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Research on the design of the interior space of the Miao Ecological Museum based on the flow theory

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Abstract

Based on the flow theory, this paper takes Rongshui Miao Eco-museum as an example to discuss how to make the ethnic eco-museum truly reflect its unique ethnicity in Interior design. Through the translation, extraction, and utilization of Miao elements, supplemented by digital technology to expand the audience's sensory flow to research the design of interior space, guiding the viewers to experience the Miao culture in an immersive way. The design of the interior space of Rongshui Miao Eco-museum under the guidance of flow theory enhances the effect of the display while stimulating the interest of the audience, making it a spatial medium of communication between modern people and history, and is conducive to the protection and dissemination of Miao culture.

Keywords

flow theory, Miao ethnic group, Eco-museum, Interior Design, Culture

1. Introduction

The rapid development of cities and the promotion of urbanization have had varying degrees of impact on the distinctive cultures of ethnic minorities. However, museums, as places of remembrance that enable people to broaden their horizons, remember their histories, and enrich their spiritual worlds, play an prominent role in the protection and transmission of ethnic cultures. Guangxi launched the "Guangxi Ethnic Eco-museum 1+10" project in 2003 and built 10 ethnic eco-museums, including the Rongshui Antai Miao Eco-museum, which are of great significance to the protection and inheritance of ethnic cultures. Although these ethnic eco-museums have taken a historic step forward compared with traditional museums, they still need to improve and develop their indoor space design and exhibition forms, and visitors can only learn about the relevant ethnic cultures through static exhibitions, such as the display of pictures, texts, and objects, and can seldom be truly immersed in them. The Miao Eco-museum under the guidance of flow theory maximizes the atmosphere of Miao culture by displaying natural historical landscapes, reconstructing historical scenes, and making full use of digital technology so that visitors can participate in the process of multi-sensory flow, creating an emotional identity for Miao culture, promote the development of Miao culture, and provide references to build a more attractive and more effective national eco-museum.

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2. Status of Rongshui Miao Eco-museum

2.1 Overview of Rongshui Miao Eco-museum

The rapid development of cities and the promotion of urbanization have had varying degrees of impact on the distinctive cultures of ethnic minorities. However, museums, as places of remembrance that enable people to broaden their horizons, remember their histories, and enrich their spiritual worlds, play a prominent role in the protection and transmission of ethnic cultures. Guangxi launched the "Guangxi Ethnic Rongshui Miao Eco-museum, a successful case of minority eco-museum construction in China, is located in Yuanbaoshan National Forest Park, where the long-term survival and development of local minorities in the Yuanbaoshan area were understood through field surveys. Combined with the local ethnic ecological and cultural characteristics, the eco-museum cluster with Yuanbaoshan as the core was established. The museum has chosen the traditional Miao residential wooden structure hammock for its architecture, which is a semi-enclosed structure formed by three small buildings in the shape of a character and is mainly divided into six display areas, including Miao marriage, production and life, and so on. A large number of objects and pictures show the unique national culture and historical changes of the Rongshui Miao nationality formed in the process of development. The completion of Rongshui Miao Eco-Museum is a great impetus to the development of the local tourism industry and also provides a good demonstration for the protection of the ecological cultural heritage of ethnic minorities.

2.2 Problems of Interior Space Design of Rongshui Miao Ecological Museum

Rongshui Miao Eco-Museum has unified the decorative style in interior design, and the architectural choice of Miao hanging footstools respects the traditional architectural culture of the Miao to a certain extent, but it does not present the strong cultural characteristics of the Miao in the decorative details of the architectural style, and the exhibits and display areas do not fully display the traditional crafts, costumes and cultural elements, which can't allow the audience to have a deeper understanding of the history and cultural inheritance of the Miao. Secondly, there is some lack in the selection of space color, and the color selection may affect the user's experience. Color has the property of changing with different factors such as time and space, and in different spatial occasions, color can show different attribute patterns and meet different emotional needs [1] . Appropriate color selection can match the function and use of the space, create different emotional experiences, help people establish an emotional connection with the space, and enhance the comfort and aesthetics of the space. Most of the Miao traditional houses use dark grey and greenish-brown as the main color of the house, while the Miao Eco-museum adopts light yellow wooden boards from the ceiling to the wall, which visually brings the users a feeling of detachment from the environment and lacks the atmosphere of historical precipitation that the museum should have.

