A Study on the Meaning of Horizontal Tablets and the Spatial Composition of Xiyuan Imperial Garden in Beijing, Qing Dynasty of China

June 2019

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（千葉大学審査学位論文）

A Study on the Meaning of Horizontal Tablets and the Spatial Composition of Xiyuan Imperial Garden in Beijing, Qing Dynasty of China

中国清代· 西苑園林における扁額の意味と庭園空間構成に関する研究

2019 年 6 月

千葉大学大学院園芸学研究科

環境園芸学専攻緑地環境学コース

蘇　暢

CONTENTS

Chapter1

Preface

1.1 Background

As one of the key factors for human settlement in history, gardens are used as a kind of entertainment space in the living environment by rationally utilizing the natural environment (terrain, water, etc.), combined with landscaping and buildings, mainly for visual landscape appreciation[1]. From the early human settlement patterns, gardens have become one of the key elements in human living environment, as well as the space medium between human and nature. Early humans raised livestock around the settlements, planting crops, vegetables and fruits (Figure1-1). In this space, the appearance of ornamental plants, decorations and other ancillary content has become the most primitive form of garden[4]. After the fundamental changes in production methods and efficiency, the pattern of human living space began to change, and the original housing-garden space pattern still mostly remained. After the emergence and development of the world's four ancient civilizations, the overall pattern of world civilization development has gradually become diversified. Gardens also develop their unique characteristics according to different cultural backgrounds[1].

Figure 2-1 The Garden of Nebamun. Egypt, 1400B.C Earliest Art Form of Garden

Figure 2-2 The Evolution of Mandarin Character "Garden" in Ancient China from the Beginning of Appearing

As an important part of the development trend of world gardens, ancient Chinese gardens have inspired and carried the origin of Oriental garden aesthetics[10]. It is believed that in the development of productivity and the changes of the feudal dynasty, its function, artistic connotation and form have made great progress[2]. In terms of functions, ancient Chinese gardens gradually changed from primitive agricultural production, animal husbandry, hunting, sacrifice and other primitive functional needs and space divisions to more diverse living and sightseeing spaces[1] (Figure1-2). And its main purpose is to express the cultural cognition and feelings of the garden owners.

In term of form of gardens, the ancient Chinese gardens followed the emergence and development of the feudal society and had a differentiation from Wei-Jin Period[1)11)]. Among them, based on the influence of literati and officialdom class in Wei-Jin Period, private gardens developed a unique view of nature, landscape view and the aesthetic core of hermit thought[1)8)11)](Figure1-3). At the same time, the types and composition of imperial gardens also evolved from the traditional [palace-garden] structure to several diversity patterns according to the spatial difference between garden and palace. The relationship between garden and living space also developed from the simple spatial relationship of [house-garden juxtaposition] in the very beginning to new spatial relationships such as [house in landscape], [garden

Figure 2-3 Images of Literati in Wei-Jin Period, The Seven Sages of the Bamboo Grove, Seikō (Rikō), Muromachi period, Japan. Hanging scroll; ink on paper

in landscape] and [palace in garden]. In Qing dynasty, the ancient gardens experienced more than 3,000 years of accumulation and evolution and entered the peak period of traditional garden construction. The skills of garden construction, the concept of traditional landscape and the summary and concentration of the core of garden culture reached a relatively high level in the feudal period[8]. After a long period of development and evolution, Chinese ancient gardens are mainly divided into three categories (Figure1-4) according

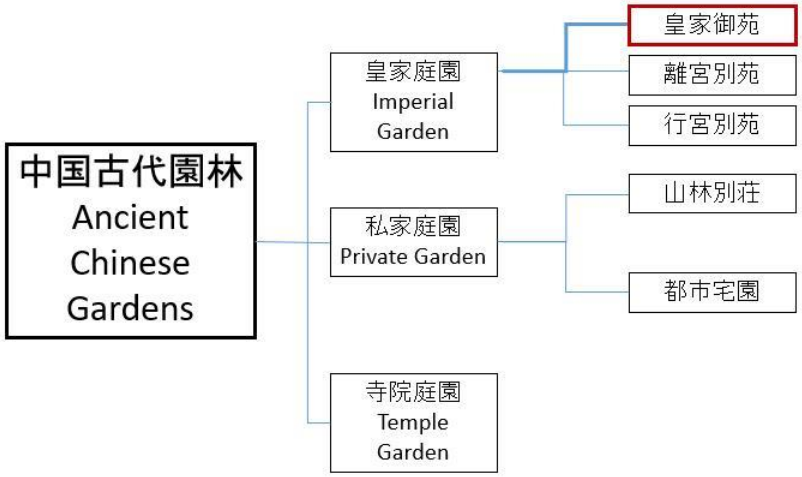

Figure 2-4 Three Categories of Gardens in Ancient China.

to their different affiliations. imperial gardens, private gardens and temple gardens.

In term of artistic connotation, the artistic connotation of Confucianism, Taoism and Buddhism, as the three basic cultural backgrounds in the framework of ancient Chinese culture, complements the cultural and artistic connotations of gardens[8)10)11)]. In the process of building a living environment, ancient gardeners also projected traditional cultural connotations and personal life tastes into the garden space in the form of artistic elements such as texts and characters. The garden space gradually transformed from the original natural landscape to a mix mode of “human landscape” and natural landscape. Gardens are one of the artistic forms which are strongly influenced by the cultural background. Under the long-term influence of traditional Chinese culture, ancient Chinese gardens also added the natural concepts and literati connotations in traditional poems, articles and paintings into the physical space[9)10)]. Thus, the garden also evolved into a corresponding virtual "artistic conception" space. This kind of spatial pattern and characteristics of the combination of virtual and real is also the most remarkable difference between ancient Chinese gardens and other gardens (Figure1-5).

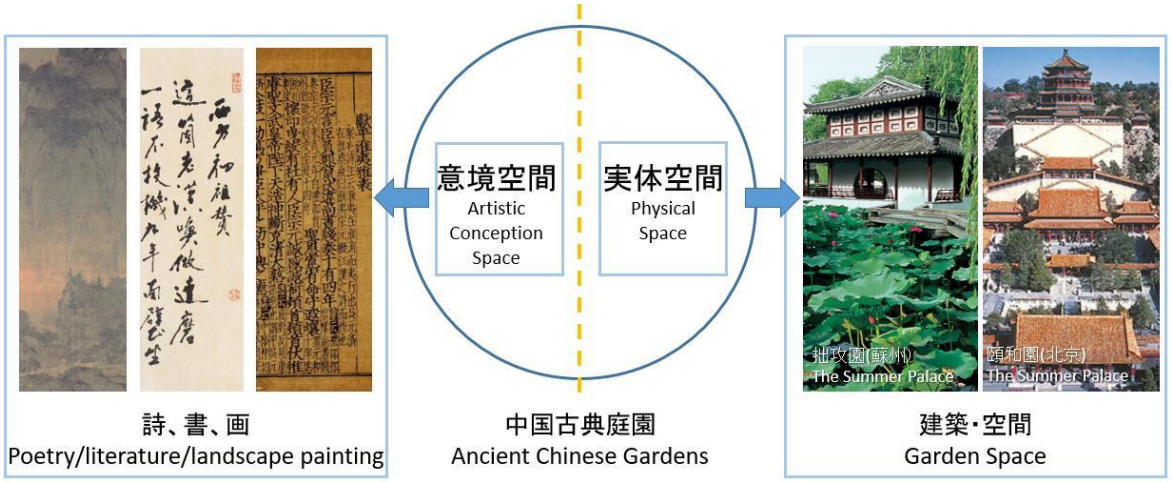

Figure 2-5 Combination Pattern of Artistic Conception Space and Physical Space in Ancient Chinese Gardens

The construction of ancient Chinese gardens can be basically divided into five stages according to the scale of development, construction technology and other factors, which are [Generative stage], [Transition stage], [Heyday stage], [Maturity stage] and [Late maturity stage][1]. The imperial gardens of Qing dynasty spanned the last two periods and reached a new height in the construction techniques, scale, and the combination methods of cultural connotation and physical space. It is a period of integration and generalization in the history of ancient Chinese gardens. In the Qing Dynasty, China was ruled by the northern minorities. The emperors of Qing dynasty concentrated on learning sinology and absorbed nutrients from the inheritance system of ancient Chinese traditional culture, which played a very important role in inheriting and developing the tradition of ancient Chinese gardens[1)2)3)].

The Qing Dynasty (1636-1912) was the last feudal dynasty in Chinese history with a total of 12 emperors. The rulers of the Qing Dynasty originated from the Nuzhen nationality in northeastern China. In 1644, Shanhaiguan entered the Central Plains of China from the Shanhai Gate and took over the rule of the Ming Dynasty. Around 1659, the whole country was unified, and the capital of Beijing was established. After the earlier period of turbulent rule, in the three periods of emperor Kangxi, Yongzheng and Qianlong, the whole country gradually became prosperous. During this period, China's traditional society has made unprecedented development achievements. In the early Qing Dynasty, the population increased, the land was reclaimed, the products were abundant, and the border was free. The production mode and social life of the small-scale peasant economy were relatively prosperous and stable, and the comprehensive national strength was far better than that of the Han and Tang Dynasties. At the same time, the rulers of the Qing Dynasty, as the northern minorities, adopted the basic policy of inclusiveness in ethnic policy. The ruling class tried to resolve the national contradictions, and at the same time adopted

an open attitude towards the traditional Sinological culture of the Central Plains of China. Compared with the rule of minority nationalities in Yuan Dynasty, the secular economy and culture in Qing Dynasty were strongly supported and developed. At the same time, the rulers of the Qing Dynasty, relying on their strong national power, launched large-scale construction activities on the imperial palace buildings and gardens. In addition, the construction of private residential gardens and gardens reached the peak in the feudal period of China in the more prosperous areas in the south, such as Suzhou, Hangzhou and Guangzhou in the south. The garden construction activities in this period basically laid a complete pattern and scale model of Chinese ancient gardens.

The rulers of the Qing Dynasty, as the northern minorities, retained the primitive concept of natural landscape. After the rulers of the Qing Dynasty came to power in the Central Plains, in the process of building gardens, the natural concepts of the northern minority nationalities were integrated with the natural concepts of the traditional culture of the Central Plains of Chinese. The mainstream development of ancient Chinese gardens to the Ming and Qing Dynasties got rid of the original urban residential gardens, while understanding and re-creating the intention of natural landscape. During this period, the original natural background(山水基礎), that is, the natural environment of mountains, rivers and other landscape foundation, has been transformed into the expression of imagery. After the founding of the capital of Beijing by the rulers of the Qing Dynasty, a series of imperial gardens were built based on the excellent natural background of mountains and waters in the northwest direction of Beijing. To a certain extent, it embodies the integration of the minority rulers and the early gardening ideas in ancient China. In addition, in the urban areas adjacent to the imperial city, the gardens built on flat land based on the urban background were also carried

out. It embodies the characteristics of "urban mountain forest"(城市山林) in the later period of Chinese ancient gardens, that is, the intention of creating natural landscape in cities. Understanding the duality of natural landscape foundation is one of the characteristics of imperial gardens in the Qing Dynasty.

During the construction of the garden, the emperors of the Qing Dynasty merged their unique views of nature and landscape. In terms of scale, the rulers of the Qing Dynasty relied on strong national strength to build a series of imperial gardens in Beijing Imperial City and surrounding suburbs[1]. And the overall construction activity reached its peak during the Qianlong period of Qing dynasty (Figure1-6). During this period, the number and size of imperial gardens exceeded those of previous dynasties; In terms of site, the Qing rulers built and renovated the imperial garden -- Xiyuan Garden within the imperial city of Beijing according to the basic imperial city pattern of the former dynasty. In addition, in the shallow mountainous area of the

Figure 2-6 Qianlong Emperor 1735-1796

northwestern suburbs of Beijing, combined with the natural background, mountainous terrain and abundant water resources network, the imperial garden system of “Three Mountains and Five Gardens” was built. At the same time, the summer resort, a large-scale imperial garden relying on natural landscape structure, was also built far away from Beijing. In terms of the spatial composition of gardens, imperial gardens in Qing dynasty developed a more complex spatial structure. Different from the single relationship between garden buildings and the natural environment, the spatial pattern of "garden within garden" was a further interpretation of the traditional Chinese living environment. At the same time, this kind of spatial pattern is also an exploration and attempt on the relationship between large-scale man-made landscape structure and small-scale living environment space. In terms of function, the imperial gardens in Qing dynasty not only satisfied the daily recreation and enjoyment activities of the emperors. In order to meet the needs of the emperor's long-term residence in the garden, multi-functional living spaces, political ceremonies and religious rituals gradually appeared in the imperial gardens, forming a coexistence and interrelationship of the overall spatial pattern in which the multi-functional spaces coexist[6)13)].

Among the newly built and restored imperial gardens in the Qing Dynasty, Xiyuan Garden was the largest imperial garden in the Imperial City of the Qing Dynasty, and it has the longest history[1)5)14)23)]. Xiyuan Garden is also the longest and best-preserved imperial garden in the history of ancient Chinese gardens. The establishment and development of Xiyuan Garden was closely related to the overall urban construction and planning of ancient Beijing.

The development history of Xiyuan Garden is closely related to the development of Beijing's urban pattern. The area where Xiyuan Garden is located has been developed since the Tang Dynasty, which has been recorded

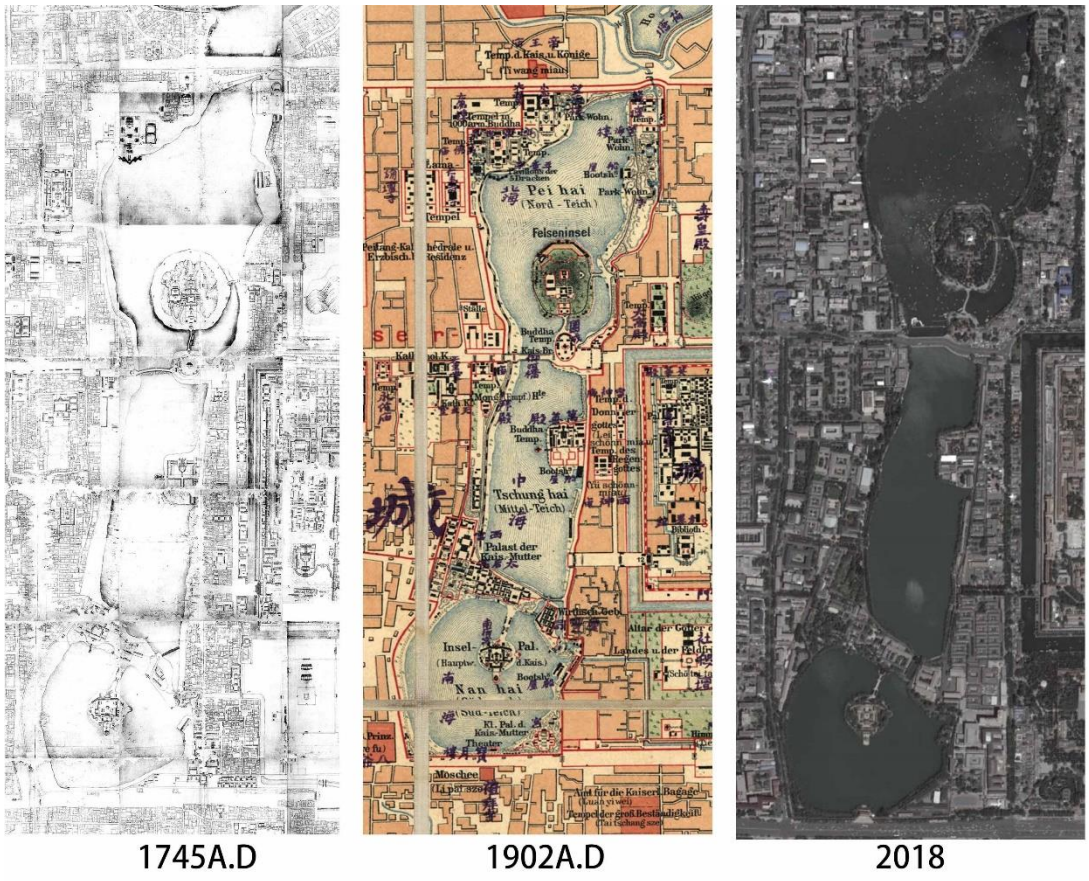

Figure 2-7 Xiyuan Imperial Garden in 1745,1902 and Now

by human agricultural activities. During its development, there exists deep landscape plasticity. The water body of Xiyuan Garden Area originally belongs to the old Yongding River. After the migration of the river, the residual riverbed and low-lying area finally formed the embryonic form of Xiyuan River System after the perfusion of Gaoliang River System. According to archaeological discoveries around the Three Seas, as early as the Tang Dynasty, the Xiyuan Garden, which belongs to the northeastern suburb of Youzhou City, had been planted with rice and lotus for water control. The history of artificial landscape development of Xiyuan Garden began in the first year of Liao Dynasty (938). Since the city of Youzhou was designated as the accompanying capital of Nanjing (today's Beijing area), the urban planning and construction of Youzhou City began. At the same time, the artificial

Figure 2-8 Xiyuan Garden in Painting of << Spring View in Beijing>> by Xu Yang,1767 and Modern Photograph

landscape works of Xiyuan area, a lake scenic area in the northeastern suburbs of the city, began. After the extinction of Liao Dynasty, the primitive urban structure of Nanjing in Liao Dynasty was continued, and the construction of Jinyan Capital began. In the first year of Zhenyuan (1153), the capital of Yanjing was determined and renamed Zhongdu. In the sixth year of Dading (1166), the Imperial Palace was built in the lake scenic area in the northeastern part of the city, which served as the palace for Emperor Jin's summer vacation, namely the Taining Palace. and adopts the typical imperial Garden of Island-Mountain system. It forms the spatial structure foundation of Qionghua Island, Tuancheng City, southern islands and large-scale river system, which is the development foundation of the modern Xiyuan Garden in shape and scale (Figure1-9).

The whole space of the garden was formed by spatial elements such as vast water bodies, islands and garden buildings. During Qing dynasty (especially

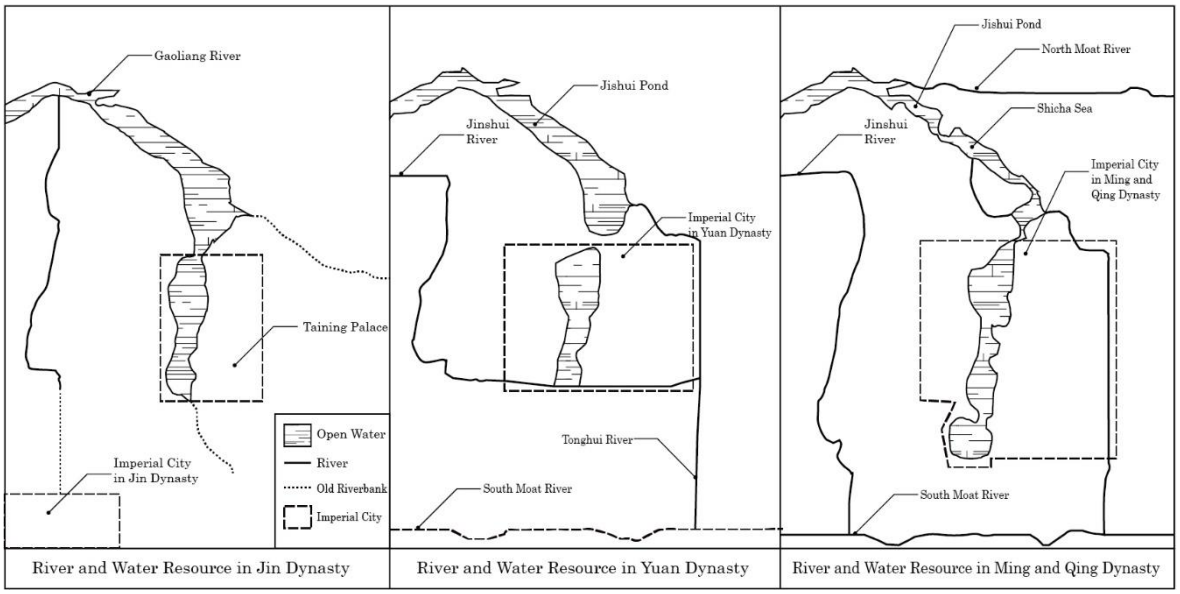

Figure 2-9 The River and Water Resource around the Site of Xiyuan Garden

during the reign of Emperor Qianlong), the overall spatial structure of Xiyuan Gardens had been finalized[23]. The richness of landscape elements, number and functional type of building groups reached the peak in the overall development of the garden. Various functional building groups and building monomers were flexibly combined with the overall landscape structure system inside the garden. At the same time, in the process of in-depth study and research of sinology and the thoughts of ancient literati, the rulers of Qing dynasty also projected their personal concept and view of natural landscape into the expression of virtual artistic conception space based on Chinese cultural background.

In the process of construction, the landscape architects used the text elements such as horizontal tablets, couplets and stone carvings, as well as the decorative components inside the building, to express the cultural connotation elements corresponding to the physical space of the garden, showing the profound cultural connotation of the emperors and the ideological expression of the natural view in the living environment[20]. This form of expression also

Figure 2-10 The Horizontal Tablets and outer space of *Yu shei tong zuo* pavilion in Zhuozheng Garden

reflects the profound understanding of the concept of "natural habitat" by Chinese landscape architects during that period.

Among them, Horizontal Tablets is an important building unit in ancient Chinese gardens, and also one of the main artistic conception expression methods. There are many ways to express artistic conception in ancient Chinese gardens. With the development of aesthetics of garden artistic conception, the way of expression is also changing with the times (Figure1-10).

From the perspective of structure and function, horizontal tablet, as one of the components of landscape architecture, has its own way of development and change, while plays an important role in the naming and the type distinguish of buildings in ancient Chinese gardens.

From the perspective of connotation and function of horizontal tablet, it can be divided into two levels: point view and expression of landscape artistic conception. Spotting scenery is the abstraction and generalization of gardening scenery. Usually in the way of direct description or metaphorical metonymy, a narrative summary of the surrounding landscape is carried out, which synchronizes with the viewer's psychological hints and produces the perception of place and sense of belonging before viewing, and explains the relationship between the surrounding environment of the building and the building.

Ancient Chinese garden art has strong symbolic characteristics. From the whole space sequence to the structural components of garden construction,

ancient Chinese garden always revolves around the theme of harmony between man and nature, which is the integration of nature and humanism. While reshaping nature by means of solid space moulding, we use a variety of symbolic and metaphorical language to interpret another aspect of gardens, that is, humanistic thought, that is, the synaesthesia between the viewer and the artistic conception of gardens. However, artistic conception is usually implicit, restrained and diversified. It is difficult to convey the literati's mood expressed by the gardener completely and accurately by the physical space in the gardens.

In this context, this study will take Xiyuan imperial garden in Qing dynasty as the main study object. A clear and definite conclusion about the historical development and changing process of the garden will be given. And on this basis, the spatial characteristics of the physical space, the corresponding relationship between the space of virtual artistic conception and the physical garden space will also be analyzed and discussed. Meanwhile, the cultural connotation of the residential environment in ancient Chinese imperial garden will be cleared and defined. At last, the integrity and depth of research related to the ancient Chinese imperial gardens will be supplemented.

Figure 2-11 The Corresponding Relationship between Artistic Conceptional Space and Physical Space

1.2 Previous Research and Study Targets

1.2.1 Previous Research

This study focuses on the Xiyuan imperial garden in Qing dynasty. Based on the discussion of the overall development of Xiyuan Garden, the study analyzes and discusses the spatial characteristics of the garden. On this basis, from the aspect of meaning of Horizontal tablets, the corresponding characteristics of virtual artistic conception space and real garden space are discussed and summarized in ancient Chinese gardens. Based on the study background above, the previous studies of this study mainly include three aspects: ①the historical theory of ancient Chinese gardens and the basic research related to garden buildings and space; ②Study on the space of virtual artistic conception in ancient Chinese gardens ③ The study on the characteristics of the historical changes and the analysis on the spatial characteristics of Xiyuan Garden.

1) The historical theory of ancient Chinese gardens and the basic research related to garden buildings and space

The research on the history of ancient Chinese gardens, especially on the history of the imperial gardens in Beijing during Ming and Qing dynasties, is relatively plentiful. Among them, 《History of Chinese Traditional Gardens》 written by Zhou[1)], 《History of Ancient Chinese Garden》 written by Wang[2)] and 《Chinese history of landscape architecture》 written by Sato[3)] are three fundamental theoretical basis of ancient Chinese gardens in different periods and the overall characteristics of the imperial gardens in Qing dynasty. Among them, as an important part in the history of ancient Chinese gardens, the

ancient imperial gardens of Qing dynasty were fully and meticulously analyzed by three scholars, and the details of the development process and spatial pattern change of Xiyuan Gardens were discussed; Liu[4] and Wang[5] systematically and accurately summarized and discussed the characteristics of ancient Chinese architecture, especially the characteristics of garden architecture in different periods; Peng[6] and Cao[7] narrated the history of the development of ancient Chinese garden art and provided methods in analyzing the spatial features of ancient Chinese garden and garden architectures, while made a comparative study between the development of garden art and the development of other art forms in Ancient China.

2) Study on the space of virtual artistic conception in ancient Chinese gardens

In the study of ancient Chinese gardens, the theoretical study on the Study on the space of virtual artistic conception in ancient Chinese gardens is relatively sufficient. Jin[8], Zong[9] and Meng[10] discussed the ideological origin of artistic conception aesthetics and emphasized the importance of virtual artistic conception aesthetics to the connotation of ancient Chinese gardens; Li[11] and Zhang[12] discussed the influence of traditional Chinese philosophy and aesthetics on ancient Chinese gardens.

In terms of the research papers, Zhao[13], Zhuang[14] and Cui[15] took the imperial gardens of the Qing dynasty as the research object and discussed the aesthetic tradition of ancient Chinese gardens from the perspective of naming method of garden buildings and aesthetics connotation in traditional culture. Wang and He analyzed and classified the expression methods of artistic

Figure 2-12 Parts of Horizontal Tablets in Xiyuan Garden

conception in ancient Chinese gardens and distinguished the difference between the construction of physical space and virtual space.

On the other hand, other scholars took the contents and meanings of the horizontal tablets in the garden as the starting point of their research and made some research on the artistic conception space of ancient Chinese gardens. Hu[16], Chen[17], and Cao[18] emphasized the superiority of horizontal tablets as the spiritual carrier of language art in the process of transmitting thoughts of gardeners; Zhou[21], Zhao[20] and Zhang[19] took the horizontal tablets of the imperial gardens of Qing dynasty as the research object, and discussed the construction methods of artistic conception space in ancient Chinese gardens; Xia[22] analyzed the writing characteristics, shape and structure of the horizontal tablets in the imperial gardens of Qing dynasty, and discussed the development of horizontal tablets in the imperial gardens of Qing dynasty.

3) The study on the characteristics of the historical changes and the analysis on the spatial characteristics of Xiyuan Garden

In previous studies, there are relatively few studies on the historical change pattern of Xiyuan Garden, as well as the discussions about the spatial characteristics of the garden. Li[23] studied the overall historical development process of Xiyuan Garden and summarized the characteristics of each historical development stages. Yu[24], Niu[25], Zhou[26], and Ma[27] took the Beihai part of Xiyuan Garden as the research object and discussed the composition characteristics of Xiyuan Garden in large space scale.

In addition, in the historical records of imperial gardens in Beijing during the Ming and Qing dynasties, 《Old Stories from the Past》[28], 《Study on the Old Beijing City》[29], 《Scenery in the Imperial City of Beijing》[30], 《knowledge and record of the three sea》[32], 《The History of the Palace》[31] described in detail the spatial elements and historical activities of the imperial gardens, especially Xiyuan Garden in Beijing during Ming and Qing dynasties.

1.2.2 Purpose and Significances of Research

According to previous studies, the physical space of ancient Chinese gardens has been extensively studied. At the same time, there is also a considerable amount of research on virtual artistic conception space of gardens under the influence of ancient Chinese cultural background. However, in the existing research, the corresponding research between physical space and virtual artistic conception space is relatively few; In addition, the process and method of the research are mainly qualitative and subjective analysis, lacking comprehensive and objective quantitative research and analysis. It is difficult

to objectively and clearly summarize and discuss the corresponding relations between the two types of space and draw relevant conclusions.

Secondly, the garden space of Xiyuan Garden is relatively complicated. In the previous study of Xiyuan Garden, there was no specific analysis of the spatial characteristics of various spaces in the garden. At the same time, from the perspective of the horizontal tablets, there is also a lack of correspondence between the internal artistic concept space of Xiyuan Garden and the physical space of the garden. As the largest imperial garden in the imperial city of Qing dynasty, the lack of research depth on Xiyuan Garden has a certain impact on the integrity of overall research on the spatial characteristics of the imperial garden of Qing dynasty.

Thirdly, in the existing studies about Ancient Chinese Gardens, there is a lack of comparative analysis between the physical space of the garden and the cultural space and artistic conception space expressed by the meaning of the horizontal tablets, taking the meaning of the horizontal tablets as the main research point. At the same time, the imperial gardens in Qing Dynasty were an important summary of the development of Chinese ancient gardening culture. The virtual personality and natural image expressed by the horizontal tablets content and the corresponding characteristics of the entity space also need to be systematically analyzed and summarized.

Fourthly, Xiyuan imperial Garden is an important imperial garden in the center of Beijing imperial City. Because of its location and the relative space relationship with the Forbidden City, it reflects the typical spatial characteristics of Flat-Land gardening. At the same time, a series of imperial gardens in the shallow mountainous areas in the northwest suburbs of Beijing are different from those built in the same period. The rulers of Qing Dynasty built imperial gardens based on natural mountains and waters, which

integrated the natural and world outlook of the minority nationalities as well as the space model of the early Chinese landscape gardens. Xiyuan Garden, as the inner part of the city, is the ruler's interpretation of the concept of "urban mountain forest(城市山林)" in the later stage of the development of Chinese ancient garden culture. There is also a need for analysis and summary of its special position relationship and gardening techniques. Meanwhile, during this period, the gardening activities and level of private gardens in south part of ancient China reached a relatively high level. The Qing Dynasty imperial gardens and private gardens in the south of the Yangtze River had some exchanges and references from the aspect of technologies and theory. Therefore, it is necessary to make a comparative study of Xiyuan imperial Garden and Private Garden in the same period.

Therefore, based on previous studies and existing literature, this study will analyze the garden space that corresponding to the garden buildings of Xiyuan garden. In addition, from the perspective of contents and meanings of horizontal tablets, the spatial characteristics of virtual artistic conception space and entity space in Xiyuan Garden will be discussed. On this basis, the corresponding relationship between the physical space and the virtual artistic conception space of Xiyuan Garden will be clarified. Based on the ideological and cultural background, the overall composition and characteristics of the garden space of Xiyuan Garden are discussed, and the relevant conclusions are drawn.

1.3 Research Methods and Constitution

1.3.1 Research Methods

Based on previous studies and historical maps, photographs and other historical data, this study takes Xiyuan Garden as the research object. Firstly, the historical change process and characteristics of Xiyuan Garden are discussed. Moreover, taking the building groups and monomers in Xiyuan Garden as the framework of the study, the building groups and monomers in the garden are divided into four categories according to their functions: religious, living and self-cultivation, sightseeing and rest, and political. Then, on this basis, this study extracts and collates the corresponding garden space characteristics and horizontal tablet meanings of various types of buildings and carries out quantitative typological analysis. At the same time, the corresponding patterns between physical space and artistic conception space are discussed. Then, based on the analysis results, the space characteristics of gardens corresponding to various functional buildings are clarified and summarized. Finally, combined with the cultural and social background of Xiyuan Garden, the spatial shape and spatial characteristics of Xiyuan Garden were discussed, and relevant conclusions were drawn.

1.3.2 Research Constitution

The first chapter is the preface, which describes the research background, purpose, orientation, previous research, research methods and the constitution.

In the second chapter, the spatial change process and characteristics of Xiyuan Garden are taken as the main research contents, and the spatial change process of Xiyuan Garden from its inception to the end of Qing Dynasty and the spatial characteristics of each period are discussed.

In the third chapter, four types of building groups with different function in Xiyuan Garden are taken as the research objects, and the corresponding spatial characteristics in each functional type of building groups are investigated from the aspect of horizontal tablets meanings.

In the fourth chapter, the building groups and building monomers with recreational function in Xiyuan Garden are taken as the research objects, and the space characteristics are investigated and discussed from the aspects of the site, view relationship and corresponding horizontal tablets meanings.

In the fifth chapter, taking the building groups with the function of residence and self-cultivation in Xiyuan Garden as the research object, a comparative study with private gardens in Suzhou in the same period are conducted. Based on the meaning of the horizontal tablets, the space characteristics of the two types of gardens were discussed and clarified, and the spatial characteristics of the imperial garden in Qing dynasty are further emphasized and clarified.

In the sixth chapter, based on the conclusions of each chapter, the general conclusions of this research are described. At the same time, combined with the relevant cultural and historical background, the space composition and spatial characteristics of Xiyuan Garden are discussed, and finally the relevant conclusion are drawn.

