DongXiao in Shandong province, China: The organology and music characteristic

Lu Feng

A Thesis Submitted in Partial Fulfillment of Requirements for

degree of Master of Music in Music

August 2023

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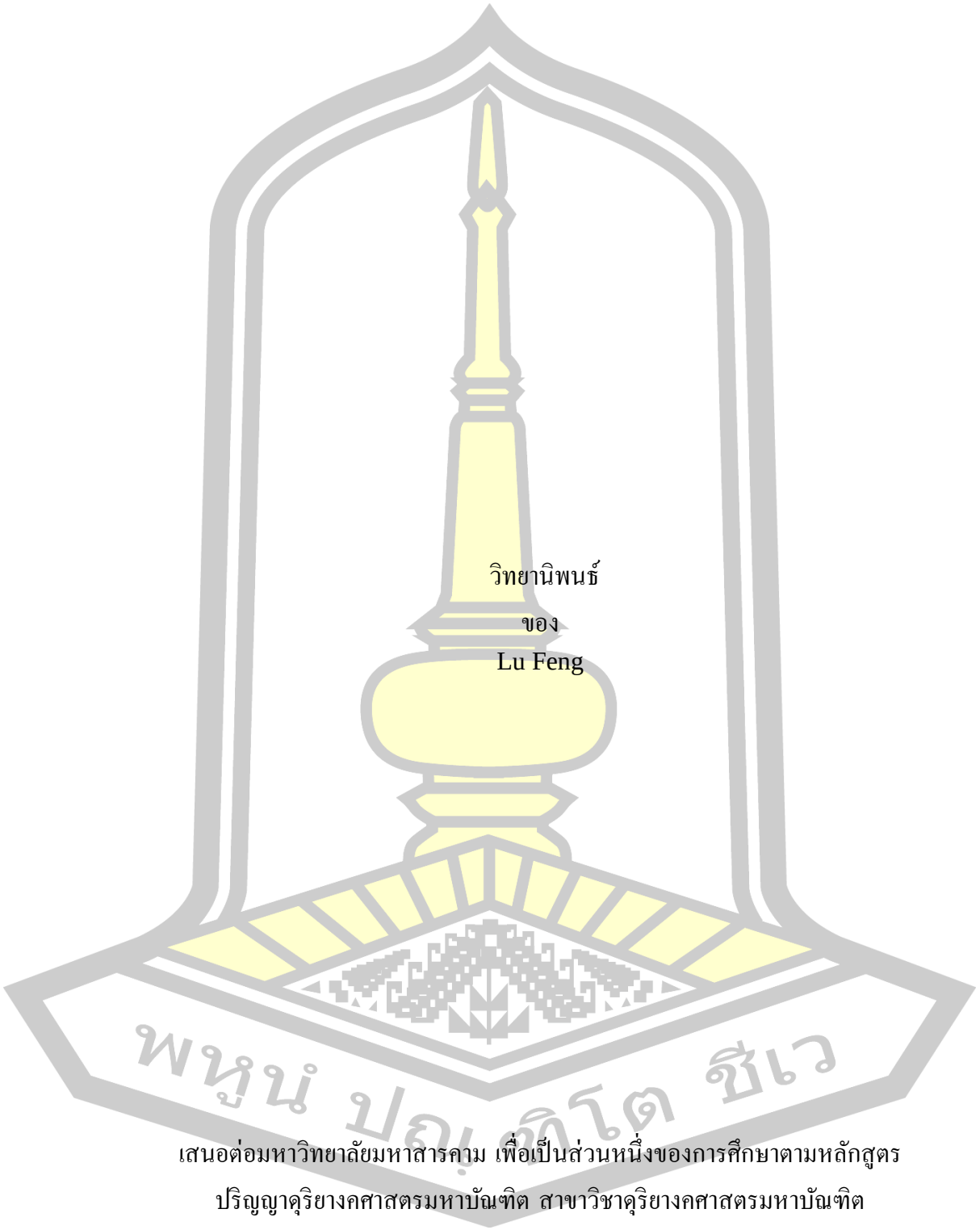

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Lu Feng

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The examining committee has unanimously approved this Thesis, submitted by Mr. Lu Feng , as a partial fulfillment of the requirements for the Master of Music Music at Mahasarakham University

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ABSTRACT

This paper examines research methods in musicology and ethnomusicology, collecting data and analysing statistics through the field of respondents. The experiment The research objectives of this paper are twofold:1）To investigate the organology and playing techniques of DongXiao in Shandong, China.2）To analysis music characteristics the song selected of the DongXiao in Shandong,China.The findings of this paper are as follows: 1) The methods and playing techniques of the Dongxiao were collated. The playing style is mainly expressed in the posture of playing, the hand and mouth patterns of the Dongxiao while playing, and the practice and use of breath. 2) There are many Dongxiao pieces, but not many ancient scores of the Dongxiao have been recorded. The study chose the ancient Dongxiao piece "Mei Hua San Ling", and based on the analysis of the melodic movements, patterns and tonality, rhythm, accompaniment and other elements, the The study is based on an analysis of melodic movements, patterns and key, rhythm, accompaniment and other elements, as well as on a study of the characteristics and patterns of the development of artistic expression.

Keyword : DongXiao, Organology, ShanDong, China

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Lu Feng

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CHAPTER I

Introduction

1. Background and problem of the research

The Dongxiao is an important part of traditional Chinese music culture. It is a vertically blown, single-barrelled, rimmed tone instrument with a soft, light and elegant sound. In ancient China it was not until the Yuan dynasty that the name Xiao was explicitly used in historical documents to refer to a braided pipe Xiao as a reed Xiao and to a single-barrelled, vertically-blown reed Xiao. During the development of the xiao, the instrument played a role in court music, religious music, literati and folk music. There are three main forms of performance: the solo, the Xiao and the orchestra. (Yuan Jingfang, 2000)

In ancient China, flutes and Xiao were a group of instruments collectively known as "flutes". The Lü's Spring and Autumn Annals record that in the time of the Yellow Emperor (2400 BC) "the Yellow Emperor ordered Ling Lun to cut the bamboo of Kunlun to make a Xiao", and it was only then that flutes and Xiao instruments began to be made of bamboo instead of bone, establishing the beginning of the history of the Chinese flute and Xiao. In the Wei and Jin dynasties, the vertical single-barrel flute had six holes, but it was still called "flute" until after the Song and Yuan dynasties, when it was gradually distinguished from the Xiao and horizontal flute. The flute reformed in the Western Jin Dynasty had 6 holes, 5 in the front and 1 in the back, and was already very similar to today's Xiao. In the Wei, Jin and North-South dynasties, the Xiao was already used for solo and ensemble playing, as well as in orchestral accompaniment. (Li Jinyuan, 2002)

During the Ming and Qing dynasties, the shape of the Xiao was completely unified, with an internal cut and six holes, each finger hole evenly spaced. All Ming and Qing dynasty Xiao are of the even-bore type. The advantage of this type of even-hole Xiao is that it can be transposed to seven keys, whereas the modern twelve-measure Xiao can only be transposed to five keys, but in terms of the present-day twelve-measure or the ancient three-point method of gain and loss, this type of even-hole Xiao is not polyphonic. It is used in a wide range of traditional Chinese music

and opera, such as Kunqu, Jiangnan silk and bamboo, Chaozhou music and Gaoling Dongxiao. This form of Xiao is still in use today by certain types of music and teachers and is arguably the most traditional form of Xiao in China. (Li Jinyuan, 2002)

During the Republican period, the mainstream was still the even-hole Xiao, but some musicians made a new round of attempts. In 1936 Cha Fuxi and Peng Zhiqing designed the modern Yu Ya Xiao for the Qin-Xiao ensemble, which changed the traditional shape of the even-hole Xiao to an eight-hole form with vertically aligned finger holes, and was tuned lower than the traditional Xiao, in the key of F, which is the proper key of the Guqin. The tuning is based on the same three-part loss and gain method as the zither, rather than the traditional even-hole system. In order to play with the lower volume silk-stringed Guqin, the Xiao was made very thin, measuring only 17-18mm in diameter, giving it a lighter tone, and was the precursor to the modern eight-hole Xiao. (Li Jinyuan, 2002)

In the early years after the founding of the state, the shape of the Xiao was still dominated by the even-hole Xiao, but with the beginning of the reform of the instrument, the shape of the Xiao slowly changed and the even-hole Xiao was no longer the dominant shape of the Xiao, the rhythm of the Xiao has become six holes and twelve mean rhythms, the distance between the first and second holes is already very large, the distance between the second and third holes is significantly smaller, the holes are not evenly spaced and the rhythm system conforms to the twelve mean rhythms. (Li Jinyuan, 2002)

Shandong, a provincial administrative region of the People's Republic of China, with its capital Jinan, is a coastal and inland province in eastern China, with a land area of 155,800 square kilometres, accounting for 1.62% of the country's total area, and a resident population of 101,627,900 by the end of 2022. (People's Government of Shandong Province)

Traditional Chinese music is an important part of traditional culture and has been incorporated into the folklore of the people along with their customs and traditions. Shandong, the hometown of Confucius and Mencius, is the birthplace of Confucian culture, and the spiritual connotations of Confucianism are reflected in everything from festivals, weddings and funerals to ancestral rituals. The traditional

music of the Shandong region is rich and varied, ranging from songs and operas to solo instrumental ensembles. The southwestern region of Lu, mainly Heze, located in southwestern Shandong and connected to Henan, Anhui and Jiangsu, has a strong folk music base and diverse regional cultural characteristics. Heze is a relatively well-preserved area for traditional music culture, and a large number of traditional cultural categories are still preserved today, which is the main reason for choosing to study traditional music in Heze. (Wan Hongmei, Dong Fang, 2018)

In a contemporary era of rapid economic and cultural development, traditional music has been strongly influenced by modern culture. As part of traditional culture, Dongxiao music has also encountered challenges in its contemporary development. The rural culture on which Dongxiao music and its art form are based is very different from modern life. Traditional music does not meet the needs of today's culture, many young people cannot understand its culture and the audience is getting smaller. This means that traditional music, including the Dongxiao, needs more attention and for this reason Dongxiao and its performing artists and groups have made great efforts to do so. The use of Dongxiao instruments is becoming less and less common in existing folk music, with the phenomenon of 'flutes replacing Dongxiao. In order to promote traditional Chinese music culture and to further promote the exchange and development of contemporary Chinese music culture with that of other Asian countries, it is necessary to conduct a comprehensive and systematic study, collation and research on the music culture of Dongxiao, an important species of traditional Chinese instrumental music. (Yang Xuanbin, 2016)

This thesis focuses on the development of the Dongxiao from its original to the present, summarising its evolution and the characteristics of singing, accompaniment and performance in various periods. In the context of traditional Chinese music, the composition of Dongxiao music and its musical characteristics, such as compositional structure, performance forms, techniques and musical analysis, provide further food for thought for the continuation of the life of this ancient instrument.

2. Objectives of the study

2.1 To investigate the organology and playing techniques of DongXiao in Shandong, China.

2.2 To analysis music characteristics the song selected of the DongXiao in Shandong, China.

3. Question of research

3.1 What is the history of the organology and playing techniques of DongXiao in Shandong, China.

3.2 What's the characteristics of the song of DongXiao in Shandong, China.

4. Benefit of the research

4.1 We will know the history of organology and the techniques of DongXiao in Shandong, China.

4.2 We will know the characteristics of the song of DongXiao in Shandong, China.

5. Definition of terms

5.1 DongXiao refer to an instrument made of bamboo and is a vertical blowing instrument in Shandong, China.

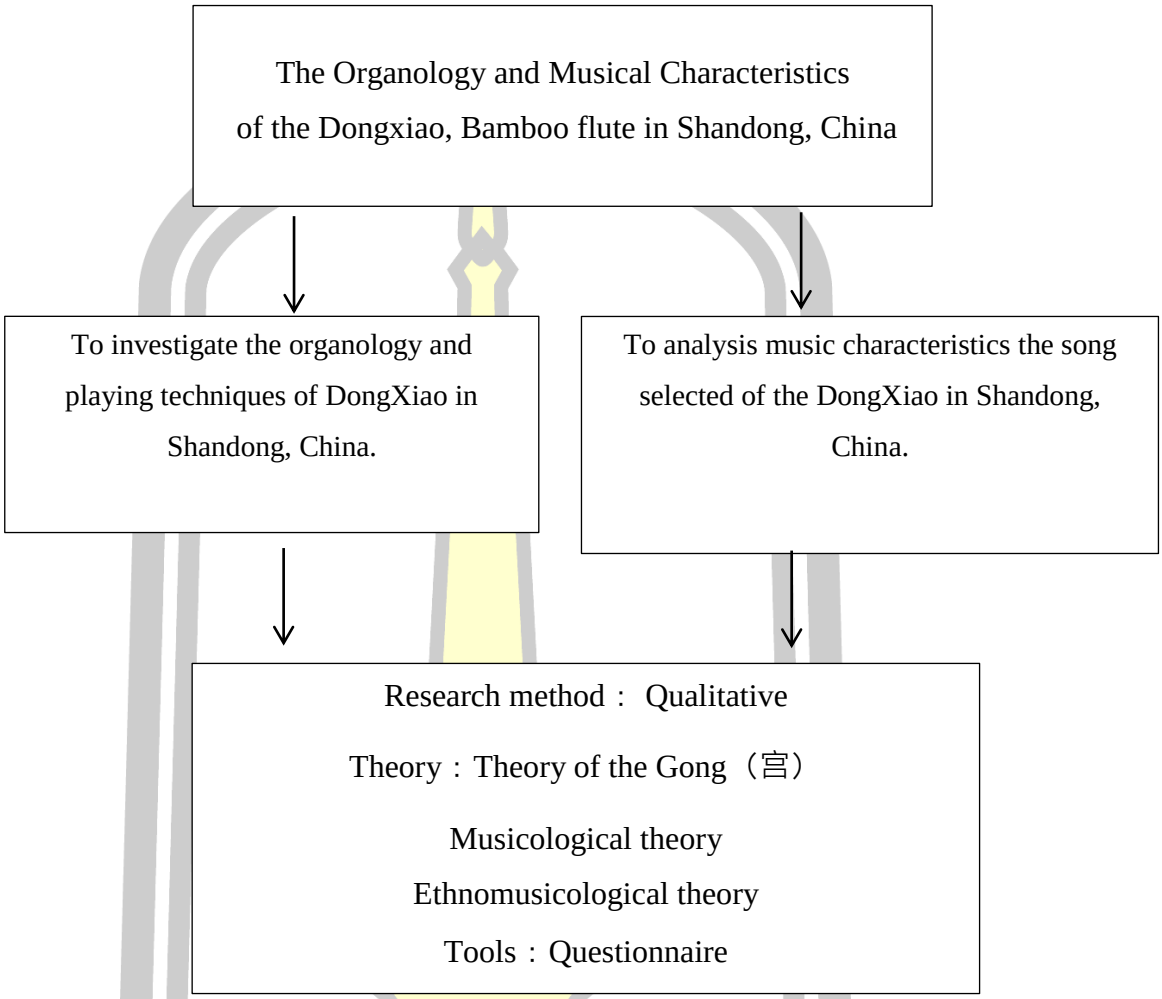
5.2 Organology refers to the body and shape of the DongXiao and the materials used to make it in the Shandong, China.

5.3 Playing technique refers to the method of playing the Dongxiao in Shandong, China.

5.4 Music theory refers to both Chinese music theory and Western music theory.

5.5 Musical characteristics refers to the elements of musical melody, rhythm of the Dongxiao in Shandong, China.

6. Conceptual Framework



CHAPTER II
LITERATURE REVIEW

In this study, this researcher reviewed the documents to obtain the most comprehensive information available to be used in this research. The researcher has reviewed the following topics.

1. The overview of DongXiao in China
    1.1 The history of Chinese Dongxiao instruments
    1.2 The construction and shape of the Dongxiao instrument
    1.3 Form and structure of the DongXiao
2. The folk music culture in Shandong Province, China
3. Problems that exist in the process of inheritance and development of traditional music culture.
    3.1 The impact of foreign music on national music
    3.2 The impact of television networks on traditional music culture
    3.3 The current status of traditional music transmission
4. Research on the music theory of the DongXiao
    4.1 Theory of the Gong（宫）
    4.2 Musicology theory
    4.3 Ethnomusicological theory
5. The documents and research related
    5.1 Documents
    5.2 Research related

1. Overview of the Dongxiao in China

The ancient instrument of China, the Xiao, has a history of thousands of years and is loved by the general public for its unique tone and elegant charm, and is widely used and passed on in various forms of music, teaching its playing skills in the process of transmission, as well as contributing to the values of the person being passed on. With the discovery of archaeological artefacts relating to the Dongxiao class of instruments, there has been more systematic and scientific research in China.

Chinese scholars have published a number of papers and works on the Chinese Dongxiao class of musical instruments, and by studying and summarising these results, it can be seen that the scholars' research has focused on the following areas.

1.1 The history of Chinese Dongxiao instruments

There are two main features of DongXiao instruments, one is the principle of articulation, DongXiao instruments are single pipe, open pipe, edge-pronged sounding instruments; the other is the shape, vertical blowing instruments with mouthpiece and finger holes. With the changes of the times and the different spreading areas, the mouthpiece form and the number of finger holes of the hole flute instruments will be different, but the basic characteristics of the DongXiao instruments are the same.

