from these simple facts as precisely and critically as they can.” Zumthor’s architectural mission is clearly uninterested in customs, conventions or new materials; his instinctual, direct and unobstructed relationship with project sites lay down a solid path.

Zumthor’s bare, essential work is likened to a “clear stream”. There’s no grandiose or opulent pretensions in his buildings, but rather the same simple and unassuming presence as his person. His architectural style is characterized by very pure and concise form. A conciseness which differs from that of modernism; his is more of a condensed beauty that emerges from the organic combination of various parts of the building into a coherent whole.

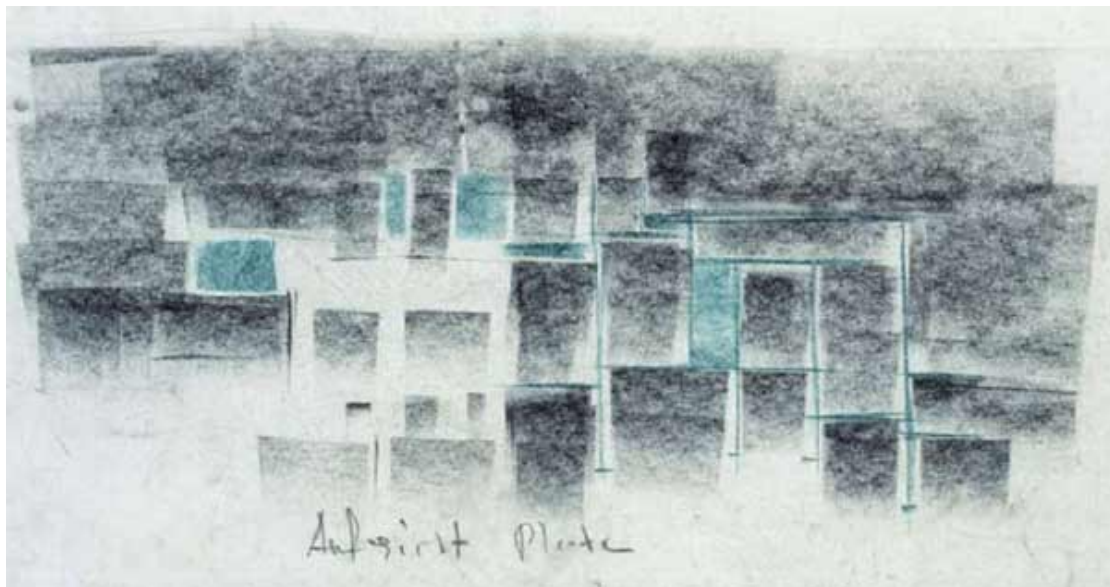


Figure 5-6 Sketch for Therme Vals

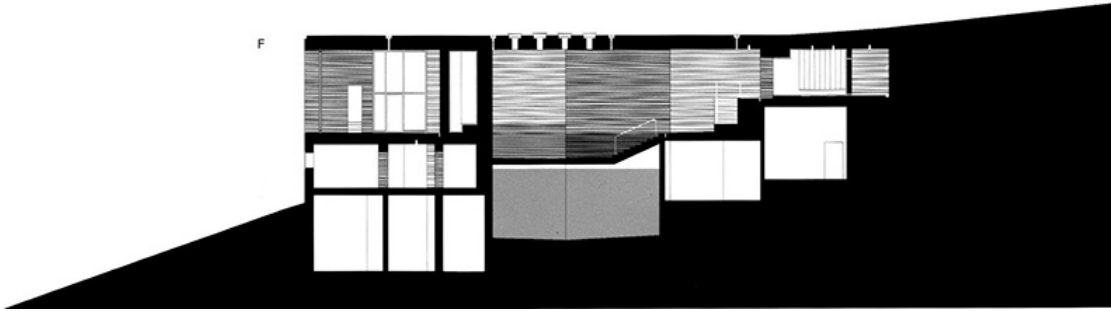


Figure 5-7 Therme Vals section

While Therme Vals appears simple at a first glance, a closer inspection reveals its far from simple degree of sophistication. Zumthor's oeuvre seems to meet notions Minimalism in many ways. For example, both concur that there need be no additional elements to establish unity between different, detailed parts of a building. Away from the nature of minimalism, however, which is limited to fixed and isolated aesthetic values, is Zumthor's profound drive for continuously unraveling the essence of matter of different sites. The look of simplicity and lightness in his work contains a great amount of sophistication and successfully combined decisions. The Therme Vals building contains large amounts of water, rock and light; the nature of which Zumthor sought to enhance as much as possible, resulting in a space which holds the very mystery of these bare elements within its boundaries. Other than that, he also dealt mindfully with the relationship between hillsides, villages and sky - allowing these to permeate the building in the form of water, light and air.



Figure 5-8 Therme Vals



Figure 5-9 Therme Vals' hot spring pool

In his book *Thinking Architecture*, Zumthor said that our perception of the whole is not affected by inessential details. Every touch, every joint and every connection is there to further enhance the work's quiet presence. This is also reflected in Zumthor's elaboration methods, which are less about technical supremacy or artificially boastful technique and more about availing himself from artisanal skills gained through past experience. As he puts it, details express what the design's basic idea requires at a relevant point in the object: convergence or separation, nervousness or relaxation, resistance, strength, fragility.... Details, when they are successful, are not decoration or addition. They do not distract or entertain; they are as relevant as the rest of the building in providing an understanding of the whole space.

Zumthor seeks to interpret part of the entire building's essence with subtle details, which shows that his particular approach to design is as simple in appearance as it is sophisticated in concept. This is a methodology that he can be seen to use through the entirety of his career. As another example, the shelter for a Roman archaeological site, built in 1986, has a typically simple overall appearance as well as a greatly refined detail. The metal bars and pedals used for the staircases that lead from the indoor level to the ground are remarkably thin: the architect opted to give this element a poetic lightness - which, as a side effect, radiates his proficiency at structural knowledge.



Figure 5-10 Shelter for a Roman archaeological site



Figure 5-11 The staircase in the shelter for a Roman archaeological site

Zumthor's architectural elaboration methods can be said to be an extension of regionalism. His works are strongly anchored in the geographical environment they're located, which is the core focus of regionalism. As expressed by the Pulitzer Prize jury: "Zumthor has a keen ability to create places that are much more than a single building. His architecture expresses respect for the site, the legacy of its local culture and the invaluable lessons of its architectural history."

Since 1979, Zumthor set up his home and studio in Hardenst ain, in the outer regions of Chur, Switzerland. The town has set limits on the permitted height and weight cars. When we visited there, we were made to leave the car at a specific parking lot. We then walked through the only canteen in town, and then some further distance, until we arrived to Zumthor's studio. The first of the three studios was a completely closed building except for a metal entrance and two windows. One of which was very small and the other which faced the remote landscape. In his customary style, the building's modernity is no obstacle to its seamless integration into the town's atmosphere.



Figure 5-12 Zumthor's first studio

Visiting Zumthor's buildings require one to acquaint themselves with the land around them. The mere journey to them will force visitors attention to the natural elements they're part of by requiring them to walk a significant distance, climb, go through meadows, etc.



Figure 5-13 Bruder Klaus Field Chapel

For example, should we wish to visit the Bruder Klaus Field Chapel, we would need to make our way through tall, windy fields of grass. Aside from rekindling one to the essence of nature these lengthy excursions will, too, force visitors into a return to the reality of their emotional experience. The village and the trees are “obstructions” that slowly set off our emotional response until we finally see the warm geometric building. After that we make our way through the field, step by step, until, in a moment of accumulated emotion and expectation, we find the metal door.



Figure 5-14 Door of Bruder Klaus Field Chapel

The materiality of the chapel itself is a clear display of Zumthor's natural ability to manipulate space and material. After a long, rough journey that plays on people's emotions, the feeling that sets upon arrival is one of completion and of being worth the journey.



Figure 5-15 Lighting in Bruder Klaus Field Chapel

While the door of Bruder Klaus Field Chapel hints at the appearance of its interior space, the entrance to the shelter for roman archaeological site can be described as a space-time tunnel. The entrance floats above the ground, as if signaling a change of dimension. From the entrance to the real interior of the building there is only a very short distance, which is carefully and exquisitely designed, demanding the visitor's presence and attention and creating a sense

of ritual that seeks to appropriately honour the contents indoors.



Figure 5-16 Entrance of the shelter for the Roman archaeological site

As seen in the above cases, then, one of Zumthor's talents is to guide people's feelings through particular paths in his layouts. From the exterior environment to the entrance to the interior of the building with all its refined detail work, there is a gradual transition which occurs totally naturally, so that one could enter the space rather absentmindedly and suddenly realize a dreamlike change. Zumthor here experiments with the art of environmental immersion. The space details go easily ignored and, without careful examination, we couldn't possibly see the architect's intention and how we succumb to his effective space mastery.

In addition to the emotional response provoked by his designed, Zumthor often also cares to manipulate the element of smell. In the Universal Exhibition

Hanover 2000, Zumthor built the Swiss Pavilion, for which he used wood, asphalt and steel. All the wood elements were combined solely by pressure and friction and remained, therefore, very well preserved. After the exhibition, timbers elements were removed and repurposed in other projects. This pavilion, also known as the “Swiss Sound Box”, is a place that sensory experiences of different kinds into an “overall artistic effect”. This high ambition make The Swiss Sound Box one of Zumthor’s purely artistic experiments. When walking into this building, except for the warm atmosphere created by the color and smell of fresh wood, one can truly feel all aspects of the space in its ever-changing relationship to light and nature. The particular features of wood itself, too, have been strategically, vividly reflected.



