



# Analysis of the Influence of Huqin Score on Music Creation Concept and Art Form in the Yuan Dynasty During the Renaissance and Its Later Development

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## ABSTRACT

In order to better inherit the Huqin music of the Yuan Dynasty (1291~1326 AD), the value of Huqin performance was discussed. This article is based on the "Yangguan Three Characters", "The Longer the Higher", "The Wind Becomes a Song", and "The Wind Becomes a Song", which were found in the East Sixteen Caves of the Mogao Grottoes in Dunhuang Yuan Dynasty tunes such as "Backyard Flowers" were used as research objects, and the temperature and heating position of the Huqin playing were measured by the FLIR E5 PRO portable infrared spectrometer (Dongguan, Guangdong, China, model K2023), KAXISAIER KL4 microphone (United States, E2020) recorded the sound, loudness and field sound distribution of the tune, the Abaqus CAE 2.0 simulation software calculated the force, and the SPSS 17.0 statistical software judged the data indicators. The results show that the Huqin score of the Yuan Dynasty has the characteristics of strong rhythm, free structure, alternating polyphony, etc., which is similar to that of the representative masses in the Renaissance period (1436~1603 AD). It can be seen from this that the Huqin score of the Yuan Dynasty had an influence on the concept of music creation and art form in the Renaissance.

**Keywords:** Renaissance, Yuan Dynasty Huqin Score, Musical Creation Concept, Art Form, Enlightenment.

## INTRODUCTION

As an influential instrument in the Yuan Dynasty, the huqin has particularities in the timbre and material of the performance, and is obviously different from other string music. The huqin is made with a 10-centimeter round head and a horsetail as a string, so the timbre and intonation of the huqin are quite different from other strings, such as the flute and the flute. The Yuan Dynasty was the most widely used period of the huqin, and there were obvious particularities in the content and way of playing the huqin. In general, the huqin has an overall length of 63 cm, a width of 12.4 cm, and a transverse diameter of 9.5 cm. The materials used to make the huqin vary from region to region, but the overall performance style and form are similar. The shape of the huqin is also very special, the shaft length is 12 cm, the ends are thick, the middle is thin, so the shape is in the state of a horse's head. As a special musical instrument in the north, the huqin is similar to the violin, and the performance effect is better, and the performance history is very long. In the past, the research on the huqin was mainly based on the tracing of the structure of the music, and there was a lack of quantitative analysis, which led to certain differences in the study of huqin music. The origin of the huqin is mainly in Central Asia and Afghanistan, and some people believe that the huqin is a characteristic of the northern ethnic minorities and is a common musical instrument used by the Mongolian and Xian Bei ethnic groups. Foreign research on the Huqin is mainly for sound testing, including sound wave testing, audio testing and transmission effect testing, for the archaeological research of the

Huqin is relatively rare, the domestic research on the Huqin focuses more on the theoretical level, such as the modeling characteristics of the Huqin, the timbre of the Huqin and the timbre of the music score in the Huqin, The effect of the rhythm, etc., through the study of the arc at home and abroad, it can be found that the domestic lack of technical means in the study of the arc, cannot find the deep value of the Huqin music, such as the frequency, loudness and the main door of the notes, on the basis of the Huqin to carry out an in-depth analysis, with the Yuan Dynasty Huqin as the starting point for the analysis of the score, for the spectrum changes in the score, the audio distribution and other characteristics, in order to dig out the artistic characteristics of the Huqin, first of all, the score of the Huqin is collected, the representative score is selected, and then the modern microphone is used to digitally identify the Huqin music, and the sound software is used to analyze and test the digital audio, find out the key points, and then the loudness characteristic value and high and medium frequency value and other data mining the characteristics of the arc of the Yuan Dynasty and comparing them with the characteristics of the modern Huqin. The Renaissance period (CE 1436~1603) coincided with the widespread popularity and application of huqin instruments in the Central Plains during the Yuan Dynasty, It enriches the performance form of the Yuan Dynasty and integrates the relationship between strings and percussion. During this period (CE 1482~1543), people's collection and arrangement of Huqin scores in the Yuan Dynasty reached a relatively new height. The Huqin music score of the Yuan Dynasty recorded many Huqin playing techniques and the expression of techniques, which could have an impact on the musical creation concepts and art forms of later composers, and play an important enlightening role in later development. "Huqin, made like fire without thinking, roll the neck. The head of the dragon, and the bowstring is made of a ponytail. This is the description of huqin instruments in history books. At the end of the Yuan Dynasty (CE 1271~1368), there were many types of huqin instruments, including erhu, sihu, liuhu, jinghu, nanhu, comb, etc (Chen et al., 2023). During the Tang and Song dynasties (CE 618~1279), some ethnic minority residents in the northwest and north began to introduce huqin instruments to the Central Plains. During the Yuan Dynasty (CE 1271~1368), in order to distinguish these musical instruments from the Central Plains musical instruments, people directly referred to such musical instruments from the Western Regions into the Central Plains as "Huqin". Although the huqin was not first introduced to the Central Plains during the Yuan Dynasty (Chen 2023), a curled-necked huqin was introduced to China from Europe during the Yuan Dynasty (Gao 2023). Due to the special structure of the huqin, it is generally played by playing the method, and the performance forms are diverse. It is worth mentioning that because the influence of playing method on huqin performance is very far-reaching, the completion of the relevant Yuan Dynasty huqin score has a great role in promoting the widespread popularity of huqin playing technique in the Central Plains (Guarde Paz 2022).

## LITERATURE REVIEW

### The Origin and Development of Huqin Music in the Yuan Dynasty

#### The Roots of the Development of the Huqin in the Yuan Dynasty

During the Renaissance (CE 1436~1502), the European harp has developed rapidly, and the style of the harp is similar to that of the Yuan Dynasty huqin, and there are certain differences in the way of playing, but the overall performance effect is basically the same, which shows that there is a certain similarity between the European Renaissance and the Yuan Dynasty huqin, and further illustrates the influence of the Renaissance on the core development of the Yuan Dynasty (1503~1603) harp and violin and the Yuan Dynasty huqin have further similarity, and the violin head is similar to the huqin, which can indirectly show that the integration of harp and violin has an impact on the development of the huqin, during the Yuan Dynasty, there were frequent wars between the Mongolian people and Central Asia and Eastern Europe, and the style and performance of the huqin were influenced by the art form of the Renaissance and then developed greatly. Styling has an impact. the art of huqin in the Yuan Dynasty developed greatly, mainly due to the cultural exchanges and trade activities between the Han people and the Hu people. Since in the Yuan Dynasty (CE 1291~1326), Chinese music was at a peak of development, coupled with Chinese's diversified pursuit of music, during this period, Huqin has been effectively applied and extended in various fields such as court music and opera accompaniment, folk music (Hsieh 2022). The huqin is a four-stringed plucked instrument, an Islamic liut instrument, which was later transformed into a "two-stringed instrument" and made into a shape with a "curled neck" and a "dragon's head" (Hua et al., 2022). During the Renaissance (CE 1436~1502), the Yuan Dynasty improved the playing method of the huqin and made it a stringed instrument. Later, with the variety of playing methods, "Huqin" became its new name. Therefore, during the Yuan Dynasty (CE 1291~1326), Huqin and Huqin were loved by people and widely used. This had a significant impact on the music of the Yuan Dynasty and the music of the Central Plains. At that time, music and

culture were the "fruits of civilization" that only the court nobles could enjoy (Hua et al., 2022). Therefore, in order to make the art of huqin playing better developed, some musicians in the Yuan Dynasty began to compile relevant huqin scores. Yuan dynasty huqin scores were often based on notation, recording different tunes and playing techniques (Huang 2023). These scores contain various symbols, numbers, words, etc., which represent the pitch, rhythm, and notes of huqin music. In addition, in these Yuan dynasty huqin scores, there are many symbols or marks, which are used to record the way the huqin is played and the emotional expression.