In addition, the exhibition mode of Rongshui Miao Eco-museum is similar to that of similar ethnic eco-museums, which is still in the traditional exhibition mode, mainly focusing on the exhibits as a single display and arrangement. Visitors just take a glance at the historical objects displayed, and it is very easy to forget them, it is difficult to fully realize the spiritual core of the Miao culture, and visitors will gradually lose their interest in learning about traditional culture. However, if in the actual display process, the audience can fully mobilize other sensory organs in addition to the visual means of display as a perception channel for information transfer, gradually produce emotional flow, can increase the interest of visitors, and ultimately

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achieve the purpose of the promotion and display of Hmong culture.

3. Design Strategies based on Flow Theory

3.1 Flow Theory

Flow theory, Flow, was first proposed by American psychologist Mihaly Csikszentmihalyi in 1975 from a psychological point of view and is used to explain why people will be completely involved in the situation and enter into an immersive state when they are engaged in certain activities [2]. Interior design under the guidance of flow theory can bring an immersive visiting experience to the audience, which means breaking down the boundaries between seeing and being seen and letting the audience's spirit become one with the existence of the exhibits. The audience focuses because of the flow, empathizes because of the focus, and understands the exhibits more deeply because of the empathy; meanwhile, the flow experience can also make the audience forget the usual self and produce a kind of marvelous feeling of traveling to another world.

3.2 Design Strategies Guided by Flow Theory

Under the guidance of flow theory, the interior design of the Eco-museum needs to break the traditional museum design mode, centering on "human experience", giving full play to the main role of the "visitors", based on the characteristics of the culture of this ethnic group, as far as possible, to restore the real historical situation, and actively try the application of new media technology in the museum, and in part of the module can be integrated into hands-on practice and hands-on operation, which will help to create a diversified immersive experience, and to achieve the purpose of effective dissemination of the culture of the Miao people.

3.2.1 Extraction and Transformation of Elements

Ethnic culture is rich in history, culture, and folklore. Extracting and applying unique cultural elements in interior space design can promote people's sense of identity with their ethnic culture, help people with different cultural backgrounds better understand the cultural characteristics of regional spaces, protect the history and culture of the Miao people, and enhance the cultural self-confidence of the Chinese nation. The design of Miao traditional architecture is not only for practical needs but also incorporates their culture and beliefs. There are a lot of cow horns on the roof ridge of the Miao traditional houses, which originated from their worship of the cow totem. The bull's horn shape has been regarded as an image that can drive away evil spirits and protect the family and the house not only has a symbolic meaning but also enhances the stability and durability of the building. This traditional architectural style has become an important part of the Miao culture and an important carrier of the Miao people's life. Its ethnic architectural art is simple and natural, with a strong ethnic flavor, which is very worth studying. These components can not only be displayed as exhibits in museums but can also be used in interior space decoration through translation and simplification.

In addition, the batik craft of the Miao people is very exquisite, with unique artistic charm in shape, color, and material. Common patterns include butterfly patterns, swirl patterns, centipede patterns, fish and bird patterns, insect patterns, dragon patterns, etc. The color of the finished product is usually indigo and blue-black, which is not only a daily living thing of Miao people, but also extends to the fields of clothing and accessories. If this traditional craft can be used in modern culture, such as as decorations or decorative elements, and integrated into the interior space design of the Miao Eco-Museum, it can not only bring people a unique

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aesthetic experience, but make the Eco-Museum a unique platform to display the Miao culture, avoid homogenization, but also effectively promote and pass on the Miao culture.

3.2.2 Stylized Design Theme

The choice of interior style of the eco-museum has an important impact on the display effect of the museum, and when choosing the indoor style, the first thing to consider is the characteristics and theme of the display content. The theme is the key element for the smooth implementation of display activities, and the integration of display content through the theme can also convey its unique display concept, highlight the visual form of the core content, simplify the structural form of the display space, and create a fascinating storyline, thematic mood, and spatial atmosphere [3]. If the eco-museum displays cultural relics and artworks of a certain dynasty in ancient China, it can choose a suitable ancient-style theme according to the historical background that matches the time to create an ancient and solemn atmosphere. If modern artworks are displayed, modern and minimalist styles can be chosen to highlight the avant-garde and fashionable nature of the works.

In addition, it is also necessary to consider the culture and historical traditions of the region where the eco-museum is located and incorporate local cultural elements into the interior design, which not only displays the local characteristics but also enhances the audience's sense of flow. For example, in the interior design of the Miao Eco-museum, the traditional patterns, colors, and other elements of the Miao people, as well as the unique architectural style of the region, can be used to make the exhibition space echo the Miao culture.

3.2.3 Designed for Fun

To enhance the visitor's experience, museum interiors can be designed to be fun and interesting. Traditional linear lines can be transformed into more interesting and interactive design ways to attract the attention of the audience and increase the sense of participation. By designing interesting exhibition spaces and installations, the audience can be immersed in the process of viewing the exhibition. These installations can be related to the content of the display and convey stories and messages by interacting with the exhibits.