Figure 5-17 Swiss Sound Box

The strategic use of wood is even more noteworthy in the Bruder Klaus Field Chapel. After forming the internal wooden structure, Zumthor cast a mass of concrete around it and set fire to the wood. This was not only a bold and novel approach, but also one which led to surprising results. The interior chapel walls are ingrained with the texture of the wood that used to be there. We can still clearly see the material and form that used to fill that space. The air is infused with the residual smell of burnt wood, which is trapped in the concrete walls. The characteristic fragrance which is associated to peace and

relax fills the space, giving visitors a feeling of warmth and comfort after their long journey.



Figure 5-18 Entrance of the Bruder Klaus Field Chapel

Clearly one of the hallmarks of Zumthor is maximizing the use of materials, and his breakthrough in the window size of the log house is considered a particular contribution to architecture. In traditional log houses, the size of opened windows was limited by the strength of the wall; one could only obtain larger windows by reinforcing the wall. However, by his setting up wooden towers, Zumthor spared some walls from bearing weight, achieving an glass curtain-wall opening. Such was the acclaim for this innovative window, which was part of Luzi House, in Jenaz, that it won Zumthor the 2006 Natural Wood Architecture Prize.



Figure 5-19 Luzi House, Jenaz

This private residence continues the essence of Zumthor's, simple in shape and sophisticated in concept: A simple and clear appearance and a high level of definition and precision in the detail. The architectural style perfectly

blends in with the surrounding village houses: the double-slope roof and the box-shaped body underneath it. The building is also befittingly made of wood and its clear glass is almost imperceptible. Only its clean, sharp corners and large windows mark a subtle difference between the cluster of buildings around it.



Figure 5-20 Luzi House and its neighbors

High in Zumthor's set of priorities is also the use of light, which is often also ingenious and particularly intentional. Frequently it is manipulated with the aim of provoking a specific mood or emotion: touching (in St. Benedict Chapel), mystifying (in Kunsthaus Bregenz), thought-provoking (in Bruder Klaus Field Chapel). Kunsthaus Bregenz has indoor side lighting, while the first floor relies

on the ceiling light, which is the reflection of natural light. In the evening, indoor artificial illumination lights up the whole structure. In the daytime, natural light permeates the interior, creating a comfortable environment. In the evening, by contrast, light is emitted from the interior to the outside - in a gentle manner, to avoid light pollution.



Figure 5-21 Ground floor in Kunsthaus Bregenz



Figure 5-22 Second floor in Kunsthaus Bregenz

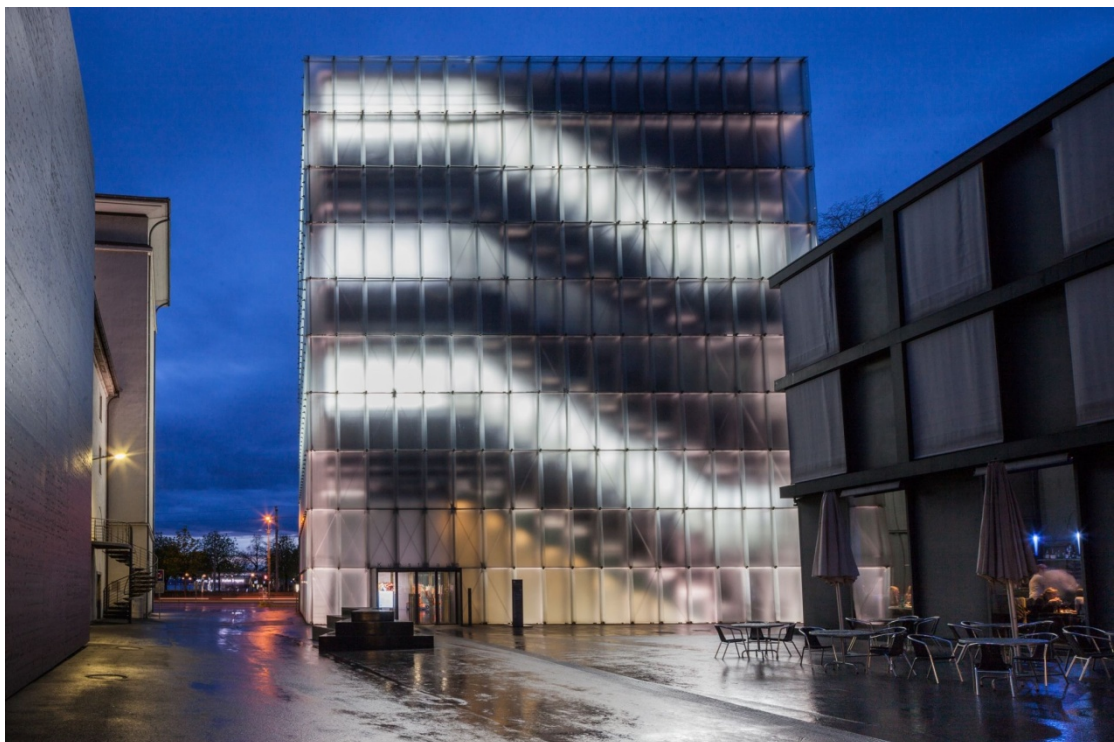


Figure 5-23 Kunsthaus Bregenz by night

This particularly glamorous use of light was also present in the 2011 temporary Serpentine Gallery pavilion. The building looks black and rather plain and ordinary from the outside, but something in the intriguing curvy paths in the entrance of the building.



Figure 5-24 Facade of the 2011 temporary Serpentine Gallery pavilion

After going through to the entrance, visitors would find themselves in a black corridor, with light shining only through the doors on either ends. The corridor itself was rather small. It was engineered as a disorienting space which would make people's grasp of time and space momentarily melt, thus interrupting their normality and increasing their attention and presence. Only by the fine changes of light filtering through the doors can one get a sense of the passage of time.

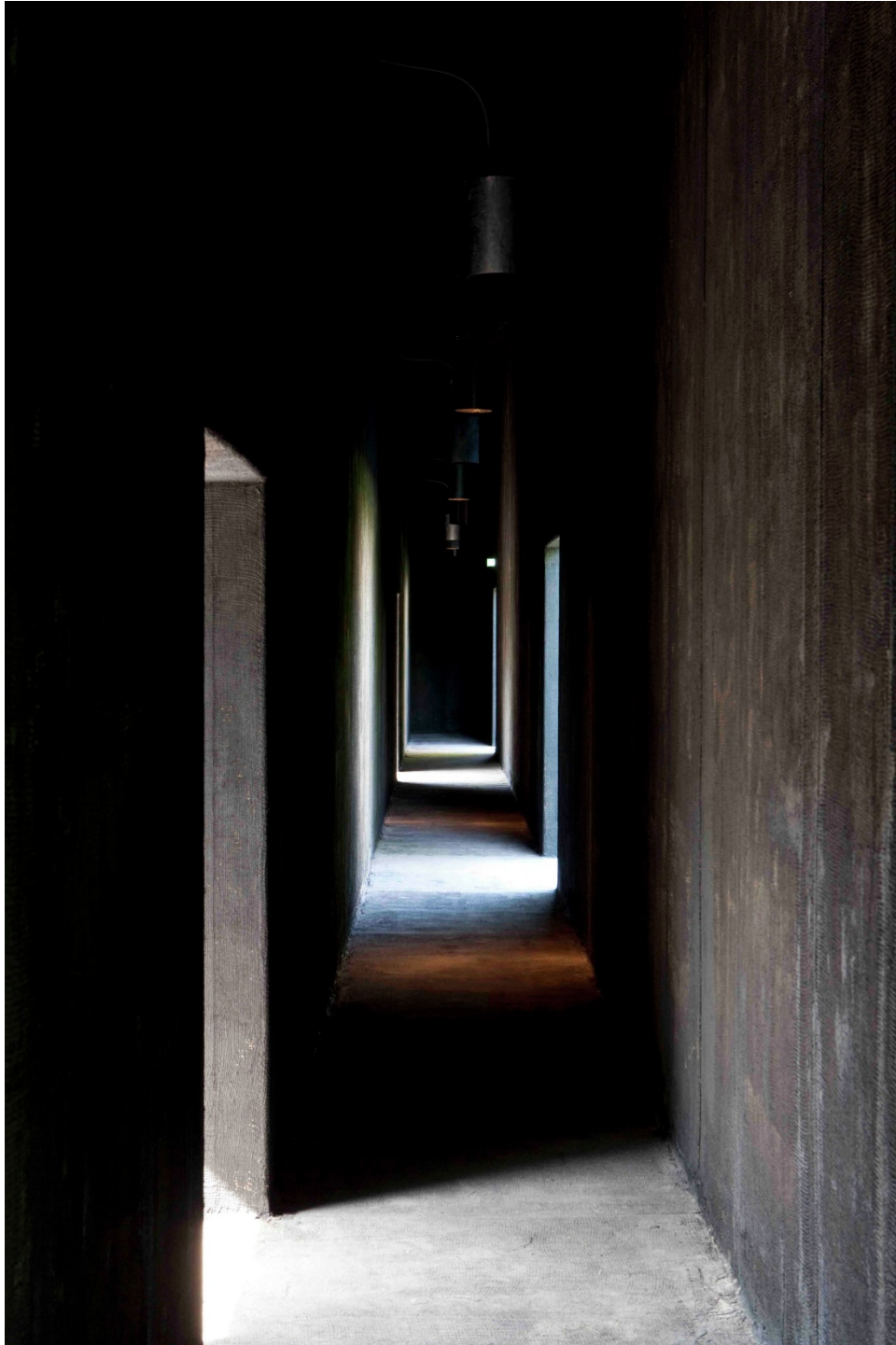


Figure 5-25 Dark corridor of 2011 temporary pavilion of the Serpentine Gallery

After walking the length of the corridor and exiting through its door, people were greeted by a surprisingly cheerful environment in the gallery space. The

wall on one of the sides was still black in order to absorb all the lights without causing reflection. People could also use the black wall to sit against to rest, while the other side of the wide corridor was left vacant to allow walking. The whole space was warm and its scale just the right amount of small to make it feel easy and manageable: made to encourage comfortable community activity and socialization and reminiscent of houses' front yard paths.