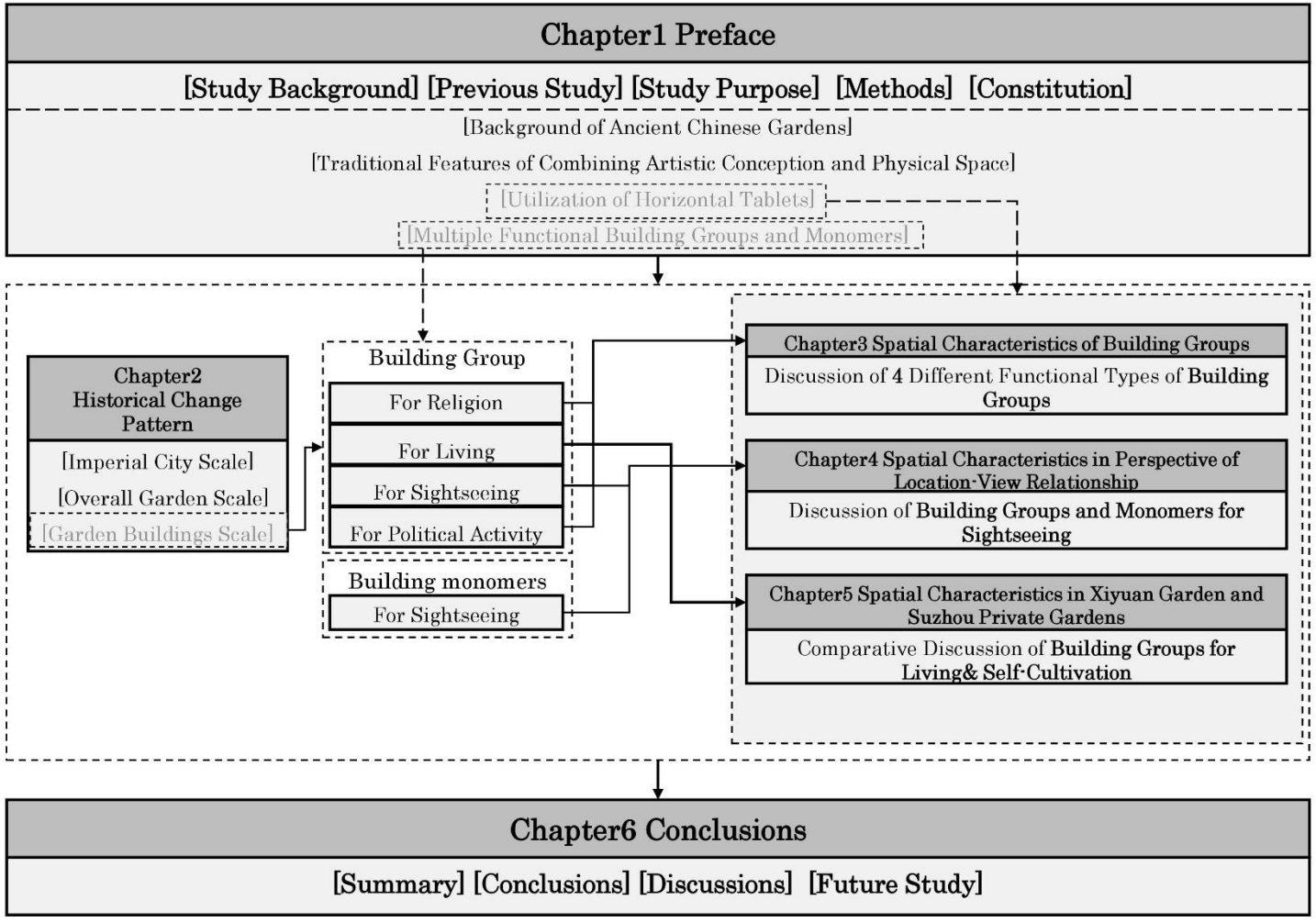

Figure 2-13 The Constitution of the Overall Study

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Chapter2

The Study on the Historical Spatial Changing and Spatial Characteristics of Xiyuan Garden

2.1 Background and Study Purpose of the Chapter

Beijing, as the ancient capital of China in Liao (907-1125), Jin (1115-1234), Yuan (1271-1368), Ming (1271-1368) and Qing (1616-1912) Dynasties, has a rich history of constructing imperial cities and palaces[3]. Xiyuan Garden, as the largest and earliest existing imperial garden in China, have been part of the imperial city since Yuan Dynasty (1271-1368). The whole imperial city is the mixture of gardens and palace area, the core of which is the Forbidden Palace (宫城). Xiyuan Garden is composed of water, islands and garden buildings as overall garden space[9][12]. The north part of Xiyuan Garden has been open to the public since 1949, the water area in this part is called Beihai (北海). Accordingly, the middle and south part of the lake is assigned as the property of the Central Government and inaccessible to the public until now (Figure2-1).

The imperial garden plays an important role in the history of ancient Chinese garden. Xiyuan Garden has been the most remarkable landscape in the imperial city since the construction of the imperial city call "Dadu" (大都) in Yuan Dynasty (1271), and the historical change of garden is strongly corresponding to the change pattern of imperial city[11]. In different historical stages, the location, size and spatial pattern of the imperial city is different, which leads to the different spatial characteristic of Xiyuan Garden[12]. Interior elements such as water space, islands, artificial hills and buildings also shows diverse features in different historical stage[5]. It is necessary to clarify the features of these elements in different period to better understanding the development of Xiyuan Garden and carry out the further spatial analysis and discussion.

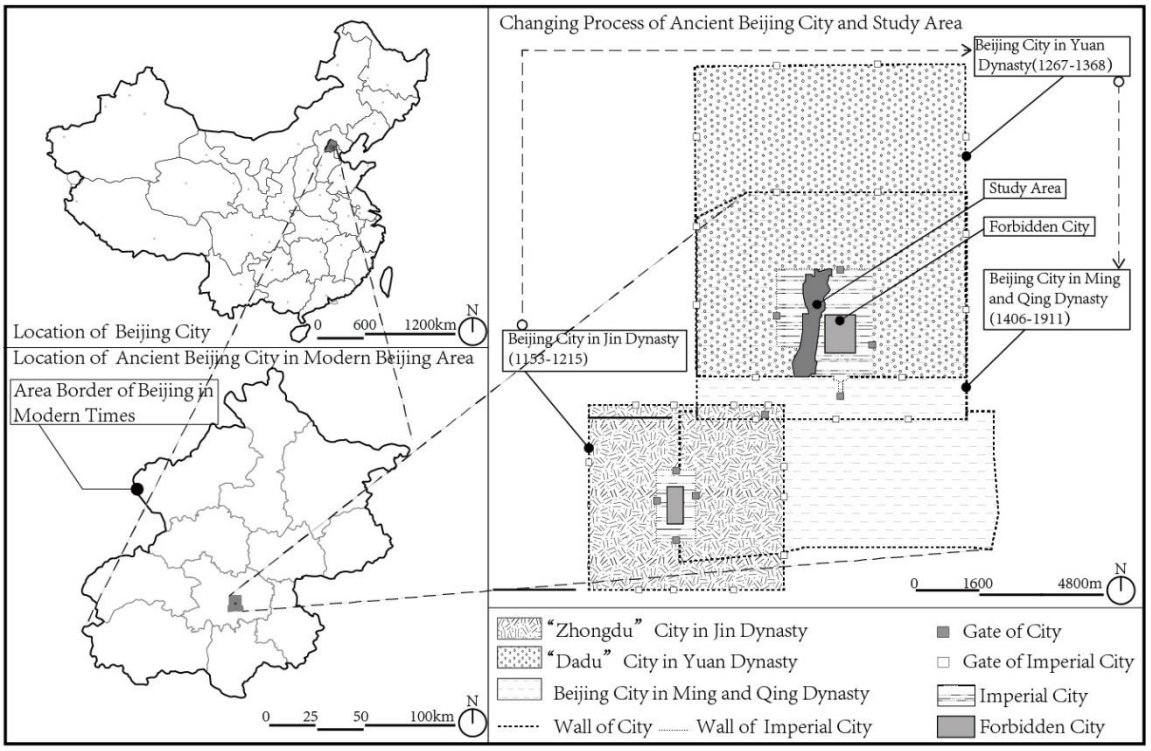


Figure 2-1 Transformation process of ancient Beijing city and imperial city

According to the different location, area size and space structure of Beijing imperial city in different historical periods, the overall orientation and the scale of construction of Xiyuan Garden also showed the difference of each period[12]. Interior elements such as water area, islands, man-made mountains and architecture also exhibit different spatial features at different periods[6]. Although the historical change of Xiyuan Garden is complex, in each historical stage, the change of the whole garden shows obvious characteristics.

This chapter of the study aims to clarify the historical change of landscape spatial pattern and garden buildings during the four historical stages which is defined by Hou[2] and Li[5]. By concentrate on the spatial pattern and spatial elements of the garden in each historical stage, the relationship between the change of the garden and the change of the imperial city will be defined. Furthermore, Analysis will be conducted under three scales: ① change of the

whole imperial city; ② change of Xiyuan Garden; 3) change of the garden buildings. And relevant conclusions will be drawn.

2.2 Study Methods and Objects

First, based on the study of the construction period of Xiyuan Garden by Hou[1)2)3)], Li[5)], Liu[7)] and Zhou[12)], this study divides the overall development process of Xiyuan Garden into four periods: [Taining Palace（太寧宮）period (1179-1261)], [Wanshou Mountain Palace （万寿山苑）period (1261-1416)], [Early stage of Xiyuan Garden（西苑） (1416-1736)] and [complete stage of Xiyuan Garden (1736-1912)].

Second, taking the whole imperial city as the research scale, the size and spatial pattern of Xiyuan Garden and its relationship with the imperial city in each historical stage are summarized and compared with each other.

Third, the study concentrates on the spatial pattern and spatial elements of Xiyuan Garden in each historical stage. The following factors are summarized and analyzed: the spatial relationship between the water and islands, the wall of garden, bridges and entrances, and the proportion of the area of waterbody.

Next, a further analysis of garden buildings of Xiyuan Garden in each historical stage were conducted. Garden buildings are classified according to their functions, the number and distribution of buildings in each functional type are also summarized and discussed.

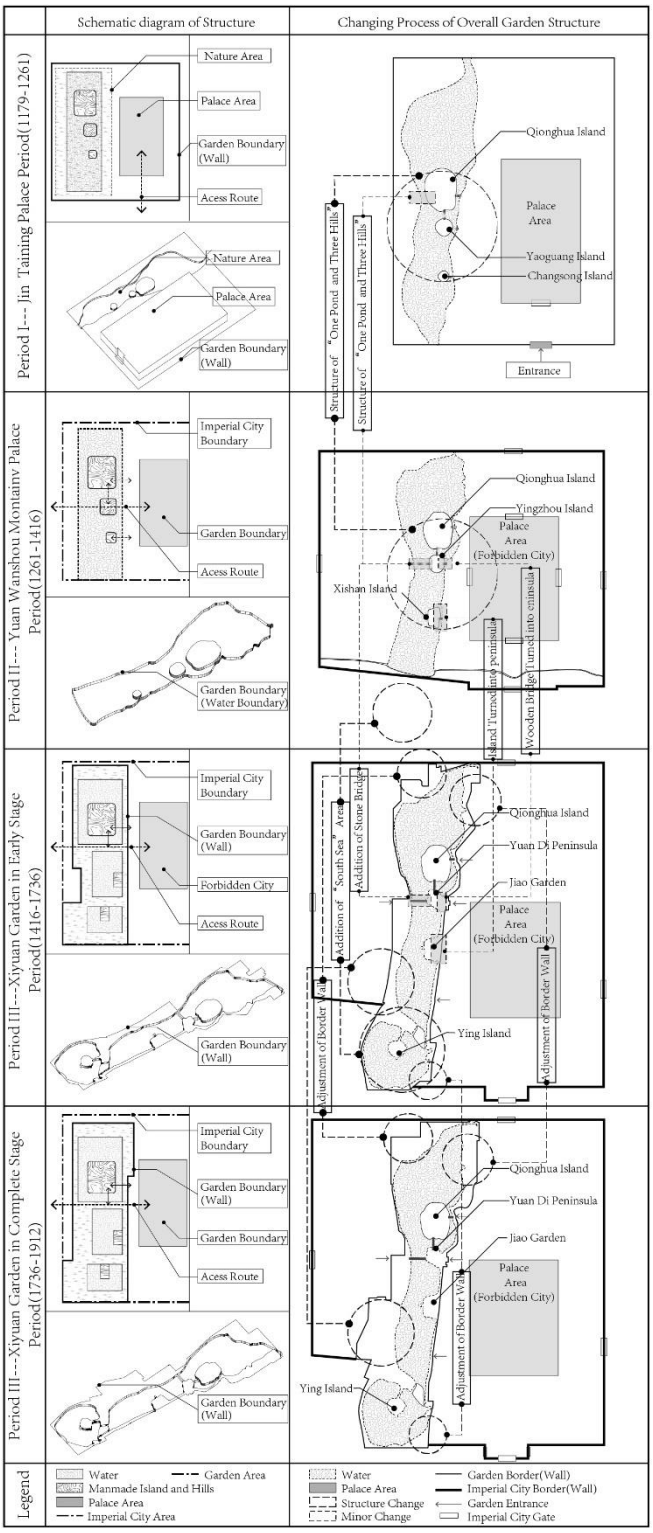


Figure 2-2 The analysis diagram of the exterior structure and garden spatial structure of Xiyuan Garden

Finally, the overall discussion and conclusion of the historical spatial changing pattern and the features of spatial elements in the whole developing period are conducted based on the analysis result and conclusions above in each historical stage and scales.

2.3 Changing Process of the exterior space of Xiyuan Garden and Imperial City

2.3.1 Jin Taining Palace Period (1179-1261)

Taining Palace Period was the pioneer period in the overall development process of Xiyuan Garden. During this period, "Zhongdu"（中都）, known as the capital city of Jin dynasty, was relatively smaller in size and scale than the latter several periods which covering an area about 228 hectares (Table 1), located southwest of Tai'ning Palace (Figure2-1). As one of the five capital cities in the Jin dynasty, Beijing has not yet been built as a political center of the country. Therefore, the scale of the imperial city in this period was the minimum period of all times.

In this period, Taining Palace was located outside of the Imperial City, which is called outskirts palace. The overall area is about 471 hectares, about twice as large as the imperial city of "Zhongdu" at that time. (Table2-1, Figure2-3), which is also the relatively largest period comparing to the overall scale of the imperial city in the whole development period. The border of Taining Palace was surrounded by regular rectangle walls while having only one entrance to the south. The overall structure of the garden is composed by the natural landscape area with water space and islands in the west side, and the palace area in the east side, which clearly distinguished the functional area of sightseeing and residential need (Figure2-2)

Table 2-1 Statistical Table of Area of Imperial City/Garden/

Period	Area of Imperial City/ hm^2	Area of Garden/ hm^2	Area of Water Space/ hm^2
Peroid I-(1179-1261) Jin Taining Palace	228.00	471.00	80.00
Peroid II-(1261-1416) Yuan Wanshou Mountain Garden	475.60	70.90	63.00
Peroid III-(1416-1736) Xiyuan Garden in Early Stage	632.30	133.60	84.30
Peroid IV-(1736-1912) Xiyuan Garden in Complete Stage	632.30	152.10	84.30

2.3.2 Yuan Wanshou Mountain Garden Period (1261-1416)

In Yuan Wanshou Mountain Palace Period, the northeastern area of the "Zhongdu" city where the Taining palace was located served as the central site for the new "Dadu" city according to the decision of the governors of the Yuan dynasty. At the same time, the spatial structure of the imperial city also transformed from the original north-south rectangular space structure into the east-west rectangular structure with a significant increase in area size from about 228 hectares to about 475 hectares (Figure2-1; Figure2-2, Table 2-1). During this period, the natural landscape area that located in Taining palace is included within the overall structure of the imperial city of "Dadu", which was the starting point of Xiyuan Garden serving as an imperial garden instead of outskirts palace (Figure2-2).

During this period, the overall area of the garden was reduced according to the transformation of the boundary of the garden from regular garden wall in the previous period to a confined structure surrounded by water body (Figure2-2). As a result, the overall area of gardens decreased significantly from the previous period to around 70.90 hectares, which occupied most of the garden area by the water space (Figure2-2; Table2-1). The proportion of area of garden

in overall area of imperial city also changed to 14.91%, which is the smallest ratio in the whole period of development (Table2-1, Figure2-3).

2.3.3 Xiyuan Garden in early stage Period (1416-1736)

In early stage period of Xiyuan Garden, Due to the Reorganization of the size and structure of Beijing city, the imperial city in this period were also further expanded and adjusted, which in total increased about 160 hectares over the previous period to about 632 hectares (Figure2-2; Table2-1). Under the premise that the width of east-west direction has not been changed drastically, the spatial structure of imperial city expanded from both north and south direction, forming a larger imperial structure with an extension of north-south (Figure2-2).

In this period, garden walls and entrances have been built as the boundary of the garden, forming a relatively enclosed and independent landscape garden space that differs from the open natural landscape space structure in the previous period (Figure2-2). Also, the overall size of the garden increased from the original 70.90 hectares to 133.60 hectares with the proportion of the garden area in the overall area of the imperial city increased from 14.91% of the previous period to 21.13% (Table2-1, Figure2-3). The addition of waterfront space that defined by walls and shore and the construction of South Sea area

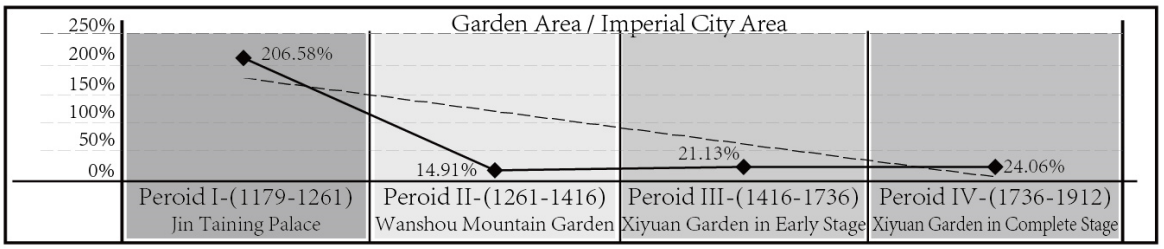


Figure 2-3 Line Graph of proportion of Area of Garden in Overall Area of Imperial City

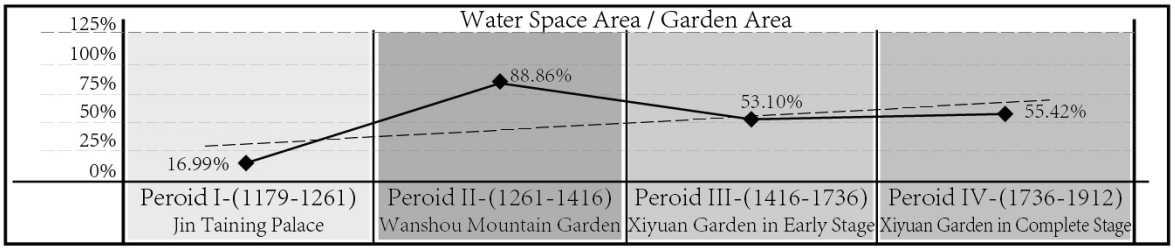


Figure 2-4 Line Graph of proportion of Area of Water Space in Overall Area of Garden

in south part of the garden are the main causes for the variation of the area and relative proportion in this period (Figure2-2).

2.3.4 Xiyuan Garden in complete stage Period (1736-1912)

In the complete stage period of Xiyuan Garden, the structure and scale of Beijing city and imperial city in Qing dynasty followed the pattern of the previous period which Ming dynasty constructed completely.

Also, the overall size and structure of Xiyuan Garden did not change significantly except for the slight adjustment of the garden wall in the northern and eastern part of the North Sea area, the western part of the Middle Sea area and the southern part of the South Sea area (Figure2-2), thus increased the overall area of the garden slightly from 133.6 hectares in the previous period to 152.1 hectares. Besides, the proportion of the garden area in overall area of imperial city also increased slightly from 21.13% to 24.06% (Figure2-3).

Through the comprehensive analysis of external space change of Xiyuan Garden in four periods, It can be clearly seen that from the perspective of overall functional orientation, Xiyuan Garden underwent a process of changing from outskirts-palace to imperial garden and became more closely linked with the central forbidden palace which fulfilling the basic need of the emperors in daily life and political activities; From the perspective of the

changing pattern of area of garden and imperial city, although the outskirts palace- Taining Palace in the initial period was the largest period of overall development period, in the following several periods, it kept a constant rising trend in overall area of garden and the proportion of the garden area in overall area of imperial city; From the perspective of the overall structure of the garden, the spatial structure of the garden changed from the garden-architecture area-combination pattern in the period of outskirts palace in the first period into the water-island pattern in natural landscape area which is not isolated by garden wall within the imperial city, then developed into the final stage which isolated from the exterior imperial city space which defined by the garden walls and gates.

2.4 Changing Process of inner spatial structure of Xiyuan Garden

2.4.1 Jin Taining Palace Period (1179-1261)

In the period of Taining palace, as the founding period of the overall development process, the overall garden spatial pattern and structure have been formed. During this period, governors of Jin dynasty utilize the local background of the water body remained by the old Yongding River as natural landscape base of the west part of Taining Palace. Taking the traditional Chinese pattern of [One Pool Three-Mountain(一池三山)] as the structure reference, the governors used the vast area of the water and the three islands-Qionghua, Yaoguang and Changsong to form the basic spatial structure of the garden and also generally established the framework of the relationship pattern between the water area and islands in the overall development of Xiyuan Garden in later periods.

In this period, Taining Palace included both natural landscape area and palace building area, so the proportion of the water area was not relatively high, occupying 16.99% of the total area of the garden. (Table2-1, Figure2-4). The three islands, Qionghua Yaoguang, and Changsong were connected to the nearest shore by wooden or suspension bridges, while, basically guarantees the integrity of the water area and need of tour route (Figure 2).

2.4.2 Yuan Wanshou Mountain Garden Period (1261-1416)

In Wanshou Mountain palace period, the remained natural landscape area of Taining palace in the last period has been incorporated into the overall structure of the imperial city. The governors in Yuan dynasty retained the basic spatial structure which formed by water area and islands as the One-pool, Three-Mountain pattern, while, carrying out most of the construction work on Qionghua and Yingzhou islands. In perspective of the inner spatial structure of the garden, Wanshou Mountain garden has the continuity of development from the nature landscape area of Tai'ning Palace in the previous period.

In this period, the total water area of Wanshou Mountain palace reached about 63 hectares, occupying 88.86% of the overall garden area, which is thought to be the largest proportion in the overall development process. With no garden wall enclosure around the garden, Wanshou mountain palace was distinguished from the space of imperial city by the water shore as a natural boundary. Due to the need of traffic connection between the west gate of the imperial and west gate of forbidden palace, Governors in Yuan used wooden suspension bridges to increase the connection between Yingzhou Island and west shore of the water while maintaining the integrity of the water body space as the previous period.

2.4.3 Xiyuan Garden in early stage Period (1416-1736)

In early-stage period of Xiyuan Garden, the interior spatial structure of the Xiyuan Garden had undergone a significant transformation. In the process of the construction and remodeling of Beijing imperial palace by Emperor Yongle in Ming Dynasty, governors reconstructed the spatial structure of One-pool, Three-Mountain which lasting in previous two periods. The two islands which had a smaller size on the south side of the Qionghua island were formed to be the peninsula, meanwhile, the South Sea area and Yingtai peninsula were added. Therefore, The inner spatial structure of the garden in this period was transformed into the new spatial structure of [three-pools-three-mountains(三池三山)] (Figure2-2). Unlike the previous period which the water shore used as the spatial isolation boundary, the garden walls and four gates are built to enclose the garden space of Xiyuan Garden to isolate from the overall space of the imperial city. In this period, the interior space of the garden is thought to be spatial independent from the imperial city space comparing to the previous period.

In this period, the area of water rises to 84.30 hectares, meanwhile, the proportion of the water area in overall garden reached 63.10% (Table2-1, Figure2-4). The main reason for the variation of the area and proportion is that the addition of the South Sea area and the minor adjustments of the shore. The original wooden suspension bridge between North Sea and Middle Sea for traffic connection replaced by the stone bridge, forming space gap in the original continuous water space while increasing the durability of the bridge. From this period onwards, most of on-water recreation activities are carried out in North Sea area, which can be seen that the functional partition of the whole garden also followed the division of the water space.

2.4.4 Xiyuan Garden in complete stage Period (1736-1912)

In the complete stage period of Xiyuan Garden, the overall landscape space structure has not been adjusted. However, as a result of the adjustments of the garden walls, the overall area of the garden increased from 133.6 hectares to 152.10 hectares while the proportion of water area in the overall garden area decreased slightly from 63.10% to 55.42% (Table2-1, Figure2-4).

During the construction in the period of empire Qianlong in Qing dynasty, governors enriched the space on the east side of the North Sea area based on considerations of Fengshui(風水) thinking. Silt produced by dredging in the North Sea area was used to create micro topography, combining with the installation of building groups, formed multiple enclosed space that was independent of the overall spatial structure of the garden (Figure2-2).

Through the comprehensive analysis of inner spatial structure change of Xiyuan Garden in four periods, it can be clearly seen that from the perspective of the structure pattern, the spatial structure made up by water and islands in the overall development showed a transition from the previous One-pool, Three-Mountains structure to three-pool-three-mountains structure. From the perspective of variation of the proportion of water area in the overall area of garden, it can be seen that except for the period of Taining palace, the water body area has remained more than half of the overall area of the garden in the latter three development periods, which is the most important spatial component and key spatial variation element of the overall development process.

2.5 Changing Process of Garden Buildings in Xiyuan Garden

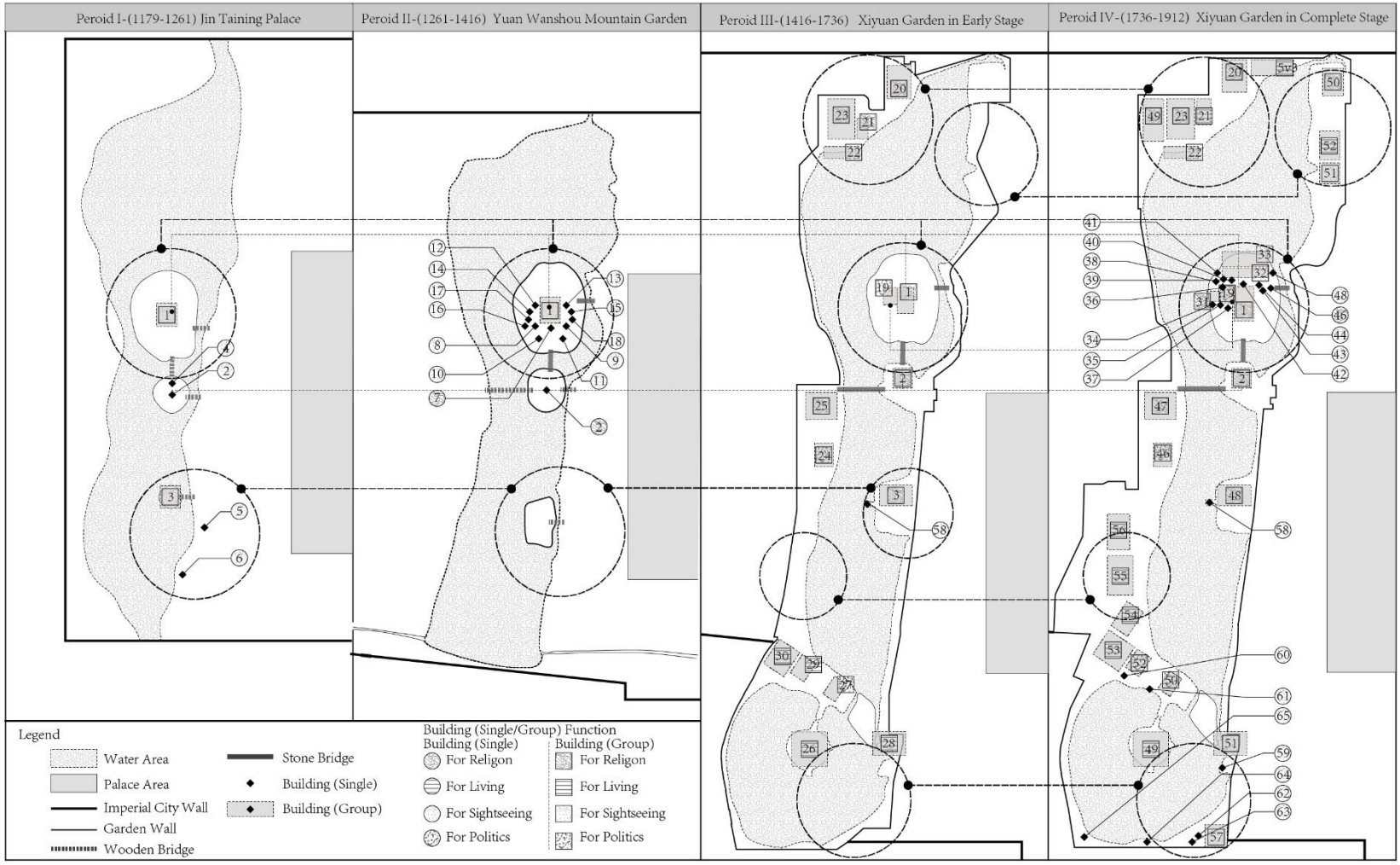


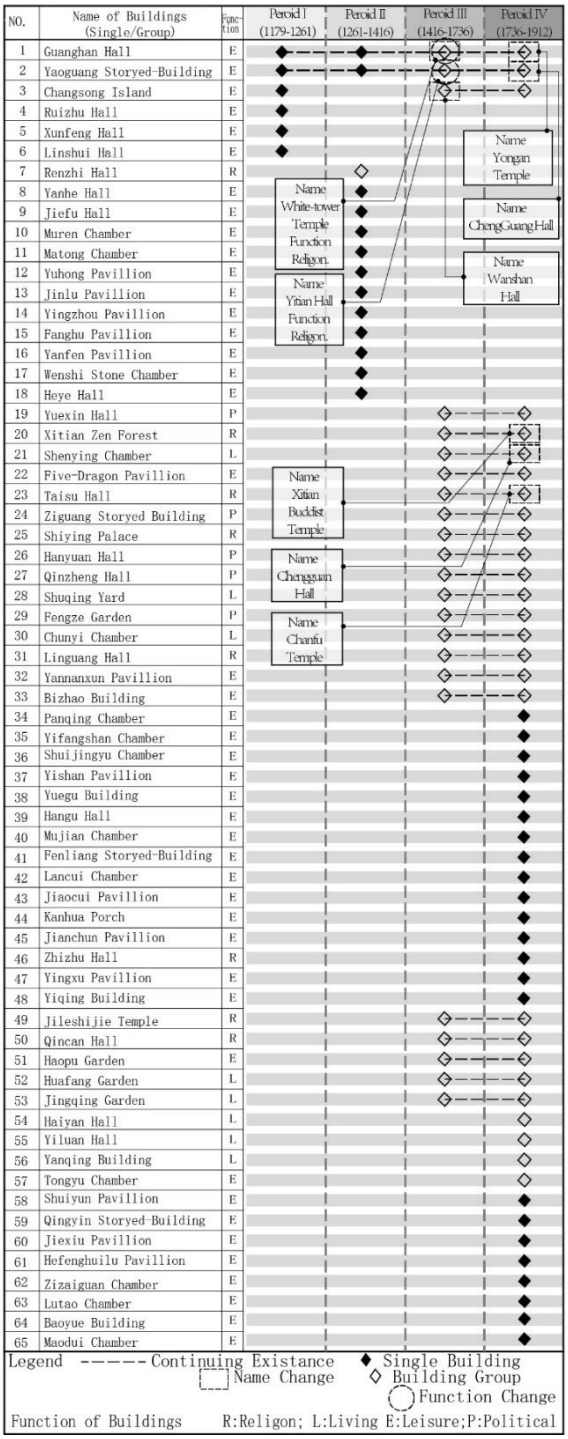
Figure 2-5 Analysis Diagram of Changing Features of the Building Monomers and Building Groups in Xiyuan Garden

As the beginning of development process, Taining palace which as the outskirts-palace in Jin dynasty, was divided into the natural landscape space area in the west and the palace building area in the east. The palace building area in the ease part of Taining palace undertook the various functions while governors living in the outskirts palace (Figure2-2), making the buildings in the natural landscape area in the west showed a small number of only 6 buildings with simple leisure function, among which single building accounted for 66.67% of the total number of buildings such as Xunfeng Hall(熏風殿) and Linshui Hall(臨水殿) (Table2-2, Figure2-5, Figure2-6 and Figure2-7). There was only Guanghan Hall(広寒殿) on the center of Qionghua Island(瓊華島) and the building on Changsong Island(長松島) were built as the building group while single buildings are located mostly in the waterfront space near to Yaoguang island and east shore of Changsong island (Figure2-5).