#### A Masterpiece of Huqin music in the Yuan Dynasty

At present, there are many Yuan dynasty huqin scores missing, but a large number of Yuan dynasty huqin scores are circulating among the people. In particular, a large number of Yuan Dynasty musical scores found in the Mogao Grottoes in Dunhuang also contain a large number of huqin musical scores, such as "Yangguan Three Stacks", "Grow higher and higher", "Wind into Song", "Flower in the Backyard" and so on. "Yangguan Three Stacks" shows the playing skills and artistic characteristics of the huqin in the Yuan Dynasty, and shows the charm of huqin performance through different melodic expressions and both rigid and soft melody expressions. In addition, in the score of "Wind into Song", there are often various playing techniques such as fingering and wrench, and "Backyard Flower" can also simulate the sounds of horses and animals (Huang et al., 2022). Since the huqin was introduced from Europe, the huqin score has been perfected in the continuous circulation and formed a popular musical score. It is worth mentioning that in the Dunhuang Mogao Grottoes music collection, a song "Jing Jigao Gao" is included, which adopts a free music structure and uses huqin playing techniques to express polyphony, which has the performance characteristics of modern classical music, so it has certain archaeological value (Hwang et al., 2022). The loss of Yuan Dynasty music is mainly due to the loss or tampering with the music scores in the process of circulating in China and the West, resulting in the reduction of the number and variety of Huqin music scores in the Yuan Dynasty. The Huqin score of the Yuan Dynasty has obvious regional characteristics, especially the characteristics of grassland culture, and is the main music content of the arc in China during the Yuan Dynasty. In the process of cultural exchanges between China and the West, the music of the Yuan Dynasty was integrated into Europe, resulting in the loss of music scores or music content. In Europe, the integration of Yuan Dynasty Huqin music presents diversified development characteristics, but it has certain restrictions on the development of Yuan Dynasty Huqin music, which cannot promote the increase of New Year's Day music types. Therefore, the loss of Huqin music in the Yuan Dynasty is a major loss in the archaeology of music. As a representative work of the integration of Chinese and Western cultures, Jiejiegao not only has the melodious characteristics of the huqin, but also has the characteristics of the high rhythm of the European harp and violin. This paper analyzes the characteristics of Renaissance European music through the section and high music, and compares the characteristics of Chinese and Western music. In the early stage, the section height is relatively stable, and the later stage is higher, and the rhythm presents the characteristics of fast and slow, which is a rare fast-paced huqin music in the Yuan Dynasty, and it is also a representative joyful song.

#### Features of the Development of the Huqin in the Yuan Dynasty

As we all know, after a period of development in the Yuan Dynasty, the huqin gradually became used by court and folk music performance artists. After that, the Yuan Dynasty Huqin also evolved for a long time and formed a relatively complete playing system. This had a direct influence on later music. At the same time, it was precisely because of the prosperity of opera in the Yuan Dynasty that it brought a number of highly influential musical works to the society at that time. In this context, the Yuan Dynasty huqin, which specializes in accompaniment to various rap arts and miscellaneous dramas, gradually became diversified. In order to effectively pass on the huqin playing technique and related music (Jiao et al., 2023), some people began to compile the huqin playing technique and related music into a special score. The formation of these Yuan dynasty huqin scores had a profound impact on the musical development of the Yuan Dynasty, the Ming Dynasty, the Qing Dynasty, the Republic of China, and contemporary China (Li, 2022). For example, in the development of vocal music in contemporary China, the Huqin score of the Yuan Dynasty plays a certain role in promoting it. In short, without the Huqin playing technique recorded in the Huqin score of the Yuan Dynasty, and without the in-depth imitation and research of later generations, then the Chinese instrument playing technique would not have become so systematic, as show in [Table 1](#).

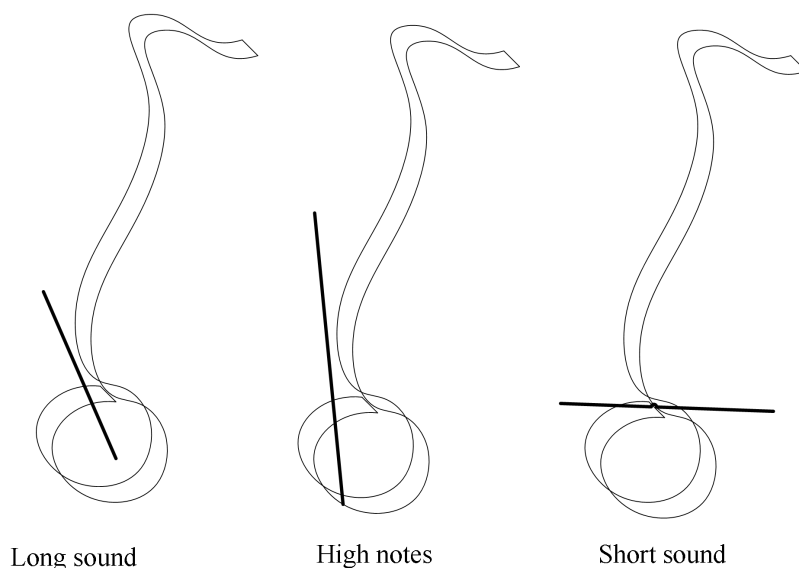
**Table 1.** Development of Huqin Music in the Yuan Dynasty

Time	Magnum Opus	Musical Characteristics	Renaissance Characteristics
Early Yuan Dynasty (CE 1271~1298)	"Yangguan Three Stacks"	Polyphony, melodic overlap, rematch	Strings
Middle Yuan Dynasty (CE 1298 ~ 1314)	"Rising Season", "The Wind Enters the Pine"	Monotonous, melodic semi-regular, resumption	Strings, winds
Late Yuan Dynasty (CE 1314 ~ 1368)	"Backyard Flower"	Monotonous, melodic regular, front and back cards	Strings, winds

The development of the Huqin in the Yuan Dynasty was similar to the shaping and violin of the Renaissance, mainly due to the war and trade between the Yuan Dynasty and Central Asia, the Yuan Dynasty set up official institutions in various ports, strengthened trade with Central Asia, Europe and Africa and other regions, and carried out mutual exchanges and communication in the field of music. Therefore, the connection between the development of the huqin and the Renaissance was mainly achieved through trade between China and the West, especially land and sea trade. The shape and vocal position of the huqin have both Chinese and Western characteristics, similar to the Chinese guzheng and European harp and violin. In the frequent trade, the material and production materials of the huqin also changed, from the original wooden structure to the bamboo structure, the strings to the horsetail strings, and so on.

#### The Playing Technique of the Huqin Score of the Yuan Dynasty

The Yuan dynasty huqin music uses a unique notation method, usually using simple signs and symbols to interpret pitch and timbre, playing rhythm, and playing technique. The direction in which the strings are pulled represents the pitch, while specific dynamics are used to indicate playing techniques such as glide or accent. In terms of a certain range of dynamics, the Yuan dynasty huqin score is also a unique way of playing, mainly through the speed of pulling strings. Huqin music scores use specific notation and identification to mark the position of the huqin playing, the position of the strings, and the individual pitches they correspond to. The emphasis on the use of playing techniques and decorative performance is also a characteristic of the huqin in the Yuan Dynasty. The reason is that the huqin is a plucked instrument, and when using this type of instrument (Li et al., 2023), people need to pay great attention to playing skills. Only by mastering certain playing skills can we play relatively smooth and artistic music in the huqin performance, so as to better the rhythm of the music. For example, the way the strings are pulled for treble, long and short notes of the huqin is shown in Figure 1.

**Figure 1.** The String Pulling Method of the Huqin in the Yuan Dynasty

As can be seen from Figure 1, the long note is played by keeping the bowstring horizontal with the box, the short note is vertical, and the high note is lifting the bowstring upward. At the same time, during the performance process, it is necessary to express different tones, sounds, etc. through dynamics and speed. By comparing the

long-pitched and short-pitched playing methods of the huqin in Figure 1, it is found that there are certain differences in the playing methods, stress points and force forms of the huqin. In the long tone, the maximum contact between the strings of the huqin and the speaker of the huqin sound, while the treble is the minimum contact between the strings and the curved speaker, and the short tone is due to the short contact between the strings and the speaker. Therefore, the sound of the huqin is closely related to the angle of the strings and speakers, and it requires high performance skills to achieve accurate sound.

