

Cultural Identification and Innovation—A Study on the Design of Exhibition and Dissemination System for a City’s Cultural Heritage Under the New Media Context

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Abstract. A city’s cultural heritage is a unique symbol of the city’s identity. It is a valuable basis for the modern city to trace the cultural origins, look for their own position, restore urban identity, and get public recognition. In-depth study and excavation of urban heritage and the effective use and dissemination of cultural wealth of the city are regarded as necessary measures to highlight the city’s character and promote the development of urban culture. In combination with art and technology, exhibition, dissemination and service tools of new media being used in the field of cultural heritage, will help to achieve cultural heritage protection and mutual promotion between development and innovation, thus it has important practical significance for the sustainable development of urban culture and economic. This article introduces ideas and experience based on new media exhibition system of the Pingdingshan Museum.

Keywords: Cultural heritage · Urban culture · New media art · Exhibition and dissemination · Interactive exhibition design

1 Introduction

City refers to the convergence of population, resources, public facilities, industry commerce and culture. No matter historic or new blooming, the development of urban requires not only both political and economic powers for the city’s maintenance and promotion, but also the gathering and inheritance of culture which beared the soul of the city. Cultural heritage reflects the life trajectory of the city. It is the concentrated expression and interpretation of urban characteristics, as a real existence of the memory of the city. Scientific and in-depth understanding and mining of city’s cultural heritage, restoring and enriching the connotation of urban identity, and positioning urban qualities reasonably are the foundation for the construction of urban culture. Accurate grasp of the cultural identity of the city helps to lay a good foundation for obtaining wide spread recognition of the public and positioning of urban cultural development direction. The “recognition” plays an important role to establish a good image of urban culture and expand urban culture externally, and gather public consensus internally, safeguards a strong spiritual motivation and intellectual support for the city’s economic and social development.

Combined with new concepts and technologies, exhibition, dissemination and service means of new media being used in the field of cultural heritage have broad and important application prospects. The use of technical means and concept methods of new media, and mining, development and dissemination of the spirit of the city make cultural heritage become active construction of urban identity for promoting urban cultural development and innovation. In one word, it is one of possible ideas that are worth trying to promote comprehensive and sustainable urban development.

2 Related Work

In recent years, as a new means of communication, new media art has spread to a certain application in the field of cultural heritage at home and abroad. For example, recently, the Cleveland Museum of Art of the United States makes extensive use of new media art and technology, a large touch wall, matching action recognition, etc. (Fig. 1), which make people understand the contemporary museum with a new look. In China, the Nanjing Museum builds a Digital Experience Center (Fig. 2), as a consequence, new media tools have received centralized applications. New Media Art, which has a new and attractive entertainment features with its sound and light means,



Fig. 1. New media exhibition items of the Cleveland Museum of Art of the United States (<http://www.clevelandart.org/gallery-one>)



Fig. 2. Digital experience center of the Nanjing Museum (<http://www.njmuseum.com/Antique>)

brings to the viewers a strong visual, appeal, and immersive experience. It is regarded as its unique communication advantage, different from other artistic means. More importantly, the new media art brings a new narrative mode; its rich, vivid, interactive, nonlinear characteristics might change the discourse system of traditional museum and bring new urban cultural experience.

3 New Media Exhibition and Dissemination System Design of the Pingdingshan Museum

3.1 Trinity Analysis Method for Cultural Heritage: “Origin”, “Evolution”, and “Characteristics”

The basis of culture communication is accurate analysis, awareness and positioning. For understanding its own values and positioning the core spirit of its character of each city, it is necessary to explore its own life trajectory and grasp the pulse of sustainable development from the city origin and development context. System analysis and reconstruction of “origin”, “evolution”, and “characteristics” of the city’s cultural heritage, is an effective way to recognize and develop the city’s cultural heritage and shape urban identities. The trinity analysis method of “origin”, “evolution”, and “characteristics” (Fig. 3), in short, is to pursue the “origin” of urban culture from the origin of the city and geopolitical environment, the “evolution” of urban culture from the historical changes, and the “characteristics” of urban culture from the major historical events.

