George Gao's on Erhu music

Lei Ye

A Thesis Submitted in Partial Fulfillment of Requirements for

degree of Doctor of Philosophy in Music

August 2021

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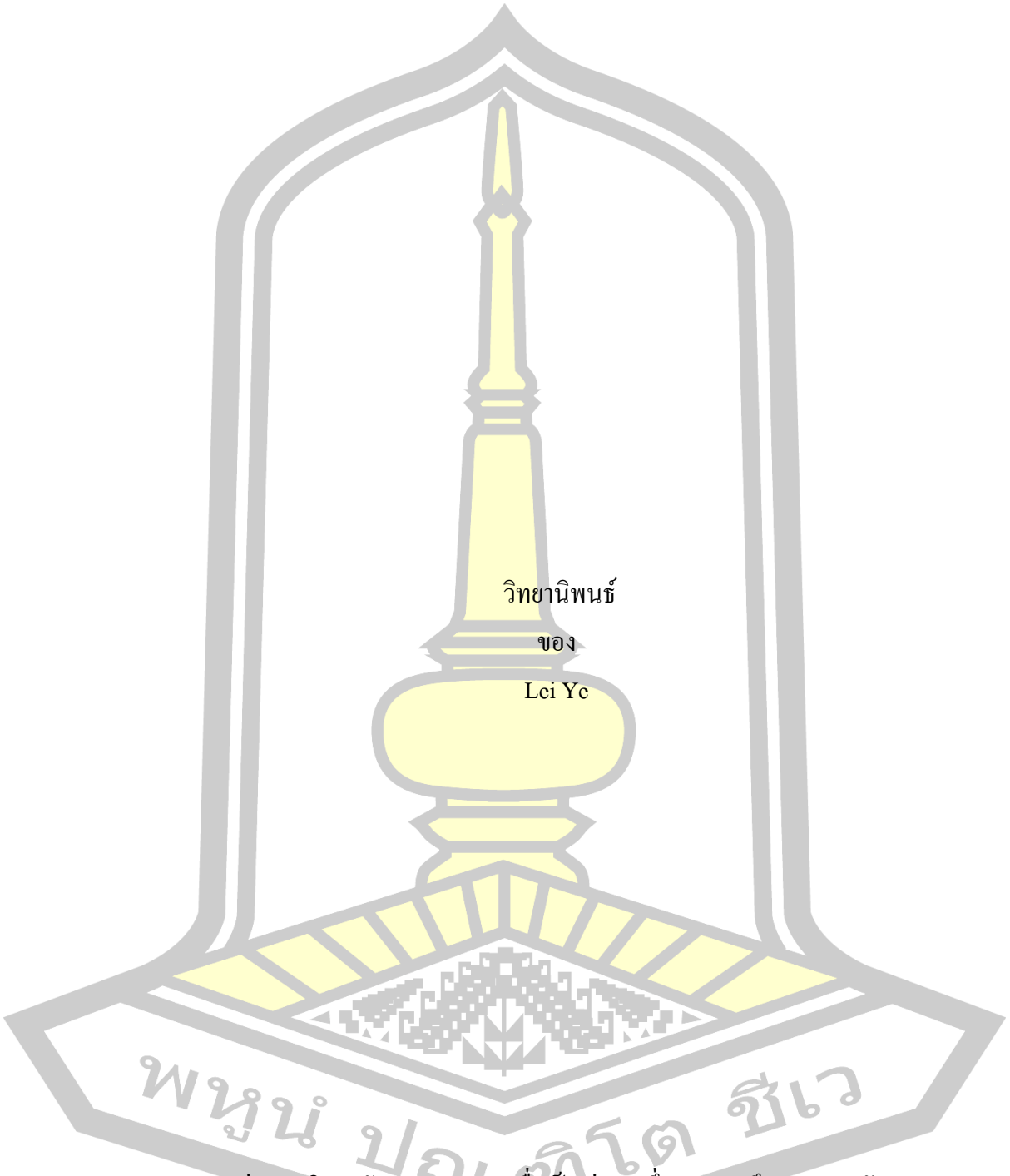

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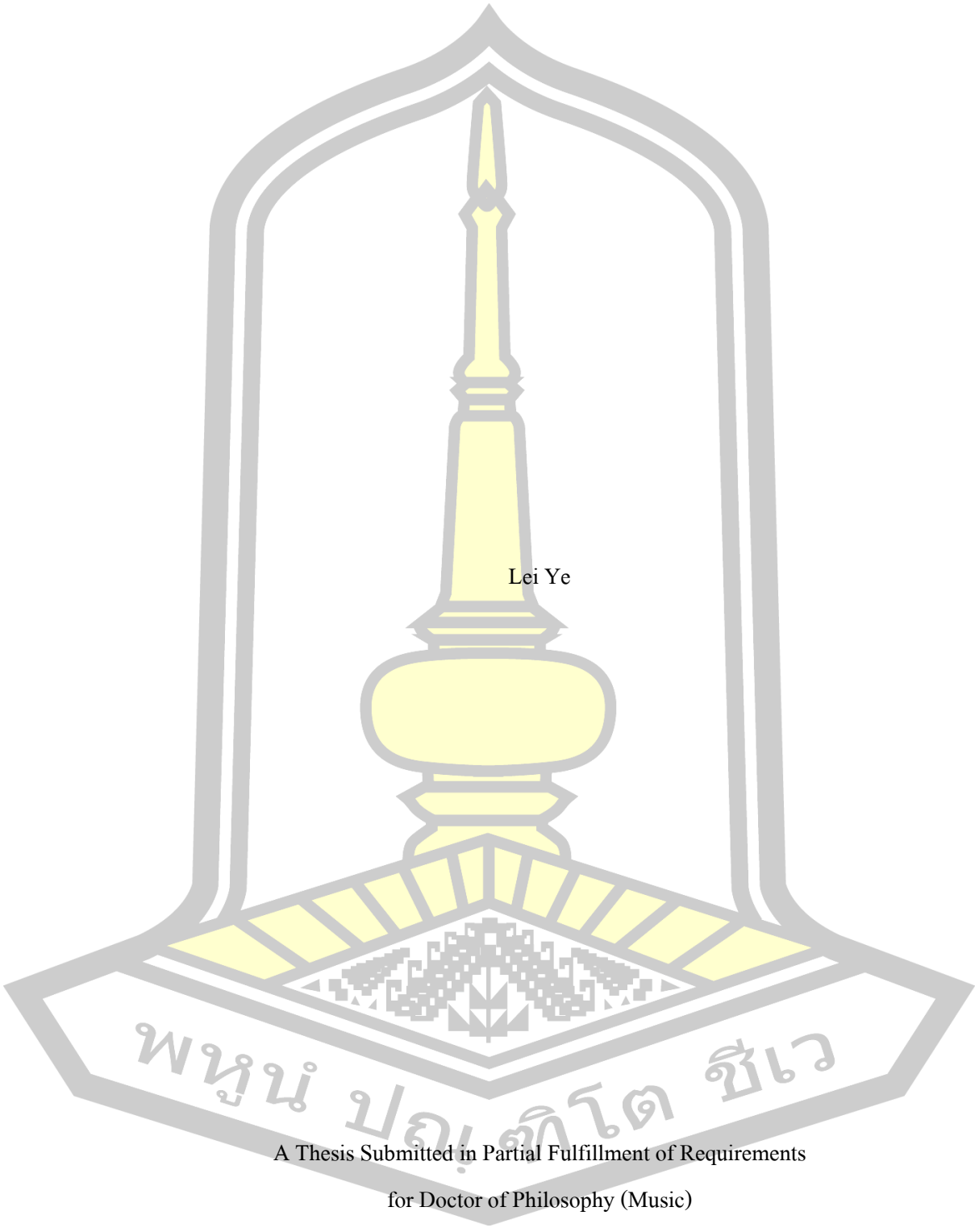

A Thesis Submitted in Partial Fulfillment of Requirements

for Doctor of Philosophy (Music)

August 2021

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ABSTRACT

This article takes George Gao as the research object, mainly discussing how George Gao's music experience and diaspora experience influence George Gao's music behavior and music practice process. By analyzing his growth experience and learning experience, the impact on his creation, including his Erhu Music And Erhu Innovation (Shaoqin). It also reveals his music and cultural studies under multiple identities. When George Gao's music outlook changed, his music practice and music creation also changed. The purpose of this article is threefold: First, through investigation and research to analyze the influence of George Gao's music experience on his music behavior and music outlook. The second discussion is the evolution and problems of erhu form in the modern 100 years, and George Gao's Erhu Innovation. Draw conclusions through objective experimental data measurement and data analysis. The third study analyzes his erhu music composition and performance techniques, and provides a certain reference basis for related research and erhu performance learning in the future.

Based on the above-mentioned problems and the current situation, through observation and analysis of George Gao's series of musical behaviors, to explore the description of a typical scattered musician like him, to reach a general understanding of this social group, which can be learned from George Gao From his personal experience, he inquired about the basic situation and appearance of erhu art in a specific period, and was able to perceive various connections between music culture and social groups and social changes from individual musicians. I hope to inspire similar research in the future, provide a demonstration of necessity and feasibility, and provide a list of problems that the academic field may face in the future.

Keyword : George Gao, Erhu, Shaoqin, Erhu Capriccio, Diaspora

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Additionally, during this challenging period, people are working together against the spread of a worldwide pandemic, and I wish humankind an early victory over the virus along with wishing for world peace.

Lei Ye

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CHAPTER I

INTRODUCTION

1. Statement of the Problem

With the advancement and development of science and technology, continuous breakthroughs in new technological revolutions, along with convenient transportation, frequent population migration, economic and information globalization, music is inevitably affected by these factors, tending to commoditize the flow, and flow across borders to different places. Professional musicians directly contact and communicate with the audience through concerts, media, and the Internet, and convey their personal music works and ideas. In addition, in order to enhance the experience and communication between music, musicians began to seek cooperation and performances with musicians from different places or from all over the world. Some others left the motherland to study and live in different places in order to enhance their professional knowledge of music and broaden their horizons. In the process of diaspora, the identity of musicians has also been affected and began to change, gradually internalizing and generating new thinking, and then integrating it into personal music creation. George Gao is a typical representative of it. (Zhang Ming, 2018)

George Gao is recognized as one of the best and most innovative erhu performers in the world (Singapore Chinese Orchestra and Dragons-music,2012). He is also an outstanding representative of erhu music on the international stage. Through his cognition, analysis and research, it helps to understand modern erhu. The process of change and construction has a certain practical significance for how to play modern erhu music well. George Gao is not an erhu player in the ordinary sense. He combines erhu performance, composition, music production, and instrument improvement. This is very rare in the history of modern erhu development. He has a rich life experience, a full range of music cultivation and His outstanding contribution to erhu art is why this paper uses George Gao as a case study. In the course of the development of musicology, the special research on folk musicians has never been given enough attention. Therefore, the ethnomusicologist Nettl Bruno called for it in the mid-twentieth century and used a North American Indian singer as a case study -Biography of a Blackfoot Singer (Blau, 1988).

But after decades, this situation has not improved. Although in many theoretical works on ethnomusicology, theorists have emphasized the individual research of folk musicians, but there are not many scholars and achievements in the practice of this. In this research, George Gao is Professional musicians, music anthropology can be the study of individual musicians. The purpose of this thesis is to try and experiment with this content. George Gao is in a foreign cultural space like Canada, and he is more than a purely musical performance for Chinese music. He is involved in multi-field practical exploration and other forms of communication and research. Just like the ethnomusicologist Mantle Hood believes that Music dissemination not only through musical performance, but also through research, teaching, and other forms of dissemination. (Spivak, 1990)

Erhu is a traditional Chinese musical instrument and one of the typical representatives of Chinese musical instruments. It can be traced back to the Tang Dynasty and has a history of about a thousand years. After a long historical evolution, the appearance of the erhu has gradually formed. In the 1920s, the Chinese national musician Liu Tianhua improved the erhu. From the selection of erhu's material selection, manufacturing technology, how to set the string pitch standard, and a series of improvements and innovations, the erhu has a systematic and standardized model. Improved the musical performance of the erhu, and created a certain number of music for the erhu, which made the erhu from the state of a folk accompaniment instrument to a solo instrument, and gradually moved towards standardization and specialization. So far, the erhu has also entered university courses. Like learning to play piano and violin, playing erhu has become a professional subject. (Richards-Greaves, 2015)

In the context of globalization, China’s scientific and technological progress and rapid economic development, China’s degree of internationalization is getting higher and higher, and international and foreign exchanges are becoming more and more extensive. The integration of multiple disciplines makes the level of erhu performance more consistent. Performance techniques have achieved unprecedented development. At the same time, a large number of erhu music has appeared. Composers have also been invited or commissioned to create excellent erhu music, such as concertos, rhapsody, fantasia, and caprice in collaboration with the erhu and symphony orchestra. In various forms, composers try to make erhu play new styles and express new ideas. At this time, the technique of erhu performance is constantly improving. The erhu

cannot meet the needs of erhu players in some aspects, such as how to increase the volume, how to solve the expansion of the range, and how to solve a series of problems such as the sound attenuation in the treble region of the erhu. , Erhu performers have a new pursuit for the sound of the erhu, the design of materials and craftsmanship, and can flexibly interpret various styles of music. Therefore, the current erhu production needs to be improved, and these improvements have never stopped until now. The research in this article is Mainly based on George Gao's research, which involves his improvement of the erhu Shaoqin and his representative works of erhu music-5 Erhu Capriccio series (Capriccio No. 1 ~ No. 5).

