

Research on the Application Strategy of Mount Tai Culture in the Courtyard Design of Tai'an Home Stay

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Abstract: Mount Tai Scenic Area is located in Tai'an City, Shandong Province, and is known as the "Five Sacred Mountains". Starting from the two directions of gardening art method and modern courtyard landscape design, this paper probes into the essence of spiritual connotation and construction method, analyzes the existing problems and development trend requirements of modern courtyard landscape design, puts forward the design language enlightenment of Tai'an homestay courtyard in space, artistic conception and element direction by combining the case of Tai'an courtyard, and discusses the limitations and relevance of traditional gardening art method in modern application through the relationship between the two. From the perspective of space experience construction, the specific application methods of integrating courtyard design are proposed. The main purpose of this study is to comb the application strategies for regional courtyard landscape design and provide systematic services for courtyard design. Through research, it is found that traditional gardens and modern garden landscapes are highly similar. Mount Tai gardens, whether in design philosophy or garden building methods, could summarize and form a theoretical system of specific application methods in five aspects, namely, "site selection, cultural thoughts and artistic conception experience, space combination, detail elements, formal beauty, and metaphorical expression", based on the design connotation and created space feelings, a new idea of homestay courtyard landscape design was explored and it has the significance of the times and covers local characteristics and is not restricted to external forms. The results of this study provide valuable information for application strategy of Mount Tai culture in the courtyard design of Tai'an home stay.

Keywords: Mount Tai Culture, Gardening Methods, Homestay Courtyard Design, Space Experience, Application Method

1. Introduction of Tai'an Homestay Courtyard

The so-called "studying the present must learn from the ancient and no ancient can become the present" is a famous old sentence. Learning from traditional gardening techniques is the most effective means to express the characteristics of modern courtyard landscape. The main purpose of this study is to comb the application strategies for regional courtyard landscape design and provide systematic services for courtyard design. [1]

1.1. Relevant Concepts of Courtyard

The interpretation of the term "courtyard" in the

"Encyclopedia of China, Garden Volume": refers to the space around the front and back of the building or surrounded by buildings (including pavilions, corridors, pavilions and other small structures), which is generally referred to as the court or courtyard, and the courtyard space refers to the transition space between the outdoor nature and the indoor environment (Figure 1). Modern courtyard types include farmyard, urban independent courtyard, unit courtyard, residential area courtyard, and learning courtyard. This paper mainly studies urban independent courtyard. The constituent elements of modern courtyard landscape design can generally be divided into spiritual and material elements: spiritual elements such as national culture, local customs, the spirit of garden owners, etc., and material elements such as terrain, architecture, vegetation,

water, facilities, sketches, roads, etc. interact and blend with each other. Among them, the material element is the visibility element, which is the main constituent element, and the spiritual element is the immaterial element, which is the key

element of the whole garden style. The ultimate goal is to make the courtyard space practical and comfortable (Figure 2) through the undertaking of gardening methods. [2-5]

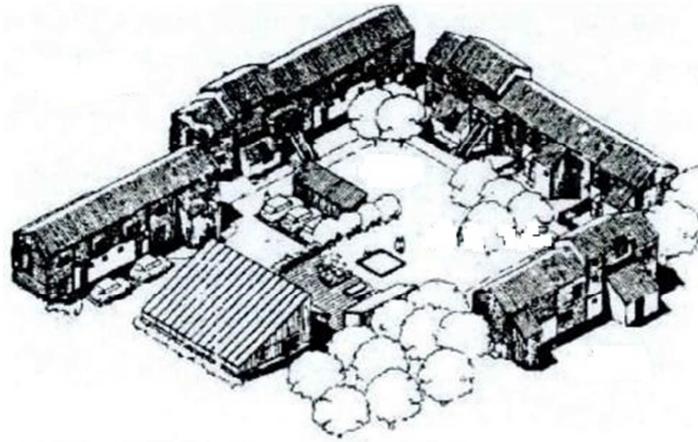


Figure 1. The layout of modern courtyards.

