

Application and Research of Master Works Analysis in Architectural Design Teaching

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Abstract

This paper discusses the characteristics of the course of architectural design and the importance of analyzing the master works to the course. At the same time, this paper introduces the methods of analyzing and learning the works of architects from the three dimensions of "environment", "form" and "space".

Keywords

Master architects, case analysis, teaching of architectural design.

1. The course characteristics and research background of architectural design

The study of architecture involves many aspects, such as architectural art, design principle, building structure, building construction and so on, among which the course of architectural design is the core course of architectural specialty. This course is offered after Architecture Preliminary in the first year of the university, from the second year of the university to the graduation design in the fifth year of the university.

Architectural design course is taught in the way of "tutorial system" in most architectural colleges and universities in China. The class time is mainly to solve design problems and draw design drawings, which is roughly divided into five stages: investigation, first draft, second draft, third draft, positive graph. Students have the opportunity to learn that the case of master works is in the early teaching stage and the research stage, in which the research stage is mainly to analyze the problem. Architectural design is regarded as a process of problem solving, and the analysis of the problem becomes very important, the method of graphic analysis is introduced into the design teaching [1]. Obviously, students do not have much contact with master works, and the learning time of excellent architectural cases is obviously not enough, especially in the lower grade stage, this phenomenon is more obvious, so it is urgent to set up a special teaching link to analyze the excellent master works.

2. The method of analyzing master works

What if the master works case is not understood and nothing is achieved? How can a good building be judged for its advantages? Then from the following three dimensions to analyze and learn from the master works: environment, form, space.

2.1 Environment: how does the building respond to the external environment?

Here we give two examples that everyone is familiar with, for example, when we show Wright's Falling-water Villa to a layman and ask him what is good about the villa, he may say it looks good, but he can't tell why. And from an environmental point of view, why did Wright make the building into a suspended form? Because this will allow more blending between the building and the running water, see Fig. 1. We can imagine that it would be a strange thing to put such a villanette in an urban environment. It only works in this environment, so it responds appropriately to the environment [2].

Another example is the Poli House, building in Chile, which is located on a seaside, see Fig. 2. We can see that, Poli House feels completely different from the Falling-water Villa, and it responds to its environment. Poli House's environment is sparsely populated, full of pastoral scenery, endless oceans, and hard rocks. So in such an open environment, can you make a very thin building? The answer is

no. What about making a building with heavy artificial traces? Of course not. The Poli House wall is thick, the color is also integrated with the surrounding environment, the surrounding environment is also an open attitude, such as large open windows.



Fig. 1 Falling-water Villa



Fig. 2 Poli House

Through these two examples, we find that architecture needs to respond to the environment. What about in an urban environment? For example, the next time you look at a building on a street corner, you can't just look at its shape, but see how it responds to the streets of the surrounding city. The enlightenment to everyone is to judge the quality of a building from the environment, and learn how it talks and echoes with the environment.

2.2 Form: how is formal language unified?

When dealing with architectural modeling, you often make the mistake of trying to pile up everything you think is good. Yesterday looked at a Kahn window, the day before yesterday looked at a small corner of Siza, then saw a SANAA arc shape three days ago and so on. These things ferment in the mind, so it's easy to put all of these into use when designing a building. Then I will also feel that my design vocabulary is very rich, in fact, this will show a kind of architectural language confusion and disunity of the consequences, which is a common mistake.

So, when you go to see some excellent master works, you should take such an eye to see what design language he has used, what formal vocabulary he has used, whether these formal vocabularies are unified, and how they are unified. How to use less formal language to achieve the enrichment of space? Let's still give two examples.



Fig. 3 Wexner Center for Visual Arts



Fig. 4 New Nanjing Massacre Memorial Hall

For example, the Wexner Center for Visual Arts in Eisenman, see Fig. 3, regardless of whether it belongs to structuralism or architectural schools, we only look at its architectural form. Majestic, sturdy, thick colors and very small windows give a steady visual feature. However, the white shelf on the right is on the contrary, it is thinner, transparent and empty. Therefore, it can be concluded that the left and right parts of it are unified in formal language. The architectural vocabulary on the left is "volume" and "geometry", and the architectural vocabulary on the right is "member"[3]. However, it is still conceivable that if in the architectural design, on the basis of "volume" and "bar", coupled with "plate" intertwined, it will certainly be a very messy architectural form.