2. Research Objectives

2.1) To analyze of George Gao's historical background and music view

2.2) To examine the construction of Erhu and explore George Gao how to improved

2.3) To analyze George Gao's Erhu music composition and Playing techniques.

3. Research Questions

3.1) How to understand George Gao's historical background and his music view

3.2) How to understand construction of Erhu and George Gao’s improved

3.3) How to understand George Gao's Erhu music composition and playing techniques.

4. Importance of Research

4.1) We will know George Gao's historical background and his music view

4.2) We will know the construction of Erhu and George Gao’s improved

4.3) We will know George Gao's Erhu music composition and playing techniques.

5. Definition of Terms

5.1) George Gao

Canada borrows Chinese, a famous erhu player, composer and inventor of shaoqin musical instrument. He is recognized as one of the best and most innovative erhu performing artists in the world today and a representative of modern erhu music.

5.2) Erhu

Erhu is one of the representatives of traditional Chinese musical instruments in China.

5.3) George Gao's Shaoqin

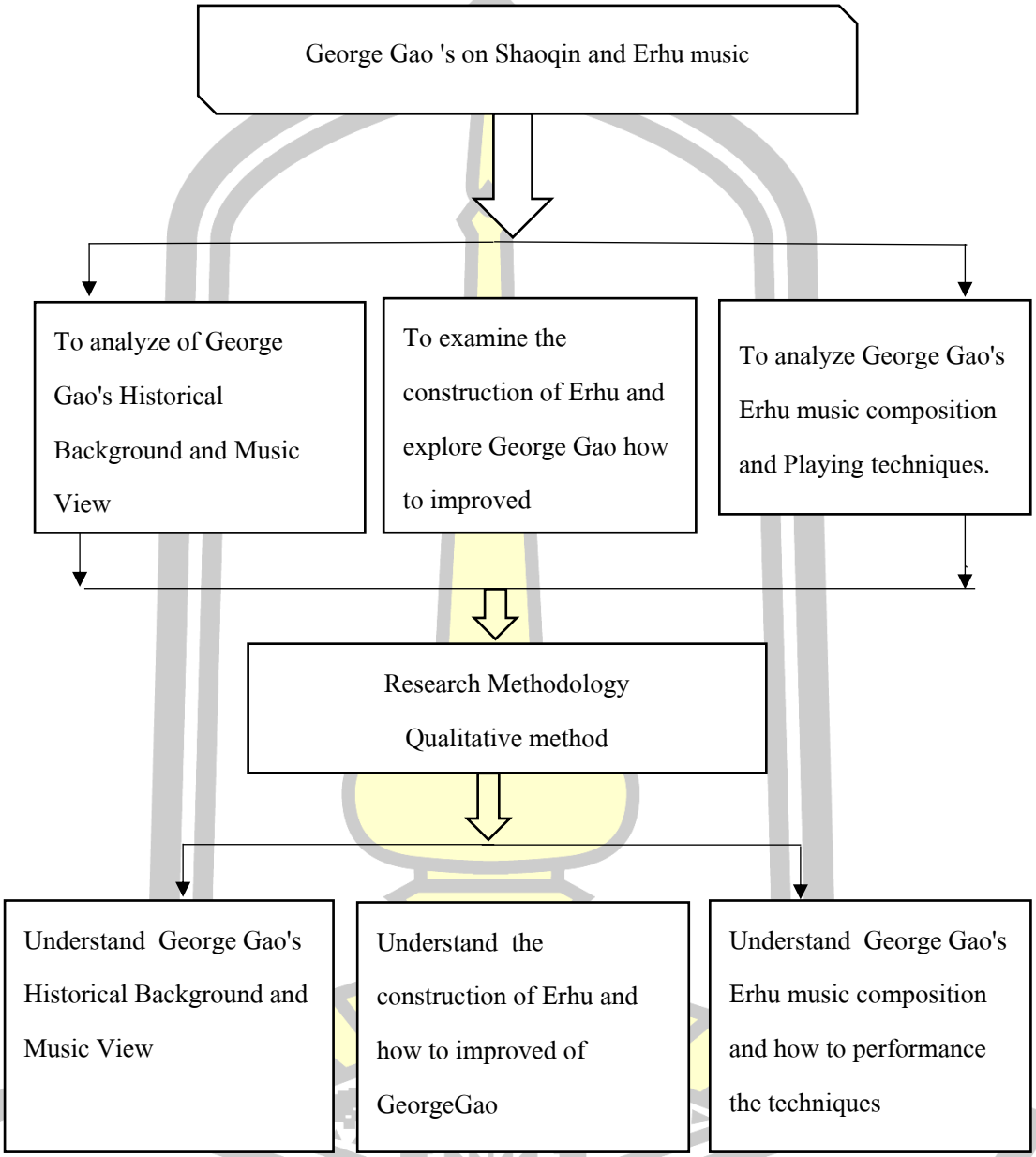
Shaoqin is named by George Gao. Shaoqin is an innovative and improved Erhu instrument. It is a contemporary innovative instrument, so there was no such thing in the past. Shaoqin and Erhu have the same playing techniques. Shaoqin can play a pure fifth scale lower than Erhu, which is consistent with the lowest pitch of the violin, so shaoqin expands the range of the erhu. In terms of sound box, Shaoqin's sound box adopts magnet adsorption, which can freely rotate the position of the sound hole, so Shaoqin has raised the volume of the erhu to a certain extent.

It should be noted that George Gao did not name Shaoqin music. For example, in his music composition, the music title is Erhu Capriccio, such as Capriccio No.1 for erhu-sixiang. In order to avoid ambiguity on the topic, this paper is understood as George Gao's shaoqin and his erhu music.

5.4) Erhu music

The Erhu music referred to here refers to the five Erhu Capriccio No.1 for erhu-sixiang, Capriccio No.2 for erhu- Mengfeng, Capriccio No. 3 for erhu-Xuan Dong, Capriccio No. composed by George Gao. 4 for erhu -Gebi, Capriccio No.5 for erhu -Naxi. It is worth noting that George Gao has composed different styles of Erhu music. These 5 pieces of music are his masterpieces, and are also the required repertoires of major Chinese and major international erhu competitions. They have a certain reputation in the professional field of erhu, and they also have a certain reputation. Circulation and recognition. This article mainly discusses and analyzes his series of 5 Erhu Capriccios.

6. Conceptual Framework



CHAPTER II

LITERATURE REVIEWS

In this study the researcher reviewed the relevant documents to obtain the most comprehensive information available to be used in this research. The researcher has reviewed the following topics, sections into four separated parts.

1. Chordophone in china

Chinese Huqin musical instruments have gradually derived a variety of bowed and stringed instruments of the Huqin series. This type of musical instrument belongs to the bow-grabbing stringed instruments, and the bow-grabbing instruments all have a common feature, that is, they have a bristled bow on the strings, that is, they rely on the friction of the bow hairs and the strings to produce sound. In addition to the typical erhu form in the Huqin series, there are Zhonghu, Gaohu, Banhu, Jinghu, Jing Erhu, Yuehu, Qin Hu, etc., as well as derivative Huqin instruments from various ethnic minority music in China, such as Maguhu, Niujiao Hu, Gourd Hu, etc., thus formed the "Huqin Family" in the large family of hundreds of Chinese Xianming, bow-wiping instruments. Combining the records of the Huqin musical instruments in the historical records of China, the author sorts out the classification of Chinese Huqin musical instruments, which are used in various types of dramas, or appear in folk music in various regions, and summarizes their structural characteristics. Different types of shapes and original characteristics of Huqin instruments are presented. The primitive characteristics of a musical instrument are the shape of the musical instrument. According to the different shapes of musical instruments, Huqin musical instruments can be divided into three categories: box-shaped bow-wiping instruments, neck-box-shaped bow-wiping instruments, and neck-shaped bow-wiping instruments. These three types have their own corresponding forms of holding, placing and playing the piano. According to the different vibration systems, Chinese Huqin musical instruments can be divided into two categories: membrane surface vibration system and panel surface vibration system. Membrane vibration system refers to a type of musical instrument whose resonance tube is covered with python skin and other animal leather as the vibrating

membrane surface; panel vibration system refers to a type of musical instrument whose resonance tube is covered with paulownia or other wooden materials as the vibrating membrane surface. (Richards-Greaves, 2015)

The origin of Chinese bowed instruments is believed to have appeared in the Tang Dynasty, but its origin can be traced back to earlier historical periods. The embryonic forms of bowed stringed instruments-Zhuzheng, Xiqin, Jiqin, Huqin, etc., although their resonance bodies have different properties, they all evolved from plucked instruments. After a long period of history, the development of bamboo wiping to the ponytail bow drawing, resulting in bowed stringed instruments. The author makes full use of the records of bowed instruments in ancient documents and the bowed instruments in ancient images to analyze the bowed instruments in various historical periods. The article not only discusses the development of bowed stringed instruments in China, but also pays attention to the spread of bowed stringed instruments abroad, such as Xi Qin's spread to Japan during the Five Dynasties and the introduction of Xi Qin to Korea in the Song Dynasty. Bowed instruments have achieved greater development in the Ming and Qing dynasties. Therefore, the article describes these two eras as important stages of the development of bowed instruments in a more detailed description, and divides bowed instruments in the Qing Dynasty into two major categories. Regarding the prosperity of stringed bowed instruments in modern times, the author classifies more than 30 bowed stringed instruments that are popular all over the country, and consciously introduces the bowed stringed instruments of ethnic minorities as a separate category. (Blau, 1988)

Chordophone music in China, including various performance forms in Chinese history, such as solo, traditional ensemble played by two or more musical instruments, but the melody is not necessarily multi-voice, and modern multi-voice in the past 100 years Ensemble, ensemble, etc. China's Chordophone is a "musical fact" caused by Chinese behavior in the history of social development. It is an objective existence. It is an organic part of the history of Chinese music. It includes musical instruments, sheet music, people, music creation, and music thought theories. And other aspects of historical development content. (Zhang Ming, 2018)

In the article "Discussion on Several Issues Related to Chinese Bowed Stringed Instruments", the early forms of stringed instruments in ancient Egypt and other ancient cultures are investigated, combined with the analysis of oracle bone inscriptions, ancient documents and

some unearthed cultural relics, it is proposed that bowed stringed instruments may have originated in China Vision. This is the first time that the author put forward the theory of the origin of Chinese bowed string instruments, which is different from the predecessors, although it is only raised as a question in the article, but it has been further developed in several papers published by the author later. On this basis, a special article on the origin of Chinese bowed instruments. The article starts with the research on the production and spread of Huqin bowed and stringed instruments such as Xi Qin and Ji Qin, demonstrating the view that "Chinese Huqin bowed and stringed instruments are self-contained rather than foreign". The development of Huqin bowed and stringed instruments in China can be roughly divided into two types: Xiqin, Miqin system and Huobusi system. The changes in its shape and bow clearly reflect that it is influenced by the culture and customs of various places in the process of broadcasting, and has absorbed foreign cultural factors. There is a big difference. However, the Huqin bowed and stringed instruments are independent and have a long history. (Slobin, 1993)

After entering the 21st century, there are also several articles on the origin or evolution of bowed stringed instruments, but overall it is still a retelling of the research results of predecessors. On the basis of further development. Many articles in this period no longer focus on the entire bowed stringed instrument as the research object, but conduct historical research on a certain type of instrument such as erhu, banhu, and matouqin. (Post, 2007)

Scholars' research on the origin of Huqin began in the late 1970s, but it should have formed a certain scale of research in the 1980s, especially in the middle and late 1980s. Research in this area has developed rapidly. This paper studies the origin of Hu Qin. With the addition of multidisciplinary research methods such as music archeology, paleographology, ethnomusicology, music sociology, music iconography, cultural geography, and folklore, the research on the source of Erhu has developed in a comprehensive and diversified direction. The horizons are constantly expanding, the research angles are different, and the research methods are also diversified.

2. Theory of studying personal biographies

In human sciences, it is generally believed that research methods should be selected and adopted according to the research scope and the characteristics of the research objects, and the

methods should be prescribed and restricted by research purposes or hypotheses. Therefore, any use of ready-made rigid methods to apply them while ignoring flexible and diverse practices that adapt to the scope and objects of the research is not desirable. Any research method or method that insists on uniformity will only lead to constraining the hands and feet of the researcher and damaging the outcome of the research results. In this sense, research methods are an important way to obtain research purposes with special procedures and laws. (Slobin, 1994)

In today's academia, the study of culture has become the direction of the development of humanities, the boundaries between disciplines are increasingly blurred, and the sense of comprehensive tolerance is increasing. As an anthropology of music in the field of humanities, its natural interdisciplinary nature determines its multi-angle observation and comprehensive methodology for reference. In the past research, we focused more on the music itself, and devoted great enthusiasm to the regularity of music forms. However, when we are looking for the diachronic developmental context of a certain music or song, most of its written descriptions appear to be single and weak. The live music behavior process, which should be full of traces of life movement, is reduced to a series of expressionless theories, which makes it impossible to feel the throbbing of fresh life. Therefore, in this open era where multiple discourses coexist, multiple sound symphony, and multiple methods are used together, it is necessary to conduct a comprehensive reflection and experiment on the past of music anthropology, and it is necessary to learn from the many social sciences and humanities. Drawing on the thinking and research methods that are beneficial and useful for us. The second "biography research method" is the result of drawing on the methods and methods of historical sociology and literature on the basis of experimental music ethnography.

