

Research on the Influence of the Application of Projection Equipment on Art Teaching

Wang Zhen

College of Art & Design,
Zaozhuang University,
Zaozhuang, Shandong, 277100

Abstract—This paper mainly analyzes the necessity of using projection equipment in painting. And the major forms of painting creation are used to analyze the advantages and disadvantages of the application of projection equipment with the hope of developing the strong points and avoiding the weak ones.

Keywords—*projection equipment, art teaching, image*

I. INTRODUCTION

The application of projection equipment has always been a disputable forms in art teaching. It has always been said that this is a kind of cheating and is a short cut of no benefit to the study of painting. By sorting out some artists in the history of fine arts and the characteristics of their works, this paper states that in fact the use of projection equipment is a long-standing fact in painting creation, thus proving the necessity of the use of projection equipment. And the major forms of painting creation are used to analyze the advantages and disadvantages of the application of projector equipment with the hope of developing the strong points and avoiding the weak ones and making modern equipments better serve the ancient industry of painting.

II. PROJECTION EQUIPMENT AND THE HISTORY OF PAINTING

According to the verifiable historical data and paintings, we can prove that since the early fifteenth century, there have been artists in the western world using optical devices for artistic creation. Of course, the equipment at that time was mainly raw and rough lenses, which were quite different from the projection equipment we use today, but the essence was the same [1].

Through reading historical works, we can read a book named Brunellesky's Biography, which was completed in the 1470s. One paragraph about Brunellesky's display of panel paintings he was going to create in 1412 recorded clearly the painter's application of lens and projection. "The viewer has a 30-centimeter square panel painting in one hand, and through a small hole in the back of the panel, he can see the actual baptistery. The viewer then holds up a mirror with his other hand, and what he sees in the mirror is exactly the same image, but this is the reflection of the baptistery depicted on the front of the panel. When the distance between the mirrors is appropriate, it is difficult to distinguish between a painted auditorium and a real auditorium. In order to strengthen the effect of illusion, what Brunellesky used was not pigment but

polished silver foil when painting sky. As a result, skylight and cloud shadows float in the background of the painted image. "[5] Because of the age and other reasons, Brunellesky's painting is not saved, but we can be very sure of the painter's application of projection through this paragraph.

With the systematic inheritance and development of painting knowledge, we can see the emergence of a great painter -- Caravaggio in the 16th century. There is no literature about how Caravaggio painted, but we can know that he painted very fast through the completion time and quantity of his works. From the study of his residence we can see that Caravaggio was a painter who liked a dark studio. A strange man who had made a hole in the ceiling caused his landlord to complain. A list of possessions requires a special mention of collectors who have eleven "pieces of glass"... Judging by the comments made to him at that time, he was still a bad example of "ignoring" the sketching craft and not being a good model for the industry.[2] The combination of all above-mentioned elements immediately leads us to an answer which is the application of projection. Vermeer, as a successor to Caravaggio, also has these seemingly strange painting characteristics. This is not an accident, but a reflection of the time, which also shows the impact of projection technology on painting. By the 19th century, the art of painting had been further developed, and some paintings not only gave people a real and delicate feeling, but also presented the world with an inconceivable precision. Take Ingres as an example, his "Portrait of Leblanc" was painted in 1823, about 15 years before chemical photography. From his works, we can see the knitted fabric with very complex patterns. There is no generalization of the knitted fabric in the painting. Every fold, twist and shadow are naturally, truly and deftly drawn, and there is nothing childish at all. Of course, some people would say that Ingres must be a genius with the highest observation and painting skills to draw such works with his bare hands, but even so, to complete such a work with such accuracy requires a lot of painstaking work for a long time. Then by combining with Ingres' real life, we can find that he was walking in all kinds of social occasions with all kinds of honors in his lifetime. How did it happen for him to spend so much time to create so many works?

The emergence of photography technology enables more painters to understand the existence of projection technology, which also makes this technology more popular, resulting in more ideas to use images and projection. In the 20th century, there were even more painting schools with obvious use of

images, such as American precisionism. After seeing the works of Charles Sheeler, the representative painter, we can see that they respect objective facts and try their best to restore the real face. The picture gives people a real sense of the scene, and the abstract factors are hidden in the contrast formed by the expansion of the details of the form. Images are used in a large number of works of pop art, and a large number of projection sketches can be seen in Andy Warhol's sketch manuscripts. The extreme use of projection belongs to photorealism, whose representative artist is Charlie Klose. It is believed that most readers can read the characteristics of photorealism through the word of photorealism without further introduction of his artistic features. This genre is influential and controversial, and the focus of the controversy is the unchanging use of images for creation mechanically. But the significance of its existence also lies in the fact that the mechanical accuracy can be achieved by hand to shock the viewers' vision.

In contemporary times, we can also see the popularity of projection in painting. Take the realistic paintings in China as an example, basically, the works will reveal the feeling of image Mosaic, recombination and reorganization. The jury of the national art exhibition in 2014 pointed out this issue directly. Although it did not put forward a clear derogatory meaning for this creation method, it also proposed that painters should draw more sketches through observation.