## METHODOLOGY

### The Influence of Huqin Score on Music Creation and Art Form During the Yuan Dynasty during the Renaissance

#### Research Objects and Methods

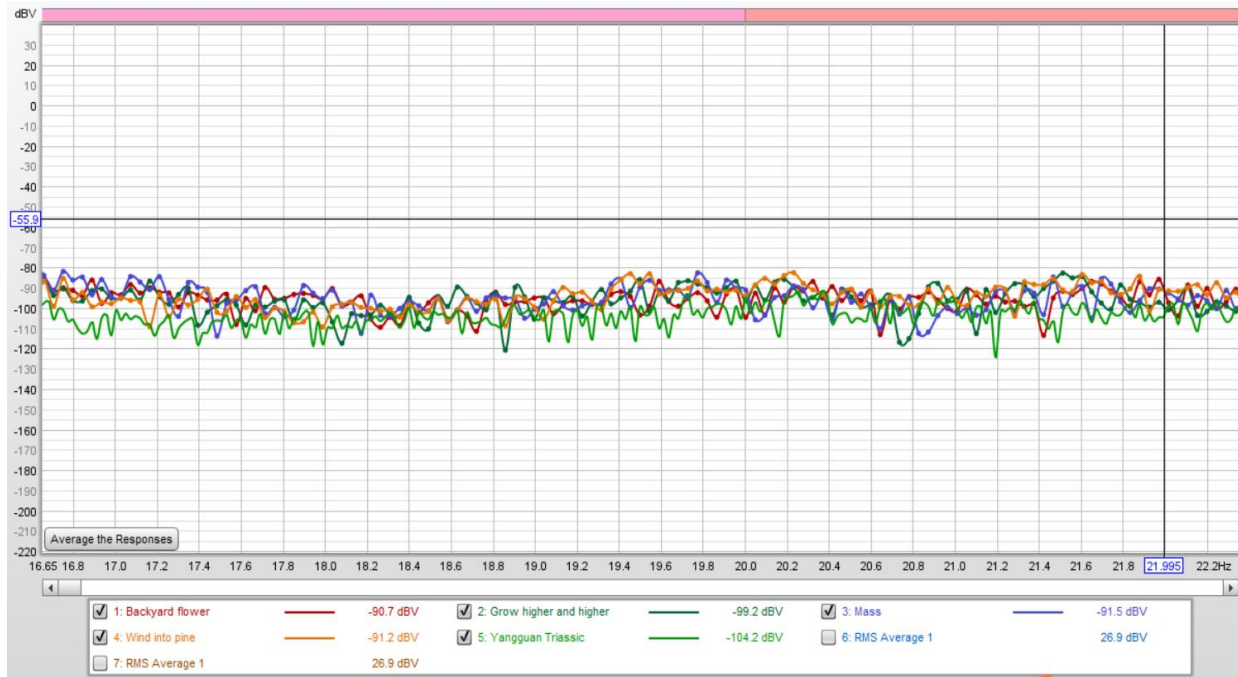
The research object is: the tunes of the Yuan Dynasty such as "Yangguan Three Stacks", "Grow higher and higher", "Wind into Song" and "Flower in the Backyard" found in the Mogao Grottoes of Dunhuang are the research objects. The FLIR E5 PRO portable infrared spectrometer (model K2023, Dongguan, Guangdong, China) was used to measure the temperature and heating position of the huqin while playing, the KAXISAIER KL4 microphone (United States, model E2020) recorded the sound, loudness and field sound distribution of the tune, and the Abaqus CAE 2.0 simulation software calculated the force situation, SPSS 17.0 Statistical software to judge data indicators. The research indicators are: temperature and heating position of the huqin when playing, pitch, loudness and field tone distribution of the tune, and force of the huqin. Compared with the Renaissance (CE 1436~1603) mass, the comparison content is strong rhythm, free structure, and melody. Among them, the microphone is mainly to collect the sound signal of the Yuan Dynasty musical instrument and convert it into a digital signal that can be analyzed, such as the voltage, frequency and current intensity of the sound signal, etc., through the identification and transformation of the sound signal, the comparison of the sound signal at different stages can be carried out, and the comparison and strengthening of the data before and after can be realized through the analysis of the strength of the sound signal, and the sound field and the pitch and loudness of the sound can be calculated. Abaqus CAE 2.0 simulation software is mainly used to analyze the structure of the huqin, and to carry out mechanical tests and temperature tests on the structure of each part of the huqin during the performance process, so as to discover the main occurrence points of the huqin and the occurrence points of resonance of the huqin. The pronunciation software was used to judge and analyze the frequency, rhythm and form of each piece of Huqin music, find out the differences between the before and after pieces, identify the characteristics of its tunes, and conduct statistical analysis and verification, so as to determine the musical characteristics of different styles of Huqin music and connect them with the performance characteristics of the Renaissance, so as to discover the relationship and difference between the two.

## RESULTS

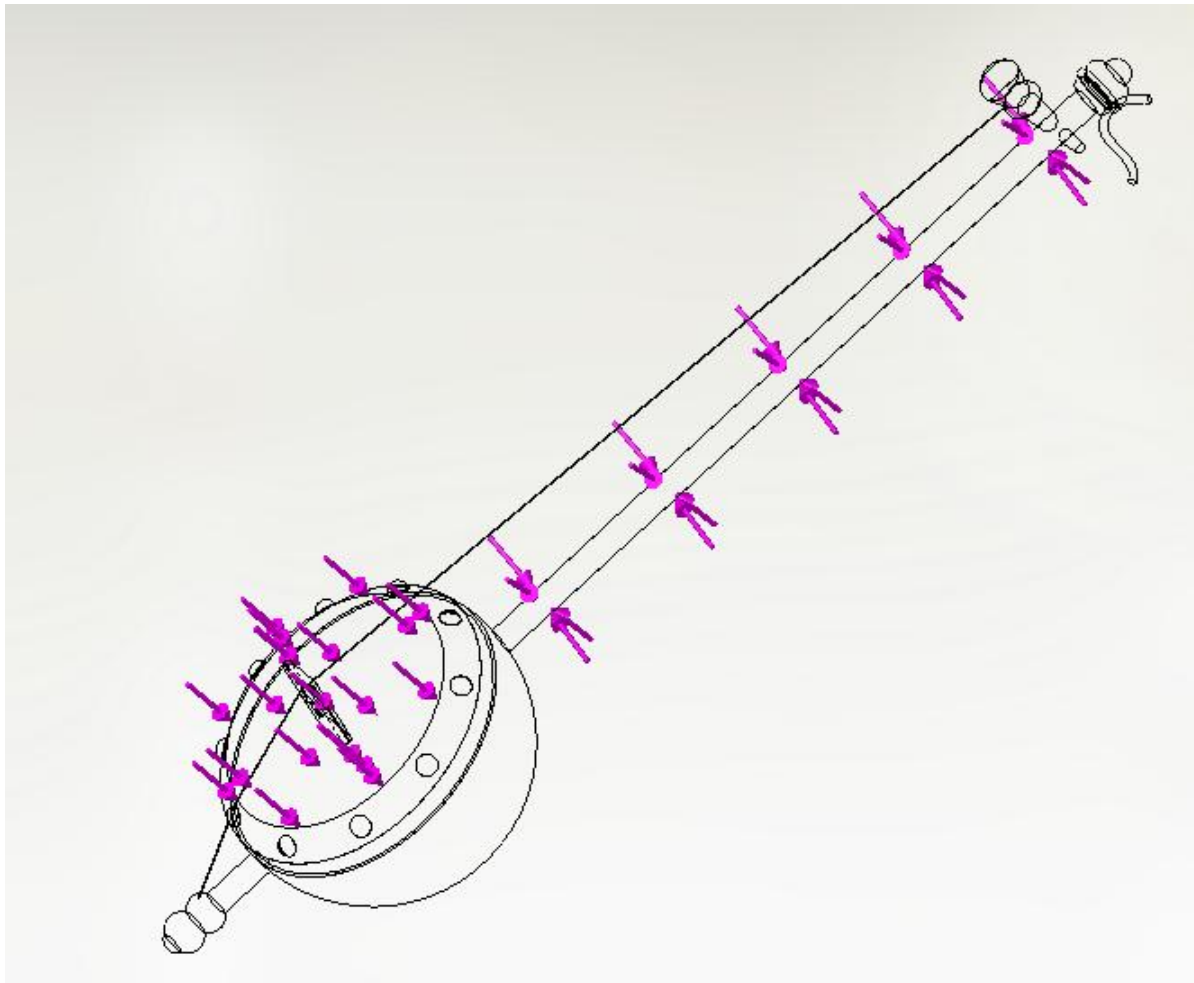
### The Influence of Huqin Music Score in Renaissance Yuan Dynasty on Music Creation Concept