Figure 5-26 The bright corridor of the 2011 temporary Serpentine Gallery pavilion

The use of light in churches, like that in the Bruder Klaus Field Chapel, aims to underscore a sense of holiness and purity. Interestingly, Zumthor created a very closed inner space, with the one window at the top of it, reigning over gray-black walls with the occasional light reflecting glass bead. After a short walk, visitors reach the chapel and are met by the intriguing light falling from the top, which, in combination with the shape and darkness of the space,

lends itself to a peculiar experience and a multitude of possible conceptual interpretations. The light in St Benedict chapel is warmer, although the space is still adheres to a closed-in form. Zumthor used a continuous skylight, which allows light to move with the Sun and people sitting indoors to have a clear experience of the Earth's cycles and passage of time. The wooden interior of St. Benedict's Church also contributes to producing the feeling of bright and gentle lighting.



Figure 5-27 Light in the Bruder Klaus Field Chapel



Figure 5-28 Light in St. Benedict's Chapel

Zumthor uses light to compose poetry with objects, which, according to him, is the only way to approach reality. Air, light, sound and materials, are the tools of Zumthor's oeuvre. His architecture tells of itself, but in a way which doesn't intend to send us to great depths of conceptual analysis. The theme of the architecture is the very matter of its content as well as the most possibly direct, primal experience of it. Rather than being built to create a spectacle, Zumthor's designs are built to quiet visitors external and internal chatter and bring them closer to their unmasked spirit.

5.3 The development of Japanese modern architecture

Japan is widely recognized for its cultural richness. It is inextricably connected to China geographically, historically and culturally. As early as the Qin Dynasty (221 BC to 206 BC), Emperor Qin Shi Huang sent messengers to

Japan. During the Sui and Tang Dynasties (AD 581-AD 907), Japan sent a many messengers, students and monks to visit China, study Chinese culture and bring relevant learnings (such as Buddhism) and technology back to Japan. Both countries have exchanged messengers with each other for many years; their commerce and culture running not too distant paths. Japan has integrated its learnings from China into the whole that developed as its own traditional culture.

Japan and China, both considered Far East countries in the West, were in a relatively backward position when western countries emerged to the forefront in recent modern times. Due to a large number of political activities in modern China, Japan's modernization occurred much earlier and significantly more smoothly than that of China.

Japanese modern architecture is mainly based on the study of the West, often featuring its most influential architect as Josiah Conder (1852 ~ 1920), who came to Japan and educated a large number of first-generation architects. One his dedicated students, Tatsuno Kingo, eventually replaced him as head of architectural education at the Imperial College of Engineering (predecessor Institute of Technology of The University of Tokyo); then went on to form the East School, the institution which today dominates Japan's architecture community. Tatsuno Kingo's work, which includes masterpieces like the Tokyo Station and the Bank of Japan Headquarters, has meant a significant contribution to the formation of Western-Japanese architecture.



Figure 5-29 Bank of Japan Headquarters

The Bank of Japan Headquarters concentrates the characteristic style and essence of that first generation of modern Japanese architects fronted by Tatsuno Kingo: An introduction and imitation of classic Western architecture.

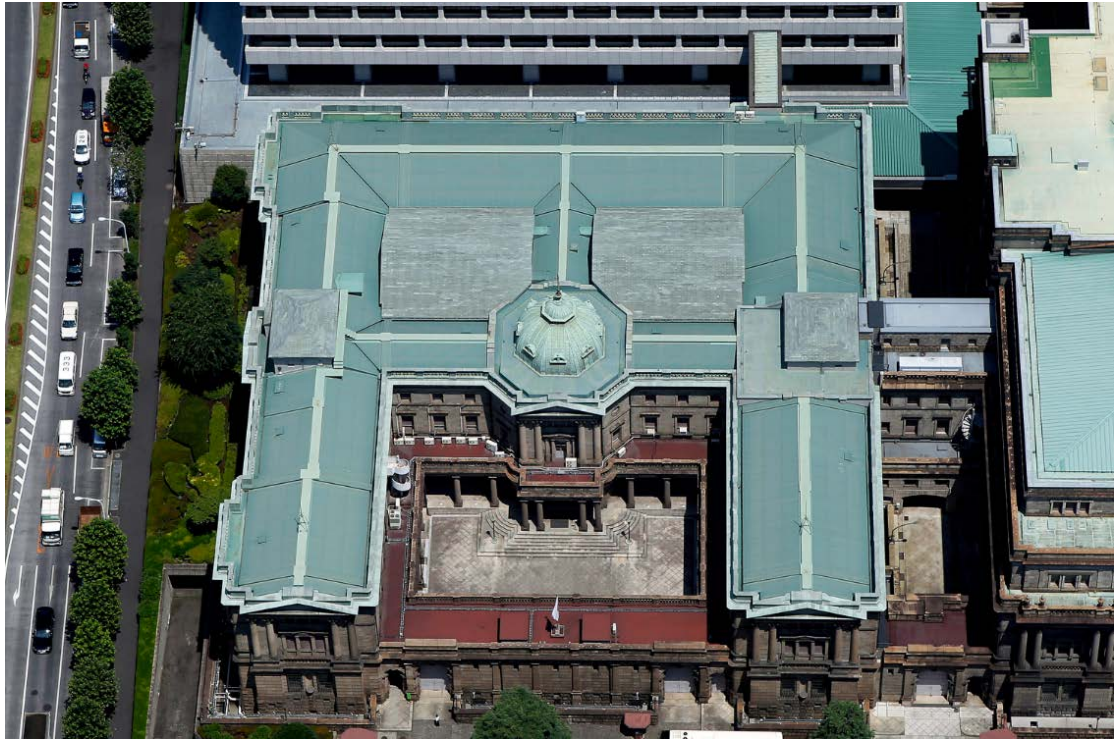


Figure 5-30 the aerial view of Bank of Japan headquarters

The development of modern architectural style and industry, like many other aspects of Japanese culture, underwent a bifurcation into two schools of thought: those corresponding to the regions of Kantō and Kansai - two regions which famously disagree on all matters cultural. Kantō region is located in and around the city of Tokyo and, Kansai, Kyoto and Osaka. Representative works that emerged from this period include: The memorial Tower of Tokyo Peace Exhibition, designed by Sutemi Horiguchi (1921) and the Reinanzaka House(1924), designed by Antonin Raymond, who is known as one of the fathers of modern Japanese architecture alongside Josiah Conder.

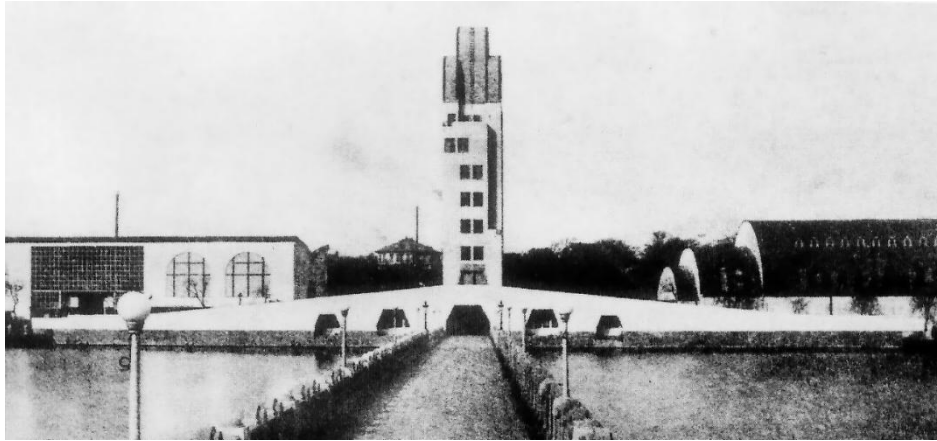


Figure 5-31 Memorial Tower, Peace Exhibition, Tokyo

From 1930 to 1940, the influence of modernism gradually permeated Japan and modernist buildings began emerging in great numbers. One of this period's most representative works is the Watanabe Memorial Hall (1937) designed by Togo Muranoand.