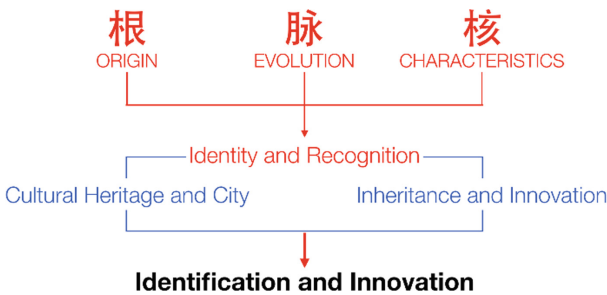


Fig. 3. Trinity analysis method of “origin”, “evolution”, “characteristics”

3.2 New Media Narrative System Construction of the Pingdingshan Museum

New media exhibition and dissemination design of the Pingdingshan Museum is one of our most recent cases. Pingdingshan, as a new city of coal industry in modern China, is well known, but its urban culture is slightly dim. Recent archaeological excavations have opened a door for the history and culture of the city. The finding of town site and a large area of cemetery of the Zhou Dynasty, helps to make a substantial advance of the civilized era of Pingdingshan city. Moreover, the inscriptions of unearthed jades

and bronzes can further confirm, the ancient state with “Eagle” as totem – the existence of the Ying State (In Chinese classical literary, “Ying” means “Eagle”). (Figures 4, 5, 6) The pursuit of “Eagle” culture fits the people’s feelings of finding origin, adding to the cultural advantages of Pingdingshan. Eagle’s image and characteristics are also in line with enterprising spirit and local character of the industrial city, therefore, “Eagle” as the theme of the spiritual heritage has opened up new horizons for cultural development of Pingdingshan.



Fig. 4. Unearthed white eagle carved by lines in Pingdingshan



Fig. 5. “Ying” in Chinese classical literary



Fig. 6. Unearthed bronzes in Pingdingshan and the inscriptions

In the construction of the new urban museum of the Pingdingshan Museum, along the trinity analysis of ideas of “origin”, “evolution”, and “characteristics”, we’ve combed the narrative system of Pingdingshan cultural context together with museum researchers and experts in various aspects. In the combination of traditional culture and innovative technology, with the use of the internet and new technology for digital new media as the important content of core nodes, we focus on narrating, plan a new media

narrative system of interactive media projects, including *New media sound and light relief of the origin of the Eagle City*,¹ *Virtual space and time roaming in ancient city by Vehicles and Horses*,² and *Chime-bells Interaction*,³ interactively narrate historical origins, cultural context and hot stories of the Eagle City, so that viewers can be deeply immersive with interactive experience, and feel ancient culture and unique charm of the Eagle City (Fig. 7).

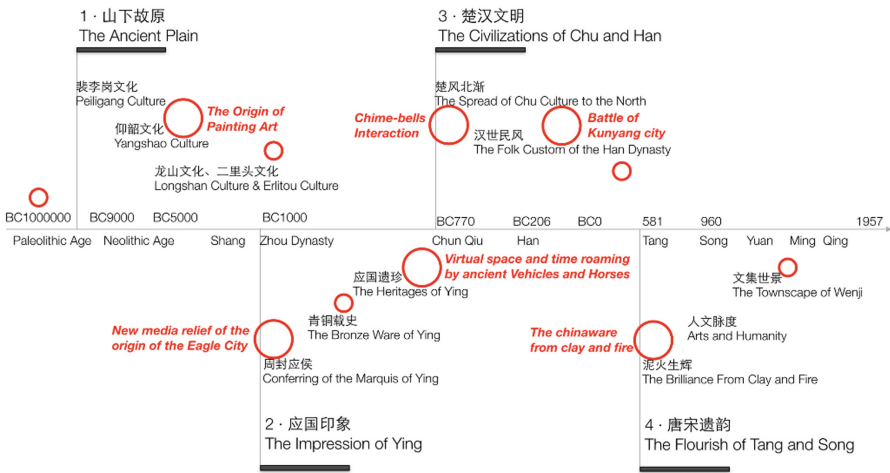


Fig. 7. Pingdingshan’s cultural context and new media narrative system

3.3 New Media Art Works of the Pingdingshan Museum

New Media Relief of the Origin of the Eagle City. “Finding origin” seems to be a natural human feeling. The consciousness of culture of “origin”, makes people find their own foothold point and identity recognition in the complex world and society. The starting point of diverse cultural nature explains the fundamental problems of urban existence, and largely influences the development direction of the city.

