

Analysis of the Exhibition Design at the Gansu Jiandu Museum

Ziyi Zou, Lirong Zeng*

School of Ethnology and History, Ningxia University, Yinchuan, China

**Corresponding Author.*

Abstract: The design of museum exhibitions, through the integration of art and technology, creates a bridge between history and the present, enabling the transmission of cultural memory and the promotion of civilizational values. The Gansu Jiandu Museum, known for housing the largest collection of Han dynasty wooden and bamboo slips in China, serves as the focus of this analysis. This paper begins with an overview of the museum's general situation, followed by an in-depth analysis of the content design across its four exhibition halls. It further investigates the museum's design in terms of spatial layout, artifact display methods, lighting effects, color schemes, and audience experience and interaction. The purpose of this study is to provide valuable insights for the future optimization and development of exhibition design at the Gansu Jiandu Museum.

Keywords: Gansu Jiandu Museum; Exhibition Display; Formal Design; Content Design

1. Introduction

The Gansu Wooden and Bamboo Slips Museum is situated on Matan Cultural Island in the Qilihe District of Lanzhou, Gansu Province. It is located across from both the Old Street of Lanzhou and the Gansu Provincial Museum, an area known for its rich cultural atmosphere. The museum traces its origins to the Han Bamboo Slip Research and Organization Office, which was established at the Gansu Provincial Museum in the 1970s. After years of development and construction, the museum was officially completed in 2012 and opened its doors to the public in September 2023. As a national-level museum, it holds significant responsibilities, including the collection, preservation, research, restoration, and exhibition of wooden and bamboo slips unearthed in Gansu.

The museum houses a collection of 50,129 cultural relics (sets), of which 31,943 (sets) are classified as rare and valuable, ranking above grade three. The collection is primarily focused on wooden and bamboo slips, featuring invaluable artifacts such as the Tianshui Fangmatan Qin Wooden and Bamboo Slips, the Juyan New Bamboo Slips, the Dadiwan wooden and bamboo slips, the Dunhuang Maquanwan Han wooden and bamboo slips, and the Xuanquan Han wooden and bamboo slips. These Han dynasty wooden and bamboo slips are not only crucial carriers of ancient Chinese culture but also serve as vital resources for studying ancient politics, economy, military affairs, and culture.

The museum features four permanent exhibitions: The Era of wooden and bamboo slips, A Brief History of the Silk Road, Borderland Families, and Writing on Bamboo and Silk. Together, these exhibitions offer a comprehensive view of bamboo slip culture from various angles, each complementing the others to present a complete and engaging narrative of this unique cultural heritage.

2. Design of Exhibition Content at the Gansu Jiandu Museum

2.1 Exhibition Hall: The Era of Wooden and Bamboo Slips

The Era of Wooden and Bamboo Slips exhibition hall is the first of its kind in China, focusing specifically on wooden and bamboo slips. The design integrates archaeological discoveries, historical research, and digital technologies to systematically present the evolution of bamboo slip civilization from the Warring States period to the Wei-Jin dynasties. The exhibition primarily aims at popular science education, starting with an introduction to wooden and bamboo slips themselves. It covers four key aspects: "What are wooden and bamboo slips", wooden and bamboo slips from Gansu", Writing on

Bamboo and Silk, and "The Discovery, Organization, and Research of Gansu wooden and bamboo slips". The display introduces the types, forms, manufacturing techniques, archaeological history, and key scholarly achievements in bamboo slip studies. The exhibition uses a panoramic approach, showcasing wooden and bamboo slips from different periods and types, supplemented by illustrations, to present a historical narrative of bamboo slip archaeology in the Hexi Corridor. It explores the context of archaeological discoveries and traces the origins of wooden and bamboo slips, offering a glimpse into the "Bamboo Slip Era" that spanned over two millennia, from the Shang dynasty to the Wei-Jin period.

2.2 Exhibition Hall: A Brief History of the Silk Road

Centered on the theme of "Exploring the History of the Silk Road", this exhibition deconstructs the spatiotemporal dimensions and civilizational significance of the Silk Road through five main thematic sections: "Where Was the Road", "Heading West", "Defending the Frontier", "East Meets West", and "Witnesses of the Silk Road".

The exhibition begins by using Han Dynasty geographical texts and celestial navigation tools to reconstruct spatial awareness in "Where Was the Road", highlighting the formation of the Silk Road's network of transportation systems. It then showcases the commercial landscape of "Heading West" through merchant documents and exotic treasures, augmented with holographic projections that recreate the majestic scene of caravans crossing the oasis. "Defending the Frontier" focuses on Han Dynasty border strategies, interpreting the role of beacon towers and frontier archives in securing the Great Wall's defense system and its importance for Silk Road stability. "East Meets West" displays materials exchanged between the East and West, including wooden and bamboo slips that record border customs and the mutual flow of goods, illustrating peaceful exchanges between cultures. Finally, "Witnesses of the Silk Road" showcases artifacts of cross-civilization exchange, such as silk, spices, and technologies, solidifying the historical significance of the Silk Road as the artery of ancient civilizations.