Figure 5-32 Watanabe Memorial Hall

The difficult economic climate of post-war Japan (between 1940 and 1950)

induced a decline both in quantity and quality of construction. In the following period, between 1950 to 1960, construction activities picked up a healthy pace and many more buildings were made; their style still dominated by modernism. Representative works of this period include: Hiroshima Peace Memorial Museum, designed by Kenzo Tange (1955) and Hiroshima Assumption of Mary Cathedral (1955), designed by Togo Murano. These two works, which appeared at the same time, bringing different design concepts and approaches to architectural expression, perfectly exemplified the so called rivalry between Kenzo Tange and Togo Murano in the setting of the post-war Japanese architecture.



Figure 5-33 Hiroshima Peace Memorial Museum



Figure 5-34 Hiroshima Assumption of Mary Cathedral

From 1960 to 1970, Japan's economy started its recovery, aided and marked by the 1964 Tokyo Olympic Games, which boasted its flourishing of culture, architecture, human values, etc, and led Kenzo Tange and a team of architects under his instruction to start thinking about the future of Japanese

architecture. Simultaneously, the Kansai School led by Togo Murano was becoming increasingly active. Representative works of this period included: the Yoyogi National Gymnasium, St. Mary's Cathedral, Nippon Life Insurance Company's Headquarters and Hillside Terrace phase 1. This fertile period in time benefited many works of architecture and created a great number of new architects, among which Kenzo Tange, Togo Murano, Fumihiko Maki, Kiyonori Kikutake and Arata Isozaki are some of the most notable.



Figure 5-35 Yoyogi National Gymnasium



Figure 5-36 Hillside Terrace phase 1

From 1970 to 1980, architectural trends swung against modernism. Much criticism about modern architecture's less than ideal fit in society and technology arose and architectural spaces took a shift for the softer, warmer, more intimately sized, human side of the spectrum. The decrease in size was impelled, at the same time, by a fall in the economy (which involved, among other factors, the oil crisis). Representative works of these period include: the Kitakyushu Municipal Museum of Art, designed by Arata Isozaki; the Row House in Sumiyoshi, designed by Tadao Ando and the U House, designed by Toyo Ito.



Figure 5-37 Row House, Sumiyoshi



Figure 5-38 The U house.

From 1980 to 1990, rapid economical growth provoked Japanese architecture to enter its post-modernist phase. A period known for the maturing and reshaping of previously established architects. Representative works include: the Grand Prince Hotel New Takanaya, designed by Togo Murano; Yokohama Museum of Art, designed by Kenzō Tange; Rokko Housing, designed by Tadao Ando; Kyoto National Museum of Modern Art, designed by Fumihiko Maki; Silver Hut, designed by Toyo Ito and Aoyama Drafting technical School, designed by Makoto Watanabe.



Figure 5-39 Yokohama Museum of Art



Figure 5-40 Aoyama Drafting Technical School



Figure 5-41 Rokko Housing



Figure 5-42 Silver Hut

The period from 1990 to 2000 was marked by the 90s economical collapse which, subsequently, led the construction industry to hit a wall and, with the exception of a few well-known architects who maintained a good standard of design and stayed above the curve, most sank into a situation of struggle. Kengo Kumanot, for example, could not find work in Tokyo for nearly ten years. Representative works of this period include: The M2 building, designed by Kengo Kuma; Paper Dome, designed by Shigeru Ban; Saishunkan Seiyaku Women's Dormitory, designed by Kazuyo Sejima; Weekend House, designed by Ryue Nishizawa and Sendai Mediatheque, designed by Toyo Ito.



Figure 5-43 M2 Building



Figure 5-44 Paper Dome

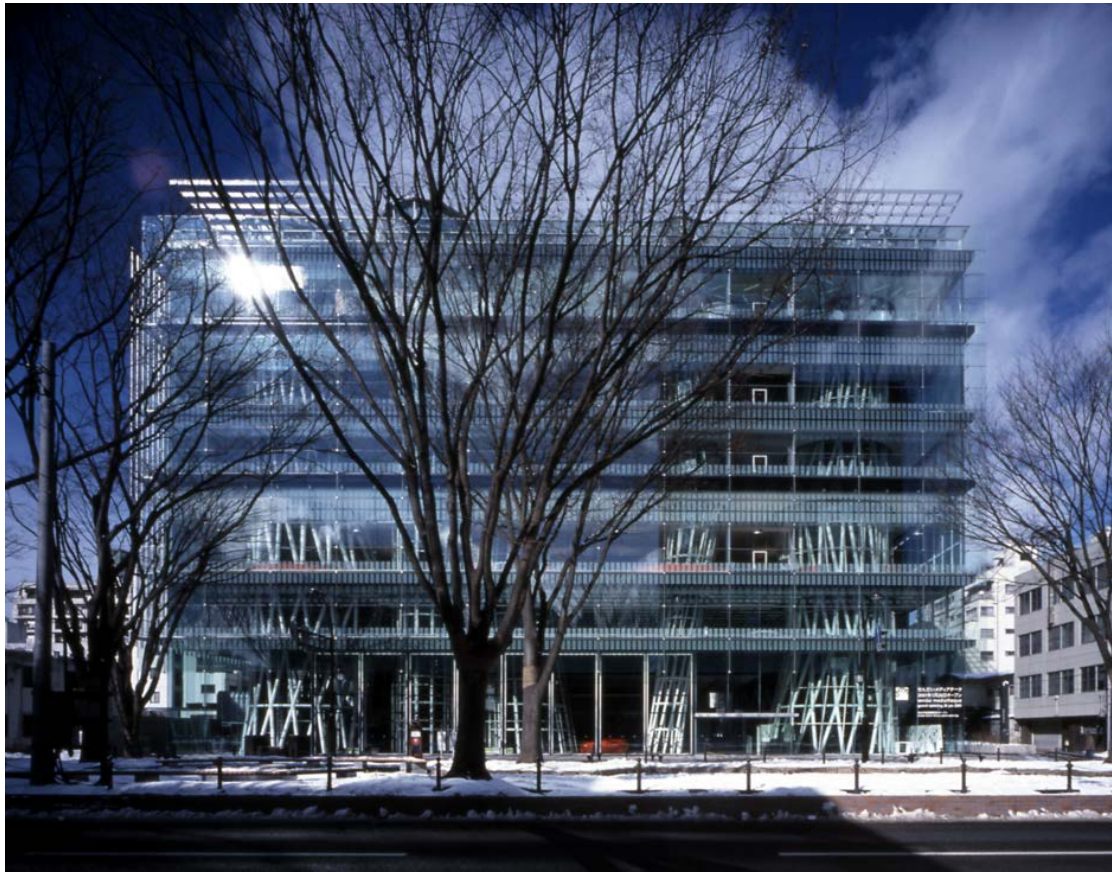


Figure 5-45 Sendai Mediatheque

Since the year 2000 and despite its slow progress, Japan's economy has reached a somewhat better position. Globalization meant that architects would start taking on international projects, no longer tied to their native land. This freed many a struggling architect to finally implement his skill. Many buildings were completed and many architects displayed a new gained level of maturity in the creation of space. The global economic situation proved very prolific. Representative works here would include: Bamboo Wall of the Commune by the Great Wall, designed by Kengo Kuma; Shanghai Himalayas Center, designed by Arata Isozaki; National Taichung Theater, designed by Toyo Ito; Lausanne Rolex Learning Center and New York's Museum of Contemporary Art, designed by Kazuyo Sejima and Centre Pompidou-Metz and Aspen Art Museum, designed by Shigeru Ban.



Figure 5-46 Lausanne Rolex Learning Center



Figure 5-47 National Taichung Theater

The trajectory of Japanese architecture through its various sources of influence as progressed as follows: the imitation of Western architecture, the arrival of modernism, the progression into post-modernism and, finally, the return to nature focused architecture. While the development of foreign architectural culture in Japan is similar to that in China, Japan, notably, due to different market systems and political situations, is spared some of China's most acute problems in relation to this issue, namely the homogenization of cities (the fact that thousands of cities adopt the same look) and the alarming rate of decay of traditional culture. Its progression is, too, a clear indicator of the direct relationship between economical situation and new construction activity. Japan's successful manner of integrating traditional and foreign architecture, and its present approach to design and education, demonstrate a level of maturity and know-how which make it a valuable example for other countries, like China.

5.4 Chapter summary

The surge of modernist architecture has rapidly expanded the world over. Within this expansion, one rather common observable phenomenon is architects shifting straight from early modernism to postmodernism, regionalism or other alternatives. Alvar Aalto's humanistic accomplishments nurture and complete the aspects of practicality and comfort in his designs. Architects' respect for the native culture of a place has a direct impact on the potential life extension of traditional culture, the rightfulness of the building-environment relationship and the increasingly relevant long-term consequences thereof. Zumthor's skillful manipulation of light and locally sourced materials makes both for a building in right relationship with its environment and for a visceral experience of space which is masterfully, meticulously and successfully engineered. Lastly, learning from the

development of modern Japanese architecture should be of utmost importance in the endeavour of promoting sense and maturity in the present Chinese scene and for the urgent instigation of a mindful treatment of historical culture.

