DECODING CHINESE CLASSICAL ARCHITECTURE FOR CONTEMPORARY ARCHITECTURAL DESIGN

- with special reference to modern architectural development in Taiwan

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ABSTRACT

This research began with an exploration of the phenomenon of cultural conflict and fusion in the process of architectural modernization in Taiwan. It will examine the impact of modern and contemporary theories on the practice of architecture of the island. It will then seek out the essence of Chinese classical architecture in order to develop an approach for the development of the future Chinese/Taiwanese architecture. In addition, the findings of the study could serve as a reference for scholars who would pursue historical and theoretical studies of in the subject, or for architects who are seeking design concepts to enhance their projects.

The study utilizes an interpretive-historical methodology.[1] It emphasizes that researchers should investigate social phenomena within broader and more complex contexts of what to uncover the underlying cultural factors. To highlight their significance, the author will pursue a hypothetic project to examine and demonstrate the meaningfulness and applicability of the concepts learned from the research.

Efforts were made to discover ways in which Taiwanese and Chinese architectural culture can deal with foreign influences, such that it will be able to enjoy the benefits of modernization while maintaining its unique character and identity. Moreover, it will attempt to uncover ways in which Chinese architecture can in fact influence the global contemporary architectural culture. Finally, it is hoped that this work will produce a useful reference for students, scholars and architects who wish to develop design projects that reflect and celebrate regional cultures.

[1] Linda N. Groat and David Wang, *Architectural Research Methods* (New York: J. Wiley, 2002).

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1. INTRODUCTION

Like other enduring civilizations, Chinese architecture has faced the intense challenge of westernization since the end of the nineteenth century. Although a superpower before the nineteenth century, the Chinese empire was forced to modernize in order to protect itself against invasion from other nations with a strong military supported by industry. It did not take China long to become an industrialized country in the context of her very long and continuous history, however, the development of Chinese modern architecture was not smooth. In the first half of the 20th century, the first generation of Chinese modern architects tried to establish the architectural discipline in the educational system, and attempted to develop a design methodology that could reconcile new architectural techniques and design theories with their unique culture. Unfortunately, the Chinese Civil War (1927 – 1949), World War II (1939-1945) and The Great Proletarian Cultural Revolution (1966 – 1976) blocked the effort and disturbed the continuity of the modernization process until the 1980's, when the government of the People's Republic of China reopened its doors to the outside world. The huge gap in modernization between the 1950's and the 1990's made it difficult to discern the evolution of Chinese architecture from the pre-modern period to the present.

Because of specific political motives and the unavoidable cultural influence brought by millions of immigrants in 1949, architectural development in Taiwan combined China's tradition with the modernization process. This development offers a chance to see the whole view of Chinese architectural modernization at this time. Due to the continuity of the development, it is possible to find the source of the evolution of architectural style, tracking it back to its origin, and then to find the cultural essence of

China's classical architecture. Consequently, this makes it easier to distinguish the spatial essence and meaning behind forms, and then convert them into valuable lessons for contemporary architectural design.

This research begins with a survey of Taiwan's architectural development. In 1949, China's civil war ended with a Communist victory, and the Nationalist government moved to Taiwan along with a significant proportion of the middle class and the military. Thus, the development of modern Taiwan was accompanied by a resurgence of the study of traditional Chinese culture. Ironically, despite the fact that the Chinese Nationalist government regained territorial control of Taiwan from the Japanese in 1945, the government was unable to direct its attention to the management of this territory until 1949 due to the Chinese civil war.

After the Nationalist government's migration, Taiwan's political situation was very unstable. The Communists could have invaded at any moment, and this uncertainty created socio-economic instability. However, despite this insecurity, Taiwan enjoyed a period of political autonomy, which offered the people living in Taiwan an opportunity to develop their culture in a manner that had been previously impossible. Over time, the ancient Chinese civilization, which was traditionally resistant to change, declined in influence, and Western ideas began to influence Taiwanese society. This is the main reason why Taiwan's architectural modernization of the 1950's differed so radically from that of mainland China in the 1930's.

There were four main periods that affected modern architectural development in Taiwan. The first was Taiwan's indigenous history close tied with Chinese history, which formed the core of its cultural beliefs. Until 1895, the year that it was ceded to Japan,

Taiwan was part of the Chinese Empire. Consequently, Chinese culture formed the essence of Taiwan's local culture. The second period that influenced Taiwan's architectural culture was the Japanese occupation. From 1895 to 1945, while Japan maintained colonial control over Taiwan, it instituted the Meiji Modernization, and applied many Meiji innovations to Taiwan. The third major period was immigration from the mainland. After 1949, large numbers of Chinese immigrants came to Taiwan, bringing a massive influx of Chinese culture. The Nationalist government emphasized the orthodoxy that it inherited from Chinese culture and enforced it on architectural forms. The fourth and final factor was Taiwan's decision, during the same period, to modernize and advance the island, positioning it as a modern state.

Partially as a result of its unique political history, Taiwan's architecture has also had a fascinating development. Its architectural development could be generalized into five phases: the formation of Taiwan's mother culture (pre-1895), Japanese colonization (1895-1945), total westernization in the early period of Taiwan's modernization (1949-1966), a rising conflict between westernization and Sinicism (1966-1976), and the understanding of contemporary architectural theories and the rise of cultural introspection (1976-present).

In spite of the wide variety of methods that it has used to develop architectural design over the past fifty-five years, Taiwan and China are still struggling to produce a compelling or convincingly authentic indigenous architectural concept. Many architects have attempted to use western architectural theories to develop an authentic cultural style, but have not met with success. In 1987, when I. M. Pei designed a new hotel for Mainland China, he argued that he had tried to develop a "third way," which was neither

the traditional or modern style, for modern Chinese architecture. In Shanghai, modernist buildings have been developed for more than a hundred years, and include some projects that show the efforts of architects to develop modern Chinese architecture. However, it is still difficult to identify any single project that completely represents a unified concept of contemporary Chinese culture.

Since architects in Taiwan have worked on this issue for more than fifty years, and have developed a young but systematic discipline to study this phenomenon, it is helpful to review and examine Taiwanese architectural development in order to identify problems caused by the modernization process. Additionally, if one rethinks the essence of Chinese architecture besides its appearance, it is possible to uncover a solution to Taiwan's and China's current architectural confusion.

Because this is an ongoing subject which depends on future archeological and architectural research, this study will not cover all the possibilities; rather, it seeks to offer a new approach that can enhance future architectural design. At the same time, it will, hopefully, help architects to find more clues from Chinese tradition, which is based on thousands of years of accumulated knowledge, and which has much to offer the modern world.

1.1 Research Objectives

This research has four objectives. First, I will use Chinese architecture as an example of how underlying social structures result in different traditions and cultures, which are then reflected in differing architectural styles. Changes in architectural style are not just the result of new technology or new architectural theories; rather, they are an outgrowth of shifts in deep social structures; these changes are also manifested in culture, politics, economics, education, philosophy, and so forth.

Second, this research will attempt to uncover both the limitations and potential of the "Western application with Chinese essence" theory that was introduced in the 1920s and treated as an important principle in modern Chinese and Taiwanese society. This research will explore why this theory did not work out and determine the relevance that it may hold for the future of the architectural discipline.

Third, this research will review the relationships between Chinese architecture, philosophy, and lifestyle, in order to explain why Chinese architecture has played a different societal role than that of western architecture. The study will offer valuable concepts for contemporary architectural design and provide a useful reference to those who want to do similar research or conceptualize architectural projects based on Chinese cultural motifs.

Fourth, I will apply the concepts learned from Chinese classical architecture to design a project that will examine the feasibility of these concepts and resolve the struggle of contemporary Taiwanese and Chinese architects, to reconcile local culture with globalized architectural technology.

1.2 Methodology

This research is based in interpretive and critical social science, which is used to analyze documents and architectural projects. Interpretive social science is a response to positivism[2], which bases its exploration of social research in quantitative analysis. The shortcoming of the positivist approach is that it focuses on statistics rather than to underlying meanings.

Interpretive social science positions itself as a subjective discipline for focusing upon the collection and study of records and documents. It does so in the hopes of allowing researchers to project themselves into the situation that they study. Therefore, researchers observe and attempt to understand the macro-social environment behind the events that they analyze, yielding a richer and more accurate understanding of the research issue. In *Architectural Research Methods*, Linda Groat and David Wang refer to this as Interpretive-Historical Research, and define it as:

> "Investigations into social-physical phenomenon within complex contexts, with a view toward explaining those phenomenon in narrative form and in a holistic fashion**…** this requires searching for evidence, collecting and organizing that evidence, evaluating it, and constructing a narrative from the evidence that is holistic and believable. Throughout the process, interpretation is the key."[3]

In addition, this research hopes to analyze the development of Taiwan's modern architecture from a critical viewpoint in order to uncover the forces that have influenced its development. Moreover, it will attempt to see how these influences have also unconsciously manipulated the thoughts and behavior of the Taiwanese. Recognizing how changing powers have influenced the direction of development, it will be possible to

[2] "Positivism" as a school of thought was founded by Auguste Comte (1798-1857), French Philosopher and Sociologist. According to *The Cambridge Dictionary of Philosophy*, "He conceived of positivism as a method of study based on observation and restricted to the observable". (Robert Audi, ed., Cambridge, U.K.: Cambridge University Press, 2005), p. 168.

[3] Linda N. Groat and David Wang, *Architectural Research Methods* (New York: J. Wiley, 2002), p. 136

review and consider how modern architecture has developed in Taiwan. This will present a more complete picture of architectural development and offer some suggestions for future development.

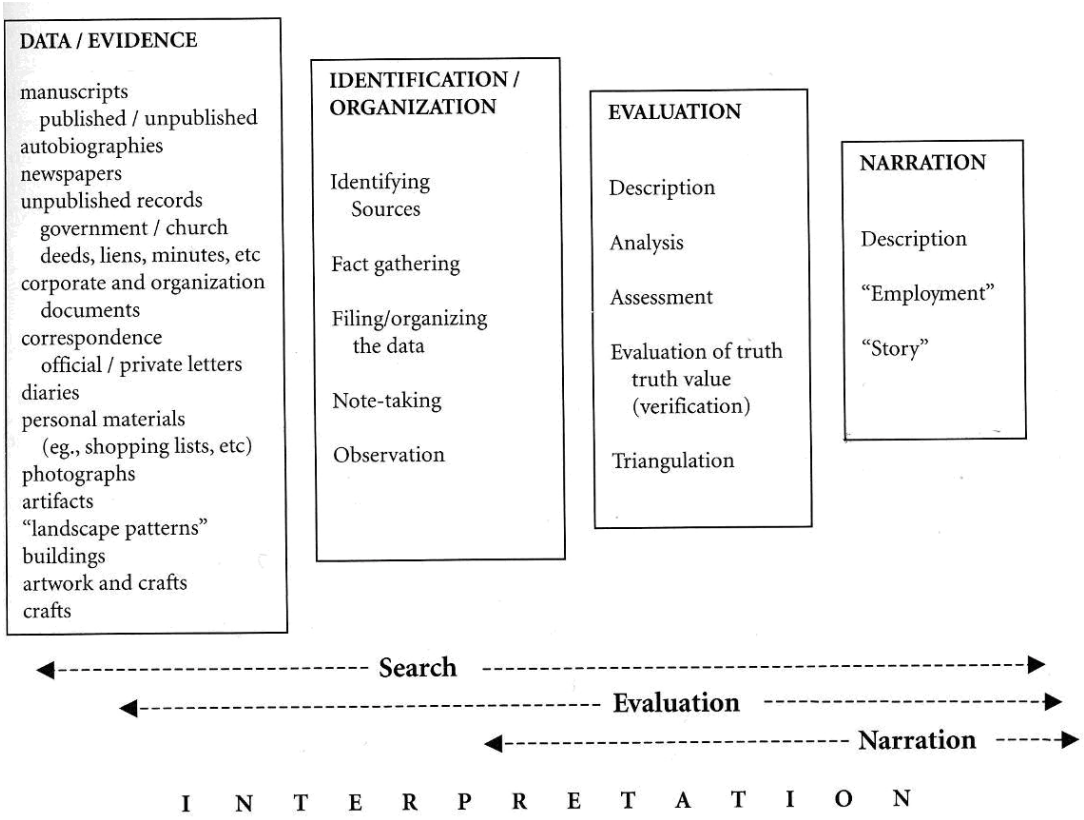

Table 1-1. Chart of interpretive research. [4]

[4] *Ibid.*, p. 137.

As W. Lawrence Neuman states in *Social Research Methods: Qualitative and Quantitative Approaches,* "a full critical science explanation demystifies illusion, describes the underlying structure of conditions, explains how change can be achieved, and provides a vision of a possible future." [5] This definition encapsulates the spirit and the logic of the methodology of this research.

However, distinguishing the essence of Chinese classical architecture is the subject of considerable research. This project will attempt to cover the gap between theory and practice by applying its study of classical architecture to a design project, much as Charles Moore had done for his dissertation titled "Water and Architecture."[6] This should be the best way to examine the theory, as the researcher who established the theory should be the one who knows his study best. Therefore, he might demonstrate his idea to his audience by applying his research result to his project. It is not necessary for the project to be a finished design with every detail considered. Rather, it is a tool to examine the feasibility of the theory and communicate the research results to others. In addition, by this method, the audience can learn the background of the research, including the designer's attitude, subjectivity, and design philosophy, so they could apply and modify the theory for their own applications. Eventually, the theory may be a useful tool and a reference.

[5]William Lawrence Neuman, *Social Research Methods: Qualitative and Quantitative Approaches,* 4th ed. (Boston: Allyn and Bacon, 2000), p. 79.
[6]Charles Willard Moore, *Water and Architecture* (Princeton, NJ; School of Architecture, Princeton University, Ph.D. Dissertation, 1957).

1.3 Importance of the research

1) Analyzing the development of Taiwan's architectural modernization enables architectural researchers to envision the future possibilities of Taiwanese/Chinese architecture.

2) By finding out how to combine traditional cultures with contemporary knowledge and lifestyles, this research could also suggest future directions for Taiwanese and Chinese architecture. This is particularly important, as many developing countries have had difficulties with incorporating their traditional ethos with modern styles. This is particularly difficult given the widespread influence of western civilization and modernization.

3) The relevance and value of combining mainstream architectural designs with local cultural motif is particularly pressing given the expansion of globalism today.

4) This research will offer a resource for Taiwanese/Chinese architectural students, scholars, and architects to study as they work to develop contemporary architecture for Chinese society. Furthermore, the research will be an example for researchers who want to study the issue of modern architecture in developing multi-cultural designs.

2. HISTORICAL BACKGROUND:
The Development of Taiwan's Architecture

This chapter describes the process of modernization in Taiwan and also the dilemma of Taiwanese architecture: the interaction between its classical Chinese tradition and the Western design concepts.

Although the Japanese rule from 1895 to 1945 has reshaped its building forms significantly, Taiwan's traditional architectural style was deeply rooted in Chinese classical architecture. From 1949 to the present time, and through the ever-increasing encounters with the West, Taiwan's architecture has experienced dramatic changes and transformations. The chapter will discuss three issues: How Taiwan's architectural culture has been established; How Western architectural theory and technology were introduced to Taiwan and have affected the local building forms, and how has Chinese classical architecture played its role in Taiwan's modernization.

2.1 The Formation of Taiwan's Mother Culture Pre-1895

Taiwan is an island located in the south-west Pacific Ocean near Mainland China. The shortest distance between Taiwan and the mainland is about three hundred kilometers (Figure 2-1).

According to the historical and geographic study, the island was part of the mainland before the end of the

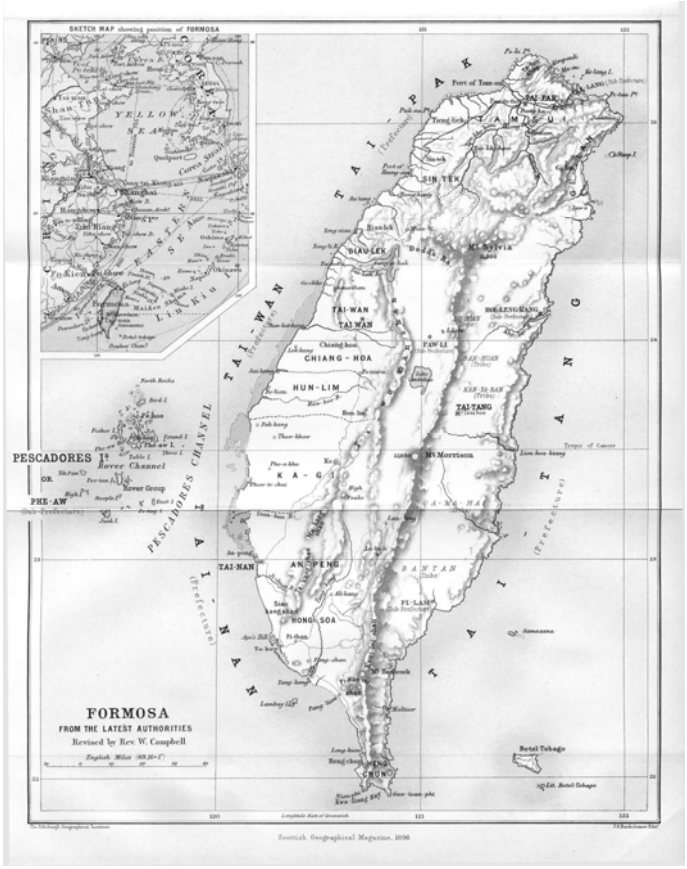

Figure 2-1. Map of Taiwan, 1896. (from Scottish Geographical Magazine, Volume XII 1896)

last period of ice age. Therefore, human beings and animals might have easily accessed Taiwan by foot. Because of the upsurge of the sea level and the movement of the earth's crust at the end of the last (fourth) ice age, seawater poured into the Taiwan Strait and formed Taiwan Island. There is some archaeological evidence showing that human interaction happened thirty to fifty thousand years ago between Taiwan and the Chinese Mainland, but it will take more research to prove this cultural connection.

The original residents of Taiwan were not Han. Their culture is very different from the Chinese. The few native people are fishers and hunters, which is very different from the Chinese but similar to other native people living on the islands of the south Pacific. The culture of these people is identified as the Southern Island culture. Although the native Taiwanese had, over thousands of years, developed a culture that is different from the Chinese, a great number of Han Chinese[7] immigrated in the seventeenth century. They brought Chinese culture to Taiwan and developed it as the major culture in this region.

In the sixteen century, the Dutch explored Asia and established colonies to seize economic benefits. To trade with China, they attempted to occupy Peng-Hu, the archipelago between the Chinese mainland and Taiwan. However, the Qing Empire (1616~1911 A.D.) expelled the Dutch and forbade trading with the Chinese. The Dutch retreated to Taiwan and established their base on its southern coast in 1624. Two years later, the Spanish in the Philippines worried that the Dutch would monopolize all the business with Japan and China, so they established another base on the northern coast of Taiwan; the Dutch expelled them in 1642. Since Taiwan was a trading colony, only a few

[7] Han Chinese is the major ethnic group of the Chinese nation. The definition of "han" in the Merriam-Webster dictionary is "the Chinese peoples especially as distinguished from non-Chinese (as Mongolian) elements in the population."

Dutch and Spaniards lived there. The Dutch established the first quasi-government in Taiwan, but all the systems that they developed were for their economic benefit, and the only issue of importance was the exploitation of the land. Although the Han people could not repel the Dutch, they kept their own lifestyle and offered agricultural produce to the Dutch government. The Dutch managed Taiwan for thirty eight years, but they only had about two thousand people resident there. There were approximately a hundred thousand Han people settled in Taiwan at that time. Except for a few castles built by the Dutch, there is no evidence of their cultural influence on Taiwan.

In 1661, General Chen-kun Zheng defeated the Dutch and occupied Taiwan, causing the Dutch to withdraw the following year. General Zheng claimed his government as the continuation of the Ming dynasty (1368-1644), which was defeated by Manchuria and followed by the Qing dynasty. The military and immigrants who came with General Zheng were from the southern Fukien province, the closest province to Taiwan from China. As a result, people from south Fukien composed the main racial group in Taiwan at that time. The establishment of the Zheng government brought the social system from south Fukien to Taiwan and formed an oasis of Taiwanese culture that influenced later development. The two most important achievements accomplished by General Zheng were establishing a social organization based on Chinese culture and the ethical precepts of Confucianism.[8]

To govern Taiwan, General Zheng practiced Chinese feudalism. The government established administrative divisions, developed uncultivated land, and popularized education to make Taiwan an organized society. Another important achievement of the government was the formation of Confucianism. Confucianism had been one of the main

[8] Jun-yu Cheng, *Explore Taiwan* (Taipei: Li-ming cultural publishing Inc., 1997).

philosophies of Chinese society for thousands of years; societal order, relationships between people, family values, education, and so forth, were all based on it. Sharing this societal system and cultural motif, including language, historical conceptions, cultural identity, with Chinese society was the main reason that Taiwan identified with China.

Although General Zheng died six months after arriving in Taiwan, his government ruled Taiwan for twenty three years. The Qing dynasty defeated Zheng's government in 1683 and established an official local government. From that time, Taiwan was included within the boundary of the Chinese Empire until 1895, when Japan defeated China and seized Taiwan. During the two hundred years that it was governed by the Qing Empire, Taiwan's population increased from 33,000 to 2,500,000.[9]

During the Dutch colonial period, the main vernacular building material was bamboo and wood. The Zheng government brought construction technology to Taiwan, teaching people to produce roof tiles from clay. The construction and building style of south Fukien was applied to the construction of official buildings; this was a significant improvement in architectural development because of it made the building much more durable.[10] However, all the buildings of this period were damaged or rebuilt, and the original layout cannot be found.

However, there are many cases which show the cultural connection between Taiwan and the Chinese Mainland; for example, Taipei's Lung-shan Temple, one of the most famous temples in Taiwan was built in 1740 for worshipping Guanyin Bodhisattva. The early pioneers brought a copy of the goddess statue to Taiwan to bless and protect them**,** enabling their survival in the very arduous environment. The orientation of the

[9] Mi-cha Wu, *The Comprehensive History of Taiwan* (Taipei: Chinatimes Publishing Inc., 1998).
[10] Chien-lang Lee, *The Architectural History of Taiwan* (Taipei: Lion Art Publishing Co., 1996).

temple, as with all the important architecture is China, is toward the south. The main hall is on a high stone platform located in the center and surrounded by other buildings. The main gate is composed of eleven divisions,[11] the highest class of a temple based on Chinese architectural regulations.[12] The temple shows the characteristics of Chinese classical architecture: symmetrical layout, quadrilateral rooms, dragon columns, curved roofs, wooden structure, etc.[13]

The ground of the courtyard is laid with Guanyin stone. This stone was used as ballast in ships crossing the dangerous Taiwan Strait from China to Taiwan, and the pioneers believed that the stone would bring them good luck because its name was the same as that of the Guanyin Bodhisattva. The two buildings on both sides of the main hall contained administrative areas. The temple did not just serve a religious purpose, but was also a local assembly hall where people held meetings, solved arguments, and celebrated holidays. In front of the main palace, there is an obeisance pavilion, where people worship heaven and the Bodhisattva. The back hall honors other gods who are in charge of different powers, including birth, marriage, wisdom, and so forth. In this way, the temple shows the concentrated precepts of the peoples. Guanyin Bodhisattva is the main god, and backed by other gods in the celestial hierarchy. This reflects the hierarchy of Chinese feudal society, as delineated by Confucianism. Architecture reflects the culture of the people who build it; residential buildings especially express the cultural phenomenon of the society. The Lin's house in Taipei built around 1823 is a case demonstrating this cultural connection. The house is a four-sided courtyard house built in

[11] A space between two columns on the elevation is called "Jian," meaning "division." More divisions mean higher class, based on the regulation of ritual.
[12] In pre-modern Chinese society, architectural forms, like building materials and roofs, should follow specific regulations. Chapter 5.1.1 covers this in greater detail.
[13] Dragon columns are used in temples to show people's appreciation to god.

the typical architectural style of south Fukien, with one story and two "Luo".[14] The main hall functions as a worship space, and is also a place for social activities, including meeting with neighbors and friends, gathering the family, entertainment, and so on. The ends of the roof are shaped into swallow-tails, which means that at least one of the family members was a "Ju-jen"[15] or "Jin-shi"[16], and was allowed to use the shape of their house to honor their family. The eleven "Jan" of the elevation show the power and wealth of the family. The majority of the construction materials and furniture were transported from Fukien. The stories and figures expressed by the carving or painting on the walls are traditionally Chinese; most of them express filial piety, health, good fortune, and so on. Obviously, the Zheng government and the Qing Empire had applied the entire social system of Chinese society to Taiwan, and the early immigrants identified themselves as Chinese. Consequently, Chinese culture dominated this island, establishing deep roots in the soil of Taiwan.

2.2 Japanese Colonization: 1895-1945

It might be helpful to get a basic idea about Japan modernization in the second half of the nineteen century, since the result influenced Taiwan in the colonial period (1895-1945). In 1866, Japan's emperor, Meiji, felt the necessity to establish Japan as a modern country because of the threat of Western countries; he instituted a series of movements and policies to modernize and westernize Japan. This became known as the Meiji Revolution (1866-1869). The goal of this revolution was to reject traditions, which

[14] "Luo" is a unit to measure the scale of a group of buildings. Two "Luos" means two rows of buildings which are counted from the first row of a building group facing the street and no matter how the width (Figure 2-6).
[15] "Ju-jen" is a title for a person who has passed the highest level of regional examinations.
[16] "Jin-shi" is a title for a person who has passed the highest level of national examinations.

it treated as weakness, and to adopt Europe's political and social system. Meiji abolished feudalism, gave power to the central government, popularized civil education, established a modern military, developed a modern economic system, and practiced imperial constitutionalism[17]. Because of the success of this revolution, Japan rapidly became a modernized country, and established a powerful military. This led to the development of militarism and attempts to extend Japan's power to other Asian countries.

At the same time, China faced the unprecedented invasion of European countries, and was struggling to maintain its national authority. The Qing court attempted to establish a modern military, but it failed. China's restoration was aimed at stopping the popular pressure, but it was not a real revolution because the emperor did not give up his right to maintain the hierarchical administration. When the Sino-Japan war broke out in 1894, it was not surprising that China was defeated by the modern Japanese military.

About 1870, the Japanese government invited western architects to design some public buildings in Japan. These included T. Waters of Great Britain, C. de Boinville of France, G. V. Capelletti of Italy, and H. Emde and W. Boeckmann of Germany. Waters built about ten thousand two-story buildings with brick construction, encouraging the Japanese to build buildings with different materials and construction methods, since they had previously built wood structures with sloped, tiled roofs. Additionally, the Japanese invited western professors to teach the western classical style of architecture in Japan. For example, Josiah Condor, an English architect, was invited to be a professor in the architecture department of Tokyo Technologic University in 1877. He applied the European educational system to educate the first generation of Japanese modern

[17] The Emperor governed the country by constitution monarchy.

architects.[18] Some of the graduates were later sent to Taiwan. Those architects applied western classical architectural traditions to the design of numerous public buildings. Some of these remain to this day, including the Hospital of Taiwan University and the Taiwan Museum. The Japanese architects used many elements of western classical architecture, including the capital, the dome, and the sloped roof with small dormer windows. None of these elements had previously appeared in traditional Taiwanese architecture; the materials and construction methods that they used were very different from those of traditional buildings.

In 1895, the Qing dynasty (1644~1911) was defeated in the Sino-Japan war (1894), and ceded Taiwan to Japan. The Japanese colonial government made a concerted effort to reduce the influence of Chinese culture in every facet of Taiwanese life. They imported the architectural style and construction techniques that they had learned from Western society to Taiwan in order to convince people of their modernization and westernization. In the beginning, the style was used for official and public buildings, but some local gentry began to build houses and stores with the new architectural style; it was not affordable for the common people. Thus, the Chinese architectural style was abandoned for public buildings under the guidance of the colonial government; however, it was kept in use for vernacular architecture. The phenomenon showed that the colonial government could dominate and introduce specific architectural styles on public buildings, but was unable to change the vernacular architectural style, as the regional culture had not changed.

The ultimate project to express the western style was the presidential palace (1912-1919). In 1906, the colonial government announced a competition for a new

[18] Chien Lang Lee, *Taiwan Jian Zhu Shi*, 5th ed. (Taipei: Xiong Shi Publishing Co., 1986).

presidential palace. It was the first open architectural competition, not only in Taiwan, but also in Japan; this showed that the government took the project very seriously. The competition was supposedly open to all Japanese and Taiwanese citizens, but with very limited educational resources, the Taiwanese had no chance to enter the competition, and were unable to compete against the Japanese architects who were educated by European professors in Japan's modern architecture schools. This process was fraught with disagreement, even in Japan, since it was the first competition open to the public; however, a Japanese architect, Igarashi Taro (1867-1937) won the competition in 1909. To demonstrate dignity and inviolability, Taro's design featured a high tower in the center of a symmetric elevation; this was the tallest building in Taiwan for many years. Many of Taro's architectural elements, including the classical orders, gorgeous decorations, column capitals, and dormer windows, expressed the influence of European classical architecture.

In 1923, the Kanto earthquake shocked Japan, and much of the Western classical style architecture was seriously damaged. At this time, European architects were developing a new type of architecture with new concepts, construction methods, and materials; the goal of this style was to revolutionize architecture and find new architectural solutions. This became the so-called "Modern Architecture". Japan probably was the first Asian country to be affected and it began to learn and practice this new style. Consequently, the colonial government introduced this new architecture to Taiwan, so Taiwan sampled the western modern architectural movement for the first time.