Expansion of Creative Ideas: According to historical records and relevant research, Huqin is mainly divided into Huqin, Jinghu, Falling Hu and so on. Because the types of huqin are very rich, the characteristics of the huqin in the Yuan Dynasty such as "Yangguan Three Stacks" and "Grow higher and higher" are displayed in detail. The various performance techniques recorded in the Huqin score of the Yuan Dynasty provide many different forms of expression for music creation, such as techniques, tunes, tunes, etc., but the more important concept of time creation (Li 2023). Specifically, through the creative concepts of "Yangguan Three Stacks" and "Grow higher and higher", people can combine the pitch, interval and timbre characteristics of various strings to show the artistic conception, emotion, theme of musical works, and enrich their expressions. In "The Wind into the Pine" and "Flower in the Backyard", the creative thinking and creative concept are influenced by the Yuqin score of the Yuan Dynasty, paying attention to the effect of nature and emotional integration, and putting forward the creative concept of natural reproduction. In the work "Fighting Quail", on the basis of the Huqin playing technique of the Yuan Dynasty, the structure, melody and emotion of his own work will be transformed, and new musical elements will be integrated (Li 2023). Therefore, "Yangguan Three Stacks", "Grow higher and higher", "Wind into Pine" and "Flower in the Backyard", as representatives of the Huqin score of the Yuan Dynasty, have become valuable concepts for music creation in later generations. In addition, the huqin appears on the basis of the huqin playing, with richer pitch and interval variations. Because the huqin is generally a high-mid-high tone, its sound is very

bright and penetrating, very similar to the huqin. Therefore, the emergence of the huqin can deepen the musical scores of the Yuan Dynasty such as "Yangguan Three Stacks", "Grow higher and higher", "Wind into Song", and "Flower in the Backyard", especially the melody of the change of song style and the climactic part, which has a stronger delicacy. To some extent, "Yangguan Three Stacks", "Grow higher and higher", "Wind into Song" and "Backyard Flower" are not only the musical scores of the huqin, but also provide a new creative theory for the performance of string instruments. Yuan Dynasty huqin music scores such as "Grow higher and higher" and "Wind into Song" pay great attention to the integration of timbre and composition, and emphasize the combination of huqin timbre and playing techniques and musical expression on nature and emotion, and the combination of huqin playing technique, timbre and expressiveness with the creative concept of huqin can better reflect the "unity" of nature and human emotions, as shown in Figure 2.



The measurement frequency of the huqin



The resonance effect of the huqin itself

Figure 2. Measurement of the Sound Frequency of the Huqin in the Yuan Dynasty

From the analysis results in Figure 2, it can be seen that the audio of the three songs is basically the same as that of the Renaissance Mass songs, and the macro change trend is basically the same, and there are certain differences in the change trend of the three representative songs of the Yuan Dynasty, which are mainly caused by expressing the content of the music or creating a musical atmosphere, but the overall situation of the three songs is consistent with the changes in the music content, rhythm and form of Europe, which can indirectly show that there is a certain connection between the music of the Yuan Dynasty and the European music of the Renaissance. aspects such as structure and melody. From the data in Figure 2, it can be seen that under the recording of KAXISAIER KL4 microphone, it is found that the measurement results of the sound frequency of the huqin in the Yuan Dynasty are basically consistent with the frequency of the European mass, and the change range and trend are basically the same, indicating that the creative concept of the Huqin in the Yuan Dynasty is influenced by European religious music and shows normative changes. Among them, "Yangguan Three Stacks", "Backyard Flower" and "Fighting Quail" integrate traditional Chinese music elements, and attach importance to the diversified expression of huqin timbre, and enrich the musical expression means of the work through different huqin playing techniques. During the Renaissance (CE 1444~1553), the Yuan Dynasty had close ties with Eastern Europe and Central Asia (Lin et al., 2022), resulting in the integration of huqin scores into piano performance concepts and religious thoughts, and paying more attention to the rhythm and norms of musical instruments. Yuan Dynasty scores such as "Yangguan Three Stacks" pay great attention to the emotional tone of the whole song, expressing a kind of reminiscence, sadness and other emotions, which makes the whole song more standardized. In addition, "Quail Fighting" draws on the performance concept of the European harp, using the silk string resonance and glide technique of the huqin to create a deep soft and expressive tone for the whole work. In this way, the emotional changes of the whole song are fuller and more infectious (Liu 2022). Integrating the performance concept of Xiao, harp and other musical instruments, using a variety of huqin techniques and

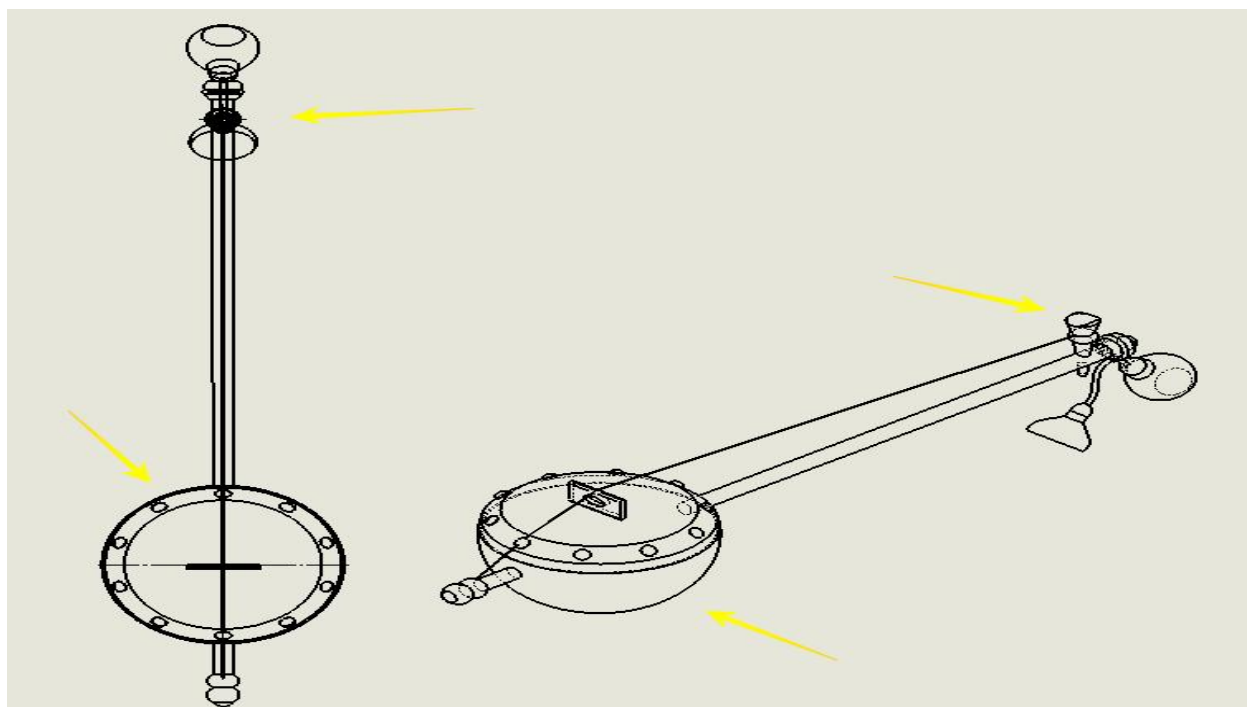
natural elements to integrate nature and human emotions, and providing excellent melodic progression effect, so that each paragraph is full of the connection between nature and human emotions.

**Variety of Playing Techniques:** In order to facilitate the analysis of the playing techniques of the Huqin score of the Yuan Dynasty, it is necessary to divide the playing techniques of various huqin. It is recorded in the music score of the huqin in the Yuan Dynasty, and the huqin is a stringed instrument, the main materials are coconut shells, paulownia boards, etc., but there are also differences in playing techniques between the two. In "Yangguan Three Stacks", "Jing Jing Gao" and musical scores, Huqin pays great attention to musical expression techniques, which also significantly improves the expressiveness of music. In this context, "Yangguan Three Stacks" and "Jingjie Gao" have also gradually integrated foreign musical elements (Liu 2023). Because of the influence of the Renaissance on the music score of the huqin in the Yuan Dynasty, the performance method of "Wind into Song" in the huqin was greatly affected. In fact, from the records of the Huqin score in the Yuan Dynasty, we have learned the usable value of the huqin's timbre and performance technique for music creation. Therefore, in the contemporary "Yangguan Three Stacks" and "Grow higher and higher", it is deeply influenced by the playing skills of European instruments such as harps and orchestras. For example, the timbre, pitch, and application of "Wind into Song" are high, integrating the huqin with European playing styles (Liu 2022). In Zhao Beihai's works, Huqin highlights the charm of Qin cavity art with a warm and soft timbre. Moreover, the melodious and gentle timbre of the huqin also makes the Yuan Dynasty huqin scores in Zhao Beihai's works full of unique character charm, and fully highlights the rich emotions of these Yuan Dynasty huqin scores. Through these powerful performances, the audience can easily be brought into the artistic conception of Qin cavity performance, and with the musical richness and depth of the work, gradually enjoy a real and moving musical experience, comparing songs such as "Yangguan Three Stacks", "Grow higher and higher" and "Backyard Flower", and find that the three are compared with the mass, and the result is shown in Figure 3.