The so-called "biography research method" refers to the use of a biographical style, taking the personal life course as the main line, to record and describe the life experience, role and contribution of an individual as a musician. Its purpose is to explore the musician’s personal behavior and the family, social group, music or song genre in which he lives, public music behavior, social environment, social changes and other relationships and connections. In social music life, personal What kind of role does it play and how does it work? What significance does the individual musician have for the inheritance, broadcasting, development and creation of folk music? In the fields of history and sociology, a new research model has emerged, that is,

combining the theories and methods of sociology with the traditional skills of historians and adopting a refreshing writing trend, which has led to another edge The rise of the discipline, this is "historical sociology". (Clifford, 1997)

Historical sociology has two main purposes, namely "reconstruction and connection". The so-called reconstruction refers to trying our best to rebuild "the days that people once lived." The connection is to try to present the relationship between "small-scale life and major social structure and social development process". (Bryan, 1999) The concept of reconstruction and connection is an interactive process of interdependence and interaction in historical sociology. If there is only reconstruction, then only a series of ambiguous and uncertain highlights can be produced. Only social

Only when the daily life patterns of groups or individuals are connected with important social changes and social events can they become clear and meaningful. In other words, it is necessary to use a dialectical approach to reflect the never-ending interactive relationship between facts and meanings, composing, deconstructing, and reconstructing social experience. (Clifford, 1997) The specific operation method to achieve this research purpose and desire is to use the so-called "biographical research."

In this regard, sociology can help us understand, describe and explain various social structures, social changes and major events related to people's musical behavior. History allows us to establish these structures, changes and events as a series of connections and reappear textually. Biography research makes it possible for us to achieve this goal.

"Biography" has a long history both in the West and in China. In the pre-Qin period of China, biography was already an important historical style. In the West, the term biography has been used in the UK in 1988. Whether in China or the West, the term biography is always inextricably linked to the meaning of "personal life experience".

The initiation and popularity of biography as a research method are related to the western efforts to develop "oral history" in recent years. Raphael Samuel, Paul Thompson, Trevor Lummis, etc. and those scholars who discovered the value of the research orientation of personal life history, such as William I " Vhomas, Florian Znaniecki, etc. (Battaglia, 1995) Its rise is in line with the contemporary development trend of cultural studies. In contemporary cultural studies, the "presentation crisis of the text is a theoretical transformation process, which arises

from a specific The era of transformation is closely related to the period in which the paradigm or the overall theory is in a dominant position, and the period in which the paradigm loses its rationality and authority. The premise of its emergence is that people increasingly find that big theories cannot explain the details of social reality. We used to seek the law of music development and the law of cultural change under the guidance of a kind of grand theory, but the result was not satisfactory, even facing those complicated and authoritative theoretical definitions, we seemed to be at a loss. Therefore, instead of explaining music culture under a big theoretical framework and maintaining its rationality, it is better to lower our proud heads and face the masses of people like us, and at a micro level, the process of changes in music culture Review and describe by itself, so as to explore and experiment with new methods and approaches. The biographical research method is also introduced and experimented on the basis of this understanding. (Clifford, 1997)

For studies that focus on the role of individual history in the process of social development, individuals and cultural groups, and individual and social changes, the biographical approach has obvious advantages because its structure is historical and its background is sociological. The purpose of anthropology is cultural anthropology. It takes people's musical behavior as the focal point of the connection, and examines the various self-performances of "people" on the net of meaning constituted by culture.

Compared with other types of research methods, the biographical research method has the following characteristics:

2.1) This method can be used to trace the connection between the main process of social change and the real life experience of a specific social group. Although the commonly used official information, household registration, public opinion surveys, and questionnaire surveys and other sociological methods can bring us many benefits, they cannot bring us close to real and moving experiences, nor can they reveal the most essential aspects of the social world. The driving force, however, biographical research can do this.

2.2) The method of biography and the materials it uses can allow us to surpass most of the official or general data and the cross-sectional characteristics of many research evidences. With the help of historical methods, we can understand the research objects and the complexity of

their lives in them. Doing a diachronic discussion of the social relations of the people brings us closer to the facts we want to understand.

2.3) Usually, many of the materials we use only have the characteristics of individualism, but biographical materials help us overcome such problems. This is because biographical materials reveal many interrelated collective processes, such as the musician's living environment, education, family establishment, marriage, career acquisition, or success in society. The comprehensive and three-dimensional collection and thinking of the life history and life history of folk musicians can lead us to question the individualistic methodology that we have used in previous research.

2.4) The biographical research approach can force us to treat the research object in a dialectical process of knowledge. Because, in the detailed narration of the individual as the research object, we can not only hear the declarant's recollection of the facts of his life, but also the meaning they give to these events or stories. We can understand the various ideological activities and values that guide their actions, as well as the social factors and personal psychological factors that affect their behavior, from both the surface and the implicit background. Because a person's behavior cannot be separated from the various social relationships in which it lives, individual behavior actually represents a group or a class of collective values, that is, "kind". Therefore, the case is not only special, it is more universal.

2.5) Biography research can also enable us to understand the various ways and means by which culture shapes individual behaviors, allowing us to explore how an individual's behavior is related to various rules that we call structure. For example, what things have been passed on to young people from family and society, and how they passed on. At the same time, biographical research must trace the major social changes that affect his life, such as major historical events, important life transitions, etc. (Sugarman, 2004)

It can be seen from this that biographical research is actually a research under the control of a holistic concept. This holistic concept is not an attempt to arrive at a macro overall theoretical concept, but refers to a holistic view of knowledge that describes, narrates and explains the specific life experiences of specific characters. The foundation of this view of knowledge is: the individual constitutes the society, and the society shapes the individual.

As an anthropology of music for the study of music culture, the subject itself has calls and requirements for biographical research. Use biographical techniques to thoroughly investigate and study a musician's personal music experience and music style, and compare it with The monographic research works of other people belonging to the same tradition, genre, and music group are compared with each other, which leads to a monograph on the collective level of a certain regional style and era style. (Blau, 1988)

In other words, the biographical research method is necessary and useful for the study of music anthropology. It can open a new window for the study of folk musicians or music groups in the field of music anthropology. Bruno Nettle said: When ethnomusicologists have experienced many face-to-face contact with individual interviewees or teachers and focused their research on a particular person, what is surprising is this There is very little information about the personal situation in music provided by research in the field. (Bennett, 2001)

Although Nettle tried it more than 30 years ago, there have been intermittent biographical research results since then. But the situation has not fundamentally changed. This kind of situation seems to be more prominent in China, and biographical or biographical research appears largely in the field of musicology rather than in the study of music anthropology. This shows that there is a blind spot in the theory and practice of music anthropologists' understanding of the subject itself.

In my opinion, the problem does not lie in the biographical or biographical research methods. In the past, scholars had prejudices against folk musicians. This is actually a manifestation of "centrism". We always consciously and unconsciously treat folk music and its musicians with a superior posture. We only need the music in their mouths. As for the cultural pair behind this kind of music, we have not studied and explored. Some folk musicians are illiterate and illiterate. Read music, do not understand music theory, do not understand harmony, and do not understand scientific singing. The question of whether the music anthropology field should focus on the study of music itself or take music as a culture is a question of perspective and horizon, but how to treat the world outlook of folk music culture (including ethnic music culture).

Therefore, eradicating prejudice, broadening the field, and extensively conducting experimental research on musicians with outstanding achievements living in the folk with biographical research methods is a subject with great potential in music anthropology.

3. Theory of making musical instruments and songwriting theory

Chinese etymology declares the erhu an instrument introduced by the 'Hu', the 'Barbarians of the North and West'. The name erhu is derived from the older but not archaic term huqin, which may be literally translated as 'barbarian [hu] string instrument [qin]'. Since er means two,the word 'erhu' may be glossed by a contemporary Chiniese as a two- stringed instrument adopted from the northwestern barbarians of antiquity. Perhaps because such a suggestive organological attribution to a bordering people exists in the names of these types of Chinese fiddle, their invention or discovery has not been ascribed to some historical or mythological figure, as is the case with certain other Chinese instruments. (Chow, 1993)

Regarding the research on the origin of the Huqin system, scholars at home and abroad have different opinions. They insist that the earliest bowed stringed instrument in the world originated from Sri Lanka and flourished in Persia and Arabia. It was later passed on to China through the migration of the Turkic and Hun people. Some scholars believe that Huqin originated from Labab in the Arab region, and its shape is similar to that of Huqin. Compared with the outside world, most scholars believe that the erhu originated in China, but whether the predecessor of the Huqin is a stringed instrument or a stringed instrument is quite divided. In the article "The Origin of Bowed Stringed Instruments in China", Zhu Daihong believes that "the original bowed stringed instruments were not played with bows, but with bamboo pieces rubbing the strings. The transition from bamboo scribbles to ponytail bows was an experience. A long historical period... The earliest bowed and stringed instruments were changed from plucked instruments." The scholar who held the Huqin and was a percussion instrument was Xiang Yang of the Music Research Institute of China Academy of Art. He believed that "Bow stringed instruments and stringed instruments are the largest The difference lies in the `bow'. Without a bow, there is no bowed stringed instrument... Among the stringed instruments in the pre-Qin period in China, the one that is most qualified to be transformed into a bowed stringed instrument is the `Zhu'. This point cannot be replaced by other instruments." I am more inclined to the view

of the musicologist Xiang Yang, because although'Zhu' is a bamboo percussion instrument, this way of playing is very similar to that of Huqin, and the string bow used by'Zu' is gradually turned When wiping the string bow, the Tang Dynasty began to appear "Ya Zheng", which is the closest to Huqin. "The stick of Ya Zheng is the source of Jiqin. It is the people of the Xi tribe who are inspired by the rubbing of the stick." This is the first change in the history of Chinese bowed instruments. (Johnson, 2007)

During the Ming and Qing Dynasties, "Huqin" was increasingly valued in opera accompaniment, instrumental ensemble, and court banquet due to its unique timbre and musical expression. According to relevant historical records, the shape of modern erhu has basically taken shape during the Ming Dynasty. From the Ming Dynasty painting "Lintang Autumn Banquet", it can be seen that the Huqin at that time is very similar to the modern erhu. In the Qing Dynasty, the shape of the Huqin was further optimized. According to the Qing Dynasty drama "Jinyue Textual Research": "It was made of rosewood, and the dragon head was decorated, with two strings, suffixed with snake skin and a mane string on the outside (brown) Mawei)" proves that the development of erhu in the Qing Dynasty not only became more perfect, but also more sophisticated in workmanship and more sophisticated in materials. If the Huqin transitioned from stick rubbing strings to bow rubbing strings from the Yuan Dynasty, then the Ming Dynasty further completed this transition. By the Qing Dynasty, the Huqin had become a bowed stringed instrument mainly played by a horsetail bow. Since the middle of the Qing Dynasty, the Huqin has been widely popular in all levels of society and has become a national musical instrument that is both elegant and popular. But Huqin is mostly used in instrumental ensemble or band lead, or always as an accompaniment instrument. This situation was not changed until Wuxi erhu artists Zhou Shaomei and Liu Tianhua successively improved the erhu shape. This included the erhu strings being changed from silk strings to steel strings, and the length of the erhu piano shaft was also expanded compared to the previous one. Modern erhu From this, the form gradually matures. (Baker, 2006)

Erhu is a dominant form of two-stringed spike fiddle currently found throughout China and in Chinese communities overseas. It is used by professional accompanists in regional dramatic music, by amateurs as part of various recreational instrumental ensemble styles, by street beggars and, over the last seventy years, by conservatory-trained musicians in a growing

repertoire of concert solos, ensembles and orchestral music. Although previous research, principally by Dr Laurence Picken, has addressed early forms of Chinese friction-chordophone (Laurence Picken, 1965; Wolpert, 1974), little has been written about the subsequent proliferation and development by Chinese musicians of these instrumental types. Furthermore, the opening of mainland China to Western researchers and the expanding scope of Chinese musicology during the last ten years have resulted in the appearance of material which sheds new light upon the early history of Chinese two-stringed fiddles. It is thus now possible to reassess the origins of Chinese bowed instruments, and to consider the rise of the erhu, the most commonly encountered form of two-stringed fiddle in contemporary China. Before doing so, however, those unfamiliar with this instrument may find helpful a brief description of its appearance, construction and manner of performance. (Johnson, 2007)

As a Chinese national musical instrument, the improvement of the national musical instrument should make an in-depth discussion on the method of musical instrumentology from the perspectives of semiotics, acoustics, material science, and technology. The improvement workers of national musical instruments should adopt an inclusive attitude and take sound as the core and craftsmanship as the key principle to carry out the improvement of musical instruments. At the same time, based on natural science research methods, combined with archaeology, anthropology and other humanities research methods, a comprehensive and thorough study of musical instruments and their culture, it also fully reflects the diverse characteristics of the development of national orchestras and the improvement of musical instruments.

