

Museum curation and public transformation of archaeological findings: taking the exhibition of Neolithic sites as an example

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Abstract

Neolithic sites are key material remains of the origin of Chinese civilization, and the public dissemination of their archaeological findings is an important path to activate early civilization and strengthen cultural identity. As the core platform for disseminating archaeological findings to the public, museums' curatorial concepts and implementation methods directly determine the efficiency of the transformation of archaeological findings. This article takes the exhibition of Neolithic sites as the research object, by drawing on the curatorial practices of Liangzhu Museum and Xi'an Banpo Museum and relying on The Third National Census of Cultural Relics data and official museum public information, systematically analyzes the diverse value of public transformation of archaeological findings, and explains the core function of museum curation in the public transformation of such findings. Research has found that, as noted by McDowall (2023), current Neolithic site exhibitions present practical problems including rigid forms, lagging public transformation, insufficient popular science interpretation, and uneven regional development. On this basis, this article proposes optimization paths such as innovative exhibition forms, rapid transformation of archaeological findings, optimization of popular science interpretation, and regional resource coordination, which can provide feasible references for the popularization and dissemination of archaeological findings in the Neolithic Age and the inheritance and popularization of early Chinese civilization.

Keywords

Neolithic Sites; Museum Curation; Archaeological Findings; Public Transformation; Exhibition Innovation.

1. Introduction

According to the data from The Third National Census of Cultural Relics [1], there are a total of 193,282 immovable cultural relics of ancient ruins registered in China, with Neolithic sites accounting for an important proportion. 6,677 related sites have been discovered in Shaanxi Province alone. These cultural relics systematically preserve the development of early agricultural civilization in China and are the core physical materials for exploring the production and living patterns of ancient Chinese people and the social evolution process. Against the backdrop of the continuous advancement of the Project of Tracing the Origins of Chinese Civilization and the major project of "Archaeological China" [2], new breakthroughs have been made in archaeological excavations during the Neolithic Age. The research results of important sites such as Yangshao, Liangzhu, and Longshan continue to enrich the academic community's understanding of the origin and early development of Chinese civilization [3]. However, from the perspective of dissemination, most archaeological findings are still mainly presented in academic reports and professional papers, limited to the professional research circle, and have not been effectively transformed for the general public. The public have limited access to relevant information and poor understanding of early civilization, and the cultural value and educational function carried by archaeological heritage fail to be fully exerted. The

14th Five-Year Plan for Cultural Relics Protection and Technological Innovation clearly proposes to strengthen the public dissemination and social transformation of archaeological findings [4], and improve the quality of public cultural services provided by museums. As an important link between archaeological research and the general public, museums' curatorial practices directly determine the popularization effect of archaeological findings, and are a key link in promoting professional academic content to the public and achieving concrete and popular dissemination. Based on this, this article takes the exhibition of Neolithic sites as the research object, combines the curatorial practices and authoritative materials of typical museums in China, analyzes the practical difficulties of public transformation of archaeological findings, and explores the role of museum curation in breaking down communication barriers and improving transformation efficiency, in order to provide reference for the revitalization and utilization of Neolithic cultural heritage and the public popularization of early civilization.

2. The Public Transformation Value of Archaeological Findings in the Neolithic Age

The public transformation of archaeological findings from the Neolithic Age is an important means of inheriting excellent traditional Chinese culture and building national cultural confidence. It carries the triple core values of cultural inheritance, public education, and social development [5]. The various artifacts and settlement remains unearthed from Neolithic sites outline a clear thread of the development of Chinese ancestors from settlement life to early civilization, and are also key physical evidence for the formation of the diverse and integrated pattern of Chinese civilization. The archaeological findings of core sites such as Liangzhu and Yangshao provide solid physical support for the exploration of the origin of Chinese civilization, intuitively demonstrating the continuity, uniqueness, and inclusiveness of early Chinese civilization [6]. The mass dissemination of archaeological findings can effectively fill the gap in public understanding of prehistoric civilization. As the first prehistoric site museum in China, the Xi'an Banpo Museum has received over 30 million visitors from both domestic and foreign countries since its opening in 1958 [7]. This venue has also become a benchmark for public education on prehistoric history in China, and has long undertaken the core functions of cultural popularization and public history education in the Neolithic Age. The popularization of archaeological findings can guide the public to establish the correct concept of cultural heritage protection, strengthen the national awareness of cultural relic protection, and lay a solid public foundation for the systematic protection of cultural heritage. Museum exhibitions based on Neolithic ruins have become an important carrier for the deep integration of culture and tourism. After the Liangzhu Ancient City Site was successfully inscribed on the World Heritage List in 2019, its three-dimensional display system built by the National Archaeological Heritage Park and Museum has received more than 9 million tourists by 2024 [8]. This kind of exhibition form with ruins as the core has enabled archaeological findings to go out of the professional academic circle, effectively boost the development of regional cultural tourism [9], advance the construction of the regional public cultural service system, integrate prehistoric civilization into public cultural life in a perceptible and understandable form, and fully unlock the contemporary value and social benefits of Neolithic archaeological findings. It enables the cultural connotations of early Chinese civilization to be perceived and recognized by more people, and continuously elevates the social reach and cultural influence of archaeological findings.