A large number of bone pipes and flutes have been unearthed in the famous Hemudu area of Zhejiang Province. In these ancient instruments, some of the sound holes are marked with equal parts, and both the sound and blow holes are present. These instruments can still be played and blown today to produce the six sound scales. There are forty to fifty bone flutes excavated in the Hemudu area, most of which are as thick and thin as the head of a finger and have two or three sound holes, and there are major similarities with the current popular mouthpieces. Among the bone flutes excavated in Hemudu, there is a very special and valuable flute, which is as thick as a middle finger and about 10 cm long, with one blowing hole for horizontal blowing and six tone holes more similar to today's hole flutes. (Qianqian Yu, 2014)

The earliest vertically blown, single-barrelled, rim-pronged pneumatic instrument in China was a bone flute excavated at Jiahu more than 8,000 years ago. From the Jiahu bone flute to the current Xiao, it has undergone many evolutions. The Jiahu site, a prehistoric settlement where the Chinese ancestors lived 7,800-9,000 years ago, was the site of more than 30 bone flutes made from the wing bones of interceptor cranes, which were unearthed at the Jiahu site in Maoyang, Henan Province, from 1984 to 2001. It is finely ground and has seven holes. There is a small hole between the sixth and seventh holes, which can be measured to produce two different tones, and is a tuning hole drilled to adjust the articulation of the seventh hole. (Li Jinyuan, 2002)

From 1985 to 1987, 26 bone flutes were excavated from the Neolithic site of Jiahu Village in Maoyang County, Henan Province, which were buried with the flutes, and were determined by carbon 14 to be 8,000-9,000 years old, making them the earliest DongXiao ever found in China. Some of the holes still bear the markings of the equivalents carved before the holes were drilled, and a small hole was drilled next to the individual holes to adjust the pitch. This suggests that people had a certain amount of knowledge about the relationship between pitch and pipe length, and that they had a certain amount of knowledge about the accuracy of pitch as early as the Neolithic period. (Yuan Jingfang, 2003)

During the Han dynasty, a large number of figurines of Xiao instruments were unearthed, all of which were played vertically and obliquely, with the mouthpiece mostly oblique, similar to the Japanese shakuhachi, and played with the left hand on top and the right hand on the bottom, with the two thumbs on the inside of the Xiao, at an angle of about 20 and 45 degrees, similar to the Xiao of today. There are nine horizontal lines on the body of the pipes of Xiao instruments, similar to the "nine joints and ten holes" characteristic of the Nanjiao in Fujian Nangyin, and another explanation for the nine lines is that they were tied to the bamboo pipes to prevent them from breaking due to temperature and humidity. The Xiao of this period is shorter and thinner than those of the Eastern Han period, and with the rise of Buddhism at the time, these short and thin Xiao were often used in Buddhist rituals. (Li Jinyuan, 2002)

By the Sui and Tang dynasties, the form of the xiao instrument had been established and the longer Xiao instruments of the Han dynasty are rarely found in Tang artefacts. The only Tang dynasty Xiao instrument is the shakuhachi, which was brought to Japan through Korea and is preserved in Japan at Shogakuen and Horyuji temples. It has six finger holes and is played in exactly the same way as the Xiao instruments of the Eastern Han period. During this period, the use of Xiao-type instruments in performance settings developed and entered large-scale orchestras. During the Song and Yuan dynasties, Xiao-type instruments were used in various musical productions. During the Yuan dynasty, a clear distinction was made in the documentation between Xiao, a single-barrelled vertically-blown bamboo instrument, and Xiao, a multi-barrelled vertically-blown instrument. During the Yuan dynasty, the

development of the kiln porcelain industry led to the emergence of the glazed porcelain xiao. In the Ming and Qing dynasties, the shape of the Xiao was already basically the same as that of the present one. They were basically made of bamboo, with five holes in the front and one in the back, and were 57cm-58cm in length (Li Jinyuan, 2002).

Since the Tang and Song dynasties, the Dongxiao has been known by many different names: single xiao, long xiao, bamboo pipe, etc. In the Song dynasty, the Dongxiao instrument was used in the orchestras of miscellaneous dramas, tricks and loose music. The Song dynasty Dongxiao instrument is similar to the Dongxiao instrument of the Eastern Han period, with six holes on the front and no holes on the back. Overall length 34 cm. Inner diameter 2.4 cm. The upper end is also the mouthpiece of a Dongxiao flute. It is held vertically when played. The upper end is angled to the right of the mouth. The upper end is angled to the right of the mouth to form an artificial blowhole, and the airflow is exhaled to make it vibrate and sound. Yuan Dynasty. In the Yuan dynasty, a single-barrel vertical blowing instrument was used as the main instrument, and a multi-barrel vertical blowing instrument was used as the holding device. A clear distinction has been made in the literature. (Li Jinyuan, 2002)

During the Ming and Qing dynasties there was a greater concentration and development in musical instruments. In Zhu Zaijiao's "The Essence of the Rhythm and Lute", the Ming Dynasty, it is stated that people thought that what was played horizontally was a flute, so they called the flute a long xiao. What we call a xiao today is actually a reed xiao, and in ancient times, only a reed xiao would have been called a xiao. The present Dongxiao is usually made of nine-sectioned purple bamboo. In the Qing Dynasty, Wang Yuyang's "Notes on Xiangzu" once pointed out that "the predecessors of today's Dongxiao were Han and Wei flutes made of bamboo: the predecessors of the flute were made of bamboo or reed. Li Dou of the Qing Dynasty, in his "Yangzhou Picture Voyage Record", talks about the playing of "Ten Flip Drums" in the Hongqiao song boat in Yangzhou, where the music is played with two flutes, using a very tight flute membrane and a high sound, accompanied by a xiao with a gentle sound. According to the "Qing dynasty's Canonical Diagram", xiao is explained as: xiao, a cut-off bamboo used to make a pipe, with an open mouthpiece

on top, five holes in front, one hole at the back and two exit holes on the side below. In the Ming and Qing dynasties, the shape of the xiao was basically the same, with five holes in the front and one hole in the back. During the Qing dynasty, Dongxiao music was also widely used by the people. (Huang Yinzhen, 2008)

According to the book "The Complete Book of the Xiao Book", written by Liu Wenxian and others in the late Qing and early Republican period, the material, shape and pronunciation of the xiao are explained in detail. The modern system of Dongxiao is about 56.6 cm, with six holes. It is made of purple bamboo. Yang Yinliu's Outline of the History of Chinese Music discusses the tuning of the Dongxiao, arguing that the tone of a xiao, with all six holes pressed, is four degrees lower than that of a flute with all six holes pressed. (Huang Yinzhen, 2008)

1.2 The construction and shape of the Dongxiao instrument

In the first half of the 20th century, the Chinese wind instrument, represented by the flute, was raised to the status of a solo instrument by folk artists such as Feng Zicun, Jin Zuli and Ren Tongxiang, who had the difficult task of replacing the sound with the instrument. At the same time, professional groups such as Lu Chunling and Zhao Songting led the flute into the realm of the professional music hall. A large number of flute players and educators, trained by masters such as Zhao Songting, have become the backbone of teaching in music art schools and professional music art groups in the new China. Shandong is one of the birthplaces of bamboo flute and xiao instruments in China. Between the establishment of New China and 1965, a large number of outstanding representatives of Shandong bamboo flute and Xiao emerged, mainly Yuan Ziwen, Wei Yongtang, Zhao Renyu and Ren Tongxiang, who were the founders of the formation of Shandong bamboo flute style. (Shi Shuo 2014)

In the early twentieth century, a number of Dongxiao scores were published successively in Beijing and Shanghai. These scores generally begin with an introduction to the construction and form of the Dongxiao, as well as the basic theory of the Gong tune that needs to be understood when playing it, and in 1992 the book Chinese Flute by Lin Keren and Chang Dunming was published, providing a more comprehensive study of the construction and form of the Dongxiao.

Xiao are generally made of bamboo, but also jade and metal, such as jade and copper, and are made of a bamboo tube with the joints left at the top, hollowed out at

the end and inside, and with a blowhole at the top edge to allow the air to flow in and out. There are 8 holes in the body, all of them in the middle, with one hole at the front and one at the back to adjust the pitch. At the rear end of the body there are 2 holes for tuning. Below the holes are two auxiliary holes, which not only add to the tone and volume of the instrument, but also allow the spike to be tied as a decoration. There are many different keys, the most common being C, F, G, etc.

With a history of nearly 5,000 years in Shandong, the flute and Xiao instruments have been deeply integrated into local Shandong opera, song and dance. Elements of local folk and opera music can be found in many of the works compiled or adapted by older artists, and the flute and Xiao instruments are indispensable accompaniments to these forms of music and opera. The study of Shandong folk music is of great value to the development of flute music in Shandong, as it is in itself an inheritance and development of traditional culture, and at the same time has a complementary role in promoting the flourishing of musical culture.

2. Folk Music Culture of Shandong, China

China is a vast country with many ethnic groups, and there is a rich variety of traditional music and culture. In Shandong province, for example, there are many kinds of traditional music: colourful folk songs and folk instrumental music, splendid and colourful opera and operatic music, a thousand kinds of singing and dancing music, and unique music of the literati and the court. According to statistics, there are more than 8,000 folk songs, 4,000 folk music pieces, more than 30 kinds of operas, more than 20 kinds of music and dances, and more than 100 kinds of songs and dances in Shandong. Not only is there a wide variety of songs, but also a wide range of forms, making Shandong a place where the art of folk music can be found. Shandong is a province rich in folk songs, and has a rich variety of folk songs with different characteristics. There are six types of folk songs: labour trumpets, mountain songs, life ditties, large sets of songs, children's songs, etc. Some of these folk songs are found all over the province, while others are confined to one place. The main types of folk music in Shandong are drumming, blowing, guqin, guzheng, liuqin, ringing qin, sanshin, soft bowed jinghu and percussion, etc. The two most influential types of music are drumming and guzheng. Shandong drum and wind music,

especially in the southwest of Shandong, is characterized by the suona as the main instrument, and is known as the "hometown of suona". The folk arts of Shandong, known as "the sea of books and songs", occupy an important place in the history of Chinese music and art, such as the Shandong Qinshu and Shandong Drum, which have had a profound influence on the whole country. The music of Shandong's operatic arts includes the Shandong Qinshu, Shandong Drum, Shandong Express, Jiaodong Drum, East Road Drum, Liaocheng Bajiao Drum, Fisherman's Drum and Luzi. Shandong opera music, according to its vocal origins and basic artistic characteristics, is broadly divided into "string", "bangzi", "elbow drum", "rap" and "folk". The five major systems are "singing", "rapping" and "folk singing". Shandong Lu opera, Wuyin opera, and Daoist cadences are typical of the culture. The most basic form of song and dance in Shandong is the Yangge, of which there are about 100 varieties. The most representative are the three major rice-songs, such as Guzi Yangge, Jiaozhou Yangge and Jiaodong Yangge. The traditional music culture of Shandong also includes the Zhucheng Guqin, which represents the music of the literati, and the Confucian music, which represents the music of the court. The music shows the long history of traditional music in Shandong and its far-reaching influence on future generations, and reflects the great contribution of Qilu civilization to the five thousand years of Chinese civilization. (Liu Jinling, Cui Xuerong, 2016)

Traditional Chinese music is an important part of traditional culture and has been incorporated into the folklore of the people along with their customs and traditions. Shandong, the hometown of Confucius and Mencius, is the birthplace of Confucian culture, and the spiritual connotations of Confucianism are reflected in everything from festivals, weddings and funerals to ancestral rituals. The traditional music of the Shandong region is rich and varied, ranging from songs and operas to solo instrumental ensembles. (Dong Fang, Wan Mehong, 2018)

The southwestern region of Shandong, mainly Heze, is located in the southwestern part of the country and is connected to Henan, Anhui and Jiangsu, and is geographically known as a zone of transition between different cultural regions, with a strong folk music base and diverse regional cultural characteristics. Heze is a region where traditional music culture is well preserved, with a large number of traditional cultural categories still preserved today, and Heze is the "hometown of suona",

"hometown of opera", "hometown of martial arts" "Heze is also known as the home of calligraphy and painting. Mr. Qiao Jianzhong sums up the commonality of such regions from a musical geography perspective: "The formation of a folk music storage area requires at least two conditions: first, the relative closedness of the region. Whether it is a plateau, a basin or a mountainous region, the barrier formed by the mountains makes it difficult for outside cultures to infiltrate and for their own cultures to flow out. Secondly, the distance from political, economic and cultural centres makes it more difficult to be infiltrated by new or foreign cultural currents. In China, this is reflected in the fact that they are mostly the intersection of three or four provinces. They are located relatively far from the political and cultural centre of each province. This allows them to avoid the impact of new and constantly changing trends of life on traditional styles." The second condition is perfectly met in the Heze region, and the natural 'barrier' in the first condition is not a mountainous plateau in the Heze region, but the river 'the Yellow River'. Although the Yellow River has historically brought commercial wealth and cultural prosperity to the region as a major transport route, with the constant diversion of the Yellow River, Heze is in a zone where the old and new rivers are separated, and the former prosperity is sealed away. Although the economic prosperity was lost, the culture that was preserved was invaluable. Therefore, to this day, Heze still preserves a huge number of traditional cultural categories that cannot be surpassed by other regions in the same province, which is the main reason why this paper has chosen Heze as the place to study traditional music. The traditional opera and operatic arts of the Heze region, as well as drumming and blowing music, complement the local rituals. The local families have always retained the custom of the Spring Festival activity of ancestor worship, which is a continuation of the patriarchal concept, has the function of praying for blessings and avoiding disasters, and is a ceremony held for the purpose of remembering the ancestors and strengthening family cohesion. (Dong Fang, Wan Meihong, 2018)

3. Problems that exist in the process of inheritance and development of traditional music culture

In recent years, the impact of foreign music culture, the influence of online media, the difficulties of collection, the problems of inheritance and the lack of

protective government policies have seriously hindered the development of traditional music culture, which deserves our vigilance and deep consideration.

3.1 The impact of foreign music on national music

With the massive introduction of foreign music, the number of musical activities available for people's enjoyment and entertainment has increased, and traditional music culture has naturally been impacted." The introduction of the modern European music education system into modern Chinese school music education has had both gains and losses in this respect. The gains were that it set Chinese music education on a systematic and standardised path. It trained a number of musical talents, introduced Western modern music and its theories, opened up horizons and enhanced the exchange between Chinese and Western musical cultures. The influence of European music-centrism in school music education was more profound, and students were educated on the basis of the European music theory system, neglecting the in-depth exploration and reconstruction of the Chinese music theory system, which was not conducive to the promotion and development of the excellent national music culture." In the face of the impact of Western music culture on traditional Chinese music culture, modern Chinese musicians have made their own efforts to introduce Western music into the country while devoting themselves to promoting traditional Chinese music culture to the world, blending Western music composition techniques with traditional Chinese music culture and creating many face-popping songs of the year. Nowadays, traditional Chinese music and folk music heritage education has been given short shrift, both in school and in subsequent education. Traditional music culture is rarely taught in primary and secondary school music textbooks. Western music teaching methods are vigorously promoted and applied, while there are fewer training and learning activities about ethnic and traditional music. Many schools offer music appreciation classes to appreciate only Western music pieces, with no coverage of traditional music at all. It is common for primary and secondary school students not to be able to sing local folk songs or opera sketches, or even to have heard traditional music.

3.2 The impact of television networks on traditional music culture

Folk is the fertile soil in which traditional music culture can survive and develop. For example, folk songs are songs composed and sung by the working

people themselves in the course of their lives and labour; folk dances, the prototype of primitive music and dance, are also inseparable from labour; the maturity of rap music in the Song Dynasty was marked by the presence of rap artists in the cities who specialised in selling their art; and the art of opera has an irreplaceable place in traditional Chinese music culture. China is a large agricultural country, and in the past, in the vast rural areas of China, villages of some size would have a theatre stage. Going to the theatre was an important part of the spiritual life of Chinese farmers. Opera, a unique Chinese integrated art, took on the task of educating the human nature of this great agricultural country in the most vivid way of acting out stories.

Nowadays, with the advancement of technology and the popularity of the internet, where a wide variety of programmes can be seen on television, people have neglected the most traditional musical activities around them. There are now fewer and fewer folk artists walking the countryside and people are significantly less enthusiastic about watching them. Theatres are rarely used anymore, and even when some cultural groups come to the countryside to perform, the performances are almost always pop music and lack a traditional atmosphere.

3.3 The current status of traditional music transmission

The lack of understanding and attention to traditional music has led to a fault line in the transmission of traditional music, this is an indisputable fact. The traditional music culture, which has been passed down from family to family, has also changed over time and due to economic and social development, young people who are supposed to inherit it have neither the time nor the interest to learn, inherit and promote it. Many folk music cultures have suffered the same tragic fate: an ageing playing force, a lack of successors, and a "fault line" in their heritage. As the Soviet literary scholar Gorky once said, "The death of a folk artist is equivalent to the destruction of a small museum." Therefore, the protection of inheritors is central to the preservation of traditional music culture. Chinese folklore activities, such as festivals, which have long been passed down in China, have been disregarded and diluted by the introduction of Western festivals, and thus traditional music culture has gradually lost its valuable stage.

4. Research on the music theory of the DongXiaoman instrument

4.1 Theory of Gong tune（宫）

Gong tune is an ancient Chinese musical term, ancient Chinese music refers to the tune as Gong, as long as the music is composed of a number of tones, is the music of various tunings. In the ancient music system there were five or seven tones, which are summarised in a series of tones, called tunings in the terminology of Western music theory, but in the ancient Chinese music theory system, they are called Gong.

In ancient times, there were twelve temperament rhythms, five tones and two changes, and in the order of the twelve temperament rhythms, the tones were called: Gong（宫）, Shang（商）, Jue（角）, Zhi（徵）, Yu（羽）, flat Gong and flat Zhi, the seven tune, which were the basis of the music. The twelve temperament rhythms were the name of the windpipe used in the ancient times to determine the rhythm, and because of its different lengths, the sounds produced were also of different heights, according to the Tang dynasty 'Du You Tong Dian', volume 143, club 3, the ratio is based on the length of the yellow bell 9 inches, using 'three points loss one, three points gain one' and 'the interval of eight phase birth' to calculate. The 12 rhythms are lowest in the 'HuangZhong', with a progression of half steps above the yellow bells. This is equivalent to the twelve keys of Western music, but with a slight difference in pitch.

The earliest record of the three-part loss and gain law is the Guanzi, written around the late Spring and Autumn period. The record of the Sheng Law in the 'Guanzi -Diyuan 'was first increased and then decreased. The book says: "To find the five tones, first, take one and multiply it by four thirds to get 81 for the number of HuangZhong（黄钟）, and call this number a Gong（宫）. To add one to three, divide the Gong into three parts, take one of the parts and add the Gong to get 108, which is the Zhi（徵）. Subtract one from three, divide the number of signs into three, and subtract the number of signs from the number divided into three to obtain 71, which is the Shang（商）. To add one to three, divide the Shang into three and add the Shang to get 96, which is the Yu（羽）. To subtract one from three, divide

the number of Yu into three, and subtract this number from the Yu to obtain 64, the Jue（角）.”

The equation for the three-part profit and loss method is：

(1×3×3×3×3)＝81 Gong 宫（黄钟）

81＋81÷3＝108　Zhi 徵

108－108÷3＝72 Shang 商

72＋72÷3＝96 Yu 羽

96－96÷3＝64 Jue 角

The above numbers are all proportional to the length of the strings. The five tones are arranged in order of string length, from lowest to highest, to form the five tons of Zhi, Yu, gong, shang and Jue. Of the five tones, the Zhi is the lowest and the Gong is in the centre.

Unlike the algorithm in the Guanzi, which is based on addition followed by subtraction, the one recorded in the Shiji is based on subtraction followed by addition, thus resulting in a pentatonic scale with different arrangements. The Book of History - The Book of Laws on the number of laws says: "The number of 81 multiplied by nine and nine is used as a Gong. Subtract one from three, and subtract the number of three from the Gong to get 54, which is used as a Zhi. By adding one to the third, the Zhi is divided into three parts and the Zhi is added to give 72, which is the Shang. Subtract one from the thirds, divide the Shang into thirds, and subtract this number from the Shang to obtain 48, the Yu. Add one to the third, divide the Yu into three parts and add the Yu to get 64, the Jue.

