

*Article*

# Research on inheritance and development of Chinese traditional design elements in modern residential garden construction

Xiangyun Wang\* and Feng Wang

Shandong Youth Political College, Jingshi Dong Lu 31699, Jinan City, Shandong Province, China

\* Correspondence author; E-mail: 461261333@qq.com.

Received 01 March 2022; Accepted 15 March 2022; Published 23 September 2022

**Abstract:** In recent years, with the rapid development of social economy, people's demand for residential gardens is also gradually increasing. From the initial living to living under and now living comfort gradually changed. In the construction of Chinese classical gardens, the garden thought of the unity of heaven and man and the pursuit of artistic conception of the garden, though made by man, as if by heaven, are the connotations pursued by the garden construction of modern residential areas. Through the analysis of the traditional design elements and design concepts of Chinese classical gardens. Comparing the construction status quo, presentation mode and actual needs of residents of existing residential gardens, Inheritance and future development trend of condensed classical garden traditional design elements in modern residential garden construction.

**Keywords:** traditional design elements; modern residential garden; inheritance; development

## 1. Introduction

### 1.1 Research background

With the rapid development of modern city process in our country, more and more rural and traditional garden building was bulldozed, instead of reinforced concrete forest of high-rise residential community, commercial and digital production base and so on, lagging in landscape construction of ecological diversity, rich culture tradition of classical Chinese garden design and construction elements gradually shrinking. Present situation in the



Copyright©2022 by the authors. Published by ELS Publishing. This work is licensed under a Creative Commons Attribution 4.0 International License, which permits unrestricted use, distribution, and reproduction in any medium provided the original work is properly cited.

construction of contemporary residential area landscape environment and the people to pursue the intensified contradiction between nature and people's demand for residential environment of transformation by the applicable gradually shift to relax, leisure and natural organic closer places, residential landscape construction began to gradually by the rules of rigid poetic, adjust measures to local conditions, natural imitation of classical landscape construction concept transformation. Building people-oriented respect for nature, creating ecological, harmonious residential garden living environment has become the current fast-paced urban environment people for residential garden strong demand [1].

### *1.2 Research motivation and main research issues*

The Chinese classical garden culture is extensive and profound, and involves the extensive integration of multiple disciplines and art categories. The current residential garden design and construction process is blindly stylized, seriously lacking the inheritance of regional cultural characteristics. As people's demand for the use and spiritual integration of residential gardens gradually increases, how to integrate the design and construction elements of classical gardens into the design and construction of modern residential gardens, so as to build modern residential gardens that meet the practical and spiritual needs of people and integrate Oriental wisdom. This paper mainly analyzes and excavates the construction elements and construction ideas of classical gardens, and integrates them into the construction, cultural inheritance and development of modern residential gardens.

### *1.3 Importance of research*

With the emergence of new materials and technologies in the industrial revolution, the urbanization process is accelerating, and the modern geometric regular high-rise reinforced concrete buildings with no vitality and intimacy are rapidly spreading throughout the world. In recent years, with people living standard gradually improve, the pressure in people heart is yearning for natural arcadian life gradually awakening, stylized existing residential landscape construction have been unable to meet the demand of the practical and the spirit of the people and the Chinese classical garden has a long history, characteristic, cultural heritage, need we designed and built to its element analysis concise, it is applied to the design and construction of modern residential landscape.

## **2. Research on the thought and elements of Chinese classical garden construction**

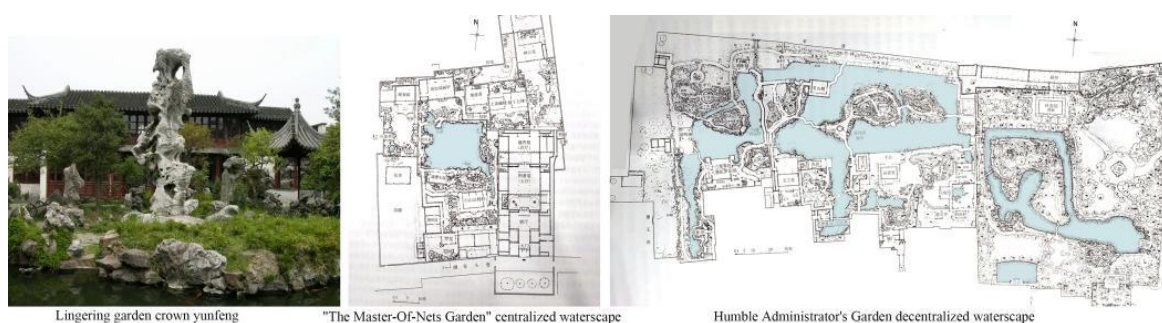
Chinese classical garden is the crystallization of Chinese culture and the construction craft inheritance for thousands of years, is the Chinese culture, make full analysis found that Chinese classical gardens landscape construction and development, elements and craft technique is the premise of the landscape design of modern residential construction, is the Chinese classical garden architectural culture and art heritage and development priority.