3. The core role of museum curation in the public transformation of archaeological findings

Museum curation is an important link between archaeological academic research and public cultural awareness. By relying on professional archaeological content excavation and exhibition design that is tailored to the public, combined with physical display and modern technology application, the archaeological findings of the Neolithic Age deeply buried in academic research are truly brought to the public [10]. Its core value in the public transformation of archaeological findings is also fully demonstrated through the practical implementation of concrete presentation, popular translation, and immersive experience. Museum curation can transform abstract archaeological discoveries and academic research conclusions into vivid exhibition content that the public can perceive and understand, allowing inanimate cultural relics and silent prehistoric relics to truly come to life. The Liangzhu Museum follows the distribution pattern of archaeological excavations and uses techniques such as scene reconstruction and 3D printing to visualize and display over 600 typical cultural relics, settlements, and water conservancy relics of the Liangzhu culture. Visitors can intuitively experience the scenes of production, daily life and social development of the Liangzhu ancestors 5,300 to 4,300 years ago. At the same time, curation can break down the professional barriers of archaeological scholarship, abandon the purely technical expression, and disseminate archaeological knowledge to the public through scenario-based narrative. The Banpo Museum in Xi'an interprets representative cultural relics such as 281 bone needles and human face patterned painted pottery pots unearthed from the site, combined with the real scenes of the Yangshao culture ancestors' textile production, dwelling and labor activities, making prehistoric culture no longer an obscure written record, greatly reducing the threshold for public understanding of prehistoric civilization. Modern museum curation also deeply integrates digital technology to create diverse experience forms and to strengthen public participation and cultural cognition. Liangzhu Museum has completed the 3D digital scanning and modeling of more than 200 precious collections of Liangzhu culture. It not only launches AR navigation function to create immersive experience scenes such as the pilgrimage to Mojiao Mountain [11], but also sets up interactive quizzes, virtual group photos and other fun activities, allowing visitors to immerse themselves in Liangzhu civilization. The implementation of digital exhibitions has greatly increased the public's stay time and cultural awareness in the Neolithic site exhibition hall, allowing audiences of different ages to find suitable experience methods, truly realizing the deep cultural dialogue between archaeological findings and the public.

4. Existing problems in the exhibition and public transformation of Neolithic sites

Museum curation is a key channel to connect the archaeological findings of the Neolithic Age with public awareness. However, in the actual operation of prehistoric site museums in China, there are still many practical problems that restrict the dissemination effect, making it difficult for precious archaeological relics to truly unlock the cultural value and social benefits. Most of the exhibition halls of Neolithic sites in China still use the traditional static exhibition mode, mainly displaying cultural relics with basic textual explanations, and rarely combining the characteristics of prehistoric civilization to create immersive and interactive experience scenes. Some exhibition halls' explanatory texts are either piled up with professional content that is obscure and difficult to understand, or the information is brief and lacks depth, which cannot arouse the interest of ordinary visitors and guide the public to understand the prehistoric civilization context carried by cultural relics [12]. The connection efficiency between new archaeological findings and exhibition updates in the exhibition hall is low, and

