

Analysis of the Visual Art Language of Kizil Murals and Application of Digital Illustrations: A Case Study of the Maitreya Bodhisattva's Preaching in Cave 38

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Abstract: Kizil murals are one of the treasures of mural art in China, and also a historical witness to the integration of multi-ethnic culture and art. Their unique artistic language, rich thematic stories, and profound cultural heritage are all worthy of our in-depth exploration and research. This article mainly conducts a study on the visual art language form of the Maitreya Bodhisattva Douliu Tiangong statement on the semi-circular end face above the front wall of the main chamber of Cave 38. It summarizes and explores the theme content, character introduction, composition relationship, brightness relationship, color matching relationship, and experimental application of illustration art around the Kizil murals. By summarizing, generalizing, transforming, and applying the relationships and laws of these artistic languages, we explore and experiment with the ways and possibilities of language transformation between Kizil murals and modern illustration art creation..

Keywords: Kizil murals; Visual art forms; Illustration art; Experimental applications

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1. Introduction

In recent years, many scholars have conducted in-depth research on the artistic forms of the Kizil Grottoes and their murals. However, the literature that focuses on the visual art language of a specific cave mural and conducts in-depth discussions and analyses of visual forms in modules is still very limited. This article mainly conducts a study on the visual art language form of the semi-circular end face of the Maitreya Bodhisattva preaching in the Tusi Heavenly Palace on the front wall of the main chamber of Cave 38. It summarizes and concludes the subject matter, character profiles, composition relationships, lightness relationships, color matching relationships, and the experimental application of illustration art of the Kizil murals. And apply the color configuration methods and rules explored in practice to the creation of digital illustration art. Such analysis of a specific visual art form of murals and research on the application of digital illustrations can not only accurately convey the theme and connotation of Kizil murals, but also reasonably apply and allocate colors according to the design requirements of digital illustrations, and better explore and develop the application value and methods of Kizil color art.

2. Research background and significance

2.1. Current research status at home and abroad

2.1.1. Domestic literature review

Gao Ya integrated the green and blue colors in the Kizil murals, summarized their symbolic and decorative rules, and applied them to her modern illustration works. The nine-colored deer characters in the animated film “Dunhuang Animated Series”, mobile games “Tianxia” and “Fantasy Westward Journey” are illustration works that combine modern technological means with traditional themes. Starting from the images of the transformation of the Tang Dynasty Jialing Pinga bird in the Dunhuang murals, this creative practice elaborates in detail on the extraction of elements, shapes, and colors in the early stage of the style, as well as the conception of composition, style, and visual effects. It expresses innovation, aesthetics, and sociality on the basis of reflecting national culture and traditional mural art. Illustrator Ma Qian innovatively created the illustration “General Idea of Dunhuang” inspired by the ceiling elements of the Dunhuang grottoes. Illustrator Lian Yang created the poster “Nuwa mending the sky” inspired by the flying apsaras in the Dunhuang murals. Illustrator Mr. Xiao Ku created the illustration “Fusion of Objects” based on the elements of the Kizil murals. He extracted the basic characteristics of the Kizil music and dance elements. By using the technique of deformation and exaggeration, traditional elements are transformed into cartoonized images with contemporary characteristics, endowing traditional elements with the aesthetic spirit of the new era.

2.1.2. Review of foreign literature

Tian Ye combines the unique expression forms of Dunhuang murals with modern illustrations, incorporating local Japanese art. His painting style is vivid and elegant, with a strong personal touch. Kolenwedel, Lecock and Waldschmidt all conducted certain research on the chronology and artistic style of Kizil murals.

2.1.3. Literature review

Through the review and examination of foreign literature, as well as the review, examination and sorting of academic literature, it is found that most of them explore the current situation, characteristics and methods of the combination of Kizil murals and illustration art from a macro perspective, lacking targeted and quantitative research on the combination of specific mural elements and illustration art creation in a certain location of a specific cave in the Kizil grottoes. At present, both at home and abroad, there are abundant research achievements on the combination of Kizil murals and illustration art. However, there are almost no systematic studies focusing on the visual art language form of the interpretation diagram above the front wall of the main chamber of Cave 38 in Kizil and its auxiliary digital illustration art creation. It is urgently necessary to promote the inspiration and practical application of Kizil mural art in digital illustration creation through digitalization, multi-disciplinary cross-research, theoretical and practical exploration.

