

AKADÉMIAI KIADÓ

Pollack Periodica •
An International Journal
for Engineering and
Information Sciences

18 (2023) 2, 164–169

DOI:

[10.1556/606.2023.00790](https://doi.org/10.1556/606.2023.00790)

© 2023 Akadémiai Kiadó, Budapest

ORIGINAL RESEARCH
PAPER



*Corresponding author.

E-mail: 250659063@qq.com,
kangxue@scfai.edu.cn



AKJournals

Narrative design of modern exhibition spaces

Xue Kang^{1*} , Gabriella Medvegy² and Yufang Zhou³

¹ School of Architecture, Sichuan Fine Arts Institute, Chongqing, China

² Faculty of Engineering and Information Technology, University of Pécs, Pécs, Hungary

³ School of Architecture, Central Academy of Fine Arts, Beijing, China

Received: December 26, 2022 • Revised manuscript received: February 13, 2023 • Accepted: February 16, 2023

Published online: April 19, 2023

ABSTRACT

The exhibition design of modern museums increasingly relies on the creation of space to display the unique intrinsic cultural quality and place spirit of the exhibition hall, and the exhibition space has become the focus of the design. The exhibition space has become the medium language for the dialogue between the display content and the audience, and the typical venue space presents the required information to the public. In the development process of the information age, display design complements other disciplines and provides a solid foundation for the research and development of space for pavilion design. Narrative design can help the public to seek emotional commonalities and spiritual touches when visiting museums, pursue the real experience of the scene space, and feel the atmosphere and situation created by the theme space.

KEYWORDS

spatial narrative, public, exhibition space, cultural design

1. INTRODUCTION

When the urbanization process enters the stage of improving the spatial quality of stock, more and more old buildings need to be renovated due to low usage and functional renewal requirements. Generally, the transformation of old buildings is to replace or improve the original functions of buildings, and make the life cycle of old buildings circulation and continuation through transformation [1]. A suitable reconstruction of old buildings is not only the full use of social material resources, but also the continuation and inheritance of social history and cultural resources. Whether it is due to the influence of energy, environmental awareness, resources, humanistic thoughts of historical protection and other factors, or the transformation of the functional needs of enterprises or units, this transformation is very much in line with the needs of urban and social development.

This article takes the renovation of an old garage of a cultural enterprise as an example to explore narrative design in modern small exhibition spaces. With the process of information society, the rapid development of high and new technology, the modern cultural level and aesthetic concept also improve and change. Museum exhibition design will undoubtedly face a transformation of design concept and exhibition function. It contains a series of issues, for example the expansion of spatial dimensions, the updating of exhibition methods and technological applications [2]. Today, the functions and types of museums have diversified. Its exhibition design increasingly emphasizes the participation and interaction of people, pays attention to the expression of the spirit of space and place and the connotation of the exhibition, pays attention to the exhibition effect of teaching and entertainment, and transforms the exhibition form into interaction, scene, and participation. At the same time, the development of high technology makes museums enter the era of digital museum design, integration, network, and intelligence.

The development of museum exhibition is from “emphasizing visual beauty” to “pursuing humanized” space feeling; From “static exhibition” to “dynamic space” experience. Exhibition

space has become the main role and factor of exhibition design. The integration and interpenetration of people and space, exhibition and space make contemporary museum exhibition space design show the trend of space diversification. The exhibition space is first and foremost based on the human experience rather than the reason for the exhibition. This is an exposition of modern museum exhibition design on exhibition, architecture, and audience relations. Sometimes, the exhibition space interprets the spirit of the museum with its unique spatial charm and spatial experience, enough to distract visitors from the museum exhibition. This suggests that the exhibition space has the same function as the exhibition when it comes to conveying the thematic content of the museum.

2. DESIGN PHILOSOPHY

2.1. Create the most suitable exhibition and exhibition space venues

In the information age, developed information networks and media dominate or influence modern lifestyles and value orientations. The popularization of computers and the application of various high-tech means have spread information widely and profoundly affected public life. The influence of information technology on human beings mainly comes from new forms of communication and space. Information technology creates new spatial forms of virtual space [3]. In the digital age, the development of information technology makes the type, speed, and convenience of information exchange not directly related to distance and location. The Internet has rewritten human activities in space, enabling people in different geographical locations to communicate with each other through electronic technology and interact in artificial virtual environment. It also enables people to easily cross space and interconnect regionally. Developed information networks and media allow people to quickly understand the contents and themes displayed in various museums [4].