The equation is as follows

9 x 9 = 81 Gong 宫 (HuangZhong 黄钟)

81 - 81 ÷ 3 = 54 Zhi 徵

54 + 54 ÷ 3 = 72 Shang 商

72 - 72 ÷ 3 = 48 Yu 羽

48 + 48 ÷ 3 = 64 Jue 角

The strings are arranged in the order of their length, namely : Gong, Shang, Jue, Zhi and Yu.

Although they are both in the order of eighty-one, because the Guanzi first adds and then subtracts them, but Shiji is subtract first, then add, so the Zhi and Yu strings are twice as long as those in the Shiji, and the tone is an octave lower. This is why the lowest note in the Guanzi is recorded as a Zhi, while the lowest note in the Shiji is recorded as a gong. （Ding JiYuan，2021）

In China, the pentatonic scale has occupied an important place since ancient times. Although the heptatonic scale is popular in some parts of China, the pentatonic scale has always occupied an important place in vast areas of the country. In ancient times, two flat tones (flat Gong and flat Zhi) were commonly used in the pentatonic scale as a foil or to enrich the pentatonic scale. Two may be added, or one may be added, and only the flat Gong may be used, or only the flat Zhi may be used, thus making a situation of six tones on top of the pentatonic scale, a phenomenon that exists in both ancient and modern times. （Miu Tianrui，1996）

4.2 Musicological theory

Guo Nai'an's 2017 publication 'Musicology, please turn your attention to people' has had a considerable impact on the Chinese musicological community. Music is one of the cultures created by people, and it is certainly impossible to study music without studying people, but musicology is not anthropology after all, and studying people is not the main task of musicology, let alone the focus of musicology. Music is the study of music, which is a form of behaviour and art created or chosen by humans to express their thoughts and feelings and to convey information, using sound as the medium and carrier of expression, and perceived by the sense of hearing. Because music is non-semantic, the study of the different sub-disciplines within musicology requires the use of research methods from other disciplines. The disciplines within systematic musicology adopt the research methods of the natural sciences; historical musicology adopts the methods of history; and ethnomusicology adopts the research methods of ethnography. The disciplines in musicology are, therefore, interdisciplinary. (Guo Anai, 1998)

In his 2005 book 'The Systematic Composition of Musicology', KangMing describes musicology as a dynamic collection of multidisciplinary, multifaceted and wide-ranging concepts that allow us to recognise that human beings have created the history of music in different ways, and can also interpret and articulate it in different ways. Exploring the systemic composition and division of musicology into categories requires following the laws of the development of the discipline itself, distinguishing and arranging the various basic disciplines and the various sub-disciplines in order to create an overall structural system. Musicology is divided into the following categories.1. Systematic Musicology: music acoustics, acoustics, music physiology, music psychology, music sociology, music technology theory (composition, harmony, counterpoint, orchestration, etc.), music rhythm, music criticism, etc.2. Historical Musicology: general history of music, intergenerational history, thematic history: such as the history of opera, symphonic music, etc.; history of musical instruments: such as the history of piano art, the history of three-string art, etc.3.Ethnomusicology: traditional music studies, ethnography, ritual music, etc.4.Aesthetic Musicology: music psychology, etc.5.Archaeological Musicology: the archaeology of musical instruments, music iconography, etc.6. Educational Musicology: the psychology of music education, etc. (KangMing,2005)

4.3 Ethnomusicological theory

Timothy Rice, in his 2010 ethnomusicology in the Yearbook for Traditional Music, describes that ethnomusicological descriptions take three forms: specific, normative and interpretive. Each of these descriptions will either explicitly or implicitly relate to ethnomusicological theory. When the formulation is ambiguous, the theorised nature of the description can be hidden from view. When we use theory explicitly, it usually takes the form of self-reflection, opening up the possibility of theoretical dialogue, which is a central way in which effective theorising can work. Particular musical descriptions attempt to characterise the nature of individual cases, for example, a musical performance, a musical piece, an instrument and a musical event. Normative descriptions do not apply to individual projects, but to collective projects: how to organise musical performances characteristically, how to produce instruments, collective works or musical styles of performance more representatively, etc. Interpretive musical descriptions, once referred to by Clifford Geertz as 'deep

descriptions', include interpretations of the social and cultural significance of musical practices and the various power relations they have recently expressed or challenged. (Timothy Rice, 2010)

In his review of ethnomusicological literature published in 2022, Xiong Chen describes how ethnomusicology was introduced to China in the 1980s, and after more than 40 years of theoretical research and practice, it has flourished and, with the continuous efforts of generations of scholars, has developed a theoretical research path with Chinese characteristics. Some summaries have been made of the ethnomusicological structure, the various dictionaries relating to music and music and their meanings, the distribution of musical genres, i.e. the understanding and representation of the musical class view. The depiction of music, i.e. the geographic account of the morphological type of music. The description of musical instruments can be included in our description of all the matters it calls for investigation with the help of the Hornbostel taxonomy of musical instruments. The cultural vein associated with music. This project requires us to provide as objective an account as possible of the various contexts in which the music of this culture was used, the ways in which it was used and its valued functions. (Xiong Chen, 2022)

In his 2019 publication 'Reflections on Several Key Issues in the Study of Chinese Historical Ethnomusicology', Zhao Shufeng introduced that Chinese historical ethnomusicology is a study of the interaction between history and the present, as well as an examination of the overall and local nature of music. In the actual fieldwork there is a discrepancy between 'historical texts' and 'historical facts', a bias in the interaction between history and the present. In the study of historical ethnomusicology, there is a discrepancy between traditional historical documents and the musical performance texts present in the field; the history of minority music as the 'other' with the Chinese cultural writing system, and the stability, reliability and integrity of the information in the oral music history documents due to the power and discursive manipulation in the fieldwork. All these academic problems are based on post-modernist thinking in historical ethnomusicology research. In our daily fieldwork and desk work, we are not only concerned with examining the presence of texts in their current state of existence, but also with the longitudinal development and transformation of their historical trajectories. At the same time, the study of historical

ethnomusicology is not purely a historical musicological study that focuses on the examination and collation of documentary texts. It should draw on the research philosophy of historical anthropology, return to the field and revisit historical memories. The study of historical ethnomusicology in China nowadays not only requires the study of the interchangeability between the history and the present of the research object, but also confronts the different cultural representation systems of music historical documents, the differences in power and discursive manipulation systems between the researcher and the object, as well as the subjective construction of minority music culture under the influence of the 'Han cultural centrism' mentality. (Zhao Shufeng, 2019).

5. The Documents and Research Related

5.1 Documents

Yang Yinliu has used a great deal of material in his Manuscript History of Ancient Chinese Music, which is very rich in content, covering a number of disciplines such as history, archaeology and phonetics. The analysis of music and musical instruments in the book is based on a large number of documentary sources, as can be seen from the appendix, which contains 84 examples of song indexes and 134 examples of picture indexes, truly a "musical history with music". The author has annotated a large number of scores in the book, whether they are ancient scores or collected folk music scores, reflecting the author's research theory of "tune examination" and "reverse investigation", i.e. to examine and verify ancient music through the traditional music that still survives today. The score is based on the theory of 'tune verification' and 'backward examination', i.e. the use of traditional music that is still alive today to verify ancient music. The musical examples reflect the historical development of music from the perspective of music itself, and are an indispensable component of music history. The pictures show more visually the appearance of ancient musical instruments, the forms of orchestras and dances, copies, characters and scores, which help us to understand ancient music and instruments in a more visual and three-dimensional way.(Yang YinLiu,1981)

Miao Tianrui introduces the principles of articulation, the origin and development of the rhythmic system in various countries around the world, and gives

a detailed account of the application of the rhythmic system to different musical instruments. The questions of the rhythmic system in our folk music are answered. The music of our country, for reasons of transposition and transposition, is beginning to be centred on the twelve-mean meter, which is conducive to the improvement and development of our folk music and to the exchange between our music and that of foreign countries. At present, the problem of the metrical system of folk music in China is the neutral tone, which is not uniform in its treatment and causes the orchestra to be inconsistent in pitch. The study of the rhythmic system of folk music is an important part of the study of folk music. With the use of modern advanced tonometry techniques, it is possible to account for the tonal and rhythmic systems of the ethnic folk and operatic music of the various peoples of China, and to accomplish this task, which plays an important role in the development of folk music in China. (Miao Tianrui, 1996)

Before the liberation of China, there was hardly any textbook dedicated to the DongXiao instrument, and it was basically named after the flute. In the textbook, Sun Yude points out that the use of the breath and fingers are the two main features of the technique and the basis of good DongXiao playing. In the section on blowing methods, there are ten detailed training methods: "posture, luck, blowing in high and low notes, breathing and qigong exercises, air changes, air vibrations, how to master strengths and weaknesses, how to control intonation, fingering and hole presses, hole presses in various keys", as well as nearly 100 exercises and revision songs for practice.（Sun YuDe，1962）

5.2 Research Related

In his article 'Reflections on the Current Situation and Development of Chinese Folk Music Creation since the Reform and Opening Up' published in 2018, Liu XiJin writes that Chinese folk music bands started in the 1920s, took shape in the 1950s, were characteristically promoted in the 1960s, and were devastated by the Cultural Revolution in the 1970s. The Chinese folk band has almost come to a standstill. Since the reform and opening up of China in 1978, a large number of outstanding works and talents have emerged, and in 2012, the Chinese Folk Orchestra summed up its experience in the creation, performance, theoretical research, instrument production and reform of folk instruments, in order to find a new direction

for the development of Chinese folk music. The life of art lies in distinctiveness and innovation, and Chinese folk orchestral music, as a unique variety of art in the world, has its own basic conditions and room for development to stand on its own in the world of folk art. In order to keep up with the times, contemporary musicians must also expand their horizons to the world, strive to study the excellent musical culture of various countries and ethnic groups around the world, and create highly technical works.（Liu XiJin，2018）

In his 2007 article 'The Impact of Western Musicological Constructs on Music Theory Education in China', Meng Jinglei introduced musicology as a discipline dedicated to the study of music, originating in the West and a young discipline in China. The current state of musicology teaching and research in China requires the establishment of a theoretical learning and research system that is consistent with the history of development and culture of Chinese music, as well as with the Chinese system of theory study and research, drawing on the mature theoretical systems of the West. The lack of direct contact with folk music in musicology majors is guided by new ideas and concepts in music research, and new concepts and means to carry out folk music collecting. (Meng Jinglei, 2007)

In her article "Chinese Folk Music" published in 2021, Li Limin argues that, among the rich musical forms of the "Chinese School", Chinese folk music is the musical form and genre that most visually reveals the characteristics of Chinese music culture. The article compares the "Western" and "Chinese" forms in the instrumental art of the "Chinese School", and the "exotic symbols" of Chinese folk music and orchestra. The article analyses the external form and timbral characteristics of Chinese folk instruments and orchestras as "external symbols", comments on folk music works as "implicit symbols", and discusses the "going out" and "spreading" of Chinese folk music to the world. "The work of the Chinese folk music group is also discussed in a multi-faceted manner, and the importance of further promoting and developing Chinese folk music to the construction of the "Chinese music group" is discussed in a multi-faceted manner through the presentation of the contribution of the achievements of Chinese folk music to the establishment of the image of the "Chinese music group". The presentation of the results of the two aspects of the "Chinese Music School" is a multi-faceted and multi-dimensional discussion of the importance of the

further promotion and development of Chinese folk music to the construction of the "Chinese Music School". The "Chinese Music School" focuses on the historical heritage of Chinese music, and the cultural accumulation of traditional Chinese music is the foundation for the building of the "Chinese Music School". Although Chinese musical traditions have undergone a modern transformation due to the introduction of Western music in modern times, the cultural lineage of traditional Chinese music has been inherited in modern Chinese instrumental music, whether in terms of instruments, orchestras, timbres and other external aspects, or in terms of the creative thinking and aesthetic interests of folk music compositions, which all manifest the unique Chinese musical form of the "Chinese Music School". "(Li Limin, 2021).

Hornbostel–Sachs is a system of musical instrument classification devised by Erich Moritz von Hornbostel and Curt Sachs, and first published in the Zeitschrift für Ethnologie in 1914. It is the most widely used system for classifying musical instruments by ethnomusicologists and organologists. Mahillon divided instruments into four broad categories according to the nature of the sound-producing material: an air column; string; membrane; and body of the instrument. From this basis, Hornbostel and Sachs expanded Mahillon's system to make it possible to classify any instrument from any culture. A blown idiophone is one of the categories of musical instruments found in the Hornbostel-Sachs system of musical instrument classification. These idiophones produce sound when stimulated by moving air. (Hornbostel-Sachs, 1914)

In A Study of Chinese Dongxiao Music and Culture, Li Jinyuan summarises the categories of Xiao instruments in China, examining their origins and defining the relevant terms. It discusses the history and evolution of the xiao instrument in China, its role in various forms of music, from ritual music to court music, and from an accompaniment instrument in ensembles to an instrument that can be played solo. (Li Jinyuan, 1999)

In China, the flute and xiao instruments are among the most widespread and influential instruments because they are easy to make, portable and have a stable pitch. In addition to being a musical instrument, the flute and xiao can also be used as a generic term for a rimmed wind instrument. It is played by blowing through the human body and passing through the lip pair pulling system so that the airflow forms

a beam that shoots at an oblique angle into the blowing end of the tube pair, thus creating a side rib vibration that creates a standing wave in the tube, emitting a frequency that corresponds to the length of the tube. Compared to the flute, the sound of xiao is quiet, soft and elegant, with a low volume and insensitive articulation. When playing a xiao, the mouth slit should be rounded and the mouth should be properly opened, as the volume of the xiao is small but malleable, and volume control and timbre changes are all dependent on the slit and the mouth. (Wang Zaichang, 2006)

Chen Zhengsheng in 'Acoustic research and the specification of flute and Xiao production' and Yang Xuanbin in 'Detailed explanation of the positioning of the fundamental holes in DongXiao production' describe, in detail, the detailed process involved in DongXiao production and the solutions to intonation problems after production. When making a DongXiao you should first make the blowhole, then cut a hole at the end somewhere to determine a fixed pitch, and finally go to the finger holes according to the formula. During the production process, temperature and humidity can have an effect on intonation. After the holes have been punched, fine adjustments to intonation need to be made, and the overall intonation can be fine-tuned by making adjustments to the mouthpiece and finger holes. (Chen Zhengsheng, 2008)

The use of breath and fingers in the process of playing the DongXiao is the foundation of good DongXiao man playing. On top of constantly improving the blowing technique, the traditional Chinese aesthetic ideas of the DongXiao should also be constantly explored. The traditional aesthetic is often used as a reference for the appreciation of the sound of traditional instruments, and each instrument produces a different sound, but there are commonalities in the perception of beauty. (Yuan Zicheng, 2020)

Chapter III

Research Methods

The basic contents of chapter include the following points:

1. Research scope
    1.1 Scope of Content
    1.2 Scope of site
    1.3 Scope of Time
    1.4 Key informants
2. Research process
    2.1 Selected site and information
    2.2 Research tools
    2.3 Data collection
    2.4 Data management
    2.5 Data analysis
    2.6 Summary of Chapters

1. Research scope

1.1 Scope of Content

This thesis will investigate the organology and playing technique and analyze the music characteristic of song selected of DongXiao.

1.2 Scope of site

In this thesis, the city of Heze in Shandong Province, China, will be chosen as the site of study.

Heze is an area that has preserved a great deal of traditional music culture, and the DongXiao plays an important part in this, but through the collection and collation of relevant data, it has been found that there is very little research on the form, technique and music of the DongXiao. researcher will collect data in the field in Heze, Shandong, China, find key informants and collate the data for analysis.

Figure 1. Map of China

Source: Google map 2023.03

Figure 2. Map of Shandong Province, China

Source: Google map 2023.03

1.3 Scope of Time

The researcher conducted field interviews in ShanDong Province from March 2022 to October 2022.

1.4 Key informants

Selected criteria

1.4.1 He or she has studied Dongxiao for at least 30 years.

1.4.2 He or she is an elder.

1.4.3 He or she has won many honors.

Key informant: Mr. Zheng Yankun

Mr. Zheng Yankun, a flute player from Heze, Shandong Province, has contributed greatly to the development of flute culture in the region. Zheng Yankun, a native of Hecheng County, Shandong Province, has been learning the bamboo flute since he was a child and is the first local flute player and educational promoter. His style of playing is high, full, clean and simple, with the warmth and straightforwardness of the Shandong people, typical of the northern style of playing. Not only does he have a wealth of playing experience, but also a wealth of teaching experience.

Figure 3. Mr. Zheng YanKun

Source: Lu Feng (2022.4)

Key informant: Mr. Wang DeHao

Wang De Hao, a young bamboo flute player and educator, has studied bamboo flute since childhood with Mr Zheng, a teacher of bamboo art training and a member

of the Musicians' Association. He has won the first prize in Dongxiao flute performance and understands the music and technique methods of DongXiao flute.

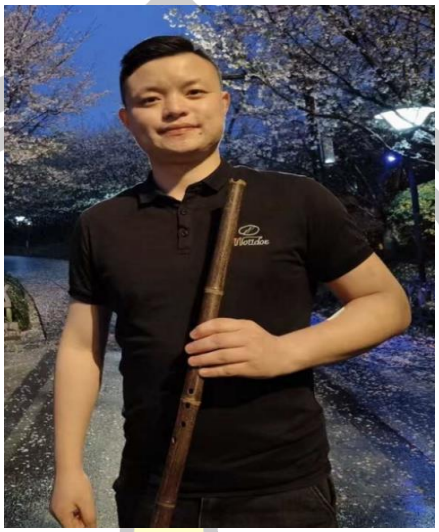


Figure 4. Mr. Wang DeHao

Source: Lu Feng (2022.4)

2. Research process

2.1 Selected site and information

2.1.1 Selected site

The south-western region of Shandong, mainly Heze, is located in the south-western part of the country, connected to Henan, Anhui and Jiangsu, and is geographically known as a zone of transition between different cultural regions, with a strong folk music base and diverse regional cultural characteristics. Heze is a region where traditional music culture is well preserved, with a large number of traditional cultural categories still preserved today, and it has the "hometown of suona", "hometown of opera", "hometown of martial arts" "Heze is also known as the home of calligraphy and painting.

2.1.2 Song selection

2.1.2.1 How to choose a song

According to the information and advice provided by the resource provider, Mr. Zheng Yankun, the Dongxiao is an ancient folk instrument with a warm and soft tone, giving it a rustic and natural feel with a rich historical and cultural background. The researcher chose a specific period of Dongxiao music, 2 pieces of

ancient music, to represent the characteristics and style of Dongxiao playing and to explore its musical melody and in rhythm characteristics.

