

The Evolution of the Pan Flute in Ancient China

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Abstract: Chinese pan flutes have gone through many evolutions in the history, and the evolutions of the shape have some research value that cannot be ignored. This change is not accidental. The emergence and development of musical instruments are inseparable from the background of the historical era. The musical activities in archaeological objects and image materials can be regarded as the epitome of social music and cultural life at that time. This paper focuses on the comparison and sorting out of the representative archaeological relics of pan flutes in ancient China according to the timeline of historical development. Combining the historical background, the author further researches the shape changes and causes of the ancient Chinese pan flutes, and obtains the reasons and results of the shape evolution.

Keywords: Chinese ancient pan flutes, Shape, Evolution

1. Introduction

The pan flute is an ancient vertically blown braided wind instrument in China. The length of the ancient pan flute ranges from long to short, from thick to thin, and is shaped like a bird's wing, so the world has given it many beautiful titles. The pan flute is made of several blowpipes of different lengths and braided pipe restraints. It has no finger holes and depends on the length and thickness of the air column in each pipe to determine the pitch of its pronunciation. In China, the legend of this musical instrument originated from the record in "Lvshi Chunqiu" that "the Yellow Emperor ordered Ling Lun to make the rhythm". The instrument he made the rhythm is the bamboo pan flute. Academic historians once pointed out: "Myths and legends must not be fabricated out of thin air, and there is a certain historical basis behind them." Therefore, although historical legends cannot verify their authenticity and historical age, there must be real background behind the legends.

2. Historical Basis of Chinese Pan Flutes

2.1. Before the Shang Dynasty

Before the Shang Dynasty, the pan flute research could only rely on some materials from the only historical classics, and there were no archaeological objects unearthed, so the research conclusions could not be drawn more accurately. The pan flute of the Zhou Dynasty was widely used in the court. Due to the different bamboo quality of the pan flute, it was used in different ceremonial occasions. As "living fossils", cultural relics have always played an important role in witnessing human history and uncovering mystery of the times. In addition to the ancient books and materials, the unearthed pan flute remains in the Shang and Zhou Dynasties provide strong evidence for the study of pan flutes.[1-2]

An archaeological report on the Taiqing Palace site in Luyi County, Henan Province in 1997 showed that there was a tomb in the site at the end of the Shang Dynasty and the beginning of the Zhou Dynasty, and the archaeological age was about 3,000 years ago.[3] The five bone pan flutes unearthed in the tomb are the oldest pan flutes unearthed in China so far, and they are also the only remaining bone pan flutes. Among them, the trapezoidal single-wing pan flute with a pipe length of 11.8-32.7cm and composed of 13 bone pipes is the most representative. When the pan flute was unearthed, there were obvious traces of restraint on the pipe body. (Figure 1) It can be seen from this that the appearance of the pan flute in China was no later than the Shang and Zhou Dynasties.

2.2. From the Western Zhou Dynasty to the Spring and Autumn Period and the Warring States Period

From the Western Zhou Dynasty to the Spring and Autumn Period and the Warring States Period, it

was a rapid era in the history of pan flute development. During the Spring and Autumn Period, Confucianism gradually occupied an important position in society. Because the timbre, volume and range of the pan flute conformed to the Confucian standards for measuring music, it was highly respected at that time. In 1983, 44 bamboo flute pipes were unearthed from the tomb of Huang Junmeng and his wife in Henan Province, which were restored to 4 pieces of bamboo pan flutes with natural bamboo joints as the bottom closure. The archaeological age is before 648 BC, which belongs to the early Spring and Autumn Period. (Figure 2)[4]



Figure 1: The oldest pan flutes unearthed in the Taiqing Palace site



Figure 2: Bamboo flute pipes from the tomb of Huang Junmeng and his wife

In 1978, a stone pan flute was discovered in Tomb No. 1 in Xichuan County, Henan Province, and it is also the only stone pan flute unearthed so far. After restoration, the pan flute has a total of thirteen sound pipes, and a wide band is obliquely engraved around the surface of the pan flute to show that the body of the pipe is bound with a strap, and its shape is similar to the bamboo pan flute of the same period. The longest tube is 15 cm and the shortest is 3 cm. According to the relics unearthed from the same tomb described in his briefing, it is inferred that its age is about the late Spring and Autumn Period. (Figure 3)[5]