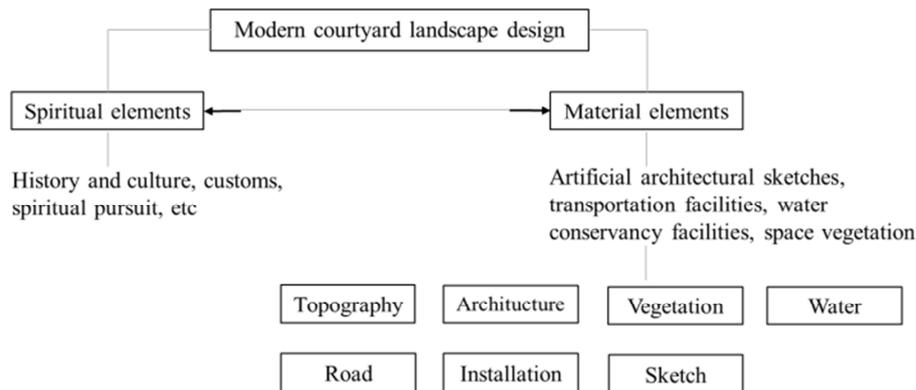


Figure 2. The elements of modern courtyards construction.

1.2. Tai'an Homestay Courtyard

Mount Tai Scenic Area is located in Tai'an City, Shandong Province, and is known as the "Five Sacred Mountains". In 1987, it was listed as a cultural and natural world heritage by the United Nations Educational, Scientific and Cultural Organization (UNESCO). In 2022, the annual number of tourists entering the scenic spot was 5.621 million. According to the actual survey, 65% of the people who were willing to choose to experience homestay in the tourist survey, as most of the young villagers gradually moved away from the village, the village has become a hollow village and an elderly village. About 38% of the houses are permanent residents, and 62% of the houses are not permanent residents, 70% are willing to rent their houses. However, the design language of the local landscape features of the courtyard of home stay in Tai'an is not enough, and there is no specific application strategy guidance. Although in recent years, Mount Tai culture research has made relatively fruitful achievements in Mount Tai history, Mount Tai sacrifice, Mount Tai religion, Mount Tai literature, Mount Tai stone carvings, Mount Tai folk culture, Mount Tai Confucianism, Mount Tai

music, intangible cultural heritage, Mount Tai spirit, etc. However, it is mostly reflected in the architectural design that little attention is paid to the courtyard landscape design. The courtyard landscape is also the most intuitive window for local cultural display [5-7].

1.3. Development Trend of Modern Courtyard Landscape Design

The development of modern residential landscape design has only started in the past 20 years, and has gone through three important periods: acquisition of residence (distributive housing ignores regional style), commercialization of residence (diversified and westernized style), and the rise of Chinese-style courtyard (paying attention to the protection of regional style). Modern courtyard landscape has developed rapidly, and will continue to explore courtyard landscape with Chinese symbols in the future:

- (1) The regional courtyard style of "home" atmosphere is modern courtyard. It is proposed that the home design style centered on "people" should be comfortable, private, diverse and regional. Comfort and privacy

refers to meeting the use function and psychology of people. First, it basically ensures that it meets the requirements of human engineering, lighting and ventilation, and activities. Second, it meets people's recognition of the landscape and regional living habits to ensure personal living space. Residential diversity refers to meeting the needs of different ages, jobs, habits and hobbies, and the residents' life tends to be diversified to meet the needs of supporting facilities. The design details, elements and forms in the site are required to be rich and varied and endowed with changes. The continuation of regional style means that people's understanding of nature and the times can be excavated and integrated into the landscape artistic conception and re-designed from the aspects of local life, history, techniques, festivals, cultural facilities, etc. For the regional courtyard landscape, it is conducive to emphasizing individuality, promoting regional culture and family culture, and enhancing inheritance.

- (2) Carry forward traditional skills and restore nature. Traditional craftsmanship design is reflected in the following aspects: first, it is relatively stable and closely linked with regional culture, and cannot be replaced by corresponding new technologies and high technologies. Secondly, traditional craftsmanship has traces of manual processing, which is strongly related to nature, and the use of materials is cyclical. Therefore, the traditional techniques show the natural design characteristics, with the trend of restoring the original appearance of the site to ecological development.
- (3) High-tech and new materials are widely used. Landscape design should keep pace with the times and use high-tech weapons to promote the growth of modern courtyard landscape design in the future. For example, remote sensing satellite map, GIS, GPS (collectively referred to as 3S technology), etc. all

provide more valuable innovative design ideas for the analysis and rational use of landscape resources. In terms of landscape materials, such as modern pavement materials, modern science and technology are used to synthesize, process and select materials according to the strength grade of traffic volume, the depth of water permeability, and the function of use, which is different from the previous fragile materials such as bricks, tiles, stones, the wood and soil.