2.2. Research significance and innovation points

First, it has enriched the theoretical and experimental research on digital illustration art creation in the Kizil Grottoes, to a certain extent, filling the relevant gap, especially in terms of the inspiration and application of the Maitreya Bodhisattva's preaching in Cave 38 for digital illustration art creation. While protecting and inheriting the art and culture of the Kizil Grottoes, modern digital illustration art forms are used to express the ancient Kizil mural art, thus rejuvenating the cultural heritage of Kizil.

Second, extract the flat artistic form of Kizil murals and convey and express Kizil art and spiritual culture in the form of modern flat digital illustrations, striving to spread Kizil culture and art in a popular and easy-to-understand digital illustration form.

Thirdly, while expanding the methods and forms of digital illustration art creation, it has effectively protected and promoted the art and culture of the Kizil Grottoes murals. By extracting the composition language, lightness language and color matching language of the murals in the Kizil Grottoes, people can have a deeper understanding of the cultural

connotations and spiritual implications of their mural art. Through this abstract visual art law, people can understand its artistic and cultural connotations more accurately and vividly.

3. Analysis of the Visual Art Form of the Explanation Diagram above the front wall of the main chamber in Cave 38 of the Kizil Murals

3.1. Brief introduction of the main figures in the square semi-circular end face mural on the front wall of the main chamber of Cave 38 in Kizil

Kizil was the economic and cultural center of the Western Regions during the Tang Dynasty. The smoothness of the Silk Road led to frequent exchanges between Western culture and the local culture of Kizil. The integration of Central Plains culture also enabled the people of Kizil to develop an artistic style in mural art with an inclusive attitude, which not only has local characteristics but also cultural diversity. Among the numerous murals in the Kizil Grottoes, the murals in the Kizil Grottoes are the most typical ^[1].

According to Buddhist scriptures, Maitreya was born into a Brahmin family in the ancient Indian state of Boranai. He was a contemporary of Sakyamuni and later became a disciple of Sakyamuni after he left the secular world. He passed away before Sakyamuni's death. It is said that the Buddha Shakyamuni once predicted that after Maitreya's passing, he would ascend to the Tusita Heavenly Palace to expound the Dharma to the celestial beings. It was not until 5.67 billion years after Shakyamuni's passing that Maitreya descended from the Tusita Heavenly Palace to the human world and became a Buddha under the Longhua Tree in the Hualin Garden, teaching and rescuing all sentient beings. Before Maitreya became a Buddha, he was called Maitreya Bodhisattva ^[2].

Figure 1 shows the semi-circular end face of the front wall of the main chamber in Cave 38, depicting Maitreya Bodhisattva preaching in the Tusi Heavenly Palace. At the center of the picture is Maitreya Bodhisattva sitting on a square high pedestal with his feet crossed. He has a head light and a body light. He is tall and wears a three-pearl crown with his upper body bare. A silk scarf wraps around his shoulders and naturally hangs down his knees. He is decorated with arms and beads. On each side, there are six beautifully shaped and differently posed celestial beings who have heard the Dharma. The missing parts in the picture were stolen by a German expedition team in 1906.



Figure 1. The semi-circular end face on the front wall of the main chamber in Cave 38, a picture of Maitreya Bodhisattva preaching in the Tusita Heavenly Palace, 4th century AD (Image source: "Chinese Grotto Art: Kizil").

3.2. Composition Relationship: Orderliness, hierarchical system, sense of stability, and sense of solemnity

The scattered point composition, as well as the balanced, symmetrical and central (family-friendly) composition, are the main forms of composition used in the Kizil Grottoes murals to depict the stories and teachings of the Buddha. It is worth mentioning that this kind of balanced, symmetrical and central (family-friendly) composition, when dealing with the

layout of a picture that is filled with different content of preaching pictures, often takes the Buddha as the center and uses the postures or face orientations of the figures on both sides of the Buddha to divide another group of pictures, thereby achieving an effect of enhancing the cross-time and space of the picture. The speaker at the center of the story in the picture is in the center, and the listeners are sitting around facing the speaker. The artist divides the different story contents on the picture by changing the facial orientations of the figures sitting around, forming a complete composition that is full of complexity but not chaotic ^[3].