When Japanese architects designed the "new modern architecture" in Taiwan, they tried to downplay the prominence of the classical elements of Western architecture.

However, traces of western architecture could still be found in their projects. These types of buildings could be called “transitional architecture”. Overturning the tenets of traditional western architecture, these buildings deemphasized symmetry, decoration, heavy mass, and memorials; instead, they focused on the handling of functions. This situation recurred in both China and Taiwan when they attempted to do “modern architecture.” Since these Asian countries did not understand the spirit of modern architecture, which was an outgrowth of western traditions and social evolution, they simply attempted to learn from building forms and constructions.

The wave of western modern architecture came to an abrupt halt when Japan extended its military occupation to China, and war was imminent. Under the encouragement of the Japanese government, Japanese architects began to develop new forms of architecture to emphasize Japanese militarism. In 1937, the Sino-Japan war broke out, and World War II started two years later. The colonial government changed its policies and Taiwan became an important base for Japan’s southern invasion. At this juncture, important public buildings in Taiwan emphasized Japanese militarism. This style of architecture was named the “Imperial-Hat Style”. The common approach was to place a traditional Japanese tile roof on top of a reinforced concrete construction. These buildings are good examples of how the colonial government used architecture to influence peoples’ thoughts, and how politics dominated architectural design.

2.3 The impact between two different architectural cultures: 1945 -1966

Although the Nationalist government gained the sovereignty of Taiwan from Japan in 1945, the year that World War II ended, the government was involved in a civil

war. The government did not devote much attention to govern Taiwan until 1949, the year the Nationalist government lost the war and retreated to Taiwan.

The post civil war society was very unstable in Taiwan, as the Nationalist government faced the formidable problem of housing the millions of immigrants who swarmed the island almost overnight. It was necessary to build a huge number of apartments in a short time, so the costly traditional Chinese architecture was out of the question. Consequently, the government used a western style reinforced-concrete box design, as it was economical and easy to construct. Another important factor that prompted Taiwan to use western construction was the economic support of the U.S. In 1950, the Korean War broke out. In recognition of Taiwan's strategic location in Asia, the U.S. government offered funds to improve the infrastructure of the island[19]. For architecture, the support included the training of local professionals in the use of Western construction systems and architectural drawings, help building physical plants, and scholarship opportunities for Taiwanese students to pursue advanced studies in the U.S. Conservative-minded Taiwanese architects, however, still strongly asserted the value of the original orthodoxy and continued to pursue Chinese building precepts. However, the designs of the "new architecture of Chinese classical form" were built with modern materials and construction techniques, although traditional Chinese motifs were clearly visible in exterior design. The Grand Hotel is an example of this approach.

Some young architects who were educated in the west designed works that clearly showed the influence of the Modern Movement. For example, Da-hong Wang, born in China in 1918, was educated at Cambridge University, U.K. (1936~1940) and Harvard

[19] U.S. government offered $1,465,373,000 to Taiwan from 1951 to 1966.
Zeng-rong Wang, "The Research of Architectural Development of Postwar Taiwan" (Cheng-gong University, 1983).p.85

University, U.S.A. (1941~1943), and was a contemporary of Philip Johnson and I.M. Pei at Harvard. Wang's most noted building, 1953's "The Residence of the Japanese ambassador" displayed many strong concepts of modern architecture.

In 1956, an important project, Dong-hai University, in the central part of Taiwan, was launched. The government commissioned I. M. Pei to plan and design the campus. Pei, along with associates Zhao-kang Chang and Ji-kuan Cheng, was educated in the U.S. Based on their background, Taiwan's architectural community expected the University to display modern architecture. However, Pei did not apply the modern architectural elements that he had learned in the U.S. Emphasizing the characteristics of Chinese architecture, Pei instead used many traditional Chinese elements and spatial concepts in the project; for example, he included the curved roof and the three-sided courtyard house, both of which figure prominently in Chinese architecture. However, the spirit of the site plan and some building forms were taken from western architecture. Pei included a mall to create a strong axis, with building groups placed on both sides. He placed a bell tower at one end of the axis and a chapel at the other. The most famous characteristic of the chapel was that it used four huge, curved roof pieces to combine the main structure of the building. Ironically, although Pei rejected contemporary American architectural techniques, his use of form and structure as a conceptual resource was revolutionary for Taiwan's architectural community. Dong-hai University offered a strong example that Taiwan's young architects in the 1950s would emulate[20].

[20] Chao-qing Fu, "One hundred years of Taiwan's modern architecture" (Taipei: The Dragon Art Monthly, 1995), p.100.

2.4 The Chinese cultural revival movement: 1966 -1976

Taiwan's economy became self-sufficient in 1965, and the U.S. ended its aid programs at the request of the R.O.C. government. Over the next two decades, aggressive industrialization and international trade turned Taiwan into one of the dominant economic powers in Asia. The strong economy led to a building boom and rapid urbanization, and large-scale commercial projects offered architects more opportunities for experimentation. However, there were problems involved in these exciting yet controversial experiments. With the advent of reforms in architectural education and criticism, Taiwan's architects realized that the processes of modernization and westernization involved more than merely copying popular western examples.

A milestone in the development of a "new Chinese architecture" can be found in the design of the Chinese pavilion at the world's fair in Osaka, Japan, in 1970. A team of young architects won the design competition by abandoning the traditional Chinese building style and using intangible spatial ordering concepts as the guiding principle for China's presence in the World Fair.

2.5 The Enlightenment of Contemporary Architectural Theory and the Rise of Regionalism (1976-)

The political environment of Taiwan gradually became more liberal and active after 1987. [21] Though far from being a "complete democracy," it adopted a more westernized political system. Free enterprise and international trade brought unprecedented prosperity to this island nation. High-rise office buildings sprang up. These complexes not only fulfilled the pragmatic needs of their companies, but also

[21] In 1987, R.O.C. government canceled the prohibition of freedom of association.

created business icons, in much the same way as Western office buildings do. The Fubon Banking Center is one strong example of this process.

Taiwan's pro-western development has deep historical roots. After 1842, the year that China lost the opium war to Britain, the Chinese recognized the supremacy of western technology and weapons, and developed a "blind admiration" for all things western. In addition, after the R.O.C. government withdrew from the United Nations in 1971, many countries broke diplomatic ties with Taiwan. Urbanization and modernization were way**s** for Taiwan to regain its national identity and pride. Westernization in architecture was a part of this movement.

3. RELEVANT LITERATURE AND SOME PERSPECTIVES OF ARCHITECTURAL RESEARCH

The literature related to Chinese and Taiwanese architecture, both in English and in Chinese, is very limited, and the field of study itself is relatively young as compared to that of Western architecture. In addition to covering relevant contemporary research studies, the chapter discusses some Chinese classics, which demonstrate aspects of lifestyles, philosophies, and beliefs that might be a key to the answers of important questions as to what constitutes unique form, construction, layout, and symbolic meanings in Chinese classical architecture. Also discussed are a number of architectural historians and theories that have influenced and helped shape this dissertation.

3.1 Literature Related to Chinese Classical Architecture.

Architecture was not an academic discipline in pre-modern Chinese society, so there was no systematic research to record or study the relevant knowledge. Before the first generation of Chinese architectural scholars began a systematic survey, the literature related to traditional Chinese architecture was very limited. One of the most important and perhaps the oldest extant classic is Li Jie's *Ying Zao Fa Shi* (*Building Standards*), written in 1103 A.D.

The original purpose of this book was construction management. It explained technical terms, the construction of wood structures, the application of different timber sizes to construct different spaces, and patterns and colors for decoration. The book is an important reference for understanding the construction of traditional Chinese architecture. In its time, *Ying Zao Fa Shi* was treated as a guideline for architectural masters to construct buildings.

Since *Ying Zao Fa Shi* is the oldest Chinese book to focus on architecture, it is helpful to compare the book with *The Ten Books on Architecture*, the oldest architectural book in Western society, written by Vitruvius in 27 B.C. Both books offer detailed information on construction, orders, proportion, materials, and colors. *Ying Zao Fa Shi* has more information on technical terms, structural systems, and decorations. The first two chapters explain technical terms; and the last two chapters demonstrate decorative patterns that could be applied on different part of buildings, even defining different patterns and types of structures. The other thirty chapters explain every detail of wood structures, for example, the timber size, the different types of wood and stone structures, and how much material is required to construct each kind of structure. The book is more like a handbook of construction management. All the standards and details are clearly defined**,** so it is not difficult to build a building based on its instruction.

The Ten Books on Architecture on the other hand, has a great deal on construction, including orders, size and proposition, the characteristics of materials, and so on. Additionally, it offers more relevant architectural knowledge, for example, city walls and sites, public building types, climates, astronomy, and even machines and weapons. However, the most important contribution of the text is the first three sections of the first book: the education of architects, the fundamental principles of architecture, and the department of architecture. In these, Vitruvius defines the domain of the architectural profession and emphasizes the important skills for the architect. Regarding the principles of architecture, he says: “All these must be built with due reference to durability,

convenience, and beauty." [22] Even after two thousand years, these basic tenets of architecture are still applicable.

Later, a modern Chinese architectural scholar, Ssu-cheng Liang, published a book titled *Qing Shi Ying Zao Ze* Li (*The Structural Regulations of the Qing Dynasty*, 1932 A.D.),[23] which was based on the official construction guidelines of the Qing Court, a collection of hand-written construction guidelines, a case study of the Forbidden City, and descriptions from some old imperial construction masters. Liang was the very first architectural historian who could understand and interpret ancient Chinese architectural grammar books with the help of old architectural masters. As a Chinese architectural historian, Liang was able to differentiate the ages of old buildings. Because some project and constructions mentioned in the official construction guideline of the Qing Court still could be found, it was helpful to connect the descriptions with real projects**,** as it enabled Liang and his research team to confirm their understanding of *Ying Zao Fa Shi*.

Based on a huge survey of traditional architecture, Liang wrote teaching materials for his student**s** that turned out to be the first systematic Chinese architectural history, *The History of Chinese Architecture*. Some writings and drawings about the same subject were lost because of the Second World War and the Chinese Civil War. Fortunately, however, Liang's American friend, Wilma Fairbank, collected and published them as *Chinese Architecture – A Pictorial History* in 1984. The two books Liang wrote are the most important literature of modern Chinese architectural history. They are a bridge connecting the very limited ancient Chinese architectural knowledge and modern Chinese

[22] Vitruvius Pollio in Morris Hicky Morgan ed., *Vitruvius: The Ten Books on Architecture* (New York: Dover Publications, 1960), p.17.
[23] Ssu-cheng Liang and Wilma Fairbank, *Chinese Architecture : A Pictorial History* (Mineola, NY: Dover Publications, 2005),p. xvi.

architectural research. In other words, the books have established the first step in developing modern Chinese architectural research.

When Liang and his colleagues studied in the University of Pennsylvania, Paul Cret chaired the architectural school. He was recognized as an excellent French architect who had won many awards and done many projects. He was educated under the Beaux-Arts tradition, which was the dominant architectural school at that time. Therefore, Liang's research methodology was influenced by the Beaux-Arts tradition, as is demonstrated by Wilma Fairbank.

Wilma and her husband, John Fairbank, were close friends of Liang when they visited China from 1932 to 1936. John was famous in Chinese studies, and had established the first modern Chinese center in the United States, Harvard's Fairbank Center for East Asian Research. Wilma Fairbank was the editor of Liang's book, *Chinese Architecture –A Pictorial History*, published by MIT Press in 1984, and completed a biography of Liang and his wife, Weiyin Lin, in 1994; this was published by the University of Pennsylvania Press. In the article Wilma wrote for Liang's book titled *Liang Ssu-cheng: A Profile*, we can understand a few ideas of how Liang was influenced by the Beaux-Arts tradition:

> The curriculum at Penn, based on the Beaux-Arts tradition, was designed to produce practicing architects but was equally well suited to prepare architectural historian. Students were required to study the classical orders of Greece and Rome and the monuments of medieval and Renaissance Europe. Their skills were tested by such challenging assignments as drafting restorations of ancient ruins or completing the designs of unfinished cathedrals. A basic requirement was the development of clear and beautifully executed architectural rendering, including the necessary lettering. Liang excelled in this and later required the same high level of performance from his young coworkers and students. [24]

[24] *Ibid.*, p. xiv.

Liang applied a similar approach on his Chinese architectural survey. The books that he wrote feature delicate drawings with numerous details and descriptions, that reflect the Beaux-Arts tradition. The advantage of the books is that they help readers understand the construction and aspects of traditional Chinese architecture. Besides, Liang was eager to introduce this knowledge to Western society, as demonstrated by his inclusion of English terms for every architectural component.

Because of the very limited research material, Liang's educational background and the social structure at that time, the books do not offer much information about how to apply traditional architectural thought to modern applications, although Modernism had been the main architectural theory in Western society at that time. In addition, the books did not describe all the factors that contributed to define traditional architecture such as the societal system and philosophical thought. Consequently, later architects who learned traditional concepts from the books misunderstood the formation of traditional architecture.

It is unfair to critique Liang's contribution from a contemporary perspective, since architectural theory has evolved for eighty years since his book, and contemporary architectural scholars have developed more tools to reconsider the essence of architecture, for example, phenomenology, regionalism, modernism and post-modernism. However, it is extremely important to point out that Chinese architecture mistakenly applied Liang's survey and developed the so-called "new architecture of Chinese classical style," but did not understand the traditional architecture that formed its basis. One of the reasons for this misunderstanding is that pre-modern Chinese society did not treat architecture as Western civilization did; this phenomenon will be discussed in a later chapter.

Kao Gong Ji, or *Technology Survey* in English, the oldest Chinese classic on technology, which was written before 221 B.C.**,** is a small book about ancient Chinese technology. Most parts of the book are about how to create weapons and royal implements; however, there are two paragraphs that mention how to orient and arrange a royal city. Because the book shows the very early concept of city planning based on social structures, it is a vital classic for studying ancient Chinese architecture. Some concepts in the book *Building Standards* came from this book.

Other ancient Chinese classics, including, *Li-Ji* (*The Ritual*), *Tao-de Jin* (*Taoism*), *Lun-Yu* (*Confucian Analects*), have few descriptions of the Chinese perspective on architecture. However, while some philosophical ideas do not directly relate to architectural design, they are the basic concepts of Chinese society, and certainly influence architecture, because architecture in Chinese society relates not only to a place to live, but also to a place to practice rituals.

Yun Ye, or *Garden Design*, written in 1634 A.D. by Ji Cheng**,** is the first theoretical book to focus on Chinese garden design. The book does not just explain how to create a garden with various plants and unusual stones and design a marvelous layout, but also emphasizes the essence of garden design. Before Ji Cheng wrote the book, he was famous for his garden design. In the first two chapters of the book, he explains some basic principles of garden design; these are not only the design method, but are also artistic concepts. The two principles, “creating scenes based on the original condition of site” and “although the garden is a man-made construction, but it should look like natural sceneries,” are very basic and important ideas for conceptualizing a Chinese garden. The latter part of the book offers information on technology and design method. It describes

how to establish a site, choose materials, and organize pavement, plants, stones and water; it also demonstrates many patterns of doors, windows, and railings. The last chapter describes how to borrow scenery from surrounding areas, one of the concepts of Chinese garden that is well-known today. There are many ways to borrow scenery from others, but the essential principle is that the scenery should emphasize the viewer's emotion, which in turn strengthens the effect of the scenery.

*Cathay's Idea-design Theory of Chinese Classical Architecture***,** written by Cathay Lee in 1978**,** is one of the few pre-1980 books to attempt to demonstrate Chinese classic architecture through historical review. It established a new research methodology that was different from that of the first generation Chinese architectural historians. In the first chapter of the book, Cathay tries to define some original possibilities about why Chinese and western architecture are very different; this includes social system, cultural characteristics, and so on. Then he defines his own architectural categories in the next part of his book to develop the main statement. Except for the basic information of architectural technology and construction, which he learned from the research of other architectural historians, he offers a comprehensive explanation of the causes and historical development of classical architecture. Therefore, the book has become a seminal text for students of Chinese architecture.

In 1978, Maggie Keswick published a book titled *The Chinese Garden*[25] when the relevant material was not available to the general reader in English. Keswick's

[25] Maggie Keswick and Charles Jencks, *The Chinese Garden: History, Art & Architecture* (New York: Rizzoli, 1978).

educational background offered her a unique opportunity to study the Chinese garden.[26] The book includes abundant materials on the Chinese garden that makes the book an important reference. Regarding the same subject, Joseph Cho Wang published another book titled *The Chinese Garden* in 1998.[27] Instead of describing details, Wang defined the Chinese garden based upon its design concept, the garden as the setting for a good life, the garden as art, and the garden as an ideal. Perhaps because Wang grew up in Suzhou, a city with many Chinese gardens, his book reflects the spirit of Chinese philosophical thought and offers his audience another perspective for understanding the Chinese garden.

One recent publication on Chinese classical architecture, *Chinese Architecture*, is collaboration between an American architectural historian, Nancy S. Steinhardt, and six Chinese architectural historians, Xinian Fu, Daiheng Guo, Xujie Liu, Guxi Pan, Yun Qiao and Dazhang Sun.[28] Regarding the format of the book, Nancy Steinhardt said:

> The book is organized chronologically by dynasty, in large part to dispel once and for all the myth that Chinese architecture has not evolved over time. We also decided to maintain the traditional Chinese presentation of the topic, the one used in the Chinese version of this book and in many of the books by China's first architectural historians. This means that, to the extent material is available, each chapter includes sections on cities, palatial architecture, religious architecture, tombs, and gardens, and in some cases discussions of bridges, walls, fortifications, academies, or architectural writings.[29]

Although the format is fairly common, the book offers more background information to explain architectural development. In addition, all of the writers are experienced and important architectural historians; based on their extensive research, the

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[26] Keswick went to China with her family when she was four years old. She was educated in Shanghai, Hong Kong and in Britain (Oxford University and Architectural Association). (After the introduction of the author. Magigie Keswick, *The Chinese Garden: History, Art & Architecture*, 1978).
[27] Joseph C. Wang, *The Chinese Garden, Images of Asia* (Oxford: New York: Oxford University Press, 1998).
[28] Nancy Shatzman Steinhardt, *Chinese Architecture* (New Haven, Beijing: Yale University Press, New World Press, 2002).
[29] *Ibid.*, p. 3.

contents of the book are not only reliable, but also reflect a wider and deeper viewpoint than other books.

Because it was ceded to Japan from 1895 to 1945, after which it figured prominently in the Chinese Civil War, Taiwan has been separated from the Chinese Mainland for more than a century and has developed an alternative architectural culture. For various reasons, architectural historians in Taiwan did not have many publications focusing on Taiwan's architecture before the 1970's. Moreover, there were no books covering a wide range of architectural history until Chien-lang Lee's *Taiwan Architectural History* was published in 1979. The book was arranged chronologically**,** and Lee collected historical information to establish a very integrated reference that covered Taiwan's architectural development from 1624 to 1945. It offered a clear picture of how Taiwan's unique architecture developed because of the complicated political situation. The book provides researchers with a solid foundation to begin their own study, and even offers a chronological table that lists important events and architectural milestones so readers can see the relationship between architecture and social history.

3.2 The Literature Related to the Development of Modern Architecture in Taiwan

In 1936, Gaijiro Fujishima, a Japanese architectural historian, wrote a book titled *Architecture of Taiwan*. Fujishima visited Taiwan on April 4, 1936 and stayed for 21 days of field study. He published the book nine years later, in 1947. In the preface, he emphasizes that architecture is the product of human culture; he argues that all architecture, whether new or old**,** is equally important.

Architecture of Taiwan is divided into three parts: native architecture, Chinese architecture, and western architecture. The native architecture section, which covers the native Taiwanese, is very valuable, since those people have their own unique culture, which is totally different from the dominant Chinese culture, and which has been largely ignored in the relevant literature. Fujishima's book also offers some information on structures, materials, and space. Finally, the book describes how people used different spaces at that time and presents some case studies, which help explain architecture in Taiwan during the Japanese colonial period.

After 1949, architectural study in Taiwan basically considered the continuing experiment in modernizing Chinese traditions, since the profession was composed of experienced architects who had emigrated from the Chinese Mainland.[30] The literature of that period is concerned with how to develop modern Chinese architecture, or as it became known, the "Chinese Renaissance Style". However, some architects educated in the West revived the idea of Modernism to resolve the dilemma they met in the development of architectural style. Publication was not active in this early stage because Taiwanese society was unstable and impoverished. The main source of architectural publications was periodicals organized by professors in the universities. Five periodicals were published from 1954 to 1976[31]. Basically, the contents of these periodicals could be divided into five categories: introduction of new projects in Taiwan, introduction of new projects in the West, translation of important western architectural literature, critiques of Taiwan's architectural development, and the introduction of new architectural technology.

[30] In the Japanese Colonial period, people in Taiwan were not allowed to be educated as architects or professors, so people did not have a chance to become these professionals.
[31] *Architecture Today* published in January, 1954; *Blinds* published from 1957 to 1964; *Architecture Bimonthly Journal* published from April 1962 to April 1968; *Architecture and Planning* published from January 1969 to 1971**,** and *Environment and Form* published from April 1975 to February 1976.

These periodicals recorded what was happening in the architecture of Taiwan, the significance of western architecture to Taiwan's scholars, how architectural historians viewed modern Chinese architecture, and the expectations of these historians regarding future Chinese architecture. [32] Therefore, these periodicals are an important resource for understanding the frame work of the contemporary architectural profession from the 1950's to the 1970's. For example, the first issue of *Architecture Today*, the first architectural periodical published in Taiwan in April 1954, contains articles titled: "What is Architecture;" "Democratism, Totalitarianism and Design;" "Maxim of Organic Architecture," which was a translation of a Frank Lloyd Wright article published in a journal named *Forum* in May 1953; "Some words on New Dwelling;" "Le Modulor," which was translated from Le Corbusier's article, "The project of United Nations Educational Scientific and Cultural Organization;" and "Walter Gropius." Obviously, three-quarters of the journal was about Western architecture, and there were no articles about architects or projects in Taiwan. However, this does not mean that those editors did not pay any attention to their own architectural culture. On the contrary, they described their expectations in the preface:

> "The constant hope would bring us success and victory. We have the most resolute confidence to our unfortunate nation: we believe that she will pass all the difficulty and bring us a newborn tomorrow. The prosperous and powerful era would arrive.
>
> In the new era, we will have new life, new thoughts and new culture. No matter how rotten the old ones are, they all belong to the past. People living in the new time should create their own culture for not bringing shame on their ancestry.

[32] The Nationalist government emphasized that the Taiwanese were maintaining orthodox Chinese culture. This became the central tenet of society at that time.

> Architecture is the essence of thoughts, the production of engineering, and the clear mirror of life. Therefore, architecture is the substance to present contemporary culture.
>
> The youth working for the sacred career as us should be very careful, responsible, and not failing in accomplishing the mission. We should now work energetically and do our best.
>
> Today is the time for which we prepare ourselves. Learn. We should learn it with an open mind. Only by learning from another's contemporary accomplishments, we can develop our own for the future." [33]

We can feel the intention of these editors from this article; this is not the only one that reveals this attitude about architecture. Therefore, it is very helpful to understand the authors' feelings and intentions when reviewing the literature of this period. This reduces the chance of misunderstanding the information gleaned from the literature; also, it gives a basis for envisioning the foundation of contemporary architectural development in Taiwan. Certainly, other literature, including magazines about the social, political, and economic situation in that period enhance the perspective of that time. However, it is necessary to pay more attention to the development of architectural theory before reviewing the literature about the period before 1980. Post-modernism and other anti-modernisms were not yet accepted by the mainstream of architectural society until the 1980's and had not been introduced to Taiwan yet, so it was still heavily influenced by Modernism. Fundamentally, Modernism could not fulfill the needs of Taiwan's architects, leading to an endless debate between modernist and conservative scholars; this battle took place in the pages of Taiwan's architectural journals. However, it was an important step for architectural historians in Taiwan to establish architectural statements from their

[33] *Architecture Today*. Tainan, Taiwan: Department of Architectural Engineer, Taiwan Engineer School, 1954 (translation into English from the original Chinese text).

own perspective, so they could develop architectural thought that was representative of the region.

Pao-teh Han, a very active architectural critic and writer, published many books and articles on architecture theory since 1957. He received his Masters degrees from Harvard University in 1965 and Princeton University in 1967. He was a modernist in the 1960's; perhaps because of the academic environment he experienced in the U.S., he believed that Modernism was the solution for development in Taiwan. *Architecture, Society and Culture* collects articles published before 1975, showing his attitude and position. However, he realized that there was a basic contradiction between modernism and Chinese tradition, so he adjusted his position and focused his attention on cultural issues, as can be seen from his later articles and projects. Thus, his writing is a good resource for tracking the progression of Taiwan's architects as they struggled to find a compromise between modern architectural theory and their own culture; moreover, he shows how the new architectural theories after Modernism released this strain. In "The Question of Traditional Chinese Architecture", [34] Han attempts to explore ways of applying tradition to contemporary architectural design. He argues that Chinese tradition does not belong to contemporary society, as the Chinese lifestyle has changed. He opposed the abstract application of tradition, and did not consider simple formalisms to be a suitable answer. He concluded that it is not necessary to put too much attention on tradition; new traditions should be based on clear consideration and an acceptance of reality. However, he had a different point of view when he wrote the article "Mahayanist Architecture," which was collected in *Recent Reflections on Architecture and Culture*,

[34] Pao-teh Han, *Architecture, Society and Culture.* Taipei: Architectural Information Magazine Co., 2001. P. 53.

published by the National Museum of History in 1995. In this article, he argues that it is impossible to understand the essence of China through western rational principles; no matter what was the future direction of western architecture, Chinese architecture should follow a Chinese path. Furthermore, he admits that he made mistakes in his earlier statements on architecture, and he would have expressed other opinions if he could do it again.

This is reminiscent of Liang's statement that he regretted basing his research on the Beaux-Arts tradition. He admitted that if he had come to the U.S. a few years later, he would have learned about Modernism, and would have had another perspective on Chinese architecture. However, reviewing the development of Chinese architecture demonstrates that those "masters of architecture" had established a powerful forum so other opinions could not be heard. Arguably, this is a necessary mistake in the development of Chinese architecture; Chinese society traditionally emphasized the importance of obedience, and did not welcome challenges. Therefore, Chinese society did not have a tradition of debate. Fortunately, it has been evolving for two decades in Taiwan, although it is still not accepted as in western society.

Some architectural historians have produced valuable research on Taiwan's architectural history, making it easier to trace Taiwan's architectural development over the last sixty years. In 1983, Zeng-rong Wang finished his master's thesis, "The Research of Taiwan's Architectural Development After Regaining Possession of Lost Territory, 1945-1976," the first systemic study to establish a modernist research framework for studying Taiwan's architectural history. Basically, the thesis is arranged chronologically;

however, Zeng-rong uses many projects to explain the architects' intent and effort. He describes his attempt in the abstract of his thesis:

> "The second part concerns discussion about all stages, depending upon the concept on works as well as features in skill; stages since 1945 were defined and discussed individually according to their formation background, concept and influences." [35]

In Zeng-rong's thesis, he took a very clear position, that of the modernist, to critique previous architectural developments and describe the conflict. Realizing that he used Modernism as a filter to review the history, one can easily understand Taiwan's architectural development from this perspective. Besides, Zeng-rong is an outstanding resource to explain the architectural environment in this period, since he was a graduate student working on his thesis in this specific academic situation. With various architectural theories prevalent today, we have a better chance to review Taiwan's history from different points of view, which clarifies what Zeng-rong's thesis did not address.

A similar work was published in 1990 by *Architect* magazine, the official magazine of Taiwan's Institute of Architects. A special issue was titled "The Review of Taiwan Architecture after Regaining Possession of Lost Territory, 1945-1978".[36] In this issue, the editors made a large list of architectural projects and events, architectural publications, urban planning developments, and the basic background information of society, politics, economy and culture; it also featured some thumbnail descriptions of projects as a reference. The second part of the periodical featured interviews with twelve architects and scholars who had executed important projects or were famous for their

[35] Zeng-rong Wang, "The Research of Architectural Development of Postwar Taiwan." Tainan, Taiwan: School of Architecture, Cheng-gong University, Masters Thesis, 1983. Abstract. (translation into English from the original Chinese text)

[36] The "Regaining Possession of Lost Territory" was an important key word in Taiwan that emphasized the pride that Taiwan regained after the Japanese occupation.

contributions to architecture. Those architects/scholars described their study experience, their own commentary on their projects, how they viewed the architectural profession in society, and their expectations for the future of architectural development in Taiwan. These interviews show how Taiwan's architects devoted themselves to society and how their works have contributed to the architectural development of today's Taiwan. Those statements greatly help researchers to better understand architecture, since architecture is the result of people's life experiences and cultural phenomena.

One of the most important studies of Taiwan's modern architecture is Chao-qing Fu's 1993 book, *The New Architecture of Chinese Classical Style*. In it, he attempts to study the essence of this specific architectural style: how it happened, why it happened, and the history of its evolution. The book covers projects in both China and Taiwan from the 1900s to 1992. It not only describes the style with ample photographs, but also offers background information on politics and social circumstances. Because the research was done in the 1990's, the author does not employ the modernist perspective. Therefore, the independent entity of Chinese culture is always in his mind; he does not judge its development from a western point of view. This is aided by the fact that Chao-qing got his master's degree from the University of Washington in Seattle in 1983. While studying in the university, he accidentally found some historical documents about architectural developments in China in the 1920's and 1930's in the East Asia Library. At that time, these kinds of research materials could not be found in Taiwanese libraries because of political taboos. This discovery triggered his intention to write an architectural history to introduce modern and contemporary Chinese architectural development in China and Taiwan.

