

Research on the Space Language of LOFT Mode Design in the Reconstruction of Old Buildings

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Abstract: *With the rapid development of China's economy, the industrial structure of industry is undergoing tremendous changes. There are many idle old industrial buildings. In the field of its transformation planning, LOFT is being used more and more widely. This paper mainly studies the LOFT mode and the overview of the old building space, the influencing factors of the old building space transformation, and the LOFT mode transformation of the old building space.*

Keywords: *LOFT Mode; Old Building Space Transformation; Space Language*

1. Introduction

In China, the application of LOFT style transformation in the interior space of old buildings is still in the initial stage. The application of LOFT mode in the field of interior space transformation of old buildings has made it constantly energized, which is consistent with people's pursuit of art and has very high practical value. It can increase the vitality and activity of idle old buildings in a new art form, and use the creative method of architectural space design to fit the process of urban modernization.

2. Overview of LOFT mode

In the 1940s, LOFT first appeared in New York, USA. Its development is mainly in the United States and European countries. During this period, Europe and the United States witnessed rapid industrial development, and entered the post-industrial era with a large number of idle building bases. The wide space is really a good creative space for designers, which can inspire creative inspiration and be implemented in the space. From theory to design practice, in the interior renovation of old buildings, designers can do their best to divide the space reasonably, such as work, rest, entertainment and other spaces, so that the creative inspiration can be fully displayed, forming the original LOFT culture. LOFT, like a mirror, reflects the characteristics of American life, spiritual pursuit, artistic feelings and other aspects[1].

Most people are used to looking at the things around them in a conventional way, which hinders the generation of innovative thinking. For artists, designers and other creators, only when they view the same problem from different perspectives, contact with external space more and communicate with others can they have a better burst of thinking. The application of LOFT mode in the design and transformation of old building space changes the way of traditional old building space transformation, revives idle and abandoned old buildings with new methods, breaks the thinking bottleneck of traditional design and transformation, and shows the diversity of design art. With the passage of time, the old buildings transformed by LOFT mode have become more and more frequent in front of the public. With the acceleration of urbanization, some old factories have been abandoned, creating a hotbed for the large-scale promotion of LOFT model. The industrial building space has good lighting and wide perspective, which is convenient for design and transformation. For example, the display of artworks in interior space is not limited to a series of traditional places such as exhibition halls and museums. LOFT mode provides a new way of thinking and methods for the display of artworks, making art and culture more accepted by the public. LOFT mode breaks the traditional office and living mode. For example, the 1946 Creative Industry Park in Tianjin is one of the most obvious LOFT style parks, from the original textile machinery factory to the current LOFT model old building renovation[2].

3. Overview of old building space

The city is progressing and developing in the process of continuous updating and iteration. In this dynamic process of development, where the idle industrial buildings left by various factors such as the adjustment of industrial structure and the change of urban development planning go has become an urgent problem to be solved. How to deal with the existing idle old buildings is an important step in the development of urbanization. For example, the widely used model of demolishing old buildings and building new ones does not maximize the utilization of idle old buildings, resulting in a large amount of waste of resources. With the development of the city, the way to record the urban development track with building entities has become increasingly blurred. The changes of cities and the development of history can only be reflected in the history books, which has a negative impact in some aspects. Under the policy of sustainable and green development of the city, how to reasonably transform and optimize the use of idle old industrial buildings is particularly important for urban development.

The space of the idle old factory building is characterized by a relatively large space size. In this space, the limited thinking mode is broken through. The LOFT style design is flexible and changeable, and has many possibilities of transformation, which is convenient for the implementation of design inspiration. Install some large-area windows in the large-scale space, and make the interior bright and warm through the natural lighting mode of side lighting or top lighting, so as to make the design and transformation more reasonable. The LOFT style space design transformation is based on the original space, but is no longer limited to the original space division method. It creates a rich level of space through the primary division and secondary division of space. For example, the space is re-integrated and planned to form a new space structure, which is divided into different sizes according to the actual needs, or the space is polished to form a psychological space. In LOFT space, the proportion of public space, semi-public space and private space should be weighed to ensure that the personal privacy of users is guaranteed. In the space, it can not only highlight the unique artistic style of LOFT, but also achieve the perfect integration of privacy and public space. Lochal Library in Tilburg, the Netherlands, has a relatively reasonable division of space in a former steel and glass workshop, taking into account private space, semi-public space and public space.

The old building space transformed under the LOFT mode breaks through the limited thinking mode and conveys a strong artistic charm. In terms of its properties, it is a work of art filled with the painstaking efforts of designers. The idle old buildings were given a second life. The space of old buildings with memorial significance is often the emotional carrier for recalling the past and remembering the memory after transformation.

4. Influencing factors of space transformation of old buildings

First of all, the economic basis, as the first factor to be considered in the space transformation of old buildings, determines the degree of space transformation of old buildings. The cost of the main structure of a building accounts for about one third of its total cost. Compared with demolition and reconstruction, the cost of space reconstruction can be greatly reduced. The minimum economic cost is used to maximize the benefits of building space reconstruction, which can significantly shorten the construction period, and put the building into use as soon as possible to obtain greater profits.

Secondly, we need to consider the social and cultural factors that affect the space transformation of old buildings. The old buildings are the witness and participation of the process of urban civilization, most of which have regional characteristics, and are the material carrier of the history and culture of the region. When selecting the old buildings that need to be reconstructed, we should consider the urban history and culture they carry. For example, most of the ancient residential buildings with historical significance are built and restored. Contemporary idle old buildings should also have the flavor of contemporary architecture.