2.5.2 Yuan Wanshou Mountain Garden Period (1261-1416)

In Wanshou mountain palace period, the number and types of function of building reflected significant changes. The total number of building increased to 14, which has been a certain increase comparing with the previous period. Among them, the proportion of single building changes to 92.86% (Figure 6; Figure2-7). The addition building in this development period mostly was simple pavilion with a small volume such as Yuhong pavilion(玉虹亭) Jinlu pavilion(金露亭), Yingzhou pavilion(瀛洲亭) and Fanghu pavilion(方壺亭) (Table2-2, Figure2-6, Figure2-7). Also, the addition of Renzhi Hall(仁智殿) with the main function of religious activities was the beginning of the transformation of the function pattern, which from single-leisure functional

Table 2-2 Table of Building Monomers and Building Groups in Xiyuan Garden



garden to a multi-functional garden. In this period, the buildings were mainly scattered around the Guanghan Hall (広寒殿)on Qionghua Island. There was

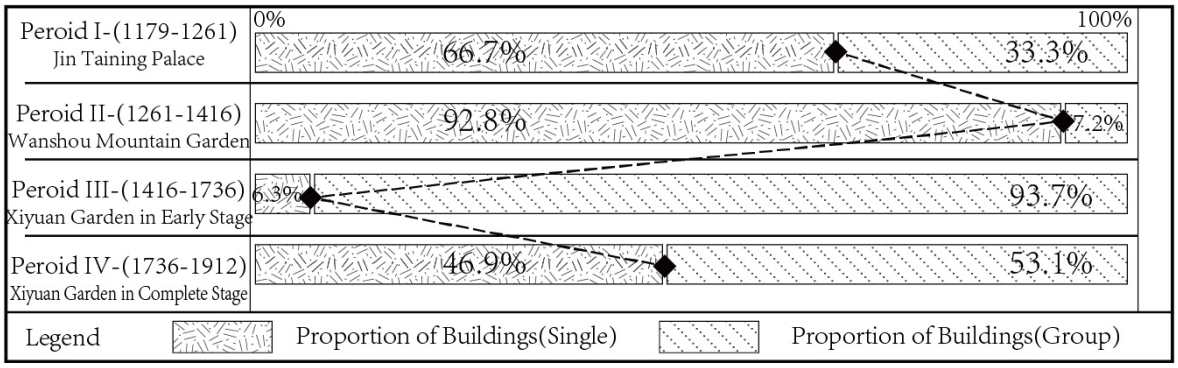


Figure 2-6 The Proportion Change of the Single and Group of Buildings in Xiyuan Garden

no record of the existence of the building on Xishan island (Changsong island) and eastern shore of water area (Figure2-5, Table2-2).

2.5.3 Xiyuan Garden in early stage Period (1416-1736)

In the early stage of Xiyuan period, the total number, spatial distribution and type of function of the building reflected a different characteristic of the previous period. In this period, the number of building was basically the same as the previous period, however, most of the building in this period were building group, reached about 93.7% of the total number of building. (Table2-2, Figure2-6, Figure2-7). In this period, comparing to the function combination of the building in the previous period. The building with politics and living function such as Ziguang stared-building(紫光閣) and Yuexin Hall, (悦心殿)Hanyuan Hall(涵元殿) were showed up, making the overall function combination of Xiyuan Garden in this period shift to a more abundant and complex pattern (Table2-2).

In this period, the gap between garden wall and shore created space for building surrounding the waterfront area, which made obviously different distribution pattern in the previous period. New building group were built in the northern part of the North Sea area, the western part of the Middle Sea

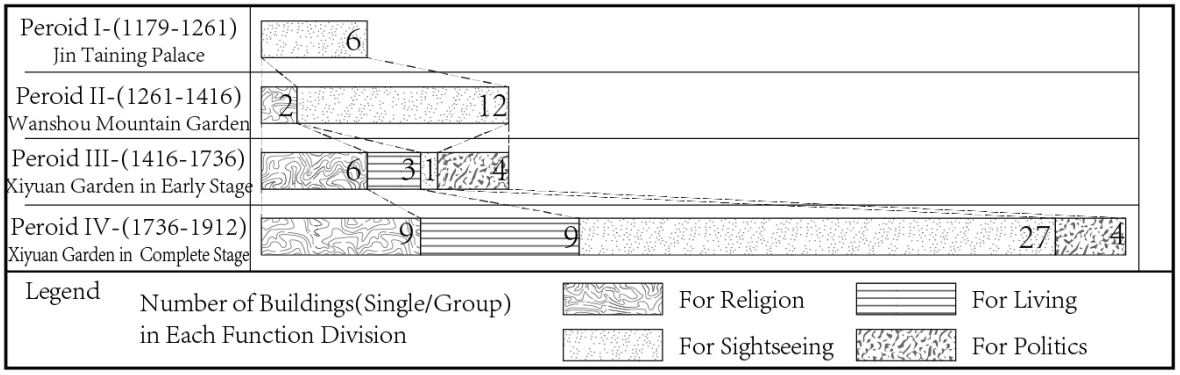


Figure 2-7 The Quantity Change of the Buildings in Xiyuan Garden

area, Jiaoyuan Peninsula, and the central island in the South Sea area, instead of the pattern which gathering in the Qionghua island in the last period (Figure2-5). The distribution pattern of building changed from centralized pattern to scattered pattern.

2.5.4 Xiyuan Garden in complete stage Period (1736-1912)

The complete stage of Xiyuan is a period in which the quantity and variety of building are the most abundant in the whole development process. The total number of building reached 39, of which the proportion of single building increased to 51.11%. Meanwhile, the distribution pattern of building was enlarged and adjusted both in North, Middle, and South Sea areas according to the enlargement of the garden walls. Such as the addition of Jilesihjie temple(極楽世界), Jingqing Chamber(鏡清齋), Haiyan Hall(海晏堂), Yiluan Hall(儀鑾殿) and so on(Figure2-5, Table2-2). Meanwhile, on Qionghua island, a considerable number of single building and arhitecture groups such as Linguang Hall(琳光殿), Bizhao building(碧照楼), and Panqing chamber(蟠青室) have been added, greatly enriching the tour activities of Qionghua island and making it once again become the focus of the Xiyuan Garden since Wanshou Mountain palace period.

Through the comprehensive analysis of building change of Xiyuan Garden in four periods, it can be clearly seen that from the perspective of the distribution of the building, Xiyuan Garden went through four distribution pattern which are decentralized distribution with single building, centralized distribution with single building, decentralized distribution with building group, and decentralized of single building and building group. From the perspective of the function of the building. The distribution pattern of the building function went through a variation from the simple leisure function to a multi-functional pattern which is composed of Religion, Politics, Living and Leisure.

2.6 Discussion

Through the above analysis under three scales, the characteristics of the historical spatial change in each spatial scale were summarized. However, in terms of the whole development process of Xiyuan Garden, the main elements and factors of spatial changes in different periods are different. Moreover, due to the complexity of the overall spatial changing process, the changes of the spatial elements in each scale restrict and interact with each other. Therefore, it is necessary to summarize and compare the features of the spatial change in different scales and periods, then discuss the change of spatial pattern and spatial features in the whole development process of Xiyuan Garden.

In the first two stages, the structure, location and size of Xiyuan Garden have been greatly influenced by the changes of spatial pattern of imperial city. On the contrary, the spatial pattern called “One-pool, Three-mountain” remains unchanged in this stage, as well as the spatial pattern of garden buildings and the proportion of buildings with each function. The change of

spatial structure of imperial city represent the spatial change in the early stage of development (Figure2-8).

In the third stage of development, the location and spatial pattern of the imperial city tend to be stable that the inner change of Xiyuan Garden is more obvious. During this period, on the one hand, the spatial structure of water area formed a totally different spatial configuration compared with the previous stage; the structure of "One-pool, Three-mountain" structure was replaced by the structure of "Three-pool, Three-mountain". On the other hand, the function of garden building tends to be more various; there is an increase in the total number of buildings. The change of the inner spatial structure of garden and the changes of spatial distribution are the main characteristics of the third stage of development (Figure2-8).

In the last stage, the spatial structure of the imperial city and the inner spatial structure of the garden remains unchanged. The number, function and spatial distribution of garden buildings are relatively obvious. In this stage, the number of single building and building group with various function were significantly increased, making up a new spatial pattern, which is closely related to the whole landscape. Compared with the previous stage, instead of constructing an inner space with building group, more single buildings emerged and better integrated with the surroundings. The most remarkable change of this period is the change of the number, function and spatial distribution of the garden buildings.

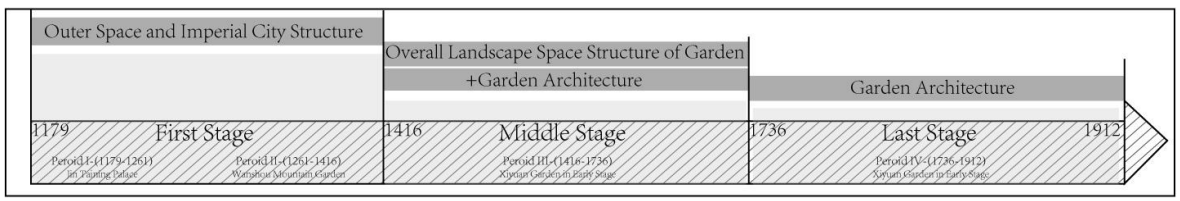


Figure 2-8 Summary of the Changing Pattern of Xiyuan Garden

2.7 Conclusions

This study discussed the development of spatial pattern and spatial features of Xiyuan Garden during its whole development period (1179-1912), which is divided into four stages according to the existing research. In each historical stage, the spatial pattern and features are analyzed in three scales：1) the whole imperial city; 2) Xiyuan Garden; 3) the garden buildings. Results shows that: (1)in the first two stages, the relative spatial change between garden and imperial city is relatively obvious; (2)in the third stage, the spatial change within Xiyuan Garden and the change of garden building are both obvious, including the spatial pattern, number, function and location of garden buildings; (3)in the final stage, the change of garden building is relatively remarkable comparing with other spatial elements.

In the next stage of the study, more details of garden space in the final stage of the period will be taken into consideration. Taking the garden buildings as the specific objects of the study, the spatial characteristics of the garden on the aspect of horizontal tablets will be carried out to get a deeper understanding of the garden space.

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Chapter3

The Study on the Spatial Characteristics of Building Groups in Xiyuan Garden in Perspective of Horizontal Tablets

3.1 Background and Study Purpose of the Chapter

Xiyuan Garden began construction in 938 A.D. and became the largest imperial garden in the imperial city of Beijing in the Qing Dynasty after continuous construction in the Liao, Jin, Yuan, Ming and Qing Dynasties [16]. Therefore, Xiyuan Garden has been appraised as a masterpiece of imperial garden in China[13]. During the Qianlong period of Qing Dynasty, Emperor Qianlong built and renovated the Xiyuan Garden by virtue of powerful national strength at that period, and basically established the overall spatial pattern of the garden[13][16]. The garden space of Xiyuan Garden regards the building group as the basic unit and distinguishes the division of garden space and function. By a variety of space handing techniques such as enclosing and restricting, the landscape architects created multiple types of garden spaces in a certain range. At the same time, different types of garden space meet the needs of living, sightseeing, political activities and other functions within the space of building group[16]. Each building group has specific functional type, and the garden space within each type of building group also forms various spatial characteristics[10].

Xiyuan Garden followed traditional culture of Chinese garden that using horizontal tablets to divide, definite the garden space and emphasize subjects and functions of garden buildings[7]. At the same time, through the horizontal tablets, the name of the building groups and the building monomers also conveyed the emperors' personal ideals, interests and other connotations, and forming a virtual garden artistic conception[16]. The horizontal tablet meaning of building groups is a bridge to understand the relationship between the physical space and the artistic conception space of the garden. To study the characteristics of garden space, it is essential to understand the meaning of the horizontal tablets (Hereafter referred as HT) in Xiyuan Garden. For this

reason, the purpose of this chapter of the study is to clarify the relationship between the meaning of HTs and the characteristics of garden space in the building groups of Xiyuan Garden.

3.2 Study Methods and Objects

3.2.1 Study Objects

Xiyuan Garden is located in the imperial city of Beijing during Qing Dynasty, and is divided into three parts: North-Sea, Middle–Sea and South-Sea. The distance between North and south is 2.5 km and 0.5 km in the East and the west. And the area is about 166 hectares (Figure3-1) [11)12)16).] In this study, 23 building groups in Xiyuan Garden in Qing Dynasty are determined as the specific study objects to conduct further discussion.

In the documentation and previous study[4*)], it is found that HTs and couplets were found in which the amount of HT in Qing Dynasty was about 250. Expect 92 HTs of building monomers, 158 HTs within building groups are selected as the study objects for the further analysis (Table3-1).

3.2.2 Study Methods

This study investigated the conservation condition of the buildings and the HTs through three field surveys in May of 2015, April and June of 2016.And based on the investigation result and documentation records[5*)], the

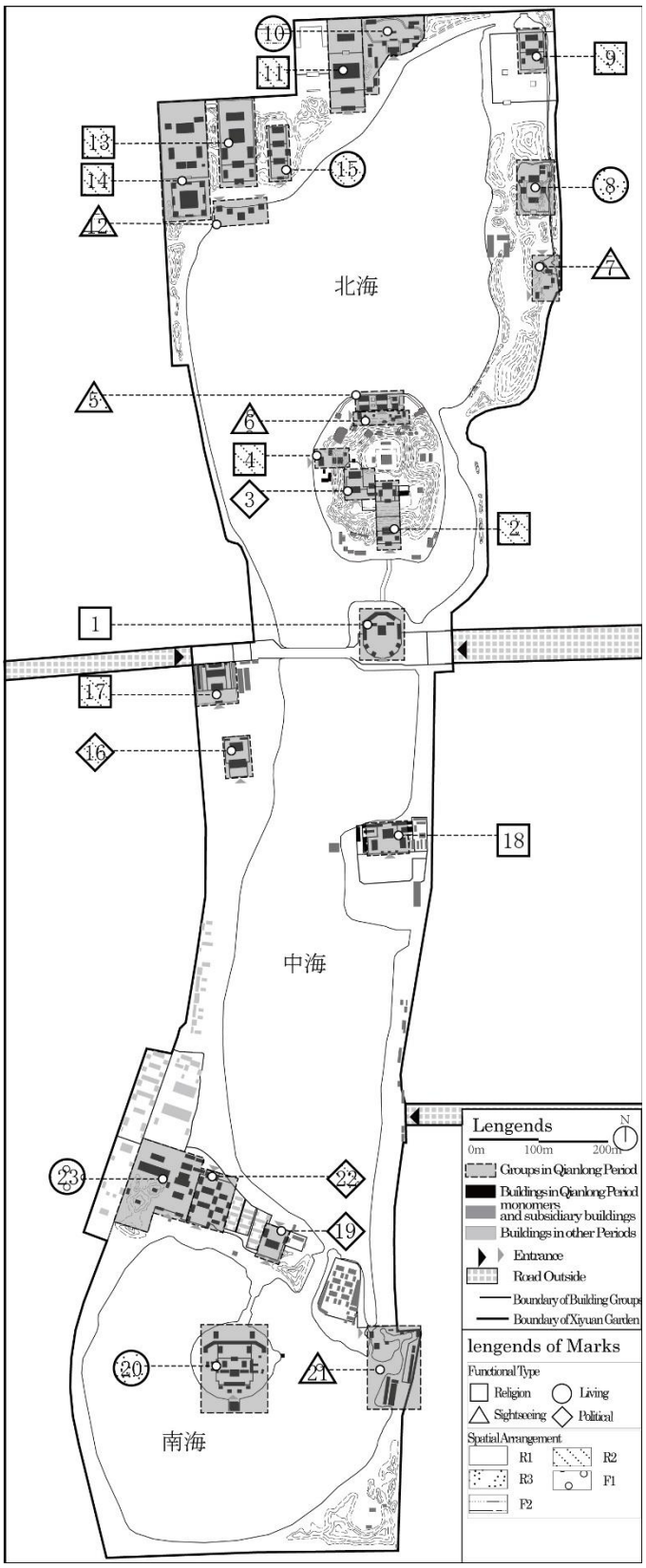

Figure 3-1 Master Plan of Xiyuan Garden in Qianlong Period

distribution information of building groups and HTs were identified (Figure3-1). Furthermore, based on the previous study of[16], Zhang[17], and Gao[3], the spatial arrangement and function of the building groups were confirmed, and the meaning of the HTs were analyzed, and cluster analysis were carried out in the later phase of the analysis. Finally, based on the classification result conducted by cluster analysis, the characteristics of garden space in each functional types of building groups were discussed, and relevant conclusions were drew.

3.3 Spatial Classification of Building Groups

The basic spatial arrangement of buildings in the ancient imperial gardens of China is Regular-style(R) and Free-style (F) (Figure3-2)[7][11]. 23 building group in Xiyuan Garden is based on these two types of basic spatial arrangement form as the basic skeletons. Furthermore, there are 3 sub-types in R style buildings and 2 sub-types in F style building (Figure3-2).

From the aspect of functional classification, the 23 building groups were classified into four groups: religion, living and self-cultivation, sightseeing and

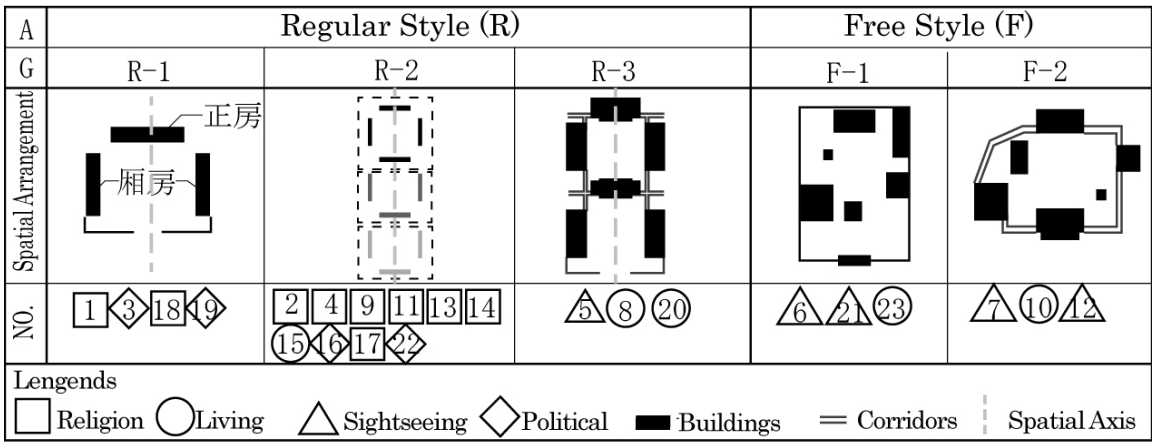

Figure 3-2 Spatial Arrangement Pattern of Building Groups

political activity according to the relevant research results of Zhang[17], Wang[14] and Gao[3] about the functional type classification of ancient Chinese gardens.

3.3.1 Building Groups for Religion Activity

The number of building groups for religion activity are 9, concerning religion such as religious activities, meditation and so on. The arrangement pattern of the building groups is all Regular-Type (R); among them, 2 of 9 are R1-Type and 7 of 9 are R2-Type (Figure3-1,2).

3.3.2 Building Groups for Living and Self-Cultivation

The number of building groups for living and self-cultivation are 5, concerning daily activities such as living, reading, practicing painting or calligraphy. In the spatial arrangement pattern of the building groups, R-Style and F-Style both exists, in which 1 of 5 is R2-Style, 2 of 5 are R3-Style, 1 of 5 is F1-Style and 1 of 5 F2-Style (Figure3-1, 2)

3.3.3 Building Groups for Sightseeing

The number of building groups for sightseeing are 5, concerning sightseeing and short rest. In the arrangement pattern of the building groups, 2of 5 are F1-Style, 2 of 5 are F2-Style and 1 of 5 is R3-Style (Figure3-1, 2).

Table 3-1 Table of Building Groups and Horizontal Tablets of Xiyuan Garden

NO.	Function	Name	Name of Building	Number	Contents of Horizontal Tablets	Meaning of Horizontal Tablets	Group Distribution
1 R1	宗教	承光殿	承光殿	1	承光殿	知, 自	A
				2	懸圃風清	知, 自	A
			古籟堂	3	古籟堂	知	C
				4	昭一	知	C
			余清斎	5	余清斎	知, 自	A
2 R2	宗教	永安寺	法輪殿	6	法輪殿	宗	B
				7	人天調御	宗	B
				8	慈雲覚海	宗, 自	B
			普安殿	9	普安殿	宗, 政	C
				10	慧根圓相	宗, 知	B
				11	如如不動	宗, 知	B
			宗境殿	12	宗境殿	宗	B
			聖果殿	13	聖果殿	宗	B
3 R1	政治	悦心殿	悦心殿	14	悦心殿	知, 政	C
			慶霄楼	15	慶霄楼	知, 政	C
			静憩軒	16	静憩軒	知	C
4 R2	宗教	琳光殿	琳光殿	17	琳光殿	宗, 自, 詩	A
			甘露殿	18	甘露殿	宗, 自	B
				19	蓮界慈縁	宗, 自	B
				20	水精域	宗, 自	B
5 R3	遊覧	碧照楼	碧照楼	21	碧照楼	自, 詩	A
				22	湖天浮玉	自, 詩	A
			漪瀾堂	23	漪瀾堂	自, 詩	A
			遠帆閣	24	遠帆閣	詩	A
				25	天鏡開奩	自, 詩	A
			道寧斎	26	道寧斎	儒, 知, 政	C
			紫翠房	27	紫翠房	自, 詩	A
			蓮華室	28	蓮華室	宗, 自	B
			真如室	29	真如室	宗	B
6 F1	遊覧	延南薫	扇面亭	30	延南薫	権, 仁, 自	A
				31	適余清	知, 政	C
			東山亭	32	一壺天地	知, 神	C
			環碧楼	33	環碧楼	自	A
			盤嵐精舍	34	盤嵐精舍	宗	B
			嵌岩室	35	嵌岩室	自	A
			得性楼	36	得性楼	知, 政	C
				37	延佳精舍	知	C
			臨山書屋	38	臨山書屋	自	A
			抱沖室	39	抱沖室	儒, 知	C
7 F2	遊覧	濠濮間	雲岫廠	40	雲岫	自, 詩	A
			崇椒室	41	崇椒	知, 神	C
			濠濮間	42	濠濮間	知, 仁, 政	C
				43	壺中雲石	知, 自, 詩	A
8 R3	居住	画舫斎	画舫斎	44	春雨林塘	自	A
				45	動静交養	儒, 知	C
				46	画舫斎	自, 詩	A
				47	竹風梧月	自, 詩	A
			鏡香室	48	鏡香室	自, 詩	A
			古柯亭	49	古柯亭	自	A
			綠意廊	50	綠意廊	自	A
			奥曠室	51	奥曠室	知, 政, 詩	C
			小玲瓏室	52	得真趣	知, 政	C
9 R2	宗教	親蚕殿	親蚕殿	53	先蚕壇	知, 政	C
				54	葛覃遺志	儒, 知, 政	C
10 F2	居住	鏡清斎	鏡清斎	55	鏡清斎	知, 政, 自	C
				56	不為物先	儒, 知, 政	C
			抱素書屋	57	抱素書屋	儒, 知, 政	C
			韵琴斎	58	韵琴斎	自, 詩	A
			碧鮮亭	59	碧鮮	自	A
			画峰室	60	画峰室	自, 詩	A
			枕巒亭	61	枕巒亭	知, 自	A
			罨画軒	62	罨画軒	知, 自, 詩	A
			焙茶塢	63	焙茶塢	知	C
11 R2	宗教	西天梵境	西天梵境	64	西天梵境	宗, 神	C
				65	恒河演乘	宗, 自	B
				66	慈育万有	宗	B
				67	華厳清界	宗	B
			大圓鏡智	68	法界真常	宗	B
12 F2	遊覧	五龍亭	五龍亭	69	滋香	自	A
				70	澄祥	知	C
				71	龍澤	知, 権, 神	C
				72	湧瑞	知	C
				73	浮翠	知, 自	A
13 R2	宗教	闡福寺	闡福寺	74	闡福寺	宗, 仁, 政	C
				75	宗乘圓鏡	宗	B
				76	大雄宝殿	宗	B
				77	極楽世界	宗, 詩	A
				78	福田花雨	宗, 自	B
				79	有大威德	宗	B
14 R2	宗教	極樂世界	極樂世界	80	極樂世界	宗, 神	C
				81	性海圓成	宗	B
			万仏楼	82	華藏恒春	宗	B
				83	大千輪置	宗	B
				84	満万雲霏	宗, 自	B
				85	聚諸福德	宗	B
				86	現大吉祥	宗	B
			澄性堂	87	澄性堂	知, 政	C
			鏡藻軒	88	鏡藻軒	自	A
			致爽楼	89	致爽楼	知	C
			澹吟室	90	澹吟室	知	C
			清約池	91	清約池	知	C
			妙相亭	92	妙相亭	宗, 知	C
15 R2	居住	澄観堂	澄観堂	93	澄観堂	知	C
				94	樂意静観	知	C
				95	水天清永	知, 自	A
				96	寄清浄心	宗, 知	C
			玉蘭軒	97	玉蘭軒	自	A
			快雪堂	98	快雪堂	自	A
16 R2	政治	紫光閣	紫光閣	99	紫光閣	権, 自	A
			武成殿	100	武成殿	権	C
				101	綏邦懐遠	権	C
17 R2	宗教	時応宮	時応宮	102	時応宮	宗, 知	C
				103	瑞澤沾和	宗, 知	C
18 R1	宗教	万善殿	万善殿	104	万善殿	宗, 政	C
			大悲壇	105	大悲壇	宗	B
				106	妙印真如	宗	B
19 R1	政治	勤政殿	勤政殿	107	勤政殿	権, 政	C
				108	德昌	仁, 政	C
				109	仁曜	仁, 政	C
20 R3	居住	涵元殿	涵元殿	110	涵元殿	知	C
				111	天心月協	知, 自	A
			景星殿	112	景星殿	知, 自	A
			慶雲殿	113	慶雲殿	知, 自	A
			藻韻殿	114	藻韻殿	自, 詩	A
			綺思楼	115	綺思楼	自, 詩	A
			香扆殿	116	香扆殿	自, 詩	A
			迎薫亭	117	迎薫亭	仁, 自	A
				118	対時育物	知	C
			補桐書屋	119	補桐書屋	自	A
			随安室	120	随安室	知	C
				121	駐景	知, 自	A
			待月軒	122	待月軒	知, 自	A
			長春書屋	123	長春書屋	神	C
21 F1	遊覧	淑清院	淑清院	124	淑清院	政, 自	C
				125	水流雲在	知, 自	A
			俯清泚	126	俯清泚	自, 詩	A
			葆光室	127	葆光室	宗, 知	C
			韻古堂	128	韻古堂	知	C
				129	蓬瀛在望	神	C
			流杯亭	130	流杯亭	詩	A
				131	流水音	自, 詩	A
			素尚斎	132	素尚斎	儒, 知	C
			响雪廊	133	响雪廊	自	A
			日知閣	134	日知閣	知, 自	A
				135	淑玉飛珠	自, 詩	A
			交蘆館	136	交蘆館	自	A
			賓竹室	137	賓竹室	自	A
			蕉雨軒	138	蕉雨軒	自	A
			雲絵楼	139	雲絵楼	自	A
22 R2	政治	豊澤園	豊澤園	140	豊澤園	仁, 自	A
				141	溪光樹色	自	A
				142	荷風蕙露	自	A
				143	戛玉摐金	自	A
				144	睦親九族	知, 仁, 政	C
			惇敍殿	145	惇敍殿	知, 仁, 政	C
			澄懐堂	146	澄懐堂	知	C
				147	観衆妙	知	C
			暇矚楼	148	暇矚楼	知	C
			崇雅殿	149	崇雅殿	知	C
			浄憩軒	150	浄憩軒	知	C
23 F1	居住	純一斎	純一斎	151	純一斎	儒, 知	C
				152	緝熙敬止	知, 仁	C
				153	勤政愛民	知, 政	C
			春耦斎	154	春耦斎	仁, 自	A
			聽鴻楼	155	聽鴻楼	自, 詩	A
			海棠庁	156	海棠庁	自	A
			植秀軒	157	植秀軒	自	A
			虚白室	158	虚白室	宗, 知	C

注：G-NOは建築群の番号と建築群の配置類型である。R1、R2、R3、F1、F2は図 2 を参考にする。H-NOは扁額の番号である。建築群の機能は、宗教祭祀、居住修身、遊覧休憩、政治式典の略である。

*宗-宗教,儒-儒学,知-知行,権-権力,仁-仁政,政-政治知恵,自-自然物,詩-詩画自然,神-神仙自然

*建築群の群名は,参考文献に記載された建築群の名前あるいは建築群の中心となる建築の名前で命名する。

3.3.4 Building Groups for Political Activity

The number of building groups for political activity is 4, concerning daily political activities such as government affairs and political ceremony. In the arrangement pattern of the building groups, 2 of 4 are R1-Style and 2 of 4 are R2-Style (Figure3-1, 2).

3.4 The Classification and Grouping of HT Meaning

3.4.1 Classification of HTs Meaning

Based on the analysis and explanation of HTs meanings in previous studies by Zhang[17], Ham[4], Wang[14] and Li[5], this study collated the contents of HTs of the research subjects and 9 categories were obtained which were [Religion], [Confucianism], [Knowledge and Doing][6*], [Imperial Rights], [Benevolent Government], [Political Wisdom], [Natural Objects], [Nature Objects in Poetry and Painting] [7*] and [Nature Objects in Myth][8*].

3.4.2 Cluster Analysis of the Meaning of HTs

Based on the interpretation of the HTs in Xiyuan Garden from Li[5], the meanings of 158 HTs were classified by cluster analysis of SPSS 22.0 (Ward method and the square Euclidean distance). Based on the basic principle of

Table 3-2 The Explanation and Distribution Method of Horizontal Tablets Contents

HT Contents	Explanation of HT meanings	Meaning Distribution
NO. 22 湖天浮玉 (自、詩)	湖天　浮玉 宋代の詩文「鼇峰浮玉，鯨波飛雪，正是潮来処。」水面を玉に比喩する内容を扁額に引用する は空の色が水面に映えるという景色を描く	Nature in Poetry Nature Elements
Note:HT meanings in Table-1 explaned by the method the Table shows.		

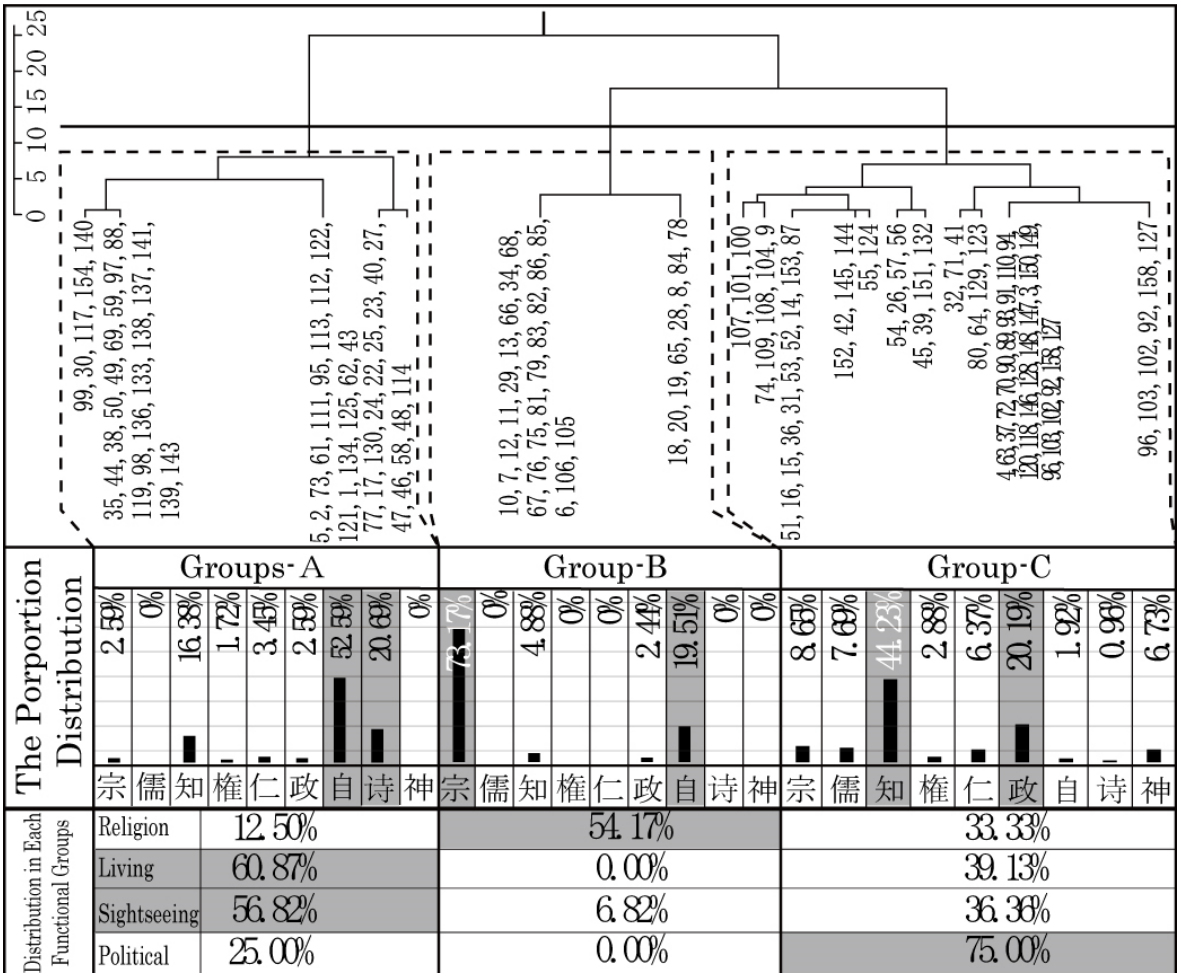

Figure 3-3 Results of Cluster Analysis and Numerical Distribution of HT meanings

maximization of the features, 3 groups were obtained from the results of the cluster analysis (Figure3-3) (in the following part of discussion, [Group] is abbreviated as "G.")