2.1.2.2 How many music of music were selected

Two representative ancient music of Dongxiao music were selected for analysis by scholar, "Three Blossoms of the Plum Blossom" and "Night of the Spring River Flowers and Moon".

As an ancient and classic Dongxiao music, "Three Plays of Plum Blossom" and "Spring River and Moonlight Night" represent the tradition and memory in the Dongxiao music culture. It carries a long history and rich cultural connotations, and is an important part of the Chinese musical tradition. These two pieces have been performed by a number of outstanding performers. The researcher has chosen the version performed by the famous Chinese flute player Chen Yue to collate and analyse the scores.

2.1.2.3 Criteria for selecting music

The researcher selected the song by introduce of scholar. “Three Plays of the Plum Blossom” and “Moon in the Spring River Flowers and moon” are ancient music for the Dongxiao, representative pieces with a history of nearly a thousand years, and the music possesses traditional tunes and themes associated with cultural and folk traditions. It requires the player to master the techniques of playing the Dongxiao, including breath control, fingering and tonal expression. The music often emphasises rhythm, creating a sense of dynamics and rhythmic layering through various rhythmic variations and rhythmic patterns.

2.2 Research tools

Each question was studied in depth according to the research objectives of this thesis. The researcher used questionnaires for field work.

Questionnaire Making

In order to collect better information, the researcher specially designed the questionnaire, and in the process of questionnaire design, the researcher followed the following steps:

1) According to the preliminary research, the content of the questionnaire is preliminarily designed and submitted to the advisor for inspection.

2) Improve the content of the questionnaire according to the tutor's suggestions.

3) Submit the revised questionnaire to the expert group for discussion an inspection.

4) Revise the questionnaire again according to the opinions of the expert group, and finally determine the content of the questionnaire.

Through the use of questionnaires, the relevant information of Dongxiao was systematically collected and studied.

1) Through the interview with Mr Wang Dehao, we can understand the method and playing skills of the Dongxiao.

2) The interview with Mr. Zheng Yankun enabled us to understand the musical style, style and meaning of the Dongxiao piece.

The interview with the informant allowed us to gain a deeper understanding of the development of the research subject.

2.3 Data collection

From January 2022 to January 2023, the researchers used online contacts such as telephone and WeChat and fieldwork in Shandong to learn about the way Dongxiao is played, its performance techniques and to explore the ancient music of Dongxiao.

2.3.1 In March 2022, the researcher conducted an interview with Mr Zheng Yankun via internet video call, and briefly discussed the current state of development of the Dongxiao pair.

2.3.2 In April 2022, the researcher travelled to Heze, Shandong Province, and interviewed Mr Zheng Yankun and Mr Wang Dehao to discuss the history and development of the Dongxiao, and to discuss the musical style and performance of the ancient song "Three Plays of the Plum Blossom" and "Night of the Spring River Flowers and Moon". The structure, playing posture and playing techniques of the Dongxiao were recorded through photography.

2.3.3 In April 2022, an interview with Mr Wang Dehao was conducted to learn more about the technique and playing style of the Dongxiao and to make a record of how the technique was practised.

2.3.4 In May 2022, the information collected was collated and briefly summarised.

2.3.5 Mr. Zheng Yankun provided documentary information on the history of the development of the Dongxiao, the development of music and culture in Shandong Province, and the cultural attributes of Shandong folk music, which provided strong support for the study of the ancient song.

2.3.6 Mr Wang Dehao, provided information on the methods and techniques of playing the Dongxiao, which provided assistance in the study of the performance of the Dongxiao and the characteristics of Dongxiao music.

Based on the information and suggestions provided by the informant Mr. Zheng Yankun, this paper selects a representative ancient song of the Dongxiao, "Three Plays of the Plum Blossom", and analyses it using the musical structure and musical characteristics method.

Based on fieldwork information, the paper uses a combination of musicology, ethnomusicology, Western music analysis and traditional Chinese music analysis to analyse the characteristics of the Dongxiao music pieces, as well as the structure and performance techniques of the Dongxiao.

2.4 Data management

All data collected has been categorised and organised.

2.4.1 Interview transcripts and audio recordings

The interview transcripts and recordings were all converted into written records, with the original transcribed information and recordings stored separately.

2.4.2 Photographs and video recordings

Photographs were categorised and managed according to the structure and playing style of the Dongxiao, and the musical fragments played by the Dongxiao, in accordance with the research objectives.

2.4.3 Documentary material

A number of documentary sources, original music audio, theses and dissertations are organised and stored according to Document, Research Related. To help in the study of the structure and playing method of the Dongxiao.

2.5 Data analysis

The data collected was collated and classified according to the two objectives of the study. In the section on the structure and playing techniques of the Dongxiao, the researcher used descriptive analysis methods to analyse the data from the Dongxiao and interviews. In the section on musical characteristics, the researcher used theories from musicology and Chinese ethnomusicology to analyse the two selected representative pieces, including key, rhythm and ending.

2.6 Sumary of Chapters

Chapter I Introduction

Chapter II Literature review

Chapter III Research methods

Chapter IV Analysis of the organology and performance techniques of the Dongxiao

Chapter V The music characteristics of the song selected of the DongXiao

Chapter VI Conclusions, discussions and suggestion

The results of this research were presented through a Master's thesis and to provide relevant experience and data for the development of the DongXiao in Heze, Shandong Province.

CHAPTER IV

Analysis of the organology and performance techniques of the DongXiao

This chapter includes interviews with scholars and performing artists who have been involved in the education and performance of the DongXiao for many years, as well as a review of relevant literature and historical archives. This chapter examines the structure, playing methods and performance techniques of the DongXiao. The researcher uses common problems in practice as clues to explore the various requirements, techniques and methods of learning the DongXiao.

1. The Organology of Dongxiao

1.1 Materials of Dongxiao

There is a wide choice of materials that can be used to make a Dongxiao, each of which has its own unique advantages and disadvantages. A common material used for making Dongxiao is bamboo, and there are other materials used for making Dongxiao, such as hardwood, jade, metal and PVC pipes. These materials vary in sound quality, tone and appearance, and players can choose the right material for their Dongxiao according to their personal preference, musical style and budget. The following are common materials used in Dongxiao making and their characteristics:

1.1.1 Bamboo

Bamboo is one of the most common and traditional materials used for Dongxiao making and is one of the most commonly used materials with the following characteristics:

Advantages:

1) Natural sound quality: bamboo has a unique sound quality and tone. It produces a pleasant, clear tone, sometimes with a soft and natural flavour. The resonant nature of bamboo gives a fuller and richer sound to the Dongxiao.

2) Lightweight and portable: a Dongxiao made of bamboo is relatively light and portable. Players can easily carry them around with them to play and perform on various occasions.

Easy to work with and adjust: Bamboo is relatively easy to work with and adjust. The size and shape of the blowhole can be adjusted as required to control the pitch and tone of the Dongxiao.

3) Malleability: Bamboo has a certain degree of malleability that allows the XIao maker to adjust the shape and internal structure of the bamboo to further improve the sound and performance of the Dongxiao.

Disadvantages:

1) Dependent on the quality of the bamboo: The quality and quality of the bamboo varies greatly and different types of bamboo may exhibit different tonal qualities. It is necessary to use hard, fine-grained bamboo when making a Dongxiao to ensure that good sound quality is obtained.

2) Affected by the environment: Bamboo is a natural material and is susceptible to environmental factors such as humidity, temperature and climate. In humid or dry conditions, bamboo may shrink or swell, causing problems with the intonation of the Dongxiao.

3) Vulnerability to damage: Compared to materials such as metal or hardwood, bamboo is relatively less durable. A Dongxiao made from bamboo may be more susceptible to external shocks or damage and requires careful use and proper care.

1.1.2 Hardwood

Hardwood is another common material used for Dongxiao and it has the following advantages and disadvantages:

Advantages:

1) Full-bodied tone: Dongxiao made from hardwood usually has a richer, deeper tone. Compared to materials such as bamboo, hardwood has a fuller tone, sometimes with some warm and soft qualities.

2) Durability: Hardwood materials are often highly durable and can withstand the effects of humidity, temperature and climate change. This makes

hardwood Dongxiao more durable and able to maintain consistent sound quality and playing performance in different environments.

3) Tunability: Compared to bamboo, hardwood Dongxiao are usually more tunable. The size and shape of the blowhole can be fine-tuned by the maker to adjust the pitch and tone to suit the player's needs.

4) Aesthetically pleasing: The natural grain and texture of hardwood materials gives the Dongxiao a more aesthetically pleasing appearance. Many hardwood Dongxiao are given elaborate finishes, such as polishing, carving or lacquering, to further enhance their visual appeal. （See Figure 5）

Disadvantages:

1) Heavier: Compared to lighter materials such as bamboo, Dongxiao pipes made from hardwood are usually heavier. This can increase the burden on the hands when playing and requires a certain amount of hand strength and control from the player.

2) Higher price: Hardwood materials are usually relatively expensive, which results in the higher price of hardwood Dongxiao. Making a Dongxiao using quality hardwood materials can be a strain on the budget.

Figure 5. Hardwood Dongxiao

Source：Lu Feng (2022.4)

1.1.3 Jade

Jade is a very special and precious material and there are some jade materials used in Dongxiao making. The following are some of the advantages and disadvantages of making Dongxiao from jade:

Advantages:

1) Unique sound quality: A jade Dongxiao usually has a unique and beautiful sound quality. It produces a rich, pleasing, crisp tone with a unique resonance and tonal character.

Elegant appearance: the jade material has a natural beauty and elegance that makes for a very attractive Dongxiao in terms of appearance. The texture, colour and grain of jade makes Dongxiao a unique artistic and ornamental experience.

2) Durability: jade stone has a high degree of hardness and durability, making it relatively more durable than Dongxiao made from other materials. It resists the effects of humidity, temperature and climate change, giving jade Dongxiao a long life.

3) Stability: The properties of jade allow jade Dongxiao to maintain a consistent sound quality and intonation when played. Its material properties make the sound of the Dongxiao less susceptible to interference from the external environment, maintaining a stable and accurate playing performance.

Disadvantages:

1) High price: Jade is an expensive material and the cost of making a jade Dongxiao is high. Due to their scarcity and preciousness, jade Dongxiao are usually more expensive than Dongxiao made from other materials, placing a high demand on the buyer's budget. （See Figure 6）

2) Heavier weight: jade Dongxiao are usually relatively heavy, which can increase the burden on the hand when playing and the strength and control required of the player's hand.

3) Difficulty of production: due to the hardness and special characteristics of jade, making a jade Dongxiao is relatively complex and difficult. The process requires specialist skills and experienced craftsmen to ensure that the quality and tone of the Dongxiao is at its best.

Figure 6. Jade Dongxiao

Source：Lu Feng (2022.4)

1.1.4 Metal

Metal is an uncommon but also used material for making Dongxiao. The following are some of the advantages and disadvantages of making Dongxiao from metal. （See Figure 7）

Advantages:

1) Durable: Dongxiao made of metal are usually highly durable and sturdy. Compared to materials such as bamboo or wood, metal Dongxiao are more durable and less susceptible to external shocks or damage.

2) Consistent sound quality: The sound quality of a metal Dongxiao is usually relatively consistent. The nature of the metal material makes the pitch and tone of a Dongxiao more stable and less susceptible to factors such as humidity, temperature and weather.

3) Easy to maintain: metal Dongxiao are relatively easy to clean and maintain. Metal is not susceptible to insects or moisture and can be kept in good condition with simple cleaning and maintenance.

4) Special tone: Metal Dongxiao have a different tone characteristic to traditional Dongxiao. They may produce bright, sharp or metallic tones that bring a unique effect and style to musical performance.

Disadvantages:

1) Heavier weight: Metal Dongxiao are usually heavier than Dongxiao made of other materials. This can increase the burden on the hand when playing and the strength and control required of the player's hand.

2) High audio preference: Metal Dongxiao are usually better suited to playing the higher parts of the music. Due to the nature of metal, the bass region may not perform as well as bamboo or wood Dongxiao.

3) Limited tonal variation: The range of tonal variation in a metal Dongxiao is relatively small. Compared to bamboo or wood Dongxiao, metal Dongxiao have a limited range of tonal adjustment and do not offer the same tonal versatility.

Figure 7. Metal Dongxiao

Source：Lu Feng (2022.4)

1.1.5 PVC (polyvinyl chloride)

PVC is a common plastic material that is sometimes used to make Dongxiao. The following are some of the advantages and disadvantages of using PVC for Dongxiao. （See Figure 8）

Advantages:

1) Inexpensive: PVC is a relatively inexpensive material, making Dongxiao made from PVC less costly than other traditional Dongxiao making materials such as bamboo or hardwood.

2) Durability: PVC material is highly durable and can resist the effects of humidity and climate change. This makes PVC Dongxiao more durable and less susceptible to the effects of the external environment.

3) Easy to maintain: PVC Dongxiao are relatively easy to clean and maintain. Due to its smooth surface, dirt can be removed by simply wiping with a damp cloth.

Disadvantages:

1) Limited sound quality: The sound quality of PVC Dongxiao may be limited compared to Dongxiao made from bamboo or hardwood. the resonance properties of PVC material are not as good as natural materials and therefore may not produce the same rich and full tone.

2) Limited tonal range: PVC Dongxiao are often made based on pre-designed sizes and hole positions, which may limit their tonal range and intonation adjustments.

3) Not traditional in style: The appearance and material of PVC Dongxiao is very different from traditional bamboo Dongxiao and therefore may not be suitable for players and collectors who are looking for traditional style and originality.

The material used to make a Dongxiao can have an impact on its sound quality, tone and appearance. Although PVC has some advantages, it is not as good as other natural materials in the pursuit of high-quality sound and traditional style. PVC is often used as a training material for beginners trying to make Dongxiao, not for playing.

Figure 8. PVC Dongxiao

Source：Lu Feng (2022.4)

Table on the materials used to make Dongxiao and the advantages and disadvantages

Table 1. Advantages and disadvantages of materials

Materials	Advantages	Disadvantages
Bamboo	Natural sound quality Lightweight and portable Malleability	Dependent on the quality of the bamboo Affected by the environment Vulnerability to damage
Hardwood	Full-bodied tone Durability，Tunability Aesthetically pleasing	Heavier Higher price
Jade	Unique sound quality Durability Stability	High price Heavier weight Difficulty of production
Metal	Durable Consistent sound quality Easy to maintain Special tone	Heavier weight High audio preference Limited tonal variation
PVC	Inexpensive Durability Easy to maintain	Limited sound quality Limited tonal range Not traditional in style

1.2 The organology of the DongXiao

The organology of a DongXiao is divided into four main parts: the mouthpiece, the body, the finger holes and the barrel holes.

The mouthpiece, which is open at the top edge of the Dongxiao, is where the air is blown from to produce the sound. The shape of the mouthpiece has a great deal to do with the tone of the Dongxiao. Historically, the mouthpiece of a DongXiao has been flat, U, V and cut. The mouthpiece of a normal DongXiao is U-shaped. （See Figure 9 and 10）

Figure 9. Mouthpiece

Source：Lu Feng (2022.4)

Figure 10. mouthpiece

Source：Lu Feng (2022.4)

The body, or the main body of the DongXiao, is a hollow body made of many sections of bamboo. A typical DongXiao has a barrel tone of d1, a length of 70-78 cm and an inner diameter of 1.6-1.7 cm, and is mostly made of purple or white bamboo. The sound quality of a Dongxiao reed is highly dependent on the material and production of the bamboo used. （See Figure 11 and 12）

Figure 11. The body of Dong Xiao front

Source：Lu Feng (2022.4)

Figure 12. The body of Dong Xiao back

Source：Lu Feng (2022.4)

The body has eight finger holes, seven at the front, one at the back, two basic holes and one to four auxiliary holes, all of which are round or oval in shape. （See Figure13 and 14）

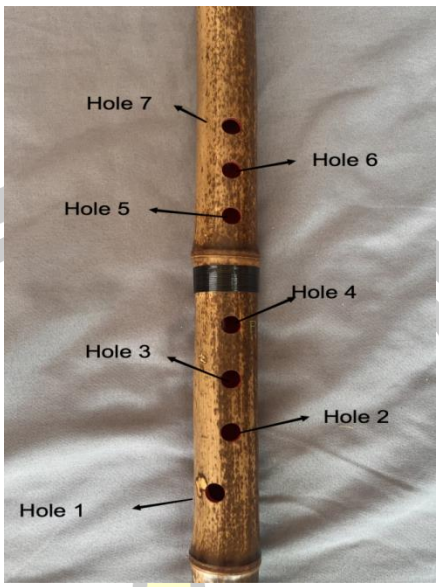


Figure 13. Finger hole Front

Source：Lu Feng (2022.4)

Figure 14. Finger hole Back

Source：Lu Feng (2022.4)

The holes are arranged in order from bottom to top, with the bottom one being the first hole, the top one being the seventh hole and the back one being the eighth hole. The opening and closing of the finger holes control the pitch and allow direct playing of the same key scale. To facilitate transposition, the holes themselves have

different tunings and the same hole can be transposed by changing the fingering according to the scale relationship. Commonly used DongXiao pipes have a range of two octaves and can also be played with an interval four degrees higher than overblown. There are three ways to play a DongXiao: slow blowing, rapid blowing and super blowing. Each hole can be played in slow-blowing octaves or twelfths, so each hole in a DongXiao can be played with three notes. （See Figure 15）

Figure 15. The key of DongXiao

Source：Lu Feng (2022.4)

The auxiliary hole is the hole where the lowest note is fixed when making a DongXiao. When making a DongXiao, the mouthpiece is dug out and then a hole is made at the end of the tube to set a fixed pitch, which produces the lowest note of the DongXiao, also known as the barrel tone. The auxiliary hole is the hole for the air to flow out, it does not affect the pitch and is cut at the very end of the tube. （See Figure 16）

Figure 16. Cartridge sound hole and auxiliary sound hole

Source：Lu Feng (2022.4)

1.3 The production method of Dongxiao

This section of the study focuses on bamboo as the main material for the production of a Dongxiao. Commonly used materials for the production of a Dongxiao are purple bamboo, bamboo with a spot, bamboo with a butterfly, bamboo with a noble heart and so on. The most commonly used material for a Dongxiao is purple bamboo. After being brought back, the bamboo must be dried in a cool place in a warehouse for at least two years before it can be selected for a Dongxiao. The bamboo must be relatively dense, with at least six knots. If the diameter of the bamboo is around 25 to 27 cm, it is suitable for the G and F keys. （See Figure 17 and 18）

Figure 17. Purple bamboo

Source: Lu Feng (2022.6)

Figure 18. Storage

Source: Lu Feng (2022.6)

Baking and straightening: the length of the xiao is between 85 and 90 cm, the excess joints are removed from both ends and baked. Because bamboo is naturally grown, each piece of material has bends and curves and needs to be heated by the electric oven before it is straightened, so that it is heated evenly during the baking process until it is hot, which means it is basically cooked. （See Figure 19 and 20）

Figure 19. Baking

Source: Lu Feng (2022.6)

Figure 20. Straightening

Source：Lu Feng (2022.6)

Polishing: After the bamboo has cooled down, it is necessary to use a tool to open up the inner joints, choosing the right tool according to the size of the inner diameter of the bamboo. As the Dongxiao is a closed mouth Dongxiao, the top section of the bamboo should not be pierced and the inner chamber of the bamboo should be polished with a tool to make the inner wall of the bamboo smooth. （See Figure 21）

Figure 21. Sanding the inner wall

Source：Lu Feng (2022.6)

Positioning and drilling: After the bamboo has been treated, it is time to determine the base pitch and drill the holes. Measure the inside diameter to determine the tone of the blowhole, then saw off the excess and draw the lines of the finger holes to the appropriate scale. The blowhole of a Dongxiao is basically closed, so to drill the hole you need to select a drill bit of around 7 to 8mm and drill the blowhole, fingerhole and auxiliary hole in the position of the marked hole. （See Figure 22-24）

Figure 22. Measure the internal diameter

Source：Lu Feng (2022.6)

Figure 23. Draw a line

Source：Lu Feng (2022.6)

Figure 24. Drilling the holes

Source：Lu Feng (2022.6)

Tuning: as there is an inaccuracy in the size and thickness of each pipe, there will also be an inaccuracy in the pitch of a standard Dongxiao. When you have drilled the holes, you need to tune them more accurately, so before you tune them, test blow the pitch and adjust the size of the hole according to its pitch. If the tone is low, you can raise the pitch of the sound by digging the mouthpiece downwards and then

raising the pitch. If the sound is out of tune from hole to hole, the pitch can also be adjusted by adjusting the size of the individual holes. （See Figure 25）

Figure 25. Tuning

Source：Lu Feng (2022.6)

Finishing: After adjusting the overall pitch, the hole inside the mouthpiece has rough areas and needs to be polished clean of any uneven areas inside the hole so that the tone blown out will be more transparent and sensitive. When drilling the holes, some of the holes are drilled into the joints of the bamboo, which can easily leak when pressed by the fingers, so the joints need to be polished flat. As bamboo grows naturally, there will be insects over time, so a layer of insect glue needs to be applied to the inside of the xiao to act as an insect and mould inhibitor. In the final stage, the surface is wiped clean with thinner and then polished and waxed. The complete xiao is then finished. （See Figure 26）

Figure 26. Finished

Source： Lu Feng (2022.6）

2. The techniques of the DongXiao

2.1 Playing position

There are two types of posture for playing the DongXiao: standing and sitting. The standing position should be used for general practice and the seated position is best used only when playing in an ensemble, for example, where sitting is necessary. The standing posture allows you to breathe smoothly and has obvious advantages over the seated posture.