6 Application of Chinese traditional culture and art in architectural design

6.1 Application of Chinese traditional culture and art in architectural design

6.1.1 The impact of light and shadow on space

Light is a living, changing, intangible, cost-free construction material. Light and shadow, visible spatial players in constant mutual interaction, are responsible for a powerful amount of a space's feel, how it relates to and what value it can provide to a person. Brightness, boldness, faintness, density, airiness, gravity, restfulness, discomfort, intensity and even raising the perceived social status of a humble home are but some of the ends architects continuously rely on light for.

Palace of Nationalities of Dachang in Langfang City, Hebei Province, is undoubtedly He Jintang's most representative work in terms of heavily relying on the mastery of light play.

The Palace must fulfill the expectations of a holy space, one of its required functions being to represent the local Muslim Hui community. It bases its structure on a traditional mosque prototype but, in a more whimsical, sensually elevated interpretation of space by the architect, completes the design with newer technologies and materials.

Likewise, in the task of conveying spirituality, the architect turned away from repeating known Islamic visuals to produce a deeper rendition of Islamic holiness.

The airy curves, the effect of floating on air caused by the building's reflection, the weightlessness, diffused lighting, unrealness and purity of the aesthetics all contribute to the architect's rendition of an Upper (Sky) World or realm of Heaven.

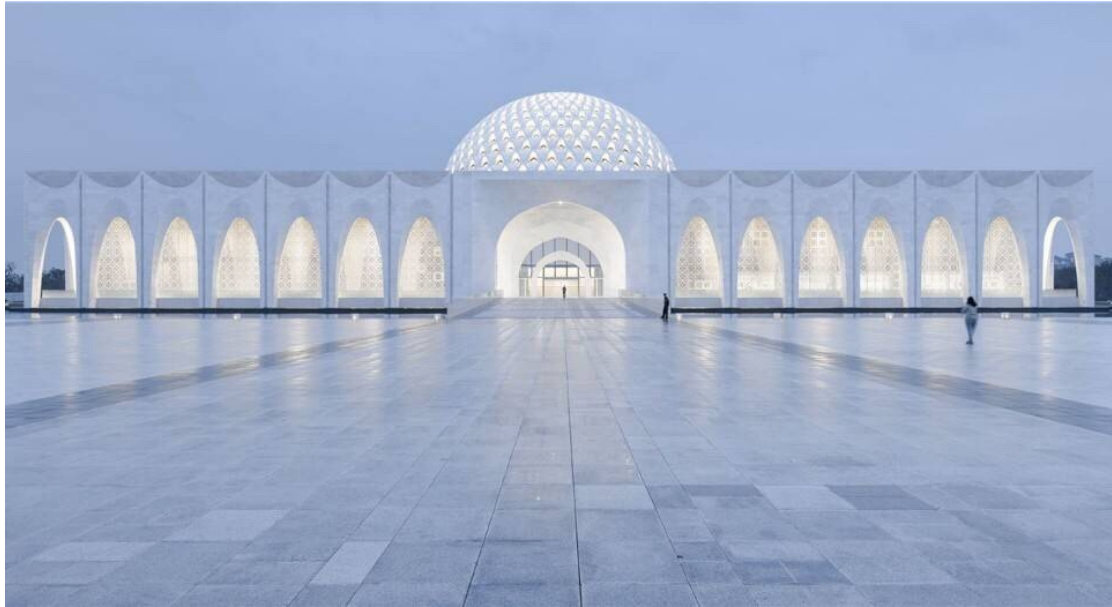


Figure 6-1 Palace of Nationalities of Dachang's main facade

Light is a crucial player in the design of the Palace. For one, the use of reflection, the interplay of light and water, is to account for the symmetrical, uncanny, gravity defying visual effect. Secondly, the relationship of changing daylight on the ethereal, delicate design mean that the appearance of its volume changes shifts through the day. Even, natural daylight, accentuates the building's unity and wholeness and as night falls, the artificial light shining from its interior brings out the intricate shapes of its inner crevices.



Figure 6-2 Palace of Nationalities of Dachang at dusk

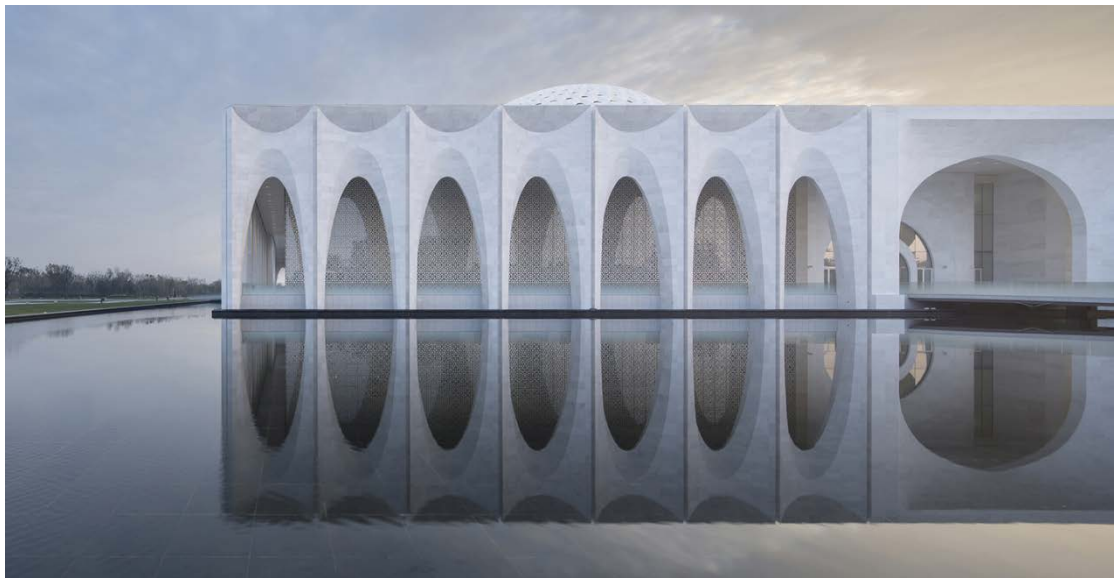


Figure 6-3 Palace of Nationalities of Dachang in the daytime

The architect designed different parts of the building's interior according to the type and intensity of light there might be at any given moment, so that each

lighting situation would emphasize its particular element. The large dome consists of a series of petal-shaped shells that, in turn, transform the interior into a semi-exterior roof garden. Sunlight and open air enter the space, in a particularly airy, floaty way, which underscores light's sense of holiness.

People can walk through different parts of the building and experience the changing volumes, the perception of whom is created, in great part, by the way light falls on them. There is, on the one hand, for example, a geometrical, small starlight pattern coming through the dark, circular roof of the dome, speaking of the beauty of the Universe and a person's smallness in relation to it; and on the other, a bright room lit through a large glass wall.