2.3 Exhibition Hall: Borderland Families

The Borderland Families exhibition hall uniquely intertwines national strategic narratives with the memories of individual lives, reconstructing the real-life scenes of border society. The hall focuses on the daily lives of frontier soldiers and settlers in the northwest, centered around the Juyan Han wooden and bamboo slips, supplemented by various letters and everyday items. It portrays the geographical, climatic, and natural conditions of the Juyan area and the multi-ethnic exchanges resulting from population migration. Through the stories of common people, officials, and military commanders in the borderlands, the exhibition highlights the struggles and hardships of frontier life over two thousand years ago. It offers a microcosmic perspective of survival in the border society, providing insight into the complexities of human relationships and the harsh realities of life in this remote region.

2.4 Exhibition Hall: Writing on Bamboo and Silk

The Writing on Bamboo and Silk exhibition hall creates a multidimensional space for the interpretation of calligraphy culture. By displaying the forms of Chinese characters on wooden and bamboo slips from different periods, the exhibition reveals the development of Chinese characters from early pictographs to more standardized and stroke-based writing. It also explores the origins and characteristics of different calligraphic styles, emphasizing the charm of brushwork and the cultural value of bamboo slip calligraphy. Despite the passage of millennia, the characters on the wooden and bamboo slips still demonstrate the exquisite calligraphy skills and unique artistic styles of the ancient writers. Visitors are invited to observe the brushstroke details up close, experiencing the strength, rhythm, and cadence of ancient writing, and appreciating the unique appeal of calligraphy across time.

2.5 Analysis of Exhibition Content Design

The Gansu Jiandu Museum has established a comprehensive exhibition system through its four exhibition halls. The Era of Wooden and Bamboo Slips focuses on the wooden and bamboo slips themselves, systematically

explaining their definition, origin, production process, materials, and archaeological discoveries. A Brief History of the Silk Road reconstructs the spatiotemporal coordinates of wooden and bamboo slips within the context of the Silk Road. Borderland Families delves deeper into the military, political, and civilian aspects of life through the study of wooden and bamboo slips. Writing on Bamboo and Silk offers an artistic perspective, showcasing the aesthetic evolution of bamboo slip writing. The exhibition design follows a logical progression, with an emphasis on the "object-culture" framework, guiding visitors from basic knowledge to deeper understanding. It serves both professionals and the general public, providing rigorous archaeological insights while ensuring broad educational value, successfully combining expertise with general scientific education.

3. Exhibition Format Design of the Gansu Jiandu Museum

3.1 Spatial Layout Analysis

Exhibition design is essentially the creation of an environment, and the spatial layout serves as its central element[1]. It functions not only as the physical framework for the museum's exhibits but also as a narrative medium and a core component of the visitors' experience. A well-designed spatial layout ensures the efficient flow of visitors, offering clear, logical paths and creating an enjoyable, comfortable viewing experience.

The Gansu Jiandu Museum is housed in a four-story building, with its spatial layout following a clear, structured logic. The journey begins on the first floor with the entrance hall, which leads visitors into various themed exhibition areas. The first floor is designed to accommodate essential museum functions, including activity spaces, service areas, temporary exhibition halls, and administrative offices. The public space here is spacious, not only providing ample room for visitors but also allowing for efficient evacuation if necessary. The second floor features two primary exhibitions, The Era of Wooden and Bamboo Slips and A Brief History of the Silk Road, while the third floor houses the exhibits Borderland Families and Writing on Bamboo and Silk. The fourth floor primarily serves as a space for museum activities and visitor rest.

The layout between floors is connected by wide elevators, making movement between levels easy and accessible. On a broader level, the exhibition areas are designed to be both independent and interconnected, creating a logical flow for visitors. The exhibition route can be followed in a prescribed sequence, but visitors also have the freedom to explore specific areas that pique their interest. Overall, the museum features distinct functional zones that are well-integrated, providing a coherent and thoughtful space for exploration.

In terms of visitor flow, the museum is carefully designed to meet both the behavioral patterns and needs of its audience. The four primary exhibition halls are interconnected in a seamless sequence, with each area leading naturally into the next. This approach ensures a continuous narrative and helps visitors engage fully with the content[2]. It also minimizes the risk of missing sections and avoids the need for backtracking. Within the exhibition halls, the corridors are sufficiently wide, ensuring that visitors can comfortably move around and view the exhibits up close without feeling crowded. Furthermore, the museum has clearly marked signs and guide maps placed at strategic points, helping visitors navigate effortlessly through the space.