- (4) The blending of landscape design and architectural space. The book "German Contemporary Landscape Design" mentioned that "architectural design has evolved from classical castle-style stone walls to concrete, steel structures and glass walls today, from the original opaque to transparent, translucent and opaque texture." Therefore, the current architectural form and the surrounding environment are the bridge and link between the individual buildings. The courtyard, as a transitional space, has the role of intermediary, which is conducive to providing a quantitative activity space in the limited space except for the interior of the building, making up for the lack of indoor space and increasing economic entertainment.

1.4. Research Ideas

According to the research content, collect a large number of books, periodicals, excellent papers, theories and practical cases of relevant design, read and sort out, analyze problems, and summarize conclusions, deeply analyze and understand the research trends of theoretical development related to courtyard landscape design and design at this stage, and focus on collecting and sorting out the relevant theories of traditional gardening methods and the application of modern courtyard landscape design, and integrate traditional culture, local customs Philosophy, etc. (Figure 3).

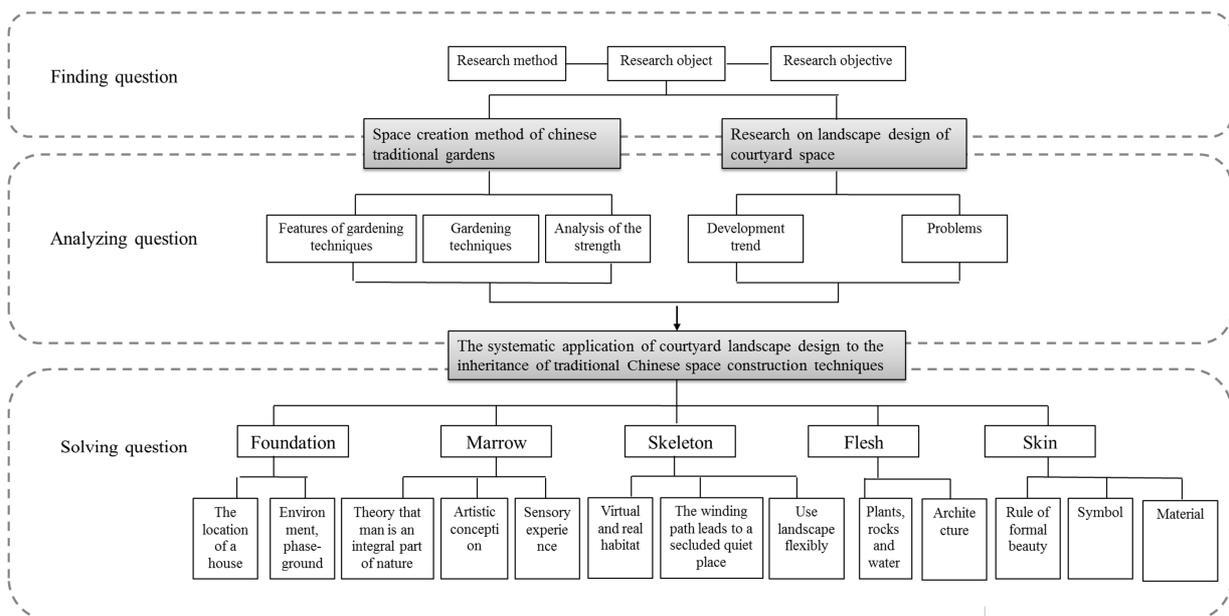


Figure 3. A study on the application of traditional garden landscape technics in modern garden landscapes.