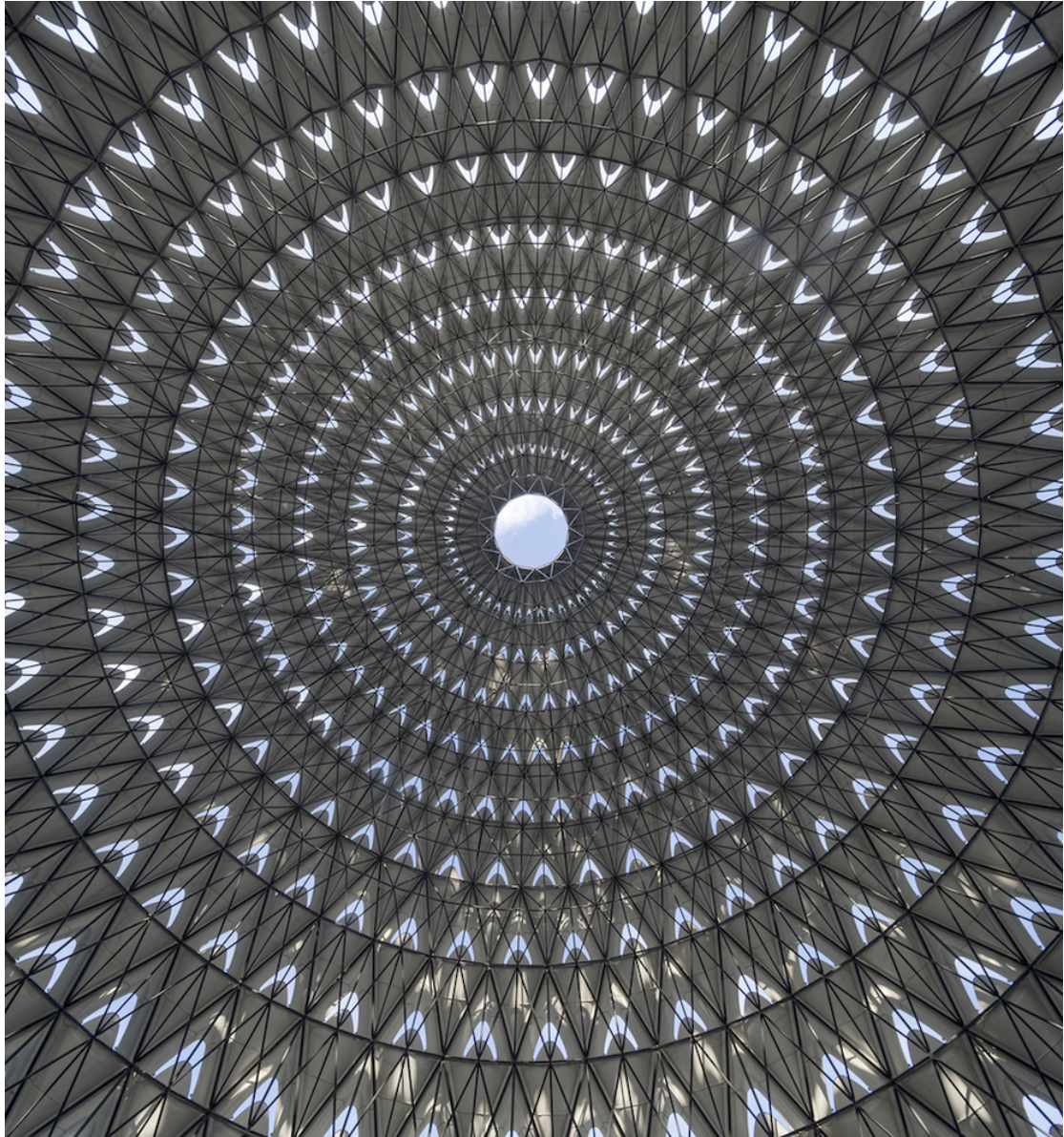


Figure 6-4 the dome of Palace of Nationalities of Dachang



Figure 6-5 the interior of Palace of Nationalities of Dachang

Another noteworthy aspect of light is its ability to change colour, which we manipulate primarily by the use of glass or other see-through materials. Proficiency at manipulating light color gives us the chance to increase a building's visual richness, harmony and fine-tune its emotional atmosphere. This is of particular use in buildings of that are of particular emotional weight to a whole community (such as memorial and religious sites), where the architect is allowed to give way to his artistic ability.

6.1.2 The impact of materials on space

Whether its surface is rough or smooth, wood is known to always provide a feeling of warmth. Weathered steel, on the other hand, produces a heavy texture which records the pass of time. Textile and polymeric membranes are sometimes used where a sense of ease and softness is sought. Stone, such as granite or marble, generally gives a sense of coldness. Metal, despite its stiffness, achieves mechanical, futuristic and sci-fi beauty when used properly.

Glass' see-through quality enables a feeling of seamless connection with the outdoors; ground glass and the fluttering colour effect of stained glass are key at creating a sense of weightlessness, other-worldliness and holiness.

Globalization has meant the range of materials at architects' disposal is now greater than ever and, with such great choice comes greater responsibility. One should make sure a material benefits one's aesthetic ends, as well as the usability of the building and its environment.

The Luce Chapel was co-designed by Chen Chikuan and I.M. Pei. From the outside, ceramic tile, glass and metal are the three main materials we can see. Each of these materials was thoughtfully, meaningfully selected to represent the spirit of the building. The yellow ceramic tiles honour the local religion, for whom yellow represents holiness, as well as the land the building stands on, since its particular shade seems to blend with the terrain. The use of glass, effectively an invisible boundary is, too, employed under the same connective intention. The trees and sky behind the building can be seen through the front. At the same time, light's interaction with the simple structure make for a particularly bare, pure spatial atmosphere.



Figure 6-6 Luce Chapel



Figure 6-7 Luce Chapel's wall



Figure 6-8 Chinese Buddha statues

For the Seashore Library (Beidai Lake, Hebei Province), native architect Dong Gong chose site-conscious materials glass and wood. Whether looking at the building's blue facade toward the sea or its sandy one toward the land, it harmoniously fits its environment. Unlike many other architectural projects that showcase the rough aspect of concrete, its texture in the Seashore Library's surfaces is smoothed. Dong Gong explains, in an interview, that adopting concrete as the main material is in the best interest of the site's abstract nature. In addition to that, concrete makes an ideal choice in a location of such climatic conditions, where most materials' poor resistance and corrosiveness would be problematic. Dong Gong's design manages to use concrete within an appearance of weightlessness.



Figure 6-9 Seashore Library from the sea



Figure 6-10 Seashore Library from the land

Conclusively, careful consideration when choosing materials is paramount

in architecture. One should also take into account both natural, environmental aspects of materials as well as their regional, cultural meaning: history and local culture is but another real environment in which a building must harmoniously fit.

6.1.3 The impact of color on space.

Color is a highly powerful factor in any visual endeavour. Its use in buildings is a matter that requires utmost attention, since it will manipulate the emotional and energetic state of their inhabitants. Additionally, of course, colour is also used to enhance and manipulate a building's desired shape or appearance, by the use of a range of visual effects.

Common intentions often wished to convey through colour choice in buildings can be: a mood of depth, lightness, superficiality, vivaciousness, somberness, disorientation, intimacy, respect for the site's historical events...

The mausoleum of Emperor Nanyue in the Museum of the Western Han Dynasty, designed by He Jingtang and Mo Bozhi, chose red sandstone for its walls. A color choice made on the basis of the site's cultural background, as it is the same that was used in Emperor Nanyue's tomb stone chamber. In addition to glass, the building employs red sandstone also on the outer walls, in a decision that achieves at once a highly-visibility, outward expression of the tomb's appearance and a simple, bold design.



Figure 6-11 Mausoleum of Emperor Nanyue, Museum of the Western Han Dynasty

Chongqing Guotai Arts Center, designed by Cui Kai, the concept of which is also derived from Dougong, an element of traditional architecture, is quite different from the Chinese Pavilion that He Jingtang designed. The shade used in the Chinese Pavilion is quite different from the dominant shade of red of the Chongqing Guotai Arts Center. Both of them, however, chose to convey the meaning of traditional culture by way of a modern revival of the Dougong. Next to the pure shade of red of the Chinese Pavilion in the Shanghai World Expo, the Chongqing Guotai Art Center uses a rather heavier combination of red and black shades. Its red components, facing the same direction, achieve a sense of visual order as well as conjure their endless extension in the viewer's imagination. The black structures underneath them serve, as well, to offset the popping vibration of their tone and enhance their sense of three-dimensional dominance.

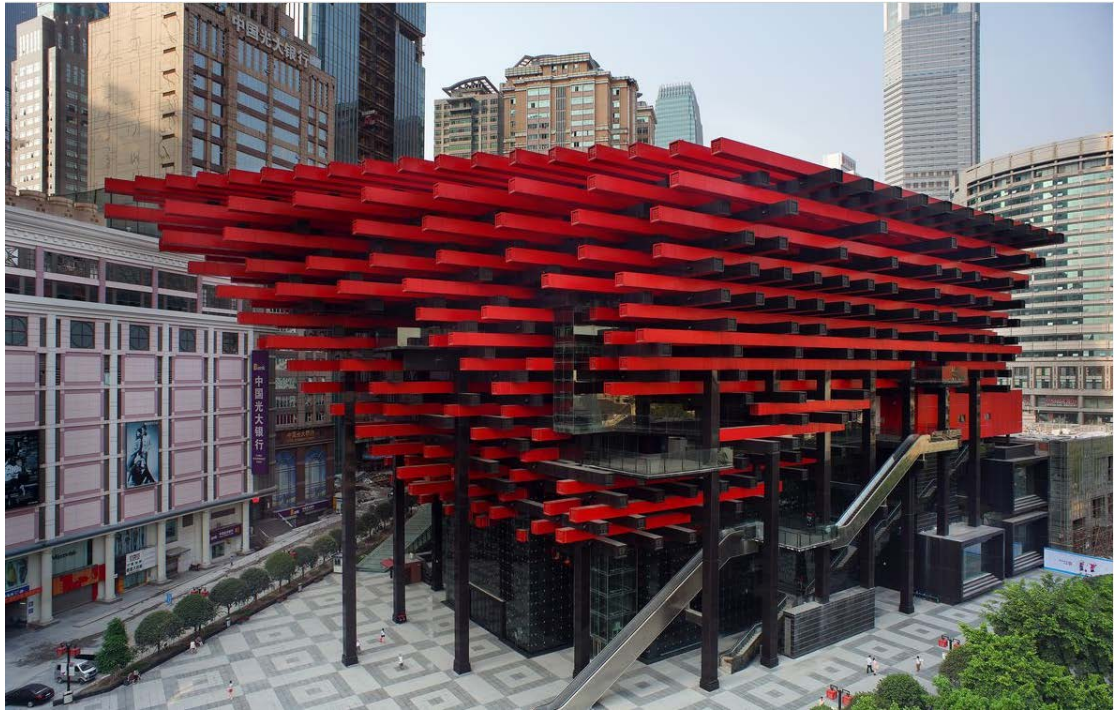


Figure 6-12 Chongqing Guotai Arts Center



Figure 6-13 Aerial view of Chongqing Guotai Arts Center

When it comes to black, it's worth mentioning Zhang Lei's Concrete Slit

House. A house located in Nanjing, surrounded by 1920's houses, for which the architect did not make use of bricks, but rather opted for concrete - which he used to model an abstract volume. The shape of the building fits in harmoniously with the houses of its surroundings. Its double-slope roof resting on a cubical shape attunes to the appearance of its neighbors, while the smooth concrete surface allows, within this communal agreement, a minimalist statement. A gray-black film was added to the outer surface of the house to enhance the appearance of its smooth, delicate texture. An unusual finish which grants the house its placid, sophisticated look - unaffected by the fact that concrete (usually found in rougher textures) is the most common material of present day China.