In Western Zhou Dynasty, Pingdingshan area was vassal state controlled by the fourth son of the King Wu of Zhou (also known as the ancient Ying State historically). During the long-term excavation process, in the cemetery of the Ying State, there are up to million pieces of unearthed copper, pottery, jade, stone and other types of artifacts, and over two hundred pieces of bronzes with inscriptions, thus opening a long-submerged mystery of ancient central plains. In 1986, an important cultural relics with the

¹ Designer: Lie Zhang, Zhi-Gang Wang, Zhi-Jun Zheng.

² Designer: Lie Zhang, Feng Xian, Jun-Yu Chen, Bo-Hang Pan, Jin Huang, Li-Wen Gong, Hai-Yong Sun, Chun-Yu Xu.

³ Designer: Lie Zhang, Ye-Qing Deng, Yi-Xi Zhong, Bai-Zhuang Ye.

significance of family emblem – the Jade Eagle, was unearthed from the 1st tomb of the Ying State cemetery. The eagle is the most representative of the limitless sky, broad-minded birds, and can tell an enthusiastic spirit of fighting the sky. It is also the origin of Pingdingshan’s alias – the Ying City. With the Jade Eagle, the Ying State, inscriptions, and the modern spirit of Pingdingshan, these different elements are integrated together to tell the story of the origin of the Eagle City, as an important new media works of the Pingdingshan Museum. We use superimposed projection in artistic creation of relief, through meticulously arranged narrative script and imaging and lighting with precision control, in this way, the seemingly traditional static relief appears to be “alive”, which presents a vivid and detailed dynamic sound and light new media relief works (Fig. 8).

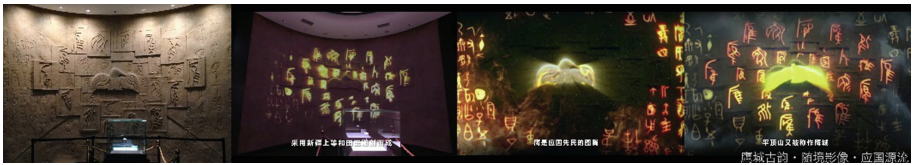


Fig. 8. New media relief of the origin of the eagle city

Virtual Space and Time Roaming in Ancient City by Vehicles and Horses. Cultural heritage on the interpretation of urban identity also reflects the inheritance in the context of the city’s culture. Thanks to historical documents and recent excavation research of cultural relics, historical development of the ancient city of Pingdingshan gradually become clear. The findings of stacked cultural layers make the city’s heritage thicker and calmer, regardless of the time change, cultural diversity is always accommodated and gathered with a broad-mind.

In order to fully experience the geospatial features and the context of development of times of Pingdingshan region, we combine kinect sensing equipment to design the *Virtual space and time roaming in ancient city by Vehicles and Horse*. In front of the big immersive screen, viewers only make a gesture of pulling the reins by waving their hands, and then horses in the screen will lead them to travel the ancient cities of Pingdingshan in a specific period. Ancient topography and geomorphology and customs are demonstrated in front of eyes of viewers. The shape of vehicles and horses, different decoration, and the surrounding scene, are all on the basis of rigorous archaeological research with artistic creation. As shown in Fig. 7, the scene is by now completed, which can present the period of ancient Ying State of the Western Zhou Dynasty. Next, we will incorporate information from different historical periods, so that people can further travel through the different times, such as the Spring and Autumn Period, Han, Song and Yuan Dynasties and so on in Pingdingshan by vehicles and horses (Fig. 9).