Huqin loudness test





The vocal point of the erhu

Figure 3. Measurement of the Technique of the Huqin in the Yuan Dynasty

Using REW 2.0 sound software to measure the playing skills of the huqin in the Yuan Dynasty, it is found that "Houyuan Flower" presents a joint performance method of first long tone and then short tone, "Jing Jie Gao" adopts the joint method of first short tone and then long tone, and "Yangguan Three Stacks" adopts frequent short tone and performs ultra-long tone in the later stage. Moreover, "Yangguan Three Stacks", "Grow higher and higher" and "Flower in the Backyard" partially overlap with the long tone changes of Mass. Among them, the mass uses a short melody, so that its short tone is not obvious, and the long-term expression is more direct, but there are clear similarities between the four (Liu et al. 2022). Among them, "Yangguan Three Stacks" and "Grow higher and higher" have a lot of influence, and the creative concept pays attention to grandeur, nature and rich diversity, so there are many short sounds. In the Huqin score of the Yuan Dynasty, "Yangguan Three Stacks" and "Grow higher and higher" record a wealth of Huqin playing skills and playing methods (Pan et al. 2023), so long and short notes are frequently operated. Moreover, the Huqin score of the Yuan Dynasty attaches great importance to the changes in timbre and key expressions, which is also very suitable for the standard melody of the Renaissance (CE 1444~1553) and the attention to the combination of long and short tones. The heat analysis of the performance forms of different songs is shown in Figure 4.

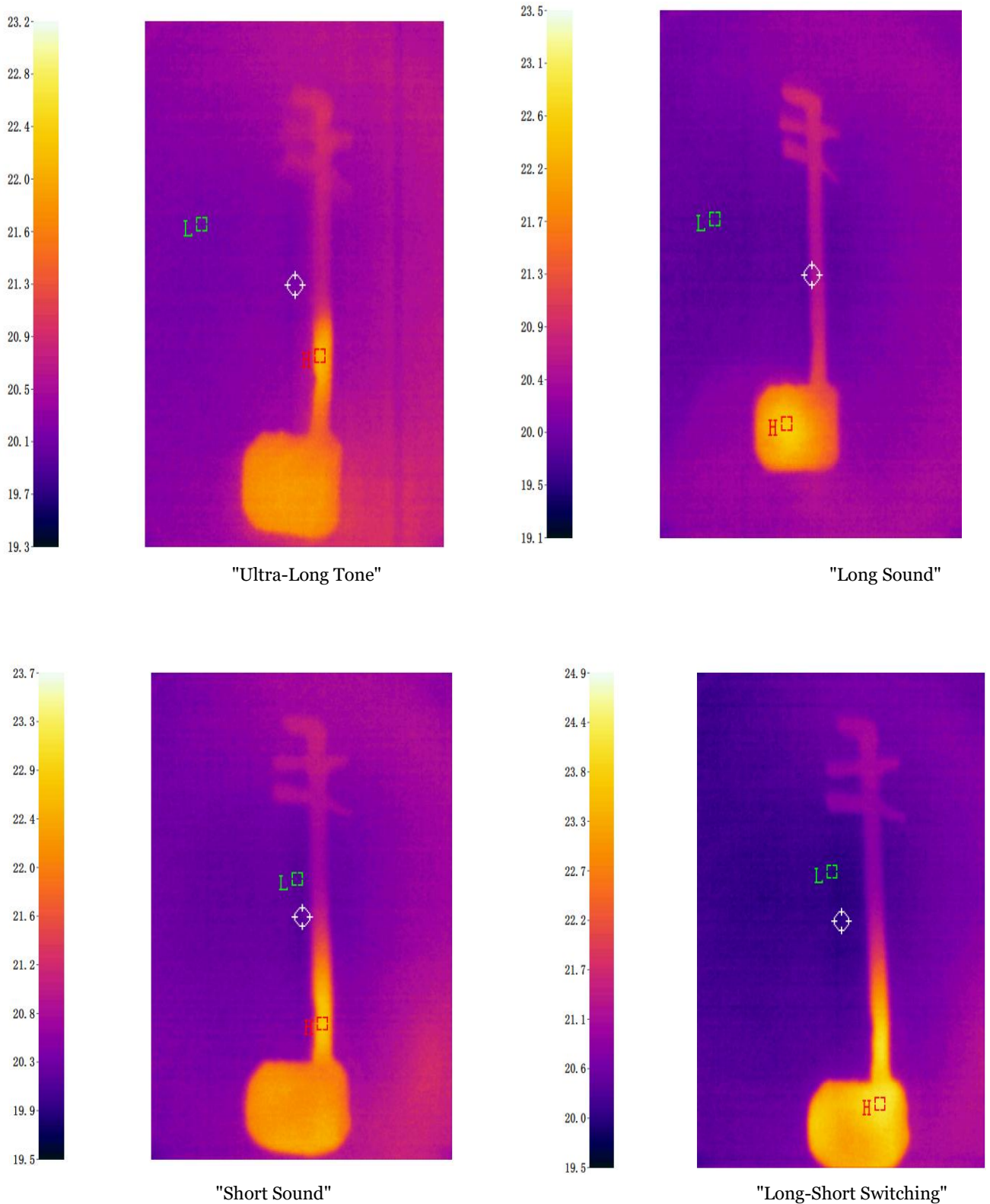
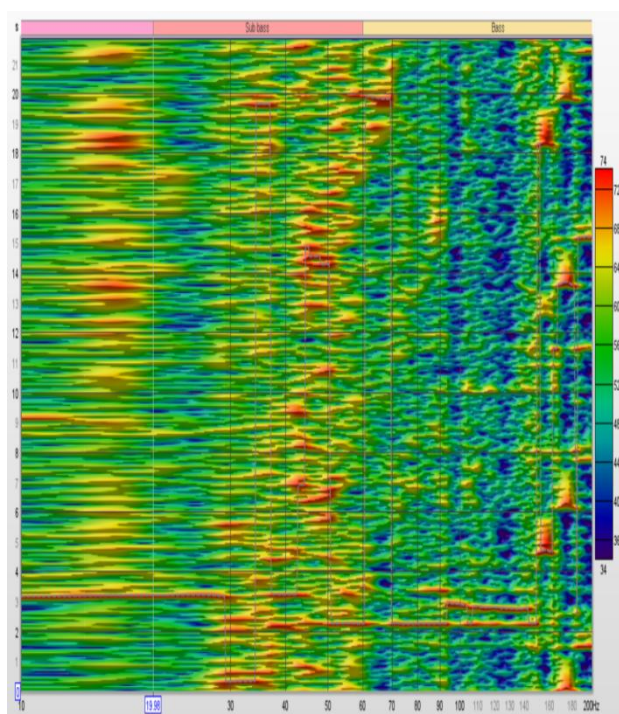


Figure 4. Infrared Measurement of the Huqin Temperature of Different Playing Techniques