Another serendipitous aspect of Fu's education was the fact that he finished his Ph.D. at Scotland's University of Edinburgh in 1990. He learned the research methods of architectural history from Norman Johnson at the University of Washington and C.B. Wilson at the University of Edinburgh, which helped him to develop a systematic architectural history. Therefore, when he describes how to define the basic characteristics of Chinese Architecture in his book, the first category that he explains is epistemological.

A similar perspective underlies Chang's English language book, *The Tao of Architecture*, which he published in 1956, based on his doctoral dissertation at Princeton University[37]. Chang's discussion explores the *Tao Te Ching* from a spatial point of view, and is more philosophical than Fu's book, as Amos does not combine his thoughts with architectural projects as Fu did. Although Fu's *The New Architecture of Chinese Classical Style* does not constantly apply epistemology, it offers a wider perspective on the study of architecture. He later published many papers on similar topics; and a series of articles he published in *The Dragon Art Monthly* from 1994 to 1995 are relevant here. These articles, titled "The Hundred Years of Taiwan Architecture, 1895 to 1995," not only discuss Chinese classical architecture, but also list many important projects that represent specific architectural concepts in Taiwan.

In 1995, Qian-lang Lee (1949-) published a book titled *The Hundred Year of Taiwan Architecture, 1895 to 1995*. He is one of the most famous Taiwanese architecture historians, and has done much research on Taiwan's classical architecture. The book focuses on the description of architectural details and photographs rather than on architectural style, and covers a wide range of research examples. Since the book does

[37] Amos Ih Tiao Chang, "An Investigation of Intangible content in Architectonic Form Based Upon The Practicality of Laotzu's Philosophy" (Princeton: School of Architecture, Princeton University Press, Ph.D. Dissertation, 1956).

not intend to criticize architectural development, the author generally maintains neutrality while reporting his observations. This systematic organization of data and examples offers an aid to researchers seeking examples for comparisons, and provides an objective area for research.

3.3 Some Different Perspectives on Architecture from Contemporary Architectural Literature

In terms of research, architecture is a mature discipline in the West; even Japan, the most westernized country in Asia, lags far behind in terms of architectural research. Therefore, it is helpful to understand how Western architectural historians study architecture and the kinds of methods and attitudes used to analyze and do research.

There are many different theories that attempt to interpret the essence of architectural development. For instance, Kenneth Frampton emphasizes the relationship between architecture, politics, and economy; Vincent Scully address the broader relationship between nature and the man-made environment, architecture and urbanism; while Dalibor Vesely considers the representation of architecture. It would be almost impossible to compare all the different theories and points of view in a single section, although some books have tried to list many different theories together. I have no intention of comparing all architectural theories; however, for understanding the methodology and research perspective of this dissertation, it is helpful to demonstrate my interpretation of those architectural theories. This section will compare Kenneth Frampton and Leonard Benevolo's views of architectural history to distinguish how the different attitudes of architectural historians lead to different answers.

Henry-Russell Hitchcock, Vincent Scully and Bruno Zevi were all architectural historians whose contributions aided the development of the architectural history discipline, enabling their followers to build upon their work. In particular, Dalibor Vesely's description of different architecture representation is meaningful to this dissertation, especially given the fact that many Chinese architects are still confused by Classicism and Postmodernism, and are timid in their application of cultural elements such as form or spatial concepts to their projects because they do not understand their meanings.

3.3.1 Kenneth Frampton's architectural history

> …Many unbuilt works feature in this account, since for me the history of modern architecture is as much about consciousness and polemical intent as it is about buildings themselves. …The vulgarization of architecture and its progressive isolation from society have of late driven the discipline in upon itself, so that we are now confronted with the paradoxical situation in which many of the more intelligent, young members of the profession have already abandoned all ideas of realization….[38]
>
> Kenneth Frampton
> *Modern Architecture- a critical history*, 1980

Frampton composed his theory of architectural history with three main parts, a consideration of cultural developments and predisposing techniques from 1750-1939, a critical history spanning 1836-1967, and a critical assessment and extension into the present 1925-91. The first part of his book, *Modern Architecture– a critical history*, discusses three factors that influence architectural development: culture, society, and

[38] Kenneth Frampton, *Modern Architecture- a critical history*. 3d ed. (London: Thames and Hudson Ltd, 1994), p. 9, 10.

technology. Frampton clarifies the beginning of modern architecture from these three factors.

The second part of Frampton's book introduces various architectural theories, schools, masters and social situations in chronological order. On the one hand, Frampton tries to describe the development in as much detail as he can; on the other hand, Frampton uses an ironic tone to criticize the unreasonable situation caused by modern movements. Frampton is against the conventional model of modern movements and respects cultural differences. Instead, he expounds another idea, critical regionalism, to challenge the harsh process by which Modernism deals with cultural issues.

The third part of the book introduces many contemporary theories and projects. Interestingly enough, Frampton not only presents some famous projects, but also criticizes how "modern architecture" betrayed the essence of humanity. He emphasizes the decline of modern movements and the confusion of the architectural discipline, and does not hide his disappointment at the development of contemporary architecture.

The two issues that Frampton most wants to discuss are the type of materials that architects should use and the need to consistently maintain the definition of fact. Even if he did not achieve his goal for some reasons, as he admitted that he might not, he still tried to "show how a particular approach derives from socio-economic or ideological circumstances" and "restricted [him]self to formal analysis."[39] Believing in the critical theory of the Frankfurt School[40], Frampton realized the dark side of the Enlightenment, which had separated man from his own productions and the natural world.[41] He did not

[39] *Ibid*., p. 8.
[40] Frankfurt School is known for its program of a "critical theory of society" (Robert Audi, ed., *The Cambridge Dictionary of Philosophy*, Cambridge, U.K.: Cambridge University Press, 2005, p. 324.).
[41] *Ibid*, p. 9.

consider modern civilization as an absolute good for people and thought that the greatest danger facing the architectural discipline was its vulgarization and isolation from society.[42] He thought that modern architecture began with Claude Perrault's challenge of Virtruvian proportions, and the foundation of the Ecole des Ponts et Chaussees in 1747, which highlighted the spilt between engineering and architecture.[43]

3.3.2 Leonardo Benevolo's architectural history

> When one talks about modern architecture one must bear in mind the fact that it implies not only a new range of forms, but also a new way of thinking, whose consequences have not yet all been calculated. It is probable that our habits of thought and our terminology are more out of date than the object that is being talked of.[44]
>
> Leonardo Benevolo
> *History of Modern Architecture*, 1977

Because of the improvement of science and the change of social structure, people expected new living styles. Hence, new ideas of living and new applications of materials were required. Benevolo presents several social events, to explain that the birth of the Modern Movement in architecture was based on societal requirement. He begins his discussion at the middle of the eighteenth century to investigate changes of technology, social and economic factors.

Benevolo's history of Modern Architecture consists of two parts: 1) The tradition of modern architecture; and 2) The Modern Movement. In the first part of the book, he describes the physical events that changed the modern European city from 1760 to

[42] *Ibid.*, p. 10.
[43] *Ibid.*, p. 8.
[44] Leonardo Benevolo, *History of Modern Architecture* (Translated from the 3d revised Italian ed. by H.J. Landry, Cambridge, Massachusetts: MIT Press, 1996), p. xiii.

1890.[45] Specifically, it deals with technological improvements and the beginning of modern urban planning. According to him, the Industrial Revolution not only changed people's lifestyle, but it also changed people's expectation. Using new materials and more advanced technology, engineers were able to do various constructions that their precursors had never been able to do before, for example, the Eiffel Tower, built for the 1889 Universal Exhibition in Paris. In addition, Benevolo mentions the debate on the industrial town. This is a good example to show the difference between Benevolo and Frampton's perspectives. Benevolo spends a whole section to describe the development of the industrial town in contrast to Frampton's socio-economic and formal approach. However, he shows the social problems through a poet's eyes, artists' paintings and argument letters. He displays both positive and negative opinions to present his arguments. He reduces his own words to a minimum. He applies the same approach to section four, too. With this writing style and research method, he prefers to offer an objective point of view to describe architectural history.

Furthermore, Benevolo also mentions the industrial city in America. By providing more details about the development of the Chicago School, Benevolo shows many documents to describe the unique circumstances in America that explain why the American tradition was different from the European one, even though its main culture was based on the European civilization. For example, many people thought the Modern Movement (technology) and the Great Fire of 1871(social demand) were the two main factors that set the stage for the Chicago School. However, the psychological factor probably played another important role. In other words, the confidence of the American people and the will to succeed reflected on the rebuilding process of the city of Chicago.

[45] *Ibid.*, p xii.

The second part of Benevolo's book describes the beginning of the Modern Movement, and then traces the whole development of Modern architecture. Even in the conclusion chapter, Benevolo still quotes many sources to keep his "neutral" position, especially when we compare it with Frampton's book. However, the quotation below shows his personal opinion about the future of Modern architecture:

> The ideals of the modern movement, like those of the good society mentioned by Lippmann, 'fall far short of perfection, and in speaking of them we must not use superlatives. They are worldy ideals, which raise no expectations about the highest good. Quite the contrary. They are concerned with the best that is possible among mortal and finite, diverse and conflicting men'. Modern architecture does not promise a perfect world, it does not set itself up as the fulfillment of any historical prophecy; it is a hopeful attempt, but it is no guarantee of unconditional success.[46]

Table 3-1. Comparison between Frampton and Benevolo's architectural history

	Frampton, Kenneth *Modern Architecture-a critical history*	**Benevolo, Leonardo** *History of Modern Architecture*
position	subjective	attempts to be objective
tone	critical and ironic	straightforward
quotation	few quotations	many quotations
emphasis	emphasizes the characteristic of every school and architect	not much detail about schools and architects
art and urban planning	not much material about art and urban planning	included the history of art and urban planning
Social background	emphasizes social background of every school	emphasizes social background of events
perspective	prefers critical regionalism	prefers to address Western civilization at large

[46] *Ibid.*, p 835.

3.3.3 Henry-Russell Hitchcock, Vincent Scully and Bruno Zevi

This section will discuss the major contributions of Henry-Russell Hitchcock, Vincent Scully and Bruno Zevi. All these architectural historians have offered valuable opinions to help define Modern architecture. Even though I do not always agree with these architectural historians' theories, I believe they shed light for the formulation of a theoretical framework for the study of Modern architecture.

The contributions of Henry-Russell Hitchcock

In 1932, Henry-Russell Hitchcock and Philip Johnson organized the first architectural exhibition for the Museum of Modern Art in New York. The theme of this exhibition was called "The International Style: Architecture since 1922"[47], and the book sharing this title was published at the same time. In this book, Hitchcock pointed out three principles to define the International Style: 1) emphasis on volume as opposed to mess, 2) regularity as opposed to symmetry, and 3) dependence on the intrinsic elegance of materials as opposed to applied decoration.

When we examine Hitchcock's opinions with contemporary architectural thinking, it is easy to make arguments on his book. However, back in 1932, when the book was published, his suggestions were very influential and "the International Style", was universally adapted as a stylistic label, especially in developing countries looking for a way to modernize their architecture. Although Hitchcock did not invent those principles, he identified the formal characteristics found in the projects of many famous modern architects and presented them in a simple, clear, reasonable and understandable way to

[47] Henry-Russell Hitchcock and Philip Johnson, *The International Style*, 1966 ed. (New York: W. W. Norton & Company, Inc., 1966), p. vii.

help people recognize modern architecture. Since it was not complex or difficult to apply those principles to design an "International Style" building, some commercial architects in developing countries were capable of building one for their clients to prove that their region (city/country) had entered into the global society. From this aspect, the influence of the International Style was not only on the materials/physical level, but also on the psychological level.

Thus, the International Style played an important part of the development of modern society, since it became a tangible, physical expression of it. In actuality, its new appearance stimulated people to rethink the unique value of their own culture, so that they would have more confidence to cherish their own and develop their architecture with regional characteristics. From this aspect, Hitchcock's book holds an important place in the development of modern architectural history.

The contributions of Vincent Scully

In 1961, Vincent Scully published a book titled *Modern Architecture* that was based on a lecture[48] and other articles he had published before. In this book, he said: "… It does attempt to define that architecture's historical dimensions, to evaluate its meaning in terms of modern life, and to trace the major developments which have taken place in it."[49] From this book, some definitions of modern architecture were significant:

[48]" Modern Architecture: Towards a Redefinition of Style", given in January, 1957, in Detroit, at the joint meeting of the College Art Association and the Society of Architectural Historians. Vincent Scully, *Modern Architecture*, revised ed. (New York: George Braziller, Inc., 2001), p. viii.
[49]*Ibid.*, p.viii.

> Modern architecture is a product of Western civilization. It began to take shape during the later eighteenth century, with the democratic and industrial revolutions that formed the modern age. Like all architecture, it has attempted to create a special environment for human life and to image the thoughts and actions of human beings as they have wished to believe themselves to be.[50]

Scully points out two essential factors of the development of Modern architecture: the democratic and industrial revolutions. As the statement mentions, the spirit of Modern architecture was treating people as equal individuals within the spirit of democracy. These two factors offer people better conditions that they never had before to develop a new architecture. Therefore, Modern architecture is not just a new way to build, but also a new way to think.

In Scully's opinion, because Europeans believed in the process of evolutionary change itself, the so-called continuity movement, conditions in Europe were not ripe for the development of Modern architecture in the nineteenth century. Hence, the best place to escape from this situation was America:

> …And since, of all the cultural divisions of Western civilization, America was the one to which the future seemed most open and in which the sense of actual uprootedness was most strong, it was in America that the polarities *(Romantic-Classicism and Romantic-Naturalism)* were first swept away in terms of a new, continuous architectural order.[51]

In addition, Scully believes American architects' efforts should not be ignored in the developing process of the Modern Movement. He would like to remind European historians of the achievement of American architects, and celebrate America's contribution to modern architectural history. For instance, Scully not only offers his definition of Modern architecture, but also introduces Louis I. Kahn's projects that he thought were good examples to describe the spirit of Modern architecture. Since Kahn

[50] *Ibid.*, p. 10.
[51] *Ibid.*, p. 17.

(1901-1974) has been recognized as a great architect in Modern architectural history, thereafter, it showed that Scully's judgment was accurate at promoting Kahn's projects as high standards of excellence in contemporary design.[52]

The contributions of Bruno Zevi

In 1957, Bruno Zevi published a book titled *Architecture as Space: How to Look at Architecture*. As its subtitle suggests, this book attempts to offer a different perspective for understanding space, the main theme of architecture. Based on this book, Zevi argues that the "Organic Movement", as exemplified by the work of Frank Lloyd Wright, is a better concept than Functionalism to represent Modern architecture.

In 1978, Zevi published another book, *The Modern Language of Architecture*, in which he argues that the most important task of modern architectural historians was setting up the codes of the modern language for communication**,** because "…abstract theories are often an alibi for further delays…"[53] He uses a very intensive tone in his arguments, almost deliberately arousing dissent. As he writes:

> Ours is an intentionally provocative goal: to establish a series of "invariables" in the modern language of architecture, based on the most significant and challenging buildings.[54]

The invariables that Zevi mentions are: "1) listing as design methodology, 2) asymmetry and dissonance, 3) antiperspective three-dimensionality, 4) the syntax of four-dimensional decomposition, 5) cantilever, shell, and membrane structures, 6) space in

[52] "…Kahn's design enforces human recognition of an environment both meticulously realistic and heroic in itself: one which is intended to make the scientist feel not in command but both mysteriously and comprehensively challenged". *Ibid.*, p. 39.
[53] Bruno Zevi, *The Modern Language of Architecture* (translated from Italian, ed. by Ronald Strom. New York: Da Capo Press, 1994), p. 4.
[54] *Ibid.*, p. 5.

time, and 7) reintegration of building, city and landscape." Based on his observation and study, Zevi argues that these invariables comprise a modern language that opposes the classical language. His goal, then, is to form the main body of modern architecture without any confusion. Realizing that his method would be challenged, he states:

> These pages have the same goal as any other heretical act: to arouse dissent. If they provoke argument, they will have achieved their aim. Instead of talking endlessly about architecture, we shall finally begin to speak architecture.[55]

Zevi's arguments are very subjective and occasionally ironic. However, these codes are not just abstract theory. They are a valuable tool for analyzing modern architecture. In addition, it is easy to find the invariables in present architectural education and great projects, even though the invariable of asymmetry and dissonance could still be challenged.

3.3.4 Dalibor Vesely's distinction in architecture between symbolic representation and instrumental representation

In Vesely's construction, symbolic representation allows architecture to present its own meaning, including its situation, historical and societal meaning, its rules regarding how to dwell, and so forth; conversely, instrumental representation attempts to reduce architecture's meaning and uses scientific thinking to explain the existence of architecture. According to Vesely, the relation between them lies in the fact that instrumental representation was transformed from symbolic representation because of the methodology of modern science and technology. Vesely offers this explanation:

[55] *Ibid.*, p. 6.

> Symbolic and instrumental representation stand very often in conflict. While the former is reconciliatory and serves as a vehicle of participatory understanding and all-encompassing meaning, the latter is aggressive and serves as an instrument of autonomy, domination and control.[56]

In this construction, symbolic representation derives from human nature. People could not use their eyes to visualize non-existent solutions; consequently, they had to use their minds to create the answers to their problems. In the same way, they created symbols to communicate with each other and mark special events, and observed changes in celestial phenomena to foretell the future. As Gadamer states: "the symbolic does not simply point toward a meaning, but rather allows that meaning to present itself." In other words, "what is represented is itself present in the only way available to it."[57]

Instrumental representation developed later on. After Copernicus (1473-1543) claimed that the earth revolved around the sun, people began to challenge various situations that they had never previously doubted. Ultimately, of course, scientists found a new way to explain (or at least analyze) every situation. It seemed that every phenomenon could be defined with scientific reasons. Later, new technology came with scientific thinking. Gradually, God was no longer the primary solution to answer every question; scientific knowledge offered people more self-confidence (from their own consciousness) to exist in the world.

In the late eighteenth century, the early period of the Industrial Revolution, people became better able to establish new physical environments because of the progress of modern science and technology. These factors gradually changed peoples' lifestyles,

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[56] Dalibor Vesely, " Architecture and the Poetics of Representation." *Daidalos*, 25 (September 15, 1987), p. 24.
[57] Hans-Georg Gadamer, *The Relevance of the Beautiful* (Cambridge, U.K.: Cambridge University Press, 1986), p. 34.

philosophies, and beliefs; tradition became less important than function. For instance, J.N.L. Durand (1760-1834) treated function as an important architectural order without any reference to tradition. The new method of design was based on two assumptions:

> The first is that history had already run his course and come to a standstill at the end of the eighteenth century. It could therefore be transformed into a new form of understanding: into a theory which would be a recapitulation and consummation of history as well as the foundation of a new architectural order. The second, even more curious, assumption is a belief that the new order could be based upon formal principles situated outside history.[58]

Today, the dilemma that faces architects is their belief that there is a way to reconcile instrumental and symbolic representation. There is a domain in which instrumental representation cannot cover symbolic representation. The consequence of this is misunderstanding. As Vesely writes:

> The absurdity of such a belief is quite clear when we refer to an earlier tradition which understood very precisely that techne (instrumentality) must always be subordinated to poiesis (symbolic representation), because techne refers to only a small segment of reality, while poiesis refer to reality as a whole.[59]

There is no doubt that the most important influences on modern architectural development were modern science and technology. Tracking back to its origin, it becomes clear that one key element in the transformation from symbolic representation to instrumental representation is mathematics. During the fifteenth and sixteenth centuries, scientists like Kepler (1571-1630) and Newton (1643-1727) attempted to establish a

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[58] Vesely, Dalibor. "Architecture and the Conflict of Presentation". In *AA Files* #8 (Spring 1985), p. 22.
[59] Vesely has the following description at the endnote of his article "Architecture and the Conflict of Representation" in *AA Files* #8 (Spring 1985). "*Architecture and art were originally seen as a unity of techne and poiesis (techne poietike), where techne was the dimension of revelatory knowledge and poiesis the dimension of creativity and symbolic representation. During the seventeenth century, the original unity was dissolved; techne became an indendent body of instrumental (productive) knowledge and poiesis (symbolic representation) became a creation of aesthetic reality. The emancipation of techne from poiesis coincides with the origin of modern science (technology) and of modern aesthetics; both have a common ground in art understood as techne-poietike. See E. Grassi, Kunst uni Mythos (Hamburg, 1957), as well as his Die Theorie des Schonen in der Antike (Du Mont, Cologne, 1962).*"

scientific model to represent universal phenomenon. They thought mathematical principles could present a kind of universal order. As Kepler wrote:

> " The Christian knows that the mathematical principles according to which the corporeal world was to be created are coeternal with God, that God is the soul and mind in the most supernal true sense of the world, and that human souls are images of God the creator, conforming to him in essentials as well."[60]

In this period, mathematics, which contemporary thinkers regard as a scientific tool, was seen by many as natural meaning from God. Obviously, those great scientists still applied symbolic representation to explain situations. In the period from the late seventeenth to the early eighteenth century, according to Vesely, mathematics was divided to two traditional cosmologies, but at the same time, they were applied as a new way of representation and became significant for the development of modern science. For example, the Galilean scientific revolution did not define the essence of things with qualities; instead, the definition was based on their geometrical and quantitative properties. As Alberto Perez-Gomez writes**,** "Galileo meant to describe in mathematical language the relations among the diverse elements of natural phenomena."[61]

To understand how the relative simplicity of an experiment replaced the complexity of symbolic mediation, it is necessary to analyze the nature of the experiment. Modern scientific thinking views mathematics as the essence of reality; the experimental method is the result that was projected from mathematical operation. People trusted the result of experiments because they could repeat the process many times with different

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[60] Hermonices Mundi, IV. 1, in Joannis Kepleri, *Astronomi Opera Omnia*, edited by C. Frisch, p. 219, quoted in Dalibor Vesely, "Architecture and the Poetics of Representation." *Daidalos*, 25 (September 15, 1987), p. 22.

[61] Alberto Perez-Gomez, *Architecture and the Crisis of Modern Science* (Cambridge, Massachusetts: MIT Press, 1994), p.19.

methods and still get the same conclusion. Thus, the conclusion became a truth with a universal character.

This truth could be applied to different regions, with different people, languages, and histories. Because it was a "scientific" truth, it was treated as an "objective" result without any doubt. The shortcoming of this world view, of course, is that mathematics is a good tool for representing abstract phenomena and analyzing the world, but it only represents part of reality. Moreover, when people get results from experiments, they use knowledge to read it, and then the transformation factor becomes involved. Because every person comes from a different background, their perspectives are different from each other. Thus, as Kant (1724-1802) claims, it is not only the mind which conforms to things; things also conform to the mind. As Vesely writes:

> " Science is only a partial representation of reality, i.e. that it takes into account only that which is susceptible to mathematical understanding and that it is only an instrumental representation of reality and thus belongs to the essence of modern technology. In that sense symbolic and instrumental representation stand inevitably in deep conflict."[62]

By this way, Vesely reintroduces symbolic representation to contemporary design. He makes the case to recover symbolic representation that is one of the important elements of architecture today but which has been ignored since the Modern Movement.

[62] Dalibor Vesely, "Architecture and the Conflict of Presentation". In *AA Files* #8 (Spring 1985), p. 24.

4. PROBLEMS AND LIMITATION OF THE DEVELOPMENT

This chapter will broaden the scope of the research perspective to discuss the process by which architects and scholars in both Taiwan and China are looking to develop a new paradigm of modern Chinese architecture. During the process, they are confronted with numerous problems, including a misconception of Western culture, a conflicting definition of cultural self-identification, and a struggle between the Modern Movement and Chinese tradition. The development is demarcated into three phases, which will be covered in this chapter:

- The Western classical architecture approach (1928 – 1949)
- The Modernist approach (1949 – 1980)
- Post-modernism and Regionalism (1980 – present)

Architecture was not a professional discipline in China until 1928, when Ssu-cheng Liang established the first architectural school. [63] In ancient times, architectural craftsmen closely controlled architectural knowledge. They developed a unique text and symbol system to record architectural technology. Architecture could not be learned in schools, so the only way to learn it was by working with the masters. Unlike painting, poetry and calligraphy, architecture was not treated as an art, and was not respected for its artistic conception; on the contrary, architecture was solely viewed as a method to represent the owner's position, not unlike clothing or a mode of transportation. [64] Therefore, when the first generation of Chinese architects attempted to develop modern Chinese architecture, it was an extremely complex process because they had to establish the discipline from the beginning. They learned traditional architecture from three

[63] Liang was the first Chinese architectural historian who applied western research methodology to the study of architecture.
[64] A Chinese classic titled *The Ritual* records the regulations that required people to behave according to their position in the society.

resources: a few architectural grammar books, the masters who had worked for the Qing Royal Court, and field study.[65] Most of these architects and professors had studied architecture in the United States of America in the 1920s and 1930s, when architectural schools were still influenced by the Beaux-Arts tradition, which emphasized composition, ornamental details, and visual effects over function and meaning. Therefore, even though those architects claimed that they wanted to develop a new style to represent modern Chinese architecture, they did not have the resources to understand the essence of traditional and modern architecture. At the same time, China was facing a difficult transformation from a traditional society to a modern country that was challenged not only by warlords, but also by foreign countries. The unpleasant experience of the last seven decades undermined Chinese confidence in their civilization, and they began to treat tradition as unimportant symbol66. The Nationalist government at this time made an effort to strengthen their power and emphasize that they were the sole repository of Chinese orthodoxy. Consequently, the government encouraged architects to develop a specific architectural style which would place emphasis on Chinese cultural motifs.

In 2004, the Taipei Financial Center was built in Taiwan and became the highest skyscraper in the world. This building is truly unique in terms of its design concept, and shows the most recent result of the century-long quest of Taiwanese/Chinese architects to find an architectural style to represent contemporary life; this process is still going on.

[65] The last dynasty of the Chinese empire, the Qing Dynasity, collapsed in 1911 because of civic revolution which resulted in the establishment of the Republic of China.
[66] After her defeat in the Opium War in 1840, China was forced to open to western countries for trading. Chinese military strength fell behind western countries which were caught in a series of wars resulting in unequal treaties.

From 1928 to 2004, the political situation, architectural theories introduced to Chinese society,67 and lifestyles have changed; however, many Chinese architects have consistently tried to conceptualize architecture that represents the contemporary Chinese lifestyle. The process has been complex and difficult as the following discussion will show.

4.1 The Western Classical Architecture Approach: 1920's to 1949

The first phase began in the 1920's, when architecture as a profession was formally established in China. At that time, the first wave of the returning young Chinese architects, most of them educated in the West, attempted to develop a new architectural style, utilizing modern construction materials and techniques while retaining strong traditional motifs and vocabularies. Architecture thus became an important symbol to express national identity through a strong traditional style.

4.1.1 The Formation of the Chinese Architectural Discipline

The first generation of Chinese architects established the architectural discipline in the 1920's, and began a new era of modern Chinese architecture. There were three key characteristics of the architectural style in this period. First, the main construction material was not wood, but concrete. Second, the buildings were covered with colored glazed roof tiles, as in traditional architecture. Third, some traditional architectural elements, like round columns, dou-kung (bracket structures on the top of columns that

[67] Because of the complex political situation, the term "Chinese society" in this thesis means the region including Chinese Mainland and Taiwan Island. It is not from a political but from a cultural perspective.

were used to hold the roof), decorations, etc., were applied on buildings to produce the impression of Chinese architecture, even though they no longer had any function.

One of the most important architectural scholars at this time was Ssu-cheng Liang, who studied at the University of Pennsylvania from 1924 to 1927, when Paul Cret (1876-1945) was the chair of the architectural program. Cret was an excellent French architect educated under the Beaux-Arts tradition in France, which emphasized the beauty of classical traditions from the ancient Greco-Roman to the Renaissance. The education Liang and his Chinese colleagues received from Cret became a major factor in the first phase of modern Chinese architecture. In 1925, Liang's father sent him a gift from China: *Ying Zao Fa Shi* or *Building Standards*. This book, written by Li Jie in 1103 A.D., not only influenced Liang's life, but also the later development of Chinese architecture. When Jie wrote the book, it was the first Chinese architectural grammar book, and included five main subjects: explanation of terms, materials, construction, patterns, and hierarchy. It not only describes how to construct wood structures and choose materials; it also defines different architectural scales and roof types for different social classes. People were instructed to build their house according to their rank in the society. This book reflected the Chinese empire's use of symbols, including color, clothing, transportation, and architecture, as tools to limit people's behavior under Confucianism's strict feudalism. In 1928, Liang stopped his studies and went back to China because his father was seriously ill. He later established the first architectural school at the Northeast University, and an architectural firm with some of his fellow graduates from the University of Pennsylvania. However, the Japanese army invaded and occupied the three northeast provinces of China. This became an intense military conflict, so Liang left the

university, went to Beijing and worked for the Chinese Construction Academy[68]. Because of this opportunity, he began his research of Chinese architectural history with his wife and other architectural historians. They did surveying and drawing to record old temples and buildings; some of which were a thousand years old. Liang also asked older architectural craftsmen who had worked for the Qing Royal Court to help him understand the structure of royal palaces. From them, he learned the unique art of wood construction and how to read the ancient architectural grammar books filled with obscure terminology.