### *2.1 Chinese classical garden thought*

Chinese classical gardens developed and matured in the fertile soil of Chinese traditional culture, and were deeply influenced by Chinese landscape paintings, literary works, poems and songs, as well as Confucianism and Taoism in the process of design, construction and inheritance. It is a way of living that is rooted in the harmony and balance between man and nature in traditional Chinese culture. It is a kind of philosophical thought and cultural concept of adapting measures to local conditions, respecting nature and harmonious unity, which guides the design principles of classical Chinese gardens. Respecting nature and adjusting measures to local conditions is the primary criterion of classical garden construction. In the process of garden construction, we should follow the characteristics of the site and adapt to the market. Respecting nature and adjusting measures to local conditions is the primary criterion of classical garden construction. In the process of garden construction, we should follow the characteristics of the site and adapt to the market. Influenced by freehand landscape painting, it draws lessons from the art of freehand landscape painting from the conception of the overall layout to the construction of details. The construction of classical garden artistic conception also relies on the emotional expression of ancient Chinese poetry and literature. In the design and construction, it is like the twists and turns, distinct layers, orderly changes, and full of beautiful rhythm, silent and full. "To draw into the garden, because of the painting into the scene" is the artistic conception of classical garden design and construction to create criteria. "Man of honor admire moral" is an important academic thought of Confucianism, the core idea is implied in things, in the natural landscape of flowers and trees to experience the personality in reality, highlighting the landscape natural view of "the wise enjoy water, the benevolent enjoy mountains".

## *2.2 Analysis on the elements of Chinese classical garden construction*

**Build mountains by stacking stones.** Mountain pile stone in the garden is an artistic description of the natural rock, also known as "rockery". It is an important part of the garden, condenses the artistic attainments of the garden maker, and has both god and nature. The shape of the rockery can be summarized as realistic type, leakage type, practical type, freehand type[2]. Classical garden stacked stone modeling changes thousands of hair without type. Realistic type, as the nature of the real mountain shape miniature, as the real mountain scenery, with peaks, valleys, cliffs, caves and other forms, one stone one peak magnificent. The leakage type is special-shaped permeability, and the Guanyunfeng of Suzhou the Lingering Garden is a typical representative of the leakage type. Highly ornamental value, practical is also the most widely used in the process of garden construction, such as stone stairs, freehand brushwork type, pay attention to the expression of artistic conception, focus on freehand brushwork, wonderful in vivid.



**Figure 1.** Chinese classical garden rockery and waterscape layout.

**Building construction.** Most of the classical gardens in addition to the tourist function, its main function is to provide high quality livable conditions for the garden owners, landscape architecture in the whole garden planning process occupies an important position. The majestic royal gardens, graceful and exquisite private gardens and solemn temple gardens are all themed on garden architecture. In terms of function, classical garden architecture should be able to travel, live, observable and feasible, and also play the role of point scene and separated scene, so that the building is fully integrated into the landscape environment. Landscape architecture in the artistic conception of the pursuit of scene blend, natural integration of poetry and painting artistic conception, has a strong artistic appeal. In the structure is also distinguished from the general building axis layout distribution, pay more attention to the overall layout of the garden twists and turns, uneven, there are rules and no fixed layout principle, give garden architecture infinite change possible. Landscape architecture is different from general architecture in the form of introverted stylized layout, but more focused on the high integration of architecture and surrounding plants, rocks, water and so on, skillfully integrating the beauty of architecture and nature to achieve an integrated effect, Chinese classical garden architecture forms are rich and varied [3].