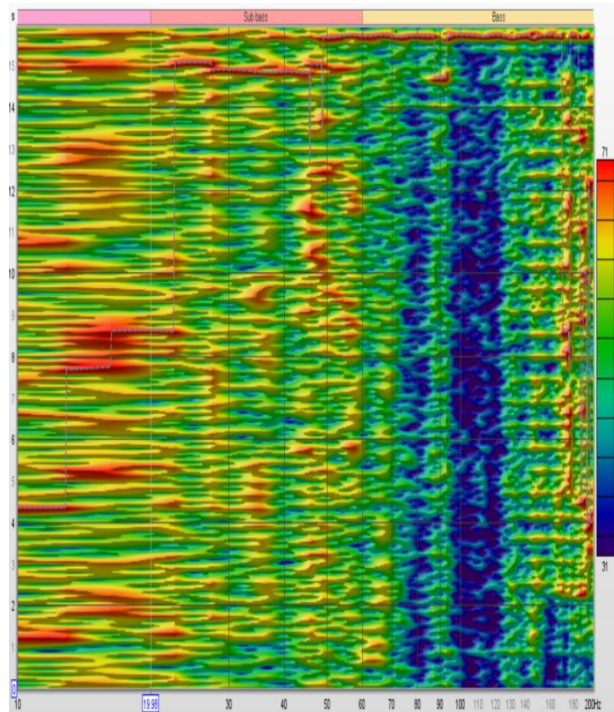
As can be seen from Figure 4, the FLIR E5 PRO portable infrared spectrometer results show that the temperature of the speaker for ultra-long, long, and short-length switching is increased, while the temperature of the short tone is relatively low. However, the temperature of each string of the huqin did not change significantly. In the temperature test of long and short tones, the temperature of the huqin speaker did not change, indicating

that the sound of the huqin was mainly through resonance and the kneading of each string. This shows that the performance technique of one-tenth of the musical score of the huqin in the Yuan Dynasty operates, and the playing technique is fused with the speaker characteristics and string characteristics of the huqin to improve the vocal effect of the huqin. For example, "Yangguan Three Stacks" and "Jiji Gao" pay special attention to the use of different instrument performance techniques and performance techniques, and the temperature of the speaker rises gently to improve the musical performance and timbre effect of the whole song through resonance. For example, the long and short tone switching of "Yangguan Three Stacks" and "Jingjie Gao" shows the expressiveness and emotional level of the whole song through the lyrical and tactful characteristics in the erhu timbre, but the temperature distribution of the speaker is more even (Sang et al., 2023). In the actual temperature test, "Yangguan Three Stacks" and "Jingjie Gao" chose to use a very national melody to better increase the temperature of the strings and speakers as the leading instrument of the whole song, so that the erhu can realize the functional role of the theme and emotional expression of the whole song. Because the timbre of the erhu is more melodious and tactful, full of lyrical charm, it is necessary to control the temperature control during the performance and pull the strings in different positions.

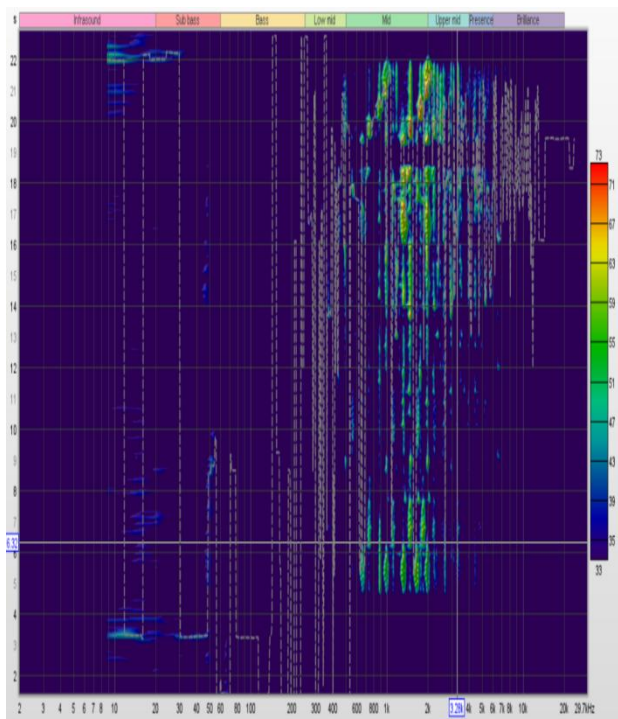
**Fusion of Melody and Polyphony:** In order to better express the playing skills of the huqin, "Yangguan Three Stacks" and "Jingjie Gao" attach great importance to the integration of melody and polyphony. To this end, "Yangguan Three Stacks" and "Grow higher and higher" can always skillfully combine the Huqin gliding technique in the Huqin score of the Yuan Dynasty to express the effect of continuous change of interval, and then show a gradual effect. Through this creative concept, the artistic expression of the "Yangguan Three Stacks" and "Grow higher and higher" awards is vividly displayed. In addition, "Yangguan Three Stacks" and "Jiji Gao" use the European harp to quickly vibrate the strings to create a strong trembling power in the climactic stage of the whole song. It is precisely because this timbre effect itself is very emotional, so that the emotional characteristics and artistic layers of the work can be fully expressed (Shi et al., 2022), and it is very infectious and shocking. It can be seen that the huqin score of the Yuan Dynasty during the Renaissance had a profound impact on the creative concepts of later generations of composers. At the same time, it also laid a good foundation for the development of Chinese Qin cavity music. Yes, the tunes of "Yangguan Three Stacks", "Grow higher and higher", "Backyard Flower" and "Mass", etc., the result is shown in Figure 5.



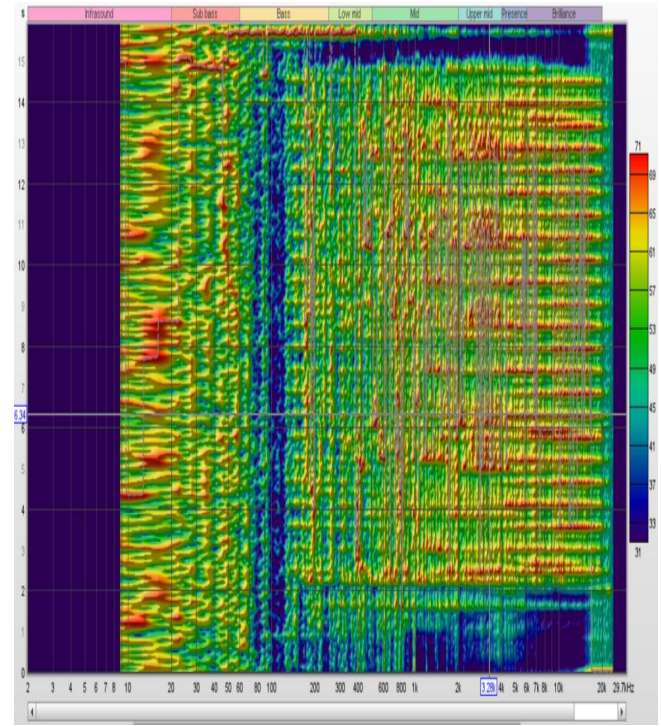
"Grow Higher and Higher"



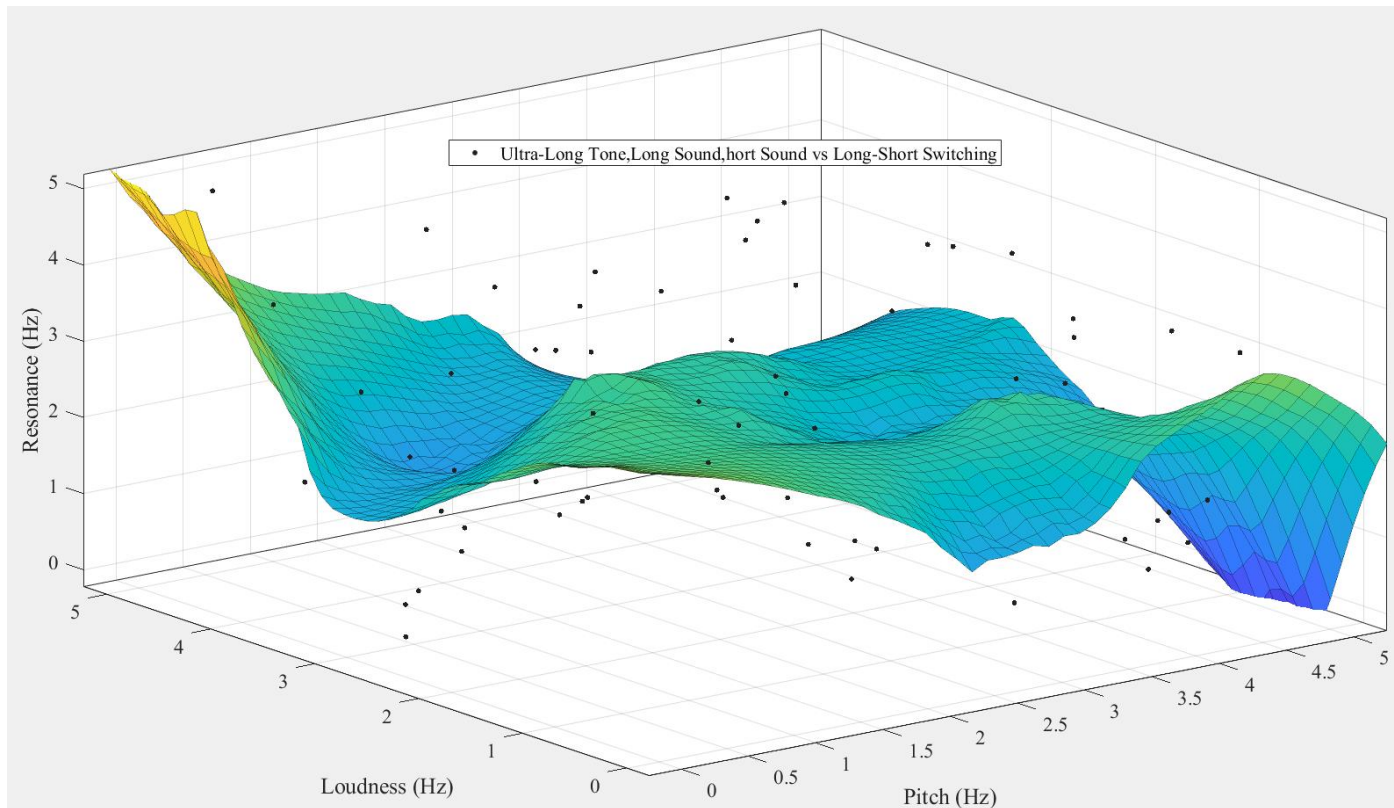
"Three Stacks of Yangguan"