When playing standing up, the eyes should be level in front of you, the whole body relaxed, the shoulders completely flat, the spine straight, the legs naturally spread as wide as the shoulders and the chest naturally straight. （See Figure 27）

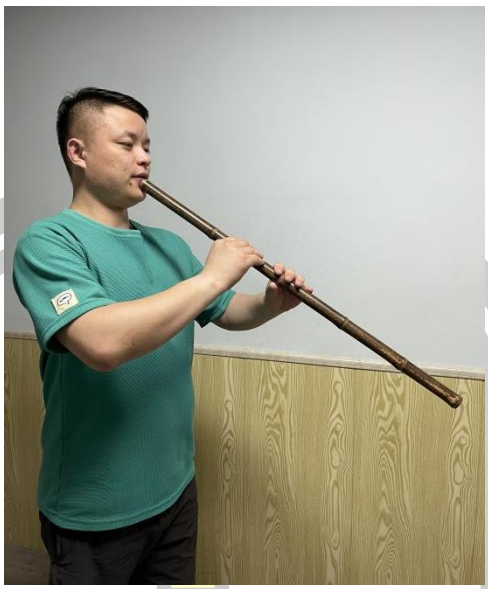


Figure 27. Standing position

Source：Lu Feng (2022.4)

Play in a spirited manner while standing with your body naturally relaxed. Play in a very spirited manner. Just as we stand, walk, talk and act, we should always develop the habit of "standing a little more upright, walking a little more powerfully, talking a little more brightly and looking a little more firmly”. （See Figure 28）

Figure 28. Sitting position

Source：Lu Feng (2022.4)

2.2 Playing method

2.2.1 The body must be square

The first difficulty in playing the DongXiao man is in holding the DongXiao man, because the DongXiao man is upright and vertical, generally the left hand sound hole in the top, the right hand sound hole in the bottom holding the DongXiao man, first of all to keep the body upright, two shoulders parallel to the basis to play the DongXiao man, the hands must adapt to this requirement to hold the DongXiao man from the body upright direction upright, up about 45 degrees, this time to prevent because of the position of the left and right hand a high and a low, and make The body should be prevented from tilting because of the high and low position of the left and right hands. It is important to remember that body alignment is the priority and that the hands can be flexibly adjusted while the body is upright.

2.2.2 The hand should be natural

The fingers of the left hand are still better to hold, just bend the elbow naturally and move the hand to the chest; however, the finger holes of the right hand are about 20 cm to 30 cm lower than the left hand, and the right wrist must be folded back to the left in the direction parallel to the body with the back of the hand facing outwards, which is a rather unnatural posture, so the beginner's right hand will soon feel sore because of this unnatural posture. The soreness of the right hand cannot be alleviated by changing the upright position of the body, but only by relaxing as much as possible in the correct posture.

2.2.3 Keep your elbows in the air

The left and right elbows should be naturally relaxed and hanging down, but at a distance from the body side so that the DongXiao leaves the body at about 45 degrees, with the exact amount of lift being based on the principle that the head remains level in front of you and you will not play with your head down. You must not slowly loosen your elbows to clamp them to the side of your body on the way to playing because your hands are tired. It is like hanging your wrist when practising brushes. It is tiring at first, but once you get used to it, you will appreciate many of the benefits of doing this, such as smooth breathing and the ability to move freely when your body is in motion due to breathing or musicality, etc.

2.2.4 How to press the hole of a DongXiao

What position should the fingers be in to hold the finger holes Six hole xiao because each adjacent finger hole distance is relatively large, so it is best to use the first knuckle or the second knuckle to hold the finger holes as needed, the left hand can be relatively straight up, basically you can use the first knuckle to hold the finger holes, but the right hand should be tilted to the lower left some, so hold the xiao, the right index finger, middle finger is the second knuckle to hold the finger holes, the ring finger is the first knuckle to hold the finger holes. The ring finger is the first knuckle. This is one of the reasons for the popularity of the eight-hole xiao. The left hand uses the first knuckle, the right hand uses the second knuckle for the index finger, middle finger and ring finger, and the pinky finger uses the first knuckle because the holes are closer to the right than the other holes. The right thumb is naturally positioned between the index and middle fingers on the back of the DongXiao.

2.2.5 Support points for the DongXiao

The supporting fingers and the playing fingers should be completely separate, each with its own responsibilities and not mixed with the other.

There are only three points of support for a DongXiao - the lips, the left pinky and the right big finger. The little finger of the right hand does not count because although it sometimes seems to be able to be relied upon to hold the cassette, it often has to be lifted when playing, so it cannot be considered a support point and it is best to try not to rely on it. The finger that needs to be lifted when playing must be completely free, even if it is resting on the finger hole, and must not act as a support point so that it can move freely. A special reminder is that when playing the eight-hole xiao, we can exert a little force to strengthen the solid state of support of the left pinky finger. As long as it is used with perfection, you can experience that the left pinky can form a clever and stable clip with the right big finger, and the other fingers can be put to work with confidence.（See Figure 29）

Figure 29. Hand Type

Source：Lu Feng (2022.4)

2.3 The state of the lips

2.3.1 The position of the lips in relation to the DongXiao

When playing a Dongxiao, the lips should be slightly tightened like a smile, with the projection of the upper lip facing the blowhole and the lower lip close to the top edge of the pipe, with the gap in the blowhole slightly exceeding the lower lip line by 1mm-2mm.（See Figure 30）

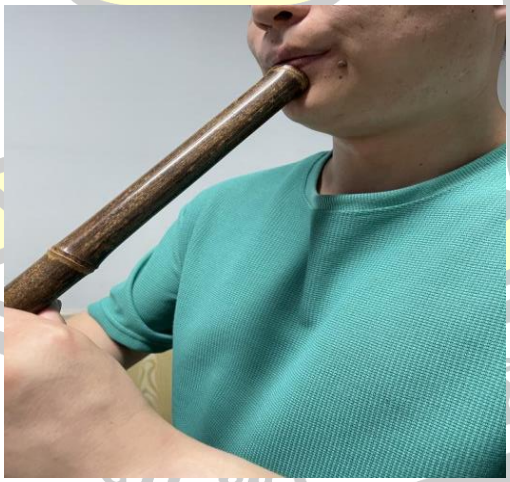


Figure 30. Mouth shape

Source：Lu Feng (2022.4)

2.3.2 The size of the mouthpiece

The mouth wind refers to the force with which the upper and lower lips are tightened in order to play the DongXiao. In the lower notes, the mouth wind is loose, the wind door is oval-shaped and the volume in the mouth is larger, the higher you go, the tighter the mouth wind has to be, when the wind door gradually becomes flat and the volume of the mouth gradually becomes smaller.

2.3.3 Direction of the breath

When playing, keep your head not excessively raised or lowered, eyes flat in front of you, with the Xiao pipe about 45 degrees away from your body, breath blowing in the direction of the pipe and then about 15 degrees downwards, with the bass a little lower in the direction and the treble a little flatter.

The most important thing to address in a DongXiao man is breathing, which is the primary learning objective for wind music playing. The breathing methods for folk wind instruments are all basically similar.

Slow blowing is when the blowing speed is slowed down, the mouth breeze is enlarged and the breath is blown out slowly and evenly;

A sharp blow is a faster blow, with a smaller breeze and a faster breath.

3. Basic techniques of Dongxiao playing

3.1 The lips

Lip technique mainly refers to training to improve the accuracy of the articulation of the lip's strength control, blowing three degrees to the octave of the interval blowing is the main method to solve. The greater the interval blown, the greater the degree of luck needed to master the intensity, the different pitches have different degrees of lip tightness and the accuracy of the change in breath direction. （See Figure 31）

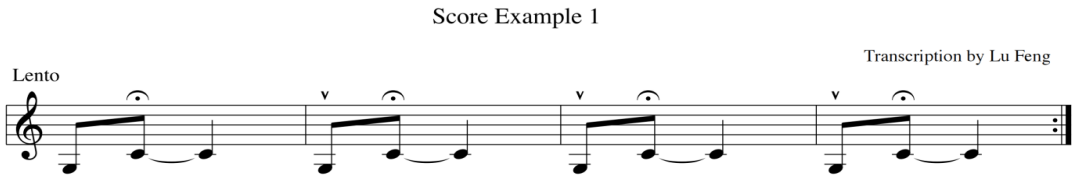


Figure 31. Score Example1

Source：Lu Feng (2022.7)

The breath requirements when playing are as follows:

Bass range: breath direction downwards, loose accent, slow breath speed, light breath luck

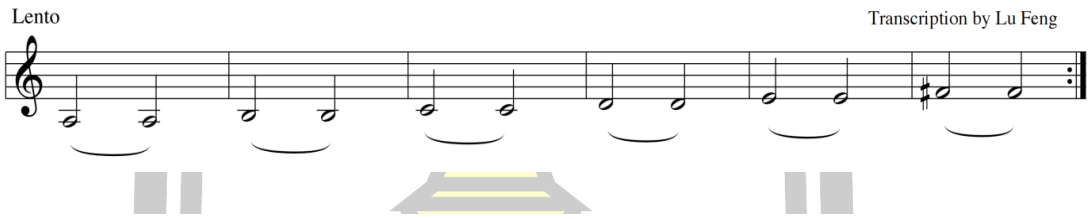
Middle register: slightly flatter in the direction of the breath, tighter in the mouth, slightly faster in the speed of the breath, and stronger in the breath pressure;

Soprano: the breath is more flattened, tighter, faster and more intense.

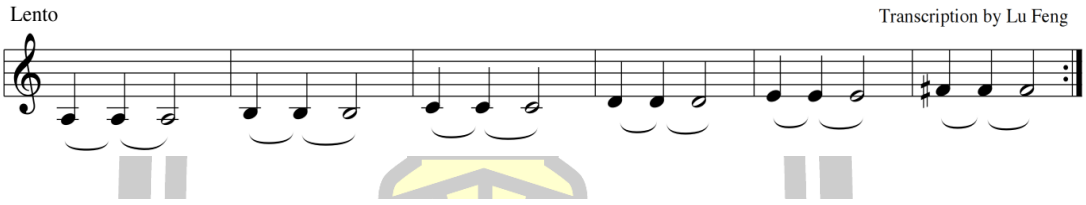
3.2 Fingers

The technique of the fingers has many requirements, including relaxation of the hand, maintenance of the shape of the handclap, and natural and rapid finger movements. （See Figure 32）

Score Example 2



Score Example 3



Score Example 4

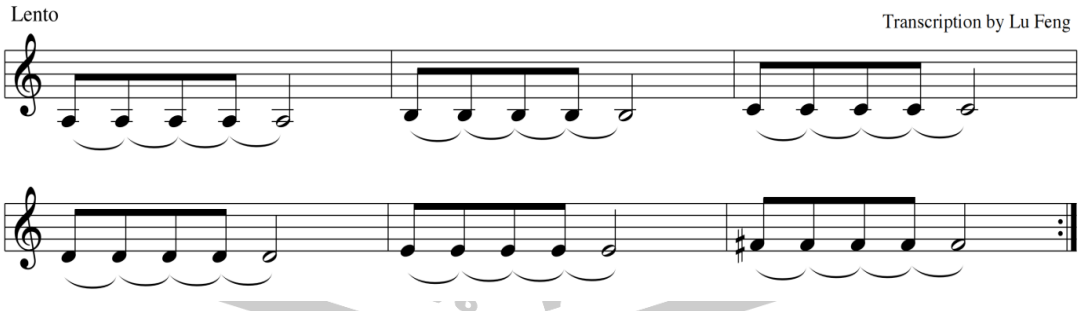


Figure 32. Score Example1,2,3

Source：Lu Feng (2022.7)

1. The finger holes of each Dongxiao are in a fixed position, but it is not always correct to place our hand on the holes. We should use the fleshiest part of the first or second knuckle of the finger to press the hole, but also pay attention to the shape of the hand to keep it as relaxed as possible, maintaining a rounded hand shape, with the joints of the fingers protruding slightly and the nails facing upwards as far as possible. The mouth, the third knuckle of the left index finger and the right thumb are the three most crucial support points, which should really act as a support. The fingers that need to move should be able to move flexibly and not rely on these parts that need to move at any time to maintain the stability of the DongXiao. After all these parts that need to move have been lifted, they should also be able to maintain the stability of the DongXiao well with only a few fixed support points.

2. The speed of the fingers can be solved using tremolo training, and then the practice process must be based on long tones. A relaxed wrist and fingers will allow the whole movement to be coordinated, accurate and rhythmic. (See examples 2 to 4 of the score)

3. The speed of the fingers is not the most important issue when practising initially. At first it is generally important to try to relax and to fully relax the wrist and fingers. Only after you have fully mastered the movement of your fingers correctly can you increase the speed. When speeding up, you will need to increase your wrist and finger force a little, and the finger movements will become agile.

The trill is a continuous movement of the fingers in a hole above a tone (the fundamental), so that the fundamental alternates quickly and evenly with a tone two degrees higher, using the "tr" mark, mostly in long notes or tunes. The trill is used with a natural relaxation of the hand and arm, and the continuous opening and pressing of the fingers should be rapid, even and sustained. Sometimes a higher third may be used in order to express a particular style. When using the vibrato, the fingers should be opened as low as possible, as close to the sound hole as possible, in order to obtain a faster and more even effect.

Stacked notes

When two tones of the same degree appear in succession, whether in the same bar or not, if one breath is played in succession without breaking it up, the two tones are put together into one tone, turning it into a syncopated effect. （See Figure 33）

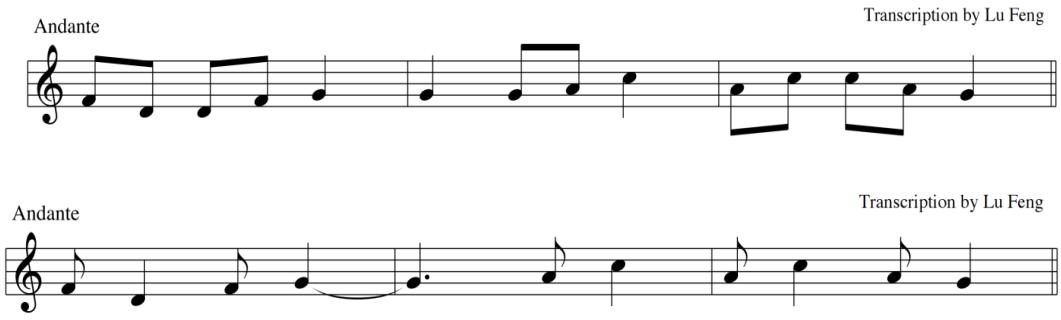
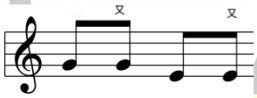
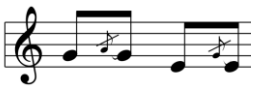


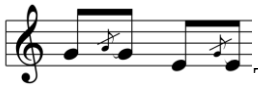
Figure 33. Score Example of Stacked notes

Source：Lu Feng (2022.7)

This is why the fingering technique is used, separating the tones of the same meter and marking the top of the note with a "and" to indicate the fingering technique. This is done by pressing on the first or second hole above the base note at a very fast speed between the two tones of the same degree. Example:


Stacked fingering


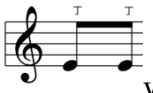
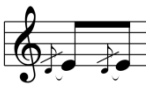
Attention must be paid to the sensitive and elastic action of the open pressed overlap, so that the ornamentation sandwiched between is of such short duration that it cannot be heard as a pitch, but only serves to separate the two homophones.


The G and A in the above list only indicate the position of the start of the press, not the pitch.

From the fully pressed barrel to the assonance of each tone in the fourth hole, the stack can be decorated with an open press on the fifth Yukon hole, and is particularly convenient for the assonance of the barrel.