2. The Creation Method of Chinese Traditional Garden Space

2.1. Artistic Conception Theory Under Cultural Thought

- (1) The concept of interaction between man and nature: Taoism's thought of "inaction" has the most profound impact on Chinese gardens. The prevalence of witchcraft in Jiangnan culture has affected the pattern of cultural formation, and the integration of fairyland and divine realm into the garden landscape has become the main reference for gardening. The philosophy of "the unity of heaven and man" has been transformed into the early gardening concept, which integrates permanent residence, rest and tourism, and is fully integrated into nature. For example, Jianzhang Palace uses the transformation of "one pool and three mountains" as the garden material, and expresses the emperor's wish to live a long life and rule the territory through the garden landscape, so that the folding of mountains and water becomes the beginning, so it also takes "originating from nature, higher than nature" as the basic principle of ancient gardening. The use of respecting the natural landscape of the region makes it possible to "set up the hall as high as possible, and open the pond as low as possible". The perfect integration of the beauty of the natural landscape and the artificial architectural landscape sketch in the park conforms to the philosophy of "the unity of nature and man" [8]; In terms of the performance of the north and south gardens, the Kunming Lake in the Summer Palace in the north relies on the structure of the Longevity Hill to form a view of "North Mountain and South Water", which is close to the mountains and near the water; Due to geographical limitations, the South is more in line with the ecological design of the Humble Administrator's Garden.
 - (2) Building a space with twists and turns: according to the Taoist school's concept of yin and yang, the space in the landscape garden is divided into three parts: the sun is like the outside, the sun is like the courtyard, and the sun is like the inside. For example, the variety of space changes from the gate to the inside of the garden creates a strong contrast with the open water space, reflecting the infinite space exploration from yin to yang.
 - (3) The expression of emotional consciousness: "reaching the world and helping the poor", compared with the positive entry of Confucianism, Taoism strives to get rid of the shackles of traditional ethics, express feelings in the landscape, and advocate returning to the nature and expressing feelings in the landscape.
- The cultural mood expresses the spiritual desire of the ancient garden owner to return to the mountains and forests.
- (4) Rationality of order and neutralization: Compared with Taoism, Confucianism pays attention to the sequence of "etiquette rank". The northern royal gardens use axisymmetric space to reflect the supremacy of imperial power. The Jiangnan garden dialectically displays the reality and sustenance of the Confucian doctrine of the mean through the spatial comparison of the hidden dew, the movement and the density.
 - (5) Application of the idea of "comparison": landscape is regarded as human virtue, reflected in the location, layout and other aspects, respectively reflecting the temperament of literati "benevolent Leshan, wise Leshui", which together constitute a beautiful landscape of mountains and rivers.
 - (6) Seeking the inner world: through self-reflection and awareness, we can weaken the wealth and glory of the world, find the life cognition suitable for ourselves, and hope to reincarnate in the next life to be believed in, which is the main expression of Zen thought, that is, Buddhism thought. It is mainly expressed in the spirit of the place and the vegetation landscape, for example, the pavilions, pavilions and vegetation landscape mentioned in Buddhism constitute the image of the kingdom of heaven, which people yearn for and practice in the garden landscape.
 - (7) Critical characteristic culture: "Feng Shui" is the embodiment of Chinese culture. On the one hand, it is regarded as the representative of feudal superstition that controls the fate; On the other hand, from the perspective of gardening, it is the experience summary of the predecessors' investigation and analysis of the regional environment, which is conducive to "adjusting measures to local conditions" in the pursuit of good luck, avoiding bad luck and receiving good fortune. It is the reflection of the concepts of the universe, nature, environment and aesthetics, and it carries out unified thinking on the ecological, human and visual environment.
 - (8) Creation of poetic and picturesque meanings: The art of garden poetry and prose is integrated into every detail of the architecture. For example, the artistic conception of poetry and painting and garden poetry and prose are mutually expressed, and the beauty is overflowing. The main expressions of poetic conception are "spring out of secluded rock", "picking chrysanthemum east fence", "deep mountain nostalgia", "pine wind autumn sound", "blowing water and clear spring", "mountain pavilion hidden green", "autumn river fishing", etc.

Table 1. The relationship between traditional culture and the theory of artistic.

Traditional culture	Cultural thought	Artistic conception theory
Taoism	"Inaction" Nature, heaven and man	The idea of immortality and nature Emotional expression and space extension
Confucianism	"Benevolence", "neutralization", hierarchy "courtesy"	Spatial contrast and strict order
Buddhist thought	Zen buddhism	Place spirit and ecological design
The location of a house	Superstition and experience	Analysis of surface water, mountains and facies
Poetry and painting	Poetic charm	The art of poetry and scenery