Moreover, it is necessary to consider the audience's identification with the transformation of the old building space, that is, the emotional needs. The idle old buildings express to the public the history of urban development, human's own creative ability, and cultural identity in space and time, which make people feel comforted in their hearts. Select the old buildings that are recognized by the public for space transformation, and the old buildings that are being transformed should also be recognized by the public.

5. LOFT mode transformation of old building space

First of all, there should be a perfect space structure system in the space transformation of old buildings. When using LOFT mode to reconstruct the space of old buildings, it is not only necessary to design through drawings, but also need to carry out field investigation, such as the original building structure, pipeline lines, etc., to strengthen the protection of the original building structure, maintain the stability of the building, and maximize the preservation of the space personality of the original old buildings. The reconstruction and planning of the original space is not only the requirement of perfect visual sense and more reasonable use, but also the requirement of users' psychological recognition and corresponding space form. To meet this requirement, we need to think about space from the user's standpoint, not just take some established models, but be flexible.

The planning of the old building space in the LOFT mode brings vitality to these buildings and also has established attributes. The architectural heritage itself is the concrete medium for inheriting culture. The artistic effect of the abandoned factory buildings and art is quite good. It can often become a landmark building of a city. Therefore, designers should first make a deep analysis and research of the original building, and try to face the general audience. When transforming the space of old buildings in LOFT mode, we should fully consider the relationship between various functional blocks, so that people can feel the sense of stability and comfort in the space. With humanized design as the main principle, we should fully consider the differences of the audience in age, art aesthetics and other aspects, and obtain the public's recognition on the premise that the space has practical functions, so as to meet people's needs for art aesthetics.

The second is to use various ways to carry out reasonable space division in the space transformation of old buildings. When the old building space is transformed, it is no longer limited to the original space mode, and the inherent influence of the original space division is excluded. According to the primary space division of the building structure, the space is re-divided through the increase, decrease, division, and merger of space elements to obtain a new artistic space.

The space transformation of LOFT mode makes the space layout of the old building more practical, reasonable and artistic in use. The large space of the old building can be divided and combined into more practical and reasonable multiple small spaces to meet the audience's use experience through the combination of horizontal and vertical basic segmentation methods, while considering the overall and local aspects. The overall division is convenient to ensure the primary and secondary relationship of the space, while the local division is to increase the interlayer and additional space of the building, and add interest. In addition to space segmentation, space can also be merged. We can make ingenious connection of multiple unrelated closed spaces, and make the space become a complete large space through merging. The public walls of two rooms without public space can be connected to make it a complete and larger space; A corridor or bridge can be used to establish a connection between two unrelated spaces; A public roof can also be built to connect the two spaces. We can keep its basic state through the original space, while forming a unified design style, keep user privacy space as much as possible.

Restructuring space is the way to establish a connection with another space form on the basis of the original architectural space form. We can reconstruct and plan the original space of the building, so that the two can reach a higher degree of agreement in space art. Spatial reorganization is generally divided into two different forms: internal and external. The internal space is to plan a new space state on the basis of the existing space, which is similar to the mode of house in house. The same is true for the outer space. On the basis of the existing space, build a new space outside its space. The outer space is easier to be divided and combined than the inner space. The outer space can be combined by means of artistic creation such as interpenetration, combination and addition. Both the outer space and the inner space should be coordinated with the overall design style and surrounding buildings.

On the basis of retaining the original architectural features, the space transformation of the old building in LOFT mode can be designed with various new materials of metal, glass and wood finishes to ensure that there is no major conflict with the original space style, and the collision and friction between the design inspiration and decorative materials will produce better results. The use of new materials, because of its special texture, brings a sense of the times, and gives people a novel experience and visual impact. These idle old industrial buildings are not only the residual bricks and broken tiles left over by history, but also represent the continuation of the workers' temperament and cultural heritage in the old era. These material and spiritual cultural heritages are preserved to the greatest extent, so that the old buildings can be preserved to the greatest extent, and continue to realize its artistic value. In this way, there is a certain characteristic of the development of the times, people's

aesthetic methods are also more colorful, and cultural beliefs are also more firm. The office and living environment under LOFT mode not only effectively protects the idle old buildings, but also leaves a witness to the development of the city's history. As a precious spiritual and cultural heritage, it cannot be reproduced.

6. Conclusion

With the rapid development of China's economy, the industrial structure of industry is undergoing tremendous changes. There are many idle old industrial buildings. In the field of its transformation planning, LOFT is being used more and more widely. The realization of these changes is mainly due to the nature of LOFT mode and the needs of old building renovation. This paper mainly studies the LOFT mode and the overview of old building space, the influencing factors of old building space renovation, and the LOFT mode renovation of old building space. The industrialization reform continues to advance, and the industrial structure is also being adjusted, which adds a bit of realism to the protection and transformation of the old building space. With the acceleration of the urbanization process in our country, the industrial structure has also undergone great changes. The primitive and backward economic development model is gradually being eliminated, and the direct result is the emergence of a large number of idle old industrial buildings. The demolition of old buildings, in a sense, the things that record the track of urban development are gradually becoming blurred, and the historical changes have long been invisible. With the goal of green and sustainable development, how to protect and transform the old industrial buildings has gradually become a problem that needs to be taken seriously.

References

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