The entire picture is mainly composed in an orderly and structured manner with the figure of Maitreya Bodhisattva preaching as the visual center. Among them, Maitreya Bodhisattva occupies the largest proportion of the area in the picture. The overall arrangement of characters, background, seats and other elements gives people a strong sense of order and stability. The semi-circular and centrally symmetrical composition continuously expands the visual range of the picture, forming a highly regular and orderly whole, which possesses a simple and pure formal beauty. The overall composition is symmetrical with the individual rhombus pattern, giving the audience a sense of visual balance and a stable and harmonious psychological feeling ^[4].

The main principle of plane composition design is to analyze the structural lines that play a structural role in the picture and summarize them into regular geometric shapes (circles, triangles, quadrilaterals), and then combine these geometric shapes together to form a special geometric shape, such as a fan shape or an arch shape. The composition of the picture is organized through the relationships such as the area size, shape dynamics, overlapping and interweaving, and position layout of these structural lines and geometric shapes, that is, the composition design is carried out based on the combination relationship of lines and surfaces.

Through the abstract geometric shape combination relationship in **Figure 2**, we can see by comparison that compared with other Bodhisattvas, the body proportion of Maitreya Bodhisattva with Crossed feet at the center of the picture is the largest, accounting for about one quarter of the entire picture, and the proportion of its head light and square high seat is also the largest. In addition, only the Maitreya Bodhisattva at the center has a body light, and behind the head light, there is a veil and a silk ribbon surrounding it, forming a combination of three circles. Moreover, the Maitreya Bodhisattva, surrounded by the body light, is also at the center of the entire semi-circle, further highlighting the core position of the Maitreya Bodhisattva in the picture and emphasizing the orderliness of the composition centered on the Maitreya Bodhisattva.

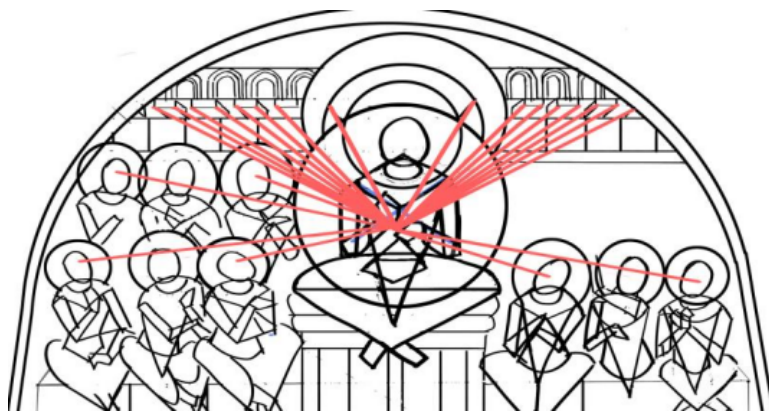


Figure 2. Perspective analysis of the geometric line drawing of the Maitreya Bodhisattva's Preaching in the Tusita Heavenly Palace.

If we observe carefully in **Figure 2**, we will find that the use of single-point perspective in the plane composition enhances the visual center. All the perspective guiding lines in the picture point to the chest, where the hands of Maitreya Bodhisattva are gathered at the center. Especially the perspective extension line formed by the eaves of the roof and the angles at which the heads of the listening celestial beings on both sides are tilted all point to the chest of Maitreya Bodhisattva at the center. At the same time, for Maitreya Bodhisattva, who expounds the Dharma by crossing feet, the

visual center formed by the geometric shape of his body also converges on the chest between his hands. Especially the blue scarf on the shoulders and the crossed hands both point to the visual center and converge here.

To sum up, all the composition rules and layout methods reflect strict normative order and a sense of balance. The Bodhisattva is located at the visual center and occupies the largest proportion of the area. The perspective guiding lines in the picture all point to the Maitreya Bodhisattva at the visual center.