Therefore, the original intention of the public to visit the museum is to seek emotional commonality and spiritual touch, to pursue the real experience of the site space, to feel the atmosphere and situation created by the theme space. The creation of the overall space environment even extends to the integrated design of the entire external environment space. Constantly expand and enrich the connotation of the exhibition space, and create a theme “Exhibition and exhibition space” that conforms to the content theme, cultural characteristics and environmental characteristics of the museum. Creating the most suitable exhibition and exhibition space for visitors and exhibitions is the inevitable result of modern museum exhibition design to meet the development requirements of the times.

2.2. Emphasize the emotional experience and participation of the audience

From the perspective of the development of the times, “edutainment” is an educational method especially

advocated by modern education [5]. In today’s information society, meeting the entertainment needs of the public has become an important social function of museums, just as satisfying the educational needs of the public. Museum exhibition is no longer a “textbook-like” in the preaching place, people’s pleasure experience has become the core of museum display design, and people’s emotional experience has become a new aesthetic value orientation.

Modern museum exhibition design on the basis of architecture and engineering, further face and respect the needs of people, pay attention to people’s emotional and aesthetic needs. The design emphasizes audience participation in the exhibition content and promotes emotional communication between audiences and exhibits to achieve the exhibition viewing process of “scene blending, object integration and sense integration”. Attract the audience to interpret the real history behind the exhibition, see the brilliant civilization carried by the exhibition space, increase the scientific knowledge and edify the artistic sentiment.

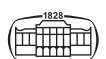
2.3. Focus on people’s spatial experiences

For a long time in the past, museums were content with a single form of communication—seeing. The audience looks as they walk, their eyes shift from the exhibits to the text description, pass through the exhibition hall, complete the communication between the audience and the exhibits, and let the audience know. This kind of presentation can no longer meet the requirements of contemporary audiences.

Contemporary museum exhibition design pays more attention to the interaction and communication between the audience and the exhibits, expands people’s life experience and feeling, and promotes the dialogue between people and the space and environment. The museum exhibition form is not only a carrier of exhibition content, but also a way to convey emotions. People often say that “the scene is very touching”, “the scene is shocking”, “the atmosphere is solemn”, etc., does not mean that the museum itself is touching, loved or respected, but because people’s specific emotional experience and rich spirit are condensed in the museum and the environment, space and place and display content of the museum and its formation. For example, the overall spatial form of the Jewish Museum in Berlin reflects this characteristic. Here, isolated exhibitions and buildings no longer exist; the exhibition space and the emotional experience of the people have been integrated [6].

3. A NARRATIVE DESIGN FOR A SMALL EXHIBITION SPACE

The project is located in Beijing and is a three-dimensional garage space renovation of a state-owned enterprise. The commissioned designer is the Beijing Federation of Literary and Art Circles (BFLAC), founded in 1950, is a people’s organization led by the Beijing Municipal Party Committee and composed of Beijing Literary and Artist Associations



and Literary and Art Workers' Federations. Simply put, it is the organization that leads and plans the development of Beijing's cultural and artistic industries.

The old garage has a building area of 615 square meters and is transformed into a museum. On the one hand, the reason for the renovation of the building is because of the low utilization rate of the three-dimensional garage, and on the other hand, with the development of state-owned enterprises, a museum of corporate culture and history is needed (Fig. 1).

This project is determined by the cultural and art industry attributes of the client: a comprehensive display of the enterprise's history and culture, works and contributions in the process of development, combined with art and culture education and promotion is the focus of museum exhibition design. Narrative design constitutes the main method of conveying information in the exhibition space, and the spatial design of the museum combined with modern spatial display means subtly communicates with the audience. Just as culture and art serve people, so the new museum also wants to be designed as an art museum with temperature [7].

3.1. Multifunctional layout design

The first floor of the old garage is museum space. The second floor of the original building still retains office functions and is not renovated. The openness of the garage space meets the needs of the new museum's functional diversity. The double entrances on the north and south sides of the museum also form a dynamic flow line inside the museum. Visitors can enter from the south entrance or from the north entrance, both sides can be the beginning of viewing the exhibition, viewing the exhibition is not the only order. Limited by the columns of the original building structure, the interior of the museum is divided into 9 squares and 3 strip-shaped rooms, which are museum space and supporting functional rooms (Fig. 2).

