Inheritance and Innovation of Traditional Folk Music “North Shifan” based on the Computer Information analysis

Ning Xu*

Conservatory, Heihe University, Heihe, Heilongjiang, China, 164300

*E-mail: Xuning0623@qq.com

Abstract. Rich and delicate in the expressions of feelings, “North Shifan” music is more distinctive in melody than other music. It has more abundant emotional expressions and can express emotions from sadness to joy. “North Shifan” music is an essential aspect of Chinese culture and art. In this paper, the historical characteristics and current challenges in the development of North Shifan music are analyzed based on elaborating the development of three intangible cultural heritage inheritance bases, the impartation and inheritance of Cuxi Shifan music scores in the traditional folk areas with the development of the times. Suggestions on the inheritance and development of North Shifan music are proposed from six aspects: government funding support, industrial policy support, talent policy implementation, education and inheritance, academic research, promotion and application and we analysis the inheritance and innovation based on the computer information technology.

Keywords: Eastern Zhejiang, North Shifan Music, Impartation of Music Scores, computer information

1. Introduction

North Shifan is one of the national music treasures with the most extensive spread and long history in China. North Shifan is distributed in Northeast China, Inner Mongolia, Beijing Tianjin, Southern Jiangsu, Anhui, Shanghai, and Fujian. North Shifan originated in the Ming Dynasty[1-2]. According to the record of Ye Huo Bian by Shen Defu of Wanli in the Ming Dynasty, “there are also so-called Shiyangjin, including drums, flutes, gongs, boards, large and small Zheng, cymbals, which are all in one voice and vibrate in unison[3-4]. In recent years, Wu people are particularly popular.”. The Qing Dynasty began to prevail, Li Dou's “Yangzhou Huafang record” recorded “dream fragrance Ci”: “Yangzhou is good, Xinle North ten good.”. Summer garden pavilion sleet, Yechun Pavilion butterflies wear flowers In the Qing Dynasty, the palace and the upper class were also popular with the North ten pieces of music. North Shifan is not only used for entertainment but also for meeting temples, weddings, funerals, banquets, and other famous ceremonial places[5-6]. It plays a vital role in social politics, culture, and folklife.

In general, Jiangbei traditional folk refers to Cixi north, Yuyao north, Zhenhai north area, the region is connected, dialects similar, customs similar, living in the East China Sea coast, since the Ming Dynasty by the Japanese aggressors. It is also close to Ningbo and Shanghai, with dense population, developed economy, prosperous merchants and merchants, thriving culture, open mind,
talents in large numbers, thriving folk music, wedding and funeral festivals, weddings and funerals, and temple fairs to welcome gods. Folk music such as percussion, gongs and drums, and silk and bamboo should be used to create an atmosphere. The affluence also allows people to have more leisure time to play musical instruments and entertain themselves. Hence, folk music develops rapidly and widely. Qi Jiguang of the Ming Dynasty calmed down the Japanese invasion, and the people clapped their hands and celebrated. The North ten pieces of music flourished and passed down from generation to generation. Among them, Guanhai Guard Town, Andong, and other places in Cixi area have been passed down for generations and become the Intangible Cultural Heritage Inheritance base of Cixi City and Ningbo City. It is said that there are Shifan music in every village, and people play music instruments in every county. Up to now, the Cuxi Shifan Band represented by Langxiaganjialu Village has been included in the fourth group of the intangible cultural heritage list in Zhejiang Province. This paper discusses the traditional folk music of North Shifan by taking the music of North Shifan in the three places as the main case.

2. Traditional Folk Music in the Computer Information Age

In computer reliability modeling and simulation, the reliability index of the system is allocated to each component of the system reasonably, determine the quantitative requirements of the reliability of each component to ensure the reliability index of the whole system. In this paper, the evolutionary calculation method is adopted to calculate the reliability of each component under the condition of minimizing the system cost. On this basis, the computer reliability modeling and simulation is simplified to the optimal objective model based on cost function, which can be written as the function of reliability of each component:

\[
\text{Min cost} = \sum_{i=1}^{n} \text{cost}(r_i)
\]

s.t. \( RE \geq RE_0 \),
\( 0.5 < r_i < 1 \),
\( RE_0 = 0.9 \).