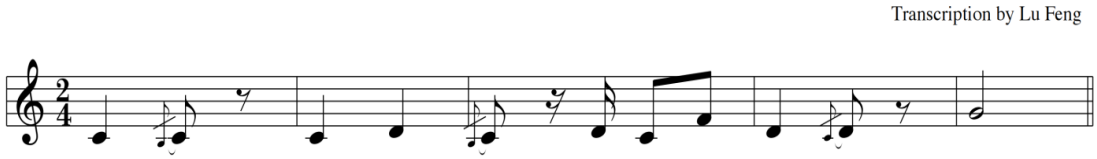
Punching

Some of the notes move one finger, others two. When it comes to fingers that are not very flexible, such as the little finger or the big finger, it is important to train them as well as the other fingers. Punching is the main method of separating two notes of the same pitch in the same phrase without changing breaths in a piece of music.

For example,  with the beating technique, it becomes  .

The fingers move very quickly when playing the beating, so that only two successive E's can be perceptibly heard. the beating symbol is written as a "d" and is noted above the latter note of the same degree. （See Figure 34）

For example



Performing effects:

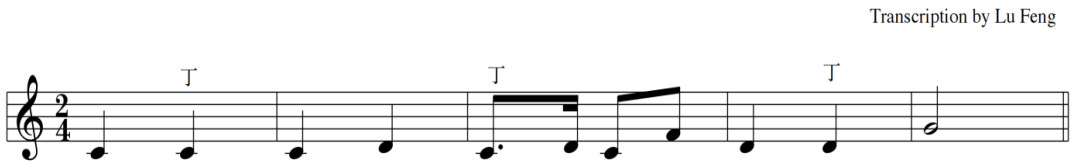


Figure 34. Score Example

Source：Lu Feng (2022.7)

Glissando

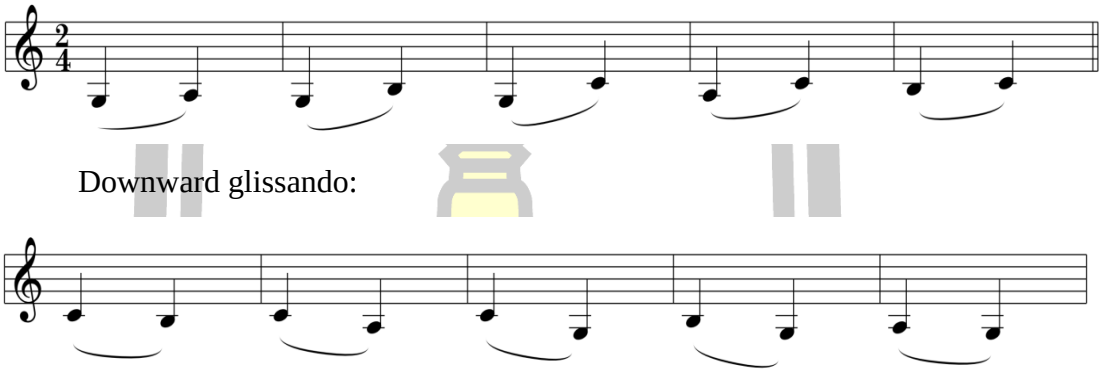
The glissando is an essential part of folk wind instruments such as the DongXiao man, and is a very rhythmic technique, similar to the effect of smoothing on stringed instruments. The movement of individual fingers or groups of fingers (multiple fingers moving at the same time) requires a patient and careful attitude, either individually or simultaneously from side to side. The top slide moves towards the high notes, the bottom slide moves towards the low notes, the repeat slide starts in the desired direction and then returns to the starting point.

This sliding technique, which many people simply move from side to side, is in fact to be trained accurately, not as a parallel left-right movement, but as a circular movement of a single finger or multiple fingers at the same time, with the upper glissando moving clockwise, the lower glissando moving decrescendo, and the compound glissando drawing a small oval-shaped circle above the relevant finger

hole. It is important to note that the slides are more difficult to master and require more practice, as well as relaxing the moving fingers as much as possible, in order to play them as naturally and smoothly as the upper glissandos; individual fingers may be relatively clumsy and require more practice as well. It is also very important to work on the breath, whatever the slide. The specific training methods are as follows:

1. Upper glissando

Right hand upper glissando（See Figure 35）



Downward glissando:

Figure 35. Score Example of Glissando

Source：Lu Feng (2022.7)

3.3 Technique of the tongue

1. The technique of the tongue refers mainly to the light spit during articulation, as well as to the single, double and triple spit techniques. There is also a question of speed in spitting, similar to the requirements of the fingers. It is important to note that relaxation and slow training will allow you to experience the correct form, and the right amount of force when the form is correct will allow you to be really fast.

2. Clarity of articulation is a question of where to use the tongue when playing the articulation. The tip of the tongue should be used for movement and the rest of the tongue should lie as relaxed and flat as possible on the bed of the teeth, but be aware that the lips should be slightly more tense when playing an exhale than when playing the same long note, so that the exhale is clear and clean.

1. Single spit

The first thing to do is to train the technique of one change of breath, one blow sell, from the lowest to the highest note, each note should be carefully trained. （See Figure 36）

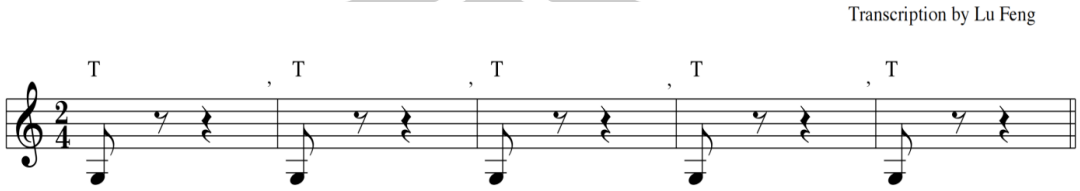


Figure 36. Score Example of Single spit

Source：Lu Feng (2022.7)

Then it's time to train the technique of one change of breath and two blows: （See Figure 37）

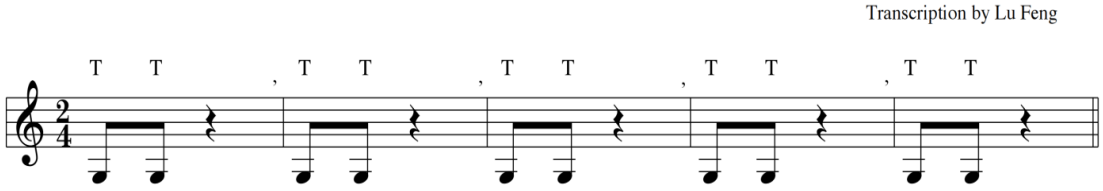


Figure 37. Score Example of Single spit

Source：Lu Feng (2022.7)

This is followed by the technique of blowing in slow succession with each short change of breath:

（See Figure 38）

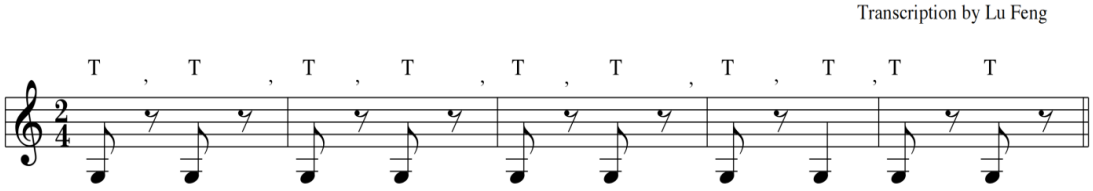


Figure 38. Score Example of Single spit

Source：Lu Feng (2022.7)

Then comes the technique of blowing in one change of air, in succession, which allows the same note to be trained repeatedly:

（See Figure 39）

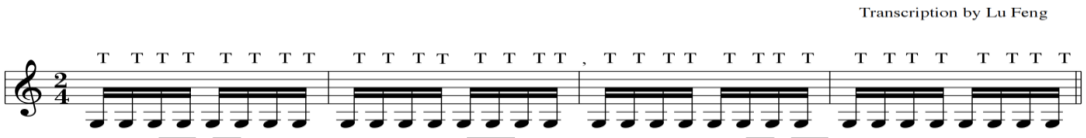


Figure 39. Score Example of Single spit

Source：Lu Feng (2022.7)

The single spit is also the main method of separating two notes of the same pitch in the same phrase, but this is different from the normal single spit, which is pronounced with a light spit or air spit, not too pronounced, which has the characteristic of a clear and powerful pronunciation.

The slow single spit can change one breath at a time, while the fast-continuous single spit cannot change breath. Slow single spit blowing frequent narrow breath can be used chest breathing, do not have to use chest and abdominal breathing method, in most cases, chest breathing is absolutely wrong, but in the phrase is very short, need to change the air frequently and each time the amount of air used is not large, with chest around the type of this deep breathing method will be difficult, slow response, not dexterous. In this case, the chest breathing is the same as the normal chest breathing, as the volume of breath is small.

daily speech and chest breathing when walking, it does not cause any tension at all and also makes the spit response more agile, fast and sharp.

2. Double spit:

The "T" in "TK" is actually a single spit, so when training the double spit, it is sufficient to train the "K" directly. （See Figure 40）

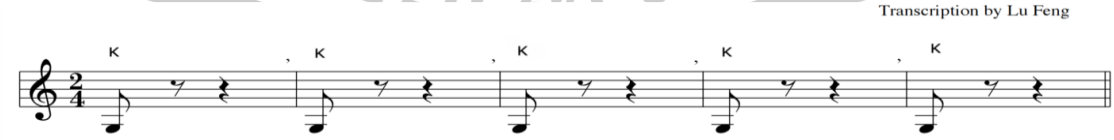


Figure 40. Score Example of Double spit

Source：Lu Feng (2022.7)

Next, we can train the technique of one change of breath and two blows：

（See Figure 41）

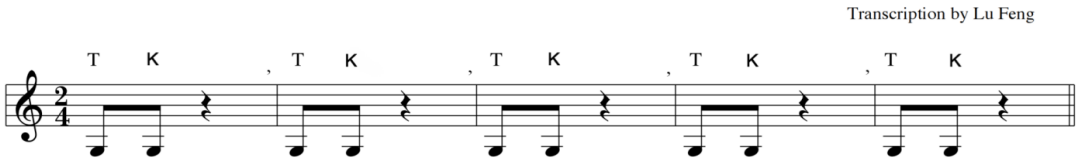


Figure 41. Score Example of Double spit

Source：Lu Feng (2022.7)

Then it is time to train the technique of blowing in one change of breath, in succession. （See Figure 42）

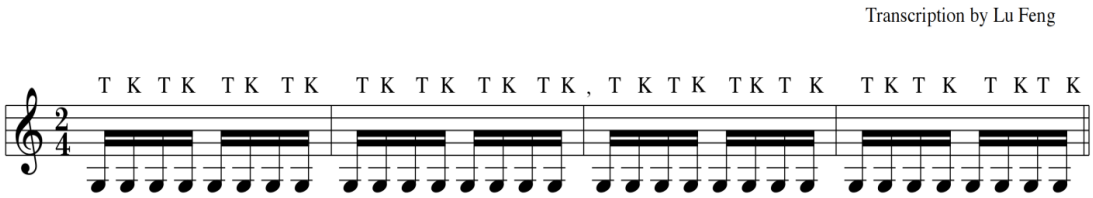


Figure 42. Score Example of Double spit

Source：Lu Feng (2022.7)

The skills to be noted in the double spit are very similar to those of the single spit, except that special attention should be paid to the fact that T and K are two completely different movements so beginners are prone to three mistakes: one is that playing the double spit is easy to lose control of the movement of the tongue at a steady rate and will blow faster and faster, two is that K tends to rush forward, causing the double spit to stick together two by two and the overall speed is uneven, three is that the strength is uneven, T tends to blow strong, K This requires special attention when practising, not to be too nervous about the movement of the tongue, but to put the sweat into the long notes and try to be as relaxed and natural as possible, in order to make the double spit as even and stable as the single spit.

CHAPTER V

The music characteristics of the song selected of the DongXiao

This chapter analyses the ancient Dongxiao pieces 'Three Blossoms of the Plum Blossom' and 'Night of the Spring River Flowers and Moon'. These two Dongxiao pieces are ancient pieces that represent the style of Dongxiao playing and cover the techniques of Dongxiao playing, and have also been adapted to instrumental music such as the Guqin and Piano. Experts recommend analysing the pieces in terms of musical melody and rhythm.

1. Analysis of Dongxiao Song “Three plays of plum blossom”

“Three plays of plum blossom” ,It is one of the most famous pieces of Chinese classical music. It is one of the ten most famous ancient pieces of Chinese classical music, which is based on the white fragrance of the plum blossom and its resistance to cold. It is one of the ten most famous ancient Chinese classical music pieces. The earliest known score for this piece was published in 1425 in the "Magical Secret Score". The historical allusion to The Three Tunes of Plum Blossoms is the story of Huan Yi, a great general of the Eastern Jin Dynasty, who played the “Three Plays of Plum Blossoms for the madman Wang Huizhi. This allusion was recorded in the Book of Jin - Legend 51 and the New Story of the World - Ren Tan 23.

Wang Huizhi was called to Jiankang, the capital of the Eastern Jin Dynasty, and the boat he took was moored at the pier of Qingxi. It so happened that Huan Yi was passing on the shore, and Wang Huizhi did not know him well. At this point a guest on the boat said, "This is Huan Ye Wang (Huan Yi's character Ye Wang)." Wang Huizhi then ordered someone to say to Huan Yi, "I heard that you are good at playing the Xiao, try playing it for me." Huan Yi was by now a high official, but he had also heard of Wang Huizhi's reputation, so he got off and got on board. Huan Yi sat down on a bed of beard and played the tune of Three Blossoms on the flute DongXiao. When he finished playing, Huan Yi immediately got on the boat and left. Not a word was spoken between the host and the guest. This is a testament to the unpretentiousness of the Jin people and their lack of formalities. Huan Yi was both

gentle and elegant, while Wang Huizhi was impetuous and knowledgeable, so it was a rare opportunity for them to meet without exchanging a word. It was this unexpected meeting between Huan Yi and Wang Huizhi that led to the creation of the ancient masterpiece 'Three Plays of Plum Blossom'.

The period of this piece consists of eight period, with the traditional folk music period of "Senza misura - Lento - moderato - Allegro - Senza misura", and is in the key of F. The overall structure is illustrated as follows:

Table 2. The overall structure of the music

Level 1 structure	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8
Level 2 structure	6+6	8+6+6	7+4	8+6+6	5+4+6+7+13+6	8+6+6	8+4+6	8+6
Vignette	1-12	13-32	33-43	44-63	64-104	105-124	125-142	143-156
Tonality	F Gong（宫）							
Speed	56	76	96	96	96	104	116	76
Speed structure	Senza Misura	Lento	Moderato			Allegro		Senza Misura

1. First movement (bars 1-12)

This is a loose section, which serves as an introduction and consists of two equal length phrases. The first phrase (bars 1-6) is in the first four bars and is mainly in F, G and D. The first three pitches present the tone of the work and set the style of the piece, ending in bars 5-6 with the long A horn. The second phrase (7-12) is a repetition of the previous one, ending on the F palace note at bar 12. （See Figure 43）

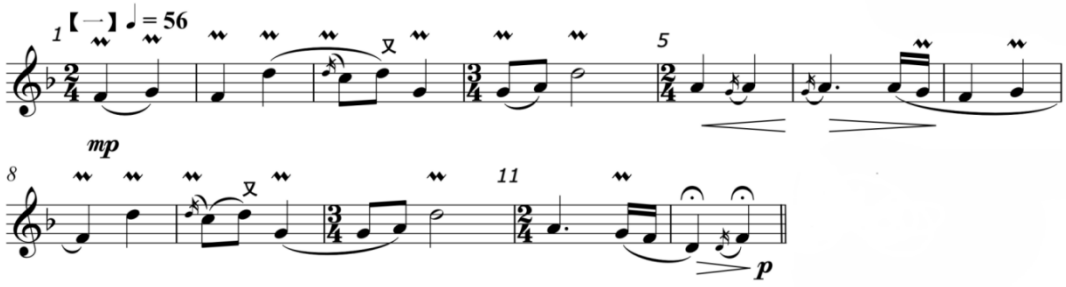


Figure 43. Score Example of Period 1

Source：Lu Feng (2022.11)

The first part of the piece is in a free rhythm, in a loose part, and the tune is played slowly from the lower register, with the intervals jumping and the repetition of the same note making the melody smooth and lyrical.

2. Second movement (bars 13-32)

An adagio section, the thematic section of the piece, consisting of three phrases.

The first phrase (13-20): the melodic material is as in the score:

（See Figure 44）

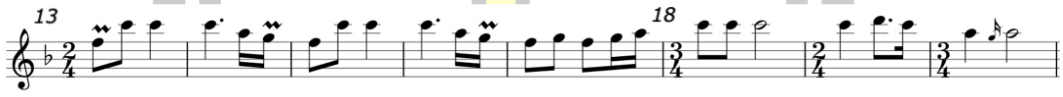


Figure 44. Score Example of Period 2

Source：Lu Feng (2022.11)

The first two bars are a repetition of the progression from F to C. Bars 3-4 of the phrase are a repetition of the first two bars, reinforcing the tune's character, while the last four bars maintain the F-C progression in fifths, filling the middle with an upward passing tone and ending with an A angle.

Second phrase (21-26): melodic material as in the score:

（See Figure 45）

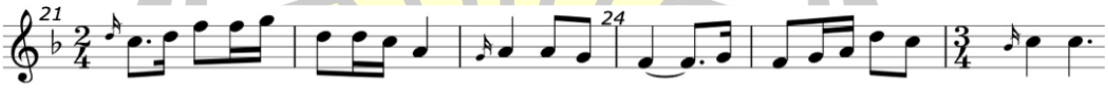


Figure 45. Score Example of Period 2

Source：Lu Feng (2022.11)

The rhythm is "2+2+2", the first bar of the phrase is transposed, the pitch changes to a C-F progression, the last two bars are a repetition of the previous variation, the melody develops in a twist, and ends with a C symphony.

Phrase 3 (27-32): melodic material as in the score. （See Figure 46）

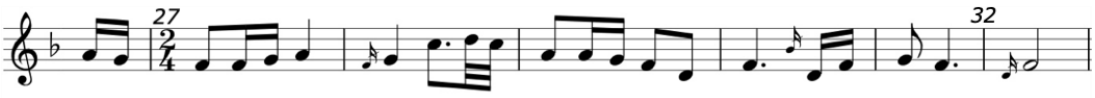


Figure 46. Score Example of Period 2

Source：Lu Feng (2022.11)

To conclude the phrase, the pitch progression repeatedly emphasises the F palace note, and in the last three bars of the phrase is carried out with the F palace note as the central upper and lower encircling auxiliary note, and the phrase closes with the F palace note to end the phrase.

The second section is also the first presentation of the musical theme. The tune is derived from the introduction at the beginning and is therefore a progressive development. The use of the dotted rhythmic pattern makes the melody more jumpy and lighter, giving the tune a more vigorous "life" and driving it forward, as if to show us This particular overtone theme is varied once in the 4th and once in the 6th, thus creating three variations, with subtle changes in the contrasting colours of the pitches and overtones, creating a very delicate musical mood and enriching and developing the image of the plum blossom.

