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# Transformation of the mural interface and architectural space at Luo Zhongli Art Museum

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**Abstract:**

*With the rapid development of contemporary society, the diversification of architectural forms is increasing day by day. As an integral component of architectural art, murals play an indispensable role in enhancing the aesthetic appeal of urban architecture, elevating visual impact, and enriching traditional architectural decoration styles. In large part, modern mural artists focus their creations on specific building planes or curved surfaces while striving for seamless integration between mural design and architectural spaces. However, research on the relationship between architectural space form and mural design often remains limited to partial expressions with few studies exploring multi-dimensional external building murals. The multifaceted relationship between frescoes and architecture highlights that fresco itself is a spatial art form. This paper primarily examines the wall murals at Luo Zhongli Art Museum to study their interface with architectural spaces, analyzing various conversion forms, methods, and unique characteristics of these interfaces.*

**Keywords:**

*Luo Zhongli, mural painting, architectural environment.*

## 1. Introduction

Luo Zhongli Art Museum building is composed of three parts: Sichuan Fine Arts Institute Art Museum, Luo Zhongli Art Museum, rent collection Institute Exhibition Hall. The total building amount of 23,700 square meters is composed of ten individual buildings with courtyard layout. Among them, Luo Zhongli Art Museum is located on the right side of the third and fourth floors of the entire art museum, with about 4,000 square meters. It is mainly the place where Professor Luo Zhongli holds his solo exhibition or the works of Luo Zhongli Scholarship winners are exhibited. The "Luo Zhongli Art Museum" in this paper refers to the entire art museum, and the mural is also the exterior wall mural of the entire building, not only limited to the real Luo Zhongli Art Museum.

The Art museum mainly presents an unusual building. Its design actually comes from the historical and cultural background of Chongqing, the landform of mountain city, the surrounding environment and the characteristics of mountain city, and uses many Chinese elements to integrate into the building. At the beginning of the design, in addition to these design elements, it is also necessary to meet the internal use of space. After all, the function of an art museum is an exhibition. Only on the basis of doing a good job of exhibition space can other elements be incorporated to enrich the practical function. The shape of the whole building origi-

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nates from the national granary and the rocks in the surrounding countryside. The expectation and meaning of talent training are well matched with the grain full harvest of the granary, and the scattered outline of the building is also melting in the rolling mountains. Building is actually to make a combination of shapes, divide the whole function into pieces, a pile of "granaries" to combine, a pile of stones to combine, and a combination of mountain cities some landforms, there are large and small, concave and convex, buried, there are overhangs. The art museum is originally a place of harvest, and the whole appearance is constructed of many special-shaped boxes. These boxes are continuously refined in accordance with the pattern of hills to produce one after another and continuous appearance. Through this design concept, the image of the granaries is presented; In addition, outside the museum, we can see many ramps, reflecting the topography of Chongqing, and also reflecting the struggle of Chongqing people against such difficult natural conditions, and building contemporary architecture with regional culture on this terrain.

The mural on the exterior wall of Luo Zhongli Art Museum is a 20,000 square meter mural inlaid with hundreds of thousands of pieces of porcelain, which is based on the campus landscape, famous works, regional customs and campus life. Unprecedented in scale and volume, they weave, interweave and collage in 360 degrees in different directions along the building facade, covering all the building surfaces from bottom to top. The eclectic images and extremely colorful colors extend the free artistic conception everywhere, showing the performance and shock of the soul. The dazzling collage murals are a metaphor for today's fast-moving fragmented world, with ubiquitous visual images and instant messaging, and exponentially growing cloud data, dramatically compressing time and space, but also subverting our persistence and fantasy of integrality and throwing us into a sea of rapidly changing information (see Figure 1).



*Figure 1 Partial pictures of Art museum Source: Liu Tao, teacher of Design Department of Sichuan Fine Arts Institute*

## 2. the connection between the mural interface and the architectural space

From the perspective of the external form of art, architecture and murals belong to the same spatial art, and from the perspective of the perception of the subject, they belong to the same visual art. Compared with music and film and television, architecture and murals are closer in artistic form, the only difference is that the simple painting murals are two-dimensional space art, while the architecture belongs to three-dimensional space art. However, by expressing artistic relations such as shape, volume, texture and sense of space on a two-dimensional plane, the mural can create a three-dimensional space and shape a visual image, although this space is a creative space, without objectivity and without future. The visual effect of each plane of the

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building composed of color, line and distance is itself a painting, and every excellent architectural plane is a perfect easel painting, so these pictures are objective and time fluidity.