The total amount of HTs belonging to G-A is 64, reflecting the content of [Natural Objects], [Nature Objects in Poetry and Painting], and [Knowledge and Doing]. From the viewpoints of the number and proportion of contents, "Natural elements and the Knowing Doing centered" could be regards as obvious feature description of G-A (Figure3-3).

The total amount of HTs belonging to G-B is 29, reflecting the content of [Religion], [Nature Objects], [Knowledge and Doing] and [Political Wisdom]. From the viewpoints of the number and proportion of contents, "Religious content and the Nature objects centered" could be regards as obvious feature description of G-B (Figure3-3).

The total amount of HTs belonging to G-C is 65, reflecting the content of [Knowledge and Doing], [Political Wisdom] and [Confucianism]. From the viewpoints of the number and proportion of contents, Knowledge and Doing and the Political Wisdom centered" could be regards as obvious feature description of G-C (Figure3-3).

3.5 The Spatial Characteristics in Each Functional Type of Building Group from the Perspective of HT Meaning

The building groups in Xiyuan Garden are based on the basic arrangement layout of building groups in the ancient Chinese gardens and forming the basic framework of the whole garden. For this purpose, the spatial characteristics of garden were discussed by analyzing the results of cluster analysis in each functional types of building group.

3.5.1 The spatial Characteristics of Building Groups for Religion Activity.

There are 9 building groups that belongs to the [Religion] functional type. And most of the groups are in [R-2] Type spatial arrangement, which both having main space for sacrificial activities and subsidiary space for rest or meditation and in centrally symmetrical progressive arrangement. The total number of the HTs in this type of building group is 48, and the proportion of

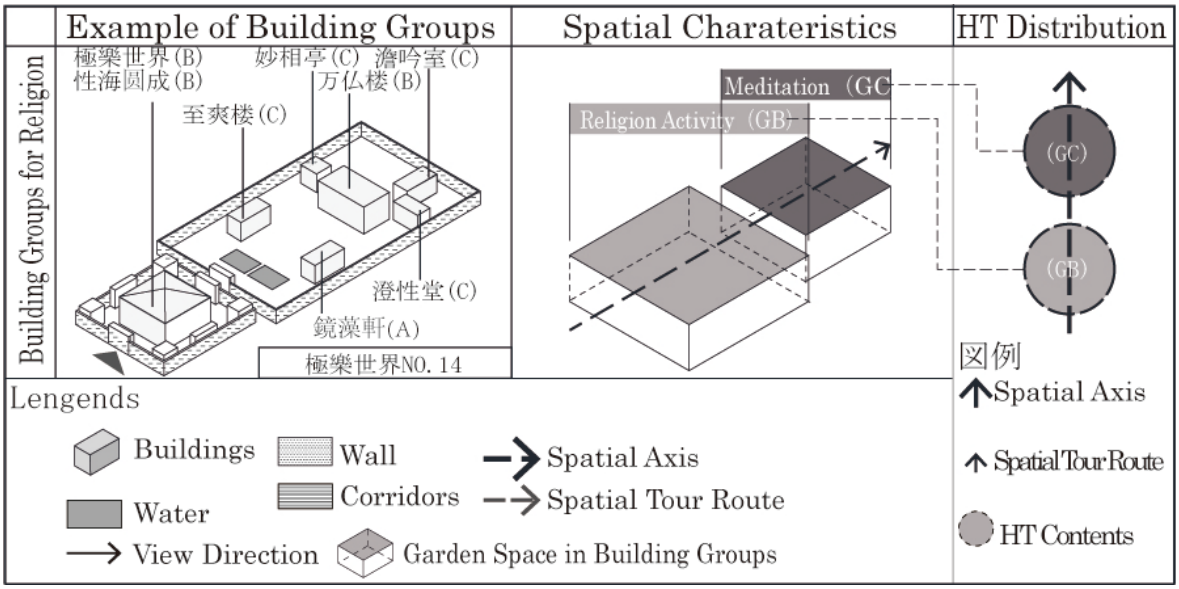

Figure 3-4 Analysis of Spatial Characteristics of Building Groups for Religion

which belongs to GB is the highest (54.27%, 26 / 48), followed by G-C 33.3% (16 / 48) and G-A (12.5%, 6 / 48) (Figure3-3)

It could be seen that most of the HTs which belongs to G-B concentrated in the main space where the religion activities were carried out. The contents of the HTs are composed of the vocabulary of the facts and religious thought described in the religious register. For example, the HT 「性海圓成」in [極樂世界 NO.14](Figure3-5) expresses the meaning of pursuing secular truth using

Figure 3-5 Entrance Space of [極樂世界 NO.14]

Figure 3-6 The Building 「法輪殿」in [永安寺 NO.2]

Buddhist terminology. The HT「法輪殿」,「人天調御」,「慈雲覚海」in [永安寺 NO.2](Figure3-6) expresses the meaning of Enlightenment of life by using Buddhist terminology. And, HT 「恒河演乘」「慈育万有」in [西天梵境 NO.11] (Figure3-7)reflects the contents of the life of the people and divine intervention. Therefore, it is thought that in the main space which carries out the religious activity, the elements of the religion in the HT which belongs to the G-B are used and forming a sacred atmosphere (Figure3-4).

It could be seen that most of the HTs which belongs to G-C concentrated in the subsidiary space where rest and meditation activities were carried out. The

Figure 3-7 Entrance Space of [西天梵境 NO.11]

contents of the HTs are composed of elements like behavior, thought, baseline, self-examination. For example, HT 「澹吟室」,「清約池」,「澄性堂」,「至爽楼」,「妙相亭」in [極樂世界 NO.14] expresses the meaning of self-examination and self-reflection. HT「普安殿」in [永安寺 NO.2] expresses the meaning of praying to heaven and peace through Buddhism. Therefore, it is thought that in the subsidiary space for Zen meditation and the rest, the elements of the [Knowing Doing] and [Political Wisdom] in GC is used and reflects the action and thought of the emperor himself and the whole country.

In the building group for religion activity, it is thought that the space for activities related to religion and the space for the rest and the Zen meditation are arranged separately, and that the contents of HTs includes the meaning of religion, knowing Doing and introspection, corresponding to the function of space. Therefore, it is characterized by the fact that not only the sacred atmosphere of religious rituals are created through the HTs, but also the emperor's self-introspection by using the contents of the religion related (Figure3-4).

3.5.2 The Spatial Characteristics of Building Groups for Living and Self-Cultivation

There are 5 building groups that belongs to the [Living and Self-Cultivation] functional type. And the groups are in F-Type and R-Style spatial arrangement, which both having main space for residence and rest and subsidiary space for meetings, reading and practicing calligraphy so on. The total number of the HTs in this type of building group is 46, and the proportion of which belongs to G-A is the highest (60.87%, 28/46), followed by GC (39.13%, 16/46) (Figure3-3).

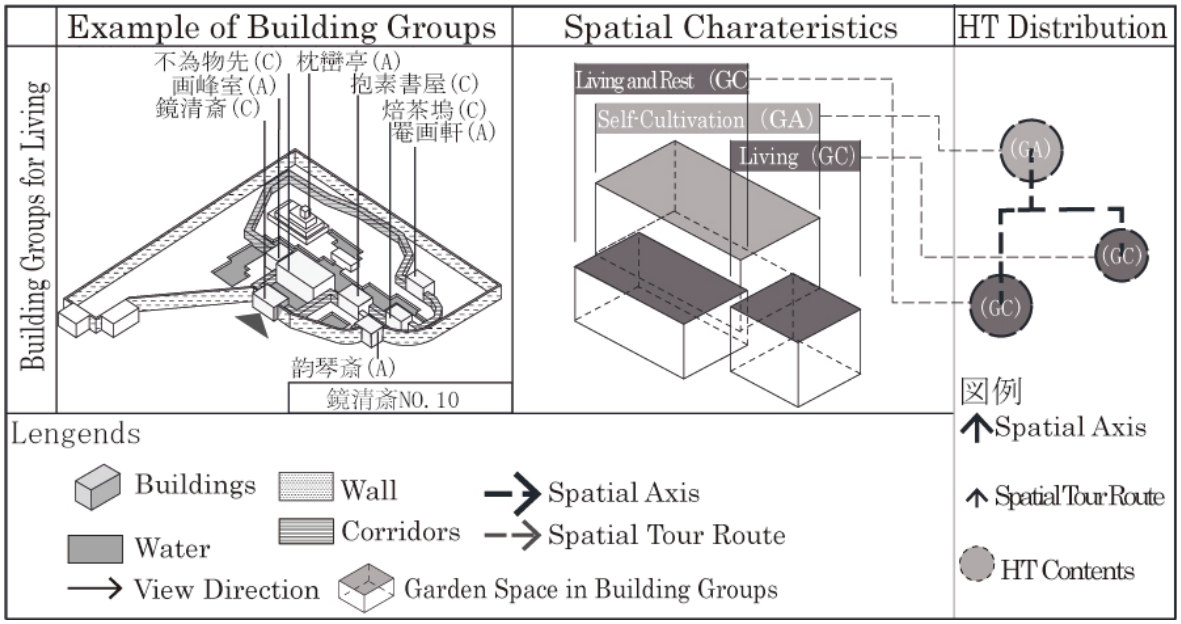

Figure 3-9 Analysis of Spatial Characteristics of Building Groups for Living

The HT that belongs to G-A centered in the space for self-cultivation activities. And the contents of HT are composed of real landscape elements and natural scenery in the traditional poetry and paintings. For example, HT 「枕巒亭」,「画峰室」,「罨画軒」in [鏡清斎 NO.10] (Figure3-10) expresses the process of depicting the nature of the great nature, and expresses the meaning of longing for the natural of ancient literati. HT「春雨林塘」,「竹風梧月」,

Figure 3-8 Garden Space of [鏡清斎 NO.10]

Figure 3-10 Garden Space of [鏡清斎 NO.10]

「緑意廊」,「画舫斎」,「鏡香室」 in [画舫斎 NO.8](Figure3-11) use natural images such as water surface, rain, pond, bamboo to form the ideal boundary space of the literati in poetry and painting while responding to natural objects. Therefore, it is thought that in the space for self-cultivation, the contents of natural elements which belongs to G-A are used to be connecting to the real nature and emotion of longing for the nature of the traditional literati (Figure3-8).

The HT belonging to G-C centered in the space for residence and rest. And the contents of HT are composed of rules of thinking and behavior of emperors.

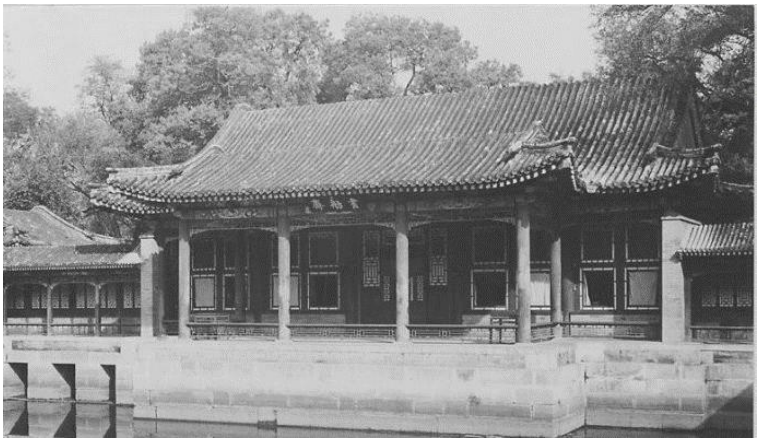

Figure 3-11 Garden Space of [画舫斎 NO.8]

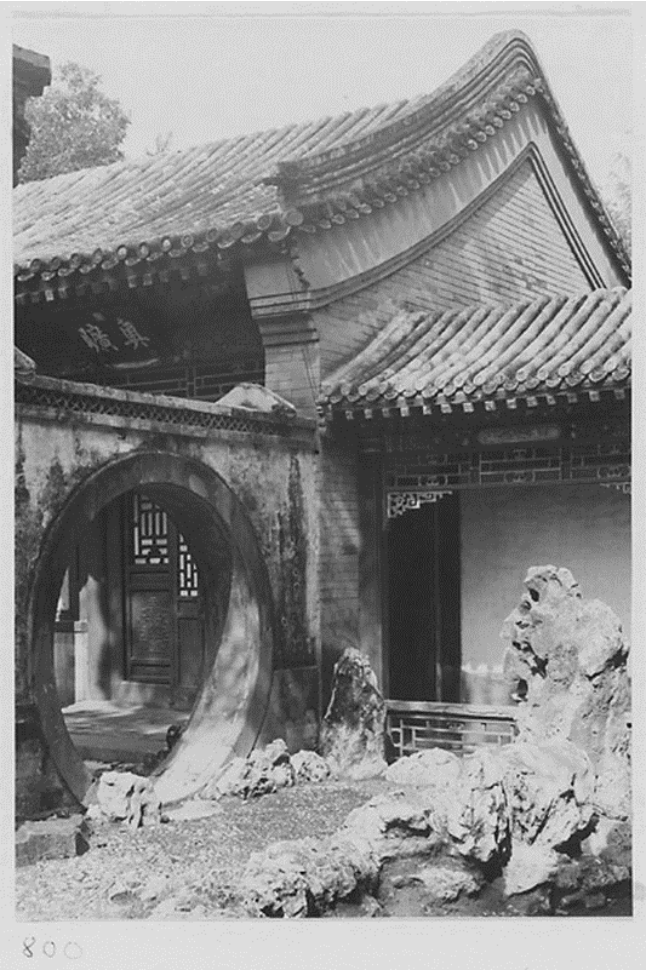

Figure 3-12 Garden Space of 「奥曠室」

For example, HT「鏡清斎」and「不為物先」in [鏡清斎 NO.10] use the thought in the scriptures of the saints to express the meaning of observation and reflection.HT「抱素書屋」corresponds to a quiet garden space and expresses the meaning of self-illumination, centering, and simplicity. HT「奥曠室」(Figure3-12),「得真趣」in [画舫斎 NO.8] represents reflections on the view of nature. Therefore, it is thought that in the space for residence and rest, the atmosphere of the space is drawn by using the elements of knowing-doing and self-introspection in HT of G-C(Figure3-8).

In the building group for living and self-cultivation, the space for self-cultivation and the space for living are divided, and it is emphasized that the

HT contents are harmonized with the atmosphere and corresponds to the space with nature elements and self-introspection. Therefore, it is characterized by the fact that through HT contents, the elements of self-cultivation, introspection and longing for the harmony life in nature of traditional literati are expressed, meanwhile, the division and separation of the garden space are formed and emphasized (Figure3-8).

3.5.3 The Spatial Characteristics of Building Groups for Sightseeing

There are 5 building groups that belongs to the [Sightseeing] functional type. And most of the groups are in R-Type and F-Type spatial arrangement. Buildings in groups are distributed separated and connected in series by tour lines. The total number of the HTs in this type of building group is 44, and the proportion of which belongs to G-A is the highest (56.82%, 25/44), followed by G–C (36.36%, 26/44) and G-B (6.82%, 3/48) (Figure3-3).

The HT that belongs to G-A connects to the natural elements inside and outside of the boundary of the building group and distributed separated corresponding to the layout of buildings. For example, HT「壺中雲石」in 「濠濮間 NO.7」expresses the nature in traditional myth, while corresponding to

Figure 3-13 Garden Space of 「五龍亭 NO.12」

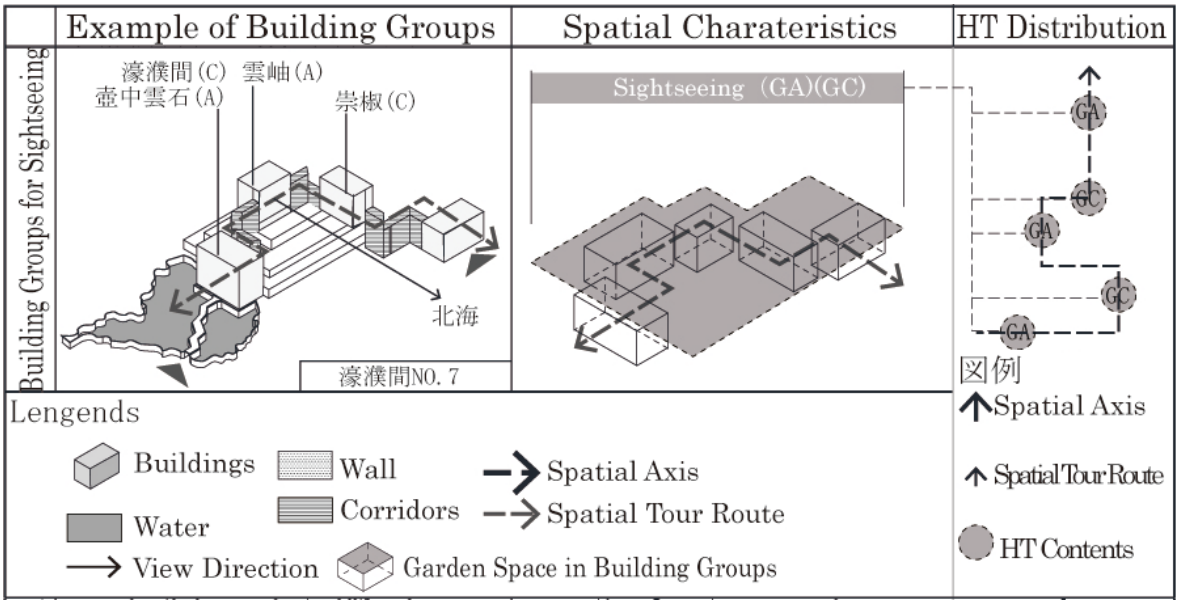

Figure 3-14 Analysis of Spatial Characteristics of Building Groups for Sightseeing

the space surrounded by plants and creates a quiet and private atmosphere. HT「雲岫厂」responds to the wide view corresponding to the building that built on artificial mountain.HT 「滋香」,「浮翠」in 「五龍亭 NO.12」(Figure3-13)and 「碧照楼」,「湖天浮玉」in「碧照楼 NO.5」use the metaphor technique to emphasize the beauty of the water and describe the scenery of the North-sea area. Therefore, it is thought that the HTs are connected to the real natural element and the excursion route of the space for sightseeing and short rest by using the natural elements in the HT which belongs to G-A(Figure3-14).

The HTs that belongs to G-G are also distributed separated corresponding to the layout of buildings, expressing ideas and thinking of the landscape and the overall view of nature by the emperors. For example, HT「濠濮間」in 「濠濮間 NO.7」(Figure3-15)uses the story extracted from the traditional article and poetry and the view of the human and nature of the saints, expressing the idea of nature and world of the emperors.HT「澄祥」,「湧瑞」in 「五龍亭 NO.12」Using the image of water expresses the allegory that good sign comes

Figure 3-15 Garden Space of 「濠濮間 NO.7」

out of water. HT「龍澤」uses the form of the dragon to emphasize the authority of the emperor. Therefore, it is thought that it the contents of [Knowing Doing] and [Nature elements] in G-C are used to show the impression and thoughts which are produced in the natural scenery (Figure3-14).

In the building group for sightseeing, the buildings are connected by the sightseeing route. Moreover, nature elements within the boundary of the building groups and outside the boundary are connected by the view relationship and expression by contents of HT. Therefore, it is characterized by the fact that through the expression of the nature elements, the emperors' view of the nature and world are sublimated (Figure3-14).

3.5.4 Building Groups for Political Activity

There are 4 building groups that belongs to the [political activity] functional type. The groups are in R-1 and R-2 Type spatial arrangement. The buildings are lined up on the spatial axis while forming a solemn atmosphere. The total

number of the HTs in this type of building group is 20, and the proportion of which belongs to G-C is the highest (75%, 15/20), followed by G–A (25%, 5/20) (Figure3-3).

The HTs that belongs to G-G are centered in the space for dealing with government affairs, while expressing contents of self-encouragement, self-introspection and self-restraint from the emperors. For example, HT「勤政」in [勤政殿 NO.19] expresses emperors' self-demand for diligence and love for the people. HT 「昌徳」and「仁曜」expresses the meaning of promoting the virtue of imperial right. HT「武成殿」「綏邦懐遠」in [紫光閣 NO.16] expresses the meaning of stabilization of the territory by soft policy. Therefore, it is thought to be in response to the dignified atmosphere of the building group for political activity by using the HT contents of the political wisdom which belongs to GC (Figure3-16).

It can be seen that the HTs that belongs to G-A are centered in [豊澤園 NO.22] which also for the government affairs. For example [豊澤園] expresses the feeling of praying for a rich harvest. HT [溪光樹色], [荷風蕙露] expresses

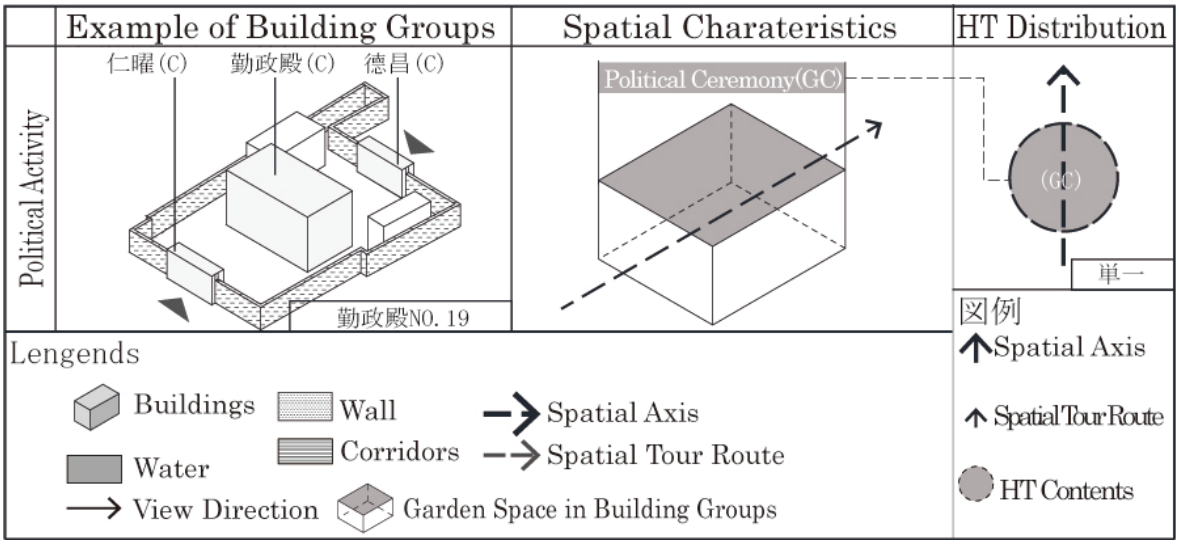

Figure 3-16 Analysis of Spatial Characteristics of Building Groups for Political Activity

Figure 3-17 Garden Space of [紫光閣 NO.16] in [紫光閣賜宴圖卷] By Yao Wenhan, 1761, Beijing

the beautiful scenery in the homeland by nature objects, while shows the prosperity of the country. HT「紫光閣」in [紫光閣 NO.16](Figure3-17,18) symbolizes the right of the emperor in the purple light, which is unusual in nature, and expresses the highest status of the emperor. Therefore, it is thought that the element of the natural thing in the contents of HT which belongs to GA are used to express the feeling that it is interested in the agriculture of the people, the life and the stability of the country, while clarifying the imperial rights (Figure3-16).

Figure 3-18 Garden Space of [紫光閣 NO.16]

In the building group of political activity, the buildings are lined up on the spatial axis and represents a dignified atmosphere. It can be seen that the contents of HTs are also in accordance with the dignified building space, expressing the thinking of political affairs and the prayers of heaven and earth. Therefore, it is characterized by the fact that the HT contents in building groups focus on the political power of the emperor and emphasizes the intensive authority of the emperor (Figure3-16).

3.6 Conclusion

In this chapter of study, from the aspect of HT meaning, the spatial characteristics of the Xiyuan garden in each functional types of building groups were analyzed and discussed. And the following conclusions were drawn. (1) The HTs in each functional type of building groups corresponds to the function features of the space while having a variety of proportion distributions. (2) The contents of the HTs have strong link with the spatial elements such as spatial arrangement, space subjects, activities, view relationship and so on. (3) The virtual artistic conception space created by contents of HTs echoes and emphasizes the physical spatial characteristics of the garden.

Acknowledge

1) The concept of [virtual artistic conception] referred to <History of Ancient Chinese Gardens> by Zhou. [Virtual artistic conception] is a subjective feeling and idea toward objective fact, scenery.

2) As the object of this study, the garden space of the building group are formed by the garden factors in the building group of Xiyuan Garden, and it is not related to the overall garden space of the Xiyuan Garden.

3) The related previous study targeting on the spatial arrangement of the buildings in ancient Chinese garden are<History of Ancient Chinese Architecture > by Liu, <History of Architectures> by Pan and <Ancient Architecture Art> by Li

4) The related previous study targeting on the contents and meaning s of horizontal tablets in Xiyuan are <Explanation of Horizontal tablets in Xiyuan Garden> by Li, <Horizontal Tablets and Carving in Xiyuan Garden> by administrative Office of Beihai Park, and <History of Ancient Chinese Gardens> by Zhou.

5) Restored master plan of Xiyuan Garden referred to the <乾隆京城全図>in 1751, <北京三海図> in 1913 and <History of Ancient Chinese Gardens> by Zhou.

6) [Knowing Doing] means Individual Basic Cognition and Behavior Criteria.

7) [Nature elements in Poetry and art] means a natural object in a poem or painting art of traditional Chinese literati.

8) [Nature elements in myth] means natural objects in myths and legends.

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Chapter4

The Study on the Spatial Characteristics of Xiyuan Garden in Perspective of Location-View Relationship of Buildings and Horizontal tablets

4.1 Background and Study Purpose of the Chapter

Ancient Chinese gardens are considered as a representative model of art form, combining abstract art elements such as poetry and painting with natural landscapes in real garden spaces[4]. Gardener used buildings with different spatial features (such as position and shape) as the framework of the spatial structure, combined with other garden elements in the garden[5]. Meanwhile, text information written on horizontal tablets (扁額)(HT) are used to express the artistic conception elements, landscape interests and thoughts of the garden owner based on different types of garden space[3][11]. Therefore, there is a necessity to combine the above two aspects for a further understanding of the spatial characteristics of ancient Chinese gardens.

Xiyuan Garden, as the best-preserved imperial palace in ancient China, was appraised as one of the masterpieces of the imperial garden in China[8]. It is composed of multiple garden elements such as water bodies, artificial islands, hills, and garden buildings which in groups or in monomers as well as multiple abstract artistic images and meanings carried by the HT of buildings. Therefore, in order to get better understanding of the spatial features of Xiyuan Garden and ancient Chinese gardens, it is indispensable to conduct an in-depth analysis of Xiyuan Garden by understanding the connection between architectural spatial features and HT content.

Therefore, this chapter of the study aims to analyze the spatial characteristics of Xiyuan Garden from the intrinsic relationship between architectural spatial features and HT contents, and to improve and perfect the related study of Xiyuan Garden and ancient Chinese gardens.

4.2 Study Objects and Methods

4.2.1 Study Objects

Xiyuan Garden (built in 938), located next to the Forbidden City which was on the core of imperial city in ancient Beijing(Figure4-1), was the largest and most intact imperial garden in China through the continuous construction in Jin, Yuan, Ming and Qing Dynasties. In Qianlong period of Qing dynasty (1711-1799), the overall spatial structure, buildings and garden elements reached a relatively complete level[13]. According to the functional division[1] of the buildings in garden, in this study, 63 buildings with the function of sightseeing and leisure existed in Qianlong period (Figure4-1) (Table4-1) were selected as the study objects for the further analysis[3*]

4.2.2 Method

Firstly, according to the previous studies and historical records, the [Location], [Building Type] and [Openness Type] information of the 63 study objects in Qianlong Period[2*] were confirmed and collected. Secondly, in combination of the confirmed information above and the result of three field investigations from May 2015 to June 2016, the [view relationship] information of buildings[4*]were defined. Thirdly, after confirming and sorting the spatial features, cluster analysis was conducted to group the study objects to distinguish the spatial features of buildings. Fourthly, HT contents and statistical results of quantity ratio in each group above were obtained. Finally, the spatial features of Xiyuan Garden in aspect of the correlations between

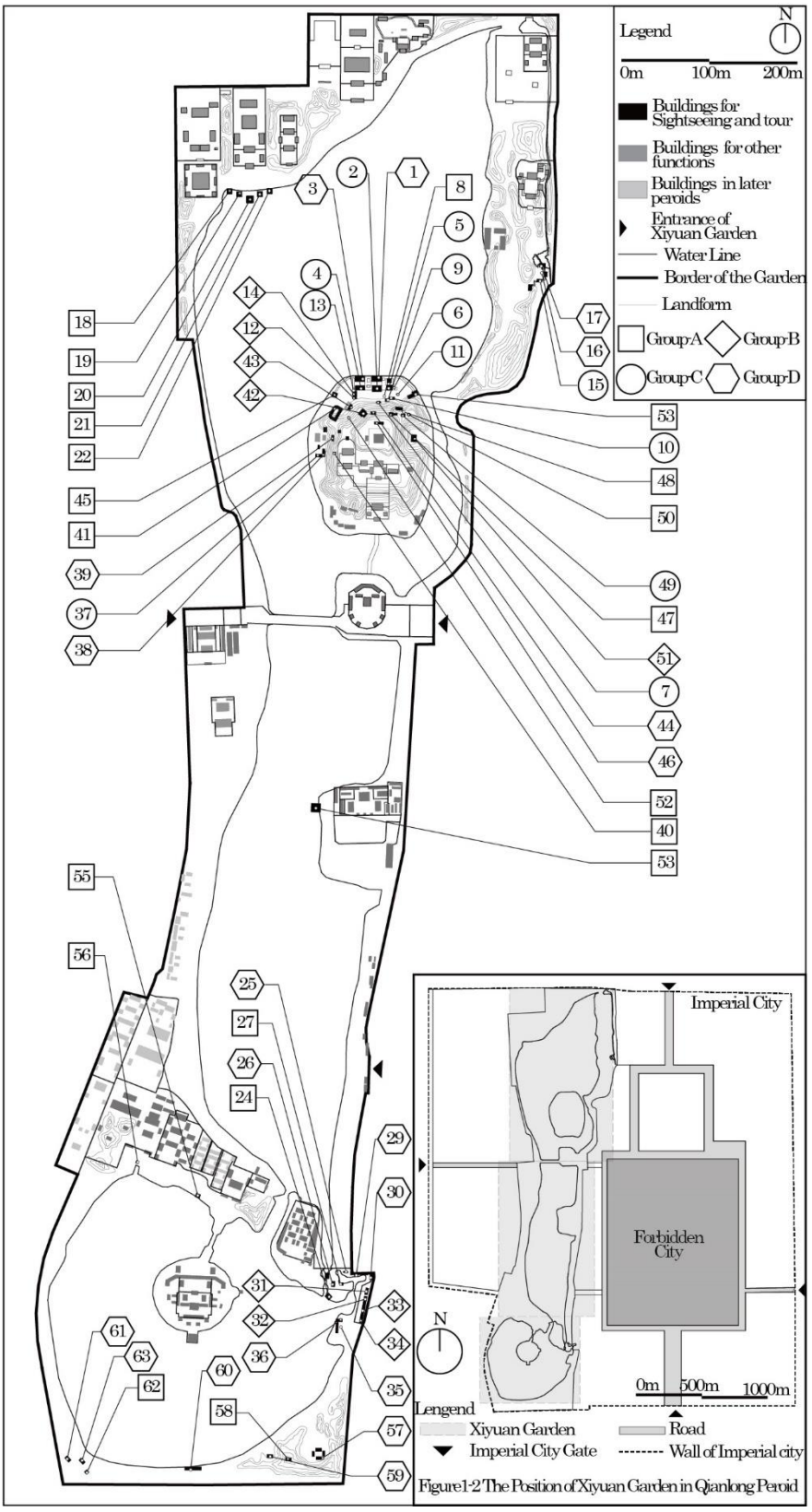
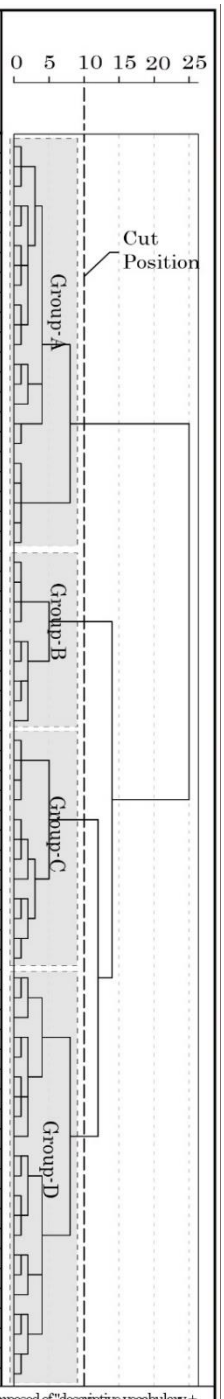


