

Inheritance Protection and Research of Intangible Cultural Heritage in Zhuhai, Guangdong under the Environment of New Media

—Taking Zhuhai Doumen Overwater Wedding as an Example

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Abstract—Under the current environment of new media, with the rapid development of new media technology, it is an inevitable choice to inherit and protect the intangible cultural heritage in Zhuhai in a more efficient way by digital media technology. The new media technology can bring new thought and new method for the protection and inheritance of intangible cultural heritage in Zhuhai. On the basis of the current status of intangible cultural heritage, this paper elaborates the advantages of the new media technology protection method for intangible cultural heritage, and emphasizes the necessity of conducting research and reasonable development in the new media digital technology transmission process of intangible cultural heritage without losing the national spirits and inheritance blood of cultural heritage. Meanwhile, it is also requested to respect and revere the ecological environment generated by intangible cultural heritage and the cultural space formed thereby.

Keywords—Intangible cultural heritage; New media technology; Virtual reality; Inheritance and protection

I. INTRODUCTION

The intangible heritage in our country has reflected the history of Chinese national culture and rich skills, and meanwhile, reflected the local conditions and customs in the broad motherland. At present when the modernized social science technology has changed quickly, and developed at a fast speed, it has become an important method to study and utilize digital method to inherit and protect intangible cultural heritage, and the utilization of digital technology for the inheritance protection and development transmission of intangible cultural heritage has become a new trend.

As per the definition in *The Convention for the Safeguarding of Intangible Cultural Heritage* of passed by UNESCO in 2003, “intangible cultural heritage” (hereinafter referred to as intangible heritage) refers to various practices, performances, mode of expressions, knowledge system, skills and the relevant tools, material objects, art ware and cultural places regarded by groups, teams, and sometimes individuals as cultural heritage. Various groups and teams will constantly innovate such intangible cultural heritage that is handed down from generation to generation along with the constant change of environment, the mutual relation with the nature and the

historical conditions, and meanwhile, make themselves possess a sense of identity and historical feeling, and then promote cultural diversity and arouse people’s creativity.

As early as 1980s, western countries started to have the awareness of using digital technology to protect intangible cultural heritage (hereinafter referred to as intangible heritage), and in 1990s, obvious effect were obtained. Since 21st century, the attentions paid by various countries on intangible heritage have been increased, and they successively adopted legal, political, education, technology and other modes for the protection and inheritance of intangible heritage, but since the protection and inheritance of intangible heritage are restricted by the dependency conditions and the protection awareness degree of local people, these traditional protection modes are dissatisfactory; if we want to realize the long-term protection and inheritance of intangible heritage, it is extremely urgent to fully utilize advanced digital technology [1].

People have paid increasingly attention to the inheritance protection and transmission of intangible cultural heritage, and in January 25, 2017, it was emphasized in the *Opinions about Implementing Chinese Excellent Traditional Cultural Inheritance Development Engineering* printed and issued by the General Office of the CPC Central Committee and the General Office of the State Council that, it is requested to implement the intangible cultural heritage inheritance development engineering, and further perfect intangible cultural heritage protection system. As for the perfection of intangible cultural heritage archiving system, clear instructions have been given for promoting digital conservation and transmission [2].

II. CURRENT STATUS AND EXISTING PROBLEMS OF THE PROTECTION OF INTANGIBLE CULTURAL HERITAGE

Along with the social development and progress and the arrival of the new era of informatization and digitalization, people's life has been largely changed, and the protection of intangible heritage is also subject to certain impact changes. Especially the most essential characteristic of intangible heritage is the "intangibility" and "active state" of heritage. Although recently, the protection of intangible heritage plays an undeniable role in digital technology, there are still many disadvantages. Currently, the main approach for the protection of intangible cultural heritage can be approximately divided into several types:

(1) The protection mode of intangible heritage inheritor (i.e., family inheritance mode); since most intangible heritage inheritors inherit through the skills handed down from their ancestors of intangible heritage inheritors and the mode of masters training apprentices, the inheritance of intangible heritage fully relies on the existence of inheritor, and the mode of protecting inheritor has always been the mode for the inheritance of most intangible heritages. The biggest disadvantage of such mode is "skills remain while people are alive, skills extinct while people are gone", which will lose the intangible heritage.