Where the constraint equation is added to the objective function as a state transition matrix term, it becomes an unconstrained optimization problem:

\[
\text{Min cost} + \text{penalty} = \sum_{i=1}^{n} \text{cost}(r_i) + k \cdot \min \{0, RE - RE_0\}
\]

3. General Development of North Shifan Music

3.1. Guanhai Guard Town in Cixi, Chengguxuan Ancient Music

Cixi ancient music was popular in the north of Cixi and Yuyao during the Ming and Qing Dynasties. Its representative ancient music is Xi Shifan. Guanhai Guard Town was established in the third year of Hongwu. It is one of the four guard towns in China. According to local word-of-mouth, Xi North Shifan of Chengguxuan ancient music was passed down from the reign of Hongwu in the Ming Dynasty. Back then, Zhu Yuanzhang's mother fled to Guanhai Guard Town due to war and died in exile. After Zhu Yuanzhang ascended the throne, to worship his mother, he built a “Sacrifice Pavilion” in the northwest of Guanhai Guard Town, and held a grand sacrificial ceremony on the 19th day of the first month every year. In Hongwu's reign, the imperial court sent a life officer to sacrifice each time and played the North ten pieces of music in the palace. To adapt to the worship ceremony, North Shifan of Guanhai Guard Town evolved from sitting in the hall of the palace to performing music (playing music while walking). This form of music performance has been passed down to this day, and North Shifan music also spread to the people. In the year of Hongwu and the previous dynasties of the Ming Dynasty, it was still performed at the chief sacrificial ceremony of the imperial court, which was
passed down to the later generations. No officials were sent down from the palace, and local officials were the chief sacrificial ceremony. Later, the sacrificial activities were combined with the sacrificial ritual of City God and evolved from the chief sacrificial activities of officials to the folk sacrificial activities. Due to the vast sacrificial scenes and the slack time of the first month, the people gathered and gradually gathered. The vendors who took this opportunity to sell food and various things and daily necessities also gathered slowly. The sacrificial activities gradually evolved into folk sacrificial festivals, which not only played the North ten pieces of music, held a routine sacrificial ceremony, but also included the meaning of the leisure entertainment of the people. During the period of the Republic of China, this folk activity was held in the year of harvest and stopped in the year of normal or poor harvest. In 1946, after the victory of the Anti-Japanese War, there was a sacrificial activity held by Guanhai Guard Town. There were still elderly people living in Guanhai Guard Town who experienced the sacrificial event and were members of Chengguxuan Band.

3.2. Cixi Andong Xi Shifan

Cixi Andong Xi Shifan was selected into the first group of intangible cultural heritage list of Cixi City, and the inheritor is Yinghuizhang. It is said that at the beginning of the 20th century, a “foreign albino” (now albino) came to settle down in the east of the nunnery, began to sing Xibei Shifan as one of the means of making a living, and took apprentices to pass on the art. Until now, when the inheritors should benefit, it has passed on to four generations, but the specific number of inheritors and transmission lines are not clear. Currently, there are about 10 performers, aged 50-70, without young people. The Xibei Shifan performing arts team is mainly involved in village weddings, funerals, temple fairs and other activities, with no Gongchi music score and simplified music score. Mr. Ying Huizhang, the inheritor, is very good at Gongchi manual. Unfortunately, when the research group came to collect wind in Andong, he was seriously ill and sang several pieces of Gongchi manual, so he was unable to continue. Later, he died in 2015, which was very sad. The east part of the nunnery is Shifan thin and the north part is Shifan thin. There are ten inheritance sites in the East, North and west of an, with regular activities. Usually, there are half a day's activities every week, with special activity rooms.