The central area of the museum is set up as an open space for educational and lecture activities. Using the original three-dimensional garage space height of 5.3 m, it is designed as a stepped space to meet the needs of multiple people to watch and interact. The lecture space does not set a fixed door to constitute a closed space, and only considers whether to close the curtains on both sides according to the



Fig. 1. Old three-dimensional garage interior (Photo by X. Kang)

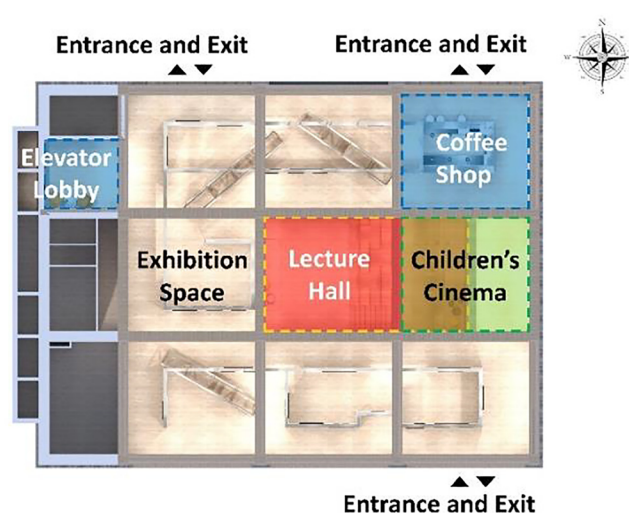


Fig. 2. Museum design plan (Drawing by X. Kang)

activity content of the lecture space when activities are needed.

The space on the east side of the building is a small cinema for children, and part of it is the lower part of the lecture space. Using a high-definition projector projected on the white curtain on the east side, children sit and lie in a triangular space below the stairs of the lecture space, creating a sense of shelter.

The main spaces on the north and south sides of the building are exhibition spaces. The wooden boards were built and painted with white paint to form the dividing wall of the exhibition space. Many holes for visitors to pass through are cut out of the partition wall, and the divided wall and the exhibition wall combined with some wooden frames are interspersed with each other, forming rich viewing routes. Diverse viewing routes not only provide a variety of viewing angles, create a variety of accidental viewing discoveries, but also avoid the collective action of the audience.

The cafe on the north side of the building is an auxiliary service space that gives the museum a living atmosphere and warmth. In addition to selling drinks and light meals, the cafe also sells museum cultural and creative souvenirs. This makes the cafe an indispensable part of the museum's visit (Fig. 3).

3.2. Multimedia display and spatial narrative design

The museum is an exhibition space highlighting the history of Beijing's culture and art. The exhibits in the exhibition hall are mainly representative cultural and artistic works of the past 70 years, including film, music, painting, photography, literature, and other fields. As an immaterial asset such as culture and art, the main means and medium of exhibition is multimedia technology.

The museum's exhibits are mainly presented through "paintings" on the exhibition walls (Fig. 4). On the walls are framed pictures of different styles and sizes, with Advanced Color ePaper (ACeP) screens embedded in the frames [8].



Fig. 3. Museum interior renderings, from top to bottom and from left to right: lecture space, children's cinema, exhibition hall and cafe (Drawing by X. Kang)

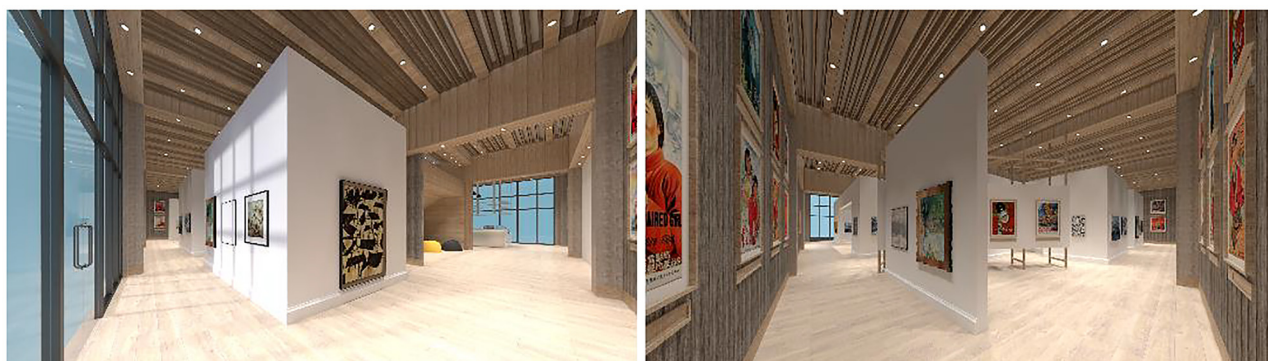


Fig. 4. Exhibition hall renderings (Drawing by X. Kang)

Advanced Color ePaper is less dazzling than LCD screens and is closer to the texture of paper. It has more ergonomic viewing requirements, allowing viewers to watch for a long time without eye fatigue.