3.3. Color matching relationship: The overall tone is cool, featuring a master-servant relationship while also harmonizing with each other



Figure 4. Schematic diagram of the proportion of color series.

The blue and green analyzed in **Figure 4** are a pair of adjacent colors on the color wheel. The harmonious contrast effect of these adjacent colors gives people a sense of balance, which is mainly reflected in the fact that both colors belong to adjacent color systems, giving people a natural sense of harmony and coordination. At the same time, there is also some order. Both are cool colors. Cool colors themselves give people a sense of balance and calmness. From this, it is not difficult for us to find the general rule of the overall color matching in the picture, that is, almost every character, seat, and background decoration is supported by blue and green as the main colors to support the entire picture, and gray, black, white, and flesh color are used to balance the overall cold tone. On the one hand, this makes the cold color that plays the main role of the picture less monotonous; on the other hand, it plays a role in balancing and neutralizing the cold and warm tones. It also enhances the sense of balance and order of the picture. This forms the “master-servant relationship” of the entire picture’s colors, that is, blue and green are the masters (leading role), while gray, black, white and flesh color are the servants (harmonizing role).



Figure 5. Color Relationship of Maitreya Bodhisattva's Preaching in the Tusi Heavenly Palace.

From **Figure 5**, we can observe that the color layout of Bodhisattvas and celestial beings in the picture also reflects a certain degree of order and regularity. The skin tones of each character are basically composed of black, white and grey, all wrapped and decorated with blue and green, such as trousers, shawls, hair, necklaces, headwear, seat platforms, eave

decorations, etc. Moreover, there are also interwoven layouts among these blue, green and dark brown colors. For instance, the blue on the trousers of Maitreya Bodhisattva, which is located at the visual center, echoes the blue on the headlight and the blue on the scarf on the chest. The blue on the trousers and the silk belt on the shoulder are also interwoven. We speculate that the purpose of the color combination of white, gray and black for Bodhisattvas and celestial beings is, on the one hand, due to the procedural norms of the layout where white, gray and black are combined with blue and green. On the other hand, it might be considered from the perspective of the functional nature of colors themselves. The white, gray and black skin that we usually understand are more in line with the skin color setting of normal people, while blue and green as the skin color configuration of celestial beings or Bodhisattvas would seem a bit absurd and strange.

Furthermore, perhaps due to the limitations of local color collection during that period, the five color series of blue (summarized into three shades from light to dark), green, black (slightly dark brown), gray (roughly four shades), and white (off-white and titanium white) were used as the main color series and interspersed throughout the entire picture. This way of interweaving colors not only appears in the color design of individual characters, but also in the color design of combined characters, as well as on the background eaves and high platform seats. For example, in the upper left row of figures in **Figure 5**, there are two black (slightly dark brown) celestial figures sandwiched between one off-white celestial figure in an interwoven color scheme. However, the characters in the lower row are set in a color scheme where two off-white celestial beings are sandwiched between one gray celestial being. For example, the decoration of the eaves in the background of **Figure 5** is also interspersed with colors. This interwoven color scheme also follows certain rules and order. For instance, the background eaves right next to the head of Maitreya Bodhisattva at the visual center are two blue square color schemes, and the color scheme of the trousers of the celestial beings right next to their knees is also blue. Moreover, the color scheme of the trousers of the three celestial beings on the left and right sides of the lower row is all blue and green, with white in between. This is also a powerful manifestation of the standardization, stylization, and orderliness of the color design of the characters in this picture.

Based on the above analysis and discussion of the color relationship in **Figure 5** and the color proportion in **Figure 4**, we can conclude that the color layout relationship of the square semi-circular end face on the front wall of the main chamber of Cave 38 is also designed around the Bodhisattva's teachings. It not only has a strong sense of order and regularity to follow, but also has a strict, central, symmetrical color matching design, giving people a sense of balance and solemnity.

4. Experimental Application of the color relationship in the upper part of the front wall of the main room in Cave 38 in the creation of digital illustration art



Figure 6. Illustration of “Journey to the Desert.”