Figure 3: Stone pan flute in Tomb No. 1 in Xichuan County

In 1978, the band unearthed from the tomb of Marquis Yi of Zeng in the early Warring States Period in Sui County, Hubei shocked the world.[6] Among them, the two unearthed pan flutes are more gorgeous and exquisite than those of the previous dynasties, reflecting that the craftsmanship of pan flutes in the Warring States period was more sophisticated than before.[7] The bottoms of the two pan flutes unearthed from the tomb of Marquis Yi of Zeng both retained natural bamboo joints as closures. The inside of the pan flute is filled with yellow wax to fine-tune the pitch. Compared with the bamboo pan flute unearthed from the Baoxiangsi couple's tomb, the longest flute tube is about 5 cm longer. More importantly, the pan flute has a melodic instrument status that cannot be ignored in the instrument

combination of the unearthed band. There are obvious records in relevant ancient documents to prove this point. At this time, the single pipe in the pan flute was used as a rhythm pipe to regulate the pitch. The pan flute is made up of many single pipes, and each pipe emits a pitch. This kind of vertical bamboo pipe with single pipe sound is also called "temperament pipe". The earliest records of making temperaments can be seen in Ling Lun's use of twelve bamboo temperament pipes to coordinate the five tones to make temperaments. According to the meaning of the above documents, the pan flute played an important role as a tuner in this eight-tone band at this time.

It can be seen from the unearthed cultural relics and ancient documents that the pan flutes of this period not only had a qualitative leap in their own craftsmanship, production difficulty and fineness. The political status of the pan flute has been significantly improved, and people have gradually attached more importance to it in political activities and band performances, which laid a solid foundation for the later pan flute to reach its peak in the Han Dynasty.

Relevant ancient documents point out that during the Han Dynasty, wind instruments were popular to accompany singing as an ensemble form, and the pan flute was one of the important instruments in this form of performance. Among the singing and dancing figurines unearthed in Tomb No. 8 in Jiyuan City, Henan Province in 1969, two people in the back row played pan flutes.[8] Its shape is still trapezoidal and single-winged, with horizontal pipe restraints, and the archaeological date is the end of the Western Han Dynasty. (Figure 4)



Figure 4: The singing and dancing figurines in Western Han Dynasty

Before the Han Dynasty, the pan flutes were made of various materials, and the processing technology was gradually refined, which reflects people's attention to the development of pan flutes from the side. The pan flute in this period has been at the core of military music accompaniment on the basis of inheriting the status of ritual instrument since Shang and Zhou Dynasties. The pan flute has even penetrated into the folk, and is widely used in various large-scale cultural activities among the folk, and has a certain status in Buddhist music, which also makes its position as an important musical instrument gradually consolidated.

2.3. Han Dynasty

According to the research on pan flute cultural relics mentioned above, the shape of pan flute before the Han Dynasty was trapezoidal single-wing style, so has the shape of Chinese pan flute changed? In 1965, the pan flutes in the hands of the figurines of the Yuanshao Tomb in Luoyang City during the Northern Wei Dynasty were of the same length. This is the period when China first discovered the shape of equal-pipe pan flutes. (Figure 5) Afterwards, this type of equal-tube pan flute, with H-shaped tube restraints, was also found in the brick carvings of Leren in the tomb of Feng Hui in Shaanxi Province during the Five Dynasties period. (Figure 6 and Figure 7) The discovery of the figurines of pan flutes in the tomb of Yuan Shao is not only a major archaeological achievement, but also makes the form of equal-pipe pan flutes at least 100 years earlier in terms of traceable historical time. This is of great significance for better understanding and defining the development of pan flute shape in different periods.



Figure 5: The shape of equal-pipe pan flutes



Figure 6-7: H-shaped tube restraints

Many grottoes in the Xinjiang region of China came into being along with the eastward spread of Buddhism. The pan flutes in the grotto murals have a long history. The archaeological period is from the Wei, Jin to Tang Dynasties, providing important cultural relics for the study of ancient Chinese pan flute culture. Cave 76 of the Kerzi Grottoes is dated to the fourth century A.D., which is close to the archaeological period of the Yuan Shao Tomb.[9] Relevant documents point out that the murals belong to the early caves in terms of painting style and subject matter. The figures in this cave are relatively rich, and it is an important cave reflecting the content of music and dance in the Kizil Grottoes. On the downhill of the connection between the dome and the four walls and on the upper part of the four walls, there are continuous pictures of Tiangong musicians. Among them, the musicians playing the pan flute are female, with a beautiful figure, countless pan flute pipes, and the shape is similar to that of a pipe. Common forms in early Kucha grottoes. The archaeological age of the Tiangong Leren Picture in Cave 38 belongs to the early Kucha period. From the surviving murals, it can still be seen that the musician is playing with his lips slightly open, and the pan flutes played in his hands are the same in shape as those in Cave 76, and there are countless pipes. At the same time, there is also a picture of Leren in the Buddhist temple of Subashi (Su ba shi), and the archaeological time is from the 4th to the 5th century AD. In the picture, most of the body of the equal-pipe pan flute played by the musician is incomplete, and only three clear pipes are left, with a thin parallel strap in the middle as the restraint of the pipe body.