**Table 1.** Classification of Chinese traditional garden architecture.

Building types	Building function
Carible	Contact the traffic, connect attractions, space division
Bridge	Contact the traffic, connect attractions, add to the enjoyment
Pavilion	Visit, admire the view, rest
Waterside pavilions	Visit, admire the view, rest
Boat	Visit, Admire the view
Building tower	Visit, admire the view, dwell ,live
Tower attic	Visit, admire the view, collect books
Veranda, pagoda	Visit, Admire the view
Hall	Receive a visitor, entertain, etiquette, daily life
Mansion	Daily life, entertain guest
Study	Daily life, reading room
Wall	Enclosure ,enclosed space,break up a space

**Layout of waters.** Water is the soul of the garden, the water in the classical garden is very particular about, according to the water layout form can be divided into centralized and decentralized two types, water is the basic elements of the classical garden. Medium and small courtyards generally build centralized pools in the center or on one side, and then

surround them with garden plants, rockeries, buildings and other facilities to form a cohesive centrional garden pattern, which can expand the garden vision to a certain extent and improve the overall sense of openness of garden space. A typical example is the layout of the water body in The Master-Of-Nets Garden, which echoes the surrounding rocks, plants and buildings, presenting a bright and quiet beauty. Large-scale gardens also adopt the form of centralized layout, which is commonly seen in the design and layout of classical royal gardens. The water surface is divided into several small water surfaces of different sizes and connected by rivers and streams, forming a decentralized garden water body form of ups and downs and twists and turns. Suzhou Humble Administrator's Garden is a typical representative of scattered water dozens of different sizes of water through the water system, Bridges and other areas of the garden to connect through, in one line, the formation of "although made by people, wan since the day open" garden artistic effect [4].

**Plants grow.** Classical gardens are natural landscape gardens, deeply influenced by the philosophy of "unity of nature and man". Based on the real landscape of nature, they pursue the artistic effect of learning from nature and returning to nature. Under the influence of Chinese landscape painting, the planting design focuses on distinct priorities, contrasting with each other, and moving the landscape step by step. All kinds of plant landscape are scattered and dense, so as to seek the interest of natural landscape. According to the change of time and season, plants corresponding to each season are interspersed with or classified with planting to form the sequential plant landscape with different seasons, which is also a reused plant configuration form in classical gardens. Influenced by "than" ideas, the garden owner usually borrow plant lyrical, express their position and life pursuit, royal garden use tall pine to reflect more of the royal majesty and bold, because itself garden area is relatively small private gardens with rich implication and small plants to express the garden owner, simple, elegant and meticulous integrity, Temples and gardens mostly choose tall religion-related plants to reflect their simplicity, nature and solemnity. Garden plants are an important medium to connect garden buildings, water bodies, rocks, etc. Plant landscaping can not only enrich the spatial level of garden landscape, but also play a role in dividing the landscape spatial layout and improving the natural beauty of garden landscape.

### **3. Analysis on current situation and elements of landscape in modern residential area**

#### *3.1 Current situation of garden construction in modern residential area*

At present domestic about modern residential landscape to explore for more holistic overall planning and design, which to some extent, ignores the differences between regional culture and climate, most of the residential area landscape focus on planning and construction as a whole volume rate, the overall function layout design effect, and to save costs and reduce the greenest, stylized design process is relatively serious, it failed to fully excavate the regional cultural characteristics and regional memory, and integrated the elements and concepts of Chinese classical gardens into them, resulting in the rigid and rigid landscape construction in most residential areas, lacking a sense of intimacy and belonging.

### 3.2 Analysis of landscape elements

The distribution of residential landscape design elements is an overall design planning based on the full analysis of the daily life, behavioral activities, psychological and cultural needs of the users in order to fully meet the actual use and aesthetic needs of residential users.

**Garden greens.** Residential green space is generally planned and designed according to the size of residential area to provide public leisure and entertainment space for residents. The design layout can be divided into three types: regular, natural and mixed. Reasonable plant configuration design is carried out according to the soil climate, environment, culture and other elements of residential area. The design and construction process should fully consider the site ecological protection and people-oriented design principles. The plant configuration of green space can also divide the landscape horizontally and vertically.

