

On the Application of “Leave Blank” in Architectural Design

Jiapan Wang

Qilu University of Technology (Shandong Academy of Sciences), Jinan 250300, Shandong, China

Abstract: The research analyzes the white space in architecture by combining the concept of white space culture and the application of white space techniques in traditional Chinese painting. Applying white space to architectural design, exploring the expression, characteristics and artistic conception of white space in modern buildings, and analyzing the use of white space in architectural design.

Keywords: Traditional Painting; Blank; Architectural Design

1. Overview of blank culture

As the name suggests, “blank” refers to the blank space deliberately left in calligraphy and calligraphy creation to make the whole work look more harmonious and beautiful, and the whole picture more complete and meaningful. The creative techniques with traditional Chinese aesthetics were first used in the art of Chinese painting. It can be understood as the absence of pen and ink in the painting, and it can also be raised to the spiritual level, which can be understood as the painter’s desire for painting. The example emphasizes the beauty of inner and anti-sculpture. In Taoism, “everything in the world is born of existence, born out of nothing”, it is proposed that “nothing is fundamental, to prove existence. The basis of existence, etc.” The use of brushes has become the essence of traditional Chinese painting. Throughout the history of Chinese art, whether it is landscapes, flowers, birds or calligraphy figures, there are basically blanks in every piece of work.

2. White space in architecture

The blank of space is the intention to leave uncertain and fuzzy places in the design of the exterior and interior of the building, thus forming a kind of “blank”. This “blank” space has both internal and external characteristics, and can introduce external environmental space into the indoor space to form a spatial expansion and connection. This “blank” part refers to the transition layer between the internal and external spaces of the building, and can also refer to the media space of the internal and external spaces of the building. When people pass through such a blank space, they will clearly realize the previous space and the next space. The transition between.

3. The use of white space in architectural design

“In order to integrate the building with the external environment, the facade of the building is used as a transitional space among them. It is necessary to adopt a certain design technique to connect the two spaces, so the white space design can be used in it.” The use of blank expression techniques can meet different needs in architectural design and make architectural design more attractive. Common forms of use are summarized into the following five types.

3.1 Central hollowing

The blanking technique of hollowing out the middle makes the building more three-dimensional, and the building entity and the virtual space of the external environment form a strong contrast, making the building more present and powerful. The CCTV headquarters building is a typical case of hollowing out the middle part. This kind of hollowing out design technique is generally common in high-rise buildings, mainly to satisfy its beautiful appearance and monumentality. The hollowing out design of the middle part provides the shape design of high-rise buildings. In a certain way of thinking, compared with traditional painting, the hollowing out of the middle is the blank in the middle of the picture, the evolution from two-dimensional space to the three-dimensional space. As one of the blank design techniques, the hollowing out of the middle is used to grasp the architectural structure technology and scale. It is very challenging.

3.2 Top hollow

The hollowed-out at the top presents a spatial structure in the building where the world is the top and the earth is the ground. It is a space form where the virtual and the real and the internal and external environments blend together, which well interprets the traditional white space ideas. The main forms of hollow top are atrium, patio, courtyard, etc., which have functions of transportation, rest, and viewing. Below the Jinan Olympic Sports Center are the halls and athletes’ areas for competitions. The entire building is hollowed out from the top to make the entire building space better daylighted, which not only gives the athletes a good sports field on the sports field, but also provides a better view of the audience. This kind of blank space blurs the boundary between the inside and

outside of the building, has a strong openness, and makes the building present a non-limiting state, and the building and the external environment are harmoniously integrated.

3.3 Overhead

Bottom overhead is the main form of blank space on the bottom of the building, which can not only make the building itself more tailored to local conditions, but also can be used as a composite space, such as leisure space, parking lot and other public facilities. In addition, this kind of white space design can make the building more dynamic visually. For example, the overhead of the Shenzhen Vanke Center building, known as the “floating horizon”, not only maximizes the green area, but also forms between the layers of skin. An ambiguous space is created. These spaces are not specific in terms of function. The designer gives everyone who lives here the right to choose the use and function of the space. Different users can respond according to their own preferences and behavior habits. Different definitions of space. From the perspective of architectural design techniques, the ground floor is understood as the base of the building. Through the overhead, the integrity of the environmental space is enhanced.

3.4 Partial hollowing out

Partially hollowed out designs often exist in the vertical or horizontal super-long buildings. This design method not only avoids the dull and monotonous architectural modeling, but also adds a lot of rich space to make the architectural space freedom within a limited range was released within. Designed by Stephen Hall and inspired by the “sponge” MIT student dormitory, the facade has not only the dense and regular openings like sponge, but also the digging hole that looks irregular but is designed according to the architectural function. The way opened up the building structure, making it “permeable”. The “blank” of different sizes of rectangles not only did not destroy the integrity of the long façade, but also weakened the sense of volume of the building, creating a large-scale division of virtual and real.

3.5 Additional framework

“The design of the additional framework blurs the separation between the building and the external environment, forming a transitional space, that is, a blank space. Common forms of additional frameworks include overhangs, framework columns, etc. This framework not only has the actual functions of shading and sheltering from rain and organizing traffic, but also plays an important role in the connection of internal and external environments and the division of space. “The overall design of the library of Qilu University of Technology is a rectangular building, which looks like a “□” character, highlighting the characteristics of the University of Technology. From the simple shape, the external top space supported by the pillars on both sides of the building forms a gap between the building and the external environment. The blank space emphasizes the contrast between the virtual and the real of the building, which is full of changes, and the volume of the building is weakened. With the blue glass, it presents a sense of floating and virtual.

4. Conclusion

The thesis tries to establish a theoretical system for evaluating architectural design through the combined research of the “blank” culture of traditional Chinese painting and architectural design techniques. The research of the thesis focuses on how to understand the procedural role played by architectural design as a part of practical activities, so as to understand the status of architectural design on the broader background level of human practical activities on nature, and examine the rationality of architectural design techniques. The research of the thesis does not take architectural creation and creativity as the research goal, but provides a test standard for testing whether architectural creation and creativity can meet a broader range of value standards. The blank creation technique can extend from the art of Chinese painting to the architectural design, which shows that the relationship between architectural design and Chinese painting is similar. The technique of white space not only enriches the layering of the architectural modeling and forms the contrast between reality and reality at the physical level, but also integrates the architectural space and the external environment, generating artistic conception and association, and forming a spiritual continuation.

References

-
- [1]Sun Jing, Construction and Blank [D]. Shanghai: School of Architecture and Urban Planning, Tongji University, 2006:67.
 - [2]Xie Hua, Lu Shuxian, “Leave Blank” technique in architectural modeling design application analysis [J]. Chinese and foreign architecture, 2019.9
 - [3]Bao Yinghua, Zhang Lingling, Sustainability analysis of architectural space blanking [J]. Huazhong Architecture, 2008(1):93-94.
 - [4]Liu Qiming, Dong Ya, “Leave Blank” thought in contemporary architectural creation [J]. Architecture and Culture, 2014, 5
 - [5]Hou Youbin, Chinese Architectural Aesthetics [M]. Harbin: Heilongjiang Science and Technology Press, 1997: 282.
 - [6]Xie Hua, Lu Shuxian, “Leave Blank” technique in architectural modeling design application analysis [J]. Chinese and foreign architecture, 2019.9
 - [7]Pan Chiyu, the use of blank techniques in traditional Chinese painting [J]. The big stage, 2015.4
 - [8]Zong Baihua, Shen Xiaoying, Aesthetic Walk [J]. Teaching Monthly · Middle School Edition (Politics Teaching), 33 pages