Visual aesthetic in the restoration of Qin-zither damaged lacquer surface: taking the restoration of ZhuSe Qin-zither as an example

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Abstract. For Qin-zither with Literati and artistic temperament, there are high requirements for visual aesthetic in the restoration of damaged lacquer surface. In order to avoid the subjectivity and uncertainty of the traditional restoration method, the role of visual aesthetic in Qin-zither lacquer restoration is studied. This article proposes using the figure-ground visual relationship to analyze the figure-ground relationship between the patching surface and the original surface, assisting in restoration decision-making. During the repair process, the main lacquer patching range and shape are determined based on the visual balance of the composition. According to the final aesthetic effect, the grinding and painting repair method is selected to achieve a beautiful patching lacquer surface with different color layers in harmony with the original lacquer part. In the process of Qin-zither restoration, the visual aesthetic is permeated in the processing of figure and ground relationship, the harmony between the patching surface and the original lacquer part and the creation of lacquer layer.

1 Introduction

The Qin-zither has its own unique features with different color lacquer decoration due to its manufacturing and restoration habits[1]. During the Tang and Qing dynasties, there were painting habits such as using different paint colors, usually black and red lacquer, or using chestnut shell color to cover black lacquer, during the manufacturing of Qin-zither [2]. Mr. Zheng Minzhong also mentioned this in his book[3]. When restoring the lacquer of Qin-zither, different lacquer colors are used to paint and repair. People do not care about this, but instead use different lacquer colors mixed with the original lacquer surface to make it more beautiful [4]. For the literary instrument, which is also a work of art, there is a high standard for visual aesthetic in the lacquer restoration. Traditional lacquer restoration presents subjectivity and uncertainty in the restoration effect due to the differences in the personal aesthetic taste and craftsmanship skills of the restorer. With the spread and acceptance of mainstream Western restoration concepts and methods in China, Qin-zither restoration has become more objective in its practice[5-8]. This article takes the restoration of ZhuSe Qin-zither collected by Hunan Museum as an example to explore how the visual aesthetic can assist in decision-making during lacquer restoration, ensure aesthetic balance between the lacquer repair surface and the original surface, and achieve the overall visual beauty of the lacquer surface.

2 Damaged condition of ZhuSe Qin-zither

ZhuSe Qin-zither in the collection of Hunan Museum is a sunset-style instrument with a total length of 123 centimeters, a hidden length of 114 centimeters, a width of 17.5 centimeters, a shoulder width of 20 centimeters, and a tail width of 14 centimeters. The surface of the instrument is carved with Wutong wood, and the bottom is carved with catalpa wood. The surface of the zither is painted in vermilion, while the bottom is covered with a large area of chestnut shell paint, revealing the distinct layers of color paint. The surface of the Qin-zither has no broken grain, and although the broken grain on the bottom of the zither seems to be a fake, regardless of whether the broken grain on the bottom of the zither is real or fake, the numerous lacquer cracks that are distributed still have the morphological characteristics of broken grain. The Yueshan and Yanzu wheels are missing, and two of the protective covers are missing. The dew-bearing, crown, and dragon gums have fallen off. The main types of damage include cracks, missing parts, and loose lacquer, focusing on the surface, bottom, side walls, and accessory areas of the zither. Among them, there are many dents on the surface of the zither, the wood is exposed, there are cracks on the inner wall between the fifth and seventh emblems on the surface, the paint on the waist and tail of the Qin-zither has largely fallen off and is accompanied by insect infestation, there is a longitudinal crack from the bottom of the base plate to the center of the dragon pool, and there are many paint peels (broken cracks).
before the paint repair work, it is necessary to analyze the organization of existing repair surfaces on the zither's surface and their relationship with the damaged area. According to the figure-ground relationship proposed by gestalt psychology, the numerous repair marks and overlapping paint repair patterns have both a figure and a ground[5]. The figure and ground have complementary relationships, and different visual cues form complex figure-ground relationships.