3.3. Yuyao Langxia Cuxi North Shifan

Yuyao Cuxi North Shifan (also known as Cuxi miscellaneous times) is a popular form of instrumental music performance in Yuyao folk. It is said that in the late Jiaying period of the Ming Dynasty, Qi Jiguang quelled the Japanese invasion in the east of Zhejiang Province. The people in the north of Yao lived in the coastal area. They were deeply attacked by the Japanese invaders. They heard that the Japanese invasion subsided, and they celebrated extensively. An idolatrous procession with the performances of Cuxi North Shifan as the essential content emerged. Therefore, the music of the thick and the thin North ten performances was inherited and developed. Hu Dehui, a poet of Yuyao Township during the Guangxu period of the Qing Dynasty, wrote in his poem of “fighting against locusts”, it was so loud when alligator drum is mixed with golden gong, how to flow elegant rhyme, fine music and Sheng nest Yuyao Langxia settled in Ganjialu village in the North Shifan, inheriting from the fans of the North Shifan to the performers in the village and nearby villages before liberation. The specific context of inheritance has been ominous. By October 1963, a folk band was set up to sing, and the village artists taught the North Shifan of music, with more than 30 people participating. At the beginning, the money was scarce and the economy was difficult. The team members raised money to buy musical instruments and performance clothes by digging mud and bricks. Developed to 1976, it was named as Yuyao City Ganjialu Village Cuxi North ten fan folk band. In December 2006, Yuyao Cuxi North ten fan was included in the first group of Yuyao City intangible cultural heritage list. In May 2008, Yuyao Cuxi North ten fan was included in the second group of Ningbo City intangible cultural heritage list. In October 2012, Yuyao North Shifan was listed in the fourth group of the intangible cultural heritage list of Zhejiang Province. Currently, there are more than 40 members of Ganjialu North Shifan folk music band, which are classified into instrument band and art team, with
special venues.

4. Impartation of North Shifan Music Scores

4.1. Guanhai Guard Town Cixi, Chengguxuan Ancient Music

There are three main types of Chengguxuan ancient music: “Ancient boat music”, “Special music for lights” and “Xi North Shifan in major”. There are more than 10 tunes in the ancient ship music, such as “Peach and willow fighting for spring”, “General military order”, “Sannong”, and “Happiness”. The song “General military order” is primarily used to praise Qi Jiguang for combat against Japanese enemy (the existing anti-Japanese fort, beacon tower, Dianjiangtai, and other historic sites on the Beimen mountain of Guanhai Guard Town). The ancient ship music is used for the accompaniment of ancient ships in temple fairs. There are hundreds of special songs for lights, such as “door leaning on railing”, “parasitic grass”, “gunfight”, “leaving Beijing” and “Yu Er Diaoj”, which are representative works of traditional music in Ming and Qing Dynasties and the Republic of China, but most of them are lost. Car music is used to accompany lights in festive festivals. The ten major tune in the north of Town God's Temple is an indispensable line for the temple fair in Hai Wei. It is a road opening for the temple fair. All three are band music (playing while walking). The instrumental music used is four bamboo and four strings: Sheng, Xiao, Guan, Di, Zhongruan, Wanhu, Sanxian and Sihu, with additional bell, gong, cymbal and plank percussion concerto, including 12 players. There are 48 Gongchi tunes recorded in the early Republic of China (Figure 1).

![Figure 1. Music scores of Yinxuan (the predecessor of guxuan) in the 16th year of the Republic of China](image)

Currently, the ancient music played by chengguxuan is not limited to the music, such as “general military order”, “happiness” and “Manjianghong”, among which “general military order” is one of the ten pieces of music widely spread in the traditional folk areas.