Figure 4-1 Master Plan and Location of Buildings of Xiyuan Garden

Table 4-1 Tables of Buildings and Spatial Features, Results of Cluster Analysis

No. of Buildings	Name of Buildings[1*]	Contents of HT Category[2*]	Basic Feature		Location		View Relationship			Cluster Analysis Result
			Building Type	Openness Type	Location	Space Enclosed	Main Direction	Main Scenery	N-S Alignment	
8	Yihutiandi (Pavillion)	M3,N3	T1	MS	HM	N	NF	A	W	A
18	Zixiang (Pavillion)	N1	T1	MS	WA	N	SF	W	S	A
19	Dengxiang (Pavillion)	M3	T1	MS	WA	N	SF	W	S	A
20	Longze (Pavillion)	M3,P1	T1	MS	WA	N	SF	W	S	A
21	Yongrui (Pavillion)	M3	T1	MS	WA	N	SF	W	S	A
22	Fucui (Pavillion)	M3,N1	T1	MS	WA	N	SF	W	S	A
24	Fuqingzi(Pavillion)	N1,N2	T1	MS	WA	N	O	W	M	A
27	Liushuiyin(Pavillion)	N2	T1	MS	WA	N	O	W	W	A
40	Yishan Pavillion	N1	T1	MS	MT	N	WF	W	W	A
41	Yuegu Storyed Building	M3	T3	MS	FL	Y	O	W	W	A
45	Fenliang Storyed Building	N1	T3	MS	WA	N	O	W	W	A
47	Jiaocui Pavillion	N1	T1	MS	HM	N	O	W	M	A
48	Luanying Pavillion	N1	T1	MS	HM	Y	SF	A	W	A
50	Jianchun Pavillion	N1	T1	MS	HM	N	O	P	W	A
52	Yunyunjintai (Pavillion)	N1	T1	MS	HM	N	O	W	W	A
53	Yiqing Building	N1	T3	MS	WA	N	O	W	W	A
54	Shuiyun Pavillion	N1,N2	T1	MS	WA	N	WF	W	W	A
55	Jiexiu Pavillion	N1	T1	MS	WA	N	O	W	W	A
56	Hefenghuilu(Pavillion)	N1,N2	T1	MS	FL	N	O	W	W	A
58	Zizaiguan(Chamber)	M3	T1	MS	MT	N	NF	W	W	A
62	Yanshang Pavillion	M3,N1	T1	MS	HM	N	O	W	M	A
12	Dexing Building	M3,P3	T1	SS	HM	Y	EF	P	W	B
14	Baochun Chamber	M2,M3	T1	DS	HM	Y	EF	P	W	B
31	Chunji Chamber	N1	T2	SS	FL	N	WF	P	W	B
32	Jiaolu Chamber	N1	T2	SS	FL	Y	WF	P	W	B
33	Binzhu Chamber	N1	T2	SS	FL	Y	WF	P	W	B
34	Jiaoyu Chamber	N1	T2	SS	FL	Y	WF	P	W	B
42	Hangu Hall	M3	T2	SS	HM	Y	O	P	W	B
43	Mujian Chamber	N2	T2	DS	HM	Y	O	P	W	B
51	Zhizhu Hall	M1	T2	SS	HM	N	EF	P	W	B
2	Yilan Hall	N1,N2	T3	SS	FL	Y	NF	A	S	C
4	Daoning Chamber	M2,M3	T3	SS	FL	N	NF	A	S	C
5	Qinglanhuayun(Building)	N1	T3	SS	FL	Y	NF	A	S	C
6	Zicui Chamber	N1,N2	T3	SS	FL	N	NF	A	S	C
7	Yannanxun(Pavillion)	P2,N1	T1	SS	HM	Y	NF	A	S	C
9	Huanbi Building	N1	T3	SS	HM	Y	NF	W	S	C
10	Panlanjingshe(Chamber)	M1	T2	SS	HM	N	NF	A	S	C
11	Qianyan Chamber	N1	T2	MS	HM	N	NF	A	S	C
13	Linshanshuwu(Chamber)	N1	T2	SS	HM	Y	SF	A	S	C
15	Yunxiu Chamber	N1,N2	T2	SS	HM	Y	NF	P	S	C
37	Panqing Chamber	N1	T2	DS	HM	N	SF	A	S	C
49	Guyi Hall	M3	T2	SS	HM	Y	NF	A	S	C
1	Bizhao Building	N1,N2	T3	DS	WA	Y	NF	W	S	D
3	Yuanfan Storyed Building	N2	T3	DS	WA	N	NF	W	S	D
16	Chongjiao Chamber	M3,N3	T2	SS	MT	Y	WF	W	W	D
17	Haopu Chamber	M3,P2	T2	DS	WA	N	NF	W	S	D
23	Shuiliuyunzai(Pavillion)	M3,N1	T2	DS	WA	N	WF	W	W	D
25	Baoguang Chamber	M1,M3	T2	SS	WA	N	SF	W	S	D
26	Yungu Hall	M3	T2	SS	WA	N	WF	W	W	D
28	Sushang Chamber	M2,M3	T2	SS	FL	N	SF	P	S	D
29	Qianchixue(Chamber)	N1	T2	SS	WA	N	SF	W	S	D
30	Rizhi Storyed Building	M3,N1	T2	SS	WA	N	WF	W	W	D
35	Qinyin Storyed Building	N1	T3	SS	WA	N	O	W	M	D
36	Yunhui Building	N1	T3	SS	WA	N	NF	W	S	D
38	Yifangshan(Chamber)	N2	T2	SS	HM	N	WF	W	S	D
39	Shuijingyu(Chamber)	M1,N2	T1	SS	HM	N	WF	W	W	D
44	Xiemiaoshishi(Chamber)	M3	T2	DS	MT	N	NF	P	S	D
46	Lancui Chamber	N1	T2	SS	MT	N	NF	W	S	D
57	Tongyu Chamber	M3	T2	DS	MT	Y	NF	W	S	D
59	Lutao Chamber	N1,N2	T2	SS	FL	N	NF	W	S	D
60	Baoyua Building	N1	T3	SS	WA	N	NF	W	S	D
61	Hanchun Chamber	N1	T2	SS	HM	N	O	W	M	D
63	Maodui Chamber	M3	T2	SS	MT	N	O	W	M	D



1* The names of the buildings in the study are usually consistent with the HTs. It is composed of "descriptive vocabulary + building form type" for example "Yishan +Pavillion"(倚山+亭). However, there are cases in which only descriptive words for the HT contents and without architectural form name, in this case, the building form name will be marked in the brackets behind.

2* Category of the Horizontal tablets

[Religion]-(M1), [Confucianism]-(M2), [Knowledge and practice]-(M3), [Imperial rights]-(P1), [benevolence]-(P2), [Political benefits]-(P3), [Natural objects]-(N1), [Poetry and Painting Nature]-(N2), [Mythological Nature]-(N3)

3* The abbreviation of building characteristics is consistent with the sptial type for the location and view relationship in Fig.2

spatial features of buildings and HT contents were discussed and at last relevant conclusions were drawn.

4.3 Classifying and Grouping from the Features of Location and view Relationship

This identified the spatial features of garden buildings with references to the existing studies[1)5)6)12)13)]. The spatial features can be roughly classified by [Basic feature], [Location], and [View relationship].

4.3.1 Basic Feature of Buildings

The [Basic features] item include two sub-items, [Building Type] and [Openness Type] (Fig. 2). Among them, [Building Type] is divided into 3 types. [Type-1] correspond to the pavilions (亭)with small-scale; [Type-2] correspond to the "chamber"(館,軒), "room"(室), and "hall" (殿,堂) which are in medium scale; and [Type-3] correspond to the bilayer-buildings(楼, 閣) with larger volume (Figure4-2).

[Openness Type] is based on the number of open direction which is restricted by wall and pillar of the buildings. It can be divided into three types: [Single side] (SS), [Double sides] (DS) and [multi-sides] (MS) (Figure4-2).

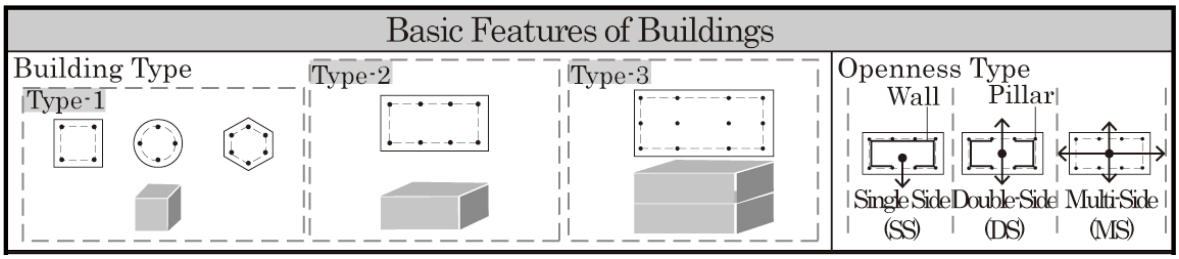


Figure 4-2 Basic Features of Buildings

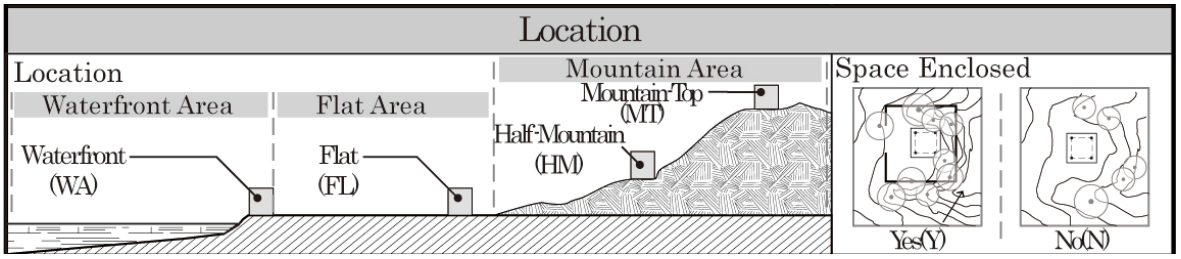


Figure 4-3 Location Features of Buildings

4.3.2 Location

The [Location] item includes two sub-items: [Location] and [Space Enclosed]. The sub-item [Location] is divided into four types: [waterfront], [flat land], [half-mountain] and [mountaintop]. The sub-item [Space enclosed] is divided into two types: [enclosed] (Y) and [non-enclosed] (N) (Figure4-3).

4.3.3 View Relationship

[View Relationship] item includes three sub-items: [Main Direction], [Main Scenery], and [N-S Alignment].The sub-item [Main Direction] is based on the main open direction of the buildings, including South(SF), North(NF), East(EF), West(WF), and Other direction(O); The sub-item [Main Scenery] is based on the scenery elements appearing in main view direction, is divided into three categories: water body(W), architecture(A) and plant(P) (Figure4-4) [4*].

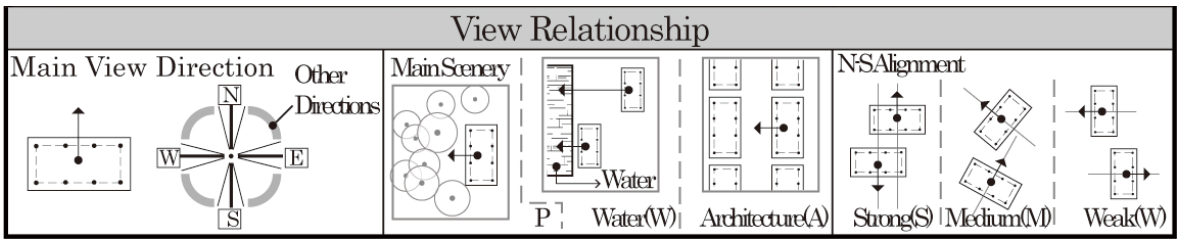


Figure 4-4 Basic Features of View Relationship

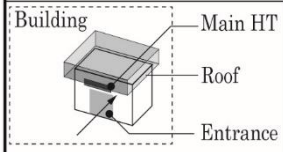
Position of Main HT	Example	The Defination and Explanation of HT Contents	Distribution
	NO.24 Fuqingci (Pavillion) (N1,N2)	Fuqingci (Pavillion) 俯清泚(亭) The water that is so clear that the bottom can be seen Cite of the Potery in Song Dynasty [拂石坐小桥，临流俯清泚]	自然物 N1 詩画自然 N2
Note: The HT contents in the study are extracted and classified by the process above			

Figure 4-5 Location of HT and Explanation Method of HT Meaning

A part of buildings in Xiyuan Garden tend to be arranged as North-South alignment, reflecting the metaphor of imperial region and power. There are also some buildings in relatively free spatial alignment patterns. The sub-item [N-S Alignment] includes three types: strong (strict north-south direction alignment) (S), middle (northeast, northwest, Southeast, southwest and other direction alignments (M), and weak (East-West direction alignment) (W) (Figure4-4).

4.4 Grouping by Cluster Analysis

In order to group and distinguish the spatial features for further discussion, 63 buildings were sorted and grouped by cluster analysis by using SPSS22.0 software (Ward square Euclidean distance), and the following four groups (Table4-1) were generated by the key principle of maximizing the spatial features in each group.

Group-A contains 21 buildings which are mostly [Type-1] buildings (85.71%), in [multi-direction] openness type (100%), [waterfront] location (52.38%), [no space enclosed] (90.48%), [other direction] in main view direction (52.38%), water as [Main scenery] (85.71%), and relatively weak in [N-S Alignment] (61.90%) (Fig4-5).

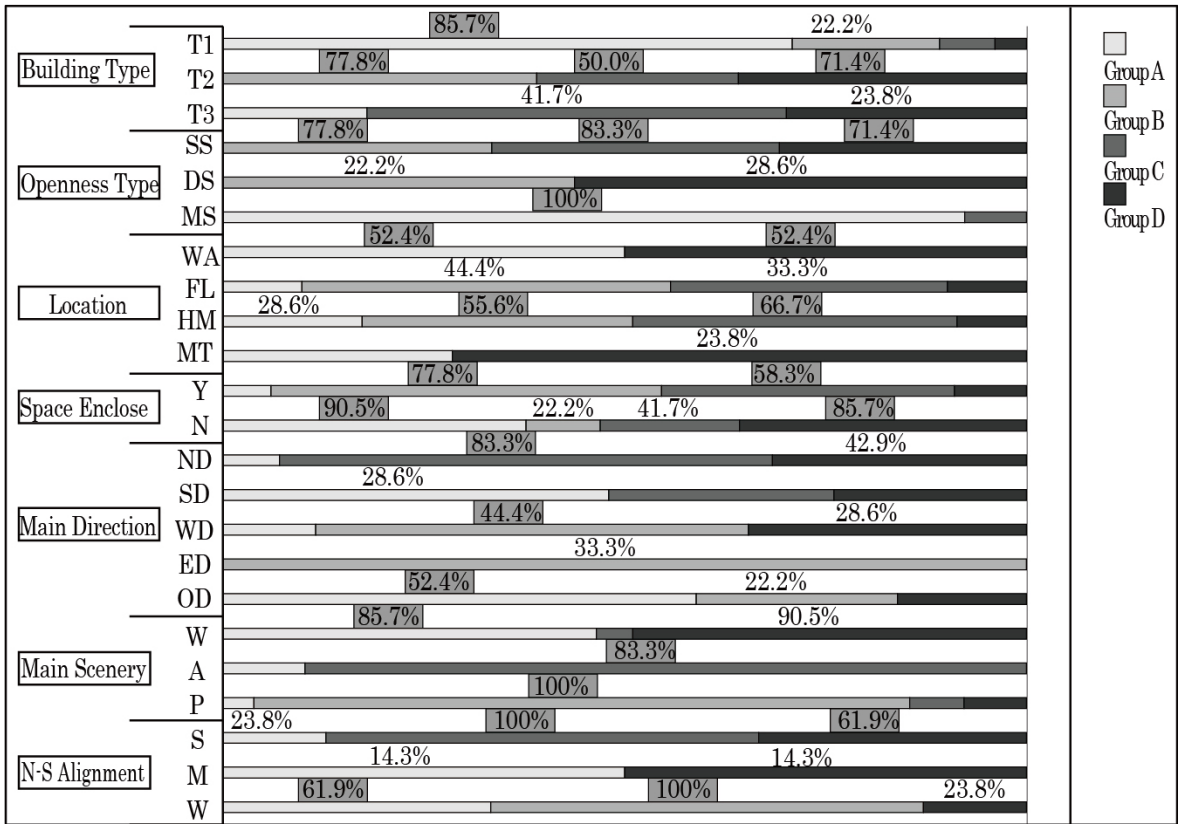


Figure 4-6 Results of Cluster Analysis

Group-B contains 9 buildings, which are mostly [Type-2] buildings (77.78%), in [Single-direction] openness type (77.78%), [Half Mountain] location (55.56%), with space enclosed (77.78%), [West] and [East] in main view direction (44.44%, 33.33%), [plants] as [Main scenery] (100%), and relatively weak in [N-S Alignment] (100%) (Figure4-6).

Group-C contains 12 buildings, which are mostly [Type-2] and [Type-3] buildings (50.00%, 41.67%), in [Single-direction] openness type (83.33%), [Half Mountain] location (66.67%), with space enclosed (58.33%), [North] in main view direction (83.33%), [Architecture] as [Main scenery] (83.33%), and strong in [N-S Alignment] (100%) (Figure4-6).

Group-D contains 21 buildings, which are mostly [Type-2] buildings (71.43%) in [Single-direction] openness type (83.33%), [Waterfront] location (52.38%),

with none space enclosed (85.71%), [North] in main direction (42.86%), [Water] as [Main scenery] (83.33%), and strong in [N-S Alignment] (100%) (Figure4-6).

4.5 Characteristics of Location and View Relationship of Buildings in Xiyuan Garden in aspect of the HT contents

In this chapter, 63 main HT of the building, installed above the main entrance and representing the name of the building, were identified as the objects of discussion (Table4-1) (Table4-6). We extracted, interpreted and classified each HT contents of buildings according to classification basis which based on the previous studies of Zhang[12], Wang[9], Ham[2] and Li[3] (Table4-6). The HT contents were sorted and classified into three general categories and nine sub-categories. The 3 general categories were [Thought](M), [Politics](P), and [Nature](N); and on this basis, it was subdivided into 9 sub-categories which are [Religion](宗教)(M1), [Confucianism](儒家思想)(M2), [Knowledge and practice] (知行)(M3), [Imperial rights](皇権)(P1), [benevolence](仁政)(P2), [Political benefits](政治知恵)(P3), [Natural objects](自然物)(N1), [Poetry and Painting Nature](詩画自然)(N2), and [Mythological Nature](神話自然)(N3)(Table4-2)

Base on the classification results above, the statistical calculation of quantity ratio in each building group which was divided by cluster analysis

Table 4-2 HT Meaning Distribution in Each Groups

	Thought Category			Politics Category			Nature Category		
	M1	M2	M3	P1	P2	P3	N1	N2	N3
Group-A	0.00%	0.00%	28.57%	3.57%	0.00%	0.00%	50.00%	14.29%	3.57%
Group-B	9.09%	9.09%	27.27%	0.00%	0.00%	9.09%	36.36%	9.09%	0.00%
Group-C	5.88%	5.88%	11.76%	0.00%	5.88%	0.00%	52.94%	17.65%	0.00%
Group-D	6.67%	3.33%	33.33%	0.00%	3.33%	0.00%	33.33%	16.67%	3.33%

* Category of the Horizontal tablets
[Religion]-(M1), [Confucianism]-(M2), [Knowledge and practice]-(M3), [Imperial rights]-(P1), [benevolence]-(P2), [Political benefits]-(P3), [Natural objects]-(N1), [Poetry and Painting Nature]-(N2), [Mythological Nature]-(N3)

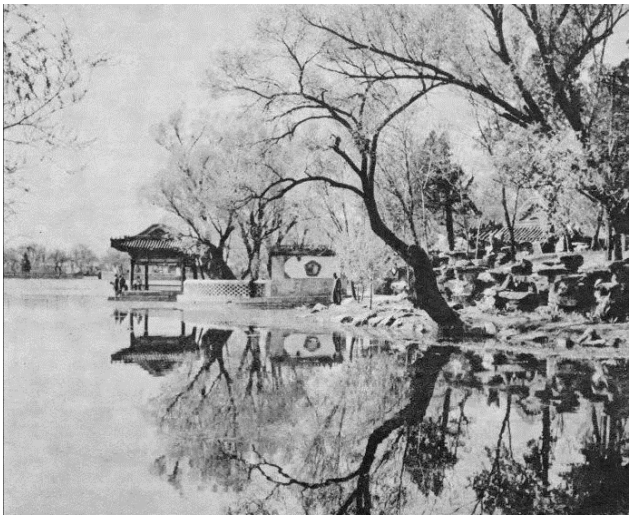


Figure 4-7 Garden Space of [俯清泚]

were conducted and obtained. On this basis, by combing and discussing the analysis results from the two aspects, the correlations between HT contents and spatial features of buildings were analyzed and discussed in depth.

4.5.1 Group-A

Group-A, which contains 21 buildings, have [Nature](N) HT contents accounting for nearly 70%, and composed by [Natural Objects] (N1), [Poetry and Painting Nature] (N2), and [Mythological Nature] (N3) (50%, 14.29%, 3.57%). In [Thought] (M) contents, [Knowledge and practice] (M3) accounted

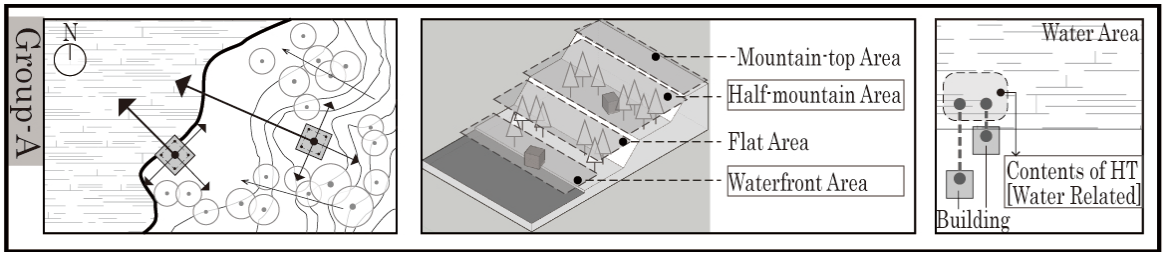


Figure 4-8 Spatial Characteristics of Buildings in Group A

Figure 4-9 Liushuiyin (Pavilion) [流水音]

for the most (28.57%); There are few [Politics] (P) HTs, and only a handful of [Imperial rights] (P1) HT (3.57%) (Table4-2).

Buildings in Group-A are dominated by small volume Pavilion (Type-1) located in waterfront area and half-mountain area. The main view direction of the building, with a broad open direction, directed by the position of the water body, while having a close connection with other natural scenery surrounding the building. The HT contents are mostly [Nature] (N) related, emphasizing

Figure 4-10 Entrance Space of Jiaolu Chamber[交葦室]

the water theme, and strengthening the link to water area. For example, (24) Fuqingci (Pavillion) [俯清泚](Figure4-7), (27) Liushuiyin (Pavilion) [流水音](Figure4-9), (54) Shuiyun pavilion[水雲亭], use the images of spring(清泚), water flow (流水), reflection of clouds on water(水雲) and so on, emphasizing main scenery of the buildings(Figure4-8).

Besides, buildings such as (8) Yihutiandi (Pavillion) [一壺天地], and (19) Chengxiang Pavilion[澄祥亭] use the [Knowledge and practice] related HT contents to express the thought of the natural scenery and the world outlook of the emperors, and sublimate the physical space into a philosophical thought level.

Most of the buildings in Group A are Pavilion buildings adjacent to water or pavilion buildings with good sight relationship with water body. Because of the small size of the buildings, such buildings basically assumed the function of the emperor's short rest at the water during the process of visiting the garden. Therefore, the image and content of the plaque meaning are mostly related to the visual objects around it intuitively(Figure4-11).

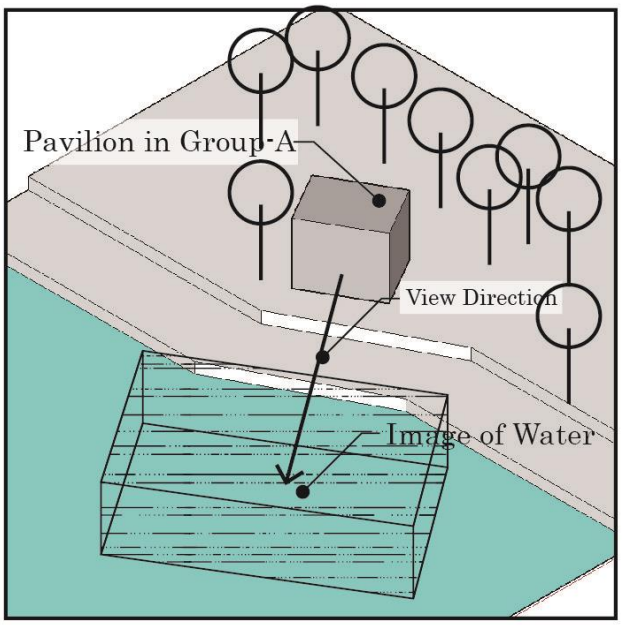


Figure 4-11 Spatial Pattern of Buildings in Group-A

4.5.2 Group-B

Group-B, which contains 9 buildings, have [Thought] (M) and [Nature] (N) HT contents for nearly 45%. Among them, [Thought] (M) HT contents are mainly [Knowledge and practice] (M3) (27.27%). [Nature](N) HT are mainly [Natural objects] (N1) and [Poetry and Painting Nature] (N2) (36.36%, 9.09%).

Group-B is dominated by medium volume buildings such as "Chamber", "Hall" located in [Half-Mountain] and [Flat] area with [Single Side] Openness type. The Main view direction is [West] and [East]. The buildings are mostly surrounded by plants, landform, or walls, forming a relatively enclosed space. The HTs contents in Group-B are generally echoing the natural objects within the enclosed space. For example in the HT contents of (24) Binzhu chamber, (27) Jiaolu Chamber[交葦室], and (54) Jiaoyu Chamber[蕉雨軒], The specific natural objects such as bamboo(竹), reed(葦) and plantain(芭蕉) are reflected against the plant theme in each small enclosed yard space, emphasizing the sense of domain in enclosed space. Also, (12)Dexing Building[得性楼], (14)Baochong Chamber[抱沖室], and (42)Hangu Hall[酣古堂] use [Thought](M) contents to express the meditation and personal introspection, while stressing the attributes of the privacy of the buildings and surrounding space (Fig4-12).

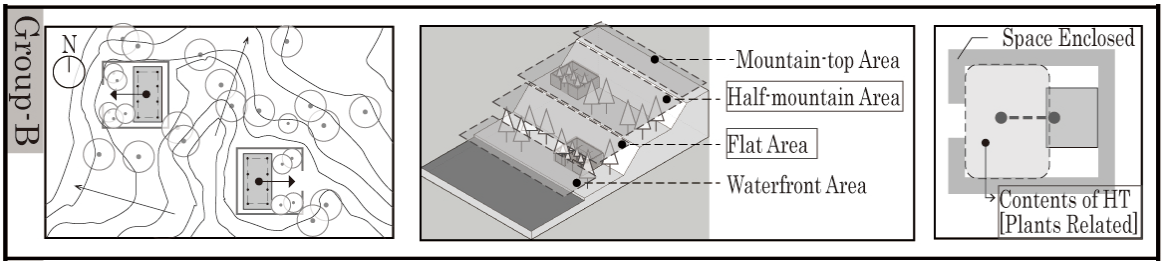


Figure 4-12 Characteristics of Buildings in Group B

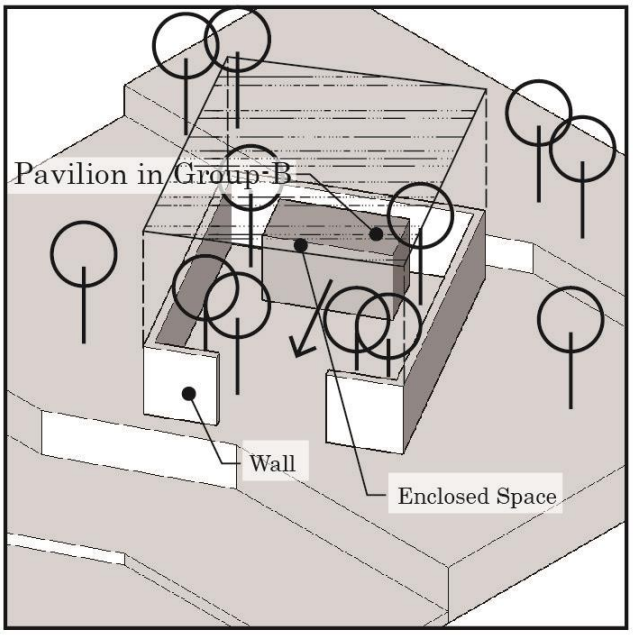


Figure 4-13 Spatial Pattern of Buildings in Group-B

In Group B, buildings are generally enclosed by walls and other structures. Compared with Pavilion buildings, this kind of building has larger indoor activity space. In the process of visiting, the emperor would take a long rest, rest, self-cultivation, meditation and other activities in such buildings. At the same time, the relatively closed outer space provides a relatively private space atmosphere for the garden space corresponding to such buildings (Figure4-13).

4.5.3 Group-C

Group-C, which contains 12 buildings, have [Nature] (N) HT contents accounting for nearly 70%, which composed by [Natural objects] (N1) and [Poetry and Painting Nature] (N2) (52.00%, 14.29%). Followed by the [Thought] (M) HT contents which [Knowledge and practice] (M3) accounting for 11.76%, and a small number of [Religion] (M1) and [Confucianism] (M2) contents (5.88%, 5.88%) (Figure4-6).

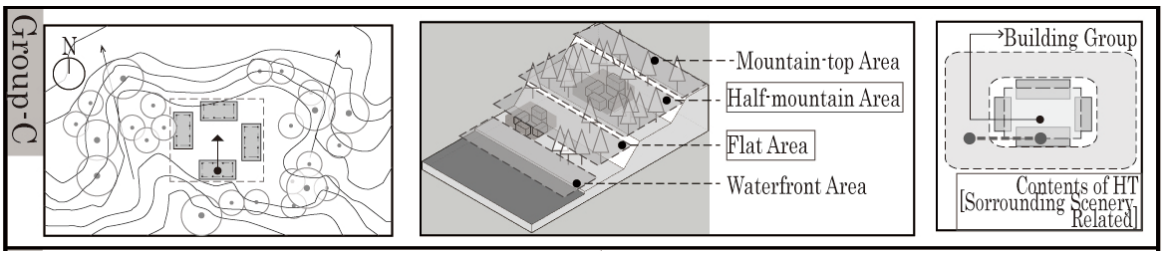


Figure 4-14 Characteristics of Buildings in Group C

Buildings in Group-C are mostly medium-sized [Type2] buildings and two-storey [Type3] buildings located in the [Half Mountain] and [Flat] area. Buildings in Group-C are mostly single buildings belonging to one of the building groups, which have a strong spatial connection with nearby buildings and have relatively poor view connection with the surrounding natural scenery. However, The HT contents are still dominated by [Nature](N) contents. For example, in (6) Zicui Chamber[紫翠房], (9) Huanbi Building[環碧楼], (13) Linshanshuwu (Chamber) [臨山書屋], and (15) Yunxiu (Chamber) [雲岫]. The HT contents repeatedly emphasize the natural scenery image at the level of artistic conception, while connecting and stressing the natural space blocked by the surrounding buildings (Fig4-14).

In Group C, buildings are generally located in a part of the building group. Such buildings are usually used for sightseeing and recreation. At the same time, the interior of the building group is differentiated by the location and theme of the building. Compared with other groups of buildings, Group C buildings do not form a better line of sight communication with the surrounding natural landscape. The content of the horizontal tablets forms a good communication with the natural environment of the outside world at the ideological level (Figure4-15).

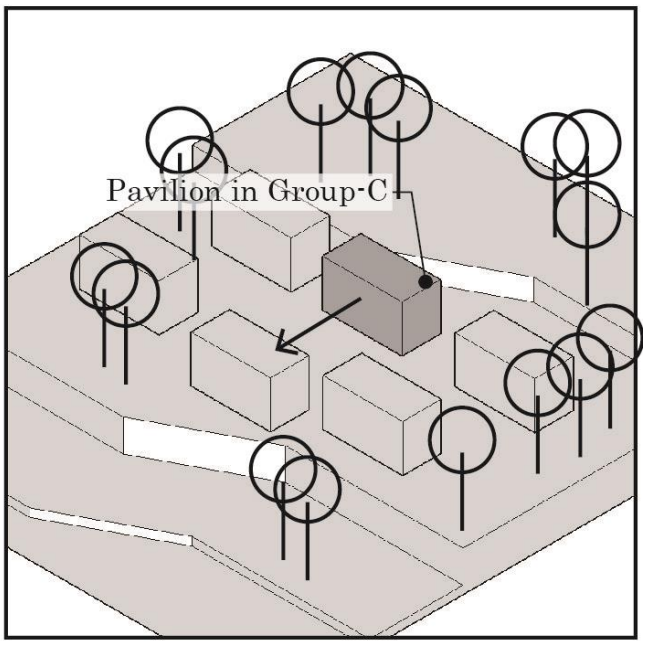


Figure 4-15 Spatial Pattern of Buildings in Group-C

4.5.4 Group-D

Group-D, which contains 21 buildings, have [Nature] (N) HT contents accounting for over 50% (53.33%), composed by [Natural objects] (N1), [Poetry and Painting Nature] (N2) and [Mythological Nature] (N3) (33.33%, 16.67%, 3.33%). Followed by the [Thought] (M) HT contents in which [Knowledge and practice] (M3) accounting for 33.33%%, and a small number of [Religion] (M1) and [Confucianism] (M2) contents (6.67%, 3.33%) (Table 2).