2.2. Space Experience in Traditional Gardens

- (1) Spatial layout: The layout of the north and south garden buildings varies according to the regional style. The overall spatial scale of the courtyard garden is small, but it is flexible, compact, small, medium and large, belonging to the introverted courtyard. What is different from the royal garden is that it pursues a larger scale of symmetrical space. It combines more extroversion with less introversion. The stability of the layout of the internal space forms a sharp contrast with the openness of the external space. It can experience the psychological experience of privacy, openness and other psychological experiences brought by the space transformation during the garden walk. The order of the main makes the overall space rhythm changeable and full of changes.
- (2) Space sequence: The small spaces with their own landscapes connect with each other through paths. Throughout the space sequence of Jiangnan gardens, it can be summarized as prelude - guide - sublimation - end. The space paths connect with each other through connecting corridors, bridges, garden roads and other forms, and form different space levels and visual perception through the guidance and concealment of space landscape elements and landscape construction methods.
- (3) Space level: the space layout "separation", "transparency" and path guidance are skillfully combined to create a changeable artistic space of foreground, middle view and prospect. In addition, the space is strengthened by combining the water surface layout of "big division and small gathering", the stone culture of "one fist replacing the mountain", the main architectural form, and the theme of vegetation landscape, and the space and nature are connected "like heaven" according to local conditions, It leaves the viewer with the feeling of "feeling the scene", "seeing the scenery everywhere" and "seeing everything". [9]

Through the field survey, the landscape experience of staying in the garden, namely the gardening method of expressing space and artistic conception, is emphatically analyzed (Figure 4):

- 1) The spatial layout is dense, and the northern courtyard space is an open landscape area, which is the use of "sparsity" in gardening methods.
- 2) The waterscape part of the center gives people an open space to enjoy and contrast with the surrounding rockery vegetation in dense space.
- 3) The water area is divided into three parts by the pavilion corridor island in the park: large water area, separated small water area and winding water tail. The comparison of water area reflects the design principle of following nature in classical gardens, suggesting that the water flow has no end and has a long history. In the center of the water area, an island and a viewing pavilion are set up to create a fairyland residence by borrowing the words "There are three gods in the sea, named Penglai, Abbot, and Yingzhou, where immortals live" from the Records of the Historian. The poems and articles are borrowed to achieve spiritual resonance.
- 4) Mingser Tower, Hanbi Mountain House and rockery form a pair of scenery, surrounded by mountains and rivers as if in the water. It uses the philosophy of "the mind cannot be outside" and "the unity of man and nature" to express the emotion of the stone waterscape.
- 5) The mountains and forests in the west of the courtyard are denser than those in the north.
- 6) The use of point view in the courtyard is to form the focus of vision within the area of Guanyun Peak and form different vision angles.
- 7) The corridor forms a closed landscape space around the building and courtyard courtyard, creating a feeling of peace and quiet.
- 8) The space is flexible and changeable, resulting in different virtual and real spaces, combined with frame, leakage, penetration and other landscape construction methods.
- 9) The orderly form of the Five Peaks Fairy Hall forms a different spatial contrast with the outside world. The Taihu Lake stones placed in the water outside the house form undulating mountain stones to bring about the artistic conception of mountains and rivers. The communication with the outside world carries out spatial transformation through windows, doors, etc., and permeates the flow in space.
- 10) The density outside the building has a distinctive spatial landscape, forming a landscape space contrast. Like the method of painting, the space becomes a virtual background, which well sets off the scenery in the park.
- 11) After several narrow spaces, the waterscape of the central courtyard at a glance brings a sense of relief.
- 12) From the entrance to the courtyard space, the Taoist concept of yin and yang is used to bring the space design and experience of "open - tight - open",

"straight - curve - variable", "bright - gloomy - bright", to compress the space and expand it in a narrow space.

To sum up, through the comprehensive understanding of traditional gardening methods, the theory will be formed into

logic, and the charm of traditional gardening art will be further explored through systematic research on the garden stay from the perspective of space viewing experience, space layout, path guidance, and element composition.



Figure 4. Line of sight analysis.

3. The Modern Language Expression Strategy of Mount Tai Culture in the Courtyard of Home Stay

3.1. The Application of Xiangdi's "Feng Shui" Theory

In the architectural design, try to sit north and face south to ensure sufficient sunshine. In the water body design, some details should be considered, such as the water should not be too close to the house, otherwise it will have adverse psychological and physiological effects on the residents; In plant design, the proverb goes, "peach and willow are planted in the east, gardenia and elm are planted in the west, plum

3.2. Human and Nature, Experiential Design

and jujube are planted in the south, and apricot are planted in the north", which means the summary of the interaction between plants and the environment, and the harmony with the environmental feng shui should be taken into consideration when the plant configuration is reasonably arranged. Professor Yu Kongjian, in an interview with the reporter of National Geographic of China, proposed that western scholars affirmed the science of geomantic omen, saying that geomantic omen is "the art of making people live in harmony with the earth, achieving maximum benefits, and achieving peace and prosperity through the choice of the best space and time." It seems that the awareness of geomantic omen in gardening will become a characteristic gardening method to express the "Chinese style" environmental space.