3. Third movement (bars 33-43)

A middle section with variations on a theme, consisting of two unequal length phrases. The first phrase (33-39) is a variation on the second phase of the thematic section, adding a continuous sixteenth note progression with thirty-two notes, a coded rhythm and increased dynamics, and ending with an A horn note. The second phrase (40-43) maintains the characteristic progression of the previous one, with a change of ending note, ending in C.（See Figure 47）

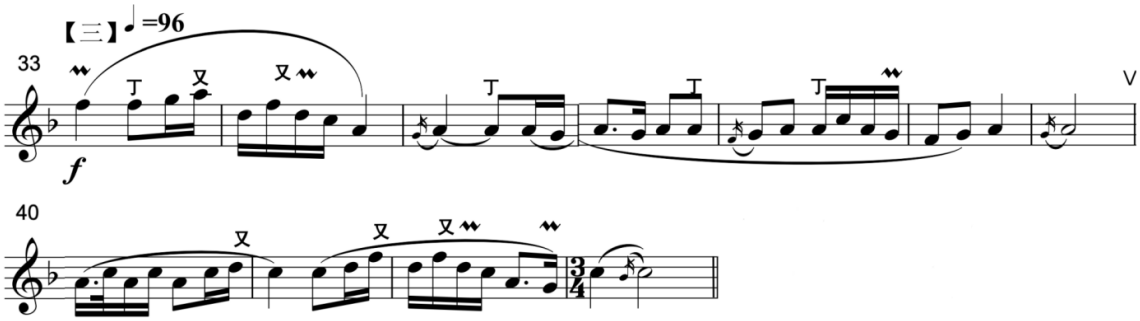


Figure 47. Score Example of Period 3

Source：Lu Feng (2022.11)

4. Four movements (bars 44-63)

The thematic section appears for the second time, with the phrase structure remaining unchanged. The first phrase (44-51) appears an octave lower, the second phrase (52-57) remains repeated as it is, and the third phrase (58-63) remains more or less as it is, omitting the C symphonic progression at the end of bar 59. （See Figure 48）

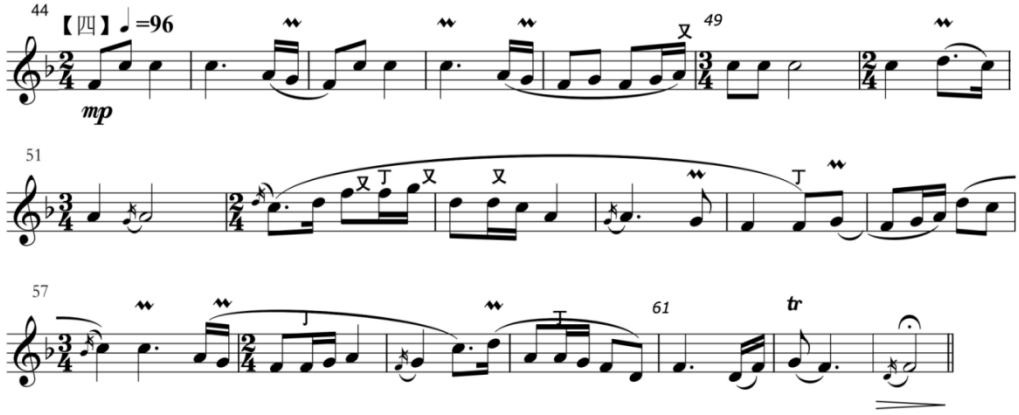


Figure 48. Score Example of Period 4

Source：Lu Feng (2022.11)

5. Five movements (bars 64-104)

The section is large in scale and consists of six phrases with a variation character. The first phrase (64-68) uses an encircling auxiliary pattern to emphasise

the F house note, while the second (69-71) and third (72-78) use homophonic repeated material to emphasise the F house note and the A horn note respectively. The fourth phrase (79-85) rises in the melodic range and makes extensive use of continuous sixteenth note material, increasing the dynamics. The fifth phrase (86-98) is longer in scale, often using a dotted rhythmic pattern, with a driving musical development and a narrative melodic progression ending in the F clef. The sixth phrase (99-104) is the closing phrase, a variation on the third phrase of the thematic section. （See Figure 49）

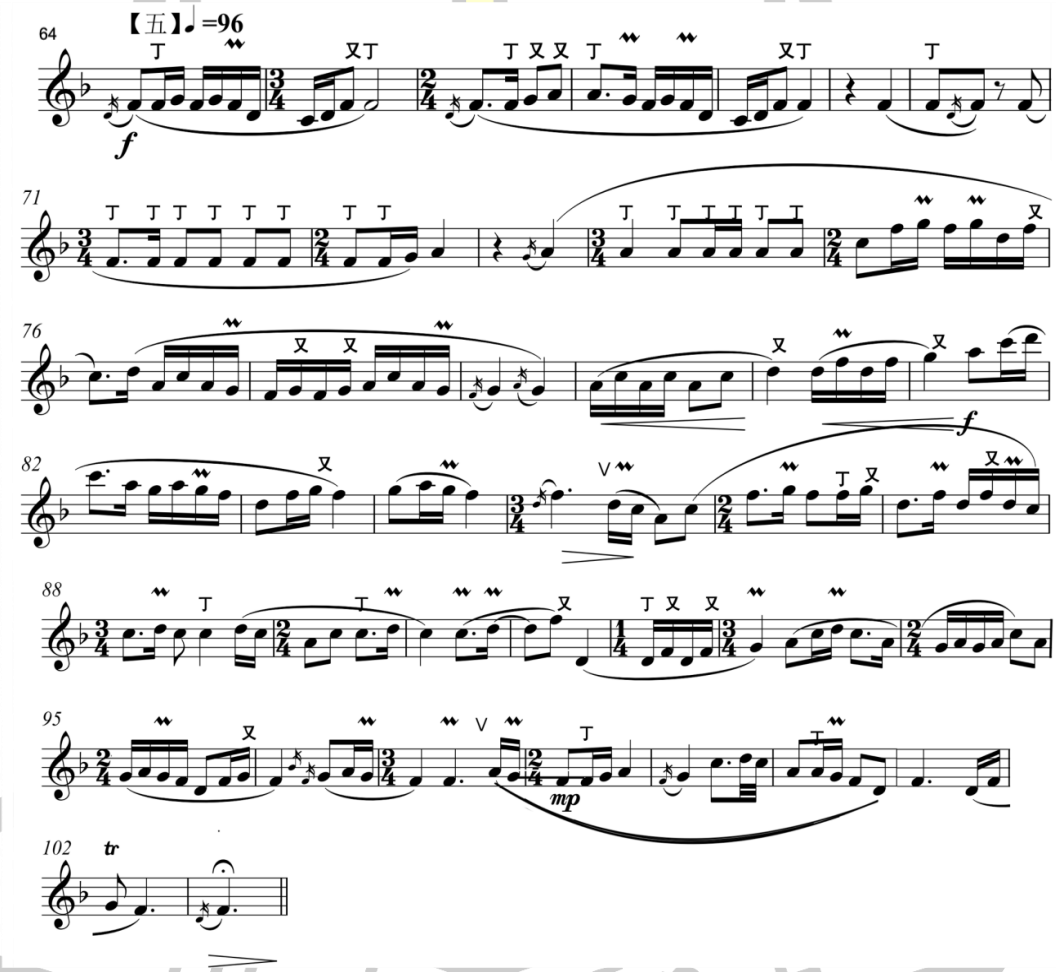


Figure 49. Score Example of Period 5

Source：Lu Feng (2022.11)

6. Sixth movement (bars 105-124)

An Allegro section, the third appearance of the thematic section, with the phrase structure maintained. The first phrase (105-112) is introduced by adding a weak rise, the second phrase (113-118) moves up an octave in pitch, omitting the passing tones and retaining the melodic frame, and the third phrase (119-124) is a high octave progression ending with an F court note. （See Figure 50）

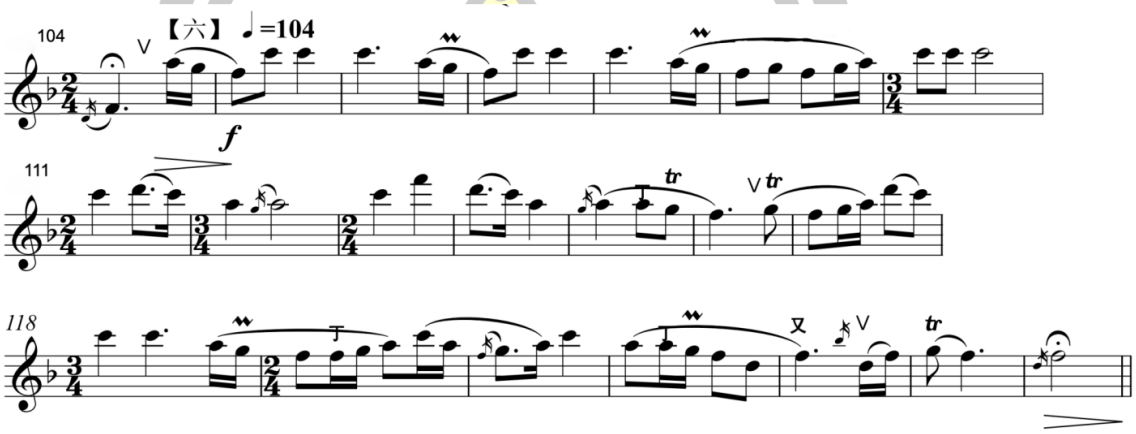


Figure 50. Score Example of Period 6

Source：Lu Feng (2022.11)

7. Seventh movement (bars 125-142)

Composed of three unequal phrases, the melodic progression has the character of a florid section. The first phrase (125-132) has a pitch progression emphasising the C levée, the second (133-136) has a pitch progression characteristic of a five-measure section using continuous sixteenth note material, and the third (137-142) has the characteristics of the third phrase of the thematic section, ending with an F court note in bar 142.（See Figure 51）

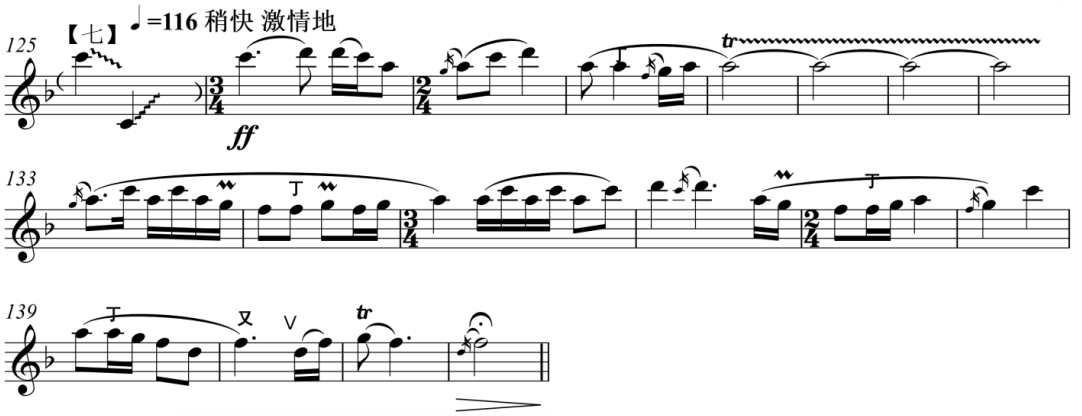


Figure 51. Score Example of Period 7

Source：Lu Feng (2022.11)

In the seventh section of the tune, the music shifts into the upper register. The repetition of the diatonic notes, the combination of eighth and sixteenth notes and the syncopated rhythmic pattern all combine to make the tune high and smooth, the rhythm seems more powerful, the mood is high and enthusiastic, further shaping the majestic and upright appearance of the plum blossom.

8. Eighth movement (bars 143-156)

Although the tempo is the same as that of the second section of the slow movement, the longtime rhythms are often used here, so this section is a loose section. It is loosely structured, with a predominantly long-toned progression, and ends with an F palace note at bars 155-156. （See Figure 52）

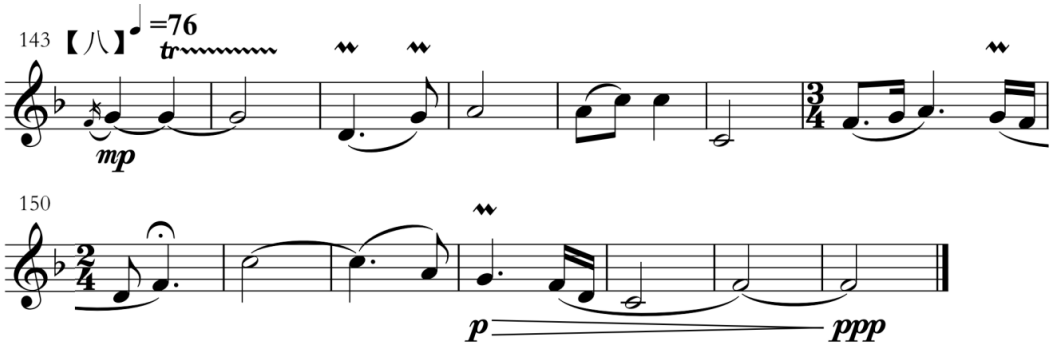


Figure 52. Score Example of Period 8

Source：Lu Feng (2022.11)

In the finale, the music returns to its usual calm, the melody quiets down as if everything has returned to peace after the ravages of wind and snow, and the overtones play out in a slow, fading finish with a lingering sound.

Through its portrayal of the plum blossom, The Three Flowers of Plum Blossom gives a positive attitude to life and encourages us to learn from its steadfast, unyielding and pure qualities. Its unique quiet, elegant and profound tune, as well as its distinctive artistic image and unique artistic charm, are also well received and loved by the general public today. The Chinese have a special respect and affection for the plum blossom, which has become the embodiment of a certain Chinese personality. As a result, the plum blossom has naturally become an important subject of artistic creation, both ancient and modern. People have expressed their love for the plum blossom, using poetry, painting and music to express its whiteness, fragrance and hardiness, as well as its noble character and beauty.

2. Spring River and Moonlight Night

As a typical representative of the classical repertoire, the Spring River Flowers and Moonlight Night is based on the famous Tang poem 'Spring River Flowers and Moonlight Night'. The structure of the piece, the emotional elements, the distribution of themes and the blowing techniques all convey the composer's unique feelings towards the lake, the mountains and the natural landscape. This article examines the poetic language, music, drama and literature of the Dongxiao piece, taking Chen Yue's performance of "Spring River and Moonlight Night" as an example.

This piece consists of four paragraphs, with the traditional folk music paragraphs of "Senza Misura - Lento - Moterado - Senza Misura", in the key of A shang modulation, the overall structure is illustrated as follows:

Table 3. The overall structure of the music

Level 1 structure	First Paragraph			Second Paragraph		Third Paragraph		Fouth Paragraph
Level 2 structure	First Period	Second Period	Third Period	Fouth Period	Fifth Period	Sixth Period	Seventh Period	Eighth Period
Bars	1-9	10-24	25-37	38-58	59-74	75-92	93-107	108-124
Tonality	A Shang（商）							
Speed	56	66	76	76	96	76	96	56
Speed structure	Senza Misura	Lento	Lento	Lento	Motera do	Moterado		Senza Misura

2.1 The first Paragraph (bars 1-37)

The first Paragraph of the piece is divided into three movements, the first being a loose part, from bar 1 to bar 9, this phrase having an introductory function, the first phrase beginning with the G house, transitioning to the D quotient and ending with the E plume introducing the theme.

The second Paragraph is a slow movement, from bar 10 to bar 24, with an entry by the E plume, ending in the D quotient, which presents the keynote of the work and sets the style of the tune.

The third movement is a variation, entering from the A quotient, passing through the D and B horns, and ending with the A quotient at bar 37.

The first Paragraph uses the techniques of glissando, superimposition, trill and beating to depict the soft, lyrical and gentle sound of the bells and drums on the city tower by the river under the moon, the night of the river in blue and grey ink, the distant line of the river and the sky fading away, heaven and earth blending together, the universe infinitely vast and indistinct at this time. Listening to the sound of the crashing water, standing alone on the prow of the slowly moving boat and looking away, my thoughts have long since drifted away with the breeze on the river into the quiet music. Everything around me has dissipated, and there is only myself and the moon in the world.（See Figure 53）

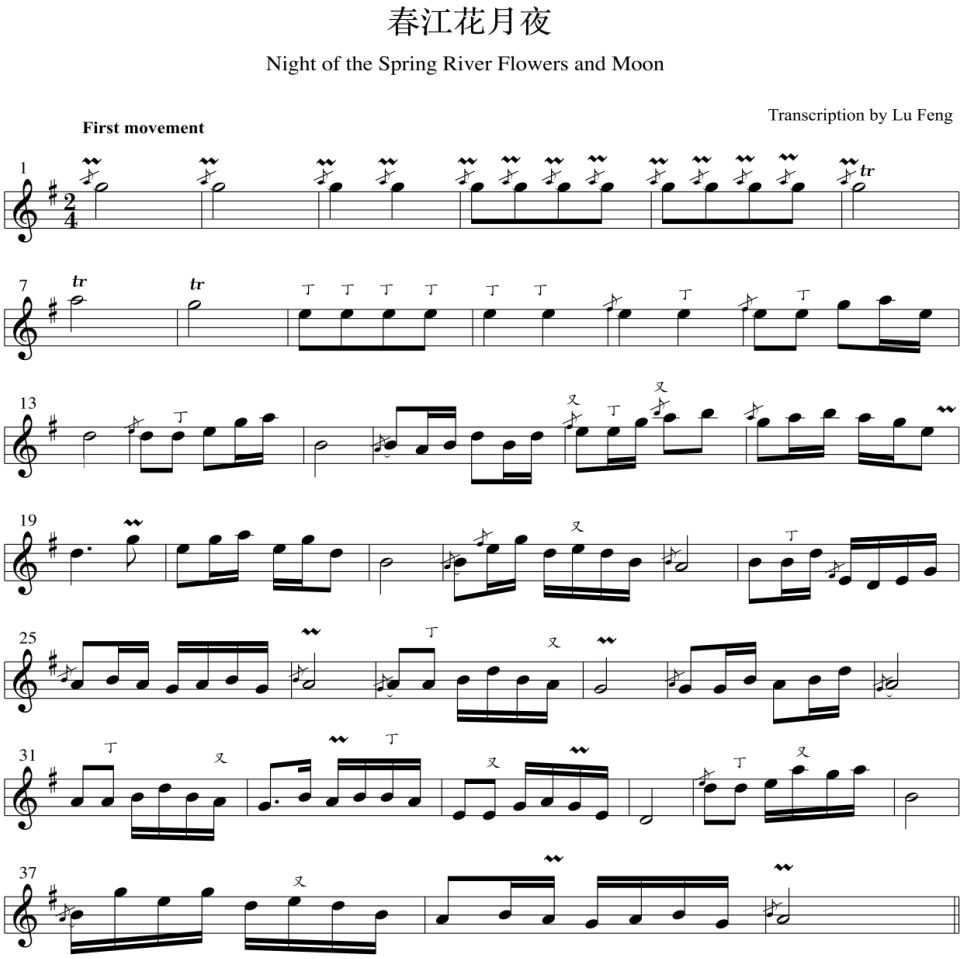


Figure 53. Score Example of the first Paragraph

Source：Lu Feng (2022.11)

2.2 Second Paragraph (bars 38-74)

The second Paragraph of the piece is divided into two movements, an adagio and a middle part, and is a variation on the theme No. 1.