Upon introducing Chinese architecture to Western society, he also marked some structural drawings with English terms in his book. Liang's study was the first systematic survey of Chinese architecture with a scientific attitude; consequently, it became an important reference for architects. Liang's research procedure was an example that showed the logic of the first generation of Chinese architects at that time; especially those who had earned their Master's degrees from the University of Pennsylvania under the guidance of Paul Cret. People assumed that these architects had learned the newest and best architectural methods; the architects themselves had no doubt of it. Unfortunately, Chinese architects did not realize that the methodology of Beaux-Arts actually was losing popularity due to the impact of another architectural theory, which ultimately became the main stream of architectural style and research: Modernism. In the latter part of his life, Liang admitted that if he had learned Modernism instead of the Beaux-Arts tradition, he would have had a different perspective with which to study traditional architecture. This might have led his research in another direction, one which might have been more helpful in developing modern Chinese architecture.

[68] Chinese Construction Academy was the first organization focused on traditional architecture. The organization gathered many significant scholars and had produced many important research material.

4.1.2 Government Encouragement

The development of architectural style was not solely dominated by architects, since architecture is closely related to politics and economy. In the 1920's, the Nationalist government faced three different powers that challenged its dominion. The first one was the warlords. Theoretically, the Republic of China was established in 1911 A.D. when the Qing Empire was overthrown by the Nationalists; however, the Nationalist army was not powerful enough to dominate the whole of China; until 1930, some regions were controlled by warlords with private armies.

The second power was the Communists, who defeated the Nationalists in 1949 and established the People's Republic of China. The third power was Japan. After defeating China in the Sino-Japan war in 1894, the Japanese continually invaded China until the end of the Second World War.

The Nationalist government had a strongly vested interest in convincing the Chinese that it was the heir to Chinese orthodoxy and rightful ruler of mainland China. The government encouraged architects to develop architecture with cultural characteristics**,** especially on official buildings. On some important projects, those requirements were put in the competition guidelines, as in the case of the national competition for Dr. Sun Yat-sen's Mausoleum. Sun Yat-sen led the Nationalists to overthrow the Qing Empire in 1911 and establish the Republic of China. When he died in 1925, the Nationalist government decided to build a huge mausoleum to praise his achievements; at the same time, the government intended to use the opportunity to express its legitimacy to the people. The guidelines of the competition required architects to use traditional styles with specific memorial meaning or to base their designs on the

spirit of Chinese architecture. Unsurprisingly, the project that won the competition applied a great deal of traditional architectural elements and even put a huge seal of the Nationalist party on the ceiling. The project became an example to show how to combine Chinese traditions with Western technology. To the immature architectural discipline, the success of this project was powerful enough to convince architects to follow this style.

In 1929 when the "Proposal for a Capital" was announced, it emphasized that Taiwan's developing architectural style should follow the traditional Chinese style, particularly that of the Chinese Palace, and Chinese style decorations should be applied to buildings. [69] This style seemed to be a reasonable solution for the new Chinese architecture because of its unique form and its connection with tradition. It continued to be applied, especially to such public buildings as libraries, offices, memorial halls, and even stadiums.

4.1.3 The Problems and Limitations of the Style

Although the architectural style served political purposes successfully and became the theme to conceptualize architectural projects, it also caused many problems. For example, fake brackets were often put between roofs and walls for visual effect, but these served no structural function. Also, the architectural layout could not be organized based on functional purpose because of the limitations of the building shapes and roof types. Therefore, the space neither fulfilled the functional requirements for which they were built, nor did they reflect the spatial spirit of traditional architecture.

[69] In 1927, the Nationalist government decided to establish the capital of the Republic of China in Nanjing instead of Beijing. The preparatory committee included both Chinese and American consultants who surveyed many Western capitals and finally conceptualized a project in 1929.

Liang describes many traditional architectural elements and various building types in *The History of Chinese Architecture*[70]; unfortunately, he does not integrate them with the social systems or other background knowledge that impact the architectural style. This kind of research methodology is the foundation for architectural study, which could be found easily in the western history of architecture.[71] As a result, when architects and scholars used the material for reference, they saw only forms and construction, and did not understand the essence of the forms. Although some architects realized that style was not a suitable solution for representing modern Chinese life because of its unreasonable forms, they had no way to find another solution since they did not have a research system to study architecture. However, the style did not have stable environment to develop because of the endless war in China, and was stopped when World War II ended and the civil war began. This explains why Chinese architecture did not discover the idea of Modernism during this period**,** even though Western society had developed and practiced the new theory for many decades. The Guangzhou City Hall built in 1932 represented this conservative development during the time.

4.2 The Modernist approach: 1949 to 1980's

The second phase started in 1949, the year the Nationalists lost the civil war to the Communist party and retreated to Taiwan. My discussion here will be therefore limited to the Taiwanese development with special emphasis on the between decades 1950 and 1980. This period marked a concerted governmental propaganda effort, emphasizing the

[70] The book was not published until 1984 because of war and political reasons. However, the content of the book was spread widely as handouts in Liang's architecture history classes.
[71] In *The Ten Books on Architecture*, the first architectural theory book, written in 27 B.C., Vitruvius mentions the relationships between architecture, education, materials, climate, astronomy**,** and the military. Vitruvius, *op. cit.*.

cultural orthodoxy of the historical past while urging architects to glorify traditional architectural styles as an icon to strengthen cultural identification and national pride. At the same time, a new generation of architects and scholars, freshly returned from Western countries**,** especially the United States, brought back the vogue of the Modern Movement, and challenged the on-going officially sanctioned Modern Movement. The ensuing "confrontation" triggered an intense argument about how to reflect cultural characteristics through architecture.

Taiwan's pro-western development also had historical roots. After 1842, the year that China lost the Opium War to Britain, the Chinese recognized the supremacy of western technology and developed a "blind admiration" for things western. In addition, after the R.O.C. government withdrew from the United Nations in 1971, many countries broke diplomatic ties with Taiwan. Urbanization and modernization was a way to regain national identity and pride; westernization in architecture was a part of this movement.

Suddenly, modernist architecture became fashionable in Taiwan; it represented the image of a modern society that was efficient, wealthy, and in good taste. It offered an idealization of life that Taiwan's people envied and wanted to achieve. Many Chinese graduates from the U.S., Europe, and Japan utilized modernism on their projects and highlighted it in their teaching. As had occurred during the early period of the Modern Movement in the West, Modernism became an important representation of a hopeful new epoch. In the quest for this new ideal, many old beliefs were discarded, including traditions, ideology and national identity. The battle between Traditionalism and Modernism was unending. The mortal flaw of Modernism was its neglect of cultural characteristics, which caused architecture to lose its connection with local people;

buildings became, simply, containers. The conflict would not be resolved until the appearance of Postmodernism and Regionalism during the 1980s.

4.3 Post-modernism and Regionalism: 1980's to today

The third phase of Taiwan's architecture began in the 1980's when Post-modernism and Regionalism were introduced to Chinese society. In the torrent of economic development and modernization, architects and planners enjoyed an unprecedented opportunity in which to pursue theoretical rethinking and on-site experimentation in buildings and urban planning. The Fragrant Hill Hotel is an example that showed the new approach to China; this building will be discussed later**.** At the same time, architects in Taiwan developed a more westernized design philosophy. Consequently, a style reconciling modern construction and the age-old Chinese tradition seemed possible, and raised the hopes of many Chinese architects. Although Post-modernism and Regionalism inherited the flow of Modernism, Post-modernism attempted to reconnect the relationships between architecture, tradition, and culture. Not only providing a new method for western society to resolve the shortcomings of Modernism, Post-modernism offered a new way for architects to rectify the conflict between Traditionalism and Modernism.

In 1966, Chairman Mao Zedong launched the Great Proletarian Cultural Revolution because of serious political conflicts and the need to extend his power base in China. The movement resulted in a cultural disaster and influenced China's later development in many aspects, particularly traditional culture. The disorder lasted until the collapse of the Gang of Four in 1976; however those movements had exhausted too

much of China's energy. Consequently, it took a fairly long time to reestablish the order of society, not to mention the development of modern architecture.

The Shanghai Communiqué issued by the People's Republic of China and the United States of America in 1972 established normal relations between the two countries. The friendly environment offered a chance for the AIA (American Institute of Architects) to organize their first visit to China. One of the tour members was I. M. Pei, the eminent Chinese American architect who had earned respect because of his award-winning projects, including the East Wing of the National Art Gallery in Washington, D.C. and the Louvre addition in Paris. Pei was born in Suzhou, an historical and culturally rich town in southern China, to a great and wealthy family that owned the famous Lion Garden. Pei came to the United States to study architecture at the age of seventeen and did not return to China until his 1974 AIA trip.

In 1978, Pei accepted China's invitation to design a modern hotel in Beijing. The project, the Fragrant Hill Hotel, was finished in 1982. Pei attempted to challenge the tough problem that countless Chinese architects had tried**,** and failed**,** to overcome: combining Western technology with Chinese culture to develop a new language for Chinese modern architecture. He referred to this prospective technique as "the third way**.**" One year after the project, Pei received the Pritzker Architecture Prize, the highest honor in architecture. In his design for the hotel, differing from previous Chinese architects, Pei transformed vernacular architectural elements into modern usage. Because of his well-trained Western architectural design discipline, he did not just create a form to describe Chinese architecture; instead, he applied the spirit of Modernism to read traditional forms and garden spaces, and then translated it to the language of Modern

architecture. It was not a surprise that the project attracted attention from both Chinese and Western architects. However, because connections between China and Western society were not close, and China's unique political atmosphere did not allow total academic freedom, Pei's experiment did not have a continuing influence on the development of Chinese modern architecture.

At the same time when postmodernism emerged, Taiwan experienced a building boom. This, combined with healthy economic growth, led to an extremely robust real estate market. This became the great stage on which Post-modernist architects could draw attention to both modern architectural and traditional cultural issues. They used this opportunity to present exciting new designs. In the last two decades, many young architects who were educated in the U.S. and Europe brought back various architectural approaches; further, Taiwan's national confidence rebounded with a stronger economy and a better quality of life. This led to younger generations, who pursued architectural designs that not only represented western traditions, but also celebrated Taiwan's cultural perspective. Those projects showed the endless possibilities of Taiwan's architectural future, offering a valuable response to the problems of contemporary architectural development, especially for developing countries that are facing the challenge of globalization.


Figure 4-1. C.Y. Lee: Taipei Financial Center, 2004.

However, C.Y. Lee developed many interesting projects that represented the themes of the postmodern approach. This concept is reflected in his recent project, the Taipei Financial Center, the highest skyscraper in

the world, which aroused much attention and discussion within Taiwan's architectural society. Even though Lee's projects were treated as an interesting approach, some critics thought that his projects used tradition as a commodity to sell new architectural fashions. However, the effort that Lee has made should not be ignored since it is a necessary process for accessing future possibilities (Figure 4-1).

4.4 A Positive Thought

In the last decade, the experiment of modern Chinese architecture in both Taiwan and China has definitely made great progress. There are four key reasons to believe that modern Chinese architecture has a bright future. First, the architectural discipline is becoming less constrained by political power. In Taiwan, democracy is still not mature enough, and the two main parties are constantly fighting; however, the groups have less power to disturb the academic development of architecture. The conflict between different ideals of national identification is a short-term situation that cannot block the natural development of culture, particularly if one is to review this development through a macro historical lens. In China, obviously, the Communist government has adjusted their path of strict socialism toward Capitalism; therefore, architects can conceptualize projects with more freedom, and need not solely focus upon serving the government. The building boom with various styles in Shanghai is a good example, and confirms this movement.

The second reason that the future looks bright is the fact that new architectural and philosophical theory offers a new concept for the development of architecture. Due to its characteristics of absolutism and exclusiveness, Modernism caused much conflict on

issues relating to culture and identification. The argument between modernists and traditionalists caused architects to more carefully consider various possibilities and understand the essence of different design perspectives. Therefore, all the new theories including Postmodernism, Structuralism, Poststructuralism, Critical Regionalism, etc., can be viewed as various responses to modernism. To the Chinese architects, these theories solve the dilemma of Modernism and offer them more confidence to continue their culture-based experiments.

The third optimistic development is improvements in both the economy and the political situation. Because of these advances, people have more national confidence, which makes them believe that some part of their culture is very valuable. From past experiences of failure, such as the westernized movement in the 1920's and the great Cultural Revolution in the 1960's, the Taiwanese learned that people should not deny the value of their own cultures. Losing the roots that these cultures provide, they lose the meaning of their existence. This, in turn, leads them not to a new hope but to endless frustration.

The fourth development is that the increasing number of students studying abroad are bringing back Western knowledge, which establishes a more stable Chinese architectural discipline. The unique foundation composed of contemporary technology and solid cultural conceptions enables them to develop new ideas. As a result, Chinese architects today have become part of the mainstream of international contemporary architectural development.

5. A PROPOSITION

Several Chinese scholars have attempted to find solutions to the definition of modern Chinese architecture from the lessons of Western architectural theory. The experiment has been ongoing for nearly a century but still without a satisfactory answer. One of the main problems is the failure of pinpointing to the essence of Chinese architecture, which is not readily reflected in the buildings' forms. This research should not just focus on architectural style, as "style" is only the skin of a much deeper structure. Focusing on style would ignore or overlook parameters such as philosophy and cultural characteristics behind the facades - things that had already been pointed out by many Western scholars. However, when we reconsider those intangible factors and their meanings, some alternative, more comprehensive answers begin to appear.

At its core, Chinese architecture is the creation of places to accommodate the practice of rituals among people, society and nature. It also represents the essences of two important Chinese philosophies, Confucianism and Taoism, which have dominated the Chinese way of life throughout its dynastic periods. This chapter attempts to break through the barrier of the superficial, or "appearance studies," and reconsider the deeper structure of traditional Chinese architecture. Underlying design principles will be outlined while the political, social and philosophical structures of historical China will be discussed.

5.1 How Traditional Chinese Architecture Can Aid in The Development of Contemporary Architecture

The discussion and description in Chapter 2 demonstrates that Taiwan has had two different but strong cultural influences for more than five decades. Many architects have attempted to develop a new type of architecture that represents Taiwan's cultural characteristics and reflects the contemporary Taiwanese lifestyle. Chapter 3 addressed different approaches based on three main architectural theories.

In order to develop a new type of Taiwanese architecture, one must return to the ultimate question: what is architecture? This question has been discussed hundreds of times in Western architectural history. For example:

> There are three departments of architecture: the art of building, the making of time-pieces, and the construction of machinery. …All these must be built with due reference to durability, convenience, and beauty…[72]

Marcus Vitruvius Pollio. *The Ten Books on Architecture.*

> …to treat of architecture, as orderly and distinctly as was possible for me; I thought it would be very convenient to begin with private houses, because one ought to believe, that those first gave rise to public edifices; it being very probable, that man formerly lived by himself; but afterwards, seeing he required the assistance of other men, to obtain those things that might make him happy, (if any happiness is to be found here below) naturally sought and loved the company of other men: whereupon of several houses, villages were formed, and then of many villages, cities, and in these public places and edifices were made.
>
> And also because of all the parts of architecture there is none so necessary to mankind, nor that is oftener used than this, I shall therefore first treat of private houses, and afterwards of public edifices; and shall briefly treat of streets, bridges, piazze, prisons, basiliche (which are places of justice) xisti, palestre (which are places where men exercised themselves) of temples, theatres, amphitheatres, arches, baths, aqueducts; and lastly, of the manner of fortifying cities and seaports.[73]

Palladio Andrea. *The Four Books of Architecture.*

> You employ stone, wood and concrete, and with these materials you build houses and palaces. That is construction. Ingenuity is at work. But suddenly you touch my heart, you do me good, I am happy and I say: "This is beautiful." That is Architecture. Art enters in.[74]

Le Corbusier. *Towards A New Architecture.*

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[72] Marcus Vitruvius Pollio. *The Ten Books on Architecture.* English version, translated by Morris Hicky Morgan. (New York: Dover Publications, Inc. 1960), p. 16.
[73] Palladio Andrea. *The Four Books of Architecture*, (New York:Dover Publications, Inc. 1965), The author's preface to the readers.
[74] Le Corbusier. *Towards A New Architecture*, (New York: Dover Publications, Inc. 1986), p. 153.

> Architecture from the fifteen century to the present has been under the influence of three "fictions." Notwithstanding apparent succession of architectural styles, each with its own label-classicism, neoclassicism, romanticism, modernism, postmodernism, and so on into the future-these three fictions have persisted in one form or another for five hundred years. They are *representation*, *reason*, and *history*. Each of the fictions had an underlying purpose: representation was to embody the idea of meaning; reason was to codify the idea of truth; history was to recover the idea of timeless from the idea of change. Because of the persistence of these categories, it will be necessary to consider this period as manifesting a continuity in architectural thought. This continuous mode of thought can be referred to as the classical.[75]
>
> Peter Eisenman.
> "The End of The Classical: the End of the Beginning, the End of the End."

It is not difficult to find more definitions of Western architecture, but those considerations do not give us a definition of Chinese architecture. It is very difficult to find any information on architecture from Chinese classic literature, especially on the essence of architecture. Although some modern Chinese architectural historians have attempted to suggest their viewpoints, those opinions do not really address the unique essence of Chinese architecture. Some scholars doubted that Chinese classical architecture was unique, and some doubted its very existence. Of course, it is hard to believe that the Chinese have no architectural heritage or culture since the civilization has been developing for thousands of years. Some contemporary Western architectural historians like Joseph Needham[76] and Nancy Steinhardt[77] have even contributed research to this field. Therefore, it should be easy to confirm the existence of a Chinese architectural culture. The problem then becomes how to define it.

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[75] Peter Eisenman. "The End of The Classical: the end of the beginning, the end of the end." Perspecta 21, 1984. This article is collected in the book titled *Architecture Theory since 1968* that is edited by K. Michael Hays, (Cambridge: The MIT Press, 2000), p. 524.
[76] Joseph Needham, *Science in Traditional China: A Comparative Perspective* (Hong Kong: Chinese University Press, 1981).
[77] Nancy Steinhardt, *Chinese Traditional Architecture* (New York: China Institute in America, China House Gallery, 1984).

Though the existence of Chinese classical architecture seems obvious, the difficulty lies in defining it. One thing is certain: the role that architecture plays in Chinese society is different from that of the West. Other than sharing fundamental functional requirements, Chinese architecture encompasses very different principles than Western architecture. If Chinese architects have been looking at traditional Chinese architecture through predominantly Western lenses, it is not difficult to imagine why they have had such trouble defining their culture's classical architecture.

The development of modern architecture in Japan is a useful example for explaining, and potentially answering, the mystery of Chinese architecture. In 1872, the Japanese emperor Meiji implemented an intense revolution encompassing culture, military, politics and education. During this time, the Japanese westernized their country, as they saw this as the only way to modernize and compete with the powerful Western countries. However, the revolution was not successful, because while the Japanese could easily give up their traditions on a superficial level, their cultural philosophies could not be changed overnight. When the Japanese began to respect their own culture again, they formed a new civilization based on its own tradition, but with applied Western methodology. In other words, the Japanese absorbed a new culture to develop their future one. When Kenzo Tange (1913-2005), one of the most famous of Japan's modern architects, conceptualized the National Gymnasiums for the Tokyo Olympics in 1964, he did not think about Japanese classical architecture, but he rooted his project in Japanese philosophy. We can find this same characteristic in Tadao Ando (b. 1941), a contemporary Japanese architect who has won many international competitions in the last two decades.

Therefore, the reason for China's failure to develop an architectural style that represents their contemporary lifestyle is quite clear. As was the case in the Meiji Revolution, Chinese architects were eager to create a new architectural style to fulfill the requirements of their intensely changing society. The quick answer they found actually did not answer their own question. They learned how to use Western architecture to create Chinese architecture but never really learned what Chinese architecture is. Some researchers intended to study this issue, but most of them only discuss what Chinese architecture looks like, or how special Chinese architecture is. However, the far more important question is what kind of role Chinese architecture plays in its unique situation. What is its physical and mental function? What meaning or meanings does it represent? Why did the Chinese apply specific building forms and materials that are different from Western ones? What is the relation between people and space? These are the kinds of questions that need to be answered before architects embark on projects that aim to represent contemporary Chinese architecture today.

As it was mentioned before, the Chinese did not systematically study architecture before the 1920's, and the discipline is still young today. There are not many Chinese books dealing with Chinese classical architecture, particularly without resorting to studies written in other languages. Fortunately, Chinese philosophy, arts and customs offer clues that reflect the ways in which people's lives form the essence of architecture. Thus, a case study on Chinese classical architecture may help to examine and confirm the conclusions presented here. In addition, projects done by contemporary architects who used Chinese or Japanese cultural motifs will be used to help explain how oriental culture could be applied to improve contemporary architectural design.

Some concepts from traditional Chinese architecture can help conceptualize contemporary architecture. Basically, these concepts are from Chinese philosophy and cosmology, which differ from the Western perspective and have not attracted enough attention, especially in the architectural discipline. They could be characterized as follows:

a) a study of the relationships between man and nature, and between different people in society;

b) an acknowledgment that the meaning of space is relative, not absolute;

c) an appreciation of the beauty exposed by structural elements; and

d) a consideration of the relationship between form and essence.

5.1.1 The Relationship Between Man and Nature, and between Different People in Society

In the pre-modern Chinese society, the two major relationships in people's lives were the relationship between man and nature and the relationship between different people. The concept of the relationship between people and nature was established by Taoism,[78] which influenced Chinese philosophy for thousands of years. The relationship between different people was defined by Confucianism, which focused on standards of behavior. The next two sections will explain the both relationships and their influence on architecture.

[78] Before *Tao Te Ching*, there was another Chinese classic titled *Yi Jing* (*The Scripture of Divination*), written about 1180 B.C.. The book recorded the original concept of Chinese philosophy, the meaning of Yin and Yang (positive element and negative element), and was called "The first book of all classics." The content is very difficult to understand because of the writing style. However, it greatly influenced Taoism and Confucianism.

Man and Nature

In Western society, the concept of God played an important role in social evolution. The relationship between God and man established a solid, fundamental base that influenced culture, social structure, and influenced architectural concepts. The description from the chapter one of Genesis in the Bible explains this relationship:

> Then God said, "Let us make man in our image, in our likeness, and let them rule over the fish of the sea and the birds of the air, over the livestock, over all the earth, and over all the creatures that move along the ground."
>
> So God created man in his own image, in the image of God he created him; male and female he created them
>
> God blessed them and said to them, "Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish of the sea and the birds of the air and over every living creature that moves on the ground."

In the fifteenth and sixteenth centuries, religious evolution and the Renaissance changed the relationship between God and man. Humanist philosophers declared the noble value of man from the philosophical and theological point of view. However, this did not mean that the existence of man had nothing to do with God. On the contrary, these philosophers argued that man is the most noble and respectable creature that God had created in the world (Figure 5-1). Therefore, even though man was the main theme of the Renaissance, God, actually, was the real reason people celebrated. Eventually, however,

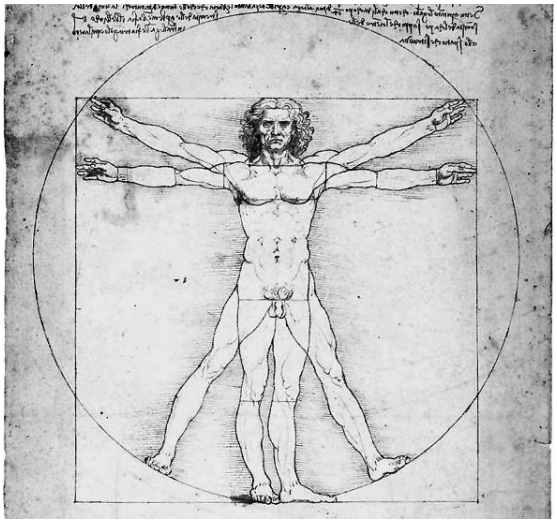


Figure 5-1. The Vitruvian Man, Leonardi da Vinci, c. 1492.

people moved their attention from God to themselves, particularly after the Industrial Revolution, when they had more confidence in their own abilities. Modern science has since answered people's fears of illness and natural disasters, making it easier to challenge the existence of God. When Friedrich Nietzsche (1844-1900) declared "God is dead, God remains dead. And we have killed him,"[79] he meant that rationalism and modern science had destroyed people's belief in God. Although far from being universally accepted, Nietzsche's idea had a decisive impact on Western modern society.

Based on the idea of classical Chinese philosophy and religion, the highest authority, which dominates the world is Tien (Heaven). Tien represents the original essence of all creation. The concept of Tien in Chinese society is different from that of God in Western society (Figure 5-2). Tien is not a god, but a force or a truth that dominates the world. The force follows specific rules; for example, the balance of Yin (negative factor) and Yang (the positive factor) is constant. All the natural phenomena are the result of the circulation of the force. Therefore, it is important to know the rules and

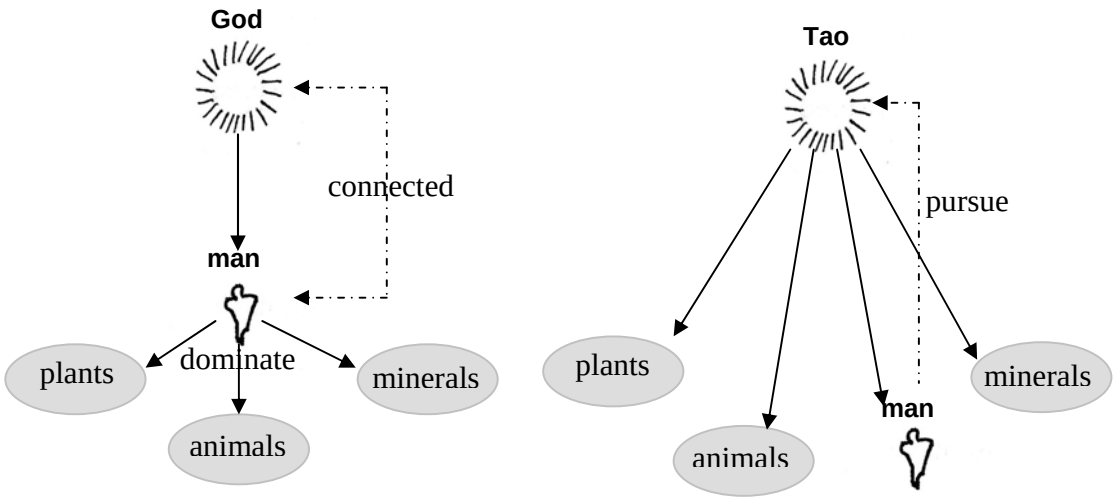


Figure 5-2. Relationship between God and man; relationship between Tao and man.

[79] Karsten Harries, *Infinity and Perspective*. Cambridge, Mass.: The MIT Press, 2001. p. 11.

follow them. However, the Chinese have a general idea of gods. In the Chinese cosmology, gods are the executors of Tien. Both Taoism and Confucianism are based on this fundamental philosophy. In Taoism, Tien is called “Tao.”

Consequently, Chinese philosophers consider that man is just one of many creatures in the world, even though he has spirituality, which makes him different from other creatures. Since the Tao is the invisible force that rules the world and man has no recourse against it, Chinese philosophers have paid a great deal of attention to divining the Tao. If a man could catch the rhythm and follow the truth, then he could discipline himself, and become a person of noble characteristics and integrity. That is the highest honor a man can achieve in Chinese society; wealth is irrelevant.

The relationship between man and the world/cosmos exists naturally from the moment people are born, and the Chinese believe that people should learn how to deal with all the situations of nature and try to find a way to survive without destroying nature. If people do not follow the rhythm of nature and try to oppose it, disaster will result. It is like a man hitting a punching bag; the more he puts his strength on it, the heavier it will swing back.

According to Chinese philosophy, the word “nature” here does not just mean physical environment, but also represents the circulation of the whole cosmos**.** As verse 25 of Lao Tzu’s *Tao Te Ching*, written about 600 BC, states:

I do not know its name.
I call it Tao,
and if I must describe it, it is vast.

Vast means it's passing beyond, passing beyond means it's gone far away,
And gone far away means it's come back.
Because Tao is vast
The sky is vast,
Earth is vast,
and the human being too is vast.
In this realm, there are four vast things,
And the human being is one of them.

Human abides by earth.
Earth abides by the sky.
The sky abides by Tao.
Tao abides by nature.[80]

When this idea is taken as a design concept for developing a project, it is possible to make a building that reminds people about their roles in the world. For example, a house could become a place for showing how people live a unique lifestyle based upon their spirituality. This space could show them that , although they are different from other creatures, their essence of living is the same, as all beings try to construct spaces to fit their needs. Therefore, the house represents not just a space to live, but a place to dwell. In other words, the house just fulfills the very basic requirement of man's needs, as do the dwelling areas of other creatures.

The other situations offered by the house, for example, cozy feelings or its spiritual sense, are the essence that convert it from a house to a home. Therefore, the elements to establish the concept of a building are not just its function; added to this is

[80] English Translations were quoted from three books:
1. Ralph Alan Dale, *Tao Te Ching: A New Translation & Commentary* (New York: Barnes & Noble, Inc., 2002.) p. 51.
2. David Hinton, *Tao Te Ching* (Washington, D. C.: Counterpoint, 2000).
3. Moss Roberts, *Dao De Jing* (Berkeley: University of California Press, 2001).

However, the author of this dissertation has changed some words to fit its original meaning better.

the building's atmosphere, which creates a unique feeling that touches the hearts of the people inside.