Buildings in Group-D are mainly dominated by [Type-2] buildings located in the waterfront area, facing the north, with water bodies as the main landscape. Due to the [Single side] openness type, buildings in Group-D have a stronger spatial alignment connection with the water area than the buildings in Group-A. Although existing the similar water image in HT contents with Group-A, the HT contents of Group-D shows a wider and relatively bigger natural scenery image such as cloud painting(雲絵), boats faraway(遠帆)

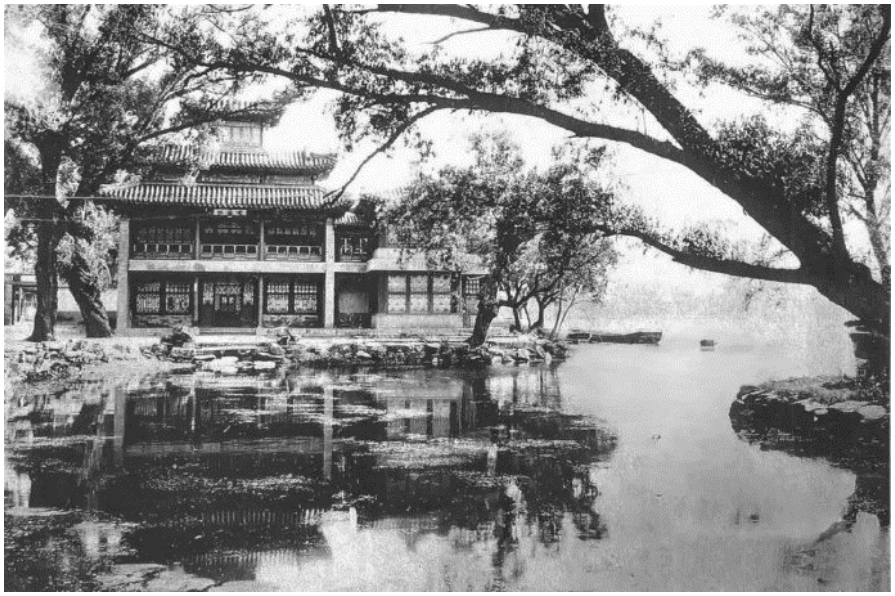


Figure 4-16 Garden Space of Yunhui Building[雲絵楼]

reflection of the jade(碧照), and waterfall from thousand feet(千呎雪) in (1)Bizhao Building[碧照楼] (Figure4-19), (3)Yuanfan Building[遠帆閣], (29) Yunhui Building[雲絵楼](Figure4-16), and (36) Qianchixue (Chamber) [千呎雪]. Meanwhile, the scale difference between the descriptions of natural content from group A is emphasized (Fig4-17).

In summary, the quantity ratio of the HT contents in each group shows a relatively similar pattern to a certain extent. HT contents concerning [Nature] were in big part and followed by the [Though] meanings (Table.3). However, it shows a distinct difference in combination patterns with the various spatial

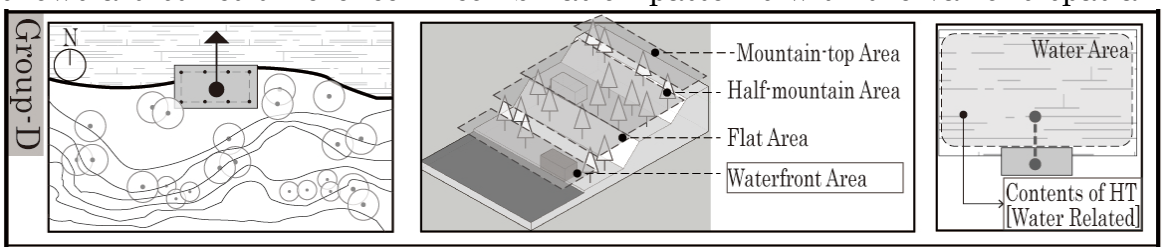


Figure 4-17 Characteristics of Buildings in Group D

features of buildings. In Group-A, The HT contents echo and emphasize the natural scenery of water area and sightseeing activities in waterfront space. In Group-B, the HT contents coincide with the natural landscape and plants that can be seen directly inside the enclosed space, while intensifying and keeping a quiet and private atmosphere. In Group-C, the HT contents repeatedly emphasize the natural landscape blocked by the architectural space and forms a link in the imagination of natural elements and artistic conception. In Group-D, HT contents with a wider and larger natural landscape image are used to coordinate the spatial features of the building while distinguishing the unique spatial feature of size and N-S alignment of the buildings in this group.

Most of the buildings in Group D are those with large volume at the water edge. Taking the Bizhao Building (Figure4-13) on the north side of Qionghua Island in Beihai area as an example, the large building volume makes it possible to diversify the activities within the building. According to records, in

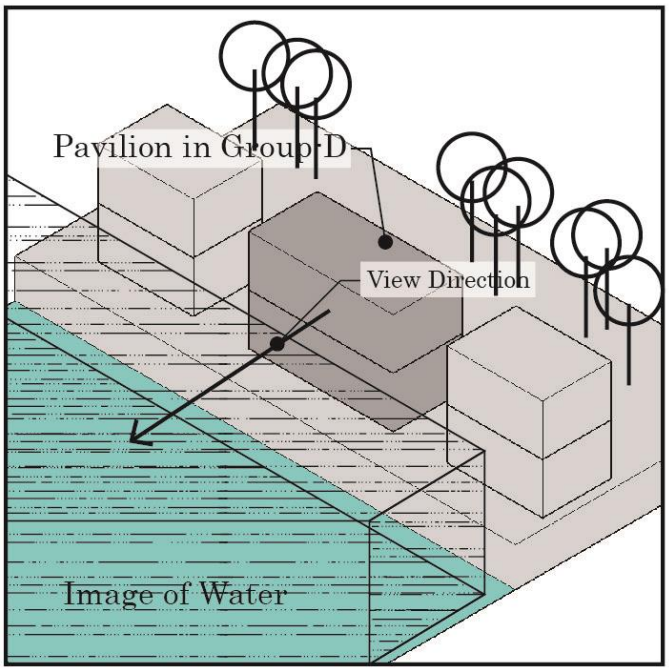


Figure 4-18 Spatial Pattern of Buildings in Group-D

Figure 4-19 Garden Space of Bizhao Building[碧照楼]

the water adjacent buildings of northern Qionghua Island such as Bizhao Tower, the rulers of the Qing Dynasty had grand activities to watch Ice Games on the water surface in winter. It is closely related to the good sight relationship between the building and the water body. Correspondingly, the large volume of the building and the more solemn activity content correspond to the broader connotation of the horizontal tablet content (Figure4-18).

4.6 Conclusions

In this chapter of study, 63 buildings with the function of sightseeing and leisure in Xiyuan Garden in Qianlong Period of Qing dynasty were selected as the study objects. [Location], [View Relationship] features and [HT content] of each building were defined and sorted out. Based on the classification result of cluster analysis using spatial features of buildings and the quantity ratio result of HT contents in each groups above, the spatial characteristics of Xiyuan Garden were analyzed and discussed in depth from the aspect of correlations between the spatial feature of [Location]and [View Relationship] of buildings

and [HT contents]. In summary, we drew relevant conclusions:①Based on the [Location] and [View Relationship] features of buildings, The buildings could be clearly defined into four groups in which having relatively notable features. ② In each building groups above, the quantity ratio of HT contents shows various distribution patterns. And, even for groups which have a relatively similar ratio, the specific content or image carried by the HT still shows a difference from the specific conditions of the position and view relationship. ③By combing the physical space and the virtual artistic ideology, the correlations between HT contents and the spatial features of building are thought to enrich the spatial characteristics of overall garden space in Xiyuan Garden. Furthermore, the whole garden space is also sublimated in the level of artistic conception by the multiple expression methods and contents of HT.

Acknowledge

1) According to previous studies of Meng (2015), Zhou, W (2010) and Li (2013), the garden buildings in Xiyuan Garden

2) Buildings existed in the form of groups or monomers. And it were divided into four functions: religion, residence, sightseeing, and political rituals.

3) The master plan and the [Location],[building type][Openness Type] features of buildings were defined on basis of <Overall Beijing Map>(乾隆北京全図)(1751), <Paint of 3 seas>(三海図)(1913), < History of Traditional Chinese Garden>(中国古典庭園史), and< Chūgoku zōenshi >(中国造園史) and results of on-site investigations.

4) According to the previous study of Peng (1986), unless other functional buildings, buildings with sightseeing function in ancient Chinese gardens are supposed to have a closer spatial connections with the surrounding natural environment. Therefore, buildings for the sightseeing functions are set to be the research object in this study.

5) The definition of [View Relationship]are based on the results of on-site investigations(View height of 1.75m in center of buildings), and scenery descriptions from buildings in <Diary of Jinao>(金鼇退食笔記)(1704), <Poetry Set of Emperor Qianlong>(乾隆御制詩文集)(1784), <Historical Research of Beijing City>(日下旧聞考)(1782), <Historical Records of Xiyuan Garden>(三海見聞誌) <Historical Records of Mountain of White Tower>(白塔山記) (1773)

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Chapter5

The Study on the Spatial Characteristics of Building Groups in Xiyuan Imperial Garden and Suzhou Private Gardens in Perspective of Horizontal Tablet

5.1 Background and Study Purpose of the Chapter

Ancient Chinese gardens, according to the differences of ownership, function and scale, are divided into three basic types: imperial gardens, private gardens, and temple gardens[1)2)]. Among them, imperial gardens and private gardens, as essential space for daily activities of owners including emperors, scholar bureaucrats and literati stratum, are two existing types of Chinese gardens which stress the gist of "nature in city and living beside nature landscape" in traditional gardening culture[3)]. In the construction process, the garden designers emphasize the overlap between the physical space and the artistic conception, and project the interest and aesthetic appreciation of the ancient literati into the natural image of traditional poetry, literature, painting and other artistic works, and then uses the garden space as the carrier of expression. Among them, the horizontal tablets (hereafter refer to as HT) and other written form of garden elements are the main expression of the owners' interests and aesthetic standards[4)]. However, as for imperial gardens and private gardens, there are significant differences in location, scale, garden space structure, and the hierarchical identity of the owners of the gardens. The main expression in each HT and the corresponding characteristics between HT and garden space also reflect differently. Therefore, the comparative analysis of the spatial features of the two types of gardens from the aspect of HT is essential for further clarify and differences between the two types of gardens.

In addition, the development of private gardens in ancient China, to the Ming and Qing Dynasties, mainly in the construction of residential gardens within the city. By means of architecture, water diversion and rockery, gardens depict the intention of natural environment. Meanwhile, the contents of horizontal tablets are used to combine the ideological interests and cultural connotations of the owners of gardens. Correspondingly, from the perspective

of site selection, Xiyuan imperial Garden also belongs to the type of Flat-Land gardening. The rulers of the Qing Dynasty studied the traditional Sinology culture, which was embodied in the construction of garden space and gardening techniques. Therefore, it is necessary to make a comparative analysis of the two gardening techniques, the artistic conception space and the physical space.

Therefore, this chapter of study will take the representative gardens of the imperial and private gardens in ancient China as study sites. By sorting the results of HT meaning distribution and spatial features from the different

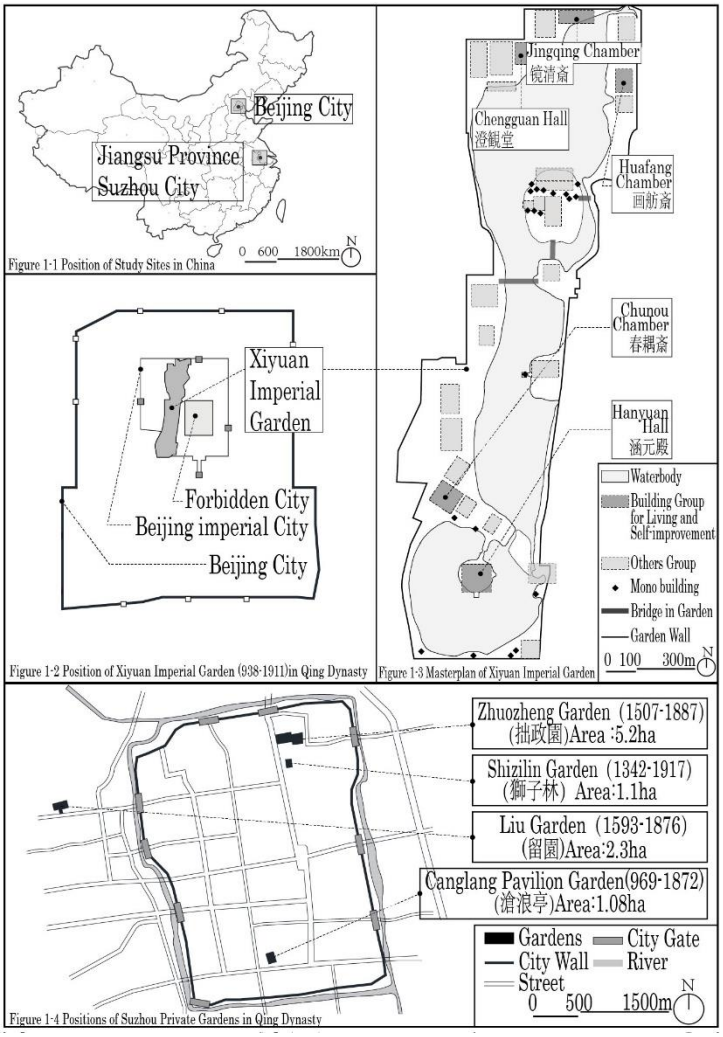


Figure 5-1 Location and Master Plan of Xiyuan Garden and Suzhou Private Gardens

building types, a comparative study of spatial features in two types of gardens from the aspect of HT will be analyzed and discussed, and we will finally draw relevant conclusions.

5.2 Study Objects and Methods

5.2.1 Study Objects

Xiyuan Garden (938-1911), as the largest and best-preserved imperial garden in the imperial city of ancient Beijing, is praised as the most typical example and the masterpiece of the imperial garden in ancient Chinese gardens[2)15)]. It was located within the imperial city of ancient Beijing in Qing dynasty and closely next to the Forbidden City, which is main area for the daily life of emperors in Qing dynasty and regarded as the symbol of central power in a long period[1)] (Figure5-1). Therefore, Xiyuan Garden is regarded as the garden that have the strongest link to the daily life of emperors. It consists of multiple garden elements such as water, artificial mountain and building groups that having relatively independent space and functions[16)]. Among them, the 5 building groups for residential need are the main living space for the emperors in the gardens (Figure5-1).

On the other hands, Suzhou private gardens, as the representative example of private gardens in ancient China, were well developed and established for a long period and reached the climax in Qing period due to the rich economy, abundant water resources and the gathering of scholars in ancient Suzhou city[1)2)] (Figure 1-4). Among them, the four private gardens, Zhuozheng Garden(拙政園), Lion Grove Garden(獅子林), Canglang Pavillion Garden(滄浪亭), Linger Garden(留園), were not only selected as the world heritage by UNESCO, but also called as the "Famous four gardens in Suzhou" for the

long lasting construction history and well representative status among Suzhou private gardens (Figure5-1).

Suzhou private gardens were mostly built for the purpose of residence and daily living for the garden owners. However, each garden was owned by a different owner, and due to personal taste and background, there is a relative difference in detail. Based on the principle of complete and objective investigation of two types of gardens, in this study, 5 building groups（画舫斎, 鏡清斎, 澄観堂, 涵元殿, 春耦斎）for residential and living in Xiyuan imperial garden and 4 Suzhou private gardens（拙政園, 獅子林, 滄浪亭, 留園）were selected as the study objects.

5.2.2 Methods

Firstly, based on the results of field investigations on Suzhou private gardens in June 2013 and investigations on Xiyuan Garden in May 2015, April 2016, we grasped the existing status of HT and the corresponding garden space of study sites. Secondly, according to the investigation results and relevant previous studies[4)8)], the contents of HT were explained, sorted out, and classified according to classification basis of HT meanings (Table5-3). Thirdly, the buildings types that both existed in imperial and private garden were extracted and classified into three types based on the difference of scales and corresponding garden space (Figure5-2). Then the frequency numbers and proportion of HT meanings in each building type were collated and counted (Table5-3, Figure5-3). Finally, we discussed the spatial features of gardens in each building type from the aspect of HT meanings and drew relevant conclusions.

Table 5-1 Table of Buildings in Xiyuan Garden and Suzhou Gardens

Position	Name	Number	Name of Buildings	Type	Name of HT	HT meaning
Xiyuan Imperial Garden Part	春耦斋	1	春雨林塘	室	春雨林塘	S1, S2, S3
		2		斋	勤静交案	T1, T4
		3	画舫斋	斋	画舫斋	T4, S2
		4		斋	竹风梧月	S1, S3
	画舫斋	5	镜香室	室	镜香	T1, S2
		6	镜清斋	斋	镜妙	C1, T1
		7	古柯亭	亭	古柯亭	S1
		8	绿意廊	廊	绿意廊	S1
		9	奥曠室	室	奥曠室	T1, S2
		10	得性轩	轩	得性轩	T1
		11	小兖珊室	室	得真趣	T1
	镜清斋	12	镜清斋	斋	镜清斋	T1, S2
		13		斋	不为物先	C1, T1
		14	抱素書屋	屋	抱素書屋	C1, T1
		15	韵琴斋	斋	韵琴斋	T4, S2
		16	碧鮮亭	亭	碧鮮	S1
		17	画峰室	室	画峰室	T2, S2
		18	枕霤亭	亭	枕霤亭	T4, S2
		19	鶯画軒	軒	鶯画軒	S2
		20	培荣坞	坞	培荣坞	T1
	澄觀堂	21	澄觀堂	堂	澄觀堂	T1
		22	樂意静觀	堂	樂意静觀	T1, T4
		23	水天清永	堂	水天清永	S2, S3
		24	常清静心	堂	常清静心	C1, T1
	玉蘭軒	25	玉蘭軒	軒	玉蘭軒	T1, S1
	供雪堂	26	供雪堂	堂	供雪堂	S3
	翔鸞閣	27	翔鸞閣	閣	翔鸞閣	C2, T3
	瑞悦樓	28	瑞悦樓	樓	瑞悦樓	T3
	神輦樓	29	神輦樓	樓	神輦樓	T3, S3
	涵元殿	30	涵元殿	殿	涵元殿	T1, T3
		31	天心月脇	殿	天心月脇	T1, S3
	景星殿	32	景星殿	殿	景星殿	T3, S3
	慶雲殿	33	慶雲殿	殿	慶雲殿	T3, S3
	藏韵殿	34	藏韵殿	殿	藏韵殿	T2, S1
	绮思楼	35	绮思楼	楼	绮思楼	T2
	香霭殿	36	香霭殿	殿	香霭殿	T2, S2
	迎薰亭	37	迎薰亭	亭	迎薰亭	T3, S3
	对時育物	38	对時育物	亭	对時育物	T3
	切魚亭	39	切魚亭	亭	切魚亭	T3, S1
	補桐書屋	40	補桐書屋	屋	補桐書屋	S1
	随安室	41	随安室	室	随安室	T1, T4
	駐景	42	駐景	室	駐景	T1
	待月軒	43	待月軒	軒	待月軒	S3
	漱芳澗	44	漱芳澗	亭	漱芳澗	T1, T2
	八音克諧	45	八音克諧	亭	八音克諧	C1, T1
	長春書屋	46	長春書屋	屋	長春書屋	T3
春耦斋	春耦斋	47	春耦斋	斋	春耦斋	S1
		48		斋	云岭	C1, T1
		49	雲木冷秀	斋	雲木冷秀	S1, S3
Suzhou Private Garden Part	拙政园	50	春耦斋	斋	樂民之樂	T3, T1
		51		斋	春韶悦豫	T3, S3
		52	听鸿楼	楼	听鸿楼	S1
		53		楼	神観蕭爽	T1, T4
		54	雪翠楼	楼	雪翠楼	T1, S1
		55	懒遠斋	斋	懒遠斋	T1, T3
		56	竹汀亭	亭	竹汀亭	S1, S2
		57	植秀軒	軒	植秀軒	S1
		58	大圆镜中殿	殿	大圆镜中	C1, T1
		59	虚白室	室	虚白室	C1, T4
		60	東半亭	亭	倚虹	S2
		61		亭	鵑	S2
		62	聽雨軒	軒	听雨軒	S3
		63	海棠春塢	塢	海棠春塢	S1
		64	嘉実亭	亭	嘉実亭	S1
		65	玲瓏館	館	玲瓏館	S1
		66	玉壺氷	館	玉壺氷	T1
		67	黄石筑	亭	繙綺亭	S1, S2
		68	山亭	亭	曉丹映翠	S3
		69		亭	水木清華	S1, S2
	倚玉軒	70	遠香堂	堂	遠香堂	T1, S1
		71		軒	倚玉軒	S1
		72		軒	静観自得	C1
		73		軒	聽香深処	S1
	小飛虹	74	小飛虹	廊	小飛虹	S2
	听松風处	75	听松風处	閣	一亭秋月曬松風	S1, S2
		76		閣	松風水閣	S1, S2, S3
	得真亭	77	得真亭	亭	得真亭	T2
	小滄浪	78	小滄浪	榭	小滄浪	T4, S2
	志清意遠	79	小滄浪	榭	小滄浪	T1, S2
	淨深亭	80	淨深亭	亭	淨深	S1
	香洲	81	香洲	榭	香洲	T1, S1, S2
		82		榭	烟波画船	S2
		83		榭	激観	C1
		84		榭	野航	S2
	玉蘭堂	85	玉蘭堂	堂	玉蘭堂	S1
	玉蘭堂	86	玉蘭堂	堂	蕙花堂	T2, S1
	空廊	87	空廊	廊	柳陰踏曲	S1, S2
	見山楼	88	見山楼	楼	見山楼	T4, S2
		89		楼	藕香榭	S1
	荷風四面亭	90	荷風四面亭	亭	荷風四面亭	S1, S3
	雪香雲蔚亭	91	雪香雲蔚亭	亭	雪香雲蔚	S1, S3
	山花野鳥之間	92	山花野鳥之間	亭	山花野鳥之間	S1, S3
	待霜亭	93	待霜亭	亭	待霜	S1, S3
	梧竹幽居	94	梧竹幽居	亭	梧竹幽居	T1, S1
	綠漪亭	95	綠漪亭	亭	綠漪	S1, S2
	三十六鴛鴦館	96	三十六鴛鴦館	館	十八曼陀羅花館	T2
		97		館	三十六鴛鴦館	S1
	塔影亭	98	塔影亭	亭	塔影	S2
Suzhou Private Garden Part	狮子林	99	留雲閣	閣	留雲閣	S1, S2
		100	浮翠閣	閣	浮翠閣	S1, S2, S3
		101	笠亭	亭	笠亭	T4, S2
		102	与誰同坐軒	軒	与誰同坐軒	T4, S3
		103	倒影楼	楼	倒影楼	S2
		104	宜雨亭	亭	宜雨亭	S1, S2
		105	原阿堂	堂	雲林逸韻	S2
		106		厅	燕誉堂	T1
		107		厅	绿玉青瑶之館	T1, S2
	鴛鴦厅	108		厅	聽香	T1
		109		厅	読画	T1, T2
		110		厅	酌賞	S2, S1
		111		厅	幽観	S2, S1
	小步厅	112	小步厅	厅	園渉成趣	T4
	打跑亭	113	打跑亭	亭	打跑亭	C1, T4
	掛峰指柏軒	114	掛峰指柏軒	軒	掛峰指柏軒	C1, S2, S1
		115		軒	一峰独秀	S2
	見山楼	116	見山楼	楼	見山楼	T4, S2
	湘室	117	湘室	室	風雲雷室	S2, S3
	修竹閣	118	修竹閣	閣	修竹閣	T1, S1
	觀瀑亭	119	觀瀑亭	亭	観瀑	S2
	花篮厅	120	花篮厅	厅	水聖風来	S2, S3
		121		厅	燦爽殿芳	T1
		122		厅	緑渓	S2
	真趣亭	123	真趣亭	亭	緑渓	T4
	暗香疏影楼	124	暗香疏影楼	楼	真趣	C1
	聽涛亭	125	暗香疏影	楼	暗香疏影	S1
	問梅閣	126	聽涛亭	亭	聽涛	S2
	双香仙館	127	問梅閣	閣	問梅閣	T1, S1
		128	双香仙館	館	綺窓春訊	S2, S1
	扇亭	129	双香仙館	館	双香仙館	T1, S1
	詩碑亭	130	扇亭	亭	扇亭	S2
	御碑亭	131	詩碑亭	亭	詩碑亭	T1
	立雪堂	132	御碑亭	亭	正気凛然	T1, S3
		133	立雪堂	堂	寤寐	C1, S3
	面水軒	134	面水軒	軒	面水軒	S2
	面水軒	135	面水軒	軒	隐舟水屋	S2
	觀魚处	136	觀魚处	亭	觀魚処	C1, S1
		137		亭	静吟	T4
	閑吟亭	138	閑吟亭	亭	閑吟亭	T4
	滄浪亭	139	滄浪亭	亭	滄浪亭	T4
	閑妙香室	140	閑妙香室	室	閑妙香室	C1
		141		室	見心書屋	T1
	明道堂	142	明道堂	堂	明道堂	T2, T4
		143		堂	東蕾	T4
		144		堂	西爽	T4
		145		堂	瑶華境界	S1
	看山楼	146	看山楼	楼	看山楼	T4, S2
	翠玲瓏	147	翠玲瓏	斋	翠玲瓏	S1
滄浪亭	滄浪亭	148	仰止亭	亭	仰止亭	T1, T2
		149	五百名賢祠	祠	作之師	T2
		150	清香館	館	清香館	S1
		151	步碕亭	亭	歩碕	S2
		152	翛月軒	軒	翛月軒	T4, S3
		153	藕花小榭	榭	藕花小榭	S1
	綠蔭軒	154	綠蔭軒	軒	華步小筑	S2
		155		軒	綠蔭	S1
	滴碧山房	156	滴碧山房	厅	滴碧山房	S2
		157		厅	胸次広博天所開	T1
	明瑟楼	158	明瑟楼	楼	明瑟楼	S2, S1
		159		楼	恰航	S2
	闢木樨香軒	160	闢木樨香軒	軒	闢木樨香軒	C1, S1
	可亭	161	可亭	亭	可亭	S2
	清風池館	162	清風池館	館	清風起兮池館涼	S3
	遠翠閣	163	遠翠閣	閣	遠翠閣	S1
		164		閣	自在処	C1
	濠濮亭	165	濠濮亭	亭	濠濮	C1, S2
		166		亭	月待人来	S3
	曲溶楼	167	曲溶楼	楼	曲溶	T2
	五峰仙館	168		楼	山色上楼多	S2
		169		館	玉峰仙館	S2
		170		館	藏休息辞	T1
	西楼	171	西楼	館	汲古得修綆	T1, T2
		172		楼	西爽	T4
		173		楼	思補	T1
	揖峰軒	174	揖峰軒	亭	静中観	C1
		175		軒	揖峰軒	C1, S2
	還我蔬書斋	176	還我蔬書斋	斋	還我蔬書斋	T2
	林泉耆碩之館	177	林泉耆碩之館	館	林泉耆碩之館	T4
		178		館	寄石寿太古	S2
		179		館	東山絲竹	T4, T1
	亦不二亭	180	亦不二亭	亭	亦不二亭	C1
	待雲庵	181	待雲庵	庵	待雲庵	C1, S3
	冠雲楼	182	冠雲楼	楼	仙苑萨雲	S2, S3
	冠雲台	183	冠雲台	台	安知我不知魚之楽	C1, S1
	佳晴喜雨快雪之亭	184	佳晴喜雨快雪之亭	亭	佳晴喜雨快雪之亭	S3
	緣溪行	185	緣溪行	廊	緣溪行	T4, S2
	小桃塢	186	小桃塢	塢	小桃塢	T4, S1
	至楽亭	187	至楽亭	亭	至楽	C1
	君子所履亭	188	君子所履亭	亭	君子所履	T1
	舒嘯亭	189	舒嘯亭	亭	舒嘯亭	T4
	水榭	190	水榭	榭	活泼泼地	T1, S2, S1
		191		榭	梅花月上柳梢頭来	S1, S3

Notes: Religion(C1)(宗教), Legend Thought(C2)(神仙文化), Knowing-Doing (T1)(知行), Talent and Learning(T2)(才德), Imperial Right(T3)(権利), Retire in Seclusion(T4)(隠逸), Living Beings(N1)(生物), Garden Scenery(N2)(園景), Astronomical Phenomena & Weather (N3)(天体気象)

5.3 The extraction and classification of HT meanings

Based on the results of on-site investigation and previous studies, the number and contents of HT in the garden buildings in late Qing dynasty Period

Table 5-2 Explanation of HT Meanings and Distribution of HT Meanings

The Interpretation and Sorting Process of HT contents			
HT in Xiyuan Imperial Garden/ Zhuozheng Garden NO. 12 鏡清斋(S2、T1)			
Jinyqing (Hall) 鏡清斋(斋)			
The calm pond and water which is located in front of the building looks like a mirror	Culture(C)	C1	Religion(C1): Confucianism, Taoism, Buddhism
		C2	Legend Thought(C2): Legend thought, Immortal culture and immortal realm
Express advices on individual thinking and action, and advocate the fine habit of being observant and diligent in thinking	Thought(T)	T1	Knowing-Doing (T1): Self-observation, Self-reflection, Virtue, Self-restraint, Self-expectation
		T2	Talent and Learning (T2): Personal talents, Literary ideas and taste
		T3	Imperial Right(T3): Emperor rights, Benevolent rule, Charity
HT in Suzhou Private Garden/ Zhuozheng Garden NO.70 遠香堂(T1, S1)		T4	Retire in Seclusion(T4): Seclusion, Solitude and detachment
Yuanxiang (Hall) 遠香堂(堂)	Scenery(S)	S1	Living Beings(S1): Image of plants and animals
[香遠益清，亭亭净植] The description of lotus in traditional article		S2	Garden Scenery(S2): Mountains, Waters, Stones, Buildings
Describe the pure and flawless character of the garden owner, while expressing the pursuit of personal qualities and virtues		S3	Astronomical Phenomena and Weather (S3): Celestial bodies, Celestial phenomena, Weathers

were determined. 59 HT in Xiyuan imperial garden and 132 HT in four selected Suzhou private gardens were finally identified as the study objects (Table5-1,2). And then we defined and extracted the meaning of HT according to the interpretation of the HT contents in previous studies[4) 8)].

In the previous studies, Zhang (1999)[11)], Ham (2013)[12)] and Wang (2014)[13)] determined the classification basis of the HT meaning based on the respective study objects of imperial and private gardens in ancient China. However, in this study, due to the differences of the two types of garden, it is difficult to guarantee objectivity and accuracy in conducting a comparative study based on the former basis focusing on certain single type of garden, a more comprehensive classification basis is needed for the comparative study of the features in two types of garden. Therefore, we integrated and adjusted the basis in the study of Ham (2013)[12)] and Wang (2014)[13)] and determined the classification basis of HT meaning in this study[17)] (Table5-2). Among them, HT meanings in this study were divided into three main categories that are Culture (C), Thought (T), and Scenery Elements (S). Moreover, Culture (C) category has two sub-items, Religion (C1) and Legend Thought (C2); Thought

(T) category has four sub-items: Knowing-Doing (T1), Talent and Learning (T2), Imperial Rights (T3), and Retire in Seclusion (T4). Scenery Elements (S) category has three sub-items: Living Beings (S1), Garden Scenery (S2), and Astronomical Phenomena and Weather (S3). According to the interpretation results, there are cases that single HT contains multiple meanings(Such as "鏡香/T1,S2"). Therefore, in the later calculation of proportion of the HT meaning, the total number of occurrences of each HT meaning is used as the denominator[18] (Table5-1, 2).