**Featured landscape.** Pavilions, corridors, Bridges, frames, landscape walls, sculptures and public auxiliary facilities in the landscape design of residential areas all belong to the category of garden sketches. Garden sketches are the specific landscape points connecting the water body in the garden road. According to the function, it can be divided into three categories: architectural sketch, sculpture sketch and facility sketch. The main design and construction of architectural sketch should first consider the overall use function and style echo. Good architectural sketch can make the overall echo of the garden, so that visitors can enjoy and experience the beauty [5]. The design of sculpture sketch must echo the theme style, which can play an active garden atmosphere and make the finishing point. Facility sketches mainly include public garden facilities such as chairs, bulletin boards and signs, and the theme style should echo with the whole garden.

**Table 2.** Residential accessorial building classification.

Building types	A classification or characteristic	Building function
Pavilion	Wooden, bamboo, concrete construction	Rest, shade, keep out the rain, view
Carible	Monolayer, double-deck, multilayer	Rest, shade, add landscape layers
Bridge	arch bridge, broken bridge, floating bridge	Traffic, traffic dispersion, connection
Arbour	Lianas cover the top, there are seats on the bottom	Disjunctive space, connect attractions, direct the eye
Membrane structure	Light and variable, graceful and elegant	Landscape mark, shade shelter
Feature wall	Disabled scene, backdrop, logo wall	Decorate beautification, disjunctive space, direct the eye

**Landscape garden road.** Garden road is an important element of residential landscape planning and design, which directly affects the overall layout of residential landscape planning and has a great correlation with the quality of People's Daily life. The design of garden road also affects the internal ecological environment of the whole residential area to a certain extent. Garden road can be divided into main road, group road, road between

houses, garden road and other types, paving forms are also diverse, asphalt road, irregular paving, stone road, brick road, pebble road and so on. The design and planning of residential garden road should start from the whole, according to the functional zoning planning and traffic diversion design, the whole form a circular closed loop, especially to grasp the layout design of the path between houses, so that the passage, organization of landscape nodes and tour guidance.

**Water landscape.** Waterscape design is an indispensable element in residential garden landscape. In Traditional Chinese culture, water is endowed with the meaning of life, wisdom and wealth, and people like to live with water as companion [6]. In the water at the same time both culture and the aesthetic and regulating regional climate, rainwater collection action such as irrigation, garden water scene rendering of two types of dynamic and static, dynamic water such as existes, waterfalls, fountains, streams, such as water organization form, unless well versed in natural river, the general residential zone dynamic water interface help auxiliary force present, there are a variety of presentation for hydrostatic design, such as reservoirs, The design of water features in the garden landscape of modern residential areas is usually combined with the concept of sponge city, and the purified collected water is used for garden irrigation and other purposes. It not only beautifies the environment, saves the water source, but also weakens the local surface runoff and improves the local environment [7].



**Figure 2.** Rich paving forms in Chinese classical gardens.

**Landscape paving.** In the process of landscape design and construction, in accordance with certain concepts or norms in the wall or ground using natural and artificial materials for laying the art form is called garden pavement. Landscape paving is very important for the creation of the overall space image of the landscape [8]. Landscape paving has rich artistic expression forms, which can be a single material or a combination of various materials. Its paving forms are regular, natural and mixed. Garden paving can not only beautify the environment and enhance the garden cultural atmosphere, but also divide the garden space layout through the paving form and color division, such as children's area paving soft and safe materials and bright colors [9]. Pavement design should also pay attention to its ecological effect, and more permeable materials should be selected in the selection of materials, so as to play a role of water storage, interception and water conservation, and realize the integration of function, art and ecology.



#### **4. Application of traditional design elements in landscape construction of modern residential area**

In the process of classical garden building, the artistic realm of learning from nature and integrating with nature is emphasized. With the increasing improvement of people's living standards and cultural levels, the direction of modern residential garden design and construction is gradually changing to the concept of returning to nature and sustainable development. The traditional classical garden design elements are applied to the landscape design and construction of modern residential areas, which accords with people's pursuit of natural landscape and pastoral life.

##### *4.1 Gardening idea and its application*

The harmonious coexistence of man and nature is the philosophy of Chinese classical garden building. The pursuit of "unity of nature and man" is the highest realm, the landscape construction of modern residential areas should fully study the current situation of landscape land, reduce the destruction of the original natural landscape according to local conditions. In the process of design and construction of classical gardens, buildings, rocks, water and plants are integrated into an organic whole, and the natural beauty is integrated and condensed into the limited space of gardens, so as to show the beauty of nature with artificial landscape and realize the harmonious coexistence of environment and nature [10]. In the garden construction of modern residential district, we should fully draw lessons from the thought of classical garden construction, fully excavate and combine the local regional characteristics and traditional regional culture, and build a modern residential district garden landscape design endowed with regional cultural connotation.