Chime-bells Interaction. Major archaeological discoveries and major historical society events are one kind of marks of urban identity of cultural heritage. As witness of the historical changes and a milestone in social development, a city can become very charming. Pingdingshan was located in the northern border of the Chu State during the



Fig. 9. Virtual space and time roaming in ancient city by vehicles and horses

Eastern Zhou Dynasty, as an important north-south traffic road and important military powerhouse in the disputing period of vassal states. The Xu State as the state with surname Jiang in the Zhou Dynasty, it moved the capital to here in the Spring and Autumn Period. In March 2002, the monarch of the Xu State, XuGongning tomb of the Spring and Autumn Period in Ye County in Pingdingshan was found. A set of unique Chu bells is the most impressive among the unearthed artifacts in tomb. The chime-bells are divided into 5 groups with 37 pieces, including Yong bells, Niu bells and Bo, which can help to fill the missing link from small bells in the Spring and Autumn Period to the large ZengHouyi Chime Bells in the history of the development of the Bronze Bells in China, being called the first sign of large portfolio belles in the Spring and Autumn Period. Meanwhile, the group of bells is regarded as the bells, which are currently known in the same period, with maximum size, the largest number of pieces, the best sound quality, and the most unique and complex combinations. The bells are the result of blending a variety of cultural factors, thus they provide a rare kind of information on the study of exchange and fusion of Central Plains culture and Chu culture.

For such a major archaeological discovery and its unique features of social and historical changes of the Spring and Autumn Period, we design a new media interactive entertainment works – Chime-bells Interaction. We take the traditional spatial design technique of opposite scenery, using spatial modeling to create a semi-independent open space. One side is a group of real unearthed chime-bells; the other side is completely digital interactive virtual chime-bells. But both are almost identical in shape, texture and appearance, and size. People can understand the characteristics of the group of chime-bells and its social and historical background through interactive images. The bells can be struck, so that people can hear the wonderful sound of real chime-bells. In addition, with natural guide of screen, it plays a melodious music of chime-bells. People can be immersed in the space with the change of real world and virtual world, listening to classical and novel music of Pre-Qin Dynasty (Fig. 10).

Based on the above works, We look the rich cultural heritage of our city as a target resource, excavate its cultural value, and refine some factors which can symbolize and summarize the history, culture, personality of city. The city's origin, evolution, Characteristics will highlight the culture of the city. Under the New Media Context, we



Fig. 10. Chime-bells interaction

arrange and decorate the representative narrative thread and the typical scene using art and technology forms, develop and utilize innovative digital communication and display technology, to find the most suitable and best art presentation. Finally, we take the city’s cultural heritage resources into digital display dissemination system to achieve the goal (Fig. 11).Requirement analysis and implementation

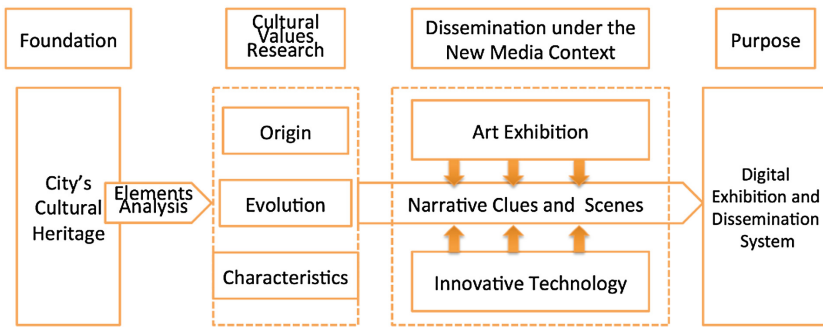


Fig. 11. The framework map of digital exhibition and dissemination system construction about city’s cultural heritage

4 Conclusion

Cultural evolution is continuing forward in the ongoing process of innovation and tradition. Without innovation, culture loses its vitality. Today, the colorful cultural heritage that is presented in front of us is bred from ancestors in innovation and tireless exploration. To achieve inheritance and innovation of the city’s cultural heritage, it is necessary to examine and explore, realize and develop its wisdom and achievements along the clues of historical evolution. Meanwhile, the combination of advanced technology and artistic means, attractive, innovative, and appealing exhibition and dissemination methods in full of the spirit of the times, are widely accepted, and the city’s position and advantages by highlighting the cultural characteristics give people

who reside in the city the spirit of enlightenment and emotional attribution, so that cultural identity and innovation can become spiritual power and inexhaustible culture source to maintain sustainable urban development.

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