The planning of interesting pedestrian flow lines can be considered from the perspective of building a narrative space with a sense of storytelling, which can activate visitors' memory centers and prepare them to absorb new information, facilitating the creation of an informative and interesting exhibition experience. For example, in chronological order, with one year as the duration, it shows the production labor and entertainment of the Miao people in all seasons. Or maybe not in chronological order, such as the Suzhou Museum, with the "Treasures of Wu Di", "Wu Pagoda National Treasures", "Wuzhong Style and Elegance", "Wumen Calligraphy and Painting" as the theme name. Painting and Calligraphy" as the theme of the name, these themes seem unrelated, but in fact, it is "Wu" as a link, Wu is the general name of China's Jiangsu and Zhejiang cultures, expressed from the point of view of ancient cultures, religions, literati, etc., the interpretation of local culture and history.

3.2.4 Scene Building Realism

In the process of designing the exhibition space of the museum, due to the regional and epochal characteristics of the regional culture, a scenario-based design method can be adopted when carrying out the design [4]. Realistic scene building can create a real and fascinating surrounding environment, which allows the

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audience to deeply understand and feel the wonders of the exhibited area and inspires them to pay attention to and take action on cultural preservation and sustainable development. Recreating important historical scenes in museums, historical exhibitions, and other venues can convey the atmosphere and scene of a specific period through past artifacts, architectural reconstructions, props, and visual effects. When reconstructing historical buildings, with the help of precise measurement and restoration techniques, the original appearance of the building can be restored, allowing the audience to feel the magnificence and uniqueness of the historical building. Through the use of furniture and utensils used at that time, the lifestyle of a specific period is reproduced so that the audience can better understand the society, culture, and living environment of that time.

The Ethnic Ecology Museum wants to shorten the distance between visitors and history and culture, and when designing the interior space, it can try to reproduce the historical scenes of the Miao people, so that visitors can see the real-life situation of the Miao people. On the one hand, the design and exhibits should be organically combined, and various design methods should be integrated to create as many opportunities for the audience as possible and to meet their interactive needs as much as possible; at the same time, while carrying out the interactive design, some local folk stories can be added, to let people better understand the eco-museum in a relaxing and enjoyable atmosphere, and to improve the understanding and awareness of the content of the museum's exhibitions.

3.2.5 Multi-sensory flow

Multi-sensory flow can be used to attract the audience, from which the audience can obtain a richer and deeper emotional experience, enhancing their emotional resonance and engagement with the museum [5]. Traditional forms of museums or digital museums with the addition of new media technologies most directly mobilize the visual organ, as vision is the most basic sensory perception and the easiest to mobilize. However, the audience tends to be actively engaged, not just passively receptive, and their other sensory organs enhance the feeling of what they see.

Therefore, the use of new media technology is to provide a richer display language and a broader creative space, and ultimately present a more stunning display effect, give the audience a more profound experience of the exhibition, to establish an effective emotional connection between the audience, rather than just stay in the digital reprinting of pictures and text, which can not play a new media technology to bring out the emotional advantages. Of course, the museum digital display project must follow the principle of objective interpretation, and the core of its display should also be the content itself, rather than a haphazard plot for the sake of display, to avoid unfounded conjecture and speculation.

For example, the Museum of Immigrant Apartments in Manhattan, New York, USA, not only retains all the furnishings of the house but also equips a generator that can simulate the smell of a fireplace, so that visitors can feel the taste of the early immigrant apartments in 1878. In addition, the famous painting of the Northern Song Dynasty, "Qingming Shanghe Tu", depicts the urban environment of the Northern Song Dynasty capital city of Tokyo (now Kaifeng, Henan Province), as well as the living conditions of different classes of people, as well as the most realistic economic form of the Northern Song Dynasty. Through VR technology, the scene of the Northern Song Dynasty can be easily integrated into it, which greatly adds to the fun of watching.

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4. Design Research based on flow Theory

4.1 Design Positioning

Based on the principle of ecological protection, the design process follows the principles of local conditions, moderate development, and sustainable development, to let the audience know the history and national culture of the Miao people and strengthen the protection of cultural relics and buildings and cultural heritage through the display of objects and materials related to the Miao people. The program aims to create a comprehensive Hmong historical and cultural eco-museum to showcase the history of the Hmong people and their unique architecture, costumes, and folk culture, focusing on education, propaganda, knowledge, science, and recreational aspects. Through the construction of the Ethnic Eco-Museum, the aim is to make more and more people aware of the long, thick, and unique ethnic culture of the Miao people.