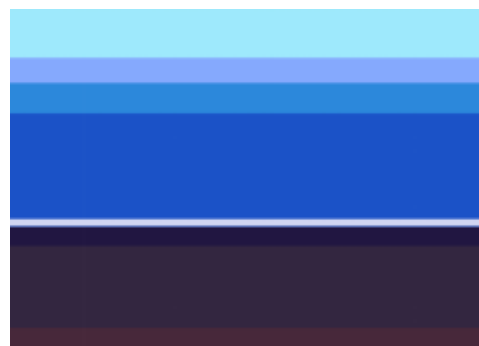


Figure 7. “Journey to the Desert” - color analysis.

Here, we take the chromatographic relationship as an example for a brief analysis. **Figure 7** shows the 8 dominant colors extracted from **Figure 6**, and their proportion in the entire picture is also clear at a glance. They are mainly composed of three main color series: blue, brown, and black and white. Among them, there are the blue series: light blue with a greenish tint, blue with a purplish tint, light blue, and dark blue. Brown tones: cool dark brown, warm light brown, and neutral tones: black, white.

By analyzing **Figure 7**, we can see that the composition rules of the three major color systems are very similar to the color analysis rules in **Figure 4**. The color relationship in **Figure 7** is mainly composed of three dominant color systems, namely the cool color system: relatively cool blue and relatively warm green. Warm color series: flesh color, light brown, grayish green; Neutral color series: black, off-white.

This picture, composed of three main color systems, has a certain innovative guiding role in the experimental research of illustration, making the theme expressed by the colors in the picture more explicit. **Figure 6** mainly gives people a sense of the warm earth reflected in the desert under the transparent moonlight through the collision of the two dominant color systems, brown and blue, and the overall feeling is cold and profound under the transparent moonlight. It further enhances the sense of certainty and weightiness of riding a camel and walking through the desert.

The contrast color technique in the color language of Kizil murals can also bring a strong visual impact to contemporary digital illustration works. The application of high-purity and high-brightness colors makes the elements in the picture more prominent and eye-catching, which is conducive to establishing the order of the subject and object in the picture. From **Figure 7**, we can also see that the application of this high-purity and high-brightness color helps to create a contrast between the main subject of the picture, the camel, the shadow of the figure, the blue desert in the background and the dark brown desert in the foreground.

Overall, the color scheme of the digital illustration creation shown above is mainly stone blue, with a cold overall color tone, which is similar to the strong contrast color matching of the semi-circular end face of the main room in Cave 38 of the Kizil murals and the picture of Maitreya Bodhisattva leading the Heavenly Palace to preach. The distant desert, with its layers of blue mountains and the pale green sky, echoes each other. The dark brown desert nearby is divided and arranged on the canvas, repeatedly dancing, creating a striking contrast in warmth and coolness, hue and lightness. This makes the picture dazzling and has a strong visual impact, while endowing it with the unique artistic and cultural connotations of the Kizil murals, allowing for in-depth interpretation and creative processing.

5. Conclusion

Combining the composition, light and shade, color, and concave-convex shaping elements of the semi-circular end face mural on the front wall of the main chamber of Cave 38 of the Kizil Grottoes with the author's illustration art creation, while absorbing and drawing on the traditional language of Kizil mural art, it also provides new ideas for the innovative techniques of contemporary illustration art creation. Most of the illustrations based on traditional culture in modern and contemporary times lack an interpretation of the connotations of traditional culture. Coupled with the mechanical copying of modeling elements, a large proportion of contemporary illustration works tend to have homogenized styles, lacking ideological depth and cultural connotations. The author's illustration work "Journey to the Desert" is not only an interpretation of the color art language of the semi-circular preaching mural on the front wall of the main room in Cave 38 of the Kizil Grottoes, but also a processing and recreation of its profound Kizil culture. Illustration art serves as a bridge for communication between Kizil murals and contemporary art. By integrating contemporary illustration art creation with elements of Kizil murals, modern works with richer cultural connotations can be created. While preserving the core spirit of Kizil culture, innovative artistic language extraction methods are used to make Kizil mural art adapt to the development of The Times, rejuvenate it with new vitality, and beautify more contemporary art works.

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Disclosure statement

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