In the current good environment where the whole society attaches importance to the development of national music, combined with the progress of the "Bass Stringed Instrument Improvement" project of the Ministry of Culture's science and technology promotion project, the development model of the national orchestra and the improvement of bass stringed instruments have once again caused the problem of domestic and foreign music improvement. Since the 1930s, it has attracted continuous attention from musicians, and it has been problematic for more than 80 years. From December 21st to 22nd, 2013, the "2013 National Instrumental Symposium" hosted by the China Conservatory of Music was held in Beijing. More than 50 domestic experts and instrument improvement professionals had heated discussions on related topics, which was a great Disciplinary construction provides new ideas.

The history and status quo of Chinese national orchestras The Chinese nation's records of orchestras have a long history, but the emergence of modern Chinese national orchestras started from imitating Western orchestras. Combing history helps us to reflect on the problems in the development of the Chinese national orchestra from a new height and grasp the direction of musical instrument improvement. After discussing the history and current situation of the Chinese orchestra, it is not difficult to find that the most important problem in the reform of the national orchestra is the balance of the sound structure, especially the bass-pull part is the top priority of the reform. For typical Chinese national orchestras, it is necessary to take into account both national characteristics and to pursue the overall harmony of modern aesthetics. For ethnic minority bands, it is necessary to maintain national characteristics as much as possible instead of blindly pursuing aesthetics similar to Western orchestras. standard. Therefore, regarding the reform of the national orchestra, we should not only provide a single standard. We should first classify the styles of the Chinese national orchestra and performances, and then propose different reform plans based on their characteristics. This will be the Chinese national orchestra. The only way to reform.

Determining the direction of reform is the most fundamental issue that determines the success or failure of reform. There is no contradiction between whether the reform should be based on the appearance or the sound. From the perspective of musical instrument acoustics, the material and shape of the resonance body of a musical instrument directly affect the acoustic effect. Therefore, from the perspective of acoustics, the method of technology will inevitably form a resonance cavity that can produce national characteristic acoustic effects, and at the same time it is determined The reform plan of the appearance. From the perspective of the development history of musical instruments, many musical instruments, especially Western violin and Lute instruments, usually develop in a serialized form during the development process. The Viols we are familiar with are also divided into high, medium, and low. Models exist, and their structural features are not the same. Therefore, the development of serialized instruments is conducive to the unification of timbre between parts. In addition, the appearance design should pay attention to factors such as playing skills and ergonomics in addition to nationality. The specific direction of the reform must be further analyzed after scientific research on the function of bass instruments in the band. (Richards-Greaves, 2015)

4. Related research

4.1) George Gao's personal history.

George Gao entered the High School Attached to the Shanghai Conservatory of Music in 1979. After graduating in 1989, he worked in the country for a while and then went to Canada for development. He has very good performance skills and minored in composition during the university semester. Over the past 20 years, he has played many difficult Western violin music with erhu, as well as jazz, rock, Indian and Middle Eastern music. And he used the erhu to play traditional folk songs from all over China, with the same timbre and style. Whether in China or a foreign country, the traditional and modern span style demonstrates the performance talents of outstanding performers and the inclusive humanity. At the same time, through years of research, an improved erhu that is convenient and easy to play has been created, named: shaoqin. George Gao is passionate about erhu music creation. In recent years, he has composed five erhu caprices. These music sources are derived from traditional music elements of various ethnic groups in China, and created a new erhu vocabulary with the composing style of caprice. George Gao also made bold explorations in performance techniques and became a representative figure of the current period (Spivak, 1990)

Gemini-award nominated Canadian musician George Gao started learning erhu at the age of six and went on to study at the Shanghai Conservatory of Music and the Royal Conservatory of Music in Toronto. Today, he is a world-renowned erhu performer and a renaissance man who has written and arranged music for films, television and Broadway musicals. At the same time, he is also a producer to many global musicians and artists. George Gao is also known for his superior musicianship and for being one of the most innovative and representative fiddlers of his generation. (From George Gao's personal website http://www.georgegao.com/about/)

George Gao has written for Canadian films and television advertisements. Collaborating with 20-time Grammy award winning artist and composer Brian Keane, he worked on the soundtrack to the three-part documentary, Becoming American - The Chinese Experience, penning music for American network giant PBS. George Gao has also composed the following erhu masterpieces: Erhu Capriccio, Erhu Capriccio No. 2 - Mongolian Fantasy and Erhu Capriccio No. 3 - Dazzling Movement, Erhu Capriccio No. 4 - Gobi Fantasy, Erhu Capriccio No.

5 - Nakhi. The five works have been universally acknowledged as contemporary erhu classics, and are frequently used as set pieces for important national and international erhu competitions.

His virtuosic rearrangements of Carmen Fantasy and Gypsy Air for erhu have also achieved great popularity. Always experimenting, George Gao frequently invoke genres of jazz, rock, new age, middle eastern music, Indian music, Latin music and folk music in his own compositions. In doing so, he has brought his infectious energy and the erhu to many stages around the world. Today, he is hailed as an influential contributor towards the modernization of Chinese music, and the inspiration for new styles of music-making in China. (Alan P. Merriam, 1969)

George Gao improved the erhu instrument and named it "Shaoqin", increasing the volume and improving the tone of the high range. In 2012, GeogreGao used Shaoqin to perform Violin Concerto in D Major, Op.35 composed by Tchaikovsky for the first time, which shocked the music world again. Rave reviews. At the same time, he invented the Shaoqin electric plug-in unit to integrate the erhu with modern electronic music technology, greatly broadening the vision of erhu music and opening up the infinite possibilities of erhu art development. (From George Gao's personal website http://www.georgegao.com/about/)

In the second half of the 20th century, "About Erhu Art", there were many representatives in the period of the rapid development of the art of Erhu in the period of social change and economic development, and George Gao was the most representative. The article gives a basic introduction to his life, including his learning background, award record, performance experience and orchestra experience, and praises him as the messenger of the Chinese Erhu, using the Erhu to spread the spirit of Chinese folk music. (Post, 2007)

4.2) Musical instrument innovation.

Erhu is a dominant form of two-stringed spike fiddle currently found throughout China and in Chinese communities overseas. It is used by professional accompanists in regional dramatic music, by amateurs as part of various recreational instrumental ensemble styles, by street beggars and, over the last seventy years, by conservatory-trained musicians in a growing repertoire of concert solos, ensembles and orchestral music. Although previous research, principally by Dr Laurence Picken, has addressed early forms of Chinese friction-chordophone (Laurence Picken, 1965; Wolpert, 1974), little has been written about the subsequent proliferation

and development by Chinese musicians of these instrumental types. Furthermore, the opening of mainland China to Western researchers and the expanding scope of Chinese musicology during the last ten years have resulted in the appearance of material which sheds new light upon the early history of Chinese two-stringed fiddles. It is thus now possible to reassess the origins of Chinese bowed instruments, and to consider the rise of the erhu, the most commonly encountered form of two-stringed fiddle in contemporary China. Before doing so, however, those unfamiliar with this instrument may find helpful a brief description of its appearance, construction and manner of performance. (Johnson, 2007)

Chinese etymology declares the erhu an instrument introduced by the 'Hu', the 'Barbarians of the North and West'. The name erhu is derived from the older but not archaic term huqin, which may be literally translated as 'barbarian [hu] string instrument [qin]'. Since er means two,the word 'erhu' may be glossed by a contemporary Chiniese as a two- stringed instrument adopted from the northwestern barbarians of antiquity. Perhaps because such a suggestive organological attribution to a bordering people exists in the names of these types of Chinese fiddle, their invention or discovery has not been ascribed to some historical or mythological figure, as is the case with certain other Chinese instruments. (Johnson, 2007)

Erhu is a traditional Chinese musical instrument, which belongs to the Huqin family. Common Huqins include Erhu, Zhonghu, Gaohu, Banhu, Jinghu, Zhuihu, Yehu and so on. All belong to the bow hair grazing the strings to make sound. On the investigation of the history and structure of Hu Qin in the literature

4.2.1) construction of erhu

Regarding the research on the origin of the Huqin system, scholars at home and abroad have different opinions. They insist that the earliest bowed stringed instrument in the world originated from Sri Lanka and flourished in Persia and Arabia. It was later passed on to China through the migration of the Turkic and Hun people. Some scholars believe that Huqin originated from Labab in the Arab region, and its shape is similar to that of Huqin. Compared with the outside world, most scholars believe that the erhu originated in China, but whether the predecessor of the Huqin is a stringed instrument or a stringed instrument is quite divided. In the article "The Origin of Bowed Stringed Instruments in China", Zhu Daihong believes that "the original bowed stringed instruments were not played with bows, but with bamboo pieces rubbing

the strings. The transition from bamboo scribbles to ponytail bows was an experience. A long historical period... The earliest bowed and stringed instruments were changed from plucked instruments." The scholar who held the Huqin and was a percussion instrument was Xiang Yang of the Music Research Institute of China Academy of Art. He believed that "Bow stringed instruments and stringed instruments are the largest The difference lies in the `bow'. Without a bow, there is no bowed stringed instrument... Among the stringed instruments in the pre-Qin period in China, the one that is most qualified to be transformed into a bowed stringed instrument is the `Zhu'. This point cannot be replaced by other instruments." I am more inclined to the view of the musicologist Xiang Yang, because although'Zhu' is a bamboo percussion instrument, this way of playing is very similar to that of Huqin, and the string bow used by'Zu' is gradually turned When wiping the string bow, the Tang Dynasty began to appear "Ya Zheng", which is the closest to Huqin. "The stick of Ya Zheng is the source of Jiqin. It is the people of the Xi tribe who are inspired by the rubbing of the stick." This is the first change in the history of Chinese bowed instruments. (Battaglia, 1995)

During the Ming and Qing Dynasties, "Huqin" was increasingly valued in opera accompaniment, instrumental ensemble, and court banquet due to its unique timbre and musical expression. According to relevant historical records, the shape of modern erhu has basically taken shape during the Ming Dynasty. From the Ming Dynasty painting "Lintang Autumn Banquet", it can be seen that the Huqin at that time is very similar to the modern erhu. In the Qing Dynasty, the shape of the Huqin was further optimized. According to the Qing Dynasty drama "Jinyue Textual Research": "It was made of rosewood, and the dragon head was decorated, with two strings, suffixed with snake skin and a mane string on the outside (brown) Mawei)" proves that the development of erhu in the Qing Dynasty not only became more perfect, but also more sophisticated in workmanship and more sophisticated in materials. If the Huqin transitioned from stick rubbing strings to bow rubbing strings from the Yuan Dynasty, then the Ming Dynasty further completed this transition. By the Qing Dynasty, the Huqin had become a bowed stringed instrument mainly played by a horsetail bow. Since the middle of the Qing Dynasty, the Huqin has been widely popular in all levels of society and has become a national musical instrument that is both elegant and popular. But Huqin is mostly used in instrumental ensemble or band lead, or always as an accompaniment instrument. This situation was not changed until Wuxi erhu artists

Zhou Shaomei and Liu Tianhua successively improved the erhu shape. This included the erhu strings being changed from silk strings to steel strings, and the length of the erhu piano shaft was also expanded compared to the previous one. Modern erhu from this, the form gradually matures. (Zhang Ming, 2018)

4.2.2) Improvement of Chinese National Musical Instruments

As a Chinese national musical instrument, the improvement of the national musical instrument should make an in-depth discussion on the method of musical instrumentology from the perspectives of semiotics, acoustics, material science, and technology. The improvement workers of national musical instruments should adopt an inclusive attitude and take sound as the core and craftsmanship as the key principle to carry out the improvement of musical instruments. At the same time, based on natural science research methods, combined with archaeology, anthropology and other humanities research methods, a comprehensive and thorough study of musical instruments and their culture, it also fully reflects the diverse characteristics of the development of national orchestras and the improvement of musical instruments.(Alan P. Merriam, 1973)

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the Chinese orchestra, it is not difficult to find that the most important problem in the reform of the national orchestra is the balance of the sound structure, especially the bass-pull part is the top priority of the reform. For typical Chinese national orchestras, it is necessary to take into account both national characteristics and to pursue the overall harmony of modern aesthetics. For ethnic minority bands, it is necessary to maintain national characteristics as much as possible instead of blindly pursuing aesthetics similar to Western orchestras. standard. Therefore, regarding the reform of the national orchestra, we should not only provide a single standard. We should first classify the styles of the Chinese national orchestra and performances, and then propose different reform plans based on their characteristics. This will be the Chinese national orchestra. The only way to reform.

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4.3) analysis of concepts in music composition.

At present, the relevant research materials for George Gao are mostly focused on the analysis of the musical works of his "Caprice" and the emphasis on the characteristics of his music. Therefore, there is no research on Gao Shaoqing's personal background and the reasons for the mixed music as an extension. During his college period, George Gao, in addition to

participating in national competitions, also transplanted the Western classical violin music "Carmen Fantasia", which affected the direction of the creation of Erhu works in the future, making Erhu works no longer stubborn. Chinese opera or local folk songs are used as materials. The tonality of the music starts from the stereotyped and stable to try the ambiguity composition method. In addition to the change of the style of the music, the difficulty of playing is also greatly improved. Therefore, the author's collection of materials related to transplanted music helps to understand the research direction of transplanted music and its impact on Chinese music.