3.2 Analysis of Artifact Display Methods

The Gansu Jiandu Museum employs a variety of display methods to showcase its artifacts, including display cases, artifact groupings, and open displays.

Display cases are a fusion of art, technology, and scientific preservation, representing a comprehensive cultural product[3]. At the Gansu Jiandu Museum, a multi-dimensional exhibition system is created through the differentiated design of display cases. Central to the display are table-top cases, whose heights are meticulously calculated through ergonomic principles to ensure that adult visitors can view the artifacts comfortably. Additionally, specially designed low, child-friendly platforms reflect an inclusive design philosophy for all age groups. Another distinctive feature within the museum is the use of partition wall cabinets, which are sized according to the dimensions of the wooden and bamboo slips. The exterior walls of these cabinets are adorned with patterns, text, or colors that highlight the artifacts within,

directing the visitor's attention and enhancing the visual presentation of the wooden and bamboo slips. The core exhibition areas also feature centrally placed four-sided display cabinets, which break away from the static display model. These cabinets are equipped with smart rotating platforms and augmented reality (AR) systems, allowing visitors to view the artifacts from all angles and interact with them through gesture controls to access 3D holographic interpretations. This immersive and interactive setup fosters a deeper understanding and engagement with the artifacts.

Artifact groupings are a common display method throughout the museum. One approach involves categorizing the wooden and bamboo slips based on their historical significance, such as those related to laws, trade, military, and correspondence. This thematic grouping offers a systematic presentation, providing visitors with a coherent historical context. Additionally, the museum employs a scenographic narrative technique for grouping artifacts like military weapons, farming tools, and domestic items according to their usage context. This spatial reconstruction strengthens the historical and contextual interpretation of these artifact groups.

Open arrays are used for reproductions of ancient tools, such as farming implements and weapons, allowing visitors to examine them up close. These replicas enable a deeper understanding and appreciation of the objects' intricate features and their historical functions.

3.3 Analysis of Lighting Effects

As an institution dedicated to the preservation, research, and exhibition of artifacts, museums must exercise great caution in their choice of lighting. It is essential to balance both the protection and presentation of artifacts, while also considering the visual experience of the visitors. For a museum, the lighting system must serve the following functions: first, to provide an environment that aligns with visitors' psychological expectations; second, to ensure adequate illumination for the artifacts on display; and third, to control the potential radiation damage to the artifacts[4]. The lighting system at the Gansu Jiandu Museum adheres to the principles of comfort, artistry, and conservation, effectively highlighting the unique features of the wooden and bamboo

slips and creating an appropriate ambiance.

On a broader scale, the harmony and spatial perception of a museum are largely determined by its lighting design system. Excellent lighting design plays a pivotal role in enhancing the exhibition space of a museum[5]. At the Gansu Jiandu Museum, the lighting system has been carefully planned and selected, with particular attention to both color and fixtures. The museum predominantly employs warm yellow lighting, which not only evokes a sense of warmth and friendliness but also aligns with the historical and cultural atmosphere embodied by the museum. This color choice enhances the experience of ancient civilization and immerses the audience in its ambiance. In terms of light sources, the museum uses predominantly low-intensity warm lighting. This low-level illumination not only protects the exhibits from potential damage caused by excessive light exposure but also creates a tranquil and mysterious environment, enriching the viewing experience. The combination of artistic lighting and physical displays fosters a unique atmosphere between light and art[6].

Regarding the choice of lighting fixtures, the museum extensively utilizes track lights and fluorescent lights. Track lighting is particularly effective due to its directional precision and flexibility, allowing for precise positioning and adjustment according to the layout and requirements of the exhibits. This ensures focused illumination, highlighting the details and unique features of the artifacts. Additionally, the various modules of track lights can serve different purposes, such as basic lighting, concentrated lighting, or supplementary lighting, allowing a single track system to create a diverse range of lighting effects[7]. Fluorescent lights, with their soft, uniform glow, provide stable, foundational lighting for the exhibition halls, ensuring smooth transitions in light intensity across the space and avoiding shadows or uneven lighting that might otherwise disrupt the viewing experience.