Because their world concepts are very different, the basic philosophies of China and the West also vary greatly; so do their architectural ideas. Therefore, it is vital to consider the phenomena represented by architecture itself**,** especially on different cultures, the ontology of Chinese philosophy in this case, and interpret them from different perspective based on their own philosophies.

The concept of living with nature has existed in Chinese society for thousands of years, and it fits nicely with the idea of environmental protection that many architects currently emphasize. Actually, even the concept of architecture as a physical environment does not cover all the aspects of Taoist thought. As verse 42 of *Tao Te Ching* says:

> Tao gave birth to one,
> And one gave birth to two.
> Two gave birth to three,
> And three gave birth to all creatures.
> All creatures shouldered "yin" and "yang",
> Blending them to be "chi" to establish harmony.[81]

The verse explains how the Tao created the world. Tao is the fundamental truth of the world, so it produced matter. The matter divided into two forces: Ying (negative) and Yang (positive). The Ying force met the Yang force and created harmony. The two forces kept interacting and created everything in the world. Therefore, every creation implies both the Ying force and the Yang force, and the blend of these two produces a harmonic atmosphere to nourish all creation.

This description explains how the world operates with Ying and Yang, and presents the fundamental idea of Chinese classical philosophy. Although other Chinese

[81] *Ibid.,* p. 85.

philosophers developed different theories later, the concept of Ying and Yang is still the central thought of Chinese philosophy. Consequently, people try to make their lives follow the rhythm of the circle of nature. Then, of course, the places in which people dwell are important areas to represent this thought. Buildings should be built with full respect for the world. The building is a place to harmonize all the situations that the inhabitants believe will bring them happiness.

Even though the basic intention is different, the concept of representing a place to dwell is similar to Martin Heidegger's description about fourfold in his article "Building, Dwelling, Thinking":

> This simple oneness of the four we call the fourfold (earth, sky, divinities and mortals). Mortals are in the fourfold by dwelling. But the basic character of dwelling is to spare, to preserve. Mortals dwell in the way they preserve the fourfold in its essential being, its presencing. Accordingly, the preserving that dwells is fourfold.
>
> Mortals dwell in that they save the earth – taking the word in the old sense still known to Lessing. Saving does not only snatch something from a danger. To save really means to set something free into its own presencing. To save the earth is more than to exploit it or even wear it out. Saving the earth does not master the earth and does not subjugate it, which is merely one step from spoliation.
>
> Mortals dwell in that they receive the sky as sky…
>
> Mortals dwell in that they await the divinities as divinities…
>
> Mortals dwell in that they initiate their own nature…
>
> In saving the earth, in receiving the sky, in awaiting the divinities, in initiating mortals, dwelling occurs as the fourfold preservation of the fourfold.[82]

[82] Martin Heidegger, *Poetry, Language, Thought*. Translated by Albert Hofstadter (New York: Perennial Classics. 2001), p 148.

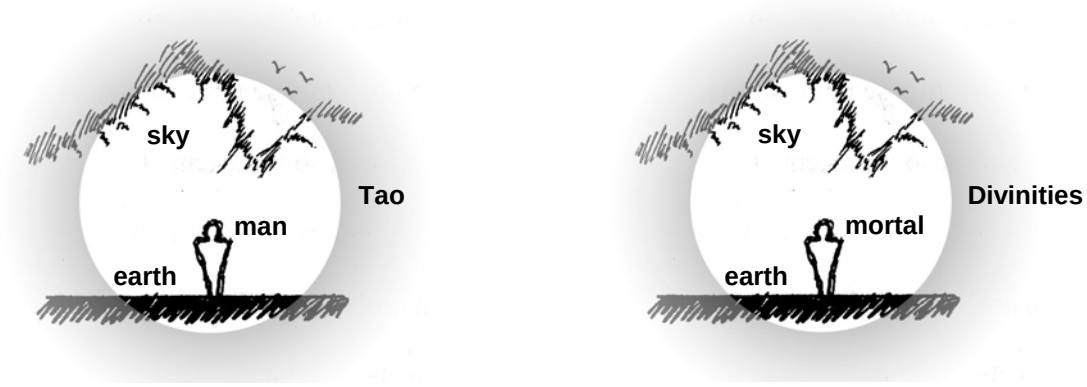


Figure 5-3. Concept diagram of Tao and Fourfold.

In this article, Heidegger carefully interprets how the relationship between mortals and space is established by dwelling (Figure 5-3). He attempts to remind people of the importance of developing a place to dwell based on building and thinking. Therefore, Heidegger offers an example to demonstrate how the fourfold could happen. Interesting enough, it also explains how the Tao can happen in a dwelling:

> …Let us think of a while of a farmhouse in the Black Forest, which was built some two hundred years ago by the dwelling of peasants. Here the self sufficiency of the power to let earth and heaven, divinities and mortals enter in simple oneness into things, ordered the house. It placed the farm on the wind-sheltered mountain slope looking south, among the meadows close to the spring. It gave it the wide overhanging shingle roof whose proper slope bears up under the burden of snow, and which, reaching deep down, shields the chambers against the storms of the long winter nights. It did not forget the altar corner behind the community table; it made room in its chamber for the hallowed places of childbed and the "tree of the dead"- for that is what they call a coffin there: the *Totenbaum*-and in this way it designed for the different generations under one roof the character of their journey through time. A craft which, itself sprung from dwelling, still uses its tools and frames as things, built the farmhouse.
>
> Only if we are capable of dwelling, only then can we build. Our reference to the Black Forest farm in no way means that we should or could go back to building such houses; rather, it illustrates by a dwelling that has been how it was able to build.[83]

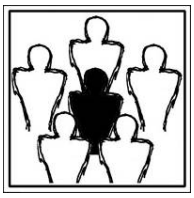
[83] *Ibid.*, p 157.

Heidegger is right. In contemporary society, with all its modernizations, it is unnecessary to build the old type of house; contemporary lifestyles and their physical and spiritual requirements are different from those of our ancestors. However, some invisible and unspeakable factors still touch the deepest part of the human heart and create satisfaction. These factors span time and space, and are rooted in the deepest part of every living human. These factors have been presented differently in different cultures, which could confirm the comparison between Lao Tzu and Heidegger's descriptions.

Some contemporary architects know how to apply this sort of concept to develop projects successfully. For instance, Tadao Ando, the contemporary Japanese architect famous for the quality spaces he creates, has done some projects that show the concept of Tao or fourfold that is helpful to explain this abstract thought, and demonstrate how this conception could be applied to contemporary architecture. Ando designed the Church on the Water, built at Hokkaido, Japan in 1988. The shape of the church is very simple; a big square overlaps a small square and an L-shaped wall defines the main path that leads people from the entrance to the main chapel. The wall behind the altar is composed of glass, which can be slid aside. A square artificial lake behind the glass wall completes a natural scene, so that the view provides a magnificent background to the altar. Consequently, when people worship in the church, they not only read God's words from the Bible or listen to God's message from the priest, but also feel the amazing power of God creating nature. This inspiring place is composed of sky, earth, people (mortals) and divinities (Tao), all of which make this church a successful project even though it does not have delicate decorations or a monumental scale. Clearly, Ando treated nature as an important factor to construct the sacred atmosphere of the place. As he said:

> …The glass frames the blue sky and allows one to look up the zenith. Natural light pervades the space, impressing on the visitor the solemnity of the occasion. From there one descends a curving, darkened stairway leading to the chapel. The pond is spread before one's eyes, and on the water is a cross. A single line divides earth and heaven, the profane and the sacred. The glazed side of the chapel facing the pond can be entirely opened, and one can come into direct contact with nature. Rustling leaves, the sound of water, and the songs of birds can be heard. These natural sounds emphasized the general silence. Becoming integrated with nature, one confronts oneself. The framed landscape changes in appearance from moment to moment.[84]

Relationships Among People in Society



In traditional Chinese society, the relationships among people are very different than those of Western society; this can be seen in the philosophies of the two cultures. Generally speaking, Western philosophy focuses on the definition of truth, and most of its questions are about the existence of human beings. These kinds of philosophical debates constructed the main theme of Western social development. On the other hand, Chinese philosophers take the existence of human beings for granted. Therefore, man exists in the world as a natural phenomenon just as other creatures do. Chinese philosophers put more emphasis on how a man should behave nobly, as people have spirituality, thus separating them from other creatures. While Taoism provided abstract concepts to explain the phenomenon, Confucianism defined the domain with an embodied method. The central concept of Confucianism is benevolence: Be kind to all people and creatures. The Confucianists used another Chinese classical work titled *Li Ji* (*The Ritual*) to establish a system for the practice of benevolence. The fundamental idea was the "Five Ethics (Figure 5-4)." The

[84] Francesco Dal Co and Tadao Ando, *Tadao Ando: Complete Works* (London: Phaidon Press Limited, 1995), p. 455.

Five Ethics included the relationships between sovereign and courtier, father and son, husband and wife, elder and young brothers, and friends. According to Confucianism, the ultimate truth of the world (or "Tao" in Taoism) exists in both the natural world and human nature, and it is not easy to know. Therefore, the ritual and law should be formed so that people can have a standard to follow. The ritual was created up by sages, and the law was drawn up by the emperor. The ritual had a wider application than the law, and the law was based on ritual. To be a member of society, one had to, at a minimum, follow the law. However, it was even more important to practice ritual appropriately in daily life.

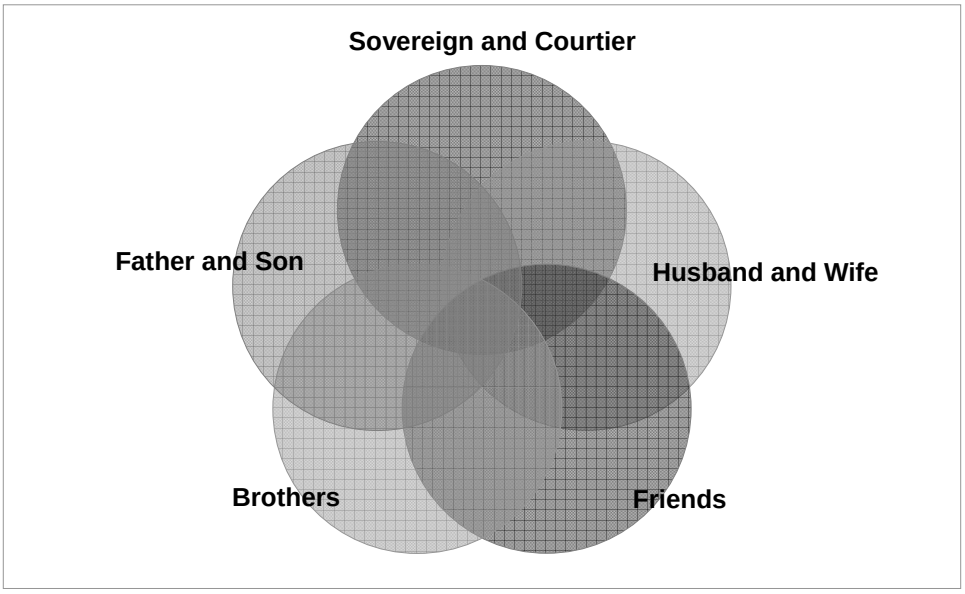


Figure 5-4. The Five Ethics: relationships among people in pre-modern Chinese society.

Since everyone's behavior should follow those teachings, it is not surprising that Chinese society strictly regulated people's costumes, vehicles**,** and architecture. Naturally, architecture became an important place to practice ritual; therefore, lots of architectural space**s** and details were designed to fulfill this requirement. For example, the roof type of Chinese classical architecture depends on the ritual system. Xu Dian, Xie Shan, Xuan

Shan**,** and Ying Shan represent the different roof types, ranging in order from the higher to the lower position in this social system. In addition, the double-level roof further enhances the social position of the building's inhabitants. Therefore, the double-eave Xu Dian represents the highest level of roof that was applied on royal buildings, and the Xuan Shan and Ying Shan were applied to other residential buildings.

To follow the regulations of ritual, architectural spaces had to be considered carefully. Before providing examples to explain the influence of ritual, it is necessary to quote some descriptions from Confucianism to demonstrate its standards for people's behaviors. The chapter "Ji Yi" (the meaning of worship) of Li Ji described:

> Zeng Zi[85] said: "The filial piety could be divided as three levels: honor parents is the best; not hurt parent's reputation is the next level; fulfill parent's material life is just the basic requirement."
>
> Zeng Zi said: "Our body is from parents. When we behave with the body from our parents, how we can not pay respect. It is not filial piety if we are not solemn in daily life; it is not filial piety if we work for country without loyalty; it is not filial piety if we are a government official but do not work well, it is not filial piety if we do not keep our words to friends; it is not filial piety if we do not brave in battle field. If we did not fulfill these five basic requirements, we will not only be penalized by law, but hurt parents' reputation. How could we not take them seriously?"

Confucianism emphasized the importance of filial piety, and considered it as the fundamental virtue of society. Obviously, this virtue did not just exist between a person and his or her parents; it extended to every aspect of personal behavior. Therefore, it was not just an obligation, but an internal basis of the culture's philosophy. The theoretical system delicately converted the task of parents from obligation or natural instinct into a situation that benefited the parents. The achievements of their children honored them,

[85] According to Confucianism, Zeng Zi was one of Confucius's apprentices who was famous for filial piety.

encouraging parents to create better chances for their offspring. There are thousands of examples of parents devoting their whole lives for the benefit of their children. Consequently, it is not difficult to understand why Confucianism put so much attention on filial piety.

Although Taiwan has been modernized for more than a hundred years and the Chinese went through the Grand Cultural Revolution, filial piety is still one of the most respected values in Chinese and Taiwanese societies today.

Examining the unique construction of the traditional Chinese family, makes it easier to understand the layout and arrangement of living spaces in traditional Chinese buildings. Establishing the relationship between Chinese philosophy and the Chinese style of living makes it possible to compare Chinese classical architecture with the development of modern architecture, as discussed in Chapter 3, and modern styles of living.

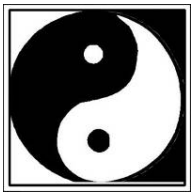
It is safe to say that, even though people do not use the ritual system today, it is still valuable for considering the relationship between different individuals in society to conceptualize a place. Space is not just functional; it is also a place to enhance spiritual relations among people, including many activities and types of communication.

In today's democratic era, every person should be fully respected as an individual societal unit. The strongest relationships are in small families, or perhaps among working colleagues. The relationships between people now are different from those in traditional society**.**

With this democratized view of the individual in society, it is more difficult to find a clear hierarchical order in the public spaces that contemporary architects have

created than in that of a traditional village built by its inhabitants. This does not mean that planners and architects today do not pay attention to this issue; on the contrary, they intend to create good communities. The problem is how they consider the relations between people and how well they understand this relationship.

5.1.2 The Meaning of Space Is Relative, Not Absolute



Relativity is the basic spirit of Chinese philosophy, which dominates the entire culture and tradition. The Tai-chi pattern represents the main principle. The boundary between black and white is not straight. The black area is moving toward the white area, and the white area is moving toward the black area. It is not an active but a quiescent balance. Additionally, there is a white spot in the black area, and a black spot in the white area. So the black area is not just filled with black and the white area is not just filled with white. This is a representation of the relativity of all situations in the cosmos. These situations do not exist absolutely by themselves; they keep in active balance. The meaning of existence is not produced on its own, but by its relative part. Because of the existence of night, the existence of day is meaningful; because of the existence of evil, the existence of good is meaningful; because of the existence of female, the existence of male is meaningful, and so on. Therefore, because every situation is not absolute, we cannot fathom the truth from itself. Truth exists in the interactive relationship between the thing and its relative phenomena. Verse 11 of *Tao Te Ching* states:

> We join thirty spokes to the hub of a wheel, yet it's the center hole that drives the chariot.
>
> We shape clay to birth a vessel, yet it's the hollow within that makes it useful.
>
> We chisel doors and windows to construct a room, yet it's the inner space that makes it livable.
>
> Thus do we create what is to use what is not.[86]

The meaning of this verse is that to make things work, it is not the matter, but the space created by the matter that is most important. A room is not a room if doors and windows do not surround a space; a cup is not a cup if the clay does not encompass the hollow. So the existence of the room and the cup is not in the doors and the clay, but into existence of the space within.

Interestingly enough, Martin Heidegger had a similar description of the relationship between meaning and matter in his article "The Thing" He took a jug as an example.

> What is a jug? We say: a vessel, something of the kind that holds something else within it. The jug's holding is done by its base and sides…
>
> The jug is a thing as a vessel-it can hold something. To be sure, this container has to be made. But its being made by the potter in no way constitutes what is peculiar and proper to the jug insofar as it is *qua* jug. The jug is not a vessel because it was made; rather, the jug had to be made because it is this holding jug.
>
> …We become aware of the vessel's holding nature when we fill the jug. The jug's bottom and sides obviously take on the task of holding. But not so fast! When we fill the jug with wine, do we pour the wine into the sides and bottom? At most, we pour the wine between the sides and over the bottom. Sides and bottoms are, to be sure, what is impermeable in the vessel. But what is impermeable is not yet what does the vessel's holding. When we fill the jug, the pouring that fills it flows into the

[86] Lao Tzu, *Tao Te Ching*. Translated from Chinese by Ralph Alan Dale (New York: Barnes & Noble, Inc., 2004), p. 23.

> empty jug. The emptiness, the void, is what does the vessel's holding. The empty space, this nothing of the jug, is what the jug is as the holding vessel.[87]

Heidegger's demonstration does not just stop here; he continues to explain how the liquid is filled in the void and served to mortals. Consequently, when the people drink the liquid, the fourfold is fulfilled, giving the jug its meaning as a thing. Heidegger argues that the existence of an object stems from its meaning. The existence of the object is not defined by itself, similar to the idea that Lao Tzu mentioned.

The spirit of relative relationships helps illustrate how Chinese classical architecture is organized and conceptualized. The space of Chinese architecture does not just exist functionally or by its own characteristics, but is defined by the other spaces around it. A four-sided courtyard house is a good example to explain this. Basically, the house is composed of four buildings that are arranged on the four sides of the site to enclose a courtyard, and the shape of all the spaces is rectangular. However, the function and the essence of every room is defined by its location; in other words, *where* it is arranged in the building group. Therefore, the room does not have its own characteristics until it is arranged in the building group. The characteristics of the room are defined by how it is related to other units. If it is on the north side and faces south, and another two units are located on its left and right sides, the unit becomes the main hall and is occupied by the master of the family. The left unit is for the first-born son; and the right unit is for the younger one. The unit set opposite the main hall is the entrance and servant's room. The entire layout of the house follows the regulation of ritual, which reflects the corresponding relationships of the people in the family. The form of the main hall roof

[87] Martin Heidegger, *Poetry, Language, Thought*. Translated by Albert Hofstadter (New York: Perennial Classics. 2001), p 166.

reflects the social position of the owner (the position is formed by comparing him to other people in the society).

The courtyard is an outside space for the people living in the house; however, it is an inside space for the pedestrians passing the house. The main hall and the courtyard play a role similar to that of the living room in Western architecture. They are the space in which family members meet, educate children, worship ancestors, or receive guests. Therefore, the courtyard is an outside space *physically*, but an inside space *mentally*. The corridors between courtyard and rooms are semi-open spaces. They are outside spaces to the room, but inside spaces to the courtyard.

The Chinese garden is another representation of the philosophy of relative relationships. The buildings in the garden are not just places from which to see views; the buildings themselves are the views from the garden. The stones, pools, plants, and walls are arranged to offer views from different directions. The pavilion (pronounced as “stop” in Chinese, meaning the place to stop) is a spot to enjoy views; simultaneously, the people in the pavilion become a view to others. In addition, a relative relationship between a man-made environment and nature exists in a Chinese garden.

The garden is an artificial product**,** simulating natural scenery. Garden masters design and organize all the artificial and natural elements to compose a natural-looking environment. The artificial elements, such as pavilions, corridors, and stone pavement, define the path for man’s activity, and are surrounded by natural elements, such as plants, water, and rocks. The natural elements create natural scenery for man to view. Consequently, these artificial objects control the physical activity; at the same time, the natural objects control the mental consciousness. Both factors compose the artistic

conception, providing a surreal experience to the traveler. Finally, the artificial nature exists outdoors, surrounded by other natural elements, such as the sun, clouds, rain, and wind. The artificial "nature" mixes with the real nature to intensify the impression of reality, raising it to a level that does not exist in the real world. Thus, the relative relationship produces an illusion that satisfies all the senses, both physical and mental.

The relative relationship can be a rich resource for architects; and it exists everywhere. It needs to be discovered and defined carefully and sensitively. Some contemporary architects, like I .M. Pei and Tadao Ando have excelled at using this design concept, creating wonderful spatial experiences.

I. M. Pei is a famous Chinese-born American architect who has won countless awards on his projects. A student of the important Modernism master, Walter Gropius, in the Harvard Graduate School of Design in 1946, Pei is among the most prolific and successful contemporary architects. He was born to a distinguished family in Suzhou, China, in 1917. At that time, the city had yet to modernize, and was in the same shape that it had occupied for thousands of years. A prominent family in this city, Pei's family owned a famous garden named Shi Zi Lin, "Lionforest Garden", where Pei spent many summers among his cousins.[88] Although he left for the United States to study architecture at his age of seventeen, the intensive cultural phenomenon of his childhood experience followed him and was expressed in some of his projects. He admitted and realized the influence in the book *Conversations with I. M. Pei*:

[88] Gero von Boehm, *Conversations with I.M. Pei* (New York: Prestel Verlag. 2000), p. 18.

Von Boehm: When one looks at the perspectives, at the atriums and courtyards in the garden of your childhood and at the family palace in this garden, the early influence becomes quite clear. To me it is obvious.

Pei: I was not aware that I learned anything from my experiences in Suzhou until much later. When I think about it in retrospect I must say that, yes, it did have an influence on my work. It made me aware of the complimentary of man and nature, not of just nature along. Somehow, the hand of man joined with nature becomes the essence of creativity. The gardens of Suzhou taught me that lesson...Most importantly, I learned about the meaning of family, its cohesiveness, and its history.

Von Boehm: Are they (meaning of family, its cohesiveness, and its history) important to you?

…

Pei: It does affect my philosophy of life, relationships with people. I am much more sensitive to that than if I hadn't been to Suzhou because that is an old world…an old society where people treat each other with thoughtfulness and respect. The relationships between people were much more important in one's daily life in Suzhou then. And that's what life is all about-don't you think so? I have come to appreciate the important relationships between life and architecture.[89]

In this interview, Pei points out two important concepts from the previous discussion: the relationship between nature and people, and the relationship between men; together, these concepts influence the relationship between life and architecture. Pei admitted that he had not realized the relationships until much later, so it is reasonable to assume that he did not consider the concept when he designed the East Wing of the National Art Gallery in Washington DC in 1968-78 (Figure 5-5). Consequently, it is interesting to note how the cultural elements might have been subconsciously at work in his design.

[89] *Ibid.*, p. 19.

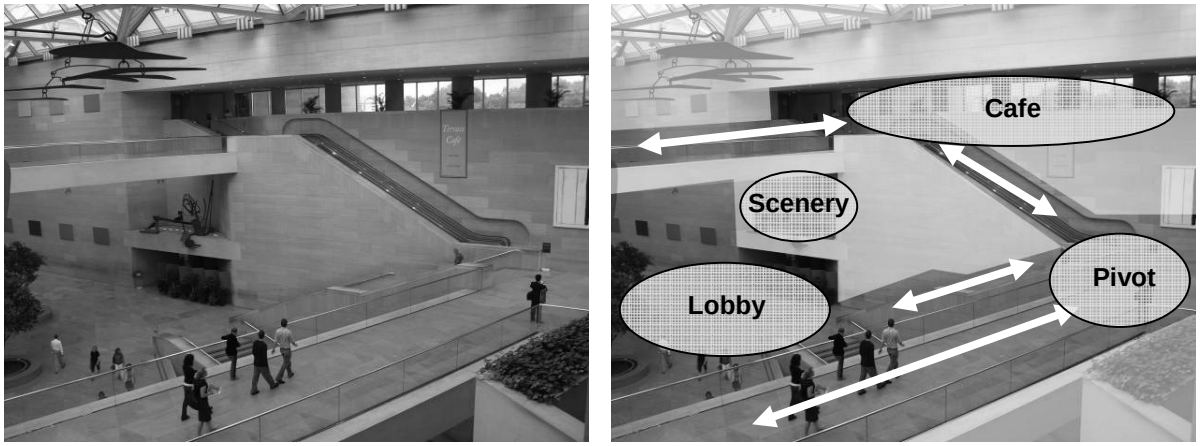
In the project of the East Wing of the National Art Gallery, Pei used many ideas to present the corresponding relationship (Figure 5-5). He used similar constructional materials and color schemes to those of the West Wing of 1938-1941 but different forms to establish a meaningful dialogue between the new and old galleries. About this relationship, Pei said:

Figure 5-5. National Gallery of Art. Washington, D.C.:
(a) West Wing by John Russell Pope, 1938-1941;
(b) East Wing by I. M. Pei, 1968-1978.

> The building had to relate to the other public building whose ensemble was first planned by L'Enfant in 1789 and elaborated by McMillan in 1900.I felt that the new building needed to relate to the existing ensemble, especially to the West Wing by John Russell Pope. This is not unlike relationships among people in community. Equally important, to my mind, it had to be an architecture of its time. Maybe it is the Chinese in me to give such deference to harmony: it is due to a belief that this is a place where the whole is greater than its parts.[90]

Surrounding the main entrance hall, the corridors, stairs, escalator, and the bridge are places from which to get wonderful views, and at the same time, the people and those elements become part of the views, making the space a very interesting and active place, reminiscent of a Chinese garden (Figure 5-6).

[90] *Ibid.*, p. 63.



(a) (b)

Figure 5-6. National Art Gallery, East Wing interior.
(a) Lobby.
(b) Activities analysis.

The East Wing is not Pei's only project to express this relationship. His addition to the Louvre in Paris of 1983-1989 is another example of this design concept:

> Von Boehm: For me, now that the pyramid is there, I understand the Louvre and the architecture of it much better because I see the contact.
>
> Pei: Part of the intention is exactly that. I am very pleased that you made such an observation. I decided that it had to be a symbol. The Louvre is now a museum, and no longer a palace for the kings of France. It is a museum for the "grand public," as the French would say.[91]

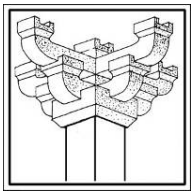
The relationship between the glass pyramid and the old palace form a fascinating visual effect on architectural contact; however, this juxtaposition was developed from the contact between the different users of the Louvre: the kings of France who commission the historic building across the centuries and today's general public. Therefore, the glass pyramid strengthens the modern function and formal characteristics of Louvre; at the same time, the old palace maintains its historical background and cultural meaning. These two elements respect the existence of their opposites and help each other to form a new

[91] *Ibid.*, p. 84.

harmony that represents the connection between contemporary and classical France; this is why the Louvre is a successful project.

As these buildings show, the corresponding relation can be a useful concept to develop architectural design. Spaces need to be designed not only for their own function (physical and mental), but must also be considered in relation to other spaces. When this relationship is established, a space has the potential becoming a *place*.

5.1.3 The Beauty Exposed By Structural Elements



Generally speaking, Chinese classical architecture could be divided into three main components: platform, timber frame, and roof. The space formed by the structure could be a hall, a temple, a pavilion, a bedroom, or a royal palace. The different functions of these spaces are defined by their scale, furniture, and decoration. Therefore, some of the spaces could be converted to other spaces for different functions. The timber structure is the main dynamic structure to support the roof; therefore, all the walls exist solely for the function of partition. In some cases, even if the walls collapsed because of natural disasters, the timber structure still held the roof without any problem. In addition, the flexibility of the timber structure protected it against earthquakes or typhoons. The roof is covered with tiles to prevent damage to the timber structure from rain, snow, and sunlight. The platform is built with bricks or stone that not only support the timber structure, but also prevent it from being damaged by humidity. Thus, the timber structure is protected by the roof and platform from natural elements; at the same time, the structure supports the roof, allowing the spread of tiles in the air. Those different materials, wood and earth, support and help each

other to form a comfortable environment for people. Together, the different elements, platform, timber structure, and roof, construct a relationship that makes them meaningful.

The structure does not touch both the heaven and earth, but stands between them, defining a dwelling space for man. The structure is exposed; columns and beams are connected with bracket structures (Dou-kung), which provide the main supports for the huge curved Chinese roof. The walls around the room are composed of light materials, such as carved wood frames and paper. The paper is not thick, so light passes through it, producing a translucent effect. The paper functions like glass, although it cannot be seen through. Because it is not a solid material, it is very easy to break for peeking. It is a material to "prevent peeking from a gentleman but not a villain," reflecting the philosophical thoughts of Confucianism. Personal privacy is established by respect between each other, but the Chinese have their bed enclosed by a closet to secure the most private part of their lives.

Chinese rooms were defined by their size, modular use of space, and construction method. The size and design of the columns were based on official regulations. In other words, the elements that defined space were based upon the owner's social position. However, people were allowed to develop their own characteristics, even though the basic condition was the same for everyone in a particular class. For example, various architectural masters could interpret the bracket structure construction in a variety of ways. Consequently, many delicate constructions and decorations were developed for the bracket structure.

Columns are another example of how the architectural elements enhance the relationship between people and structures. People do not just live under the structure,

but also around it. The columns are always round, keeping the original shape of the wood and maintaining the loading ability of the material. Because of the linear limitation of wooden beams, it is necessary to have many columns existing in a large space, so inhabitants cannot ignore the existence of columns, just as people cannot ignore tree trunks when walking in a forest.