4.2. Cixi Andong Xi North Shifan

Currently, there are 10 pieces of music performed in the Shifan of Xi Bei in the east: Plum Blossom Sannong, Xiaqiban, Daqiban, Chongzi, Denglou, Liuqingxiang, Xiaokaimen, matching horse tune, happy and happy spring. The instrumental music used is Ruan, Di, pipa, Banhu, erhu, Zhonghu, Yuehu and Tanban, which are worthy of the name of Xibei Shifan of music. In addition, there are: every February 2 Dragon Dance Festival, performing “Chaotianzhi”; performing Yueju Opera; Daqiao (Shifan in rough North) “Bangzhuang platform”, etc. Although Cixi Andong Xibei Shifan Intangible Cultural Heritage Inheritance base is mainly Xibei Shifan, it also follows the pace of social development. According to the preferences of the villagers, it performs Yueju plays, serves the needs of the people's wedding and funeral festivals and temple fairs, and performs the “rough North Shifan” repertoire. It's a pity that we didn't leave the music score and audio-visual materials of the music.
4.3. Yuyao Langxia Cuxi North Shifan
Currently, there are four kinds of music in Yuyao Langxia's band: “Chaotianzi” and “entering the city tune”, three kinds of music: “happy Spring”, “plum blossom Sannong”, “small open door”, “big open door”, “drunken step upstairs”, “nine links”, “August osmanthus”, “Meng Jiangnu” and “one flower”. The last nine belong to “Jiangnan ditty”. There are more than ten kinds of Qupai commonly used for congratulation and celebration, including “happy Spring”, “three lanes of plum blossom”, two kinds of funerals are commonly used, “Liu Qingming” and “Drunken steps up the stairs”; three kinds of birthday cards are commonly used, “open the door”, “Chaotianzi” and “Dianjiang array”. Xibe Shifan is mainly composed of stringed instruments, with more than 10 performers ranging from erhu, Banhu, flute, pipa, Vajra leg, Sanxian, Yueqin, etc. there are more than 30 kinds of instruments in total. Percussion instruments include drums, gongs, cymbals, banging bells, suona, military recruitment, etc. The two can be divided and combined, and the scale is large or small. Generally, folk bands have two kinds of instrumental music, thickness, and fineness, so they are commonly known as thickness and fineness. It is widely used in folk occasions such as weddings, funerals, and birthdays. It has vibrant tunes, and different tunes can be performed by different instruments according to different scenes.

5. Suggestions on the inheritance and development of traditional folk music
The purpose of the computer communication of traditional folk North Shifan is to discover mistakes. Based on the use case description, the traditional folk North Shifan work verifies whether the system meets the requirements. The configuration of the system is the actual delivery system, including documents and component models. The relationship between testing and configuration and tiering techniques is shown in Figure 2.

![Figure 2. Computer analysis and configuration of traditional folk North Shifan](image)

Firstly, the government departments should increase the support for North Shifan music, and give strong financial support; second, the government should give industrial policy support. To give a new orientation, we should not only focus on creating atmosphere but also on self-entertainment. Only by giving full play to its social and commercial value, can the music of North Shifan be self-sufficient, better inherited, and developed. The government departments should give policy support to the music of North Shifan in combination with local economic conditions, such as tourism demand and cultural demand. Hence, the music can support itself, create a specific economic value, cultural value and social value. Thirdly, it is necessary to implement talent policy for those who formally inherit North Shifan music and offer support in employment policy, title declaration and career development policy, so that the music of the North 10th generation can be inherited by others, rather than the old people rushing to pass on as they are now Cheng, and young people can't engage in the study and employment of North Shifan music because of their studies. Fourthly, we should introduce encouraging policies to support relevant art groups and colleges and universities to actively participate in the research and development of North Shifan music, help organize music scores, help protect and preserve these valuable traditional music through modern science and technology, and widely spread through the current network. Fifthly, the government departments should combine the inheritance of intangible cultural heritage with the education of local schools, as the education content of local
culture and characteristic art, to spread and inherit the music of North Shifan. Sixthly, we should recognize the value of North Shifan music again, and the government should take the lead in applying the music of North Shifan and other folk music, so as to play a role of dissemination and promotion. When we play foreign music such as Strauss, Yani, Schubert and Richard on some important occasions, do we consider our “General’s Order” or “All Red the River”? In fact, we have too much valuable music to inherit and spread. We should make unremitting efforts to inherit and develop the musical heritage.

6. Conclusion
The research on “North Shifan” music can help us grasp new opportunities, seek new ways for developing “North Shifan”, and show the great spirit of the local people with “North Shifan” better. To better inherit “North Shifan” music, we shall lay a solid mass foundation and create an excellent environment for providing music education talents in our country. Our “North Shifan” music will shine with new glory, and “North Shifan” music will last forever in the history.

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