4.2 Spatial Atmosphere Creation

4.2.1 Color Matching

According to data, when people enter the interior, 75% of the feelings are obtained from the visual, relative to other senses, vision can be faster to obtain information, and color information reading is mainly dependent on visual senses. Color in interior design can play a good role in the overall situation, the reasonable use of representative regional colors, can let people produce a sense of belonging to the region and a sense of identity. Therefore, the overall style of the Ethnic Ecological Museum has chosen the color of the traditional residential buildings of the Rongshui Miao people, with dark brown tones as the main color, embellished with the blue and black colors of the Miao batik, which has a strong cultural atmosphere and a sense of historical importance.

4.2.2 Use of Materials

In the design of interior space, the use of materials is also very important, and different materials bring different visual impacts. Different materials bring different visual impacts. Suitable materials can show the characteristics of local culture through texture and texture, and better shape the cultural space. In the indoor space of the Miao Eco-museum, natural materials, local handicrafts, and regional cultural backgrounds can be used. For example, the traditional building material of the Miao people, cedar, can be chosen. It grows in the Yangtze River Basin and the southern part of the Qinling Mountains in China and is the tree species with the largest planting area, the fastest growth rate, and the highest economic value in the world. Fir wood is favored by the Miao people because of its solid material, straight grain, smooth and oily, not easy to crack, corrosion-resistant, and is mostly used as a support for the whole house.

4.3 Creation of Narrative Space

Contemporary museum exhibition design has been characterized by an obvious narrative tendency [6], which creates a more immersive, participatory, and richly varied exhibition experience for the audience through the use of storytelling structure, interactive design, and innovative display forms. This design approach helps to enhance the educational, entertaining, and appealing nature of exhibitions, further promoting the dissemination and transmission of museum culture. For example, the poignant love story of the goddess

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Yang A Sha, a Miao folk tale, is used as a carrier to build relevant scenarios, such as the scene of birds flocking to the phoenix at the birth of the goddess Yang A Sha, and the exciting moment of "gongs and drums ringing and lashings playing" when Yang A Sha met the challenge with the moon. This is the moment when the Miao girl's dress culture and wedding customs are shown to the audience through "storytelling", forming various interesting relationships between the audience's experiences and causing their emotional flow. This narrative space can be created not only by enriching the culture of the area with special contents but also by utilizing independent scene themes and staggered scene design, thus forming a unique exhibition space.

4.4 Use of New Media Technologies

The rapid development of new media technology provides more possibilities for museum display space. Technologies such as virtual reality and augmented reality can be combined with actual scenes to create a more realistic historical experience. Through virtual reality technology, visitors can immerse themselves in the historical environment and interact with historical figures as if they were experiencing the historical events themselves. Augmented reality technology can superimpose virtual elements on the actual scene, such as reconstructed buildings and projections of historical figures, to enhance the audience's perception and understanding of the historical scene. Touch technology can be used to facilitate visitors to search for relevant information. 3D visualization of touch devices containing information about the history and culture of the Miao people can be placed in the exhibition hall so that the audience can freely choose to explore more interesting content and knowledge. Or try to join the interactive games, the exhibition hall can be matched with the common dancing machine, dancing machine according to the traditional Miao music setup system, divided into high school and three different levels of difficulty, the audience if the pass can get the special cultural and creative products of the Miao Eco-museum, such as small reed-sheng pendant, reduced version of the Miao architectural components, etc., is very commemorative significance.

5 Conclusions

Considering the special characteristics of ecological museums and the tendency of contemporary exhibitions to pursue immersive experiences [7], the establishment of the Hmong ecological museum is to explore a suitable form between tradition and modernity to show the living conditions and spiritual world of the Hmong people, so that the audience can deeply understand the Hmong culture and the profound meaning behind it.

Based on the flow theory, this paper proposes a strategy to create an immersive indoor environment design for museums, using color matching, combining traditional and modern materials, supplemented by the creation of narrative space, forming a two-way communication mode with the audience, and realizing the purpose of effective dissemination and protection of the Miao culture. By summarizing the design strategy of the interior design of the eco-museum based on the flow theory and applying it to the design research of the interior space of the Miao eco-museum, we can seek a better visiting experience for the audience, leave a deep visiting feeling, break the impression of the museum of "one side of a thousand museums", and take up the responsibility of displaying the characteristics of the regional culture of the Miao people. To become an effective way to promote the protection and inheritance of the Miao culture, and to realize the harmonious coexistence of people and the environment.

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