Le Corbusier once said, "My architecture arrives through a canal of painting." [Qing Hong. "Space and Transformation".[J]. Beijing: Architecture and Culture, 2014 02, p. 190] In fact, Le Corbusier believes that the relationship between painting and architect is an indispensable basic quality, just like rhetoric for writers. Therefore, the mural on the exterior wall of Luo Zhongli Art Museum we see is an important way for the whole building to express its own meaning. It is not only a mural covered on the wall, but also a mural growing on the architectural interface. From the overall point of view of the current building, the murals have a high coverage rate in the external walls of the building, and even the ramps outside the building are surrounded by murals. Of course, this full coverage is not absolute, because on the underside of some buildings hanging, because the construction difficulty is not calculated in the mural design, these are only a tiny fraction, we are difficult to find defects in the face of this great project.

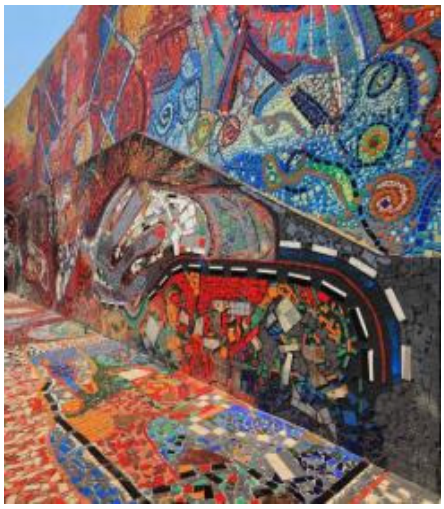




*Figure 2, Figure 3 Partial pictures of Art museum Source: Liu Tao, teacher of Design Department of Sichuan Fine Arts Institute*

Since the mural is inseparable from the building, there must be a certain way to combine it together, it is an orderly and rhythmic connection, it can not be confused, nor can it be grafted as a whole, it must follow certain laws, and it must be integrated with the natural architecture. As shown in Figure 2 and Figure 3, this is a building platform outside Luo Zhongli Art Museum. It can be seen from the figure that the middle part of the figure is a ramp outside the building, which is used to transport goods. Its outer side is all surrounded by murals, and the upper part is the facade of the main body of the building. In Figure 3, it can be seen that the ground is paved with hard tile or unfinished lime, in addition to these, there are irregular frescoes laid among them. The mural content of the ramp facade is vaguely visible, and there is a house with red roof and white walls standing in it, and the surrounding is matched with the shape of tall buildings. Although the overall area is not large, it is enough to express the abstract urban scenery. The mural elements on the ground and the abstract urban landscape on the facade are actually the combination of the mural interface and architectural space, because the mural elements are the ground plane of the building, and the urban landscape on the facade is the exterior facade of the building. The abstract urban landscape itself must be supported by the ground to express the three-dimensional sense, but it is through the two faces that the space is fully expressed. Instead of expressing the sense of space of the building through perspective in a two-dimensional plane as we often see, this spatial transformation is necessary and is combined with the murals, rather than the architectural

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space turning to break the original form of the murals, which is also a unique feature of the murals on the exterior wall of Luo Zhongli Art Museum.

As can be seen from Figure 2, it is also the outer ramp of the main body of the building, but its facade mural is more abstract, mainly reflected in the abstract content and form of the mural and the matching of colors. The mural in the figure is displayed in space, connected by lines and color blocks, even if the spatial transition does not affect the integrity and unity of the entire mural. In addition, this expression also avoids the strong contrast between the rich color relationship of the mural on the ramp facade and the gray of the building ground, lighens the conflict on the color, and makes the facade and the plane gently transition, which is also a form of connecting the mural interface with the architectural space.

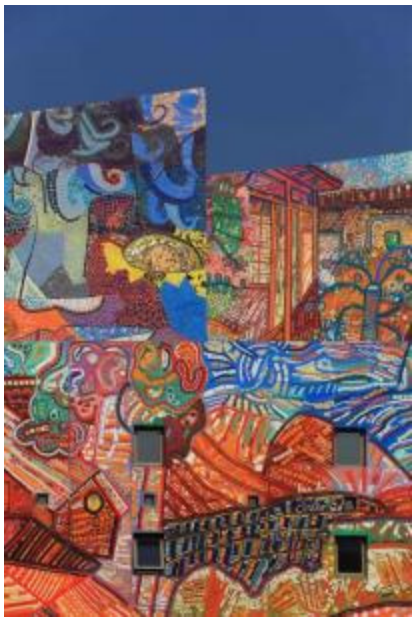




*Figure 4, Figure 5 Partial pictures of Art museum Source: Liu Tao, teacher of Design Department of Sichuan Fine Arts Institute*