George Gao is a musician influenced by multiple music cultures. His music ideas are deeply integrated into the soil of Chinese music culture and influenced by world music culture. He has in-depth research on various foreign national music cultures and is good at applying Rock music, jazz, Middle Eastern music, Indian music, country music and other world music elements are introduced into the creation of erhu music. The music created is based on Eastern music melody plus Western music's harmony texture and rhythmic movements as themed materials. The "Erhu Caprice No. 1" uses the melody developed from the traditional Chinese pentatonic elements as the theme music to express the feelings of the wanderer's hometown. In the'Erhu Caprice No. The theme music, coupled with the dynamic Irish rhythm characteristics, make the whole piece more vivid and novel to show the beautiful and vast Mongolian steppe. In "Erhu Caprice No. 3", the rhythm and rhythm of modern rock music, jazz and other musical elements make the music dynamic and exciting. Gao Shaoqing's three capriccios combine Chinese and Western styles, blending together, incorporating cosmopolitan, pluralistic, and national musical elements, forming a unique musical style.

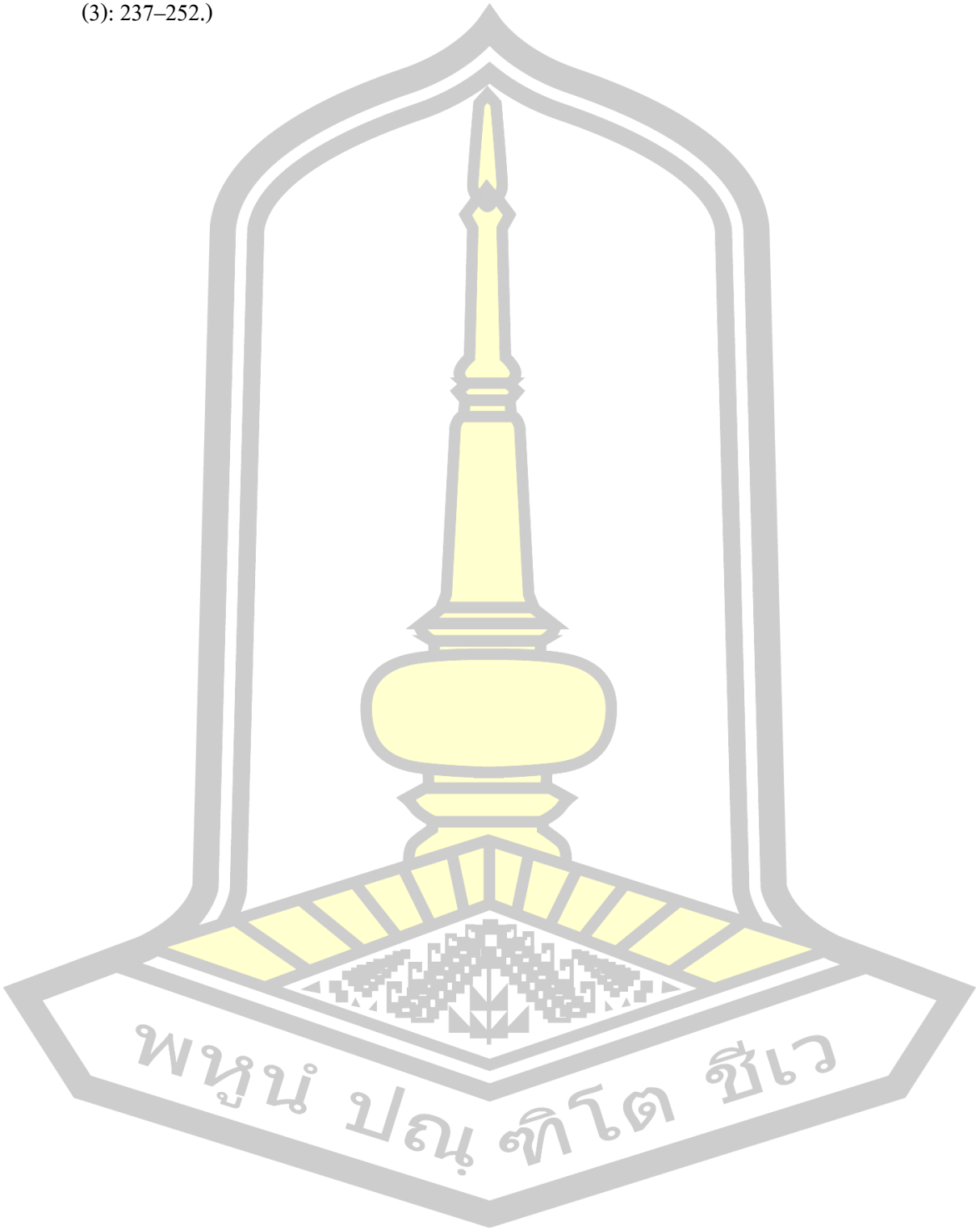
Drawing lessons from Western music performance techniques, it enriches the way of musical expression, such as: violin handle change and string rubbing techniques, expressing a strong feeling of homesickness, using irregular accent playing techniques to express the rough and powerful musical image, The use of a large number of overtones and double-string playing techniques enhances the expressiveness of the music. It draws on the matouqin playing techniques in Mongolian music to express the vast and enthusiastic music scene of the Mongolian grasslands, splitting rhythm and variation and dislocation accents. Mainly, it strengthens the rhythm of the music.

The appearance of frequent changing intervals and the grasp of intonation, the rapid increase of the difficulty coefficient of the rapid change of strings, increase the expressive power of erhu performance skills, and expand the musical style of erhu performance. In his Caprice series, his creative philosophy And performance techniques have been fully developed. (Zhang Ming, 2018)

In the process of research, expression and promotion of Erhu music, George Gao played multiple roles in performance, composition, instrument production and music communication. These roles do not exist in isolation, but are interdependent and closely linked. More importantly, the multiple interpretations of these roles also bring us some academic thinking and enlightenment. First, George Gao's multiple identities and cross-cultural identities form a logical link. If George Gao's early learning of traditional Chinese music and art is based on his identity of "self", then his absorption of Western classical music, world music, pop music and other multiculturalism while living abroad is the "other". "The cross-cultural practice identity. As a result, a unique "GeorgeGao" style was finally formed, showing the multiple identities and cross-cultural identities of the "other" reflected in the "me". "Cross-cultural identity transcends the traditional view of cultural identity and opens up a broad space for us to expand our horizons, enhance communication and understanding, and improve cross-cultural relations. Compared with the traditional view of identity, it has richer connotations and its identity positioning reflects Among many ideological forms such as bilingualism and biculturalism, multiculturalism, cosmopolitanism, globalism, translocalism, and transculturalism, their observations are often interpreted differently from different angles.

Identity includes multiple levels. From the perspective of the subjectivity of identity, it includes two levels of individual identity and collective identity. Individual identity is also referred to as individual "self-cognition" and "self-definition", which refers to the identity of the individual as a social unit with the connotation and characteristics of self-identity and the identity of others (including individuals or groups). The former emphasizes self Physical and mental experience, with self as the core, is often expressed as individual freedom or individualism. The latter emphasizes the experience and knowledge of the other, and is more embodied as collectivism (John Turner, Self-categorization theory 2011(2): 17- 47.) (Turner, John; Oakes, Penny. The significance of the social identity concept for social psychology with reference to

individualism, interactionism and social influence. British Journal of Social Psychology. 1986, 25 (3): 237–252.)



CHAPTER III

RESEARCH METHODOLOGY

1. Research Scope

This dissertation focuses on the research goals, mainly studying the formation of George Gao's music view, and the influence of this music view on his music practice, including George Gao's musical instrument innovation and his music composition. In terms of musical instrument innovation, it mainly refers to the invention of Shaoqin on the basis of Erhu. In terms of music composition, this article only analyzes and studies the five Erhu Capriccios composed by George Gao. These five Erhu Capriccios are representative works of George Gao, and are also commissioned and prescribed repertoires for domestic and international music competitions in China. It has important research value and significance in the field of contemporary erhu performance.

1.1) Scope of content

1.1.1) George Gao's historical background and music view.

1.1.2) The construction of Erhu and George Gao how to improved.

1.1.3) George Gao's Erhu music composition and Playing techniques.

1.2) Scope of research site

1.2.1) George Gao lives in Canada, take online video, telephone and mail interviews with him and collect data and organize data.

1.2.2) Field work in Beijing, Shanghai and Suzhou, China. Conduct interviews and questionnaire surveys for Key informant, Casual informant, and General informant.

1.2.3) In the Acoustics Laboratory of the Music Technology Department of Beijing China Conservatory of Music, conduct acoustic testing and data analysis on the innovative musical instrument-shaoqin of Erhu and George Gao, to provide data explanation for future research.

1.3) Scope of time

The entire research process took about 7 months, including on-site investigation, data sorting and paper writing.

1.3.1) The first stage

Before conducting the field survey, we will obtain relevant data from the library and academic database in July 2019.

Mr. George Gao will be interviewed on the Internet from January 5, 2020 to January 15, 2020.

Through my questioning and communication, face-to-face communication, learning and other methods, the content of the conversation is organized into text messages. conduct on-site experimental research.

1.3.2) The second stage

In March 2020, samples of musical instruments from Erhu and Shaoqin were selected to measure and analyze the shape characteristics.

Laboratory evaluation will be conducted in May 2020, and the signal test of erhu and shaoqin will be conducted through relevant acoustic monitoring equipment.

In July 2020, we will complete data analysis and collate the results and draw conclusions.

1.4) Research methods

The research goal of this article is based on George Gao's case study, which is a qualitative study. In order to explore a certain topic in depth, the researcher conducts long-term observation, in-depth interviews or analysis of private documents in a natural context, in order to collect various data of the subjects extensively. After sorting, summarizing, and analyzing, the subject is described in words. Inner world, values, behavior, this kind of research method.

According to the use of strategies, qualitative research can be divided into three categories: one is document content analysis, the other is case studies, and the third is folklore research. This research is carried out by a case study method, and the main data sources are obtained by the interview investigation method. In addition, the writing of this article is completed with literature analysis, music analysis, and performance interpretation. The detailed introduction is as follows: Regarding the research methods of this article, first collate and review relevant literature, and then conduct field investigations, and strive to obtain first-hand data analysis by means of interviews and participation in observation methods, experimental methods, and detailed explanations are given below.

1.4.1) Text research:

The text method refers to the genre format for presenting the research content. This article intends to expound the research from the perspectives of cultural research, epistemology, methodology, and research object, and incorporate the research object into the field of cultural research, and proceed from George Gao's own knowledge. the study. It will describe and explain the life and activities of George Gao in various periods, study and understand his personal role and contribution in cultural phenomena, and reveal the relationship between individuals, groups, society, history and culture.

1.4.2) Case study method:

The object of the case study method can be an individual or a group. After collecting complete information, the individual's antecedents and consequences are analyzed in depth. There are two cases in this study: First, the subject of study is George Gao himself, at the same time the teacher of George Gao, the professional erhu performers and his students who are related to him, and so on. Second, the subject of study is George Gao's innovative instrument-shaoqin and his composing Erhu music. The collection methods of case data are quite diverse, using various literature materials and music scores collected from the case, as well as face-to-face interviews, video telephone or voice telephone interviews, etc. to collect and organize, and then analyze and research.

1.4.3) Interview survey method

Interview survey is a research method that collects the opinions and attitudes of interviewees through interviews and dialogues. Among the qualitative research methods, the interview method is most often used. Recording, video recording, and photography equipment are often used, and sometimes also by telephone, Computer information, internet and e-mail. The interview type used in this study is semi-structured interview. Through face-to-face interviews with GeorgeGao and in-depth interviews through Internet video calls, we can obtain direct first-hand information, and obtain more complete and correct information about GeorgeGao's background, music creation philosophy, music creation techniques, melody composition motivation, and use of music materials. The interview text, and then the text analysis can make up for the deficiencies of the existing literature. In addition, through interviews, we can get the truest

creative intentions of George Gao, and can present the truest meanings, so that this article can be closer to George Gao's original intentions when composing the chapters of musical interpretation.

1.4.4) Literature analysis

1.4.4.1) Collection of improved text data about Erhu

1.4.4.2) Music score

1.4.4.3) Audiovisual materials

Through the collection of published and unpublished audio-visual materials (including online resources), we observe and analyze the performance techniques and meaning interpretations of GeorgeGao's Erhu music by different performers, and conclude from it that it cannot only conform to the original intent of the composer, but also show the different performers. I hope to have more breadth and depth in the second creation of performance.

1.4.5) Experimental measurement method

This method uses acoustic recording and data sampling to perform acoustic measurement and data analysis on Erhu and George Gao's Shaoqin. In the acoustic recording studio, the computer measurement software-Adobe Audition CC 2019, "dummy head recording" microphone and two models "B&K4006" are used. Microphone, monitor speaker equipment and "Sound level meter" measure the sound data of Erhu and Shaoqin at various frequencies and bands, and analyze these data to draw conclusions.