So far, it can be seen that the application of projection technology in painting has a long history, but it has not been fully recognized by the orthodox system. The reason why the method known by insiders has not been fully affirmed is that there must be considerable controversy about the application of projection.

III. THE ADVANTAGES AND DISADVANTAGES OF PROJECTION EQUIPMENT IN PAINTING

In fact, the use of projectors in painting is similar to the current popular culture in which some people pursue and denigrate Korean dramas. Followers will definitely use it, because it brings convenience to the users. The advantages far outweigh the disadvantages. But I'm sure there are a number of detractors who don't use projectors to paint. Therefore, such subjective conclusion is not objective. According to the author's personal use and teaching experience, the advantages and disadvantages of projector in the application of painting are listed as follows.

Advantages: Firstly, the greatest convenience that projection equipment brings to art workers is that they can quickly and accurately outline the profile of objects, especially for people with weak modeling ability, which is a kind of liberation for hands and eyes and enables them to devote more energy to the study of color. Secondly, it is the depiction of details, which is also a continuation of the previous point. Human eyes' energy is limited, especially in the super-realistic painting works. Due to the emphasis on complete objective realism, the depiction of details has become the peak of this group of people. Usually, people's visual perception of images without deliberate preparation is just a subjective selective imaging. Due to the influence of occupation, emotion, personality and pragmatism, our eyes will only look selectively.

Most of the image information is just passing by. We can't recall the details of an object by ourselves in most cases. It is the same to those who have experience in painting. In the face of complex objects, the treatment of small and complex shapes is not only a matter of time and experience, but also a rational and orderly observation and examination. In fact, it is really difficult or impossible for us to completely reflect objectivity with our naked eyes, such as leaves, hair, knitting patterns and so on. All of these can be accomplished relatively simply through projection equipment and the error rate is very low. Based on the above advantages, the application of projection equipment in the copying learning of beginners can make them better understand the modeling advantages of the original work. And from the psychological point of view, they first achieve the "image" in painting, which lays a good psychological foundation for the subsequent continuing learning and indirectly increases students' learning enthusiasm.

Disadvantages: The disadvantages of projection equipment are more likely to appear in the use of beginners. Firstly, it is an obstacle to the improvement of modeling ability. They rely too much on projection equipment and do not understand the real volume and spatial relationship of object modeling. In this state of chaos, it can only see the light and shade. The outlines are just meaningless lines. The final image is either not drawn the focus of the structural line, or the confusion of the primary and secondary structure lines. Once the projector isn't used, they can't find the idea for continue painting completely. The last outline effect is far from real object with rigid and lifeless. Secondly, it is easy for users to underestimate the practical significance of sketch, and even omit the draft before formal creation. The overuse of projection equipment can make the work excessive as the image. Although art comes from life, it is higher than life, especially painting art. If painting is excessively like images, it actually negates the meaning of painting itself. This is often the main reason opponents use to criticize the application of projection equipment.

IV. OBJECTIVE VALUE OF PROJECTION EQUIPMENT

Take super-realism as an example. It gradually became popular around the world in the late 1970s. The artistic elements of this school are "verisimilitude" and "likeness". It must reproduce reality in a purely objective and truthful manner. [3] We are usually shocked by their realistic effect when first seeing these works, and then it makes us think about how to do it. In fact, artists do not draw directly from life. They tend to take in the image they want with a camera and then copy it onto the canvas blindly. Sometimes they use a slide projector to project pictures onto the screen, creating images that are much larger and more accurate than those seen by the naked eye, and then tracing them exactly as they are. Photorealism succeeded, and it left the best evidence for the application of projection equipment in painting. We may not know the philosophical connotation of photorealism, but it is at least accepted by the world as a successful art genre. So we don't have to think about whether this is cheating or not when using a projection device. However, it cannot overuse projection equipment based on this point. Art is diverse. If we discard thinking for convenience, it deviates from the original purpose of artistic creation -- to transfer ideas. [4]

The accuracy and fineness of the projection equipment make it dazzling and irresistible, but as an artist, if he can only stay in the dark room forever to make his own creation, it will make him fall into the craftsman's production. Sooner or later the vigor of art will wear off.

V. CONCLUSION

Through the above analysis, it can be concluded that there is no absolute right or wrong to pursue or resist, so does the application of projection equipment in painting. Everything has double-sided nature. Thinking back to the essence of painting, painting is still a spiritual product of human beings. In the process of creation, projection equipment is only a means for creators to achieve their goals. The most important thing is to better and faster realize artistic ideals.

Projection equipment is mainly used in the field of realistic painting. From the perspective of documentary, how to record of details is the key. There is neither lowliness nor nobleness for the means to realize it. What we emphasize is good or bad of the final effect of the picture. Therefore, whether one's

works are created with projection equipment or not should not be considered within the scope of artistic creation. And to those who learn the creation of painting, they need to appropriately use it. While using equipment, they should strengthen the training of sketching from life to coordinate eyes and hands, thus abandoning those bad factors naturally.

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