3.4 Color Analysis

Color design can not only affect the personal emotions of visitors, but also directly determine the tone of museum display, and color changes can express the contents of museum display [8]. When visitors visit the

museum, they feel the history and humanity, and at the same time they feel the emotional creation of the environmental atmosphere [9]. Gansu Jiandu Museum uses different colors to create different space atmosphere according to the theme and characteristics of each exhibition area. In the "Wooden and Bamboo Slips" exhibition area, the design style is calm and atmospheric, mainly in brown and yellow tones, with simple lighting and simple decorative lines, creating a solemn and mysterious historical atmosphere. The floor is paved with dark marble, which enhances the historical sense and cultural heritage of the space. The "A Brief History of the Silk Road" exhibition area is dominated by bright colors, and uses bright lighting and transparent space design to show the vitality and openness of the Silk Road and its people. The exhibition area of "Frontier People" uses warm tones of lighting and original decorative materials, such as exposed brick walls, wooden beams and columns, to create the harsh environment of the frontier area and the tenacious spirit of the soldiers and civilians. The exhibition area of "Writing on Bamboo and Silk" is mainly in white color, with soft lighting and simple decorative elements, highlighting the artistic beauty of calligraphy works.

3.5 Audience Experience and Interaction Design

The role of the audience is the most important role of the public, and the communication of culture in the museum is completed through the participation and harvest of the audience [10]. In order to enhance the audience's sense of participation and experience, Gansu Jiandu Museum has set up a series of rich and diverse interactive experience projects. In the activity area of the museum on the first floor, a calligraphy desk is set up, where visitors can copy calligraphy works on wooden and bamboo slips under the guidance of professional teachers. In the "Writing on Bamboo and Silk" exhibition area, digital technology is used to save the audience's written works and share them on a large screen, which increases the interest of interaction. A simulated military exercise project is set up in the exhibition area of "Borderland Families", and the audience can experience the training scenes of ancient frontier fortress soldiers through virtual reality technology, such as

archery and horse riding. In addition, there are some hand-made projects, such as making simple wooden slips models, rubbings, etc., so that the audience can understand the production process and cultural connotation of wooden slips in practice.

4. Conclusion

Gansu Jiandu Museum, as the largest collection of Chinese slips museum, presents a vivid picture of wooden and bamboo slips culture to the audience with its rich collections and unique exhibition design. Through the in-depth analysis of the exhibition design of the museum, it can be seen that it shows a high degree of innovation and professionalism in space layout, exhibition form, lighting efficiency, color application, audience experience and interactive design.

In terms of spatial layout, the museum follows a rigorous logical sequence, rationally planning each functional area, forming a clear and smooth visiting line, providing the audience with a comfortable viewing experience. In terms of exhibition forms, the museum adopts diversified display methods to strengthen the historical context interpretation of cultural relics and build an immersive and interactive environment for viewing and exhibition. The clever use of lighting efficiency and color further creates a suitable atmosphere and highlights the cultural characteristics of wooden and bamboo slips. The careful arrangement of the museum's audience experience and interaction design not only enhances the audience's sense of participation and experience, but also enhances the museum's educational function, making it an important platform for cultural inheritance and exchange.

The exhibition design of Gansu Jiandu Museum also provides valuable experience for the museum exhibition design field. With the continuous progress of science and technology and the growing demand for culture, museums should continue to explore innovative exhibition methods and further explore the connotation of cultural relics, so as to better realize the inheritance of cultural memory and the spread of civilized values.

References

- [1] Wang Yan, Xian Yiheng. Analysis on the exhibition design of Baoji Bronze

- Museum. Identification and Appreciation to Cultural Relics, 2021,(12) : 117-120.
- [2] Yang Ming. A study on the design of the visiting route of the museum exhibition. Art Education, 2020,(10) : 207-210.
- [3] Yang Baohui. Cultural relics display case design in museum exhibition. Cultural Industry, 2023, (28): 38-40.
- [4] Ren Rui. Research on the application of intelligent lighting system in museum exhibition design. Construction & Design for Engineering, 2023, (19): 47-49.
- [5] Zhang Weihao, Li Yanpeng. Research on lighting design of museum display space: A case study of Angang Museum. Lamps & Lighting, 2021, No. 153(04): 8-9.
- [6] Wang Weiyong. Research on lighting design of temporary exhibition in museum. Central Academy of Fine Arts, 2012.
- [7] Ji Yi Cheng. Analysis of the application of non-main lamp design in decoration. Jushe, 2022, (22): 62-65.
- [8] Lu Ruofei. The museum shows the emotion of color in design. Delta, 2023(04) : 186-188.
- [9] Yang Jing. Analysis on the role of color in the design of museum exhibition: A case study of the temporary exhibition "More Than Eight Strange Things - 300 Years of Yangzhou Painting" at the China Grand Canal Museum in Yangzhou. Identification and Appreciation to Cultural Relics, 2023, (16): 102-105.
- [10]Suo Lei, Luo Xiaoli. Practice, problems and reflections on public cultural service of museums from the public perspective: A case study of public museums in Nanjing Area. Identification and Appreciation to Cultural Relics, 2025(03): 74-77.