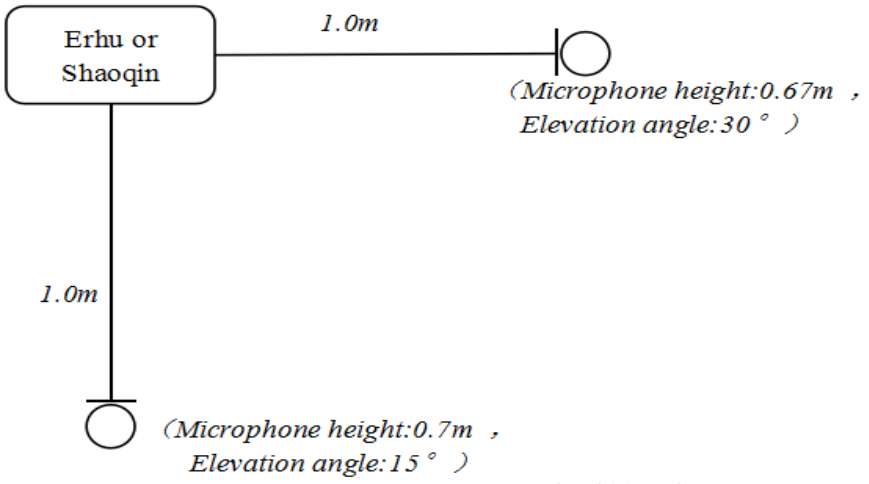


Figure 1. Schematic diagram of sound sampling

Source: Lei Ye

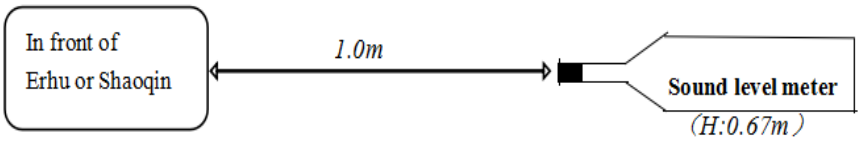


Figure 2. Sound level measured in decibels schematic

Source: Lei Ye

1.4.6) Music analysis

Explore the five Erhu Capriccios composed by GeorgeGao, investigate the background of creation, analyze the structure of the music, the pattern of rhythm, the theme melody, the core sound and the use of performance techniques, etc., and summarize the innovation of the music and the similarities and differences of each music.

1.4.7) Performance interpretation

The interpretation of the music is the second creation of the work. Different performers have the characteristics of the performer when expressing the music. This is the emotional expression and musical view of the performer, but when playing the music, the music is processed The direction should be in line with the original intention of the co-composer, and in principle cannot go against the composer's creative wishes. This article will summarize and analyze the music, combined with George Gao's interpretation of the music in the field work, to summarize an appropriate and personal interpretation of the performance of the music.

2. Research Process

2.1) Selection of research informants

Including key informant Key informant, Casual informant, General informant. Including George Gao himself and his teachers, university and college professors and lecturers or erhu performers related to George Gao, as well as students who have studied with him, etc.

- Informants

Figure 3. George Gao

Photo Source: George Gao

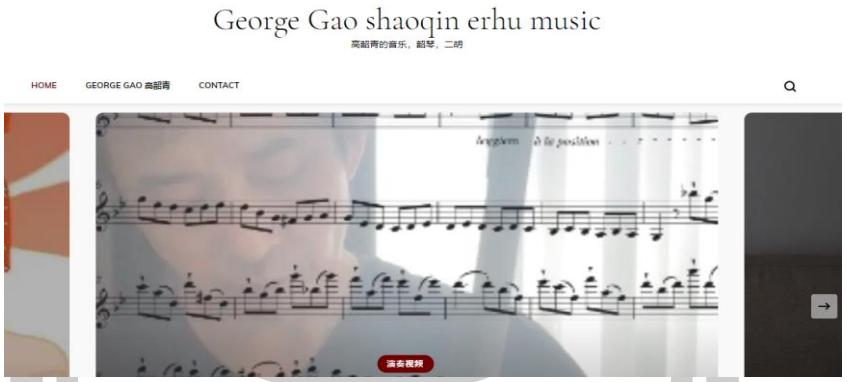


Figure 4. George Gao, Personal music website

Photo Source: www.georgegao.com/about/(Accessed January 15, 2020).

George Gao is a Canadian Chinese with Chinese name Gao Shaoqing. He is recognized as one of the best and most innovative erhu masters in the world today, and a representative of modern erhu music. The "Video of the Inauguration Ceremony of the Governor of Canada" with hundreds of millions of hits on the Internet is him. He was the first prize of the Beijing Erhu Invitational Tournament, the best designated repertoire and the third prize winner of the best self-selected repertoire. Once unprecedentedly transplanted "Carmen Fantasia", Tchaikovsky "D Major Violin Concerto" and a lot of jazz music, which greatly enriched the musical language of erhu. Was nominated as "Best Theme Music Award" by International Emmy Awards. George Gao is an erhu player who has been active all over the world all year round. He has maintained

good cooperation with many famous symphony orchestras, including the San Francisco Symphony Orchestra in the United States, the Graz Symphony Orchestra in Austria, the Russian Philharmonic Orchestra, the Lille Symphony Orchestra in France, and Canada. Toronto Symphony Orchestra, China Central National Orchestra, China Shanghai Symphony Orchestra, etc.

-Key informant：

Figure 5. Prof. Wang Yongde

Photo: Lei Ye

Professor Wang Yongde, born in December 1945, Shanghai, China, a well-known erhu educator, performer, professor of the Department of Ethnic Music of the Shanghai Conservatory of Music, once served as the head of the Department of Ethnic Music of the Shanghai Conservatory of Music, a master tutor, Chinese music Vice President of the Erhu Society of the Chinese National Association, and Vice President of the Huqin Professional Committee of the Chinese National Orchestra Association. Wang Yongde has made useful explorations and practices in the performance and teaching of erhu art for a long time. Advocating step by step, teaching students in accordance with their aptitude, combining Chinese and Western, and inclusive, advocating the absorption of foreign performance techniques to improve the performance of national musical instruments, advocating the ingestion of national folk music nourishment to improve the expressiveness of national musical instruments, advocating emphasizing basic skills training to break current erhu performance techniques. Therefore, his teaching success rate is extremely high, and all the students have solid foundation, comprehensive skills, great performance, and great artistic appeal. He has trained a group of well-known erhu

performers at home and abroad, such as GreorgeGao, Chen Chunyuan, Duan Aiai, and Wu Xudong.

Figure 6. Prof. Chen Chunyuan

Photo: Lei Ye

Professor Chen Chunyuan is currently a professor, master tutor, and deputy director of the folk music department at the Shanghai Conservatory of Music, China. Vice President of Erhu Society of Chinese Music Association, Vice President of Huqin Professional Committee of Chinese National Orchestra Association. Vice Chairman of the Erhu Professional Committee of the Shanghai Music Association.

The first master of folk music in Shanghai. In 1983, he was admitted to the Primary School Attached to the Shanghai Conservatory of Music. Under the tutelage of the famous erhu educator Professor Wang Yongde, he has successfully held solo concerts in Shanghai, Taiwan, Japan and other places. After touring around Europe, he has won the love of erhu art followers at home and abroad. Since staying at the school in 1998 to teach, her teaching style is well-known for its standard and rigorous teaching style. The students she teaches have won various awards in top domestic competitions many times.

- Casual informant：

Figure 7. Miss.Lu Yiwen

Photo: Lei Ye

MS. Lu Yiwen, a young Erhu performer, she's erhu teacher at the Shanghai Conservatory of Music, a director of the Erhu Society of the Chinese National Orchestral Society, the highest award for Chinese music-the Golden Bell Award, and the double gold winner of the Wenhua Award. In 2009, he was admitted to the Shanghai Conservatory of Music, under the tutelage of Professor Chen Chunyuan. In 2016, he graduated with a master's degree and stayed on to teach at the school. He has cooperated with many orchestras successively, including Chinese Taipei City National Orchestra, Shanghai Symphony Orchestra, Qingdao Symphony Orchestra, Shanghai National Orchestra, Liège Royal Philharmonic Orchestra, etc. as soloists, and has visited Germany, Switzerland, Belgium and other countries for exchange performances.

Figure 8. Mr. Wu Xudong

Photo: Lei Ye

Wu Xudong, a young erhu performer and a teacher at the Shanghai Normal University college of Music.

-General informant：

Figure 9. Erhu player Wang Yang

Photo: Lei Ye

Wang Yang, Erhu performer and model. Graduated from New York University. The EITHER-An electronic band member.

Figure 10. THE EITHER-An electronic band

Photo: Lei Ye

THE EITHER-An electronic band: Electrified Erhu + Electrified Pipa + Electrified Vocal， Futurism + Globalism + Technology

THE EITHER were formed in New York City in 2017 and the members consist of Zongli on vocals, Jiaju on pipa, and Yang on erhu. The band's core principles are futurism, technology, and globalism, as the band believes in an androgynous world where cultures converge. Their musical style is unapologetic and distinct, blending rock, pop, and dance music. They are known as the one and the only artists for using electric traditional Chinese instruments.

They have released 6 singles, 2 mini-albums, and 1 full album, performed over New York's notable venues like The Gramercy Theater, Irving Plaza, Bowery Electric, The Bitter End. For the recent three consecutive years, they've been invited to perform at New York Fashion Week. The band also actively cooperate with new media artists, fashion designers, and academics.

2.2) Research Tools

The content of the interview form and observation form is based on each research objective, and is actually derived from the definition of terms. There are notebooks, pencil rulers, computers, sound cards, monitor speakers, microphones, mobile phones, cameras, video recorders, tape recorders, sound level meters and other sound testing equipment and questionnaires

2.2.1) Interview record

2.2.2) Observation record

2.3) Data Collecting

2.3.1) Through literature research, field surveys and interviews, analyze and compile George Gao's scores. And in characteristic form, music and performance methods.

2.3.2) Laboratory records specific data of Erhu and Shaoqin

2.4) Data Management

2.4.1) Record.

Record laboratory data and record audio files as a whole

2.4.2) Literature.

Erhu musical instruments improved books and literature

2.4.3) Video.

Including each field trip, interview, concert video,

2.4.4) Picture data.

Photos of the experiment site, including characters, venues, scores, performance venues

2.4.5) Electronic data.

Set 20G online electronic materials, including e-books, museum lists, artwork images and online music scores.

2.5) Data analysis

2.5.1) Take photos of different Erhu and Shaoqin ready to sample, measure and analyze shape features

2.5.2) Sheet music: Collect and analyze five pieces of caprice music.

2.5.3) Performance form: through live video and survey, accompaniment, solo, ensemble, concerto and ensemble

2.5.4) Playing skills: analysis of the performance and acting skills of 5caprices

Chapter IV

George Gao's historical background and his music view

This chapter mainly uses interviews and literature to sort out the stages of George Gao's growth background. In accordance with the historical sequence, using the academic perspective and methodology of historical musicology, the relationship and influence between George Gao's historical background and his music creation are deconstructed, and then analyzed. His view of music. Since he attended the Shanghai Conservatory of Music, the concept of "world music" has gradually formed in his mind. Later, when I moved to Canada, the text of music, music style, creative form and performance form became integrated. The content of this chapter will analyze George Gao's music experience and creative mode based on the theories of Diaspora, hybridization, and identity, and use Rice Timothy's music experience three-dimensional space mode theory to explore George Gao's music view.

American musicologist Kay Kaufman shelemay published an article "Historical Ethnomusicology Reconstructing Falasha Liturgical history" in 1980, using Historical Ethnomusicology for the first time, and proposed a research method of reconstructing history with specific research items, that is, emphasizing oral transmission in field materials. The collection of data, the reconstruction of history by the combination of oral data and documentary data confirming each other.

The fieldwork in this article is mainly based on semi-structured interviews. In addition to George Gao himself, his teacher Professor Wang Yongde, Professor Chen Chunyuan, deputy director of the Department of National Music of Shanghai Conservatory of Music, and Erhu performer Ms. Lu Yiwen, a teacher of Shanghai Conservatory of Music, Shanghai Normal University The erhu performer Wu Xudong, a university teacher, and Wang Yang, a graduate student from New York University in the United States, organized the interview data of the informants mentioned above. The content involved the collection of oral data, with the aim of restoring the historical truth.

1. George Gao's music experience

1.1) Enlightenment stage-Gansu period

George Gao was born in Shanghai in 1967. At that time, China was in the second year of the "Chinese Proletarian Cultural Revolution" (the Cultural Revolution for short occurred in 1966 and 1976). George Gao's parents responded to the national call to go to Gansu Province, China. The province is located in Northwest China. His father is a railway traffic signalman, his mother is a little music teacher, his family has three children and two younger sisters. In an interview with George Gao, he mentioned why he chose to learn the erhu. He said: Due to the special historical period and social background at that time, there was no choice in learning an instrument. He chose to learn the erhu because there was only this kind of instrument at home. So when he was six years old, he was enlightened by his mother to learn erhu. After several months of instructing him to play erhu, his parents began to learn independently. There was no other teacher who could teach him how to play erhu. Due to the relative isolation of the area and the lack of music scores, I can only rely on listening to tapes to learn music by myself, and learn from the tapes by imitating sentence by sentence. The music I learn is still mainly music fragments or songs. The music in the Northwest region is very different from the music style in Shanghai. Here, he has accumulated a large amount of music materials from the Northwest region. These rich stylistic materials have accompanied his childhood growth. (Gansu Province, a place where Chinese cultural and ethnic minorities gather, has lived for a long time. This precious experience has also helped him to perform and compose music in the future, accumulating his composing motivation and musical sentiment. Two years later, he will be in the whole province of Gansu Province. The first public performance is held in the performance)

1.2) Educational stage-Shanghai period

The family moved back to Shanghai in 1978. Originally, the goal was to enter the Shanghai Conservatory of Music High School. Because of the time of the test, I missed the exam. So I hurried to Beijing to take the exam at the Central Conservatory of Music. The retest was finally rejected because of "failed political review." So this year, he began to study with Gu Pengshou, the chief of Shanghai Opera House, for a year, and successfully passed the high school attached to the Shanghai Conservatory of Music in the second year.