Figure 6-14 Facade of Concrete Slit House, Nanjing.



Figure 6-15 Concrete Slit House

No.4 House from the Chinese International Practical Exhibition of Architecture (CIPEA) complex, was also designed by Zhang Lei, but this time, in contrast with the former concrete house, he chose white. The architect first provided a precise three dimensional illustration, the construction unit then tested the design by pouring concrete into a small-scale mould and, finally, the whole operation was repeated full size. The hollowed out curvy shapes in its cubical outline were achieved by common methods of construction; its white surface finished with protective concrete coating. No. 4 House's total floor area of 500 square metres also doubled the 270 of the previous construction. Had Zhang Lei used the previous dark grey colour scheme, the house would have attained a drastically different sense of inwardness, gravity and heaviness. The employment of white here is key at achieving weightlessness despite the massive form. Fresh and light in the summer landscape and harmonious and

quiet in the snow covered winter.



Figure 6-16 the No.4 house of CIPEA



Figure 6-17 the aerial view of No.4 house of CIPEA

Color is undoubtedly one of the most sensitive and influential decisions implied in any design. It will dictate a building's overall meaning and experience. Designers will also often play with the many layers of cultural associations to colour, to conjure particular historical events or cultural values. As seen by the lengthy periods of color preparation to which many designers submit, a small difference in shade can either fail or succeed at conveying its intention. Additionally, one must take into account that colour is necessarily a living element, in constant transformation with the pass of time.

6.2 The diversity of architectural design

Diversity in architectural design can be narrowed to either the general or individual level. The general level refers to the myriad of different buildings by different architects emerging at a given moment in time; the individual refers to the variety of buildings engendered by the passing transformations in one architect's career.

Diversity at a general level depends primarily on an architects' independent thinking. Specific historical periods in which culture is suppressed and free-thinking, punished, will produce architectural monotony and uniformity. Political context has a very close impact on the design. A well developed economy will, likewise, have a direct reflection on architectural activities, by strengthening their construction rate and diversity. The very essence of culture is, of course, diverse, and so any region whose traditions and characteristics are, to some extent taken into account, will, too, enrich diversity.

In 2003, Arata Isozaki and Liu Jiakun invited twenty Chinese and foreign

architects to Nanjing Foshou Lake to design a house for the Chinese International Practical Exhibition of Architecture (CIPEA) with globalization and regionalism as the theme. The site has a beautiful environment and scenery. Except for four public buildings with various functions, 20 plots were planned and assigned by lottery to the architects, who were to use them to create villas of different styles.

The Reception and Dinning Center of CIPEA, designed by Liu Jiakun, has a construction area of about 10,000 square meters, a very large area compared to the 500-700 square meters of a villa. In order to deal with this, architect here adopted a specific strategy: “dividing one into two and breaking up the whole into parts”. The strategy of dividing one into two refers to the public part of the center, which was to be hidden in the hill. The private rooms would, by contrast, appear to stand on the hill, granting the building two operational modes. Since it is difficult to subdivide the whole center, the public part cannot be wholly independent. Half of the public body appears to, in fact, disappears into the hill. The composition is of similar scale and organic rhythm as the mountains and the lake, playing into its multi-layered depression. We can see how the public part of the building opens to the lake, instead of being completely underground, which grants it proper ventilation, good lighting conditions and the most scenic view. At the same time, the strategy of dividing the whole into parts follows an intention of arranging a segment of small, private rooms on the ridge of the hill and, in doing so, eliminates the potential problems of building a single massive volume and increases the number of exterior walls with good vision, natural light and good contact with the outdoor environment.



Figure 6-18 Reception and Dining Center of CIPEA



Figure 6-19 Aerial view of Reception and Dining Center of CIPEA

SAN-HE Residence of CIPEA, also known as the No.15 House, was designed by Wang Shu. The name SAN-HE Residence refers to its form: to the fact it has three closed, walled sides and one empty side. The building is closed in space and its form inherits many of the characteristics of the traditional Chinese Sanheyuan house. We can see, for example, a modified version of the traditional courtyard in concrete and an approach to the

relationship between building and city that also takes us back to traditional architecture. The house, however, is not solely designed to imitate tradition. Its style was born also partly in answer to specific functional problems, such as double slope roofs as a natural method for water drainage that suits the minimal aesthetics.



Figure 6-20 Aerial view of SAN-HE Residence of CIPEA

As for materials, Wang Shu chose grey bricks from Suzhou and traditional polished bricks, all of which would stay in tune with the sober, bare, primitive aesthetic. The pattern of the wall echoes the landscape, in a pursuit of interweaving artifice and nature.



Figure 6-21 SAN-HE Residence of CIPEA



Figure 6-22 Courtyard of SAN-HE Residence of CIPEA

Ai Weiwei designed the 16th house, which he called Six Room Villa, since the whole building is an arrangement of six separate rooms. Ai Wei Wei chose to make the building out of clear water concrete and to give it a sharp geometric shape that involves a permuted pattern. The villa is devoid of any boastful or opulent elements whatsoever and goes instead for an undecorated, brutalist simplicity with which it seeks to create a space of calm. Each of its light sources was designed separately, as the answer to particular function and location. As the day goes by, so does the way light reaches the villa's interior. In summer, large glassed areas become open space, so that the experience of nature may better merge with the living area.

Its layout consists of six rooms arranged along a 13 degree curve, slightly separated from each other and with a main entrance set between the second and the third. The functional division of internal space is easily clear.



Figure 6-23 Main facade of Six Room Villa of CIPEA

Its design language has been functionally and structurally reduced into two basic constituent elements, which include six standard independent units of the same volume and a corridor that connects them. Inside of the house, these independent units are orderly and separated spaces of the same scale which fulfill different functions according to time and location.



Figure 6-24 Six Room Villa of CIPEA

No.4 House sets to echo the appearance of the scenery around it. It is located in a gentle slope near a valley, with a small hill beneath it and a creek before it. Hardly any flat terrain can be seen around it; the site's surface is relatively steep. A gentle, distant stream can be heard descending after the rain.

The architect opted for a vertical layout so as to not to damage the land in the hillside. The building's height can be seen to almost reach that of the trees, while the curved openings are strategically arranged, in the way of

traditional garden window frames: To provide an interesting, stimulating view which enlivens and engages the interior; one which seems to direct the gaze through several window frames, some rational and square, some free-form, and leads to a landscape. Just as in traditional Chinese architecture, the harmonious integration of man, artifice and nature are one of the building's primary pursuits.



Figure 6-25 No.4 house of CIPEA



Figure 6-26 the corridor of the No.4 house of CIPEA

No. 1 House was designed by Zhou Kai. When one arrives to the property's street, one may see but a small hint of the house which, named "Seclusion", appears to be built into a depression and deliberately concealed.



Figure 6-27 No.1 House of CIPEA from the road

Also on a slope and unlike Ai Weiwei's concrete six-room villa, which is on a hill, Zhou Kai embeds the mass of the building into the steep hill, with a flat roof, preserving the road and the original view. The building adapts to the undulating terrain. It keeps a low profile into the hillside on the one side and leaves high self-expression for the other. Just as its name suggests, the house's seclusion is a key factor and one with deep socio-historical connotations since, throughout Chinese history, seclusion was known as the option gifted men would take when failing to attain official recognition. The house's extension into the lake is meant to express pride, but also a lament about seclusion and a longing for life in society.



Figure 6-28 No.1 House of CIPEA

1999. China International Practical Exhibition of Architecture brings the works of several prominent contemporary architects in China together. Each piece of works is in accordance with local conditions. The architects have tried their best to protect the original appearance of the site without damaging its characteristics, but the strategies adopted were quite different. When visiting this district, in addition to enjoying the beautiful scenery of lakes and mountains, people will encounter surprise from each architectural work.

The CIPEA is like a microcosm of contemporary Chinese architectural design, in which each architect used his own talents and knowledge to polish his/her work, while the entire district presents a rich diversity of design.

In the process of architecture design, different levels of response are made to the diversity of design. The diversity of architectural works stems from the cognitive concepts and ideas of architects in different periods, which emphasize on building's art and culture that transcends the building itself. Architects can display the building through space, form, style, function, structure and material to express their thoughts and feelings. Of course, architects can also use a variety of media and forms to construct a building that may be built but can also be intangible or impractical. Because architecture should take on some kind of social function, it should arouse public's thinking so as to promote social communication.

In general, the diversity of architectural design should be commendable whether it is holistic or individual. The community should encourage the existence of this diversity, not only in the richness and variety of architectural works in the overall context, but also in the diversity of works exhibited by architects at different stages. Hundreds of schools that flourish, both for the design and culture, will have certain positive effects

6.3 The Simplicity of architectural design

Contrary to the simplicity of design, the complexity is always in the traditional Chinese architecture and culture, including structures, decorations, furniture and so on. Some of the complexity is caused by the backwardness of the material conditions of society, some are unnecessary, while others are based on the mentality of showing off wealth and status. More importantly, the condition of traditional buildings was that the land was not crowded. The pace of the times and even the construction activities were not as fast as they are today. Therefore, the complexity has its own time background.