The fourth Paragraph, from bar 38 to bar 58, is divided into five phrases, the first entering from E-feather and ending in D-colon; the second entering from B-horn and ending in B-horn; the third starting from A-shang and ending in A-shang; the fourth starting from G-gong and ending in G-gong; and the fifth entering from E-feather and ending in E-feather, with a downward modal melodic progression.

The fifth Paragraph, from bar 59 to bar 74, is divided into four phrases. The first phrase enters from bar 59 and speeds up, the second phrase, like the beginning of

the first, undergoes a variation, the third phrase enters from bar 67 and reproduces the melodic theme of the piece, the fourth phrase slows down and returns to its original speed, ending to A quotient modal.

The second Paragraph, the first presentation of the musical theme, depicts the moon rising from the end of the spring water with the night tide, its glistening light transforming into the rippling waves of the water and the waves stretching away. The last note of the phrase is joined by the first note of the next phrase, depicting a fishing boat drifting away under the moon, the tide running in front of us, but the moon at the far end of the river, taking the view far away.（See Figure 54）

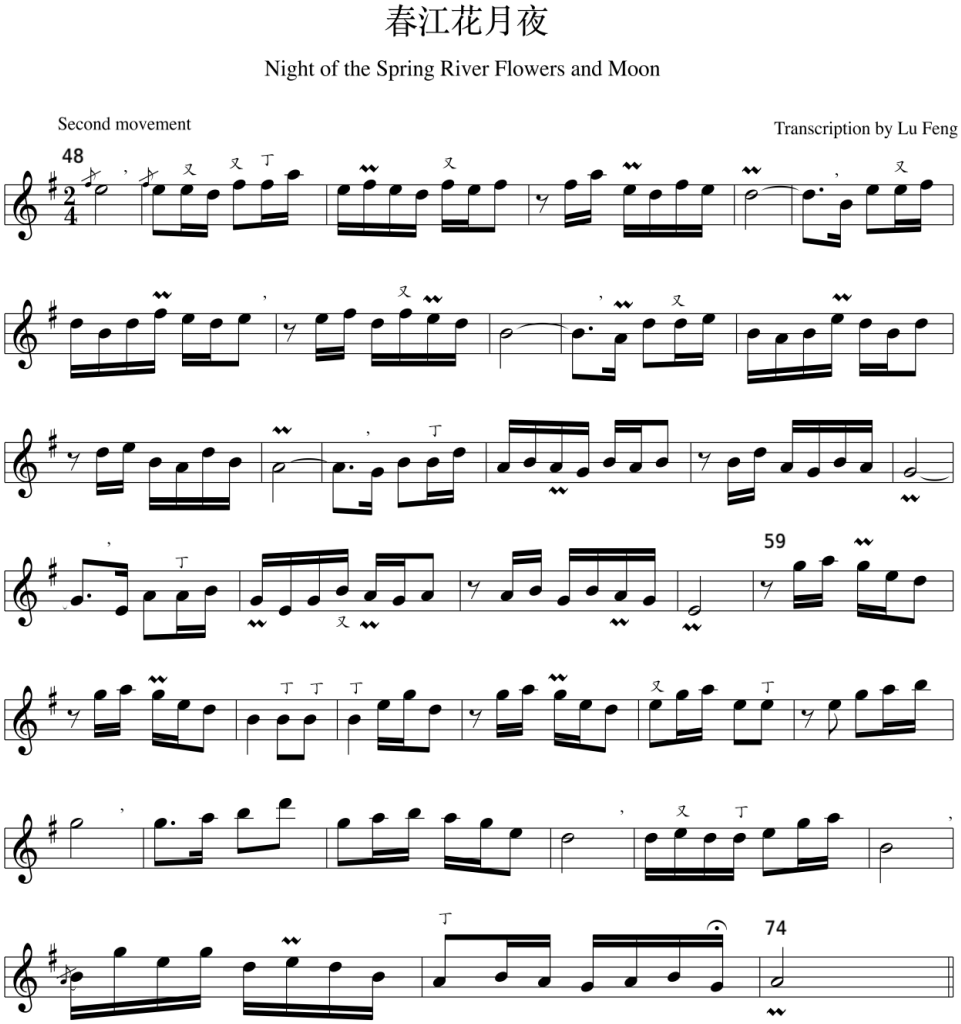


Figure 54. Score Example of Second Paragraph

Source：Lu Feng (2022.11)

2.3 Three movements (bars 75-107)

A middle Paragraph with variations on the theme, consisting of two Paragraphs of unequal length.

The first phrase, from bars 75 to 92, is a variation on the second phase of the thematic Paragraph, with a change in pitch from high to low, the addition of two trills, and an ending to a sharp Jiao outside the pentatonic scale.

The second phrase, from bars 93 to 107, is dominated by sixteenth and thirty-second notes, with the melodic effect becoming faster and ending in the melodic quotient of the theme, ending in the A Shang. （See Figure 55）

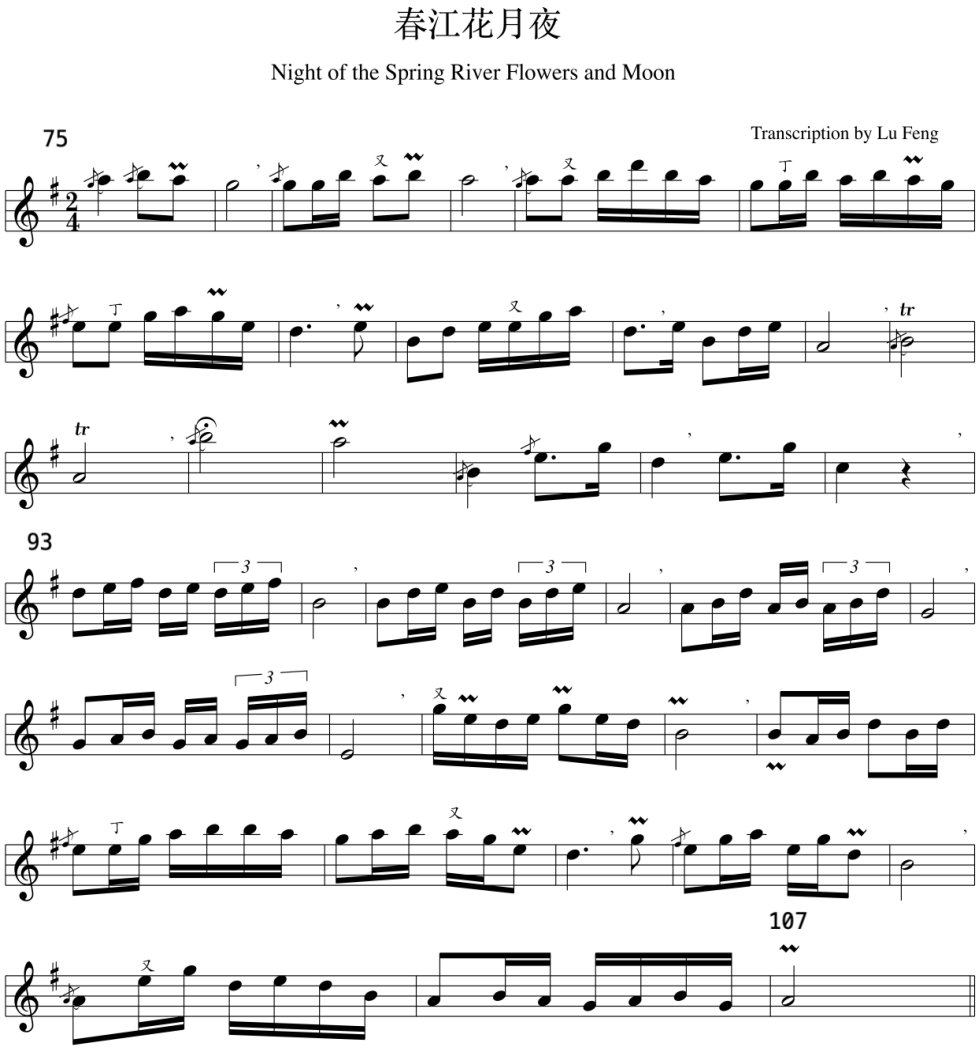


Figure 55. Score Example of Third Paragraph

Source：Lu Feng (2022.11)

2.4 Fourth Paragraph (bars 108-124)

The eighth movement, with the same melody as the second movement of the slow part, reproduces the theme and is divided into four phrases. In the closing d phrase, the tempo slows down and the structure is looser, with a predominantly long progression; this phrase is a loose part. The piece ends in bars 122-124 with the A Shang. （See Figure 56）

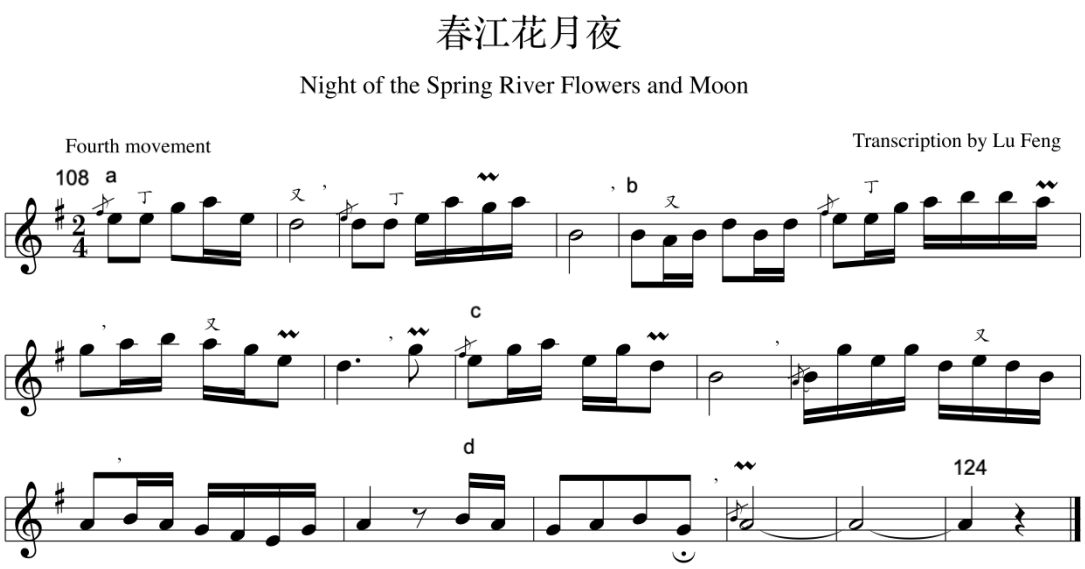


Figure 56. Score Example of Fourth Paragraph

Source：Lu Feng (2022.11)

The music ends with A Shang of the coda is so ethereal and long, as if the light boat is fading away on the distant river, and the night sky of the spring river is quiet and peaceful, which makes people indulge in this charming poetic and picturesque mood.

CHAPTER VI

Conclusions, Discussion and Suggestions

1. Conclusion

This chapter of the thesis takes the Dongxiao of Heze City, Shandong Province as the object of study. Interviews were conducted with scholars and performing artists who have been engaged in Dongxiao education and performance for many years, and relevant literature and historical archives were consulted to study the organology, playing methods and performance techniques of the Dongxiao. The researcher uses common problems in the practice process as clues to explore the various requirements, techniques and methods of learning the Dongxiao.

1.1 The organology and playing techniques of the Dongxiao

Researchers have studied the organology of the Dongxiao in terms of three aspects: material, structure and production methods. The most common materials used to make Dongxiao pipes are bamboo, hardwood, metal, jade and PVC can also be used as materials for making Dongxiao pipes. The organology of a Dongxiao is divided into four parts, namely the body, the blow hole, the finger hole and the auxiliary sound hole. The production process is divided into six steps, selecting the material, baking and straightening, beating and polishing, positioning and drilling, tuning and refinement. Researchers have studied three aspects of the technique of the Dongxiao, including its playing posture, playing methods and playing techniques. The Dongxiao is mainly used as a soloist, but is occasionally used in instrumental ensembles. When played, Dongxiao is played in both standing and seated positions, and the playing methods include how to play and how to practise the Dongxiao. Playing techniques include the breath technique, the lips technique, the fingers technique and the tongue technique.

1.2 The analysis music characteristics the song selected of Dongxiao

As one of the traditional Chinese musical instruments, the Dongxiao carries a long tradition of Chinese culture. It has a long history and a rich cultural connotation, and was a musical art loved and pursued by the literati and scholars of ancient China. The Dongxiao is a musical instrument played by blowing, and through fingering and

blowing techniques, it can express a wealth of musical emotions. It can be played with an elegant, subtle and gentle tone, conveying a quiet, fresh and distant emotion that resonates with people's hearts.

The analysis of a Dongxiao songs helps us to understand the overall organology and organisation, revealing the relationship and development of the various parts of the song by analysing the form of the piece. It helps the performer to make decisions about the tempo, intensity and expression of the piece, and reveals the emotional changes and development of the musical story, so that the emotional content of the piece can be better interpreted. Form analysis is an important part of musicological research. The study of Dongxiao music form can reveal the characteristics and styles of different musical schools, composers or periods, and enrich the research results of music history and theory.

2. Discussion

2.1 According to the first research objective, To investigate the organology and playing techniques of DongXiao, it was found from the literature review that Yuan Zicheng analysed the playing techniques of DongXiao in Sun Yude's DongXiao Techniques and Their Artistic Characteristics, and proposed that the use of breath and fingers is the basis of good DongXiao playing. The practice and performance of music is based on good breath, followed by the flexible use of fingers and tongue, and all techniques should be practised based on breath to enhance the expressiveness of the music. (Yuan ZiCheng, 2020)

As a matter of fact, the performance techniques of the Dongxiao rely heavily on good breath control as well as the coordination of the fingers and tongue. Mastering good breath control is the basis for making the sound coherent and expressive. The suggestions mentioned by Yuan Zicheng coincide with the importance of breath in Dongxiao performance. Researchers believe that a stable and controlled breath enables the player to produce a stable and consistent tone. In addition to breath control, finger flexibility and dexterity also play an important role in dongxiao performance. Precise finger movements and accurate positioning on the finger holes enable the player to produce the correct pitch and play melodic passages smoothly. Coordination between breath and fingering is essential to achieve accurate

intonation and seamless transitions between notes. In addition, the role of the tongue in articulation should not be overlooked, as variations in the tongue help to shape and interpret the music. The technique of the Dongxiao, derived from training based on the Dongxiao, is based on good breath, and correct articulation techniques allow the player to articulate notes cleanly and create different rhythmic patterns.

2.2 According to the second research objective, analysis music characteristics the song selected of the DongXiao. in the literature review, it was found that Yuan Jingfang, in her view of traditional Chinese music culture on the art of the DongXiao, believes that the DongXiao is an important part of traditional Chinese music culture. It is a vertically blown, single-barrelled, rimmed air instrument with a soft, muted tone, made of bamboo, with a longer, slightly thicker body, resulting in a serene, soft tone. (Yuan JingFang, 2000)

In performance, the tone of the Dongxiao is more suitable for playing some quiet and soft music. The description of the Dongxiao is in line with its characteristics in traditional Chinese music culture. The Dongxiao is indeed an important instrument in Chinese music, which is known for its vertical blowing, single-barrel design and unique tone.

Researchers believe that the natural characteristics of bamboo give it a soft, muted tone, which is softer and more transparent when playing the piece "Three Plays of Plum Blossoms", which better reflects the characteristics of the plum blossom pair. The tone of the Dongxiao is often described as mellow, soothing and contemplative. When playing the piece "Moonlit Night of Spring River", the soothing and contemplative tone expresses the musical characteristics of the slow tempo, and the translucent tone expresses the fast tempo of the piece, and the tone of the Dongxiao gives the piece a power to express the music under the soft tone. In traditional Chinese music culture, the Dongxiao is often used to express emotion and convey a sense of serenity, evoking a sense of calm and tranquillity, making it the instrument of choice for playing melodic, lyrical pieces. Skilled players interpret and perform the various musical styles and emotions found in traditional Chinese music by playing with a variety of dynamics and expressiveness.

3. Suggestions

3.1 Research should be carried out into the teaching curriculum of the DongXiao in different schools and performance groups.

3.2 A comparative study should be made of the music of the DongXiao in different areas to see what the similarities and differences are.

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APPENDIX

On site questionnaire for Dongxiao performer

This questionnaire is used for field data surveys of Dongxiao performers and is for statistical purposes only, not for commercial or other purposes. The researchers would like you to provide true information to the best of your knowledge. Thank you for your cooperation.

1. Basic information

a. Name:

b. Age:

c. Gender:

d. Occupation:

2. Experience in playing Dongxiao

a. How long have you been playing Dongxiao?

b. How did you start learning and playing Dongxiao? Please briefly describe your learning experience.

3. Dongxiao skills

a. What are the basic techniques you have mastered? For example, blowing, fingering, interval control, etc.

b. What do you consider to be the most important techniques in expressing music?

4. Characteristics of Dongxiao music

a. What do you think are the characteristics of the sound of the Dongxiao? Please describe your perception of the sound of the Dongxiao.

b. In your observation and experience, what types of music are Dongxiao pipes commonly used to play?

5.Dongxiao Playing Styles

a. What do you know about the style of Dongxiao playing? For example, traditional, classical, modern, etc.

b. Do you have your own unique style or expression when playing the Dongxiao?

6. Dongjiao playing challenges

a. What are some of the challenges you have encountered in your experience? For example, difficulty of technique, expression of emotion, etc.

b. How did you overcome these challenges? Is there a specific practice method or strategy?

7. The role of the Dongxiao in musical expression

a. What do you think is the unique role or ability of the Dongxiao in musical expression?

b. Do you believe that the Dongxiao still has an important place and potential for development in contemporary music?

8. Further development of Dongxiao performance

a. What aspects of Dongxiao performance would you like to see further developed?

b. What factors do you think could contribute to the development and promotion of the technique and musical identity of the Dongxiao?

Thank you very much for taking the time to answer this questionnaire! Your views and experiences are important to the understanding of Dongxiao playing techniques and musical characteristics.

BIOGRAPHY

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