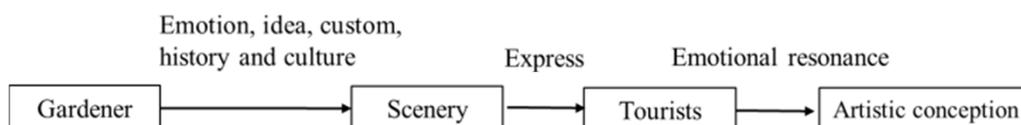


Figure 5. Artistic expression.

3.2.1. Human and Nature

"Harmony between man and nature" (Figure 5) is the harmony between man and landscape, which is reflected in the modern courtyard design, paying attention to ecological application and the use of non-polluting materials. Gardening methods should conform to the seasonal changes of nature, pay attention to people's own feelings, use sight, hearing and hearing, and integrate with the overall courtyard. They should be good at using the physical treatment methods of light and shadow changes and the combination of plants and buildings. For example, reflecting the shadow of trees and corresponding to the pool water. Through the mottled light and shadow of wisteria leaves, we can experience the beauty of artistic conception. Moreover, science and technology are used to assist modern landscape, such as water resources recycling and regeneration, roof and wall greening, etc.

3.2.2. Experiential Design

As far as the traditional "artistic conception" is concerned, it embodies the highest state and artistic level of Chinese traditional gardening methods, and has aesthetic characteristics. Buddhist thought believes that "knowing is wisdom, knowing is environment, wisdom comes from the dark, and getting the mystery is true". People can understand different levels of scenes by virtue of their wisdom, so the creation of "artistic conception" should pay attention to the four words "blending of feelings and scenes" [10]. But for modern times, first of all, we can reshape from the aspects of psychological activities, extract the elements of natural elements, from point to area, create an infinite natural space artistic conception in the limited space area, and combine the design with space experience to achieve the main body's resonance with nature through sound, texture, light and shadow transformation, smell, etc. Secondly, it can be conveyed through the expression of material forms and cultural expression. For example, the Mount Tai stone inscription can be represented as a sketch, and Du Fu's poem "How about Dai Zongfu? Qilu is still green" was written at the gate.

3.3. Spatial Composite Representation

3.3.1. Space Layout

Modern courtyards can adopt the inheritance method of space type composition, refine and split the traditional space parts of different types and regions, and then reconstruct and combine the parts. The combination can be divided into the following variants: First, part of the space deformation can be carried out when the overall space layout is basically consistent, such as changing the shape and scale of local space. Second, the transition relationship between the architectural sketch and the courtyard environment has changed, forming a new space. Third, reshape the internal space form by separating space with virtual and real elements.

3.3.2. Space Sequence

The connection and transition between space and space form space sequence through path guidance, comparison, twists and turns and other methods is the landmark

construction method of Chinese garden landscape. The path design of modern courtyard is mostly affected by modern people's life behavior and psychological factors to achieve the design effect, such as using the undulation of the terrain, plants, structures and other appropriate shelter, the purpose of which is to shelter the ugly things to reduce the shelter, Let the pleasant and rich scenery such as waterscape be more displayed, and make people stop and rest to facilitate people's life behavior; Another example is to use the combination of plants and bushes to guide the path to stimulate people's tendency to explore the spirit, and let the viewer's feel the joy of discovering space.

3.3.3. Space Level

Most of the viewing modes that connect details to create rich space inherit the traditional landscape design, highlighting the word "borrow". It can be divided into "borrowing" space and "borrowing" time. On the one hand, through the "borrowing" of architectural sketches, there are borrowing distant mountain scenery, borrowing near prospect, borrowing eye prospect, etc. On the other hand, by borrowing time, you can borrow the scenery of spring, summer, autumn and winter [11]; Through sound and sensory experience, such as the sound of running water in the valley, the sound of birds, and the sound of music fountains. By taste, such as: Mount Tai native tree chestnut flower fragrance; Borrow form, such as the beauty of ornamental plant posture, antiquity, elegance and color. Borrowing moon scenery and moonlight are traditional Chinese gardening techniques. For example, in addition to the moonlight, the reflection of mountain shape and the color change of plants around Mount Tai Mountain in four seasons should also be taken into account in the design of water body.