(2) Cultural tourism and ecological development mode (i.e., establishing cultural intangible heritage village); although this mode can bring considerable economic incomes to this region, on the opposite, since excessive cultural tourism and ecological development can bring big influence on intangible heritage protection and inheritance, the inheritance of intangible heritage has lost its value and characteristics.

(3) The education mode in universities (i.e., including intangible heritage task into the teaching of universities); although the education mode in universities can promote the transmission and influence of intangible heritage to a certain extent, a part of students can learn about the importance of intangible cultural heritage inheritance in the learning process, but due to the restriction of the strength of teachers engaged in the training education and the entire social environment, the education mode in universities cannot reach to the expected effect.

(4) The conservation mode adopting traditional means (i.e., entity museum, library and other conservation modes); currently, most museums and libraries nationwide still adopt traditional mode to conserve the data of intangible cultural heritage. Such traditional mode mainly exists as per the form of books, sound, video, etc., and such mode can easily generate paper aging, yellowing and mildewing, audio and video wetting, degaussing, distortion and other phenomena, which are bad for the long-term conservation of intangible heritage.

III. DIGITAL INHERITANCE PROTECTION OF INTANGIBLE CULTURAL HERITAGE

Due to the fast development of high-tech and digital media technology, the digital inheritance, and protection of intangible cultural heritage have become the emphasis in the social progress and development course, and our country has gradually paid attention to the digital inheritance protection of intangible heritage, and gradually apply it in the inheritance protection of intangible cultural heritage, which is the digital protection method often recognized by people. The development of high-tech has successively created high-precision video processing equipment, and the new media digitalization conservation technology has been widely applied accordingly. The new media digital protection technology can be approximately divided into 3-dimensional scanning technology, digital collection technology, virtual reality technology, etc., and through the digital archive formed through these new media digital technology possesses high archive precision, easy to conserve, copy, and transmit as well as more real experience of reality.

The digital inheritance protection of intangible cultural heritage is the result of various types of digital technology coupling, and it is a new method used to stimulate and recover intangible cultural heritage through computer graphics, simulation technology, interaction technology, network technology and other virtual representation technology. Such method can make people fully and personally blend in the virtual reality environment of intangible heritage, and then in the virtual reality environment, adopt simple contact equipment operation, and utilize equipment interaction, and immersion to feel about the various information of intangible heritage culture in all directions, and such method can fully present the advantages of virtual reality technology in the heritage protection process of intangible cultural heritage [3]. Virtual reality interaction technology can utilize 3-dimensional dynamic effect to stimulate the scene, character, object and other conditions in the reality life of intangible heritage, and then through interaction sports experience in combination with graphic transformation visual effect, audio frequency effect and then sound and light parallel, etc. to perceive the changes of the surrounding environment, the universe and the sky, and meanwhile, after wearing the interaction equipment, you can feel about the intangible heritage culture presented thereby, and conduct interaction actions with it; moreover, it can realize real-time response, let them experience the visual feast brought by digital intangible heritage, and combine with reality intangible heritage traditional culture, which is difficult to distinguish the true and false, so as to let you feel about the extensive and profound inheritance charm of intangible inheritance. The characteristics of digital inheritance protection is to inherit intangible heritage authenticity, and reflect the cultural space of "intangible heritage" disappeared along with various natural disasters and the time extension of social change in virtual reality environment, recover the true appearance of intangible heritage, and increase people's recognition on intangible heritage.

The digital inheritance protection of intangible cultural heritage utilizes the strong transmissibility of virtual reality interaction technology, so it can conveniently realize high-

speed transmission on the internet, conveniently and quickly retrieve, copy and invoke the information about intangible cultural heritage, and thoroughly break the restriction of time and space [4]. The digital inheritance protection of intangible cultural heritage can realize cross-regional resource sharing through the mode of internet.