In 1952, the frescoes in the tomb of Tang Su Sixuan in Xi'an show that the pan flutes played at this time are in the form of equal tubes, with about 18 tubes, and an H-shaped wooden frame that is easy to hold as a fixed tube constraint. Its overall shape is very similar to the shape of the pan flute on the brick carving of Feng Hui's tomb in Shaanxi Province. (Figure 8) This 18-pipe pan flute is a kind of musical instrument left over from the Tang Dynasty that can be seen in the Shosoin of Todaiji Temple in Nara, Japan. After investigation, Shosoin gave an explanation that this pan flute was restored and repaired as a 12-wind instrument "Ganzhulu" in the Meiji era. Later, the corresponding braid was found during the investigation, and it was determined to be an 18-pipe "Xiao", and it was repaired again. From this picture, it can be clearly seen that the mouthpiece of the pan flute in the Tang Dynasty began to have a slope of "obliquely cut mouthpiece", and the overall wooden frame was used to fix the pan flute.

Cave 175 of the Kizil Grottoes is dated to the seventh century A.D. There are about 9 pan flutes, and there are also two non-parallel pipe constraints for fixing. This shape is different from the approximately rectangular equal-pipe pan flutes in the early murals of Kucha, and has become a single-wing pan flute with braided pipes arranged in order. (Figure 9)

Kizil Cave 189, the same archaeological date is the 7th century A.D., there is a painting on the left

side wall, in which the pan flute musicians on the left side of the Buddha statue are basically well preserved, with eleven pipes and two straps on the pipe body Fixed with splints on both sides. The shape is short on the left and long on the right as a single wing, which is very close to the size and shape of the pan flute in Cave 175. (Figure 10)

Pan flute images of this type also appeared in the Mogao Grottoes in Dunhuang, which was also influenced by the eastward transmission of Buddhism. The archaeological date is the early Tang Dynasty, and the pan flute musician was a male. The musician held ten pipes and other pipe-type pan flutes. The mouthpiece may be a slope, and the pipe restraint was a fancy wide strap parallel to the mouthpiece. (Figure 11)



Figure 8: The frescoes in the tomb of Tang Su Sixuan in Xi'an

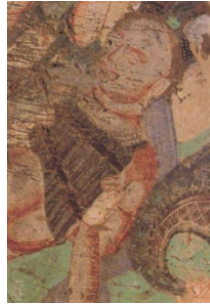


Figure 9: Single-wing pan flute in Cave 175



Figure 10: Single-wing pan flute Kizil Cave



Figure 11: Pan flute in the Mogao Grottoes in Dunhuang

In Cave 148, a pan flute with a decorative frame on the outside of the Tang Jingbian band forms a pipe restraint, and the performer holds the pan flute frame to play.[10] This is almost the same as the shape of the pan flute with H-shaped pipe restraints in the tomb of Su Sixu at the same time, and it is

close to the shape of the pan flute in the early grotto murals in Qiuci, Xinjiang.

2.4. During the Tang and Song Dynasties

During the Tang and Song Dynasties, due to the opening of the country, a large number of foreign residents and surrounding ethnic minorities entered Chang'an and lived with Han people for a long time. At the same time, the Tang Dynasty actively absorbed the essence of foreign cultures, and continuously integrated foreign national cultures with Chinese culture, creating a more colorful flourishing Tang culture. Zhou Jingbao once again mentioned the pan flute of this period in "Silk Road Art Research": "There is also a pan flute in the 68th cave of Kumutura, which is in the shape of ten pipes." [11] The archaeological period of Cave 68 is the eighth century AD, which belongs to the Tang Dynasty in history. According to relevant literature records, the shapes of musical instruments painted in the caves are all in the shape of musical instruments from the Central Plains. The pan flute has a decorative ribbon, narrow on the left and wide on the right, in the shape of a single wing, with a red H-shaped frame to fix the pipe.