3.4. Reinterpretation of Detail Elements

The expression methods of landscape detail elements are divided into repetition, replacement and interlacing. Repetition: mutual coordination among elements shows the harmonious beauty of art, and reflects the beauty of order to achieve the richness of expression content; Replacement: replacement techniques, styles, design ideas, etc. are conducive to increasing functionality and interest, improving the artistic level and design sense of the whole design space, and increasing the design connotation; Interleave: different landscape elements can be interspersed and used for reference when meeting the functions. The addition of courtyard level landscape can create different spatial landscape images, which is conducive to creating a diverse and interesting spatial atmosphere, increasing the functionality and viewing value, and achieving the harmony and unity of spatial beauty. Therefore, the combination and reconstruction of various means of expression is the main means of modern translation of elements. Reconstruction can also start from the texture of new materials, new structural changes, the integration of patterns and textures into modern symbols, and the application of color and light [12].

3.5. Visual Art Expression

3.5.1. Mutable Fusion

The transformation and integration refers to the transformation of the elements in the space layout, that is, the color, style, raw materials, structure and texture of the external beauty cannot be completely updated or completely conservative, and the form of transformation and integration is required to superimpose the perception of human vision and the comprehensive feeling of history and modern technology. Modern materials often use fair-faced concrete, anticorrosive wood, plastic wood, architectural glass, decorative glass, steel plate, steel wire, steel structure, aluminum alloy, weathering steel, permeable brick, etc. The replacement or combination of traditional materials such as tile, soft stone, gray brick, green brick, wood, white wall, wooden beam frame, bamboo, thatch, etc. has become an inevitable trend of historical progress. The

primary color and texture of materials are often used, and the comparative application of their texture is also the core. Texture can be divided into visual and tactile aspects, such as color, light, texture and transparency of materials in visual sense; Touch is divided into rough, delicate, soft and hard, dry and slippery. The material determines the texture experience of the furniture surface presented to people in terms of vision and touch. It is an important factor that affects the visual perception and skin comfort [13]. Therefore, each element cannot be separated from the space relationship to finally achieve unity [14]. For example (Figure 6): Mount Tai multi stone building, Yangxin Valley homestay on the eighth floor of Tai stone landscape integrates the regional style, and uses the transformation of lawn gravel, wall stone, and screen wall wood materials to strengthen the texture of materials and enhance practicality.



Figure 6. Conversion of materials.

3.5.2. Intentional Language

The use of symbolic language in modern courtyards can be divided into three forms:

- (1) Abstraction simplifies reorganization. For example, the words on the "Ruyi Stone Tablet" between Zhongtianmen and Yunbuqiao in Mount Tai are similar to the word "Ruyi". Some scholars believe that this is the concatenation of the two words "Ruyi" in cursive script, which is not only the original meaning of "Ruyi", but also the pictogram of "Ruyi" to express the meaning of "pleasant scenery and satisfaction" here. [15] "Ru" has been redesigned and arranged, and transformed into "Ru" character wooden window continuous pattern, which is applied to the yard furniture such as signboards and trash cans, and hopes to stay here for a long life and everything will be as good as you wish.
- (2) Realistic description. Realistic symbolic functions are mostly used to express meaning and create atmosphere. For example, the copper coin shaped drain well cover in Jingshan Park, Beijing, covers the shade and avoids the evil spirits. In order to reflect the Chinese style majesty, the dragon and pixiu sculptures in the courtyard are placed in the entrance landscape pool, creating an atmosphere of atmospheric space and courtyard.

- (3) Functional transformation. For example, with the change of the times, the function of stone millstones and agricultural implements gradually degenerates and changes with signs and marks, and changes into sculptures with ornamental functions to reflect the landscape style.

4. Conclusions

Through research, it is found that traditional gardens and modern garden landscapes are highly similar. Mount Tai gardens, whether in design philosophy or garden building methods, can summarize and form a theoretical system of specific application methods in five aspects, namely, "site selection, cultural thoughts and artistic conception experience, space combination, detail elements, formal beauty and metaphorical expression", based on the design connotation and created space feelings. Finally, we explored a new idea of homestay courtyard landscape design that has the significance of the times and covers local characteristics and is not restricted to external forms.

Author Contribution

The Manuscript was written through contributions of all authors. All authors have given approval to the final version of the manuscript.

Conflicts of Interest

The authors declare no competing financial interest.

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