After entering the High School Affiliated to Shanghai Conservatory of Music in 1979, he studied under Professor Wang Yongde, a famous Chinese erhu performer and educator, and officially became Professor Wang Yongde's first student in the High School Affiliated to Shanghai Conservatory of Music, and started the system for 9 years. Professional erhu training. Since George Gao was mostly self-study when he first started learning Erhu in the past, his basic knowledge was a little lower than that of other students, so the famous teachers in the school were reluctant to accept him as a student. In the interview, he said:

Prof. Wang Yongde said that when I first entered, I was like a wild horse. The music felt very good, but the technique was in a mess. Of course, the famous teachers at the Conservatory of Music had to accept students with better skills. I may take a long time, so no one wants to teach. Later, Prof. Wang Yongde was very optimistic about me and decided to accept me as his student.

Then Professor Wang Yongde formulated a very systematic and scientific erhu training plan for George Gao. Starting from the simplest scales and arpeggios of the erhu, they are all targeted and specialized trainings, such as the flexibility of the left hand in erhu performance. , Change of handles, scales, arpeggios, fast bowing with the right hand, and an etude with the coordination of the left and right hands. Because these etudes are boring, George Gao has never touched and played a piece of music. Day after day hard practice has laid a solid foundation for him and laid the foundation stone for his future competition and performance. In 1982, he participated in the Shanghai Conservatory of Music Memorial Liu Tianhua Performance Competition and won the Merit Award. In the same year, he also won the first prize of the Shanghai Junior Folk Music Solo Competition, the first prize of the National Junior Folk Music Solo Competition and the Silver Shield Award. According to George Gao's description, the two games organized by the government at that time were unclassified competitions, that is, all Chinese national musical instruments, such as Erhu, Ruan, Dizi, Sheng, Yang Qin etc. all these Chinese national musical instruments players gathered together to compete, And finally choose a place. The National Children's National Instrumental Music Competition is in the form of recording.

At the same time, he studied composition this year. Based on the school opening a composition test class, anyone who is interested in learning composition can sign up for the exam. He also signed up for those who are interested in composition. Only four students were admitted.

Specially in small class, the requirements of small class exceed the standard of general courses, mainly learning harmony, polyphony, and musical styles.

After solid training, George Gao participated in several top competitions. He was selected to represent China to tour abroad. He joined the Shanghai Musicians Group in 1984. Its members include famous pianist Li Mingqiang and violinist Yu Lina, After arriving in Canada to visit and perform as an erhu soloist, he was a huge success. At that time, he was only 17 years old and had never gone abroad. When he first arrived in Vancouver, Canada, he was attracted by the beautiful environment and atmosphere in front of him, which left him an excellent impression. This trip had a decisive influence on his future study in Canada.

In 1985, George Gao participated in an international competition organized by the government Beijing International Erhu Competition. This competition was held after the Shanghai Spring Competition in 1962 and was suspended due to the Cultural Revolution until 1985. It was held again. This is a Huqin competition regardless of age or grouping. Participants can participate as long as they can play erhu. Regardless of professional or amateur, the only restriction is that they must be between 15-35 years old. Many famous erhu artists at that time also participated in this event. Nowadays, many famous erhu musicians are also participating, such as Song Fei, Deng Jiandong, Chen Jun, Zhou Wei...etc. At that time, Song Fei was the second prize, Chen Jun and Zhou Wei were the third prize, Deng Jiandong and George Gao tied for the first prize, and at the same time won the best self-selected music performance award and the best prescribed music performance award, which became the award at that time. One of the most contested players. This year, the Shanghai Federation of Literary Artists also awarded him the "Music Performance Art Award". In the same year, he was admitted to the Shanghai Conservatory of Music for a bachelor's degree without an examination, and continued to study with Professor Wang Yongde. As some of the basic music courses have been completed in the attached middle school, the focus of study during this period is on the erhu professional study. In 1986, George Gao first transplanted the famous violin music "Carmen Fantasie" by the Spanish composer Pablo de Sarasate. The purpose is to improve the musical language and technology of the erhu. It has extremely high technical difficulty and can be called the difficult skill of the erhu. Music. In 1988, due to the completion of all outstanding academic credits, he graduated from the Shanghai Conservatory of Music with honors one year in advance.

1.3) Working stage-Beijing period

After George Gao graduated from the Shanghai Conservatory of Music, he received a letter from Mr. Liu Wenjin, head of the Beijing Central National Orchestra and an invitation from his conductor, Mr. Yan Huichang, and successfully became a member of the Central National Orchestra. When he arrived in Beijing, he would perform "The Great Wall Caprice", The group leader Mr. Liu Wenjin and the conductor asked him to come directly on stage to ensemble with the orchestra, confirming George Gao as a solo performance for this concert. Since the performance, Gao Shaoqing has been acting as a solo actor, and also premiered Liu Wenjin's Erhu Concerto "Autumn Rhyme" in Beijing.

Because the social environment and the development of traditional folk music were not very good at that time, the Central Chinese Orchestra only had three formal performances a year. If there were no other part-time jobs, the monthly salary was very small. In order to supplement his life, he chose to join his friends. Formed a rock band and worked as a keyboard player in a bar, named "Red Maple Leaf" and "Snowman". Over time, when I came to Beijing, I felt that the current situation was not enough to meet my expectations, and the idea of studying abroad was born. I went abroad to perform in Canada. I met local friends and sponsored their study abroad. I gave up my original job and went to Canada to study and started my life in Canada. It is these experiences from different aspects that show that he has a more diverse and broader musical language than ordinary performers and composers. When he is in an immigrant country like Canada, he will accept Western music from different cultures. In addition to scoring and performing with different musical instruments, he still creates erhu works that integrate his own culture with his own musical language.

1.4) Studying abroad and immigration-Canadian period

In 1990, George Gao went to the Royal Toronto Conservatory of Music to study, majoring in piano and minor in vocal music. This is a school. The tuition fee is quite high. I study piano playing very seriously in school. After all, Gao Shaoqing didn’t practice piano since childhood. Although he played well, it was far from professional pianists. He believed that he could not reach the top of the world in his piano attainments, and he was unwilling to deceive himself. He left school after one year. He had already taken almost all the courses at that time, and he just had to give another piano concert. You can get a graduation certificate. He held an

erhu concert at the Conservatory of Music and found that he might still have a chance to succeed in playing erhu in Canada. Later, because of the appearance of this concert, he began to have the opportunity to perform, and gradually started his career in Canada. Reputation. However, while studying at school, he constantly strengthened his English. Because Canadian law stipulates that international students cannot work, he understands that if he wants to be financially independent in Canada, he must obtain an identity in order to work. He learned from a Canadian Chinese Pipa Musician Cathy Pang learned from the mouth that there is an immigration method in Canada called "artist self-employed immigration (artists hire their own immigrants)", so he began to actively organize the information required for immigration, coupled with his fluent English, in less than one Within years, I successfully applied for immigration status and settled in Canada.

After obtaining Canadian citizenship, George Gao thought about what industry he should work in. In order to live independently, he understood that the current life cannot be supported by erhu music. He once tried to make a living by teaching piano, but it was difficult to adapt to this kind of life. By chance, he saw that acupuncture in traditional Chinese medicine became popular in Canada. He could try it because his grandfather was a pharmacist and his grandfather was a famous physician. He was very interested in Chinese medicine since he was a child. He has many books on pharmacy, meridian and acupoints at home, and he has read them. When opening a Chinese medicine clinic in Canada at that time, he only needed to go to a local private Chinese medicine school and take that two-year course. Can obtain a license. In the field work, George Gao said:

Because I am Chinese. At that time, I had many foreign classmates studying Chinese medicine, but I wrote some yin and yang, five elements, pulse, and acupuncture points in Chinese. I am very familiar with it! I quickly became a good Chinese doctor, but I did not go for acupuncture soon after graduation. I first went back to Shanghai. I had an internship in the Department of Acupuncture at Ruijin Hospital in Shanghai. I practiced for about three months. Dozens of patients were given needles every day. Because the hand that pulls the erhu is also flexible, the patients love me very much. Acupuncture.

George Gao mentioned that cultural differences are not only in music, especially in terms of text and culture. Early Chinese classics are all in classical Chinese. Under the difference of language barriers, it is often impossible to fully understand the translation books of ancient

Chinese. Among the meanings, only those who have really received Chinese education and culture can better understand the terms and other levels of meaning in the terms. George Gao's acupuncture technique is quick to learn, not only because of his ears and eyes, but more importantly, these classics are an inseparable connection with Chinese people-thoughts. Among his classmates, there are many foreigners who are interested in Chinese medicine. They learn about Chinese medicine through translated books. However, in the face of cultural barriers, they often have deviations in their understanding of Chinese culture. On the other hand, George Gao, as a Chinese studying Chinese medicine, naturally has certain advantages. What's more, he originally liked Chinese medicine. In addition, his grandfather and grandfather were both engaged in medicine. When he was young, he often read books on Chinese medicine at home. Much bigger. After studying Chinese medicine in Canada, he went to the Ruijin Hospital in Shanghai, China to practice acupuncture for a few months, and then returned to Canada to open a Chinese medicine clinic.

George Gao faces the reality of survival and thinks about surviving in different cultural countries. He must rethink how to compromise in new social relations, and redefine identity, and finally develop in the current region. Through fieldwork, George Gao dictated the development of music at that time:

It’s not easy to develop Chinese music abroad, because many people don’t know much about Chinese music. They often have to introduce the music and instruments they play, and sometimes participate in different forms of activities, but most of them go smoothly. The experience continues to mature, and those who invite performances will be invited until the second and third years. In terms of publicity, because you have to spend a lot of money on foreign publicity to introduce your music, it is not enough to rely on publicity alone, but to rely on the promotion of "subpoenas", and then my music performance is true There are more than one hundred performances a year, which is not an exaggeration.

Since performances often go to different places, and the work of TCM acupuncture and moxibustion cannot be left at will, patients will have nowhere to go to see a doctor, and they must make a choice between these two careers. Finally, they end the work of TCM and choose to engage in music performance.

In 1993, George Gao was hired by the Toronto Royal Conservatory of Music as the first teacher in history to teach Chinese national musical instruments and was included in the formal curriculum; in the same year, he held the first Erhu concert and achieved great achievements. Now he has performed more than one hundred performances on the global stage a year, and he has become one of the busier diaspora Chinese musicians on the global stage. The five Erhu Capriccios composed by him are known as the masterpieces of contemporary Erhu music. Therefore, from George Gao's experience in multiple diaspora music, we know that musicians create diverse and fusion music different from their hometowns in the process of diaspora.

2. George Gao music creation

In the 1980s, internationally renowned Chinese composers such as Tan Dun, Chen Yi, Zhou Long, etc., were collectively referred to as "new wave" composers in China. Because they got rid of the conventions of tonal music and political music in the composing world, they developed a new method of fusing atonality with Chinese musical elements. On the surface, it is westernized, but the listeners and others can understand that the composer has injected a certain Chinese essence and feeling into these music. This "new wave" is expressed in multiple levels, including timbre, melody and sound structure, etc., from which the new fusion music, which is generally called "the East meets the West", emerges.

In my interview with George Gao, I learned that George Gao’s composition study began in the composition class at the Shanghai Conservatory of Music High School. He has always maintained an interest and enthusiasm for composing music. When he was young, he always hoped to write music that surpassed Beethoven. Anxious to show and prove his talents to others, this limited his creation, unable to break away from the composition framework in the book, so the music composition at that time did not have a breakthrough performance. As mentioned earlier, he succeeded in 1986. The transplant was adapted from Pablo Sarasate's Carmen Fantasy, which shocked the entire music world, and later continued to adapt several traditional folk songs. It wasn't until I went to Canada that I really started my own creation. After he went to live in Canada, he came into contact with the integration of different cultures and the previous cultures, and gradually changed the mentality of pursuing performance, turning into the words of inner

desire to talk into notes. Composing is no longer for the favor of others, but for realization. Suspension of self-disposition.

He published his first piece of music "Birds of a Foreign Land", composed in 1994. It was the theme music written for the Canadian film Chinese chocolate. It shows a pair of Chinese women coming to a foreign country in a new environment. The melancholy and helpless, mixed with hope and strong complex mood in frustration, this film music was his early creation and was included in the album "Carmen Fantasia" in 1995. He said:

After that, I began to try to create different types of music, There are movie music: Yellow wedding; Ballet: Mulan; World Music: Legend of the Dragon (Legend of Dragon), 20 pieces based on Wang Wei's "Wang Chuan Ji"); Erhu Solo: "Yin" and several songs, such as "Human Heaven and Love", etc.