the latest excavation results of many key Neolithic sites have yet to be transformed into systematic and complete permanent exhibition content. The important archaeological discoveries at the Shijiahe site in the middle reaches of the Yangtze River in recent years have only been sporadically exhibited in a few provincial museums, and the Taosi site also has a disconnect between excavation results and public display [13], which cannot meet the growing demand for exploration of early civilization among the general public. The science popularization interpretation system of the exhibition hall also has obvious shortcomings. Some exhibitions overly focus on academic expression, and a large number of archaeological professional terms lack popular translation and interpretation. They also rarely rely on the production and life scenes of our ancestors to construct narrative logic [14]. The naming and dating of some cultural relics are unclear, further widening the distance between the public and prehistoric civilization, making it difficult to form emotional and cognitive resonance. The problem of uneven regional development is particularly prominent. High-quality venues in the east, such as Liangzhu Museum and Xi'an Banpo Museum, have maintained a leading level in exhibition design and technology application with sufficient resources and policy support. However, the exhibition halls of Neolithic sites in the central and western regions generally face the dilemma of insufficient funds and scarce professional curatorial talents. As a core venue for the exhibition of Majiayao Culture, Lintao County Museum presents a low level of digital coverage for its collections. According to public data, the museum houses 10,247 cultural relics (1,279 sets/groups). Among them, only 215 relics have been digitally preserved and exhibited via digital display walls, representing approximately 2.1% of the total collection—less than 3% [15, 16], and many county-level site exhibition halls lack professional operation and maintenance capabilities. The quality and dissemination effect of exhibitions have not reached expectations, directly affecting the overall level of public transformation of Neolithic archaeological findings.

5. Optimizing the exhibition of Neolithic sites to promote Public Transformation

In response to the practical problems of public transformation in the exhibition of Neolithic sites, combined with the practical experience of benchmark venues in China, the curation practice is optimized from four dimensions: exhibition form, achievement transformation, popular science interpretation, and regional coordination, to accurately enhance the actual efficiency of public transformation of archaeological findings. Innovative exhibition expression forms require a deep integration of digital technology and immersive experience design. Drawing on the practical experience of AR guidance at Liangzhu Museum and realistic restoration of prehistoric scenes at Xi'an Banpo Museum, VR 3D modeling, holographic projection and other technologies are introduced to concretely restore specific scenes of rice farming, pottery firing, jade carving and settlement life in the Neolithic Age. Experience elements such as simulated archaeology and interactive check-in of cultural relics are added to promote the transformation of exhibitions from static display to dynamic participation, allowing the public to intuitively perceive the development of prehistoric civilization [17]. The transformation of archaeological findings requires the establishment of a normalized linkage mechanism between archaeological institutions and museums. In accordance with the 14th Five-Year Plan for the Protection of Cultural Relics and Scientific and Technological Innovation [18], we will improve the coordination mechanism linking archaeological excavation, curation of cultural relics, and exhibition presentation. We will strengthen the whole-process management of archaeological discovery, sorting, and interpretation, and facilitate the efficient transformation of the latest archaeological findings from key sites such as Taosi and Shijiahe into publicly accessible exhibition content. By smoothing the pathway for the public-oriented

transformation of archaeological results, we will realize an integrated, closed-loop system of excavation, processing, and display. The optimization of the popular science interpretation system requires the formation of an interdisciplinary team composed of archaeologists, curators, and public education specialists, abandoning purely academic terminology and transforming professional archaeological conclusions into narrative language that fits the public's cognition. It should be accompanied by various forms such as illustrations of ancient people's living scenes, prehistoric culture popular science short videos, on-site explanations and Q&A, and develops research and interpretation manuals for different age groups to meet the cognitive needs of different audiences and reduce the threshold for understanding prehistoric civilization. The development of regional exhibitions needs to strengthen resource coordination and policy guarantees. With the support of national cultural relics protection special funds, targeted support should be provided to the Neolithic site museums in the central and western regions. A long-term mechanism should be implemented for high-quality venues in the east, such as Liangzhu Museum and Xi'an Banpo Museum, to provide targeted assistance to venues in the central and western regions. Practical guidance should be provided in exhibition design, professional talent training [19], and digital exhibition resource sharing to narrow the gap in regional exhibition levels, promote the balanced dissemination of Neolithic archaeological findings nationwide, and truly integrate prehistoric civilization heritage into public cultural life.