5.4 The classification of Building Types and Grouping

In the two types of garden studied in this paper, there are multiple kinds of building and there is no identical building type distribution pattern in between. And it is difficult to form an objective and accurate conclusion by direct comparative analysis. Therefore, in order to ensure the comparative analysis

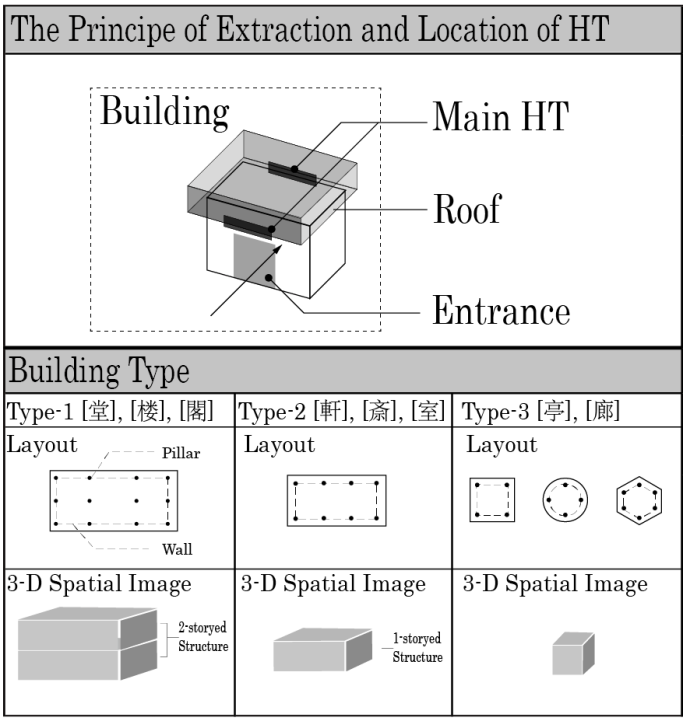


Figure 5-2 Location of HT and Building Types Divisions

under the same conditions, this study excluded the unique types of buildings in two types of gardens and determined the same types of building both existing in the two types of gardens as specific comparative objects for further analysis. We sorted out the garden building types which both existed in imperial garden part and private garden part of the study sites which are [堂], [楼], [閣], [軒], [斎], [室],[亭] and [廊][19]. According to the description of the scales and basic spatial features of buildings in the previous study[9], the extracted buildings were divided into three types which are Type-A, B and C. Among them, Type-A were [堂], [楼], [閣] which were mainly large in volume and located in the relative center of the garden space and often contains a two-story structure. Type-B were [軒], [斎], [室] which were mainly relatively smaller compared to Type-A and usually have two or four open directions and are strongly connected to surrounding enclosed garden elements or scenery. Type-C were [亭], [廊] which were small in volume and mainly for short rest and connection between garden space.

In the next stage, based on the classification of the above building types, we combined the quantitative characteristics of the distribution of HT meaning in each building types and corresponding spatial features and then discussed and summarized the differences of spatial features of Xiyuan imperial garden and Suzhou private gardens and drew reverent conclusions.

5.5 The Spatial features of gardens from the Aspect of Horizontal Tablet

5.5.1 Type-A buildings [堂], [楼], [閣]

Table 5-3 Table of Distributions of HT Meanings in Each Types of Buildings

Xiyuan Imperial Garden Part	Type		C1	C2	T1	T2	T3	T4	S1	S2	S3	In Total	
	A 12 **	堂5	1(5.3%)*	0(0%)	3(15.8%	0(0%)	0(0%)	1(5.3%)	0(0%)	1(5.3%)	2(10.5%	8	19
		楼6	0(0%)	0(0%)	2(10.5%	1(5.3%)	2(10.5%	1(5.3%)	2(10.5%	0(0%)	1(5.3%)	9	
		閣1	0(0%)	1(5.3%)	0(0%)	0(0%)	1(5.3%)	0(0%)	0(0%)	0(0%)	0(0%)	2	
	B 26	軒5	0(0%)	0(0%)	2(4.3%)	0(0%)	0(0%)	0(0%)	2(4.3%)	1(2.2%)	1(2.2%)	6	46
		斎12	2(4.3%)	0(0%)	6(13.0%	0(0%)	3(6.5%)	3(6.5%)	3(13.0%	3(6.5%)	3(6.5%)	23	
		室9	2(4.3%)	0(0%)	6(13.0%	1(2.2%)	0(0%)	2(4.3%)	1(2.2%)	4(8.7%)	1(2.2%)	17	
	C 10	亭9	1(6.3%)	0(0%)	2(12.5%	1(6.3%)	3(18.8%	1(6.3%)	4(25.0%	2(12.5%	1(6.3%)	15	16
		廊1	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	1(6.3%)	0(0%)	0(0%)	1	

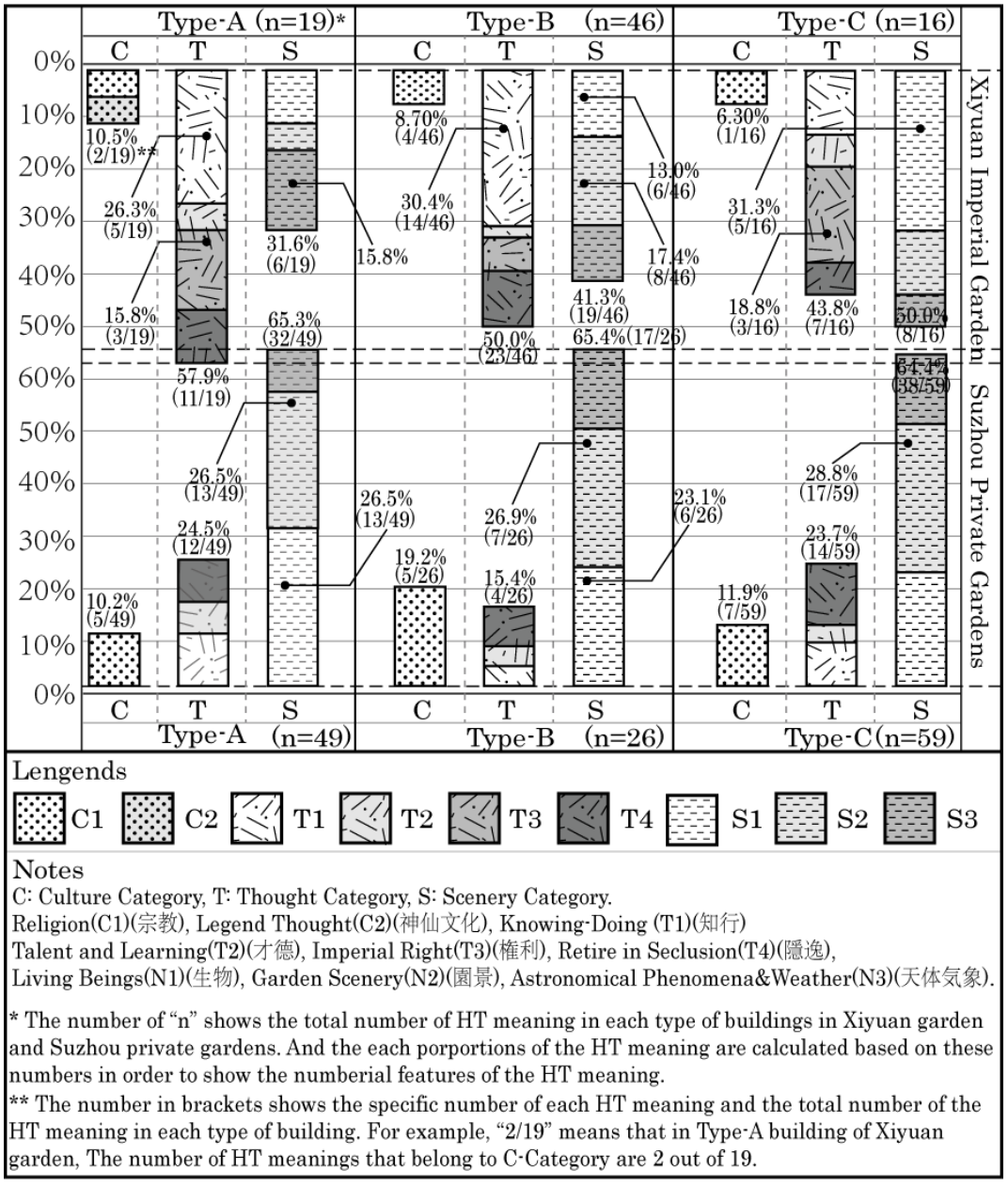
Suzhou PrivateGarden Part	Type		C1	C2	T1	T2	T3	T4	S1	S2	S3	In Total	
	A 31	堂9	1(2.0%)	0(0%)	2(4.1%)	2(4.1%)	0(0%)	3(6.1%)	4(8.2%)	0(0%)	1(2.0%)	13	49
		楼13	3(6.1%)	0(0%)	1(2.0%)	1(2.0%)	0(0%)	1(2.0%)	3(6.1%)	8(16.3%	1(2.0%)	18	
		閣9	1(2.0%)	0(0%)	2(4.1%)	0(0%)	0(0%)	0(0%)	8(16.3%	5(10.2%	2(4.1%)	18	
	B 19	軒14	4(15.4%)	0(0%)	0(0%)	0(0%)	0(0%)	2(7.7%)	5(19.2%	6(23.1%	3(11.5%	20	26
		斎2	0(0%)	0(0%)	0(0%)	1(3.8%)	0(0%)	0(0%)	1(3.8%)	0(0%)	0(0%)	2	
		室3	1(3.8%)	0(0%)	1(3.8%)	0(0%)	0(0%)	0(0%)	0(0%)	1(3.8%)	1(3.8%)	4	
	C 41	亭38	7(11.9%)	0(0%)	5(8.5%)	2(3.4%)	0(0%)	6(10.2%	12(20.3%	14(23.7%	8(13.6%	54	59
		廊3	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	1(1.7%)	1(1.7%)	3(5.1%)	0(0%)	5	

Notes
Religion(C1)(宗教), Legend Thought(C2)(神仙文化), Knowing Doing (T1)(知行), Talent and Learning(T2)(才徳), Imperial Right(T3)(権利), Retire in Seclusion(T4)(隠逸), Living Beings(N1)(生物), Garden Scenery(N2)(園景), Astronomical Phenomena&Weather(N3)(天体気象)
* The number and proportion in each grid shows the exact number and proportion of the HT meaning in specific type of building. For example, "1(5.3%)" means that in "堂" buildings, the number of HT meaning that belongs to C1 category is 1 out of total number of 19(total number of HT meanings in Type A building)
** Numbers following each of building types are the total numbers of specific type of buildings.

In imperial garden part, HT meanings, which belong to Thought (T) category, have the largest proportion (T, 57.9%) [20], followed by Scenery (S) category (S, 31.6%). Among them, the top three sub-items are Knowing-Doing (T1, 26.3%), Imperial Rights (T3, 15.8%) and Astronomical Phenomena and Weather (S3, 15.8%). On the other hand, in private garden part, HT meanings, which belong to Scenery (S)

category have the largest proportion (S, 65.3%), followed by Thought (T) category (T, 24.5%). Among them, the top three sub-items are Living Beings

(S1, 30.6%), Garden Scenery (S2, 26.5%), Knowing-Doing (T1, 10.2%) and Religion (C1, 10.2%) (Table5-3, Figure5-3).



Notes

C: Culture Category, T: Thought Category, S: Scenery Category.
Religion(C1)(宗教), Legend Thought(C2)(神仙文化), Knowing-Doing (T1)(知行)
Talent and Learning(T2)(才德), Imperial Right(T3)(権利), Retire in Seclusion(T4)(隱逸),
Living Beings(N1)(生物), Garden Scenery(N2)(園景), Astronomical Phenomena&Weather(N3)(天体気象).

* The number of "n" shows the total number of HT meaning in each type of buildings in Xiyuan garden and Suzhou private gardens. And the each porportions of the HT meaning are calculated based on these numbers in order to show the numberial features of the HT meaning.

** The number in brackets shows the specific number of each HT meaning and the total number of the HT meaning in each type of building. For example, "2/19" means that in Type-A building of Xiyuan garden, The number of HT meanings that belong to C-Category are 2 out of 19.

Figure 5-3 Chart of Distributions of HT meanings in Each Type Groups of Buildings

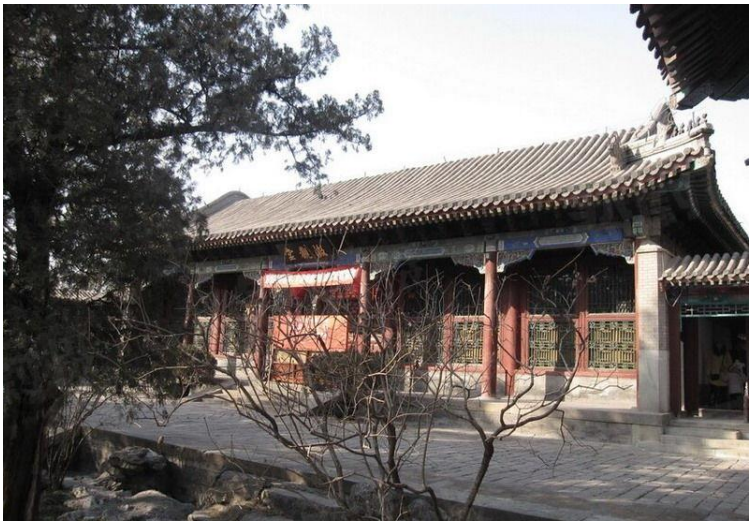


Figure 5-4 Garden Space of [澄観堂]

In Xiyuan imperial garden, for example, the HT [澄観堂] (T1)(Figure5-4), [楽意静観] (T1,T4) express a view of observing the world and keeping calm and unique. [寄清静心] (C1,T1) express the idea of calming the mind to deal with external things in Taoism. The HT [翔鑾閣] (C2,T3), [瑞悦楼] (T3), [神輝楼] (T3,S3)(Figure5-5) use the images of animals and celestial phenomena, to express auspicious phenomena in myths and legends and through this way to emphasize the idea of centralization of imperial power (Figure-4). The

Figure 5-5 Garden Space of [神輝楼]

Figure 5-6 Garden Space of [遠香堂] in [拙政園]

building group[涵元殿], which the HT above belongs to, is composed of strict and symmetrical architecture combination. It was main space for the emperor's daily life and political affairs in the garden. The HT contents emphasize the centralization of imperial power, echoing the grand and neat spatial pattern of building group, and meanwhile emphasize the serious spatial atmosphere of the political activities in building group [涵元殿] (Figure5-8).

Figure 5-7 Garden Space of [看山楼] in [滄浪亭] garden

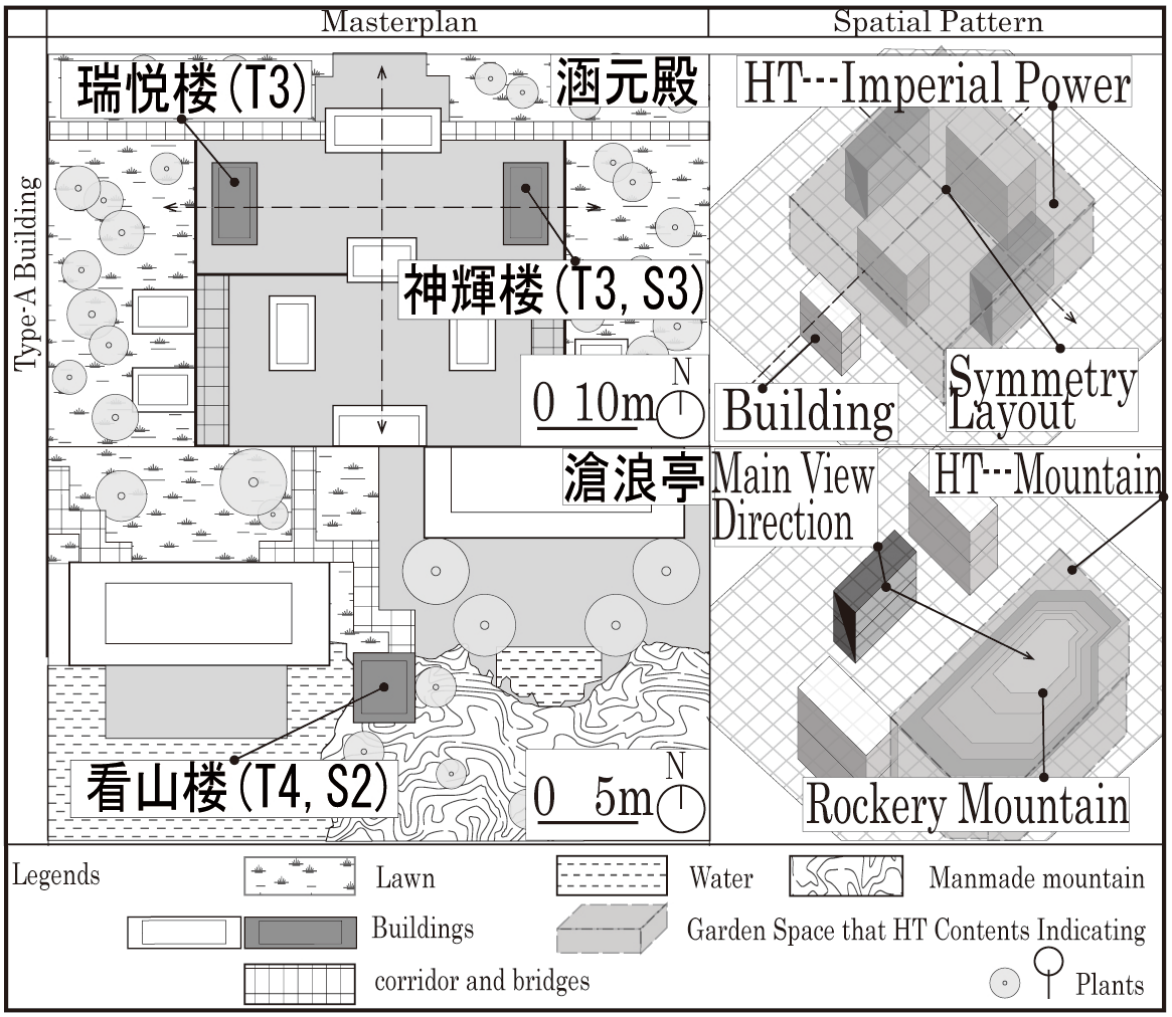


Figure 5-8 Spatial Characteristics of Type A Buildings

In Suzhou private gardens, for example, [遠香堂] (T1,S1)(Figure5-6) in [拙政園] garden borrows the description of lotus in the poem, showing the main view of water area full of lotus from the building. At the same time, the image of the lotus is used as a metaphor to describe the pure and innocent character of the garden owner, and at the same time express the personal qualities of the garden owner and the pursuit of virtue (Figure5-4). HT [明道堂] (T2,T4), [東菑] (T4), and [西爽] (T4) in [滄浪亭] garden express the advice and encourage of the owner's self-thinking in daily life (T2) and ideological level of longing for living in the countryside in seclusion (T4). Besides, the HT contents which

have “Seeing the mountain” meaning can be found in the four private gardens. Such as HT [見山楼] (T4,S2) in [拙政園] and [獅子林] gardens, HT [看山楼] (T4, S2) in [滄浪亭] garden (Figure5-7), and HT [山色上楼多] (S2) in [留園] garden. All above HT contents describe a better view and spatial relationship from the second-floor of building to the rockworks within the gardens and the nature mountain outside the gardens, meanwhile, they extend to the hope on the ideological level that owner's yearning for the secluded life in nature landscape (Figure5-8).

Above all, after discussing the HT meanings and spatial features of garden which are corresponding to the Type-A buildings, the relevant conclusions can be drawn. In imperial garden part, HT meanings are mostly composed by Thought (T) category, which emphasize the importance of individual ideological activities in the daily life of emperors in Qing dynasty, at the same time express the important position of introspection and self-examination in the inner world of emperors. Besides, HT meanings which belong to Scenery Elements (S) and Imperial Rights (T3) are usually combined to express the central control of imperial rights and echo the strict and serious atmosphere of the garden space as well. On the other hand , in the private garden part, HT meaning are mostly composed by Scenery Element (S), describing the garden elements in the main view of the corresponding buildings and stressing the features of location and sight relationship in higher floor such as in [楼] and [閣] buildings. In addition, it also combines the HT meanings of Knowing-Doing (T1), Talent and Learning (T2), Retire in Seclusion (T4) to sublimate the garden scenery to the spiritual level of self-reflection and pursuit.

5.5.2 Type-B buildings[軒], [斎], [室]

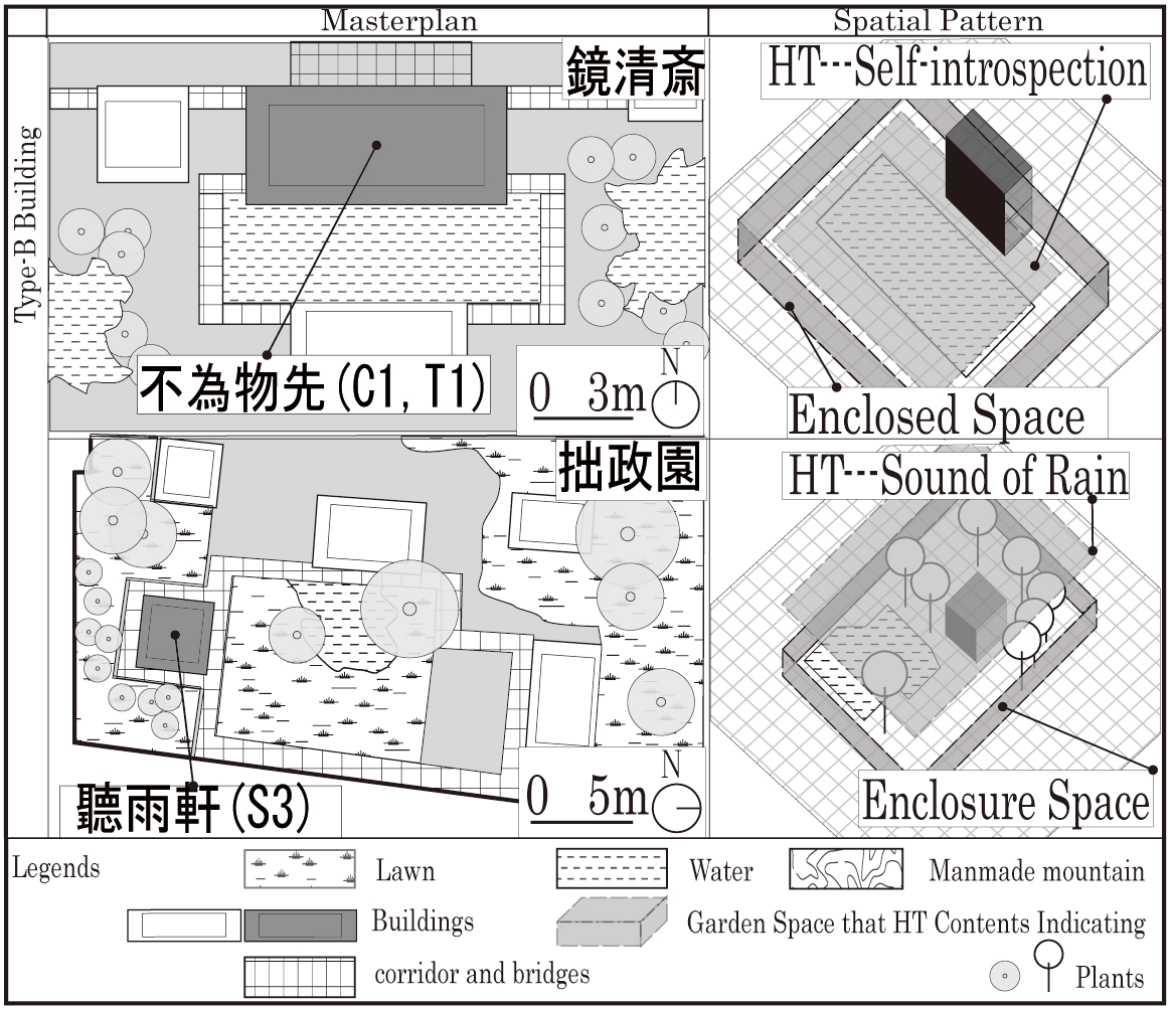


Figure 5-9 Spatial Characteristics of Type B Buildings

In imperial garden part, HT meanings which belong to Thought (T) category have the largest proportion (T, 50%), followed by Scenery (S) category (S, 41.3%). Among them, the top three sub-items are Knowing-Doing (T1, 30.4%), Garden Scenery (S2, 17.4%) and Living Beings (S1, 13.0%). On the other hand, in the private garden part, HT meanings which belong to Scenery (S) category have the largest proportion (S, 65.4%), followed by Culture (C) category (C, 19.2%). Among them, the top three sub-items are Garden Scenery (S2, 26.9%), Living Beings (S1, 23.1%) and Religion (C1, 19.2%) (Table5-3, Figure5-3).

Figure 5-10 Garden Space of Jingqing Chamber

In Xiyuan imperial garden, for example, HT [玉蘭軒] (T1, S1) in [澄観堂] building group uses the pure plant image, such as magnolia, to express the owner's introspection on his words and deeds. HT [待月軒] (S3) uses the image of “Waiting for moon” in poems, to echo the spatial feature of waterfront location of the buildings by the reflection of the moon on water and express the leisurely emotion in natural scenery as well. HT [動静交养] (T1, T4), [不為物先] (C1, T1) (Figure5-9)(Figure5-10) both express advices on individual thinking and action, and advocate the fine habit of being observant and diligent in thinking. HT [奥曠室] (T1, S2), [得真趣] (T1) and [随安室] (T1, T4) all express the emperor's world view from the comparison between the small garden space and real natural landscape, and also express the love for the leisurely garden life.

In Suzhou private garden, for example, HT［聽雨軒］(S3) (Figure5-9)(Figure5-11) and［倚玉軒］(S1), HT［聴香深処］(S1) depict the scene of listening to the sound of rain or sitting next to the water while watching the lotus. It emphasizes the characteristics of the connection between the building

Figure 5-11 Garden Space of [聽雨軒]

and the surrounding natural space (Figure5-9). HT [還我読書斎] (T2) in [留園] garden uses the content of "returning to study" in traditional seclusion literature, and expresses the owner's desire to stay away from the noisy urban life and addicted in reading and self-improvement. The HT [聞妙香室] (C1), [見心] (T1) in [滄浪亭] garden express the scrutiny of owner' s inner world about reading and self-improvement by the religion thinking, meanwhile corresponding to the basic function of book collection and reading of buildings.

Above all, after discussing the HT meanings and spatial features of gardens corresponding to the Type-B buildings, the relevant conclusions can be drawn. In imperial garden part, HT meanings are mainly composed by Thought (T) category, to emphasize the self-examination and speculation in a relatively enclosed space. On the other hand, in private garden part, HT meanings are mostly composed by Scenery (S) category, used as direct or indirect description for the details in garden life such as the plants or the sound of raindrop and expressing the garden owner's meticulous observation and love for garden life. Meanwhile, the HT meaning of Thought (T) category is used to emphasize the

garden owner's reflection on personal cultivation (T1) and his pursuit of talent (T2) and echo the functional need for the self-cultivation activities such as reading and writing.

5.5.3 Type-C buildings [亭] [廊]

In imperial garden part, HT meanings which belong to Scenery (S) category, accounting for the largest proportion (S, 50%), followed by Thought (T, 43.8%) category. The top three sub-items are Living Beings (S1, 31.3%), Imperial Rights (T3, 18.8%) and Garden Scenery (S2, 12.5%). On the other part, in

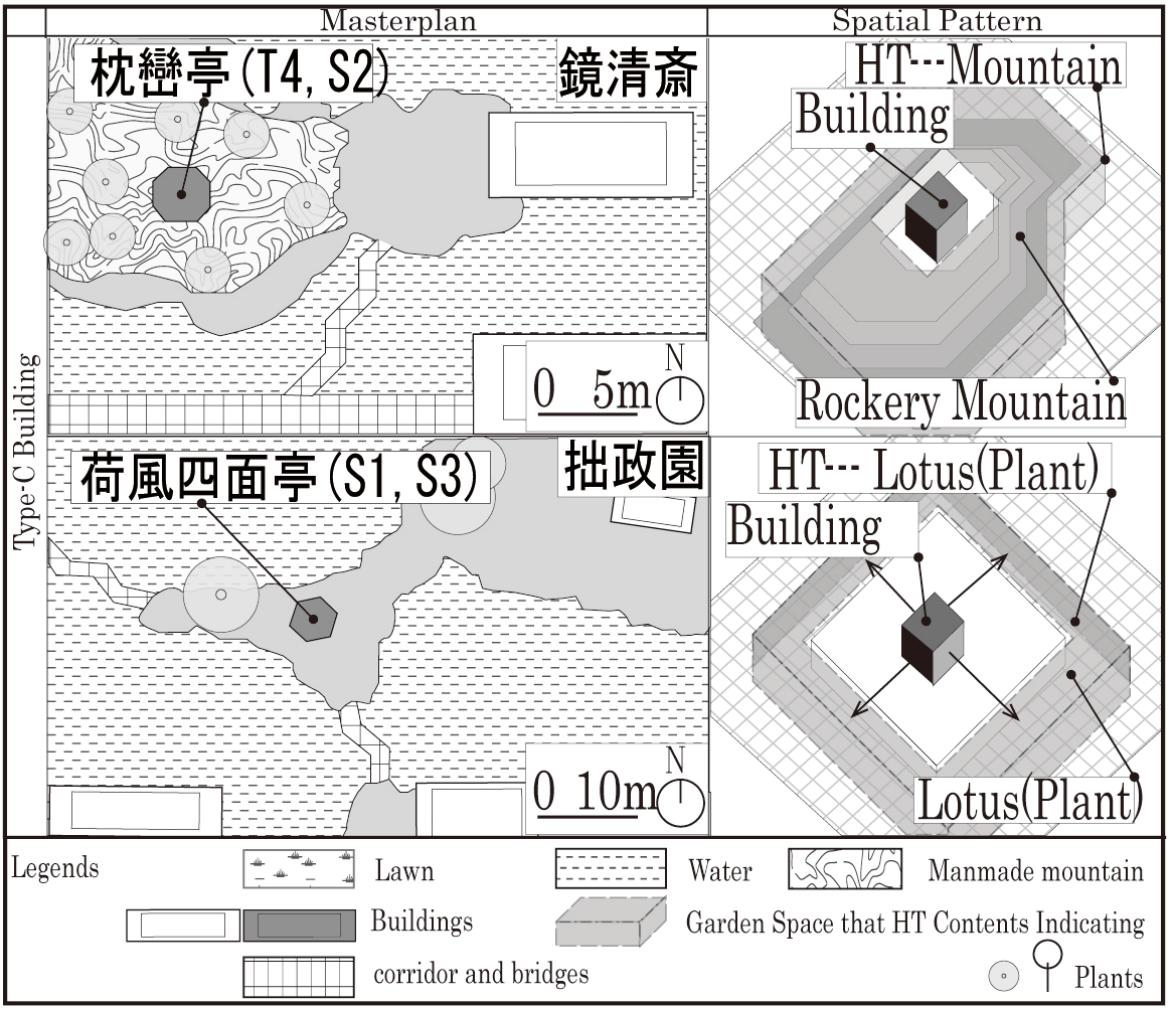


Figure 5-12 Spatial Characteristics of Type C Buildings

Figure 5-13 Garden Space of [枕巒亭]

private garden part, HT meanings which belong to Scenery (S, 64.4%) also have the largest proportion, followed by the Thought (T, 23.7%) category. Among them, the top three sub-items are Garden Scenery (S2, 28.8%), Living Beings (S1, 22.0%) and Astronomical Phenomena and Weather (S3, 13.6%) (Table5-3, Figure5-3).

In Xiyuan imperial garden, for example, HT [古柯亭] (S1), [枕巒亭] (T4, S2) (Figure5-6)(Figure5-13)and [竹汀亭] (S1, S2) describe the scenery such as old tree, bamboos and man-made rocky mountain while indicating the main view and directions to watch during a short rest. Besides, HT [迎薰亭] (T3, S3), [対時育物] (T3) and [牣魚亭] (T3, S1) use the image which indicates imperial power as “Soft wind coming from the south” and “ Ponds and lakes full of fish” to express the prosperity of emperors under the rule of virtue by using the literary quotations, while emphasizing locations and open directions of the buildings.

In Suzhou private gardens, for example, HT [小飛虹廊] (S2) , [荷風四面亭] (Figure5-14)(S1, S3) (Figure5-12), [雪香雲蔚亭] (S1, S3), [観瀑亭] (S2) and [月

Figure 5-14 Garden Space of［荷風四面亭］

待人来亭］(S3) describe images of celestial image, plants and scenery in gardens to reflect the carefully observation of owners in daily life in gardens, while indicating the contents and directions to watch during a short rest. Besides, there is a certain quantity of HT contents in Thought (T) category. HT [静吟] (T4),[閑吟亭] (T4) and [滄浪亭] (T4) use poems and ancient allusions to express the idea of living in seclusion and intoxicated with garden life, which differ from the situations that mainly express imperial power in imperial gardens.

Above all, after discussing the HT meanings and spatial features of garden which are corresponding to the Type-C buildings, the relevant conclusions can be made. In both imperial and private garden part, HT meanings are mainly composed by Scenery (S) category, while followed by the Thought (T) category. Among them, images of garden elements are used to express the close connections between buildings and surrounding garden space. However, HT meanings in Thought (T) category in imperial garden usually stress on imperial power and authority while in private gardens it express the thought

of seclusion of owners and the yearning as well as worship of hermits from society shaped by traditional garden culture.

5.6 Conclusions

This study took Horizontal tablets in Xiyuan imperial garden and four selected Suzhou private gardens as the study objects. According to the grouping result of HT meanings in different building types, we analyzed and discussed the spatial features in each building types from the aspect of HT. We also summarized the comparison results of spatial features between imperial garden part and private garden part, and relevant conclusions are made based on the differences of the spatial features.