##### *4.2 The application of landscape spatial layout*

The spatial layout in classical gardens is divided into two forms: static spatial layout and dynamic spatial layout. By difference in static space layout, shop, scene wall color and shape change, such as the space is divided into multiple small space, gives its main artistic conception, respectively realize the definition of space, also can through places, borrow scene, framing, barrier, scene, clip landscape forms such as promotion and increase the botanical garden of dimensional administrative levels and depth. Dynamic space layout can be achieved by multiple landscape space layout density of different size of build to enhance space contrast each other, through creating a falling rock rolling line, also can be in series sequence space node and radiant landscape space layout form to build garden space sequence, ascending garden tour rhythm, form of landscape space step.

##### *4.3 Inheritance and application of traditional gardening techniques*

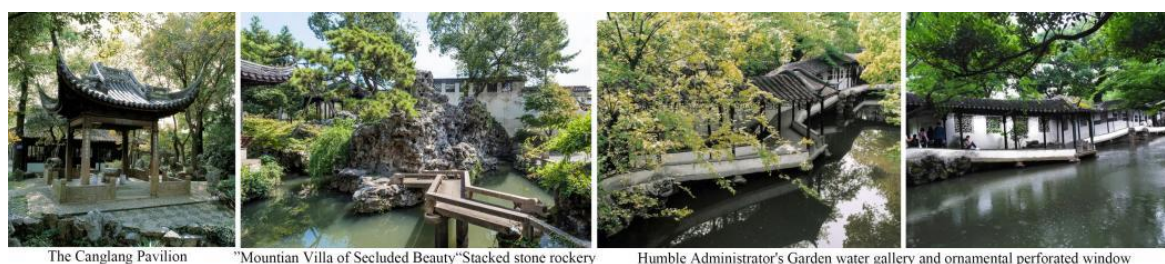
Classical garden design in the process of the construction of a lot of design to build the technique, mainly divided into two categories: comprehensive contrast methods and landscape materials processing, contain hidden and dew, master-slave focus, winding ups and



downs, spares and dense, and twists and turns, virtual and real, looking down and look up comprehensive contrast methods, contains a landscape artistic conception of Chinese poetry and landscape painting, Greatly enriched the level of landscape and natural changes, from multiple angles to show the beauty of landscape artistic conception. There is a kind of landscape elements, the processing method based on the fold mountain water, flowers and trees planting design, building environment and words point of view makes a comprehensive analysis and research aspects of concise, applied to modern residential landscape construction, rich garden space level and the expression of artistic conception, improve landscape ecological integration, to roots. Reproduces the natural residential landscape artistic conception fusion.

#### *4.4 Inheritance and application of landscape artistic conception*

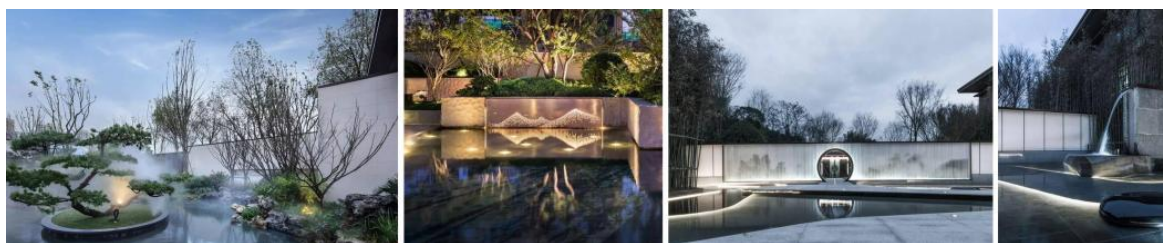
The composition of the design of classical gardens comes from landscape paintings and natural landscapes. Through the implication in the landscape, the artistic conception in the garden can be added, and then the emotional resonance can be burst out. In the process of Chinese classical garden design and construction, through the use of seal cutting, plaque or Posting couplets and other forms, to express the inner thoughts of the garden owner, often can lead people's thoughts to the vast aodao nature.