The vertical lines composed by the columns lead peoples' eyes to the top of the columns, which are bracket structures supporting the roof. Therefore, the dynamic beauty of the columns is shown to the people in the space. It shows people how they are protected from the outside environment by the artificial construction; further, it shows people the importance of the columns that hold the whole building. Like trees supporting the sky in a forest, columns with bracket structures hold the roof. The tree is a creature of Mother Nature; the column is made out of a tree but is not a natural form anymore. It becomes an element to compose an artificial environment, created and defined by people to separate themselves from nature. The columns make people aware in a simple and direct way of their existence in the world thanks to their effort and wisdom. Besides, wooden columns standing in a room make the room part of the community. Inhabitants can touch the columns, hug them, lean against them, and make marks on them, like they do to a tree. The traces on it record a part of people's lives and become a sign of their memory. Therefore, the columns are not only a dynastic structure of the building, but also a mental remembrance of users' history.

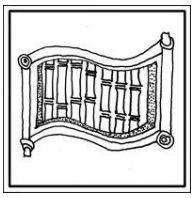
The bracket structure is another key element of Chinese architecture. It shows how an architectural master cleverly applies the physical principle to create the unique structural system supporting huge and heavy roofs on columns. It is not necessary to

consider here the value of the structure for present applications, since constructional technology has evolved significantly across time and today there are many new materials to conceptualize new structures. For instance, nowadays it is not difficult to produce metal joints that actually improve the application of timber structure. The Lyon school of Architecture in France, designed by Francoise Jourda and Gilles Perraudin in 1987 is a good example of this concept. The architects used specially made metal joints to connect all the timbers with a section size of 20x20 cm, composing a wooden truss that formed the space for a design studio. The malleable characteristic of metal was applied to form joints; at the same time, the compressive strength of timber was applied as the major dynamic members to support the loading. This structure reflected the spirit of timber structure and the delicacy of modern industry, composing a new harmony of construction materials.

Modernism emphasizes the beauty of a structure; free columns are one of the important elements of modern architecture. Even if the material is different; the spirit of the structural beauty is the same in both modern Western architecture or Chinese classical architecture. Structure is not just a dynamic member of architecture, but one of its important roles is forming a place to offer a connection between people and space. The beauty of structures not only depends on form, but also on how the structure represents the spirit of its material. As Gadamer said: "what is represented is itself present in the only way available to it"[92].

[92] Hans-Georg Gadamer, *The Relevance of the Beautiful* (Cambridge, U.K.:Cambridge University Press, 1986), p. 34.

5.1.4 Form and Essence



Form and essence have been defined in different ways by the West and the East. According to the Merriam-Webster dictionary, the meaning of the term "form" is "the shape and structure of something as distinguished from its material" and "the essential nature of a thing as distinguished from its matter as an idea or the component of a thing that determines its kind**.**"[93]

The meaning of the term "essence" is "the permanent as contrasted with the accidental element of being**,**" "the individual, real, or ultimate nature of a thing especially as opposed to its existence," and "the properties or attributes by means of which something can be placed in its proper class or identified as being what it is**.**"[94]

In the Western classical tradition, for example, Vitruvius suggested that an architect should have knowledge of history to design the ornamental part of architecture, so he can explain the meaning of the ornament to others.[95] Therefore, ornaments are not just decorative, but also carry a unique story, the essence of the form. In addition, Vitruvius reminded architects to pay attention to philosophy because it is the essence of all natural phenomena.[96] Therefore, it is safe to say that Vitruvius actually emphasized the meaning behind the appearance of architectural forms, which required architects to take responsibility for the form and decoration of their projects. However, the concept of form has been lost in the development of modern science. Alberto Pérez-Gómez has

[93] Merriam-Webster OnLine. http://www.m-w.com/.
[94] *Ibid.*
[95] In his book, *The Ten Books on Architecture* (*op.cit.*, p. 6.)Vitruvius explains why an architect should know the meaning of ornament when applying it. He says: "A wide knowledge of history is requisite because, among the ornamental parts of an architect's design for a work, there are many the underlying idea of whose employment he should be able to explain to inquirers."
[96] Vitruvius says: "Furthermore philosophy treats of physics where a more careful knowledge is required because the problems which come under this head are numerous and of very different kinds; as, for example, in the case of the conducting of water". *Ibid*., p. 8.

pointed out that contemporary architects are influenced by modern science and believe in universal solutions to conceptualize projects with numbers and geometry, causing a misconnection between form and meaning, in other words, essence[97].

In the last two centuries, "form" and "essence" became the two most important concepts when the Chinese intelligentsia argued about how to convert China to a modern country. In the late nineteenth century, Western culture was introduced to China because of the benefits of international trading. After her defeat at the hands of Western countries, China's intelligentsia kept pushing the Qing Empire to enact a social revolution because they realized that modern technology could improve the power of a country. An impressive concept, "apply western form with Chinese essence," was promoted by a high-ranked official served in the Qing Court[98]. The concept meant learning Western technology and social systems while maintaining a Chinese philosophy and cultural essence. The theory was discussed for a century, and countless Chinese scholars offered ideas for developing various theoretical possibilities to solve the problems that China faced as it was torn between the fascinating Western technology and its own rooted culture. The general question was how to apply the new technology and systems to China's society; this included establishing new industries, improving the infrastructures of people's livelihood, and applying new social and educational systems. However, the

[97] In the book *Architecture and the Crisis of Modern Science* (Cambridge, Mass.: The MIT Press, 1983, p. 10.), Alberto Pérez-Gómez surveys architectural development before and in the age of modern science, and then argues that the prejudice of modern science caused some problems in the development of modern architecture. He describes one of the problems as follows: "In the first transformation(occurred toward the end of seventeenth century), the assumption, which had been inherited from medieval and Renaissance cosmology, that number and geometry were a *scientia univeralis*, the link between the human and the divine, was finally brought into question by philosophy and science. At the same time, technique and the crafts were freed from their traditional magical associations. In architecture, this laid the basis for a new approach. Architects began to consider their discipline a technical challenge, whose problems could be solved with the aid of two conceptual tools, number and geometry."

[98] Chang, Zhi-dong (1837-1909), one of the leading proponents of Westernization.

difficulties they faced were more critical than their imagination; and one of these difficulties was the new style of architecture.

Because of the loss of connection with the traditional Chinese lifestyle, the building forms of traditional Chinese architecture were misunderstood. The structural forms, colors, and patterns of traditional Chinese architecture were full of symbolic meaning, and not just new decorations to be appropriated for Historicism, Neo-classicalism, or Post-modernism, but an architectural language to communicate across generations. The rich treasure of culture is a vast resource of design concepts, which could become a powerful tool if architects could only apply it to conceptualize architecture.

The forms (architectural, structural, decorative and metaphoric) are not just shapes to create visual effects, but symbols to represent the essence they carried[99]. When contemporary architects have attempted to apply classical Chinese forms to buildings to express specific cultural motifs, their attempts have often been unsuccessful, because people do not understand the meaning represented by the forms. Some architects just use pieces of the forms for fashion, so those forms do not have any connection with their original meaning but are simply used for a new visual effect. Fredric Jameson critiques this use of forms in his book *Postmodernism or The Cultural Logic of late Capitalism.* [100]

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[99] This similar concept about forms has been mentioned by George Hersey, *The Lost Meaning of Classical Architecture* (Cambridge, Mass.: The MIT Press, 1988, p. 149.). "This sense of architectural ornament is very different from the urge to beauty. But indeed the word ornament, in origin, has little to do with beauty…An ornamented temple is one prepared to honor the god. In the renaissance this version was revived and developed…But today this sense of ornament's meaning has once again been lost; for centuries we have been the heirs of a scientific philosophy that drains architecture of its poetry."

[100] Fredric Jameson, *Postmodernism, or, the Cultural Logic of Late Capitalism*, *Post-Contemporary Interventions* (Durham: Duke University Press, 1991, p. 17.): "Pastiche is, like parody, the imitation of a peculiar or unique, idiosyncratic style, the wearing of a linguistic mask, speech in a dead language. But it is a neutral practice of such mimicry, without any of parody's ulterior motives, amputated of the satiric impulse, devoid of laughter and of any conviction that alongside the abnormal tongue you have

Form is a tool of communication that carries the common memory of a society, and delivers the unique philosophy of the society's past. Old traditions were expressed via form; these could combine with contemporary society to develop future traditions, a culture that continues to represent people's lifestyles, philosophical beliefs and technological ability. A window pattern can help explain this situation. In the classical Chinese building group, short walls divide many outside spaces. For air-flow and visual effect, some windows are constructed with wood, bricks or stone. The shapes of the windows follow a few basic patterns, for example, curly book, bat, butterfly, coin, and octagon. Every pattern has a specific meaning. The curly book pattern represents books, or knowledge; the bat and butterfly patterns, represent good fortune; the coin, represents wealth; the octagon, represents Ba-gua, a symbol that the Chinese believe can defend against evil.

Because of the metaphor of their symbolic meaning, these patterns are not just decorative forms. As a matter of fact, the patterns carry many concepts from the past to the present, showing how people thought and lived; effectively, they establish an emotional connection to the past, forming tradition. Specifically speaking, the curly book window represents, as was mentioned, books and knowledge, and shows that the house belongs to a scholarly family that is proud of their tradition; and the owner of the house expects and encourages his children to maintain the scholarly tradition. Once one recognizes the meaning of the shape, the significance of the house becomes clearer, and the connection with culture and history develops**.**

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momentarily borrowed, some healthy linguistic normality still exists. Pastiche is thus blank parody, a statue with blind eyeballs: it is to parody what that other interesting and historically original modern thing, the practice of a kind of blank irony, is to what Wayne Booth calls the "stable ironies" of the eighteenth century."

The form of a structure expresses the ways in which people understand natural materials and apply them to construct buildings. Dou-gong, the bracket structure, is an example of how the form represents the essence of material. The main function of Dou-gong is extending the loading area as wide as possible to support a huge roof on free columns in the room. Because the tile roof is very heavy, the self load of the supporting system should not add too much load to the columns. On the other hand, because the support structure should extend widely to hold the roof, it has to be strong enough to afford more loading. Under those circumstances, wood is the best material to form the structure.

The bracket system shows how Chinese carpenters were able to express the structure delicately because they knew the nature of the material well enough to develop a structure for a specific function. Therefore, when architects would like to use the form of the bracket structure to express a Chinese motif, they should attempt to understand the nature of the construction material, rather than just copying the form. In many cases, the bracket structure was constructed with concrete, making it an empty decoration and imitation. Concrete has a very different nature from wood; it is heavy and inflexible, which makes it contrary to the nature of the bracket structure. Therefore, concrete is not a good material to represent this structure. However, this does not mean that only wood should be used to represent this structure; some other materials, such as metal, can evoke the meaning underlying this structure. Although metal is heavy, the strength and malleability of the material can simulate the image of a bracket structure with the taste of contemporary technology. The structure of Stuttgart Airport in Germany of 2004 designed by Meinhard von Gerkan and Karsten Brauer shows this possibility.

While modernists attempted to remove symbolic meaning from architecture form as much as possible, postmodernists searched for cultural and regional design concepts. Charles Jencks, one of the postmodernists, published *The Language of Post-modern Architecture* in 1977. In his book, he mentioned four modes of architectural communication: metaphor, words, syntax, and semantics. Interestingly enough, in the same year, Maggie Keswick, Jencks' wife, published a book titled *The Chinese Garden*; Jencks wrote an article titled "Meaning of the Chinese Garden" for this book, where he states: "Since the Chinese garden is a symbol of the owner's life and character, it must express and articulate his day-to-day activity as well as his thought."[101]

In the 2003 revised edition of his book, Jencks wrote:

> "She (Maggie) died in 1995, but from the beginning it was always her intention to modify the book as interpretations changed and new material emerged. This notion of constant transformation was a lesson we learned together as she researched *The Chinese Garden* in the mid-1970's: the Tao, the Way of capturing the restless spirit of nature – several Chinese scholars emphasized – was more important for the garden than any of its particular motifs of themes." [102]

This statement expresses a possible connection between the Chinese way of representation and the Postmodernism that Jencks had claimed**.** The key word here is "metaphor," the first mode of architectural communication mentioned in Jencks's book. The links between Chinese gardens and postmodern theory extend in Jencks' next two paragraphs:

> "One implication became apparent when I visiting Japan and the architect Kisho Kurokawa. We went to see his new apartment tower in Tokyo, made from stacked shipping containers, which had a most unusual overall shape. They looked like stacked sugar cubes, or even more, like superimposed washing machines, because the white cubes all had round windows in their centers. When I said this metaphor had unfortunate overtones for living, Kurokawa evinced surprise. 'They

[101] Maggie Keswick, *The Chinese Garden* (Cambridge, Mass.: Harvard University Press. 2003), p.212.
[102] *Ibid*., p.4.

> aren't washing machines, they are bird's cages. You see in Japan we build concrete-box bird nests with round holes and place them in the trees. I've built these bird nests for itinerant businessmen who visit Tokyo, for bachelors who fly in every so often with their birds.' A witty answer, perhaps made up on the spot, but one which underscored very nicely a difference in our visual codes."[103]
>
> "…Metaphor, seen through conventional visual codes, differs from group to group; but it can be coherently, if not precisely, delineated for all these groups in a society."[104]

Interestingly enough, the Chinese used a similar concept of metaphor in their pre-modern garden design. The Chinese garden was a place for entertainment. The traditional Chinese garden was privately owned and was not opened to the public. The scale of the garden was flexible; it could be only a small part of a house, or it could be separated from the house to form an individual paradise. The Chinese garden did not follow the spirit of social hierarchy from Confucianism; instead, the concept of garden design derived from Taoism.

The geometry, symmetry and axis composing the important factors of Chinese classical architecture were not applied to the Chinese garden. The value of a garden depended on its artistic conception and poetic spatial quality. In other words, a successful garden design would represent unique poetic feelings and notions, like a Chinese ink painting. People entertained in the garden would feel like that they were placed in a painting[105]. In a garden, people studied, drank, wrote poetry, or took a walk. To enjoy the garden, they did not only use their physical senses, but also engaged their mental perception, or imagination. In this situation, people in the garden "pretended" they were

[103] Charles Jencks, *The Language of Post-modern Architecture* (New York: Rizzoli International Publications, Inc., 1977), p. 40.
[104] *Ibid*., p. 52.
[105] Painting was treated as one of the most respectful art forms of Chinese culture. Painting, poem and calligraphy were regarded most highly in the pre-modern Chinese society.

in a magnificent natural scene. Therefore, rocks represented mountains; pools represented lakes or the sea; plants represented forests; a small island in a pool represented a fairy-tale island of heaven; and water would not spurt up**,** but flowed on rocks that represented streams and waterfalls. The walls separating the garden from the outside world were painted white. Those white walls functioned not only as the background for the artificial scenes, but also as the paper for a Chinese black-and-white scenic painting, on which the shadows of plants and rocks were projected.

The qualities of quietness and natural sounds were another important element of the Chinese garden. So, if the garden was full of people and noise, it was no longer a Chinese classical garden. Bodies of people ruined the scale of the garden, so the imagination could not work any more; rocks could not be mountains, and pools could not be lakes. Noise ruined the natural atmosphere and pulled people's perception**s** back to reality. From this point of view, a Chinese garden is a luxurious and private place for entertainment that common people could never afford.

However, a Chinese garden could not just be understood by its appearance. The essential spirit of the garden relies on the meaning behind the material world, and requires specific interpretation from a cultural point of view. As Joseph C. Wang points out in his book *The Chinese Garden*, a Chinese garden represents three different levels of phenomena: the garden as the setting for a good life, the garden as art, and the garden as an ideal.[106]

Another aspect of the Chinese garden that relates to the concept of metaphor is expectation. Expectation is an important factor that influences people's perception of a space. Basically, the expectation derives from the past experience of a society, including

[106] Joseph Cho Wang, *The Chinese Garden* (New York: Oxford University Press Inc. 1998), p. 16, 30, 48.

family and school education, social and cultural experience, the common memory of the society, and idealism. Traveling through a space, all visible and invisible elements in the space stimulate the individual's senses and memory, and raise his specific conception, which mixes with his expectation, and then projects new images in his mind along the way.

The design method of a Chinese garden is a serial operation of expectation. When a garden designer arranges the layout of a garden, he does not have to consider how to make the scenery look like real nature, because the visitors are supposed to know the meaning presented by the components in the garden. Therefore, all he has to do is to organize rocks, plants, water and architecture to create a miniature nature. He puts many rocks with irregular shapes together to compose an image of a mountain. The garden designer then places miniature plants on the rocks and creates little streams flowing on them. Usually, he arranges a pond around the rocks to receive the falling water. The miniature plants, stream, and little waterfall then enlarge the visual scale of the rocks. The sound produced by the stream and little waterfall combines with other natural sounds like singing birds and blowing wind to project an image of the natural environment. The scene and the sound stimulate the traveler's senses of sight and hearing at the same time, so the traveler gets an impression. However, the impression will not suggest a huge mountain if the traveler does not understand the basic idea of the Chinese garden.

The concept should raise a traveler's sympathetic responses**,** which would impress him and produce his personal consciousness of the artistic conception. In other words, although every traveler experiences the same scene, they should have different impressions.

This analysis of the Chinese garden shows that form is a great tool to improve the spirituality of a space if the architect knows how to apply it to his or her project. Regardless of whether the form is architectural, structural, decorative, or metaphoric, it not only reflects the essence of its culture, but also is the essence to represent a unique living philosophy. Therefore, form and essence are not two different phenomena but reverse sides of a same coin. Only understanding the essence of the form, is it possible to take advantage of it to conceptualize architecture with meaningful space, and then have chance to produce a space that can have a dialogue with culture and tradition.

6. PROJECT AND DISCUSSIONS

The previous chapter has identified four key concepts from traditional Chinese architecture that not only are helpful to understand the essence of Chinese architecture but also could be applied to contemporary design. To avoid ambiguity, this chapter will highlight the design process of a hypothetic project as a demonstration of how these concepts are considered.

The project development is not intended to result in "perfect" design solutions. Its purpose is to help bridge the gap between theory and practice by making the process "transparent." The design decision-making along the entire process will include personal and cultural values, subjective ideas and the forces of the assumed design environment.

Efforts will be made to identify "struggles" in design judgments, a commonly shared experience from among those who are deeply embedded in multi-cultural backgrounds.

6.1 The Program: A Proposal for A New Suzhou Museum

The Merriam-Webster dictionary defines a museum as: "an institution devoted to the procurement, care, study, and display of objects of lasting interest or value; also: a place where objects are exhibited." This definition could be easily applied to many well-known examples such as the British Museum in London, the Louvre in Paris, and the Metropolitan Museum in New York. Public museums are one of the new building types with a specific function that did not exist in the pre-modern society; it is expected to offer educational and cultural benefits to the city it is situated in, and plays an important role in the daily lives of its citizens. Some museums have brought more possibilities to their locations because of their unique forms, as in the case of the Guggenheim Museum in Bilbao by Frank Gehry of 1997, or the interesting relationship between the building and its landscape, as in the case of the Miho Museum in Kyoto by I. M. Pei of 1997.

Therefore, a museum can become an icon for a city and engage in a dialogue with the environment it occupies.

Suzhou was founded some 2500 years ago and is one of the oldest historic towns in China (Figure 6-1). Because of its fertile soil and moderate climate, Suzhou has always been a wealthy and culturally rich city. A new Suzhou Museum would therefore be a good project to demonstrate how to adapt the concepts discussed in Chapter 5 to conceptualize a contemporary architecture.

6.1.1 Suzhou

Suzhou is one of the classical sites that has preserved a great deal of its Chinese architectural heritage. Because many canals are an integral part of in the city contributing an unique scenery, Suzhou's nickname is "the Venice of the East." It is not a surprise that small boats have been an important transportation means for trading in the old town area.

Suzhou is also famous for the quality and quantity of its gardens. Since it was one of the most prosperous cities in China, many famous gardens were designed for the rich and powerful families that once lived there. To display their wealth and taste, those gardens were constructed with the best materials and delicate design ideas to represent artistic conceptions, much like Chinese painting and calligraphy. To date, eight sites in Suzhou, including four gardens, have been designated as World Heritage sites by the United Nations Educational, Scientific and Cultural Organization.[107] The Humble Administrator's Garden, the largest Chinese garden, is one of them. For this reason, I. M.

[107] The relevant information can be found on the website of the United Nations Educational, Scientific and Cultural Organization. http://whc.unesco.org/en/list/813/multiple=1&unique_number=813bis.

Pei was given the site adjoining this garden when he was invited to design a new museum for Suzhou.

6.1.2 Cultural Phenomenon: The Site of the Proposed New Suzhou Museum

The original Humble Administrator's Garden was established in 1530 A.D. Orginally, it included the site of the current garden and the old and the proposed new Museums (Figure 6-1). Today, the Humble Administrator's Garden is one of the most famous Chinese classical gardens and is protected as both a national landmark and a World Heritage Site. Although the original garden was later sold and divided into three parts, the recovery was successful and reflected most of the original scenery and design concept that made it one of the four most famous gardens in China. [108]

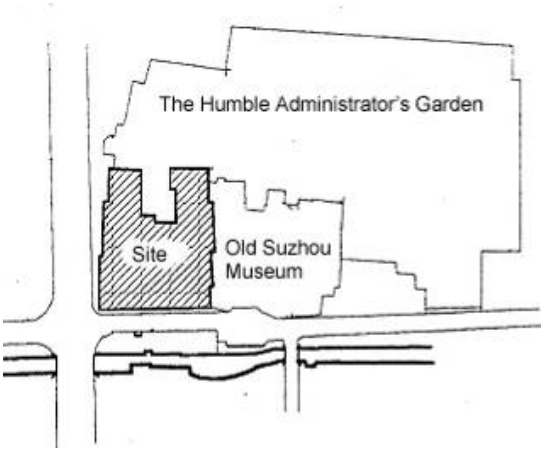


Figure 6-1. Site of The Humble Administrator's Garden with adjoining site of the existing old and proposed New Suzhou Museum.

The Old Suzhou Museum is located in the east wing of Zhong Wang Fu or the Loyal King Palace, named after Zhi-chen Lee or the Loyal King, who led a peasant uprising against Imperial China and was defeated by the Qing Empire in 1864.[109] The Old Suzhou Museum is the best preserved example of royal architecture in the Kingdom of Heavenly Peace period (1851-1864), exhibiting not only architecture and decoration, but also a large arts and crafts collection. In addition, the museum owns more than thirty

[108] The other three most famous gardens are the Lingering Garden in Suzhou (留園), the Imperial Summer Palace in Beijing(頤和園), and the Imperial Mountain Resort in Chengde(離宮).
[109] The rebellion was named "Tai Ping Tien Guo (太平天國)," Kingdom of Heavenly Peace in English, that was held by Hong Xiuquan in 1851 and failed in 1864.

thousand pieces of cultural and historic relics covering the period from the Neolithic to the Ming Dynasty (1368-1644).

The site of the proposed New Suzhou Museum corresponds to the west wing of the Loyal Palace where the buildings were not in good condition and were not included in UNESCO's World Heritage List. However, the site was part of the original building group with the garden; the current building group of the Old Suzhou Museum and the Humble Administrator's Garden are still very close and unique. The site location at the southwestern corner of the block is significant because it forms a transition between the hundred-year old garden and the rapidly modernizing cityscape (Figure 6-2).

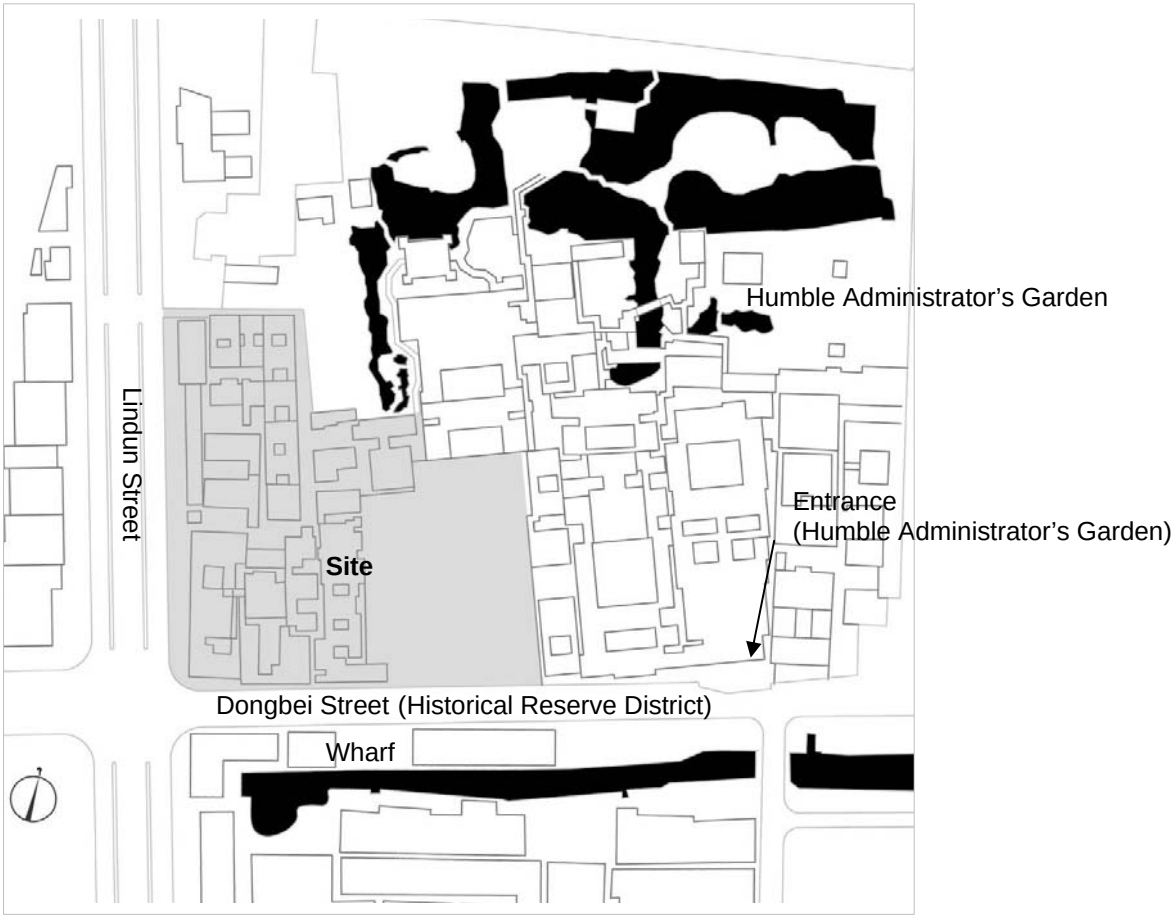


Figure 6-2 Site, Plan of proposed New Suzhou Museum. (image reproduced after Qiuda Lin, 2005.)

6.2 A Design Proposal for a New Suzhou Museum

The discussion of this theoretical project for a New Suzhou Museum does not just explain the design concept; rather, its main purpose is to show how I applied the results of my research to a project. The process involves a great deal of self-argument and deliberations in its regarding decision making; therefore I attempt to demonstrate the "logic of design" underlying the decisions of a modern Taiwan educated designer in the Western architectural educational system[110] and living in a society that is intensely influenced by Chinese philosophy.

By showing my decision-making process, I hope to demonstrate the efficacy of the formulae that I have developed. These methods are designed to help conceptualize contemporary architecture, particularly in buildings emphasizing Chinese motifs. Having gained an understanding of my process, the targeted professional audience could filter out the challenges that confronted me and develop their own design approach. At the same time, it is my hope they could use my research to better understand Chinese classical architecture.

In this section, I will use different fonts to develop my arguments: the regular font will be used in explanations of the decision making process, and the **bold font** will be used to emphasize my struggle. In other words, I will try my best to make sure the audience understands which parts of the statement are influenced by my educational background, while I attempt to objectively explain my project.

[110] Before studying in the United States of America, I was educated in Taiwan's Tamkang University, where more than eighty percent of the full-time professors got their Master or Ph.D. degrees from some of the most famous universities in the US and Europe. Those professors brought back from their overseas studies and experience a similar experience to mine.