After the entry of modern age, the improvement of material production and the advancement of technology have left some complexity of traditional architecture abandoned. The explosion of population has also led to the compression of land and living space, which has further promoted the abandonment of complexity. The short and quick construction activity cycle has promoted the pursuit of simplicity.

In general, contemporary architectural design in China tends to be abstract in form. Architects are willing to spend more time trying to figure out the space, making the interior space purer and more elaborate in details, so as to enhance the overall spatial quality.

For example, in the vault of the Captain's House, renovated by Gong Dong, there are three meanings. Firstly, the form is conducive to the rapid drainage of the roof, and to minimize the possibility of leakage and seepage. Secondly, the vault has directionality, and two ends of the space are connected with two different types of sea. On one side there is a noisy harbor while the other is a quiet sea. Thirdly, the vault is spiritual. The Captain believes in Christianity. The vault in the third floor contains religious metaphor, compared to ordinary living spaces in the first and second floors.



Figure 6-29 the vault of the Captain's House

In appearance, architects tend to regard the building as a pure complex, thinking that every detail should be designed with the right elements and ideas, and the details of the building and the whole building should be linked, instead of being independent. Even any shape and color should reflect its essential meaning and history.



Figure 6-29 the Captain's House

In the design, the specific method can be the use of natural materials, simple colors, etc. The simplicity is not lack of art, and it does not mean shabbiness, but an expression and display of art and an attitude towards design. Architects should reduce excessive and complicated visual effects by simplifying materials, colors and other elements, guide users to experience and observe the richness of space, and then arouse their feelings and cognitions on design concepts and spatial structures.

In the captain's house, the architect used only wood in the first and second floors of the interior except the white walls. Whether in the form of floor or window frames or furniture, this simplicity makes the space exceptionally pure, with an outstanding focus on the window view. And this approach is the inheritance of the enframed scenery within Chinese traditional garden architecture. The scenery selected by the architect is also exceptionally wonderful. The window frame is similar to picture frame, while the landscape

outside the window is the landscape painting on canvas! A picture of landscape is vivid on the wall.



Figure 6-30 a window of the Captain's House

Simplicity is popular today, which reflects the complexity of the world. In today's world, with the rapid development of science and technology, the rapid spread of information and the globalization, people become increasingly anxious when facing a rapidly changing world. As a result, the advocacy and longing for simplicity are becoming more and more obvious.

All in all, simplicity has its time-background, and also needs some technological support. Those who are in the globalization directly or indirectly promote its development. However, for architectural design, simplicity is undoubtedly a good strategy to deal with contemporary architectural design. Architects can use the overall simplicity to emphasize the richness of the

space and the partial complexity.

6.4 Chapter summary

The traditional Chinese culture has a long history, and the essence which is worth learning is endless. In contemporary architectural design, architects can demonstrate the charm of traditional Chinese culture and art in a variety of ways. Applications such as lighting, materials, colors, etc. can deepen the beauty of space, while the simplicity of design can emphasize the richness of the space performance and the partial complexity in a proper way. The diversity of architectural works expressed by different architects during the same period, deserves to be encouraged, for they significantly contribute to the improvement and creative development of contemporary architectural design in the most positive way: one who is in a very harmonic relation with tradition and innovation, contextual respect and real sustainability.

Conclusions

Since more than five thousand years of history, Chinese culture has emerged and evolved through that very long course. Chinese tradition is a kind of culture that reflects a bunch of national characteristics and styles, brought together by the evolution of Chinese civilization. It is an overall representation of the various ideological cultures and concepts in the national history. Chinese traditional culture refers to the Chinese nation and its ancestors living through ages in China's territory. It was created by the Chinese nation during generations to be later inherited and developed by younger generations keeping its distinct national characteristics, those who express that long history and profound connotations, the extremely fine and rich Chinese people heritage's traditional culture.

Chinese traditional culture and art has a long history and rich connotations. As a material product of the times, architecture is bound to be influenced by the culture of each period. Among the main cultural historical influences we can refer to Buddhism and Confucianism in philosophy as well as Taoism and religious Taoism. Taoism, being a way of thinking which is really specific from China, had a great influence on traditional Chinese architecture, especially in matters concerning decoration style and plan spatial layout, structure details and so on. The significance and contents of all that architecture cannot be adequately acknowledged ignoring this keystone.

In traditional Chinese art, traditional Chinese landscape painting and poetry had a great influence on traditional architecture, which is also very closely related to the traditional Chinese gardens created by the ancient times

so called *scholars* or *literati*, while Chinese garden architecture is the most significant building style influenced by the traditional Chinese arts. Also when the approach comes to questions of urban design, from the layout of the most important historical cities to the medium-sized urban space or even the tiniest micro-architecture's details, we can also see how many aspects of traditional Chinese culture and art constantly keep remaining and evolving in it.

In addition to being influenced by the particular culture of every period of time, Chinese traditional architecture is directly influenced by its natural, cultural, social and historical environment. China extends across very different climatic zones, so geographical conditions vary widely within the same country. In different areas, local people use their wisdom to create a suitable local housing building system according to the geographical environment and climate. At the same time, China was once a feudal autocratic state in history and its hierarchical system was very strict. Therefore, due to the influence of political factors, architecture adopted different patterns corresponding to different levels. What's more, historical circumstances, the overall economic development of society and the economic situation of individuals also directly affected construction activities. The better the overall economic development of society is, the more active the construction activities will be. In the same way, the better the economic situation of individuals, the higher scale and quality of building will be. Analyzing the natural and historical environment conditions' impact on traditional architecture, we can clearly understand that kind of building limitations which respond to them and therefore identify the true essential elements and features of the best traditional architecture.

In contemporary times, the spread of foreign architectural culture in China is common and quite wide, ranging from traditional western architecture to modernism and postmodernism, from the imitation and introduction of purely Western-style architecture at the beginning, to the later use of advanced

Western technologies combined with local traditional culture. In the process, we can find not only outstanding successful episodes but also experiences of undeniable failure, such as outstanding city types and some kind of general homogenization. Facts have proved that architectural needs are in accordance with the specific characteristics of each site, including urban space and local context, traditional culture and art; otherwise, new architecture will only ignorantly contribute to spoil cities' very best values. Therefore, the protection and updating of traditional architectural culture and the proper restoration and updating of the architectural heritage have become a very urgent problem to be tackled and solved. In the wave of urbanization, by simultaneously acting political and economic factors, many valuable traditional buildings are in real danger. China urgently needs to attach the due importance to the proper protection and renewal of its traditional architectural heritage.

As early as modernism flourished, many outstanding architects appeared who were sensitively aware of the possibility of a creative integration between modernism and regionalism. One of the most important examples is Alvar Aalto, from whose specific practices in architectural design in the second half of the twentieth century we are still endlessly learning today. Another relevant master, Peter Zumthor, who also shows a strong regional hue, is excellent at the use of materials to re-interpret construction in a contemporary and innovative way. Japan, not far from China, has a similar and parallel course in its development of modern architecture. In China we can find the true origin of many concepts and traditional features which were later well known in the west through Japanese examples. So, it is really worth learning from the origins in ancient China's works. Emperor Taizong of Tang dynasty once said that with bronze as a mirror one can correct one's appearance; in a similar way, with history as a mirror, one can understand the rise and fall of a state and with good men as a mirror, one can distinguish right from wrong. Whether it is the

study of individual architects or the development of nation's architecture, it is very important to face the understanding of every kind of cultural work and design within their own times national specific conditions.

After years of development, Chinese contemporary architectural design has brought out many outstanding architects. Among their works, traditional culture and art are reinterpreted in the form of new languages of contemporary architecture. Their specific methods of expression can be through the play of light and shadow, building materials combination, colors, use of symbolic elements, relation to the site, landscape, etc. The simplicity of the design can also be used to demonstrate the richness of the spatial general conception and the detail partial complexity. This interpretation shows a diversity of the richness of architectural works of different architects in that same period. That diversity of architectural design can promote the development of a proper architectural and cultural alternative with local national specific features, which at the same time shares the best values of present time technology and culture in a really sustainable way. So we think that this kind of approaches should be clearly encouraged.

In general, with the recent outstanding economic development and growth rate in China, we have seen through the above considered study cases, how contemporary architectural design flourishes and sparkles all over the country. We have studied examples of an architecture which is clearly innovative and still connected with the main site specific traditions, culture, history, geographic and climatic conditions. At the same, this a way which strongly rejects any kind of superficial direct formal mimicry of past national styles, a big mistake we can see in some buildings around and was at some stage pretended to appear as a valid solution to the question of the quest for a contemporary national style.

After some recent historic stages of destruction and suppression of

traditional culture and art, as a result of different historical and political circumstances, a new and strong emphasis on traditional culture and art has been raised at this stage, but the collaboration and intensive help of official public powers is still needed to further protect and renew traditional architecture and old village heritages. Architects have already acted and will keep reflecting in many diverse ways what they've learned from traditional thinking in their new architectural works. Therefore, as we have seen through the analysis of these study cases, we can say there are reasons to expect that kind of positive answer to increase its influence. As more and more architects rise in our country, much more and better works will appear approaching new architecture in a way that properly inherits, updates and transforms the main specific values of Chinese traditional culture and art, and, at the same time, contributes to open a wide range of new, suggesting and progressive options for an immediate future in architecture.

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