In Figure 2, the large irregular defects in the tail (Area A), waist (Area B), neck (Area C) and guard (Area D) regions show clear and strong relationships with the background in visual perception. They spontaneously emerge as "figure" from the overall red lacquer "ground". When we actively shift the visual focus from the damaged area to the non-damaged part, the lower layer of chestnut shell lacquer patterns are relatively easier to be visually captured, advancing to "figure", while the upper layer of lighter lacquer is turned to "ground". However, as red and chestnut shell are close in color, compared to the damaged area, the surface painted by them is easier to be perceived as the same overall "ground".

Therefore, with the coordination of the visual form of the figure and ground, it is possible to determine whether the repair surface belongs to the "figure" or the "ground" on the Qin-zither surface. It is necessary to determine whether to use backward processing to weaken the damage repair to the "ground" or forward processing to highlight it as the "figure", then to determine the overall color trend, paint range, and paint repair form of the lacquer layer, and finally create a hierarchy between the original paint surface and the newly repaired surface.

There is a serious damage on the surface and the large scope of the damage needs to be restored. If the new patching surface is too close to the original red lacquer surface, the new and old lacquer surfaces will be too close in color, and both will participate in the visual experience together, which will to some extent destroy the visual aesthetic effect of the original lacquer layer. From the perspective of the original lacquer surface state, it is a better approach to treat the incomplete and cracked patching surface as a whole in the same color hierarchy structure as the "figure" (black lacquer patching surface). The original red lacquer surface that retreats as a visual background will still maintain visual aesthetic continuity on the "ground" surface, so that the newly patched black lacquer surface does not join in the original lacquer layer visually, and the figure and the ground are at different levels and coordinate in the whole. It not only retains the integrity of the historical information and visual perception of the unpainted patching area, but also enhances the aesthetic value of the lacquer surface. The overall restoration is shown in Figure 3.

Figure 3 Baseboard of Zhuse Qin-zither after the restoration
4 Aesthetic balance helping clarify the scope and shape of lacquer patch

Based on the location and scope of each damage, the paint repair scope is determined by the visual balance of the composition in the bottom of the zither. By relating the characteristics of the repair patterns on the same lacquer surface, the organization of the lacquer repair shape will have more aesthetic features. For example, for the large crack (at C) on the Qin-zither neck, in order to weaken the presence of the crack, and remain the historical information of the inscription in the middle, the two ends are filled with deep paint, forming a single paint repair shape with the incomplete repair surface on the side. The crack at the inscription is simply reinforced with pressed filler, leaving the long crack intact, which also happens to form a single whole with the surrounding inscription marks. Other smaller damages also need to take into account the organizational effects of other main repair surfaces on the zither surface as a reference object, considering visual balance, expanding and adjusting the paint repair scope and shape, and embellishing it, so as to form a more coordinated composition.

As shown in Figure 4, the damaged area of the waist is the visual center of the instrument. Due to the obvious black lacquer repair traces around Yanzu (at AB), the overall color tendency of the adjacent incomplete area (at C) and the large area of lacquer damage on the waist (at E) is treated as a consistent black lacquer and merged into a whole. However, there is only a small range of damage (below E) near the outer wall. According to visual balance, the direction of the lacquer layer area on the left side is extended using dark brown lacquer (the original color of lacquer), thus forming a balanced lacquer structure with the incomplete patch surface at C, which clearly meets the aesthetic requirements of visual form. This area actually has a small range of damage. In order to ensure visual beauty and reduce the "addition" of lacquer repair materials, only the last layer of lacquer is applied to the extended surface of this area. The thin coating of transparent lacquer liquid can effectively make the underlying red lacquer patch and the dotted black lacquer appear subtly, forming a patchwork graphic with aesthetic characteristics.