"Mass"



"Backyard Flower"



Resonance results of the huqin

Figure 5. Comparison of Tunes of "Yangguan Triassic", "Jiejiegao", "Backyard Flower" and "Mass"

As can be seen from Figure 5, "Yangguan Three Stacks" and "Grow higher and higher" use polyphonic form, but there is also some monotony, and "Backyard Flower" uses more monotonous form, which is basically

consistent with the pure monotony of "Mass". This shows that the Huqin score of the Yuan Dynasty changed from polyphony to monotony, paying more attention to the regularity of the melody and the neatness of the song. Of course, the tune is influenced by the Renaissance (CE 1444~1553) There are many works, in addition to "Yangguan Three Stacks" and "Grow higher and higher" (Shu et al., 2023), "Grow higher and higher" and the way of tune fusion, also influenced by European playing. This is mainly reflected in their use of traditional elements and cross-cultural integration. It is worth mentioning that in "Jiji Gao", the unique timbre of the erhu is used to make the scene of the erhu play a great role. Through the use of different tunes such as the front card and the back card, "Ji Ji Gao" expresses the gripping, intense and dramatic timbre effect brought by the erhu. If you analyze it deeper, you can find that the performance of the erhu in "Jingji Gao" also combines wildness and tenderness. This allows it to push the melody constantly towards passages of tension and passion. Obviously, the ingenious use of erhu tunes in "Grow higher and higher" and Zhong is deeply influenced by the Renaissance harp and piano, and has a certain connection with the Yuan Dynasty's creative concept that attaches great importance to the integration of magnificent effects and delicate emotions. In view of the above analysis, the material and shape of the erhu were measured, and the relationship between loudness, force and temperature was analyzed, and the specific results are shown in Table 2.

**Table 2.** Analysis of the Relationship Between Erhu Material, Shape, Loudness, Force and Temperature

	Intrinsic metrics		<i>t</i>	<i>p</i>	95% Similarity	Degree of variance $\chi^2$
	Material	shape				
loudness	70.170	15.317	0.266	0.790	-91.07~ 31.41	$\chi^2(3)=0.072, p=0.995$
Forced	33.482	64.216	-0.266	0.791	-82.555~ 15.59	
Forced	51.804	95.488	0.265	0.791	-31.34 ~ 34.95	
Comprehensive	1.972	7.810	0.252	0.801	-13.33 ~ 17.27	

From the data analysis in Table 2, it can be seen that there are certain differences in loudness, tone and synthesis between different materials, but the differences are small, so the influence of materials and shapes on the music of Erhu is more obvious in the development process, but the production process of different stages is basically similar, so there is no big difference in the overall melody and timbre of Erhu.

### The Influence of Yuan Dynasty Huqin Notation on Musical Forms During the Renaissance

Combine the Strong Rhythm and Dynamic Advantages of Renaissance: Through people's research on the Huqin score of the Yuan Dynasty during the Renaissance, it can be seen that in modern symphony, many composers are drawing inspiration from the Huqin score of the Yuan Dynasty. For example, some contemporary symphony composers enrich their symphonic works through the performance of huqin in musical melody, harmony, rhythm, etc., so as to improve the artistic expression and emotional tension of the whole song. Moreover, this also enriched the performance elements of symphony in later generations (Sun et al., 2023). For example, the huqin has a rich variety and a variety of timbres, which can make the creation of symphony have a very novel sound expression, and make the composer's work more national and emotional. Moreover, many symphony composers will also combine the performance of huqin and string instruments to improve the fullness of the whole song and make the whole song sound warmer. For example, Xian Xinghai actively incorporates the solo or ensemble part of the huqin in the symphony, and pays attention to strengthening the melodic undulations of such passages. In this way, the unique timbre and personality of the huqin can be expressed (Sun 2023), and the sense of scene when the symphony is played can be enhanced. For contemporary symphonic composers, some of the playing techniques in the Yuan dynasty huqin score are also a source of inspiration. For example, the glide and vibrato expression techniques recorded in the Huqin score of the Yuan Dynasty can increase the musical expression of modern symphony. By using these huqin playing techniques, the composer will better enhance the vividness of the symphony, make its artistic expression more penetrating and tense, and enhance the artistic conception and connotation of the whole piece.

Promote Freedom of Musical Notation Structure: Later classical music was also influenced by the Huqin score of the Yuan dynasty, but this influence was often very positive. The melody of classical music is generally more elaborate and elegant, and emphasis is placed on the layout and diversity of harmonic structures. Compared

to other orchestral instruments, the huqin does not seem to be very common. However, the preservation and study of huqin scores in the Yuan Dynasty had a great impact on the development of classical music. The reason is that there are a large number of classic and powerful musical elements in the Huqin score of the Yuan Dynasty, such as rhythm, pitch performance interpretation, etc., which have a great effect on enriching the artistic elements of classical music (Tao et al., 2023). From the current point of view, many classical music composers will draw inspiration from the Yuan dynasty huqin score, or through the use of melody, harmony, and rhythmic elements in the Yuan dynasty huqin score, to improve the timbre charm of the opening and climactic sections in classical music. This can improve the sound texture of classical music to a certain extent. This also allows the audience to better guide and immerse them in the huqin sound created by classical music. Then let people feel the naturalness and smoothness of the whole song. From the perspective of arrangement, contemporary classical music composers can also refer to the structure and form of music recorded in the Huqin score of the Yuan Dynasty. In this way, the creation of Chinese classical music can usher in greater development space (Wang, 2023). For example, in the creation of classical music, composers can use the ensemble of huqin and other classical instruments to increase the national characteristics of the whole piece and enhance the emotional connotation of the whole song (Wang et al., 2022). In addition, the performance techniques recorded in the Huqin score of the Yuan Dynasty also mention the use of various techniques such as the glide and vibrato of the huqin. Undoubtedly, this is also very worthy of reference for classical music composers. For example, classical music composers can use the huqin to express the sound transitions between the tune and the voice parts of the whole song, thereby enhancing the musical expression of the whole song. As can be seen above, the huqin score of the Yuan Dynasty had a certain influence on later art forms, such as symphony and classical music. Moreover, this influence has also influenced the development of traditional music and modern music to a certain extent.

**Transition from Polyphony to Musical Form:** As mentioned above, during the Renaissance (CE 1444~1553), the Huqin score of the Yuan Dynasty recorded many performance techniques, timbre characteristics, art forms, etc. To a certain extent, this also influenced the art form of music in later generations, and enriched the types and art forms of music in later generations. For example, on the one hand, the solo pieces contained in "Jing Jie Gao" and "Wind into Song" are very diverse, which can reflect the timbre characteristics in the performance of Huqin scores in the Yuan Dynasty. This had a great influence on the development of later solo and concerto pieces. Some contemporary composers, such as Chen Wei and Guo Wenjing and Xian Xinghai, are very good at using the characteristics of huqin playing techniques and timbre changes. These contemporary composers love to use it to reinterpret the solo repertoire of modern folk music. On the other hand, the content recorded in the Huqin music score of the Yuan Dynasty during the Renaissance also includes the use of the cooperation and interaction of various huqin instruments to show the charm of ensembles and accompaniments. Therefore, this has a deep impact on the creation and performance of ensemble music in later generations (Xia et al., 2022). For example, "Jing Ji Gao" and "Wind into Song" use the ensemble form of erhu and other instruments to show great vocal effects. Moreover, this ensemble form, to a certain extent, also affects the development of contemporary music, and makes contemporary music richer in timbre layering and emotional progression.