For example, the New Nanjing Massacre, it is not difficult to find its architectural vocabulary is sharp, turbulent, sturdy, heavy volume, see Fig. 4. If a round window is opened on such a volume, the architectural form vocabulary is contradictory. If a very light sheet floats in such a heavy building, it

would be a bad design [4]. Plates and volume, light and heavy, such a pair of architectural vocabulary is contradictory.

Therefore, we can draw a conclusion that if a architectural form is to be unified, then it must be a result of the organization of only one or a few non-contradictory architectural vocabularies. After this standard is established, it can be used to analyze other master works in the future.

2.3 Space: space is the protagonist of modern architecture

"Space" is often a more vague concept, if given a relatively simple explanation of "space", that is: judging the quality of an architectural space depends on how people feel when walking in the building. For example, Barcelona Pavilion by Mies, see Fig. 5-6, to judge whether a space is good or not, we can create a three-dimensional space in our minds, take ourselves into the scheme drawings, and imagine what you see as you walk, imagine where you'd like to stay. If these feelings are all right, this is a good space design. First of all, the entrance is in the east, and when we enter through the entrance, we enter along a wall and turn west at the end of the step, what kind of spatial experience is this? This is not only a sense of ritual, but also an emphasis on the entrance to the building. A wall to the west guides your eyes forward, and you will see a pool of water, and the spatial experience is attracted by the scenery. And in the back of the pool, there is a screen wall facing the gate of a house, so that the line of sight will stay in the center of the pool, it will not see through at a glance, so as to obtain a more comfortable space feeling. Then continue to turn along the edge of the pool, and you will find the roof above your head, creating a strong desire to enter the interior of the building. In addition to the suggestion of the roof, a large area of concave space in the plane also has a hinting effect [5]. Enter the exhibition hall and turn right, and the flow of people for the purpose of watching the exhibition will enter this square and open space. This space is magnified here, there is a sense of encapsulation, so it makes people want to stay here more, which is the climax of the whole spatial sequence.



Fig. 5 Barcelona Pavilion

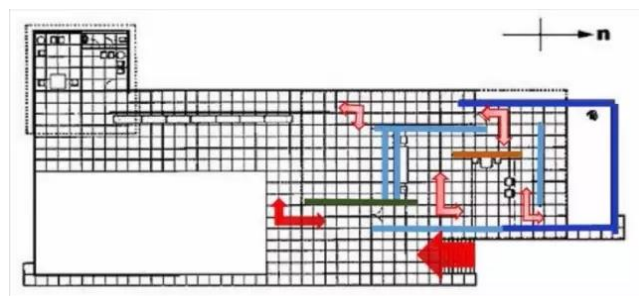


Fig. 6 Barcelona Pavilion

Turn east through the exhibition hall and you will see another pool. The flow of people for leisure may be attracted by the distant waterscape and continue to move forward. This is also a linear space, and the sculpture in the pool has become a reference point in the process of moving. One of the students asked, would it be better if the sculpture were facing the route? In fact, if the sculpture is just in the middle of the route, it will bring a solemn feeling, and if it is biased to one side, it will bring a sense of ease and pleasure. Meanwhile, as you move, you will see different sides of the sculpture, thus making the whole journey more interesting. After turning left, follow the guidance of the wall and walk out of the building, you're not out of the roof coverage yet. Follow the guidance of the right wall to continue, you can see a open square space. At this time, you can stop in this space and finally walk out of the building. So you finish the whole tour streamline.

3. Conclusion

Architectural design is a process of practice making perfect, so how to do it? The first is to start with the study and analysis of the excellent master works, see more and think more, copy and draw the necessary cases, until fully understand the design experience of the architect. When you see this design technique for the second and third time, it becomes your skill; when you see this design technique for the tenth and twentieth time, it has been internalized into your own instinct and intuition.

Thus it can be seen that the analysis of master works is particularly important for the study of architectural design.

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