1. Introduction

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. 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. 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. 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.

Previous studies on the HT in ancient Chinese gardens were relatively adequate from the aspects of form, contents and calligraphy art. There are also studies on the specific function of the HT in the overall garden space and the relationship between the HT and the garden space. Moreover, the previous research on the correlation between HT and garden space has focused on imperial gardens and private gardens in Korea and China. There are also comparative studies between imperial garden in China and Korea. However, there is a lack of...
comparative study of the spatial features of gardens between imperial gardens and private gardens in ancient China.

Therefore, this 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 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.

2. Study Sites and Method
(1) Study Sites
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\(^{[20]}\). 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\(^{[3]}\) (Figure 1-2). 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\(^{[6]}\). Among them, the 5 building groups for residential need are the main living space for the emperors in the gardens (Figure 1-3).

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\(^{[2]}\) (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 (Figure 1-4).

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.

(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, the HT contents and HT meaning classification (Table-1) were used to analyze the spatial features of gardens in different building groups.
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, the contents of HT were explained, sorted out, and classified according to classification basis of HT meanings (Figure-2). 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 (Figure-2). Then the frequency numbers and proportion of HT meanings in each building type were collated and counted (Table-2, Figure-3). Finally, we discussed the spatial features of gardens in each building type from the aspect of HT meanings and drew relevant conclusions.

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

In the previous studies, Zhang (1999), Ham (2013) and Wang (2014) 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 comparative analysis under the same conditions, this study excluded the unique types of buildings in 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], [樓], [軒], [斎], [閣], [室], [廊] 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], [閣], [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 [廊], [壁] 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.

3. The Spatial features of gardens from the Aspect of Horizontal Tablet

(1) Type-A buildings [堂], [樓], [軒]

In imperial garden part, HT meanings, which belong to Thought (T) category, have the largest proportion (T, 57.9%) followed by Scenery (S) category (S, 31.6%). Among them, the top three sub-items are Knowing-Doing (T), Imperial Rights (T), and Astronomical Phenomena and Weather (S). According to the interpretation results, there are cases that single HT contains multiple meanings (Such as “類香”, “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 (Table-1, Figure-2).

(2) 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 under the same conditions, this study excluded the unique types of buildings in 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], [樓], [軒], [斎], [閣], [室] 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], [閣], [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 [廊], [壁] 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.
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%) (Table-2, Figure-3).

In Xiyuan imperial garden, for example, the HT 異趣亭(T1), [衷意靜觀](T1,T4) expresses a view of observing the world and keeping calm and unique. [靜心亭](C1,T1) expresses the idea of calming the mind to deal with external things in Taoism. The HT [遠香堂](C2,T3), [時禪樓](T3), [神輝樓](C2,S2) 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 building group [清園] in which the HT above belongs to, is composed of strict and symmetrical architectural 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 express the owner's introspection on his words and deeds. HT 待月軒 (T1, S1) in [澄覲堂] building group uses the pure plant image, such as magnolia, to express the owner's yearning for the secluded life in nature landscape (Figure-4).

Above all, after discussing the HT meanings and spatial features of the 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 Elements (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 [臥遊] and [顧門] buildings. In addition, it also combines the HT meanings of Knowing-Doing (T1), Talent and Learning (T2), Retire in Sceney (T4) to sublimate the garden scenery to the spiritual level of self-reflection and pursuit.

(2) 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%) (Table-2, Figure-3).

In Xiyuan imperial garden, for example, HT [王維軒] (T1, S1) in [澄覲堂] 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) (Figure-4) both express advice on individual thinking and action, and advocate the fine habit of being observant and diligent in thinking. HT [[動静交养] (T1, T2), [得真趣] (T1) and [随安室] (T1, T4) both 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 gardens, for example, HT [[[聽雨軒] (S3) (Figure-4) and [倚玉軒] (S1), HT [[[得真趣] (S1, S2) 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 and the surrounding natural space (Figure-4). HT [[[還我讀書斎] (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), [聞妙香室] (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 also echo the functional need for the self-cultivation activities such as reading and writing.

(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 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%) (Table-2, Figure-3).

In Xiyuan imperial garden, for example, HT [[[古柯亭] (S1), [留園亭] (T4, S2) (Figure-4) 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 [[[留園亭] (T3, S3), [[[對時育物] (T3) and [[[留園亭] (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] (S1, S3) (Figure-4), [雪香雲蔚亭] (S1, S3), [荷風四面亭] (S2) and [[[留園亭] (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), [靜吟亭] (T4) and [[[留園亭] (T4) use poems and ancient allusions to express the idea of living in seclusion and

Figure-4 The Master plan and Spatial Pattern of Example Building in Type A, B and C of Xiyuan Imperial Garden and Suzhou Private Gardens
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.

4. 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 express 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 hermits from society shaped by traditional garden culture.

Thirdly, HT contents of nature elements and weather phenomenons 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”

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16) According to previous studies, 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 [%] type buildings also exist in both two types of gardens. However, for the reason of less representativeness according to previous study. 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 numerical contents in the following discussion are following the same process of calculation.