**The Enlightenment of the Huqin Score of the Yuan Dynasty During the Renaissance to the Later Development of Music**

Therefore, the design concept and technical elements of Huqin score will inevitably give Chinese musician better creative resources and inspiration to a large extent. Through the analysis of this paper, it can be seen that the Huqin score of the Yuan Dynasty has the following enlightenment for the later development of Chinese music:

#### Lay the Foundation for Melody to Determine Music

The application value of huqin music scores in the Yuan Dynasty during the Renaissance was huge, which also touched many Chinese music composers. There is no doubt that there are many elements worth using in the Huqin music of the Yuan Dynasty, especially the various performance techniques and timbre expression techniques recorded in these Huqin scores. For Chinese music composers, they should realize that if they can absorb the musical nutrients in the Huqin score of the Yuan Dynasty, then they will gain greater gains in music creation and concept innovation (Yang 2022). In addition, once these contemporary Chinese composers were able to effectively draw on elements of the Yuan dynasty huqin score, they would be able to better value the melody composition and emotional integration of their works. It is worth mentioning that the timbre expression and interval processing of musical instruments in the Huqin score of the Yuan Dynasty are also recorded in detail. The Huqin score of the Yuan Dynasty has certain enlightenment for the melody creation in the development of music in later generations. The huqin's timbre is gentle and soft, which can express the rich emotions of the music. In the Huqin score of the Yuan Dynasty, the depiction of melody and the expression of emotions naturally became the focus. Therefore, from this point of view, future generations of music composers should attach importance to

the use of huqin in melody creation. Moreover, later generations of composers should also combine the playing techniques and timbre characteristics of the huqin to fully display the timbre and rhythmic performance of the melody concept. For example, some composers can combine factors such as note sequences, rhythmic patterns, pitch and other factors to use the huqin and integrate it into the melody created throughout the song. In this way, the personality melodic image of the whole song can be enhanced, and it can be used to resonate with the audience.

#### Use the Structure of Musical Scores to Express Emotions

The Huqin score of the Yuan Dynasty has certain enlightenment for the emotional expression of the whole song in the development of music in later generations. For example, for contemporary Chinese musicians, their music creation often requires emotional integration. In the score of the huqin of the Yuan Dynasty, it is full of a lot of content that uses the timbre and interval of the huqin and the playing skills to show the emotions of the music. Based on this, Chinese music composers should interpret the emotional interpretation of different intervals on the whole song through the expression of the timbre and performance mode of the huqin. Moreover, composers should also be able to consciously devote themselves to the creation, and use these techniques to reflect the emotional depth and authenticity of the whole song, which in turn resonates with the audience. For example, the world knows that the timbre of the huqin is very unique, and various huqins, such as "Jing Ji Gao" and "Wind into Song", use erhu, three-stringed hu, four-string hu and other timbre characteristics Show off their respective timbre characteristics (Yang et al.2023). In contemporary China, many Chinese composers will improve the use of timbre in their works because of the timbre expression skills in the huqin score of the Yuan Dynasty, and use the timbre characteristics of erhu, three-stringed hu and four-string hu to improve the musical instrument matching and melodic supplement effect of the whole song. At the same time, these composers are also good at showing the harmony quality of their works through the full timbre of the huqin, so as to improve the acoustics of the whole song and enhance the musical artistic expression of the whole song.

#### Clarify the Relationship Between Melody and Polyphony

The score of the huqin in the Yuan Dynasty has an important enlightening effect on improving the artistic expression of later musical works. As we all know, in the Huqin score of the Yuan Dynasty, there are many different performance techniques, which can serve the artistic expression of music, and use the way of emotional expression to highlight the charm of timbre. Based on this, this can also effectively enhance the artistic expression of musical works, and enhance the richness and personality of tunes. Many contemporary composers are well aware of the artistic value of the Yuan dynasty huqin score and are able to integrate it. To this end, they will use the huqin playing technique and timbre characteristics to integrate the artistic expression of modern pop music. At the same time, they will also use the artistic tension of the huqin to expand the melodic undulations of their works, and use this to highlight the unique sound of the huqin. In this way, they can create an artistic sense with classical music style for their musical works (Zhanget al.,2023).

#### The Excavation Space of Yuan Dynasty Music

As an important part of the songs of the Yuan Dynasty in China, the Huqin has an important impact on European music culture, and forms a good integration with European music, and the fun of people also has a certain role in promoting the content and way of Huqin performance in the later period, but the music of the Yuan Dynasty also has certain deficiencies of its own, mainly because the New Year's Day music is the music style of ethnic minorities, and its scope of application is mainly grassland areas, mountainous areas and other places, and there is a certain contradiction with the scope of modern music, modern music creation pays more attention to the popularity, extensiveness, and Yuan Dynasty music has a strong national, regional and particular, there is a contradiction between the scope of application, and the fun of people is a minority, Wenzhou weather, in terms of performance style is relatively single nowFor this reason, modern musicologists should conduct an in-depth analysis of the music of the Yuan Dynasty, explore its universal characteristics, and combine the characteristics of its grassland people to create music, and to promote the special music and representative music in the New Year's Day music, and integrate it with modern pop music, it is to integrate the current electronic piano, electronic drum kit and other equipment with the performance of the huqin, give full play to the advantages of the huqin in terms of pitch, rhythm and vocal range, form a wide range of popular music with national characteristics, and expand the scope of application of musical instruments in the Yuan Dynasty. At the same time, it is necessary to pay attention to the digital protection of New Year's Day music, strengthen the comprehensive judgment of music, find its characteristic points, and promote the innovation of modern musical instruments.

#### The Interdisciplinary Significance of Yuan Dynasty Music

Through my research on the music of the Yuan Dynasty, I found that the erhu was an important musical instrument for performing in the Yuan Dynasty, which had strong adaptability and popularity. In the process of

development, the Yuan Dynasty music was integrated with other disciplines to promote the development of composition and lyrics, and the study of musical instruments, historical and cultural exchanges, and cultural innovation were integrated into the Yuan Dynasty musical instruments, and the content expressed in the Yuan Dynasty music has more historical and literary characteristics, and the performance form and content of the Yuan Dynasty music can indirectly support the cultural exchanges between China and the West, and the performance characteristics of the Yuan Dynasty music reflect the frequent cultural exchanges between China and the West, as well as the collision of Chinese and Western cultures. Therefore, the study of Yuan Dynasty music is interdisciplinary, which can promote the historical and cultural exchanges of the Yuan Dynasty, the preparation of musical instruments, the selection of musical instrument materials, and the study of economy and trade.

## CONCLUSION

In the Renaissance period (CE 1436~1603), the huqin score of the Yuan Dynasty has undergone a certain development and has been greatly used in the scope of court music and folk music. Moreover, this also promoted the great improvement of the huqin instrument of the Yuan Dynasty. At the same time, the "Yangguan Three Stacks" and "Backyard Flower" unearthed in the East 16 Caves of Mogao Grottoes were unearthed in the Yuan Dynasty (CE 1291~1326). Huqin sheet music is used as an example for infrared and acoustic tests, and data measurement is carried out with software such as Microsoft Viso. The results show that the scores of "Yangguan Three Stacks", "Backyard Flower" and "Grow higher and higher" give full play to the characteristics of the huqin, improve the resonance of the musical instrument, make the temperature distribution more uniform and the resonance effect better during the huqin performance. Acoustic tests show that the performance of scores such as "Yangguan Three Stacks", "Backyard Flower" and "Jingjie Gao" not only has the characteristics of Chinese string music, but also is influenced by the score of Renaissance string and wind music, paying attention to the rhythm of the melody, the neatness of the tune, and the standardization of the before and after songs. Among them, the scores of "Yangguan Three Stacks", "Backyard Flower", "Grow higher and higher" and other musical scores reflect the transformation of the tunes of the yuan songs, from complex polyphony to standardized tunes. Therefore, the Yuan Dynasty Huqin score provides reference for contemporary music composition and incorporates the characteristics of the Yuan Dynasty Huqin score. The study of Yuan Dynasty music is not only an important part of the development of Chinese culture, but also a necessary element of the development of music in the European Renaissance, this paper mainly analyzes Yuan Dynasty music based on the existing Chinese literature, which can be studied to a certain extent, and in the future, more Renaissance New Year's Day music literature and data will be collected, and two-way analysis of Yuan Dynasty music will be realized to improve the accuracy of analysis.



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