The above archaeological data combined with the research on the pan flute of Shosoin in Japan shows that the shape of the mouthpiece of the pan flute in the Tang Dynasty changed. When did the pan flute appear? From the research on the remains of pan flutes in the Warring States Period, it can be found that the pan flutes in the Spring and Autumn and Warring States Periods had horizontal mouthpieces without slopes. The Zhou, Qin, and Han Dynasties have historical inheritance. Although there is no real object to prove it in the Qin and Han Dynasties, it can be basically confirmed that the mouthpiece of the vertical blowing in the Han Dynasty was a circular surface produced by cross-cutting. So the pan flute that appeared in the Tang Dynasty inherited the pan flute from the Qin and Han Dynasties? It is also a musical instrument played vertically. We can see from the flute cultural relics played vertically in the Han Dynasty that the oblique mouthpiece first appeared in the Han Dynasty. (Figure 12-14) The author believes that the change of the mouthpiece of the Chinese pan flute should be closely related to the transformation of the flute played vertically.



Figure 12: Music and dance figurines from the Shuhan Cliff Tomb in Tujing



Figure 13: Figurines playing flutes in the Osmanthus Garden in Wuxi



Figure 14: Pottery figurines playing musical instruments

2.5. During the Song, Liao and Jin Dynasties

During the Song, Liao and Jin Dynasties, there were frequent music activities in the city life, and folk music developed rapidly. A large number of preserved music and dance images reflect the folk music life at that time from the side. In the frescoes of Song Dynasty Tomb No. 1 in Pingding County excavated in 1991, figurines of panxiao musicians are women, playing with their palms facing inwards. The pan flutes played in this painting are quite special. They are made of pipes such as double rows, and the mouthpieces are arranged in a fan shape.

In the murals of Zhang Shiqing's Liao tomb excavated from Tomb No. 1 in Zhangjiakou City, Hebei Province, the pan flutes have H-shaped pipe restraints, which are in the shape of equal pipes. [12]

A large number of music and dance brick carvings were unearthed in the Jin Dynasty tomb group in Wenxi County, Shanxi Province excavated in 1983. The medium pipe pan flutes in the two periods of brick carvings also have H-shaped pipe restraints, and the number of pipes is countless. [13]

At the same time as the above-mentioned archaeological relics, there are also murals of Song Dynasty tombs in Yuzhou City, Henan Province. Based on the above studies, the pan flutes shown in the images of this period were mostly used in the lives of citizens, and their shapes were relatively uniform. They were all equal-pipe pan flutes with H-shaped pipe restraints. According to the records of the combination of court music instruments in the Song Dynasty in relevant ancient documents, there is no such instrument as the pan flute.[14] Therefore, it can be concluded that the pan flute was not used in the court during this period, but was praised by the citizens. The scale of folk music in the palace is larger, and more musical instruments are used. The popular Daqu among the citizens has its own uniqueness in the form of music performance on the premise of maintaining a high degree of similarity with the court.

3. Conclusion

The music activities in the image data can be regarded as the epitome of the social music and cultural life at that time. Through the study of murals and sculptures that serve religious beliefs, and theme paintings that directly serve politics, the social atmosphere of the Tang Dynasty gradually opened up, and cultural exchanges along the Silk Road became more frequent. Foreign national music has gradually exerted a great influence on the music of the Central Plains, and the pan flute, as a melody instrument, occupies a dominant position in the band. Since the pan flute became the main instrument of court music, it has always played an important role in it. The rise and fall of court music has greatly affected the development of pan flute. During the transition period of Tang and Song dynasties, the focus of music development shifted from the court to the folk. Although the rulers of the Song Dynasty attached great importance to the development and reform of court music, judging from the trend of historical development, court music in this period was still inevitably declining. According to historical records, the pan flute had new development and a large number of applications after the opening of the Silk Road. In summary, the author believes that the multi-ethnic music culture exchange on the Silk Road is the core reason for the change of the Chinese pan flute shape, and the music culture exchange and integration along the Silk Road has played a role that cannot be ignored in the evolution of the pan flute shape.

Acknowledgments

This paper was supported by 2019 National Social Science Foundation Project: A Study of the Art of Silk Road Instrumental Music, approval number: 19XSH014.

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