In the wall murals of Luo Zhongli Art Museum, in addition to the planar pictures, there are many artificial three-dimensional Spaces, so the combination of three-dimensional space and architectural space generated in the two-dimensional plane of the interface of these murals will also give people a space with different feelings, such as Figure 4. In the design of the wall murals of Luo Zhongli Art Museum, the combination of two-dimensional murals and buildings is a very common expression technique. However, in the three-dimensional architectural space, the expression of the main image of the building through the combination of multiple mural interfaces will produce very interesting pictures. In fact, there are three different levels of interfaces in the picture, and a number of abstract murals with rich colors are used on the exterior wall of the art museum. It seems that the multi-dimensional space murals in the plane are not in harmony with the architectural space itself, but in essence they are interdependent. To completely separate the two from each other's influence, the sense of hierarchy is weak and the interest is greatly reduced.

## 3.the interactive presentation of mural interface and architectural space

People's perception of beauty largely depends on works with multidimensional space. Frankly speaking, three-dimensional things are easier to be accepted by the public than flat ones. The wall murals of Luo

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Zhongli Art Museum look flat unilaterally, but in fact, the transformation between the architectural space interface makes it have a real sense of space. This is not the space shaped by the mural interface itself, but a three-dimensional space that can be objectively seen and touched. In the design of mural painting, the drawing pattern in the plane can form a very attractive form of expression with its distinctive extraction of the essential characteristics of modeling. Then, this distinctive expression technique is applied to the architectural space, and a certain sense of real space is formed between the interfaces of the murals, and this sense of space has become a very attractive form of expression in modern murals design. In addition, the abstraction of elements is also an important basis for mural to create visual realism in the exterior walls of buildings.

The mural on the exterior wall of Luo Zhongli Art Museum is not connected with all interfaces, but selectively interrupted (see Figure 5). As can be seen from the figure, this is an unnecessary turning point of the building itself, which is the need of architectural space. The mural is attached to the building, so the mural must also make a necessary turning point. Because the mural does not adjust with the turning of the building, but follows it to another interface. If the mural is incomplete from one side, it is like turning over before saying a sentence, and we must fully understand the author's meaning from the other side. The bottom half of the picture obviously does not adjust the position of the mural according to the needs of space and the surrounding environment. The two faces can be treated as independent works, because there is no common connection point, which can be understood as two unrelated mural paintings in different Spaces. From the perspective we see in the picture on the right, it is obvious that at this interface, deliberate discontinuity from top to bottom results in a form of both correlation and incomplete connection. There are similar elements, symbols and colors in the other two mural interfaces, which provide the basis for their interface transformation. It reflects the interactive presentation of mural interface and three-dimensional architectural space.

This interactive presentation of mural interface and architectural space, from a point of view, is that the building should rely on the mural interface to provide the public with an imagination space through its own expressive force, is a tool to convey the thoughts of muralists, but also an important form of realization to show the thoughts and emotions of architectural designers. In a sense, muralists can show their inner emotions through the performance of murals in architectural space, and this sensitivity to space and visual perception also reflects the muralists' higher requirements for the use of artistic language. Therefore, the transformation of space also affects the design of murals, adding new difficulties to murals designers.

When we understand some large-area wall murals, there is always a common feature: the continuity of the wall murals is very good, and some even have a whole picture on the outer wall. Muralists overcome various architectural structural difficulties and dissolve the uneven building surface into a seemingly flat two-dimensional plane, which is relatively popular and is also the pursuit of artists. However, because the building of Luo Zhongli Art Museum itself is an alien space, it is still difficult to make coherent creation on the murals. Of course, in the face of such an art museum with contemporary architectural flavor, if we continue to maintain the original mural creation concept, it must also be a major failure in the overall shape of the building. The mural on the exterior wall of Luo Zhongli Art Museum currently presented to us is to break the original idea, adopt abstract expression techniques, and use Mosaic as the main production method. In the form, color, shape with the transformation of space to create different pictures, which is also the murals of the more interesting reason.