Firstly, in a relatively central and wide space which are corresponding to the relatively central and large-volume buildings, HT meanings in Xiyuan Garden are likely to be used to emphasize the imperial power and the class ideology of imperial supremacy, while stressing on the serious atmosphere of garden space. It coincides with the mixed functional characteristics of residence and politics in this type of garden space. In the tradition of architectural space of the imperial Palace, it is good at expressing the strength of imperial power with the grand spatial structure arranged in a rigorous way. However, in Suzhou private gardens, the HT content in this type of space is usually connected to the sight relationship and garden elements that can be seen or feeling directly from the buildings, meanwhile, it expresses the owners' pursuit of personal virtue. From the perspective of function, this kind of space in private garden is usually the most frequently used for the daily life and receive visitors in the garden. HT meanings, as the title of the corresponding garden space, plays a strong role in pointing out the theme and clarifying the range and scope of specific space.

Secondly, in a relatively enclosed space which are corresponding to the relatively small-volume buildings, HT contents in Xiyuan Garden tends to express the introspection idea of emperors, reflecting the love of the philosophical thought of Han nationality and high standard of wisdom and ability of the emperors. However, in Suzhou private gardens, HT content in similar type of space tends to describe the details of the garden scenery, reflecting the garden owner's love for the pure and detached garden life, while embodying the sublimation from the physical space to the spiritual realm in daily garden life of the scholar and literati class of ancient China.

Thirdly, HT contents of nature elements and weather phenomena in Xiyuan Garden are used as a symbol of imperial rights, while reflecting the ideological origin of divine empowerment of monarchy in feudal society. However, in Suzhou private gardens, these kind of HT contents are used to be the objects of metaphor that reflect the traditional ideal image of predecessors to avoid the civil life and living in peaceful isolated place, and echoing the ultimate core idea of ancient Chinese gardens that “Living in the city and putting the mood in the countryside”(城市山林).

Acknowledge

16）According to previous studies[1)15)], imperial gardens such as Xiyuan are usually composed by different kinds of buildings groups which having specific functions such as religious activities, political activities, sightseeing, and residential purpose. Each building Group are relatively separated from the overall garden space, while having similar livable size with Suzhou private gardens.

17）In this study, the HT classification basis is adjusted and integrated based on the study of Ham(2013) and Wang(2014). And similar categories of HT meanings in the studies are grouped together to form the basis in this study. For example, Religion(C1) are composed by [Religion] category of Ham(2013) and [Zen], [Taoism] categories of Wang(2014); Legend Thought(C2) are composed by [Yin-Yang] theory and [Celestial Being] categories of Ham(2013); The Garden Scenery(S2) are composed by [Architecture], [Mountain], [Water] and [Stone] categories of Wang(2014).

18）In this study, the proportion of the HT meaning in each Type of buildings are calculated based on the total number of HT meanings in each Type of building as the denominator. As shown in Table-2 and Figure-3, In Xiyuan Garden, the total number in Type-A, B and C are 19, 46 and 16; In Suzhou Private Garden, the total number in Type-A, B and C are 49, 26 and 59.

19）The [塢] type buildings also exist in both two types of gardens. However, for the reason of less representativeness according to previous study[9)]. It was not counted as the building type of this study.

20）The number in brackets shows the proportion of specific HT meaning in this each type of building. For example, “(T, 57.9%)” means that in Type-A building of Xiyuan Garden, the number of HT meanings that belong to T-

Category are 11out of 19 as shown in Figure-3, and calculated as 57.9%. And the similar numeral contents in the following discussion are following the same process of calculation.

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Chapter6 Conclusions

6.1 Overall Summaries

As one of the most complete imperial gardens in ancient Chinese gardens, Xiyuan Garden, through the construction of several dynasties and relying on the foundation of national strength in different periods, reached its peak in the middle and late Qing Dynasty. This study is based on the characteristics of historical spatial change and the characteristics of garden space in Qing Dynasty. Based on the content and meaning of the horizontal tablets, the corresponding relationship between virtual artistic conception space and physical space in Xiyuan Garden were discussed, and the relevant conclusions were summarized.

In the second chapter, this study analyzed and discussed the process and characteristics of spatial change in Xiyuan Garden in 4 periods since its construction. The process of spatial change was discussed from the perspective of three different scales of garden space. The conclusion showed that in the early stage of development, the changing factors of the garden space was mainly affected by the changes of the external imperial city structure and the overall shape and spatial structure of the garden. In the latter period, it is mainly influenced by the addition and construction of the garden buildings. The changing factors of garden space are mainly reflected in the spatial dimension of the emperor's daily life.

In the third chapter, based on the conclusions of the previous chapter, 23 buildings of four functional types were analyzed as specific research objects. From the perspective of meaning of the horizontal tablets, the characteristics garden space in different functional types of buildings are discussed. The results showed that in different functional types of building groups, each type of garden building group has their own garden space sequence and significant characteristics. The various functions and space sequence of garden

correspond with different meanings of horizontal tablets. The virtual space represented by the horizontal tablets has a close correspondence with the physical space and the specific functions.

In the fourth chapter, the building groups and monomers with sightseeing and recreational functions were taken as the research object, the correlation relationship between the spatial characteristics, such as the location and view relationship, and the meaning of the horizontal tablets were analyzed. The results show that the content of building horizontal tablets also presents different proportion distribution patterns based on different location and view relationship conditions. The corresponding garden space of the buildings and the virtual artistic conception space by the contents of the horizontal tablets shows a corresponding law to a certain extent. Through the virtual artistic conception space described by the horizontal tablets, visitors' perception of the physical space of the garden is deepened during the tour.

In the fifth chapter, the building groups with the function of living and self-cultivation were taken as the research objects, and a comparative analysis with four representative gardens in Suzhou private gardens was conducted. The results showed that there are differences in shape and volume between the two types of gardens in the same functional type of buildings. Also, at the same time, the contents of horizontal tablet also show different numerical distribution patterns in the corresponding garden space of different types of buildings. There are still similarities and differences between the horizontal tablet meanings in the same type of form and the physical space in two types of garden. Through discussion, some of the same and different characteristics of imperial gardens and private gardens under the same conditions were clarified. Through analysis and discussion, there exists both identical and

different characteristics between imperial gardens and private gardens under the similar spatial conditions.

6.2 Overall Conclusions

In this study, the research was conducted by taking the building groups and building monomers of multiple functional types as the overall analysis framework of the study. Through the analysis and discussion of the horizontal tablet meaning in different functional types of building group and the corresponding spatial characteristics of the garden, the relevant conclusions were summarized. In the ancient Chinese imperial gardens represented by Xiyuan Garden, the virtual artistic conception space represented by horizontal tablets in different types of garden space has certain correlation and corresponding rules with physical space. Next, the functional types will be distinguished, and the composition and spatial characteristics of each type of garden space will be discussed.

6.2.1 Building Groups for Religion Activity

The religious space of Xiyuan Garden mainly consists of most Buddhist building groups, a few Taoist building groups and some building groups related to normal sacrificial activities. The religious building groups in Xiyuan Garden are most likely to be divided into two parts and in a simultaneous vertical alignment. The front courtyard space is the main space for religious activities, while the back-courtyard space is the space for relaxation, meditation and self-cultivation after religious activities. Correspondingly, the contents of the horizontal tablets in the front yard space mainly express the ideas and teachings of religion itself, and at the same time express the broad world

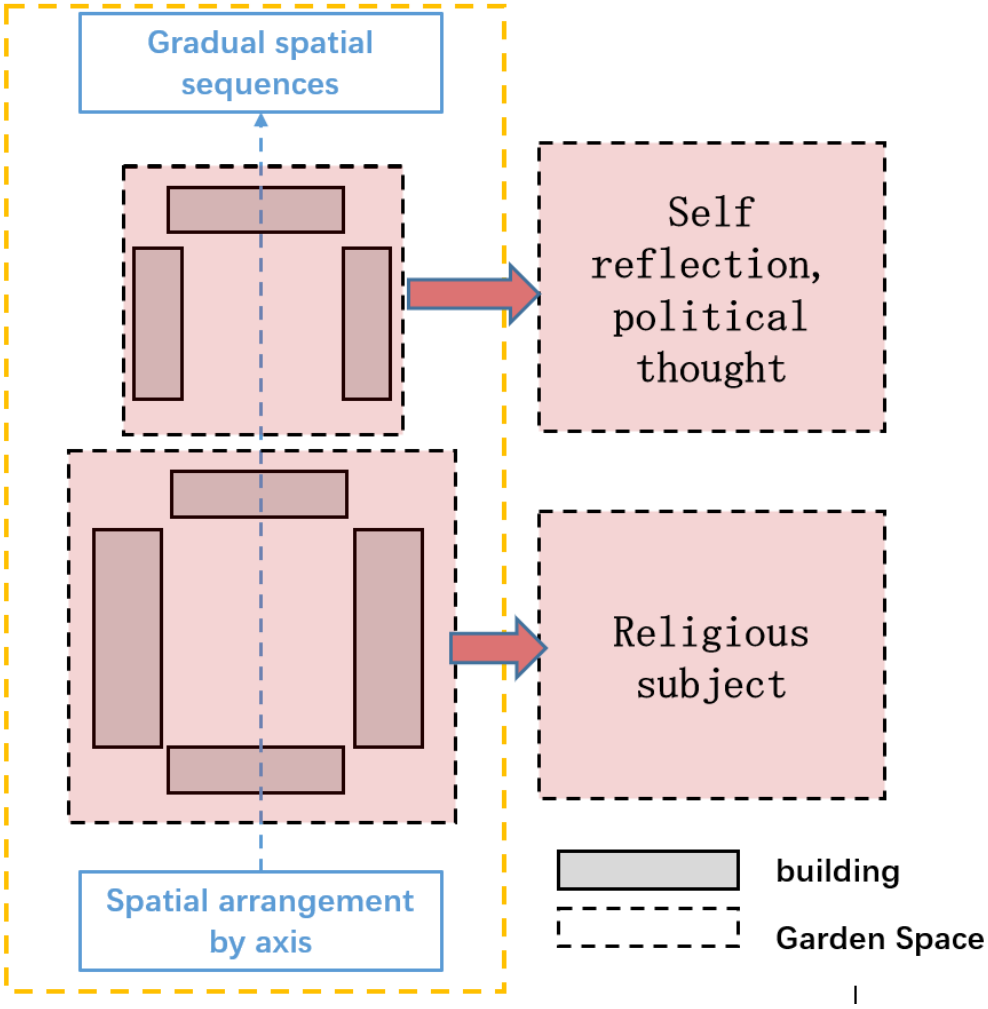

Figure 6-1 Spatial Pattern in Religion Building Groups

outlook and natural outlook from the religious perspective. In the backyard space, the emperor's connotation of the ideology and religious thought of the empire's rights is more obvious. At the same time, this also reflects the responsibility of the emperor and the understanding of the imperial power through religious thought. With the spatial sequences of such space, the virtual artistic conception space represented by its horizontal tablet contents is also sublimated from pure religious thought to the emperors' individual heart and ideological realm.

6.2.2 Building Groups for Living and Self-Cultivation

The garden space of building groups for living and self-cultivation mainly meets the functional needs of the emperor's daily life such as living, self-cultivation and receiving visitors. The spatial sequence in such building groups consists of both relatively open space and private space. The content of the horizontal tablet mostly shows the emperors' personal ideological realm, as well as the thinking of outlook on life, world and nature.

In this space, the virtual artistic conception space represented by the content of the horizontal tablets is more inclined to the physical landscape elements and ancient traditional poetry, the traditional allusions and natural elements in literature and painting, which expresses the ideology of the emperors after

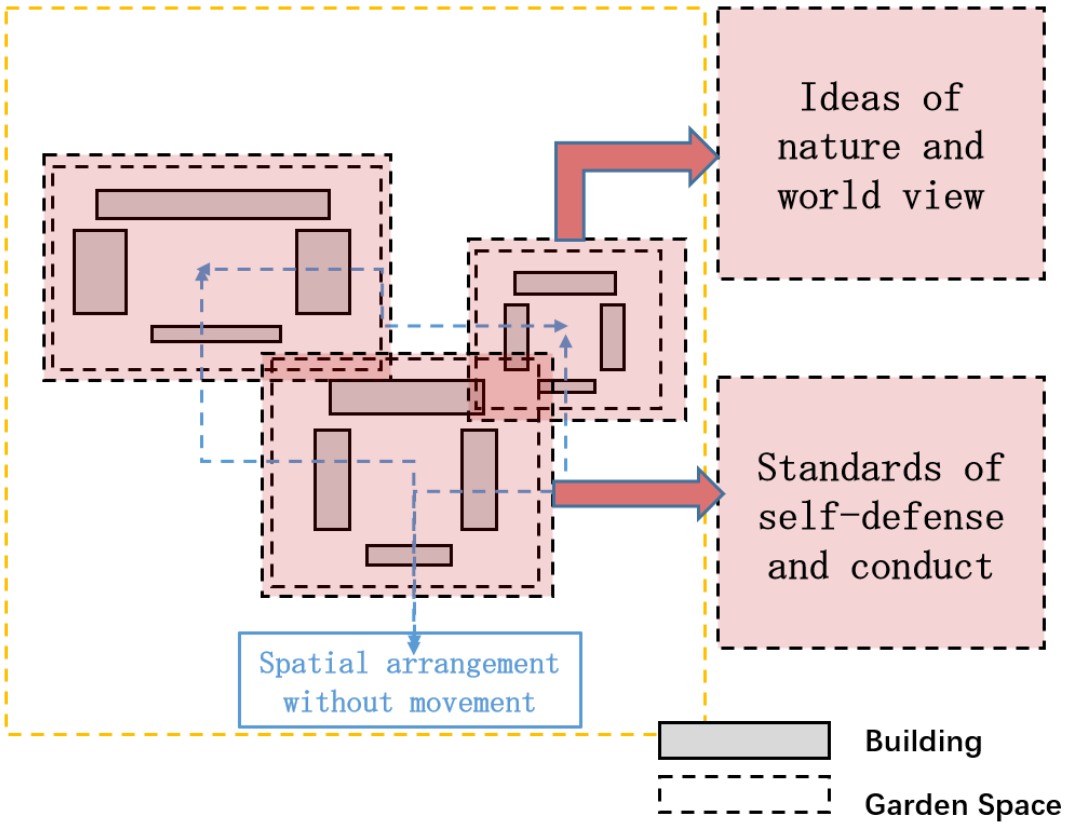

Figure 6-2 Spatial Pattern in Living Building Groups

accepting the traditional Sinology education. It is also the expression of the emperors' thoughts as the purely literati, poets and scholar-bureaucrats in individual garden life, instead of identity of the emperor of the feudal dynasty.

6.2.3 Building Groups for Sightseeing

The garden space of building groups for sightseeing mainly meets the functional needs of short rest and sightseeing in the emperors' daily life. In this type of building groups, the building volume is relatively small, lightweight, and has a relatively linear dynamic organization. The spatial

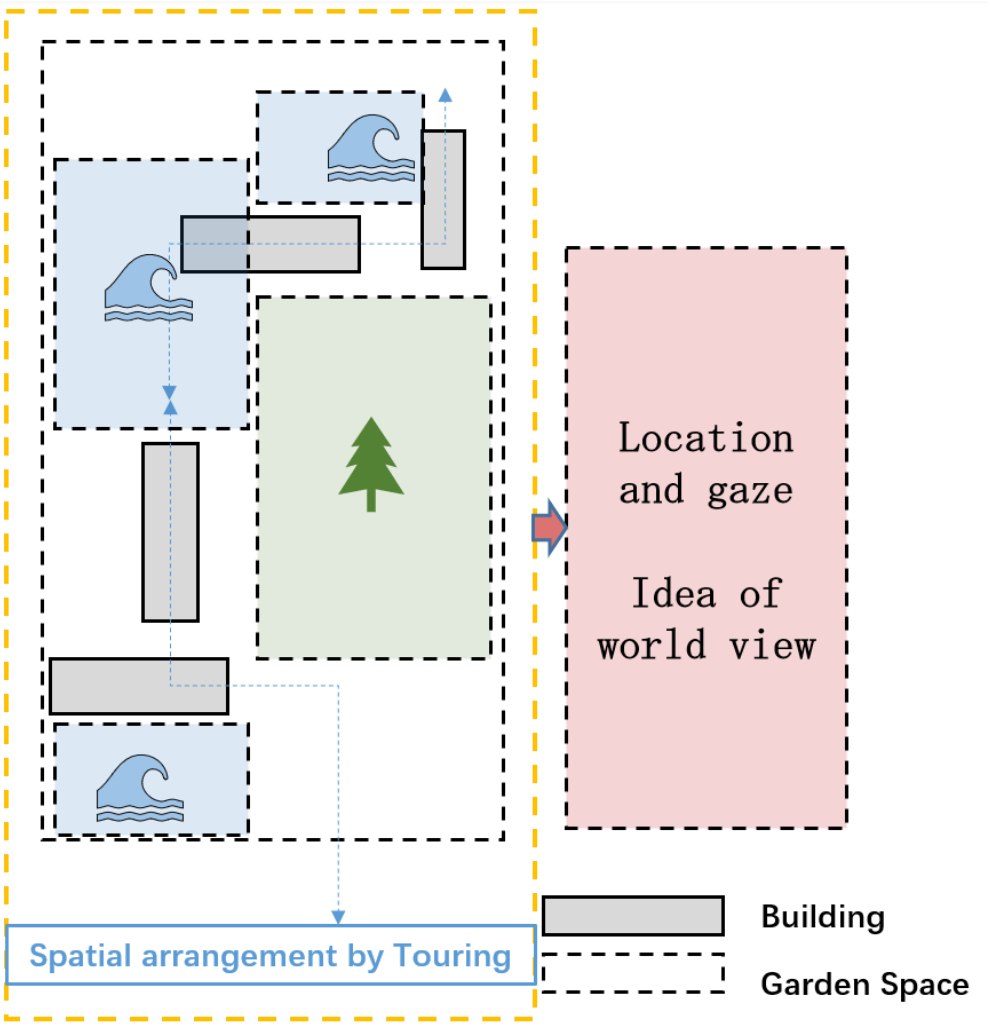

Figure 6-3 Spatial Pattern in Sightseeing Building Groups

sequence and enclosure are not obvious compared with other types of building groups in the garden. At the same time, the buildings are usually closely related to the surrounding garden elements and the overall landscape of garden. At the same time, according to the difference of location and view relationship, the artistic conception expressed by the contents of the corresponding horizontal tablets also shows different distribution pattern, expressing the emperors' interest and love for garden life as well as another image of emperors which is detached from government affairs and fascinated by garden life and nature landscape environment.

6.2.4 Building Groups for Political and Governing Activity

The garden space of the building groups for political and management activities primarily meets the functional needs of politics and celebrations. Different from other functional types of buildings, the spatial pattern tend to be in centripetal layout, with a strong asymmetry trend to emphasize the concentration and seriousness of the imperial power. At the same time, the virtual artistic conception mentioned in horizontal tablet contents also expresses the idea of imperial power, the diligence and love of the individual, and the personal feelings of the emperors in daily government of the country. The contents and the virtual space constructed by the horizontal tablets corresponds to the strict and serious atmosphere of the activities and spatial order in this functional type of building groups.

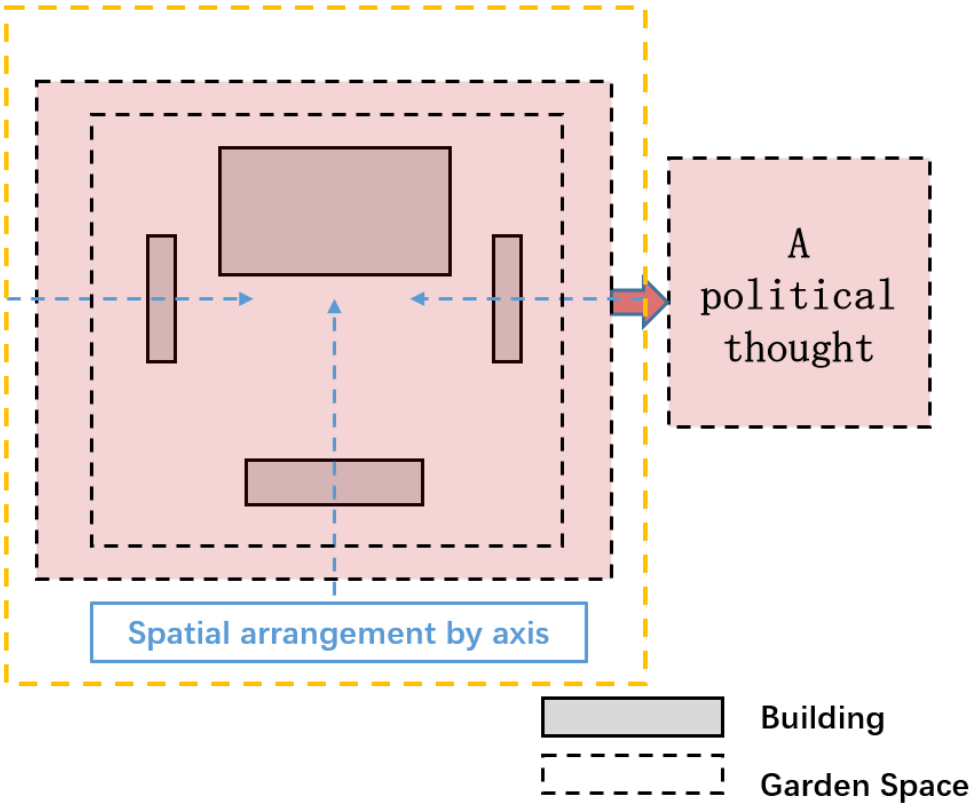

Figure 6-4 Spatial Pattern in Political Building Groups

6.2.5 Building Monomers

The building monomers in Xiyuan Garden are independent from the building groups. Building monomers are closely related to the overall landscape structure of gardens. At the same time, it is also the space for the emperor to have a short rest in the garden. Similar to the building group for recreational and sightseeing, the building monomer is closely related to the surrounding natural environment, and the content of the horizontal tablets is mostly directly related to the garden space elements corresponding to the surrounding environment, expressing the emperors' careful observation of the garden life, as well as the love and perception of the garden life.

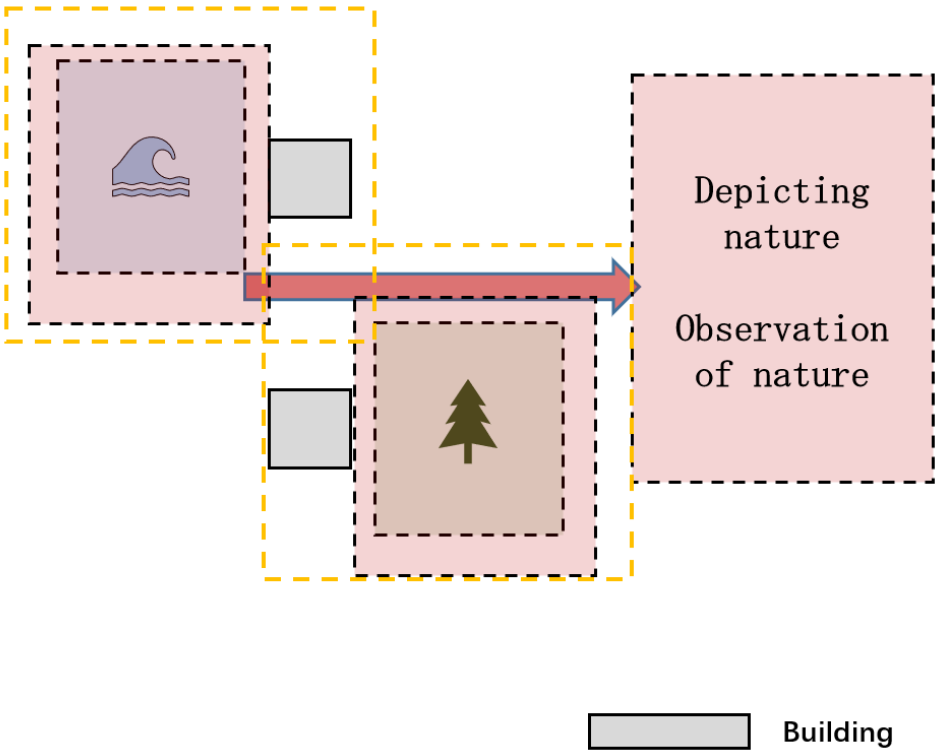

Figure 6-5 Spatial Pattern in Building Monomers

6.3 Discussion

Ancient Chinese gardens evolved from the interaction of imperial gardens, private gardens and temple gardens. As a study object, through the previous series of analysis and discussion, the basic composition and spatial characteristics of Xiyuan Garden are basically clear. However, in the expression of virtual artistic conception advocated by ancient Chinese gardens, Xiyuan Garden, as an important representative of imperial gardens, expresses the characteristics of two-sided differentiation. That is the representational form of imperial power and the spiritual core of Chinese traditional literati. While, from the perspective of the garden site, Xiyuan Garden, as a typical example of the Flat-Land gardening in the center of the imperial city, contains the natural landscape concept of the rulers of minority nationalities in the

Qing Dynasty and the fusion characteristics of the core idea of "urban mountain forest（城市山林）" in ancient Chinese gardens, which is inherited from the same line, are also analyzed and discussed. The following will further discuss and summarize the two-sidedness of expression based on the characteristics of garden spaces. At the same time, from the perspective of Flat-Land gardening and comparison with private gardens, the characteristics of Flat-Land gardening in Xiyuan Garden are analyzed and investigated.

6.3.1 Representation of Imperial Power Thought in Imperial Garden Space

The ancient Chinese imperial gardens represented by Xiyuan are obviously different from private gardens in terms of national strength, scale, spatial pattern, complexity and functional section. More importantly, in the spatial structure of imperial gardens, there are also small-scale space in building groups with different functions, namely, the garden in the garden. Among them, the emperor integrated the daily activities of political affairs management and religious worship into the garden space and integrated it with the whole garden space. It is considered as the emperor's unique understanding on Chinese ancient garden life.

Correspondingly, the virtual artistic conception space expressed by the horizontal tablets meaning also strengthens the expression of this kind of imperial power thought. The contents of expressing rights and benevolent government in the space of political, as well as the religious intentions, natural objects, celestial phenomena, myths and poetry dictionaries, express the idea of divine empowerment of monarchy and the feudal legitimacy of imperial right. From this perspective, part of the virtual artistic conception space in

Xiyuan Garden fits the emperors' expression and understanding of imperial power.

6.3.2 The Expression of Chinese Traditional Literati Thought Based on Chinese Traditional Garden Culture in Imperial Garden Space

In imperial gardens, besides the space with the idea of imperial power, there is also the intention of traditional Chinese literati gardens. For example, for the building groups and monomers used for the emperors' residence, sightseeing, it is also common to imitate the natural environment based on the traditional gardening techniques and the connotation of "Nature landscape within urban" in traditional Chinese gardening culture. At the same time, through the artistic conception space created by horizontal tablet contents, the elements of garden space are described directly or indirectly, and the literati's thoughts and ideological realm in traditional Chinese culture are conveyed. Through the construction of entity space and the description of virtual space of traditional artistic conception, the emperors' personality as a traditional literato is expressed.

The personality characteristics of Chinese traditional literati are to refine their own view of nature and world view by means of seclusion, detachment and integration with nature. The garden connotation formed by this thinking mode also expresses the observation of nature and the thinking of world outlook, as well as the love of garden life. The emperors of Qing Dynasty expressed their longing for the spiritual connotation of the traditional literati through the construction of garden space in the process of learning the traditional culture of sinology.

6.3.3 Expressions of the Concept of "Urban Mountain Forest" in Ancient Chinese Gardens Based on the Techniques and Thoughts of Flat Land Gardening

Xiyuan Garden is a typical imperial garden in ancient Chinese imperial gardens. Compared with other imperial gardens in the same period, there are some differences in site selection, gardening techniques and the expression of the emperor's view of nature and the world. In the imperial gardens built in the same period, a series of gardens, represented by the three mountains and five gardens(三山五園), are built on the natural mountain body in the northwest direction of the imperial city of Beijing as the basic natural basis, along the mountains and rivers. Its gardening method respects the terrain and water system characteristics of the site, forming the natural intention of gardening between mountains and rivers. The relative relationship between gardens and natural environment fits the earlier view of nature in the development of ancient Chinese gardens. At the same time, it also conformed to the minority identity of the rulers of the Qing Dynasty. The rulers of the Qing Dynasty originated from the northern minorities in Northeast China. Good at nomadism and hunting. Its production and living environment is closely related to the natural environment. The construction of a series of gardens in the Qing Dynasty also echoes the ruler's unique view of nature and world originated from the national tradition.

Xiyuan Garden, as the study object of this study, is an example of Flat-Land gardening in imperial gardens. It lacks the natural environment foundation of other gardens in the same period. However, in the interior of the garden, the limited water body inside the garden is sorted out and maximized by means of Flat-Land gardening. At the same time, abundant spatial structures are formed through artificial accumulation of islands and other structures. Then, based on the artificial construction of the overall space model, the garden space

is subdivided into small-scale space with different functions and spatial characteristics by the way of building groups. On this basis, combined with the artistic conception space expressed by the horizontal tablets content, it fits the concept of urban mountain forest in the later stage of the development of ancient Chinese gardens. That is to say, in the urban environment, the natural environment is simulated through small-scale spatial arrangement, combined with artificial natural environment structure. At the same time, at the ideological and aesthetic level, it expresses the landscaper's understanding of nature and world outlook and annotates the deep interpretation of garden life.

6.4 Future Research

Taking Xiyuan Garden as the study object, this study discussed and analyzed the space composition and the spatial characteristics of ancient Chinese imperial garden and drew relevant conclusions. However, there are still a series of imperial gardens located in the suburb of ancient Beijing with the structure of “three mountains and five gardens” such as the summer palace and old summer palace. The spatial characteristics Xiyuan Garden and other imperial gardens still need further comparative study and discussion.

In addition, the specific functional types of the buildings in the garden were taken as the research object, and the spatial characteristics of the gardens of Suzhou private gardens are compared. However, a more complete comparative study of the overall garden space of the imperial garden has not yet been carried out. Therefore, in the future research, based on the above two points, further analyze and discuss the relevant characteristics of the ancient Chinese imperial garden space.

Contents of Figures

Acknowledgement

In the process of finishing this doctor thesis, I encountered many problems and obstacles, but also received support and encouragement from many sides. So, at the end of the thesis, I would like to express my gratitude to support and love for this doctor thesis.

First, Professor Zhang Junhua of the Horticulture Department of Chiba University, as my instructor, has given me tremendous support and encouragement in my four-year study and work experience in Japan. In terms of personal research work, research paper writing and landscape design ability improvement, I have received very important opinions and suggestions from Professor Zhang Junhua's teaching. Once again, I would express my gratitude to Professor Zhang Junhua.

In the process of writing this paper, I received the conscientious and responsible guidance and help from the members of the paper review committee， including Professor Mitani Toru, Chairman of the Review Committee, Associate Professor Akita Noriko and Associate Professor Iwasaki Yutaka. In the process of writing and thesis defense meeting, I have received important opinions and suggestions, and I would like to express my sincere thanks.

Professor Li Xiong, Vice President of Beijing Forestry University of China, as a tutor of my master's degree, has given very important guidance to my research and landscape design ability training at the master's level. At the same time, it gives me a valuable opportunity to exchange and visit Japan. Once again, I would express my gratitude to Professor Li Xiong.

In the course of my study in Chiba University, Dr. Ma Jia (now lecturer of Beijing Forestry University), Dr. Zhang Yaping (now Zhejiang Agriculture and

Forestry University), Dr. Wang Peiyan (now postdoctoral of Beijing Forestry University) who studied in the same Lab also gave important guidance and help to my research, and very correct guidance help me entered the right track. I would express my gratitude to the seniors.

At the same time, in the process of study and research, I have also received the support and encouragement from teachers, predecessors, descendants and secretaries of the Garden Design Laboratory. Thank you very much.

At the same time, in the process of submitting my research papers, the anonymous reviewers have put forward very valuable experience for their research papers, and express sincere thanks here.

During my three-year doctoral career, I have been supported by the MEXT scholarship from the Ministry of Education, Culture, Sports, Science and Technology of Japan. Through the scholarship, I can concentrate more on personal research. Therefore, I sincerely thank the Ministry of Education, Culture, Sports, Science and Technology and the relevant staff.

Finally, I would like to express my solemn thanks to my parents who have supported my study for many years. At the same time, my wife, Dr. Guo Shiyi, as a doctoral student of Tokyo University, is still very supportive of my research work and daily life under relatively heavy personal research pressure. During my life in Japan, we encouraged, criticized and supported each other, and spent three meaningful years together. Thank you very much.

Finally, without your support, guidance and encouragement, I cannot complete the related research work of doctor well. At the end of this article, I would like to express my solemn thanks to all of you just mentioned.

Thursday, 18 July 2019 Su Chang

List of Published Papers

1. **蘇　暢**, 馬　嘉, 章　俊華（2018）：西苑園林における扁額からみた建築群機能別の庭園空間特徴,環境情報科学機関誌, Vol.47-3：90-96. （2018年 10 月掲載）
2. **蘇　暢**, 郭　詩怡, 張　亜平, 章　俊華（2019）：扁額からみた中国・西苑皇家園林と蘇州私家園林の建築類型別の庭園空間特徴（英文）,ランドスケープ研究　研究発表論文集 37,Vol.82-5：475-480. （2019 年 5 月掲載）
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6. **蘇 暢**, 李 雄. 低碳城市建設背景下基于公共自行車游憩体系策略可能性的検討——以杭州市為例[A]. 中国風景園林学会.中国風景園林学会 2014 年会論文集（上册）[C].中国風景园林学会:,(2014 年 10 月掲載)