5 Aesthetic color layers obtained by the grinding and painting process

The creation of color layers on the paint repair surface is both a reflection of the identifiability principle in the restoration process and a key step in achieving the visual aesthetic beauty of the paint surface. First, the overall color tendency of each repair surface is treated as a dark paint, which distinguishes it from the original red lacquer surface. Referring to the color and shape of the original lacquer surface and other repair surfaces, different lacquer color layers are applied and polished to create a rich layered dark surface that conforms to the visual form beauty. Therefore, simply examining the lacquer color and shape of the paint repair part, including the virtual and real shades, can also reveal its strong connection with the original lacquer layer, vividly expressing the imagery characteristics of the original lacquer layer. The polishing process is more like a "grinding and painting" technique, not simply grinding down, but grinding out irregular free forms based on the morphological characteristics and the concave and convex state of the patching part. In this step, it is often necessary to expose the layers of gray substrate that are first repaired in the lower layer, which can create a subtle and natural beauty of the patching surface, and is easier to harmonize with the original aged lacquer surface.

The long vertical crack at the waist E in Figure 4 is the rough paint repair trace of predecessors. After filling the local defects and depressions, it was polished together with the gray paint repair trace. The underlying raised cracks and fractures gradually became clear, and the red paint surface covered at the edge also appeared. Following the crack pattern, the original rough paint repair trace also formed a regular pattern. At the same time, the multiple layers of old paint layers and new gray layers of different colors superimposed on the bottom were also polished out at the edge, forming a rich layering effect, as shown in Figure 5.

The specific restoration treatments include reinforcing the underlying structure and painting the surface. The lacquer at the waist E is dented, and the paint along the broken grain is filled and sanded. The paint at the dent part is preserved following the broken grain pattern. The appropriate location for paint filling is selected, using the characteristics of the fracture pattern and the state of the disease, laying the foundation for the exterior layer.
The surface painting and grinding techniques on the gray tire are as follows:

The first round of red outline and polishing: simply cover the lacquer dust as a primer to prepare the underlying color lacquer. This is also a basic treatment. From an aesthetic point of view, the black and star-shaped deer horn lacquer on the lower layer will be exposed during polishing, as well as the deep red substrate added to the deer horn dust. The second round of redrawing and polishing (Fig.6): based on the surrounding morphological characteristics, the basic shape is expanded and the aesthetic nature of the shape is added to form a natural morphological image. The painted surface after polishing in the middle part has rich color layers and the overall color is dark, which is in line with the overall color trend, so it is retained and not redrawn. Together with the newly added reddish brown paint on the top and bottom, it adds subtle horizontal layers of vision. During the polishing process, the darker chestnut shell color paint on the lower layer is revealed with the star-shaped deer horn dust, showing the cloud-like layers with more abundant and natural sense of history. The polishing at different positions varies in weight, and the wear amount of the paint layer varies, thus presenting more subtle and rich changes. At the same time, traces of original lacquer repair are also exposed in a small area during the polishing process. The third round of red tracing and polishing: the dark lacquer of chestnut shell color only covers the parts painted with high-brightness vermilion lacquer. After adjusting the organizational effect of the lacquer color level, the lacquer surface appears as a block of lacquer color, which is very harmonious with the overall lacquer surface, and coordinates with the dotted pattern next to the original lacquer surface.

Figure 6 After the second round polishing(Part E)

6 Summary

The habit of repairing the lacquer surface of Qin-zither with different colors of lacquer has imposed high requirements on its restoration, and the traditional cloud-dotted method of restoration depends more on the restorer’s art taste. In order to avoid the subjectivity and uncertainty of the traditional restoration method, this article proposes to use visual figure-ground relationship analysis in restoration decision-making and determine whether to carry out backward processing to weaken the damaged patching as the “ground” or forward processing to highlight it as the “figure”. Through the analysis of the figure–ground relationship, the general color tendency and patching range are determined. The visual figure-ground analysis provides a certain basis for restoration decision-making, which avoids excessive subjectivity to a certain extent and is an optimization of traditional patching restoration methods.

Through the analysis of figure-ground relationship, the overall color trend and the main lacquer patch range are determined. Through aesthetic balance, the shape and range of the newly repaired parts are clarified. The grinding and painting with different lacquer layers achieve a fine, rich and harmonious aesthetic effect on the lacquer patch surface. In the process of Qin-zither restoration, the visual aesthetic is permeated in the processing of figure and ground relationship, the harmony between the patching surface and the original lacquer part and the creation of lacquer repair layer.

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