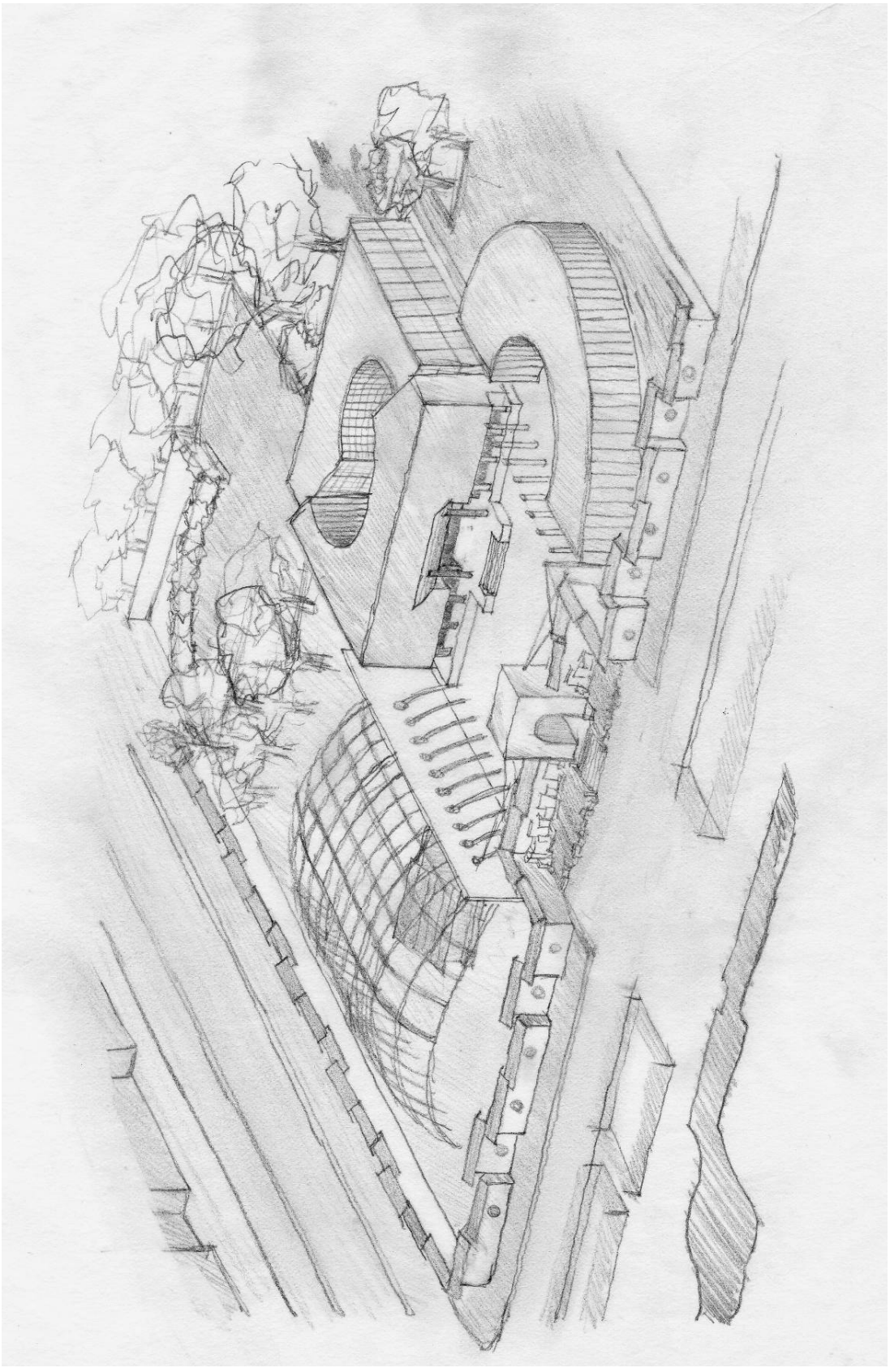


Figure 6-3. Conceptual Drawing of Author's proposal of New Suzhou Museum. Facing south on Dongbei Street. See figure 6-8. Site plan.

6.2.1 The Entrance

Although the New Suzhou Museum is to be located beside the Humble Administrator's Garden, they are split into two different areas and are not connected inside (Figures 6-1). The orientation of the old building group faces south, onto Dongbei (Northeast) Street. The street is reserved as a special cultural area, and includes the entrance of the Humble Administrator's Garden and a wharf (Figure 6-2). Therefore, to establish a relationship to the wharf on the other side of the street, the main entrance of the New Suzhou Museum is aligned with the little plaza in front of the wharf and set back twenty meters to create another plaza mediating between the street and the entrance (Figure 6-4). In this way, the two little plazas on the both sides of the street form the widest open space, offering a wider space for public activities. On the other hand, the entrance of the museum faces the little wharf visually contacting it to the river transport that is one of the most important traditional characteristics of Suzhou.

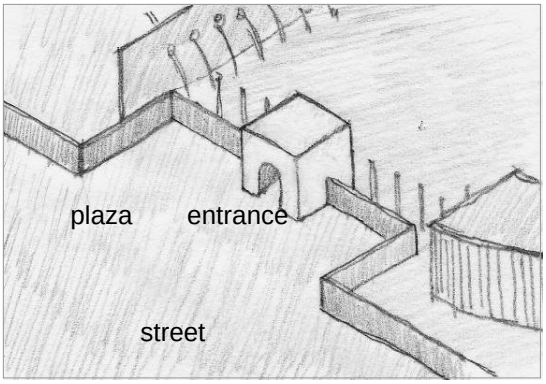
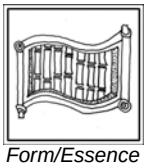


Figure 6-4. Diagram of the proposed New Suzhou Museum shown the plaza between street and entrance.

In old Chinese cities, there were no public large-scale open spaces, like the Western plaza, in which people could have activities. Even for special occasions, the Chinese would conduct their activities on a long and narrow space, such as a street. People gather in many small groups to watch variety shows or to view peddlers selling their goods. Therefore, the concept of a plaza was learned from Western architecture. A plaza becomes a common architectural symbol for conceptualizing a public space or a space for events; it seems to be based on functional considerations from a modern architectural education. There is no doubt that the concept of a plaza derives from the need to accommodate a

variety of large open air functions common to different societies. Thus, when we arrange a plaza in contemporary Chinese society and do not feel discomfort, does it mean that the concept of a plaza has become a part of the Chinese spatial experience? Are we just "copying" a Western spatial experience to serve Chinese society, or has Chinese society altered to contain part of the Western spatial experience?

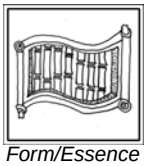


Form/Essence

The concept of the museum entrance is derived from the Chinese city gate. Chinese classical cities were surrounded with walls to repel intruders. The city gates were the only space through which people could travel in and out the city. The gates always had individual names indicating their orientation[111] or expressing some specific meaning (Figure 6-5).[112] The first image of the inside cities that visitors would see was framed by a gate. Interestingly enough, some of the buildings behind the gates were conceptualized carefully to construct special scenery. Therefore, the gate did not just function as an entrance, but also became an important architectural element to form the traveler's first image of the city. While entering the city, the traveler would get his or her first impression and would experience a transition from the outside to the interior of the city.

In my project for the New Suzhou Museum, the heavy mass of a gate stands on the plaza, suggesting that there is something very different behind it. This should raise the visitor's curiosity. Additionally, the heavy structure defines a long entrance. In this way, the inside scenes slowly present themselves to the visitor; and entering the museum becomes a ceremonial experience. Visitors will have the time and space to prepare their mood. This structure does not just engage the sense of sight, but also involves the senses of hearing and touch because of the change of light, sound**,** and temperature.

[111] For example, North Gate (北門) and South Gate (南門).
[112] For example, Tien-An Gate (天安門) or Gate of Peaceful Heaven.


Form/Essence

The concept of a heavy gate did not only exist in ancient China but also in ancient Europe; however, because Chinese society did not modernize as early as Western society, the city wall and gate still functioned well until the late eighteenth century. The essence of the gate is about control; and the power was held by the local government. The gate does not serve its original function in modern society, but the unique spatial experience it offers is still interesting and valuable. I apply the concepts of "semi-open space" and "metaphor" to conceptualize the gate (Figures 6-6, 6-7)**. As a matter of fact, the "form" of the gate also suggests some specific impressions since it still exists in the common memory of Chinese society. Although I have learned various ways to construct an entrance, a city gate is still an efficient way to ceremonially introduce visitors from the outside environment to the inside space. Of course, if I used bricks as the construction material, then the gate would merely be an imitation of ancient China. Brick is not a necessary construction material in our time, and I would like to use a contemporary material, such as concrete or metal, to express contemporary**


Figure 6-5. North Gate, Taipei. Photo taken in 2004.

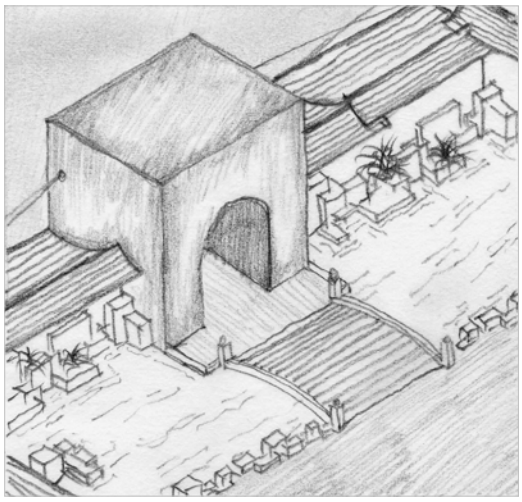


Figure 6-6. Entrance for Proposed New Suzhou Museum.

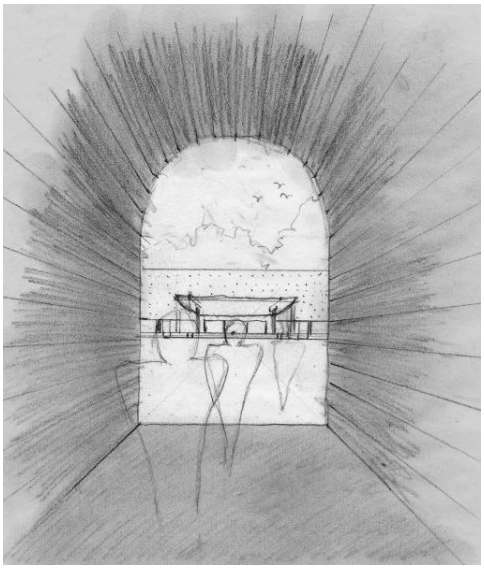


Figure 6-7. The view from the entrance gate of the proposed New Suzhou Museum.

architecture. In addition, the curved roof that is on an historic gate is not necessary for this entrance because there is no functional or meaningful role that it can play here. The architectural form is strong enough to represent the place.

Man/Nature

The gate and plaza by themselves, however, may not seem strong enough to express the unique characteristics of Suzhou, so more architectural elements are considered. Since Suzhou had the most prosperous canal system in China, historically, boats and bridges were important means for traveling to different regions. Boats are still used for transport; while bridges are used for connecting streets. Furthermore, a city moat still surrounds the old Suzhou city area, although the city wall has been removed. The moat carries the memory of an old city. Putting these elements together when considering the relationship between the new museum and its surroundings, a bridge turns out to be a workable solution to strengthen the impression of its entrance. Furthermore, since the Chinese garden is another strong element characteristic for Suzhou, this image could also be taken to construct the entrance. Completed by a bridge, a pond, and some rocks, the entrance with the gate will thus make a stronger visual impact (Figure 6-8).

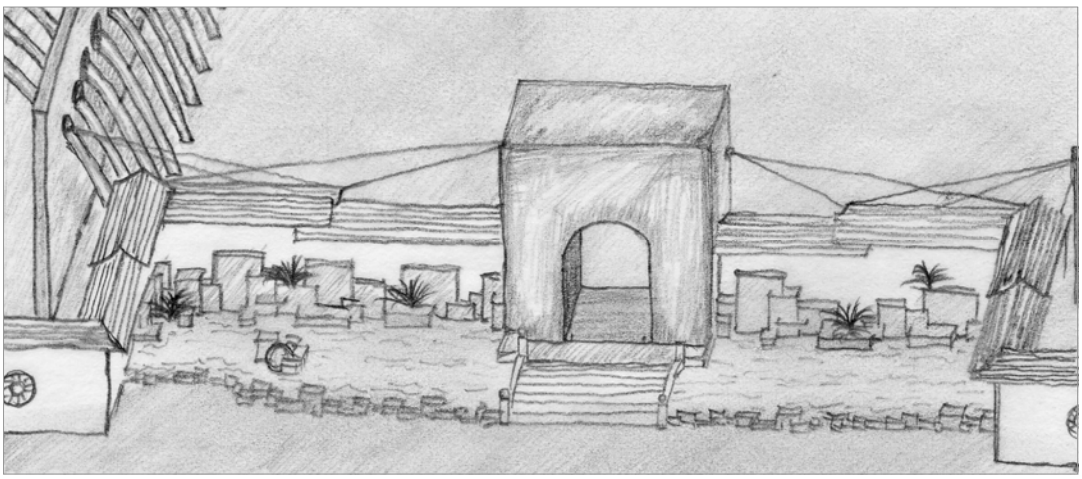


Figure 6-8. Entrance of the proposed New Suzhou Museum.

Relative space

The museum entrance was not conceptualized in a vacuum; rather, the main concept derives from my impressions of Suzhou. Therefore, the form and space of the entrance are meaningful only if they are connected to the specific cultural and regional characteristics of the surrounding city. The bridge and the gate compose the major spatial impression before entering the museum. The atmosphere constructed by the rocks, pond, bridge, and gate forms a transition between the inside and outside world, the New Suzhou Museum and Suzhou city.

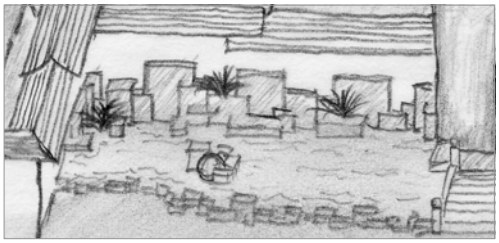


Figure 6-9. The pond and rocks of the proposed New Suzhou Museum.

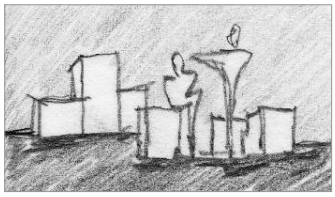


Figure 6-10. Smaller cuboids could function as seats.

The pond and rocks are arranged to represent a Chinese classical garden. It would be easy to just construct a typical pond with rocks, copying from a Chinese classical garden; however, this is not the way to represent contemporary Chinese architectural techniques. The rocks are composed with many different size cuboids that have either a smooth or a rough texture. Little streams flow on the rocks to create the feeling of motion, reflect sunlight (or artificial light at night), and generate sound. Some specific bonsais could be arranged carefully on the cuboids to enhance the impression of a Chinese garden. In addition, the smaller cuboids on the street side could function as seats for pedestrians and offer more possibilities for the space (Figures 6-9, 6-10, 6-11)**.**

Figure 6-11. The entrance of the proposed New Suzhou Museum.

6.2.2 The Boundary Between the New Museum and the City

The boundary of the site is delineated by two areas: the Humble Administrator's Garden and the streets (Figure 6-2). Therefore, it is necessary to define the relationships between the site and its adjoining environment to conceptualize different solutions. The boundary between the site and the streets will define the role the museum will play in Suzhou. The west side of the site faces toward a wide street with busy traffic, so a blank wall would reduce the possibility of activities and would discourage pedestrians from gathering together, preventing traffic problems (Figure 6-12). The wall toward the south side faces the cultural reservation area, where streets are reserved for pedestrians. Therefore, several windows on this wall offer travelers visual contact to the inside of the museum. The round windows are framed (Figure 6-13), and reveal gardens and the architectural exhibition area. The windows are like the paintings hanging on the wall of an art gallery, showing passing pedestrians a view different from the street scene (Figure 6-14). This satisfies one of

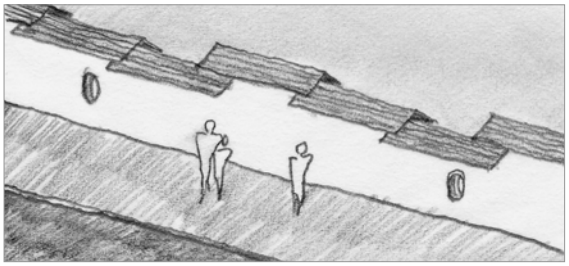


Figure 6-12. A blank wall will reduce the possibility of activities.

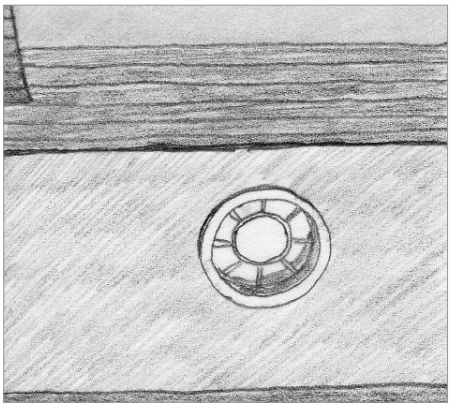


Figure 6-13. Framed round window.

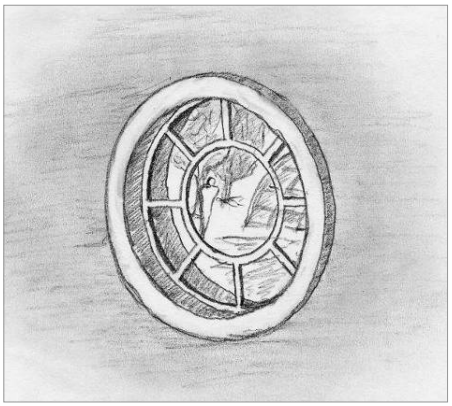


Figure 6-14. A view from a framed round window.

the societal duties of the museum; it serves not only the inside space but also the outside public space. In addition, the openings could be framed with traditional patterns, like the traditional residential building, but the wall and the frame should be constructed with modern constructional materials, such as concrete or metal. The wall can carry the societal common memory of the pattern to the next generation and might create an impact upon contemporary culture by sponsoring activities on the street (Figures 6-15, 6-16).

Chinese classical architecture used to be surrounded by a high wall without windows. The wall separated the inside environment from the outside world without any visual contact. People owned their own privacy inside the space, although each person did not have the same level of privacy in this inside world. Consequently, the windows of the museum provide a communication between the interior and exterior of the site, announcing that the wall does not belong to Chinese classical architecture. Moreover, the concept that the windows serve pedestrians is from Modernism, which emphasizes that architecture should serve the common people.

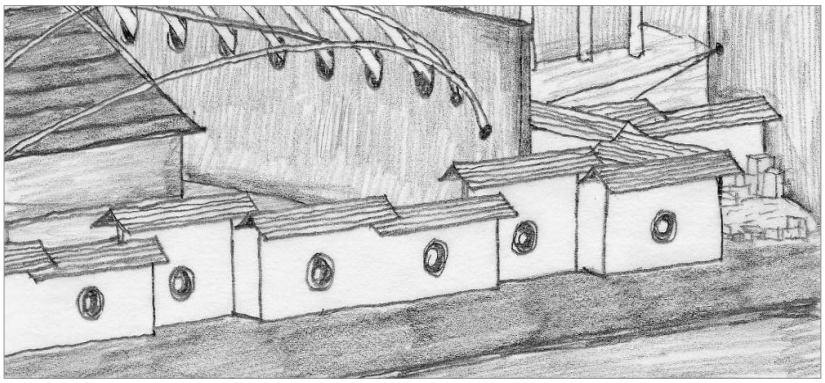


Figure 6-15. The south-side wall faces the cultural reservation area.

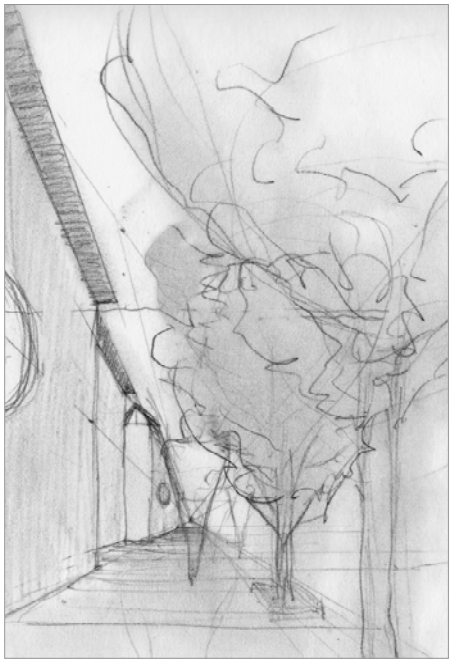


Figure 6-16. A view on the south-side wall faces the cultural reservation area.

Form/Essence

The classical window patterns are not copied for cultural exploitation, or as a shallow reference to earlier styles. Rather, they reflect Chinese daily philosophy as I mentioned in the previous chapter. Their form fits one of the museum's goals: to preserve and display.

For expressing the original characteristics of the site and responding to the landscape of Suzhou, the height of the wall becomes important. We could use tiles to cover the roof, emphasizing the historical impression of the site; furthermore, this is still an efficient and reasonable construction technique. Although the form of the wall is similar to the classical style, it will not be confused with old constructions because it will fall back in certain sections to create small spaces for street performances.

Form/Essence

The wall is a cheap and easy way to apply classical architectural forms to express so-called traditional motifs and get a classical taste, utilizing the postmodernist concept of collage and recombination. These kinds of imitation artificially apply the forms, but lose their meaning and connection with the environment. Therefore, it is important to understand the meaning of the forms, after which it is possible to apply them to a contemporary project, giving them new life. Furthermore, capturing the spirit of the forms gives the architect more choices to consider different materials, colors, or situations in which to place the forms. This sharpens the architect's ability to conceptualize a project and contribute to the development of his or her civilization.

Relative Space

The boundary between the site and the Humble Administrator's Garden is separated by a wall, but the garden was originally defined by the building group on the site of the Suzhou museum that was originally owned by Xian-chen Wang.[113] While the garden and the museum are open to the public, this is a

[113] The Humble Administrator's Garden and the building group were designed and built in the 1500's for the Wangs, in cooperation with Zheng-ming Wen, a famous artist and poet.

great opportunity to combine the museum and the garden to represent the original spirit of the site. This project can only deal with the museum, since the garden has been listed as a World Heritage Site on which no new construction is allowed. Consequently, another garden and pond are placed along the northern boundary (Figure 6-17). In particular, the pond and rocks of the museum garden should be placed carefully so visitors cannot cross the boundary but can see through the wall. The new garden and pond may look like part of the Humble Administrator's Garden but they are not. It is possible to catch views of the Humble Administrator's Garden and turn them into part of the scenery of the garden. This is a typical design technique that Chinese garden designers used to conceptualize a garden; it is called "borrowed scenery" (Figure 6-18).

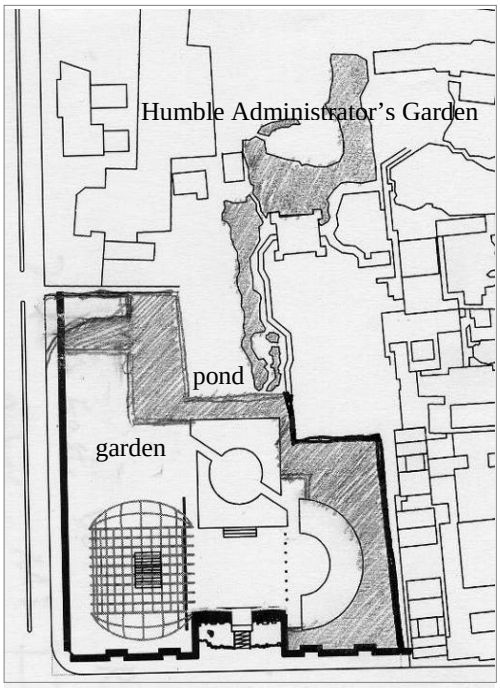


Figure 6-17. Garden and pond are placed along the northern boundary.

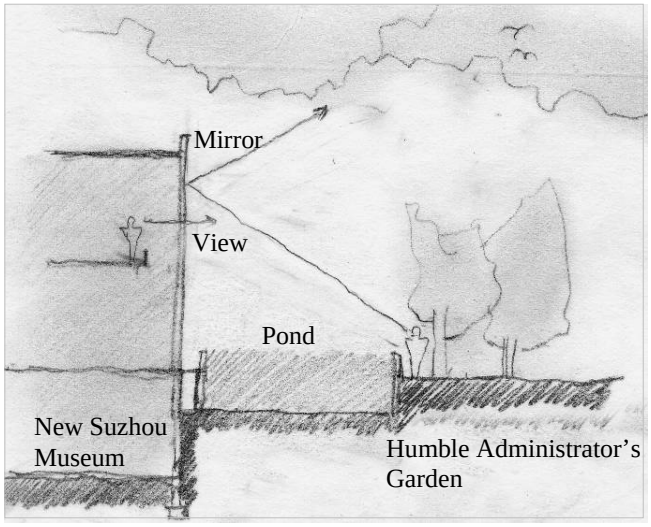


Figure 6-18. Diagram shown the northern boundary between the proposed New Suzhou Museum and the Humble Administrator's Garden.

Relative Space

In pre-modern Chinese society, the garden did not exist by itself; it was always attached to a building complex. Thus, the building complex served as the background of a garden, and the garden offered beautiful views to the building complex. Obviously, it is not a good idea to make the museum the background of the Humble Administrator's Garden, as this could destroy the authentic atmosphere of the garden. Although it is not a politically correct answer, I tried to think of ways to make the museum part of the background of the Humble Administrator's Garden. Generally speaking, we do not expect to see a modern building in a classical Chinese garden because we treat the garden as an historical landmark, a unique and priceless gift from our ancestors. However, if we consider it from another point of view, maybe it could become part of our contemporary life that we enjoy in a non-traditional way. It is like a beautiful diamond ring we got from a grandmother. We can keep it in a jewelry box, enjoying it once in a while, or we can design a fashionable new ring and wear it every day. If the new ring is well-designed, both ways work well for the diamond. Therefore, since the technology of computer-aided simulation enables us to see the result before we actually build, we can conceptualize a contemporary building that could become part of the scenery of the Humble Administrator's Garden, yet would bring it into the 21th century.

Form/Essence

Besides, it is difficult to decide which garden style the museum should feature. It does not make sense to build a classical Chinese garden for the public, since these gardens were originally designed to serve only few people. However, there is no such thing as a "contemporary Chinese garden." The gardens in Chinese society now are either "classical Chinese gardens" or "Western gardens." The modern Chinese do not conceptualize their garden for their daily philosophy as their ancestors did.

6.2.3 Plan Layout

Form/Essence

The layout of the museum is based on typical courtyard house representing the basic concept of spatial hierarchy that underlies Chinese classical architecture: the main hall is on the north, the entrance gate is to the south, and the two side halls are on the east and west (Figures 6-19, 6-20). To represent the four-sided courtyard, the courtyard of the museum is surrounded by four different kinds of architecture; the entrance gate with a corridor on the south, the main hall on the north, the architectural exhibition on the east, and a building group for extra exhibitions, service, and administration on the west. The entrance gate of the museum and the main hall are located on the same axis. The depth of the entrance gate creates a visual projection to the entrance of the main hall**,** strongly leading people to visit the main hall.

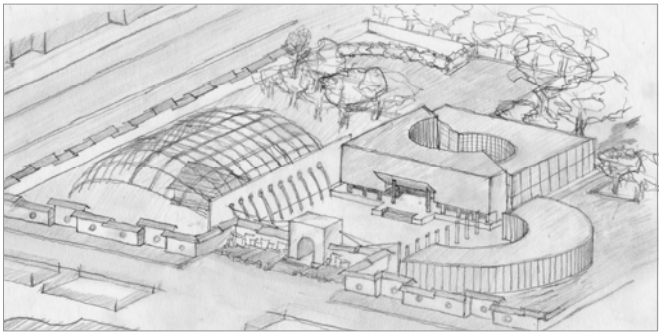


Figure 6-19. Layout of the proposed New Suzhou Museum.

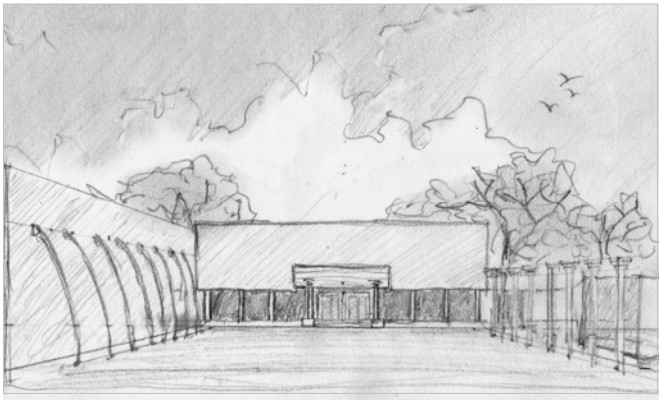


Figure 6-20. A view in the courtyard of the Museum.

Man/Man

However, when the scale and building has been changed, I doubt if the courtyard will still have the same essence compared to a traditional one. If not, what kind of an experience will be created by this space? Maybe the courtyard concept would be better for applying it to a residence to create a connection between inside and outside space.

6.2.4 The main hall

The shape of the main hall derives from two basic concepts. The first is the theory of a round sky and a square earth; the second is the Taichi symbol (Figure 6-21).

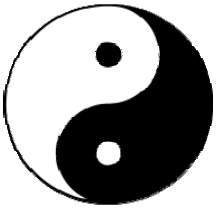


Figure 6-21. Taichi

The theory of a round sky and a square earth comes from ancient Chinese cosmology; it saw the world as a round bowl of sky covering a square board of earth. This idea was widely applied in Chinese classical architecture**;** the most famous example is the Hall of Prayer for Good Harvest, Temple of Heaven, Beijing (1420). The hall is a triple-gabled circular building on a three-level square marble platform wherein the emperor prayed to Heaven on each winter solstice.