IV. VIRTUAL PRESENTATION OF NEW MEDIA TECHNOLOGY— DOUMEN OVERWATER WEDDING

A. Overview of “Doumen Overwater Wedding”

Doumen District of Zhujiang City is located at the southwest end of Pearl River Delta, with numerous river networks. It covers an overall area of 674.8 square kilometers, with 450,000 permanent resident population, and 156,000 overseas Chinese as well as compatriots from Hong Kong and Macao, and it is the famous home town of overseas Chinese nationwide and also a famous Lingnan water village nationwide. Overwater wedding is a traditional folk custom, which has been precipitated and inherited by several generations of Doumen, and has formed the folk custom style unique for Lingnan water village, and the folk custom characteristics are obvious, with complicated and varied forms, and the etiquettes mainly include “Zuogaotang”, “Shangtou”, “Tanjiatie”, “fetching the bride with a flower boat”, “performing the formal wedding ceremony”, “the return of a bride to her mother’s home on the third day of the wedding”. [5] The folk custom of “Doumen overwater wedding” is “vulgar” but has its own unique style, and the outstanding value is: it is not only a folk custom, but also a culture, and also a kind of multi-element culture. “Doumen overwater wedding” has high folk customs value, which is started from the early Qing Dynasty, and has been handed down for above three hundred of years, with fixed form, and it is the unique water village habit and custom in Doumen, and also a living mode for the people in Doumen water village, with the significance of cultural identification. “Doumen overwater wedding” can not only realize the edification of folk culture, but also obtain the joy of family love. In the entire process of “Doumen overwater wedding”, it cannot separate from the entertainment of Shatian folk songs—Tanqing Song, Xianshui Song, and Gaotang Song. This is not only the presentation of the creation talent of Shatian Folk Song, but also the art appreciation of Shatian folk song singing skills. “Doumen overwater wedding” can drive group folk song creation and singing activities. Since each ceremony should use Xianshui Song, Gaotang Song and other Shatian folk songs, this used to be quite famous in the entire Pearl River Delta during the late Qing Dynasty and the early republican period. Besides, “Doumen overwater wedding” also has higher social value and art value. As for the traditional historical origin thereof, each ceremony can represent certain meaning, and reflect the pursuit of residents in Lingnan water village for happy marriage and good life as well as the praises for respecting the elderly, honoring parents, keeping harmonious neighborhood and other traditional virtues, and hand it down from generation to generation. This has become a big characteristic of Lingnan water village culture. These are of positive significance to praise traditional virtues of Chinese nation, whipping unpleasant manners, inheriting water village culture, and building socialism harmonious society. Over the

years, some customs of Doumen overwater wedding have also gradually radiated to Zhongshan, Jiangmen, Foshan and other water villages in Pearl River Delta, including Zhongshan, Jiangmen and Foshan through marriage relations, bringing great joy to wedding celebration.

B. “Doumen Overwater Wedding” Virtual Scene Modeling

There are commonly three types of virtual scene modeling methods, the first one is to utilize 3-dimensional software modeling, and the relatively famous software includes 3-dimensional MAX, SoftImage, Maya, UG and AutoCAD, the second one is to adopt instrument and equipment measurement modeling, i.e., use 3-dimensional scanner, which is also called as 3-dimensional digitizer modeling. Such modeling mode mainly refers to the 3-dimensional modeling of actual object. The third one is to utilize image or video for modeling. In several modeling forms, the creation of geometric modeling is the emphasis for virtual scene modeling. The advantage of such modeling is to fast and conveniently convert the three-dimensional color information in real life into the digital signals that can be directly processed by computer, and provide valid means for the digitalization of real objects [6]. Through modeling mode, it can obtain the model with high rendering speed and high sense of reality.