## 4. Multiple transformations between architectural space and mural

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## interface

A number of transitions between the three-dimensional architectural space and the mural interface are transitions based on the architectural structure, the transition between space and space, and the integration of mural and space will attract the attention of the audience through the transformation of visual space. When viewing the mural from different perspectives, the visual impact on people will be different, and even unexpected effects will appear. For example: The mural on the exterior wall of Luo Zhongli Art Museum (FIG. 6) shows that this space involves the transition of three large faces. In the interface of the mural, there is a basic transformation of three faces. The middle face is the key surface connecting the left and right sides, and the right side is the extension of the middle side. Although the architectural space interface is a transition, the continuity of the mural interface effectively reduces the closure of the architectural transition. The middle surface is not directly connected with the left side, but is parallel to the right side. The elements used in the mural and the colors are strongly contrasted. The middle surface is a transitional connection between the left and right sides. From this point of view, the left side and the middle side form a visual difference in space, the mural elements are similar, the use of color is different, the overall feeling is a harmonious and comfortable atmosphere, for the muralist in the design, it is difficult to think of the final spatial sense presented through the manuscript. Therefore, the alternate presentation between the mural interface and the architectural space makes the building more mysterious, and the mural attached to the building more intriguing.



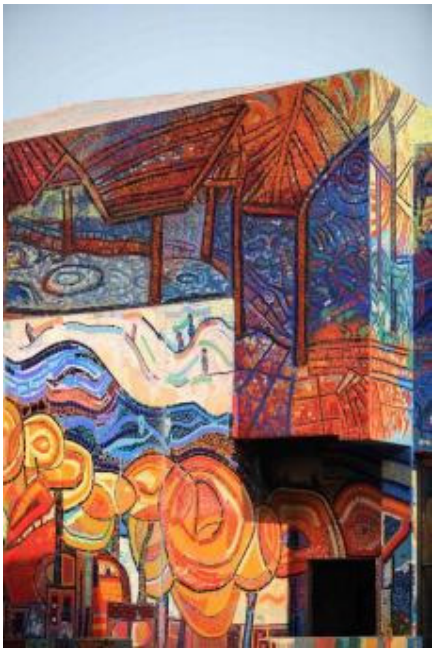


*Figure 6, Figure 7 Partial pictures of Art museum Source: Liu Tao, teacher of Design Department of Sichuan Fine Arts Institute*

Modern mural design is innovative, can catch the eyes of the audience, can resonate in the aesthetic aspect, the use of multi-material mural creation has risen to a new height, here does not refer to the choice of materials how novel, but whether the materials taken have a higher artistic aesthetic value. Luo Zhongli Art Museum is the use of Mosaic Mosaic art, waste porcelain pieces, glass, etc. in a certain order collage on the above, the introduction of this material, compared with the drawing of abstract paintings on the outer wall appears more artistic sense, which is also a new style of materials with abstract paintings. In the wall surface

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where materials are used in reality, the mutual conversion between the building space and the mural interface produces a richer visual space effect. As can be seen in Figure 7, the building interface involves a variety of turns, and the latitude and ductility of the mural interface are also applied in the front and back turns of the above part. The turning point of the building itself and the spatial latitude of the mural interface itself form a strong visual difference; In the middle and lower part of the mural interface content, the use of circle as the element, criss-cross, visually produce complex, cumbersome, intuitive but difficult to understand the picture form; On the whole, in the complex architectural space transformation, the simple architectural interface is not enough to highlight the personality of the building. Through the colorful content forms of the mural interface, it not only gives the audience a broad imagination space, but also adds a sense of contemporary design to the building itself. At the same time of the combination of murals and buildings, the rational use of architectural space can simplify the mural design elements, enhance the visual effect of the active picture, arouse the curiosity of the audience, guide the visual tendency, convey the information of the mural expression, and enhance the aesthetic design of the mural. In the transformation, transition, combination and interactive presentation between fresco and architectural space, between 2D and 3D, the transformation between concrete and abstract, reality and non-reality, subjective and objective forms an unfulfilled mystery.

It is assumed that apart from the subject of mural creation, there are many conversion ways between architectural space and mural from the perspective of object. The mural design concept and means have also deeply rooted influence on the architectural exterior wall style, and the architectural concept renewal and technological evolution of Luo Zhongli Art Museum have also had a continuous impact on the mural design. There are similarities between traditional Chinese architecture and murals in terms of spatial structure, linear change and curved surface composition. After a long period of continuous integration, the two have aesthetic commonality in terms of harmony and order, metaphor and symbol, charm and artistic conception, etc. Especially in ancient Chinese garden design, it pays attention to emptiness and reality, leakage, grafting and landscape shift, which is similar to painting. Therefore, architecture and murals are always interdependent, constantly combined and innovative.

At this point, it is undeniable that the interface between architectural space and murals, which are both visual art and spatial art, can often be transformed into each other in space and form, and the ability and level of this transformation really reflects the talent and talent of artists. Architectural murals also have a high degree of dependence and aesthetic commonality in the development process and life application.

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