Relative Space

The circular opening space in the center of the hall is covered by glass, allowing daylight and the sky scenery to come into the hall (Figure 6-22). The northern part of the hall is constructed with a transparent material, such as specular glass, to make the mass light. Therefore, in this north hall, the scenery of the Humble Administrator's Garden would be introduced to the interior and would become the main background of this area. On the other side, the glass facing toward the garden is like a mirror, and reflects the view of the garden. On the one hand, the visitors in the garden will not feel a huge mass standing

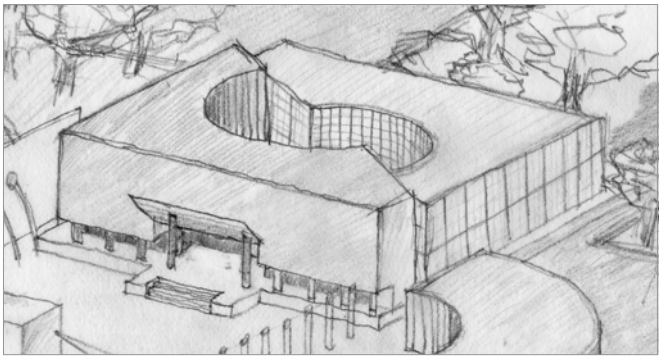
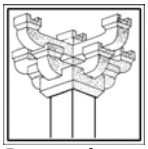


Figure 6-22. The main hall of the proposed New Suzhou Museum.

beside the garden; on the other hand, the reflection of the garden scenery makes the garden looks bigger.



Beauty of Structure

The southern part of the hall is constructed of precast concrete with few openings. The south hall faces the main courtyard to form the major view when visitors come into the museum. The precast concrete represents contemporary materials and methods of construction. As in the case of Chinese classical architecture, the precast concrete shows the beauty of the material's original color and texture.

The entrance of the main hall is composed of two metal columns and a curved sunshading roof (Figures 6-23, 6-24). The roof has the same shape as a classical Chinese roof, but it is supported by a steel frame held by the two columns. The proportion and scale of the columns and sunshading roof are based on Chinese classical architecture. Because of the application of new materials, the construction method is different. Furthermore, the spatial form for entering the main hall from the outside copies the form for going outside from inside in Chinese classical architecture.

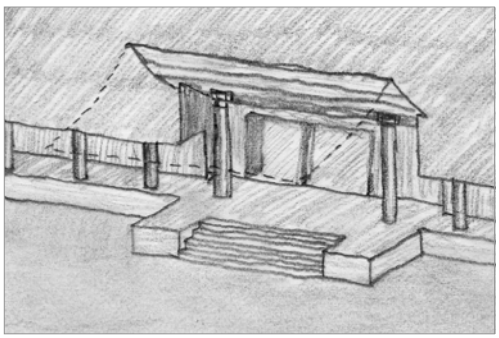


Figure 6-23. Entrance of the main hall.

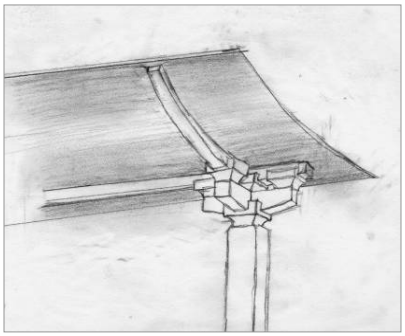
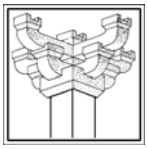


Figure 6-24. Diagram shown the detail of the column and curved sunshading.

Form/Essence



Beauty of Structure

Obviously, I took the architectural and structural forms from Chinese classical architecture to enliven the entrance. It is not necessarily a functional structure, but the forms release the characteristics of the museum and create a classical atmosphere for visitors. The two columns with bracket structures and the curved, broad sunshade roof are both structural and spatial metaphors to build up visitors' expectations. Therefore, the visitors will have a preview about the kinds of exhibitions they will experience before they enter the hall. The transition process is formed layer by layer. From the outside environment to the inside hall space, a visitor will see the form of the outside wall followed by the representation of a traditional garden, a bridge across a pond, a gate, and an enclosed courtyard, and then finally the entrance of the hall (Figure 6-25)**. Before the visitor enters the hall, he or she has been presented with the theme of the museum.**

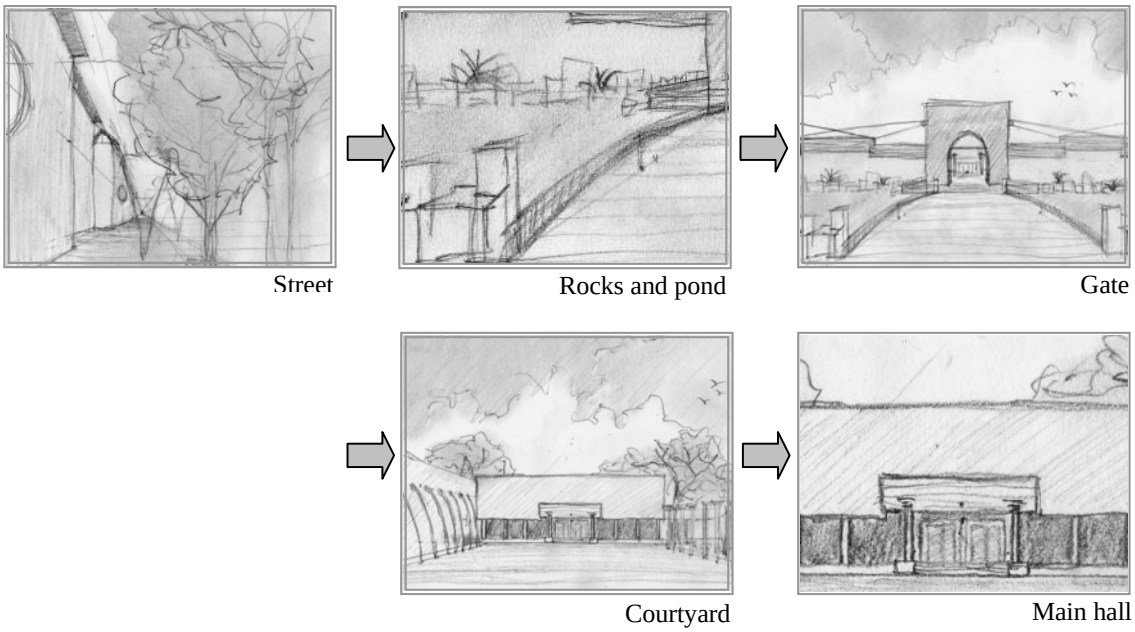


Figure 6-25. The spatial sequence traveling from outside world to the main hall of the proposed New Suzhou Museum.

6.2.5 The architectural exhibition


Beauty of Structure


Relative Space

On the west side of the central courtyard is the architectural exhibition zone (Figure 6-26). The exhibition is composed of a well preserved classical main hall and a huge steel truss structure covered by glass. The main hall has stood here as part of a whole building group for hundreds of years. The condition of this building group is not good, and the local government is planning to tear it down to make way for the New Suzhou Museum. However, in my design, the main hall will be restored and kept in its original location. The hall will be an important story teller because of its long-lasting history and cultural background. It is an "umbilical cord" connecting the New Museum with the past of this site, and it is an anchor to orient the museum on the history of this site; this helps to give the museum a sense of place since the main hall could not be moved to another location without losing its essence.

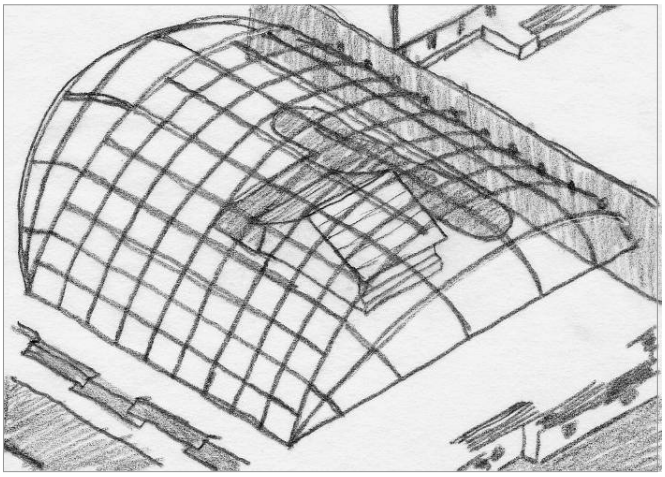


Figure 6-26. Architectural exhibition zone.


Man/Man

It is always a challenge to preserve an old building and give it a new life. When a building is moved to another location, it loses its context and the relationship with its original environment; it becomes a showpiece. In Chinese classical architecture, it is not a good idea to separate a building group, as a single building means nothing without other architecture to establish the role it plays in the group. Thus, it seems inappropriate to keep the main hall on site in this case. After thinking through the whole relationship between the hall, the old building group, and the

new museum, I realized that the main hall is not just an antique but an important component to enrich the exhibition of the museum. All the stories and traditions carried by the hall are an integral identify and an important contribution to the new museum. Of course, the meaning is not expressed by the hall naturally; it required some architectural operations to demonstrate the content it carries (Figure 6-27)**.**

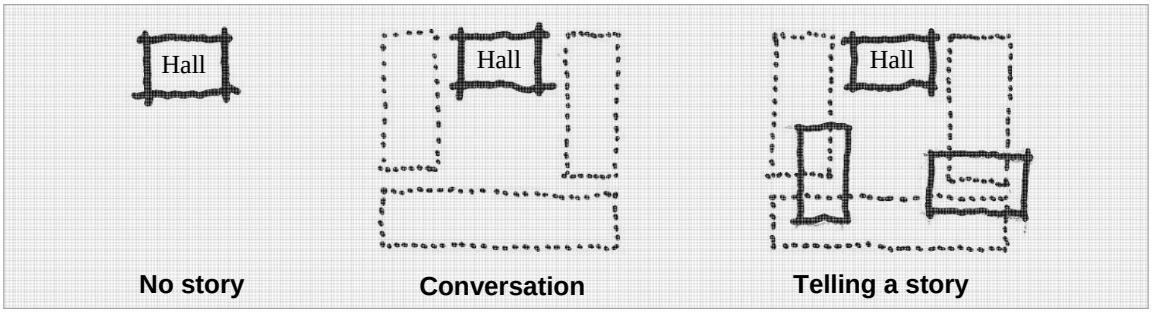


Figure 6-27. The relationship carried with the main hall.


Man/Man

The main hall was the core of the original building group, and was on the top of the spatial hierarchy. The functions of the other buildings in the group were subordinate to it. At the same time, the other buildings contributed to define its status. Since it is the only original ancient building to be preserved on the site, however, its identity has been largely lost. But, because it was connected to other buildings tightly, its presence brings back the memory of the other buildings no longer extent. Therefore, the hall is not only a single object; abstractly, it is still a building in its original building group. Of course, we cannot take this relationship for granted, particularly if we do nothing to indicate the relationship between the main hall and the building group. We have to offer some hints about the phenomenon to visitors, especially those who do not know Chinese classical architecture. For example, a scale model showing the original building group or lines on the ground indicating the

location of the buildings that have been removed will help visitors to envision the original building group.


Form/Essence

In addition, the main hall could act as a full scale model showing how Chinese classical architecture was built. As with other traditional architectural sites, visitors can come into the hall to see its structure, decoration, materials, etc. This way of exhibiting a building is typical and could serve other surrounding buildings, such as the building group in the Humble Administrator's Garden or the Lionforest Garden.


Beauty of Structure

One of the most important architectural characteristics since the Modern Movement is the improvement of building technology and new materials of construction. Because of the application of new materials, it is possible to build new structures and spaces, offering new spatial experiences. For example, people can see an aerial view of a city from a skyscraper. Abundant glass and steel can also enrich a spatial experience. There are many new ways by which architects can enable visitors to experience a space. Consequently, it could be more interesting and meaningful to allow people to enjoy Chinese classical architecture in an alternate way, for example, vertically instead of horizontally.

In my New Suzhou Museum proposal, there is a three-dimensional path with a platform surrounding the main hall. The path allows visitors to have a close look at the roof of the hall, where they can see the traditional decoration, material, and texture of the roof. In addition, some tiles of the roof have been removed so people can view the wooden structure and technique of construction. They could even see how a don-kung (bracket structure) holds the roof delicately on its structural position.

The three-dimensional path not just leads the people to the top of the roof, but also to the place below the top of the metal truss structure that covers the main hall (Figure 6-28). The path is supported by cables tied to the truss. When people travel on the path, they get the impression of two totally different structures at the same time: a traditional wooden bracket structure and a modern steel truss structure.

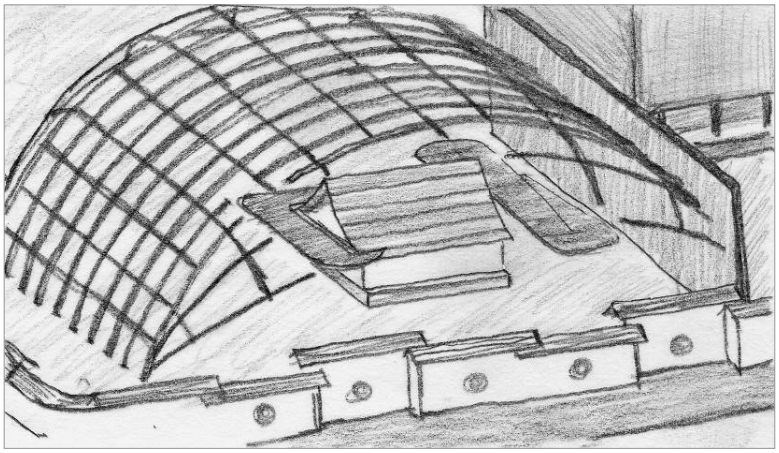


Figure 6-28. Architectural Exhibition Zone.

Therefore, the meaning of any one of the structures is defined by its counterpart. The "new/modern" structure is expressed by the existence of the "old/traditional" one. Furthermore, the metal truss is covered by glass, so the roof composed by the truss is transparent, which brings daylight and the view of sky into the space covered by the truss. The spatial effect expressed by the truss and the glass is counter to what the wooden structure and tile roof creates.

6.2.6 Summary

There are more details that needed to be considered to fulfill all the requirements of the project, including the inside space of the main hall; the arrangement of a contemporary Chinese garden at the northeastern side of the museum; the design of a water system including a pond, an artificial lake, and a stream in response to the canal system of Suzhou and the landscape of the Humble Administrator's Garden. Besides, the

spaces and form of the administration building requires more planning to respond to the relationship with the classical building complex of the Humble Administrator's Garden. The above analysis is not comprehensive; rather, it has shown how the concepts mentioned in chapter 5 have enriched the specific parts of a contemporary design project.

7. CONCLUSION

Compared to Western architecture, the systematic study of Chinese architecture is relatively young. The relevant research materials are very limited, albeit varied, which requires more study to see the whole picture. Chinese classical architecture is not only based on climate, function and materials, but also draws ideas from philosophy, social systems, and artistic concepts. Therefore, it is important to have this background knowledge if one wishes to understand how Chinese classical architecture represents its specific phenomena. Having gained this knowledge, we could learn the design concepts necessary to develop architecture with Chinese cultural characteristics. Besides, these concepts could enrich contemporary architectural design. This is comparable to the modern movement, which not only changed the way Western architects designed, but also influenced South American and Asian architecture.

This process of cultural communication is not necessarily a bad thing. If we take one hundred years as a scale to observe cultural development[114], we realize that every mainstream culture has its own ability to tolerate and absorb incoming challenges and convert them into further development. After recognizing that Western modern architecture has been well developed and promoted across time, it becomes necessary to review other architectural cultures to fully understand the continuing evolution of contemporary architecture.

In Chapter 3, I explained the problems that the first generation of Chinese architects faced during the modernization process, and the lessons derived from them. In

[114] Ray Huang, a respectful Chinese historian, suggested that we should take one hundred years as a scale to observe Chinese history, since Chinese civilization has lasted for five thousand years. Huang, Ray. *China: A Macro History*. Armonk: M.E. Sharp, Inc., 1997.

Chapter 4, by analyzing Chinese classical architecture, I identified some design concepts that are practical for developing contemporary architecture. Finally, I conceptualized a museum project to examine those concepts and their application. It is impossible to overemphasize that those concepts must be understood before they can be applied. These concepts are necessary for reading Chinese classical architecture and learning the essence of a space and place so that an architect can apply the concepts to his or her own project. Therefore, if I had to describe the concepts verbally, it would be an alternate way of thinking or alternate attitude or design perspective. They do not conflict with other design methods and do not exist alone. They work with many different kinds of design logic and offer a valuable resource to strengthen an architect's design ability.

From the self-debate process in Chapter 6, when I explained how to use the concepts to design a museum, the reader can visualize the conflicts and arguments that I had in mind. However, no matter what kind of struggle I have faced, those concepts are very helpful for enriching a project and offer numerous possibilities for developing a different spatial experience. Also, because of the project I demonstrated, the concepts are not theoretical, but a bridge connecting the idea to real-world practice. I believe that this makes this dissertation more useful and clearly shows a research direction for scholars who would like to study further in this area.

This dissertation has achieved the objectives I established at the beginning. First, the research has identified the spatial and architectural forms of Chinese classical architecture which were based on a unique societal system. Confucianism and Taoism were the two philosophies that dominated Chinese society and formed the main factors for architectural construction. Second, the research has explained why the "Western

application with Chinese essence" theory could not work because of a misunderstanding of the essential basis of Modernism. Third, the research has uncovered four concepts from Chinese classical architecture that can help conceptualize contemporary architectural projects. Fourth, the research has applied these concepts to develop a project, demonstrating that they are useful in real-world situations, and are not just a theoretical model.

This leaves one final question: if a project successfully fulfills the four concepts, is it contemporary Chinese architecture? My answer is "yes." If the four concepts have been truly applied to a project, the project should have been developed with Chinese philosophy (concept 1), arranged in a space relative to its surroundings (concept 2), designed to express the beauty of structure (concept 3), and must deliver cultural meaning (concept 4). A design developed under these considerations should express the unique Chinese cultural temperament. In addition, concepts are designed to be used in conjunction with contemporary architectural techniques and in accordance with a contemporary life philosophy, so the building would represent the contemporary spirit of architecture and not just copy forms from classical architecture. Consequently, the architecture would be "contemporary Chinese Architecture**.**"

7.1 Further Study

Although the four concepts range from philosophy to forms, my research has not found all the concepts from Chinese classical architecture. There are many concepts that are still unrealized and waiting for architects to discover them (Figure 7-1). For example, *Feng-shui* theory sounds like a superstition, but some recent studies show its connection

with architectural psychology and the physical environment. The theory has been developed for thousands of years, although many Feng-shui masters used their personal point of view to interpret the theory and added superstition to flaunt their power. Some would agree to uncover the true value of the theory, it is necessary to remove the superstitions. However, others would remind us that superstition has also been a part of architecture theory.

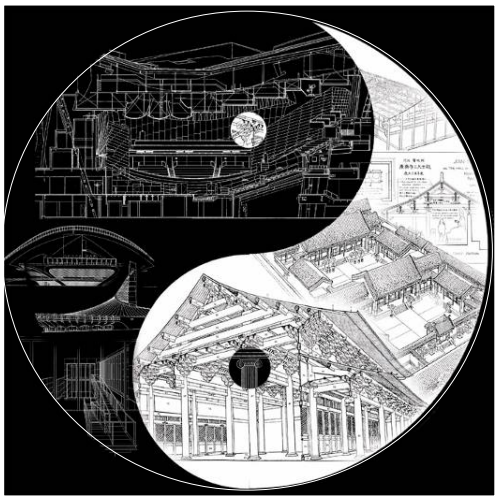


Figure 7-1. There are many concepts that are still unrealized and waiting for architects to discover them.

The influence of regional climate upon structures and building forms is another possible research area. An idea develops from the variety of vernacular architecture in different regions, but further research could benefit from a large-scale survey.

Finally, it would be worthwhile to study how pre-modern Chinese society use various forms (patterns, colors, scales, architecture, etc) to represent different rank in their societal system, and how it affected architectural development. Most architectural literature showcases official buildings, so more research needs to be done on the development of vernacular architecture.

7.2 My Meditation: "Which Architecture Represents Contemporary Chinese/Taiwanese Culture?"

As a Taiwanese, educated under the influence of Chinese culture, I am always interested in the contemporary architecture of both China and Taiwan. Although I have

studied this issue for many years, I still find it difficult to adequately determine which architecture represents contemporary Chinese/Taiwanese architecture. In the last decade, architecture in China has greatly developed, both in quantity and quality. Numerous international architects have had an opportunity to experiment on what has become a veritable playground of architectural innovation. The CCTV Tower by Rem Koolhaas, the new Olympic stadium by Herzog and de Meuron, the National Grand Theater by Paul Andreu, the Beijing International Airport by Norman Foster, and the Linked Hybrid (apartment) by Steven Hall are all examples of cutting-edge architectural designs that have been built in China. It will be interesting to review this process in twenty years, but I do not think that it is possible to draw any conclusions about Chinese architecture at this time, as doing so demands a period of time for people to interact with and respond to buildings. Without the interaction, architecture is just construction. On the other hand, Taiwan has been involved in this controversy for more than forty years, and the architectural development and academic research in this region is stabilizing, although it is not necessarily improving. Therefore, I will focus my discussion on the interaction between architecture and culture in Taiwan.[115]

Since the introduction of Western architectural theory to Chinese society, the struggle to develop a new architectural style has never stopped. Over the years[116], many architects have developed different approaches, but the architectural society has never been satisfied. There is always a problem and it seems that architects can never do enough. So, what is the answer? In the 1970's and 1980's, architects in Taiwan expressed

[115] There is a very complicated controversy surrounding the question of whether or not Taiwan is politically part of China. I am not naïve enough to ignore the political influence upon architectural development, but I am not interested in discussing this issue, as doing so will detract from my primary focus. This question is simpler if we consider it from a cultural perspective.
[116] Refer to chapters two and four of this dissertation.

the spirit of Modernism, which drew its inspiration from science. They believed that, as in the case of science, there were perfect architectural solutions that could be evaluated by standards, such as the three principles of International Style[117] or the invariables of modern architecture[118]. They considered these standards to be universal, believing that they could be applied to any architecture, as the Western Modernists had announced in the Modern Movement.

Under this atmosphere, architectural critics in Taiwan were frustrated by the architectural development and believed the ultimate solution had not yet come. After the 1980's, Postmodernism emerged in Western society, overthrowing the concept of universal standards in architecture, and generating respect for the myriad possibilities of architecture. Architects in Taiwan sensed the new wave and developed a different solution. Architecture with cultural motifs become fashionable again. New architectural styles and forms flourished, offering new architectural solutions that better exemplified Chinese culture. However, more than two decades have passed since the first flowering of postmodernism, and architectural scholars are still not supportive of the architects who devoted themselves to conceptualizing contemporary Chinese/Taiwanese architecture. The negative opinions from academic society have not only discouraged many young architects from developing their projects, but have also blocked the further possibilities of this culturally-oriented approach. Taipei Financial Center, nicknamed "Taipei 101", is a good demonstration of this dilemma. Proposed in 1999, Taipei 101 was designed to be the highest skyscraper in the world. As usual, this building was not supported by architectural scholars. They worried that the huge tower would seriously impact traffic,

[117] Henry Russell Hitchcock and Philip Johnson, *The International Style* (New York,: Norton, 1966).
[118] Bruno Zevi, *The Modern Language of Architecture*, 1st Da Capo Press ed. (New York: Da Capo Press, 1994).

fretted that the skyscraper was not a friendly icon for the city, argued that the super-high tower would not go with its landscape, etc. Although there were many negative opinions about the project, the design team and their client were not discouraged. When the building was completed in 2004, it attracted more critiques because the design team[119] boldly applied Chinese classical forms and concepts like pagodas, cloudy patterns, and bamboo to transform the ordinary form of the skyscraper. This "Chinese form" made the critics uncomfortable. Architectural historians critiqued the building form, the inefficiency of the layout, and argued that the building represented the invasion of capitalism. Before the building opened to the public, it was already widely viewed as a monster that would be disastrous for Taipei.

Interestingly enough, two years later, because of the successful businesses and the fact that it was the world's highest skyscraper, Taipei 101 attracted many shoppers and tourists, and gave Taipei a great deal of international publicity; in addition, its computerized lighting, design, and outside platform (for fireworks) successfully created unique visual effects for special occasions, which brought the citizens of Taipei a great deal of joy. Ironically, while Taipei 101 was included in 2004's top ten list of the ugliest building in Taiwan, the citizens of Taipei selected it to be among the top ten buildings to represent Taipei in 2006. Many media, including magazines, the TV news, and publications have used this tower as the icon of Taipei, much as the Eiffel Tower represents Paris or the Empire State Building represents New York.

I am very interested in this situation and have tried to understand how a building could generate such different opinions. I agree with some architectural historians that

[119] C.Y. Lee and Partners Architects/Planners. From the introduction of their company, they devoted themselves to conceptualizing 21st century Chinese architecture based on arts and technology. www.cylee.com.

Taipei 101 is not a "good project" because the architectural mass is not adapted to its environment, some traditional forms are just decorations, a skyscraper is not a friendly building for a city, and the building form does not represent Taiwan (although, to be fair, I have yet to see an architectural historian clearly identify the characteristics of contemporary Taiwanese Architecture). However, based upon my experience and the popular response, I realize that something about this building transcends its appearance. I still feel that Taipei 101 is not a good project for the architectural elites, but Taipei's citizens like it and are proud of it; I am still unsure about whose opinions matter more in the final analysis of whether it is good or bad architecture.

In section 3.3.4 of this dissertation, I point out that Vincent Scully emphasized the democratic characteristics of Modern architecture. One of the most important contributions of Modernism is that it uses architectural techniques to serve common people. Many architects have devoted themselves to conceptualizing better living environments for people, and improving their living conditions. Architects are not just artists who focus on the beauty of an object; "people" should be the key word in an architectural project. Furthermore, when Robert Venturi conceptualized his projects based on pop art, popular culture, and anti-heroism, he was trying to fracture the authentic aesthetics of architecture. He opposed the academic standard of beauty and respected the taste of the masses. This offended mainstream architectural society three decades ago but is not difficult to understand today. The people working in mass communication are very sensitive to this change. For example, on the hit TV program "American Idol," the winner of the show is not selected by a committee, but rather by the American public. Therefore, the power to create a TV star is moved from the so-called

experts to the common people. As a matter of fact, the process of decision making is very reasonable because these pop stars could not survive without the support of their fans.

When we try to determine if Taipei 101 is a good representation of contemporary Chinese/Taiwanese architecture, we must acknowledge the numerous points of view. Of course, the design team of Taipei 101 could not escape from the heroism of the skyscraper form, and they worked very hard to create an icon that would please their Chinese public, both in Taiwan and on the Chinese mainland. The tower itself is not satisfactory to architectural historians because of its skyscraper form and characteristics; however, because of the five reasons below, I consider Taipei 101 a good representation of contemporary Chinese/Taiwanese architecture.

First, unlike Kuala Lumpur's 452 meter Petronas Tower, designed by Cesar Pelli, and Shanghai's 421 meter Jin Mao Tower, designed by S.O.M, Taipei 101 was designed by Chinese architects. The primary architect, C.Y. Lee, has attempted to insert Chinese cultural motifs into his projects for more than two decades. Although he received his master's degree from Princeton University and worked in the United States for ten years, his design concepts are based on Chinese classical philosophy. Second, while the form of Taipei 101 is connected to Chinese traditional culture, its function is based on contemporary daily life. The main tower is for office**s** and the lower level is a mall. Taipei is a modern, international city, and its economy is a global one. People working in this tower require Western-style offices to fulfill their communications infrastructure, which was transplanted from Western society. The mall in the lower level is not just a shopping center decorated with transformed Chinese bracket structure; it is enhanced

with the concepts of "urban street" and "social plaza," which animated the space with public activities. Its successful business proves its economic success as a building.

Third, the lighting plan of Taipei 101 has contributed an interesting diagram for special occasions. Its unique building form has wonderful platforms for fireworks, enabling it to successfully sponsor New Year's activities for hundreds of thousands of people. It has begun to be an important part of the common memory of the society, and has the chance to be part of the city's future traditions.[120]

A fourth reason for its significance is the fact that Taipei 101 is the highest skyscraper in the world. It has the potential to become one of the hottest tourist destinations in Taiwan. For the same reason, it has attracted more attention from other countries and exposed Taiwan to the world. This engenders pride in the citizens of Taiwan. Thus, the tower helps reduce the frustration stemming from Taiwan's international political situation. Fifth, Taipei 101 is a unique project in Taiwan. It was the first BOT (Build-Operate-Transfer) project. It is located in the center of Taipei city, close to Taipei airport. Its height not only exceeded Taipei's urban regulations, but also had the potential to block the flight path. To accomplish this project, the main powers of the city, including the city government, the builders, the architectural firm, and a scholarly committee gathered together to negotiate a possible proposal. This decision-making process was similar to the one used by a pre-modern Chinese village when they wanted to build a feng-shui tower.[121] The city has exhausted its resource**s** (financial, administration, land and space, etc.) building this skyscraper, and there has yet to be any similar construction proposals. Taipei 101 will be the single tower in that area for several years at

[120] It is like the "Big Apple" in the Time Square has become a tradition of New York City.
121 More detailed information could be found in a conference paper titled "The Beauty and Sorrow of Taipei 101". Anchi Tai, Environmental Design and Research Association 36th conference. 2005.

least. In comparison with Jin Mao Tower, the decision making process of Taipei is more "Chinese," as is the landscape that it is helping to form.

A good architectural design should carry its unique meaning to the people it serves, and represent its own time. It should not just exist in its location, but also in the common memory of its society. Its existence should not be decided by elites, but by its users regardless of their social status. It should not only function well, but also connect a society's past and future. I would rather believe that Taipei 101 was successful for existing in the right time and right place, and for playing the correct role in society. Taipei 101 shows us some clues to the further possibilities of contemporary Chinese/Taiwanese architecture, worthy of careful consideration.

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President, April 1991
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Our association won The Best Association honor that is judged based on the activities of 72 similar associations.