6. Case analysis - taking Liangzhu Museum and Xi'an Banpo Museum as examples

In the practical exploration of the exhibition of Neolithic sites and the public transformation of archaeological findings, Liangzhu Museum and Xi'an Banpo Museum have deeply cultivated their own cultural characteristics and formed a highly valuable curation and dissemination paradigm for the industry.

The Liangzhu Museum focuses on the systematic exhibition of the archaeological findings of the Liangzhu culture, with a building area of 10,000 square meters and a regular exhibition area of over 4,000 square meters. It was awarded the fifth batch of national First-Class Museums in 2024. The museum integrates the cultural relics resources of four collection units in Zhejiang Province, using the three exhibition halls of "Water Town and Swamp Land", "Civilized Holy Land", and "Jade Soul National Spirit" as the narrative framework. It exhibits more than 600 precious cultural relics such as Liangzhu culture jade, pottery, and stone tools. At the same time, digital multimedia, 3D printing technology, and scene reconstruction are deeply integrated to create concrete exhibition content such as miniature models of jade cong production and digital restoration of ancestors' portraits [20]. The production process and cultural connotation of cultural relics are comprehensively interpreted, making abstract prehistoric archaeological findings tangible. The innovation of digital exhibition also significantly enhances the cultural dissemination and public appeal of the venue. As the first large-scale prehistoric site museum in New China, the Xi'an Banpo Museum relies on the archaeological excavation results of the Banpo site to create a unique exhibition system. The museum currently houses over 18,000 cultural relics, including more than 4,000 precious cultural relics of Grade III and above. It has two core areas, namely the Site Protection Hall and the Excavated Cultural Relics Exhibition Hall. Through characteristic exhibition units such as "Green Riverside" and "Poetry of Life", it truly restores the production and life scenes of the ancestors of the Yangshao culture. The museum not only holds more than 40 science popularization lectures on Neolithic culture every year, but also creates characteristic study tour brands such as "Prehistoric Workshop" and "Immersed in Six Thousand Years" [21]. Over the past decade, it has held more than 1,700 study tour activities and hosted nearly 200,000 young participants. At the same time, it has opened

up online live broadcasts, digital cultural courses and other forms of communication to achieve online and offline exhibition and dissemination linkage, effectively expanding the public reach of Yangshao cultural archaeological findings. The practical exploration of the two venues fully confirms that scientific exhibition design is the foundation for the public transformation of archaeological findings, accurate popular science interpretation is the core, and innovative display and dissemination methods are the key support. Only by creating diversified cultural dissemination forms that meet the public's cognitive needs can we promote the effective dissemination of Neolithic archaeological findings beyond the academic circle and achieve efficient public transformation.

7. Conclusion

The archaeological findings of Neolithic sites are key physical evidence to verify the origin of Chinese civilization and outline the development of early civilization. Museum curation, as its core medium for public transformation, plays an indispensable role in activating prehistoric cultural relics and spreading early Chinese civilization. The current practice of benchmark venues such as Liangzhu Museum and Xi'an Banpo Museum in China has formed an exhibition mode that integrates academic and communicative aspects, fully confirming the key points of achieving efficient public transformation of archaeological findings through scientific exhibition design, innovative technological applications, accurate popular science interpretation, and diverse forms of dissemination.

At the same time, the common problems in the industry, such as the rigidity of exhibition forms, lagging achievement transformation, inaccurate interpretation of popular science, and imbalanced regional development, also indicate that there is still much room for improvement in the public transformation work of Neolithic site exhibitions. This requires all relevant venues to follow the national cultural relics protection and scientific and technological innovation series planning as a guide, implement a normalized linkage mechanism between archaeological institutions and museums, rely on the national cultural relics protection special funds and inter-museum paired support policies, and address the development gaps of museums in the central and western regions.

On this basis, it is necessary to always focus on the public's cognitive needs, deeply integrate digital technology with prehistoric cultural characteristics, create concrete and immersive exhibition experiences, and transform abstract archaeological findings into cultural content that can be perceived and understood by the public. The public transformation of archaeological findings in the Neolithic Age is not only the popularization of professional academic achievements, but also an important way to integrate early Chinese civilization into public cultural life. Only by continuously improving the exhibition and dissemination system can the contemporary value of prehistoric cultural heritage be fully released, providing strong support for cultivating national cultural confidence and promoting the social popularization of findings from the Project of Tracing the Origins of Chinese Civilization.

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