It highlights the cultural reliability and artistic comprehensiveness of the enterprise through the display form of archives and databases. At the same time, it can solve the contradiction that the building area of the museum is small, but the contents of the exhibits are too much. The “painting” controlled by the electronic terminal changes the display

content every 30 s. Of course, visitors can also scan the QR code under Advanced Color ePaper through the mobile APP to choose the display content, and even use an Advanced Color ePaper to browse all the museum's exhibits.

The dynamic display method allows the audience to encounter with the exhibits in the process of visiting the museum with a kind of fate version of chance. This not only increases the narrative and interest of the exhibition space, but also makes the exhibits interact with the audience again and again.

3.3. Open design of edutainment

The design of the lecture space is on the one hand because modern museum design requires the function of public education, and on the other hand, the city residents need multi-functional space to hold activities, such as salons, book signings, etc. Different from traditional classrooms and meeting rooms, the lecture space is open and free, without restricting the flow of people in and out. The stepped space is dotted with sliding tables, which also meet the needs of the audience to sit and discuss (Fig. 5).

In addition to the basic exhibition function, contemporary museum space also needs to have flexible and changeable spatial malleability [9]. Both lecture space and children's cinema are important parts of the cultural and artistic atmosphere of the museum. It allows the audience to communicate with each other while watching the exhibition, and to have a deep understanding of the stories and meanings behind the exhibits. This can not only deepen the audience's impression of the exhibition, but also stimulate the audience's creativity.

3.4. Immersive design that focuses on audience experience

The exhibits throughout the museum are valuable intangible forms of cultural and artistic heritage. The process of watching the exhibition is also a process of learning and understanding, as well as a creative process that inspires the audience's emotions and inspiration. The opening of official archives of paintings, videos and other artistic works to the public is a cultural benefit that emphasizes experiential art. This kind of subtle public education is also an immersive learning experience [10].

The museum does not stipulate the viewing content of the audience, nor does it limit the fixed viewing route of the audience, and even provides a variety of routes and Spaces for the audience to choose freely (Fig. 6). The audience has been in a kind of spontaneous tour and activity in the museum, which makes the act of watching the exhibition become the behavior of life. Moreover, the dynamic changes of the exhibits make it possible for the audience to "meet



Fig. 6. Aerial view of the museum (Drawing by X. Kang)

again" with them many times. This accidental viewing also brings the audience into the story created by the exhibition.

The immersive experience of museum design can be realized not only by relying on the illusory scenes constructed by multimedia technology, but also by allowing the audience to become the selectors and participants of the exhibition.

3.5. Summary

The activities as art display, film or book reading in museum design are presented through spatial narrative design.

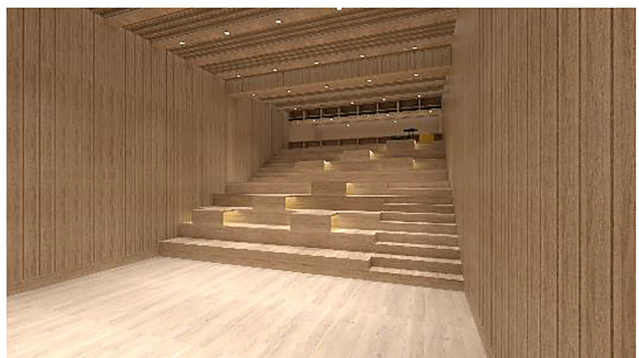
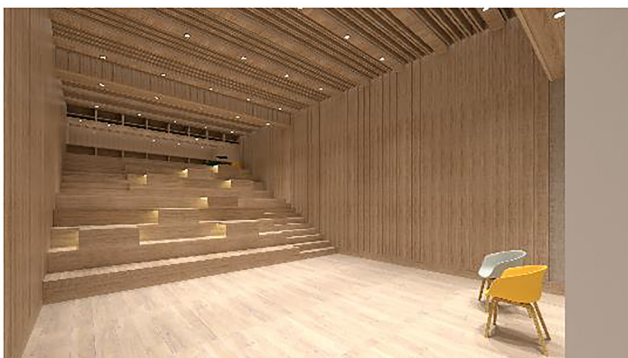


Fig. 5. Lecture space renderings (Drawing by X. Kang)

Together, they constitute the media tools for the spatial atmosphere and the spirit of the cultural place. The small museum converted from an old building is a representative case, which illustrates that contemporary museum space design should combine new technologies and tools, be multifunctional and open, and emphasize public education and audience experience.