**Figure 3.** Chinese classical garden artistic conception creation.

Such as Suzhou Canglang Pavilion is with the help of couplets breeze moon this priceless, near who all sentient beings to express the thoughts of garden owners. Another instance is suzhou within the Mountain Villa of Secluded Beauty with embracing stacked stone, it will truly day everyone would fly wide after the beauty of the natural mountains and rivers of concise, concentrated built within a limited space, of incisively and vividly shows the natural landscape, paths, mountain stream overlapping peaks, cliff, valleys, reflect the construction of the landscape construction with superb skills and aesthetic realm. Based on the construction of modern landscape, the way of presentation is not only limited to the application of traditional plaques and couplets, but also expanded to the application of sculptures and landscape sketches, which further increase the association of tourists and visitors to you [11]. For example, in suzhou Humble Administrator's Garden, the narrow and long curved and empty water corridor, the square leaky Windows in the hospital wall are arranged so that the space in the garden is further permeated with each other, producing

the artistry that seems to be separated from each other and seems to be separated from each other, making the landscape more artistic image.



**Figure 4.** Application of classical garden artistic conception in residential landscape.

#### *4.5 Application of regional context in landscape design of residential district*

With people's ecological consciousness gradually improve, people the external environment of residential quality requirements gradually improve, landscape designers must actively explore the local characteristics of regional culture, pay attention to environmental inner spiritual expression, the use of classical garden landscape, do adjust measures to local conditions, the regional culture into the artistic conception, in the external environment landscape design of residential areas Make the landscape fully reflect the regional cultural characteristics [12]. The combination of modern techniques and classical gardening techniques, through the reappearance of regional cultural allusion scenes, tablets, landscape sculptures and other applications, perfectly combine nature and humanity, comprehensively improve the humanistic atmosphere of the residential area's external environment landscape.

## **5. Conclusions**

### *5.1 The development trend of traditional design elements in modern residential landscape construction*

The construction of residential landscape environment makes full use of modern techniques, organically combines traditional classical gardening techniques with modern techniques, absorbs the essence of classical gardening and reproduces it with modern techniques. Using modern materials for comprehensive innovation and redesign, the decomposition and reconstruction of high quality traditional garden gardening techniques for modern technical treatment, applied to the design and construction of modern gardens, modern inheritance and improvement of smooth gardening techniques, to achieve the perfect integration of traditional gardening techniques and modern technology.

### *5.2 Thought of garden construction in modern residential area*

With the development of modern economy and times, people pay more and more attention to the environmental quality of the garden landscape in the existing living environment, and people pursue closer to nature and integrate with nature. We should inherit and

carry forward the artistic essence of Chinese classical gardens, not just stay in the stage of simple imitation and description. More in-depth study of classical gardening techniques and traditional gardening techniques will play a positive and positive role in the innovation and breakthrough of modern residential landscape construction design. So that the excellent design elements of classical gardens can be inherited and developed, and can be truly modern in a different form. Create ecological livable modern residential landscape.

## References

- [1] Zhu JN, Yang YF. The modern significance of Chinese classical gardens. *Chin Lca Archt* 2005(11):1-7.
- [2] Zhang K. Application of Chinese traditional gardening method in modern residential landscape construction. Tianjin University, 2017.
- [3] Liu BY. Ternary theory of landscape architecture. *Chin Lca Archt* 2013, 29 (11):37-45.
- [4] Weng ZH. *Zhang Wu Zhi 3rd edn*. Chongqing Publishing House: Chongqing, China, 2017.
- [5] Tong J. *Jiang Nan Yuan Lin Zhi*. China Industry Press: Beijing , China, 1963.
- [6] Su JH. The application of Chinese classical garden design techniques in modern garden. *Ceramic* 2020(12):136-137.
- [7] Pan WL, Fan JY, Wang CB. Current situation and trend of Landscape design in China. *Art Hai* 2020(08):162-163.
- [8] Zhang J, Dong Y. Application of Traditional Chinese cultural elements in modern landscape Design. *Mod Urb Res* 2014(06):46-50.
- [9] Yang LL. Modern landscape design collocation skills and artistic practice. *Building Structure* 2022(03):156.
- [10] Li ZJ. The influence of Chinese classical gardens on modern landscape design. *Mod Horti* 2020(08):84-85.
- [11] Zhang J. Inheritance and transmutation of modern landscape in the context of traditional culture. Tianjin University, 2014.
- [12] Ji C. *Yuan Ye. 2nd edn*. Chongqing Publishing House: Chongqing, China, 2017.