As per the intangible heritage prototype of “Doumen overwater wedding”, collect original materials, conduct sorted storing, and collection and design schedule for the intangible heritage text, image, audio and video data of “Doumen overwater wedding”, integrate cultural space and using tools, etc. that require digital design and manufacturing, use digital technology to conduct 3-dimensional high-definition recording for the entire dynamic conditions of overwater wedding, and then implement digital conservation. Finally, use the sorted storing of digital resources to establish intangible heritage database for overwater wedding. Use the image and various kinds of information collected thereby for modeling with digital modeling technology, construct virtual cultural space, and constitute the true scene of intangible heritage cultural space for overwater wedding.

C. The setup of “Doumen Overwater Wedding” Virtual Interaction Interface

The erection of virtual interaction interface should firstly follow the principle of humanization, and then on the basis of the user’s thinking mode, reinforce the function of application programs and the application program adhesiveness for the experienter.

Thus, the erection of virtual interaction interface requires the integrity of aesthetics, and such integrity doesn’t mean that this interaction interface is garish; instead it means whether the function of interaction interface is complete. The erection of virtual interaction interface must be consistent, and such consistency allows the experienter to use its own knowledge and skills to operate and use the interaction interface. As the builder for the virtual interaction interface, it is requested to utilize the standard acceptable for the experienter to erect the interaction interface. Except that, the erection of virtual interaction interface must be metaphoric. If it is the folder

when making metaphor in the erection of virtual interaction interface, the experienter should place the goods into the folder, and then it can be very fast to understand the concept of putting documents and other files into the folder considering the operation of virtual interface, and reasonable metaphor is not restricted by real life, and since it is impossible to do so in real life, the erection of virtual interaction interface can provide more metaphors, which can support image and gesture conversion, and make the experienter and the object in the screen realize interaction at any time. In case that what the virtual interaction interface erects is to control the behavior of the experienter, inform or warm the experienter of the prompt about the existence of certain risk. The more simple and direct the operation and control behaviors of virtual interaction interface are, the easier they can be understood [7].

The erection of virtual interaction interface for “Doumen overwater wedding” can make the experienter roam in the virtual scene, and use the objects, character, activity and other in the virtual scenes controlled by virtual interaction, to watch various information about “Doumen overwater wedding” in real time; the erection of virtual interaction interface (including interface design, map browsing function design, route roaming design and other relevant functions).

D. Presentation mode of “Doumen Overwater Wedding” Virtual Interaction

The presentation mode for the virtual interaction of “Doumen overwater wedding” is based on the release of internet browser and mobile terminal, and the presentation mode can truly show the cultural tradition of intangible heritage “Doumen overwater wedding” in Doumen, change and break the traditional presentation mode and transmission restriction, realize intangible heritage resource sharing transmission, vividly and truly experience overwater marriage cultural inheritance on the virtual interaction platform. Meanwhile, the virtual interaction platform has broken through the restriction of field time, place and substantial conditions for “Doumen overwater wedding”, and create favorable conditions for the transmission of “Doumen overwater wedding” crossing geological barrier, and time barrier. The online presentation mode for the virtual interaction of “Doumen overwater wedding” has highlighted the convenience of virtual tourism, internet and mobile network, extensive transmissibility and interaction, made the intangible heritage culture not only

emphasize on protection research, but also possess the significance of transmission display interaction function and inheritance protection.

V. CONCLUSION

Along with the interaction technology of new media, internet and mobile terminal have been developed at a high speed, and although certain effect has been obtained through using digital technology to conduct intangible cultural heritage inheritance protection at home and abroad, there are still many dissatisfactory places in the research of intangible cultural heritage inheritance protection in Guangdong Province, especially Zhuhai Region, thus it is imperative to start from the national level intangible cultural heritage within Zhuhai Region, and study the utilization of digital technology to present the intuition, interaction and innovation of intangible cultural heritage inheritance and protection. Under the objective of new era, new thought, new objective, new journey, and new bright future, only when digital technology is used can we truly realize the intangible cultural heritage inheritance development and reasonable utilization, the promotion of Chinese traditional national culture to carry forward, and march ahead, and the acceleration of making endeavors to realize the great dream of Chinese national culture.

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