4. CONCLUSION

In the 21st century, the global dissemination of information has brought new thinking to museum display design. If the museum exhibition design only stays in the traditional sense of visual effects display, its existence and development significance will be more and more narrow. A large number of pictures, text, and other physical materials can be communicated through the Internet, movies and other visual means, so that people can perceive and understand history.

In exhibition design, attention should be paid to the relationship between exhibition content, architectural space form and regional environmental characteristics to avoid separation, conflict, and confrontation among the three. It is necessary to pay attention to the spiritual connotation of the display content into the architectural space.

In the renovation and expansion of the museum, it selectively absorbs and inherits the essence of the original architectural form, environmental space, and display technique. This inheritance may be a continuation of the proportions of the spatial scale, or it may be a reference to textures, decorative materials, and colors. It is according to the needs of modern people, the use of modern new technology, new materials, and new tools for timely transformation of a new means.

Museum exhibition design should embody the perfect combination of form and content, and present the theme and content of museum exhibition with the best audio-visual exhibition effect, so that the theme of the whole exhibition can be deeply reflected in the mind of the audience, so that the audience can understand the historical facts, and at the same time obtain the emotional and spiritual sublimation. Among them, a series of design elements such as space distribution, exhibition line arrangement, scene setting, exhibition technology, lighting effect, video media, sound effect, graphic display boards, sculpture and decorative materials all affect the exhibition effect and audience experience.

The perfect combination of technology and art is also a trend of modern cultural exhibition design. In the design of museum exhibition, in addition to reasonably solving the exhibition function and conventional technical problems,

it is more important to give the exhibition space with a specific cultural concept and artistic atmosphere.

ACKNOWLEDGEMENTS

Thanks to Professor B. Chen from Beijing University of Technology and postdoctoral fellow X. Yan from Future Lab of Tsinghua University for participating in the design of the author for their performance of project results, a large part of their help. In addition, special thanks to Dr. L. Yu from Studio No. 9, School of Architecture, Central Academy of Fine Arts for his advice.

REFERENCES

- [1] D. K. Wei and J. D. Wei, "Reproduction of vitality by careful reconstruction—exploration and practice of reforming ordinary old buildings" (in Chinese), *Ind. Construction*, vol. 36, no. 5, pp. 108–110, 2006.
- [2] X. Y. Peng and B. C. Zheng, "Modern high technology brings changes to the aesthetic relationship between people and the world" (in Chinese), *Jiangnan Tribune*, vol. 5, no. 5, pp. 80–82, 2002.
- [3] M. Y. Wu and B. Bachmann, "The impact of social interaction on the leftover space," *Pollack Period.*, vol. 16, no. 3, pp. 151–157, 2021.
- [4] G. Ozdemir and D. Celebi, "A social media framework of cultural museums," *Int. J. Akdeniz Univ. Tourism Fac.*, vol. 5, no. 2, pp. 101–119, 2017.
- [5] X. Kang and G. Medvegy, "The architect's design in the countryside stimulates the vitality of the countryside - Xiamutang children's library," in *6th International Academic Conference on Places and Technologies*, Pécs, Hungary, 9–10 May 2019, pp. 299–306.
- [6] D. Hannah, "Jewish Museum of Berlin: Dancing between the lines," *Idea J.*, vol. 7, no. 1, pp. 26–41, 2006.
- [7] X. Kang, G. Medvegy, and Y. F. Zhou, "Spatial narrative research with architecture as the media," *Pollack Period.*, vol. 17, no. 1, pp. 173–177, 2022.
- [8] E Ink's Color ePaper Technologies Displayed At Touch Taiwan 2021 Exhibition, E Ink, 2020. [Online]. Available: <https://blog.eink.com/e-inks-color-epaper-technologies-were-on-display-at-this-years-touch-taiwan-exhibition>. Accessed: Dec. 26, 2022.
- [9] G. Lindsay, Ed. *Contemporary museum architecture and design: theory and practice of place*. New York: Routledge, 2020.
- [10] X. Liu, "Experiential learning exploration in the museum's public education activities" (in Chinese), *Ability Wisdom*, vol. 36, no. 2, pp. 47–48, 2015.