2.1) Erhu Music Creation

George Gao's masterpiece of Erhu music is a series of 5 Caprices composed by him. At first, he composed "Erhu Caprice No.1" in 2001 with the encouragement of composer Huang Anlun. Later, I began to try to create different types of music, including movie music: Yellow Wedding, Ballet Music: MuLan, and World Music's first piece for the Erhu and Orchestra was "Erhu Caprice No. 1" published in 2002. , And then successively released "Erhu Caprice No. 2-Mengfeng" and "Erhu Caprice No. 3-Xuandong" in 2008 and 2009, and "Erhu Caprice No. 1" and "Erhu Caprice No. 2-Meng "Wind" is recognized as a classic of today's erhu works, and was selected as the designated repertoire of the "Dragon's Music" Erhu Competition and the Shanghai Spring International Erhu Competition in 2002 and 2008. "Erhu Caprice No. 4-Gobi" was also commissioned by the 2012 Shanghai Spring International Erhu Competition.

In terms of music arrangement, in the recorded "Embroidered Wallet" album, 11 folk songs from nine places including Shanxi, Hunan, Shaanxi, Northeast China, Henan, Hebei, Yunnan, Xinjiang, Mongolia, etc. were adapted. The arrangement used popular songs. The genre of the music added the popular electronic music synthesizer at the time, and at the same time used rhythmic rhythm and harmony, and used improvisational performance in the process of recording the album. After the album was completed, it caused quite a enthusiastic response. China Central Television came to Canada to record the Spring Festival Gala program, and also selected "Embroidered Purse" into the program; in addition to adapting the Chinese folk song, he was

invited by singer Zhou Bingqian to sing and play Erhu The way was adapted from songs that were widely loved by the people at the time, such as Teresa Teng's songs. Therefore, he is recognized as an artist who has a great influence on the modernization of Chinese music.

Figure 11. Carmen Fantasy, record, favourite erhu pieces of Geoege Gao

Photo: George Gao

Figure 12. Sewing the purse, record, favourite erhu pieces of Geoege Gao

Photo: George Gao

Figure 13. Erhu Capriccio, record, favourite erhu pieces of Geoege Gao

Photo : George Gao

Figure 14. jazz, new age, pop, classical, chinses music of George Gao, CD record

Photo: George Gao

Figure 15. George Gao plays Liu Tianhua's 10 Erhu Music, CD record

Photo: George Gao

Figure 16. George Gao Erhu capriccio No.2 Mengfeng, CD record

Photo: George Gao

Figure 17. Erhu Capriccio NO.1~NO.5, CD record

Photo: George Gao

Table 1. George Gao's music composition

Category	Original compositions music		Adaptations music
Years	Erhu Music	Other music	
1983~1984			Zigeunerweisen Perpetual Motion The Swan-Saint-Saëns Gounod Avi Maria-Bach
1986			Carmen Fantasia
1994		Movie Music: Birds of a Foreign Land Jazz: yin	
1995		Movie Music: Chinese chocolate	
1998		Movie Music: Yellow wedding	
1999		Ballet: Mulan	

Table 1. (Continued)

Category	Original compositions music		Adaptations music
Years	Erhu Music	Other music	
2000		World music: 20 pieces based on Wang Wei's 'Wang Chuan Ji', Legend of Dragon	
2002	Capriccio No.1 for erhu-sixiang		
2003		Movie Music: Becoming American, The Chinese Experience	
2006			Song wo yi duo mei gui hua，mu yang gu niang，Xian qi ni de gai tou lai，Fengyang huagu，Cai cha，Yao lan Music，Xiao bai cai，Meng jiang nu

Table 1. (Continued)

Category	Original compositions music		Adaptations music
Years	Erhu Music	Other music	
2007		Movie Music: The Blood of Yingzhou District	
2008	Capriccio No.2 for erhu-Mengfeng		
2009	Capriccio No. 3 for erhu -Xuan Dong		
2010		Movie Music: The Warriors of Qiugang	
2012	Capriccio No.4 for erhu -Gobi		
2013	Capriccio No.5 for erhu -Naxi		

Table 2. George Gao's CD Publishing Album

Years	CD
1991	The Spring Orchind
1994	First Light, Earth Time
1995	Favourite Erhu Pieces of George Gao, Behind the Mask
1996	The Silk Orchestra
1997	Chinese Jazz
1998	George Gao Silk ensemble
2002	George Gao vs. Wang Wei, the Villa
2003	Heaven On Earth
2006	Rose
2007	My Favorite Tunes
2008	China-A Romantic Journey
2009	Mongolian Fantasy

2.2) Creation of commercial music

George Gao is not only a world-renowned erhu performer, he has been nominated for the Canadian Gemini Award; he has also been invited to compose and score for films, television and Broadway musicals. He has composed works for Canadian films including "Chinese chocolate", "Landing" and " "Yellow Weddin" these three films; the Canadian aviation commercial that won the gold award in advertising music; at the same time, he has also worked as a producer for many musicians and artists, and has also collaborated with many well-known Canadian artists, groups and stars. He collaborated with American composer Brian Keane, who has won more than 20 Grammy Awards and titles, and wrote the soundtrack for the three-part documentary "Becoming American-the Chinese Experience" for the American super television network PBS.

George Gao said that he was engaged in music creation without interruption. Especially when he was studying in Canada, his guarantor, Mr. Rong Yaying, specially prepared a midi synthesizer for him, allowing him to freely use the synthesizer to create, integrate various sounds, and divide the sound into tracks. Play and reorganize the play. Since 1994, he has successively

created TV or film music works, such as the film music "Birds of a Foreign Land" in 1994, the film music "Chinese chocolate" in 1995, the film music "Yellow wedding" in 1998, etc., until In 2010, there was still film music creation "The warriors of Qiugang". Among them, Gene Roddenberry, the screenwriter of the Canadian series "Star Trek", recommended GeorgeGao to record the music of the new album "Earth: Final Conflict" through the composer Maribeth Solomon (Maribeth Solomon is the daughter of the former Toronto Symphony Orchestra violinist Stanley Solomon, and jazz The sister of pop musician Lenny Solomon, and Lenny Solomon is also a member of the BOWFIRE Orchestra.), he asked GeorgeGao to record a short recording as a demo. Unexpectedly, George Gao's music is unexpectedly suitable, which is exactly what the composer wanted The music, because this soundtrack requires an unfamiliar melody theme to highlight the "external planet music". This kind of music is found in George Gao, who has multiple musical cultural backgrounds, so Solomon uses George Gao's music as the theme music in the album, which appears interspersed in the play from time to time. This piece of music was nominated for the "EMMY" award and won the "Gemini" award. Therefore, George Gao has worked with the team for six years. For six years, he has been in the studio every week to record music, and at the same time, he has increased his income. George Gao said that the sound in the play is that of Shaoqin. The sound and timbre are different from the traditional erhu. At that time, because of the special sound and melody in a foreign land, the inquiries were very high, which made Europeans and Americans think about this mysterious Chinese instrument-the erhu, Generated a high degree of interest, and therefore successfully introduced Chinese musical instruments to European and American people, allowing them to have a better understanding of Chinese music.

In addition to creating movie music, George Gao also has some plans for advertising music creation. Most of these cases attract Asian ethnic groups. They are derived from George Gao's Chinese music background. In addition, his music has unexpectedly received positive reviews in Canada. He has also received invitations and commissions from many manufacturers. He said:

I used to compose commercials for airlines, but I didn't expect this song to get a lot of commercial gold awards. Later, there were advertisements for Motorola telephones and Ford Motor Company. They thought that my music was very interesting and had modern elements,

because I could synthesize and have a very modern feel. With the elements of Chinese music, it has become very Chinese, and there are elements of Chinese descent in it. Canada is a multicultural country, so you need to add something different to prove that they are Canada.

Since then, he has continued to devote himself to creating music in the field of film and television soundtracks, and has independently or cooperated with other composers to create music for film and television works such as Landing, Yellow Wedding, and Becoming American The Chinese Experience. In the meantime, the film documentary "The Blood of Yingzhou District" in which he participated in music creation won the 78th Oscar for Best Documentary Short Film, and another film documentary "Warriors of Qiugang" also received an Oscar nomination.

2.3) Bowfire Orchestra's influence on GeorgeGao

In 2006, George Gao joined the Bowfire Orchestra. The orchestra was founded by violinist and composer Lenny Solomon. There are ten fiddlers in the membership, including the Erhu player George Gao. Although there are ten fiddlers, each has its own expertise. The music style of the orchestra combines elements of classical music, jazz music, bluegrass music, celtic music, rock music and world music, forming a very diverse music style.

Since its establishment, the orchestra has represented the Canadian government to perform at the World Expo held in Hannover, Germany. The group consists of eleven bowstring musicians. The performance method is that ten people do a circle, and one person draws a piece of music that he is good at. Play in the form of performance, plus piano, double bass, guitar, cello, plus rhythm (drummer). George Gao dictated the situation at the time:

We went to Germany to perform a sensation, because people from all over the world came to see us, and one of them was an American agent who came to see us and said that he would invite us to the United States and spend money to help us package it as a Special. There is a popular Riverdance, which is tap dancing, which makes a lot of money, so she has to combine lighting, sound, and dance. At the time, she said that it would turn us into that way, and then make a lot of money. So I invested in our group to help us practice, and then the name of the orchestra became Bowfire.

After George Gao got a lot of inspiration for composition in this orchestra, he completed many works one after another. Judging from his status as both a performer and a composer, these musical experiences have deeply influenced his erhu creation process.

Figure 18. Bowfire Orchestra, First from left is George Gao

Source: George Gao

Table 3. Bowfire Orchestra members

Instrument	Name	Musician
Violin	Lenny Solomon	jazz violinist/founder/Artistic Director
	Stephane Allard	Québécois jazz violinist
	Bogdan Djukic	classical violinist
	Yi-Jia Susanne Hou	violinist
Fiddle	Stephanie Cadman	Celtic fiddler
	Jon Pilatzke	
	Kelli Trottier	
	Ray Legere	bluegrass fiddler
	Shane Cook	fiddler
	George Gao	*Erhu*

2.4) Mark O'Connor's influence on George Gao

For George Gao, in addition to being influenced by Bowfire Orchestra, another person who has greatly influenced him is Mark O'Connor, (Mark O'Connor was born in Seattle on August 5, 1961. He is not only a highly skilled Fiddle, a guitarist). , Mandolin master, and one of the most talented composers in the United States today. He not only digs deep into the connotation of American folk music, but also tries to develop horizontally and vertically,

integrating and innovating in the same type of music. The thickness and breadth of Fiddle's composition; the attempt in cross-border music has stepped into the threshold of formal classical, jazz, and swing Diversified and rich knowledge, dazzling techniques and unique musical concepts have made him become American neoclassical music The Renaissance, but it gives people a pure and plain touch. Excerpted from "Mark O'connor / The Essential", issued by Sony Music Entertainment Co., Ltd., 2009. CD). Mark O'Connor is a well-known country violinist in the United States. Every year, a music camp (Mark O'Connor String Camp) is held to teach students how to play country music. Gao Shaoqing also served as an instructor in the music camp, using Erhu to teach students who play the violin.

George Gao is influenced by the style of North American music. Under his contact with Mark O'Connor, he used the erhu to teach, and fiddle music made George Gao more familiar with the elements and playing techniques of country music. These reasons are directly reflected in the Erhu Caprice No. 2 -Mengfeng and Erhu Caprice composed by him. Number three-Xuandong. George Gao wants to test whether the erhu can play such rhythmic music styles as North American country fiddle music and bluegrass music. In addition, I have been very fond of Mongolian music and matouqin music in the past, and I have also studied Mongolian music. These erhu music creations adhere to his ideas, combining the rhythm of North American music and rock music and the rhythm of Irish folk dance music.

Figure 19. George Gao in Mark O'Connor String Camp, San Jose, USA First from left is George Gao

Source: George Gao

George Gao’s music ranges from transplantation, adaptation, pop songs, film music, world music, jazz music, etc., and his music works are very diverse and macroscopic. Not only do they have novel creative concepts, they are also very infectious. Music has a great influence and has inspired new trends in Chinese music.

3. George Gao's music creation characteristics

When George Gao was learning erhu playing at an early age, his social background was during the Cultural Revolution. The government’s policy could only play model plays and music that served the workers, peasants and soldiers. We classify these music as traditional music. After the Cultural Revolution, it became popular. Songs and Western music have gradually entered the public's field of vision. George Gao also likes these music very much, and often uses Erhu to play Western classical music as well as Western pop and rock music. This formed the initial early fusion of Eastern and Western music.

George Gao began to adapt traditional Chinese music and Chinese folk songs after studying in Canada. The music he composes is also inseparable from Chinese musical elements, such as Erhu Caprice No. 2 "Menfeng", Erhu Caprice No. 4 "Gebi", Erhu Caprice No. 5 "Naxi"... etc. These musical elements are the source of these elements. From China's Inner Mongolia, China's Northwest Gobi, China's Yunnan and other regions, these pieces of music are different from the traditional music in the past. They use Chinese music as elements, blending Western harmony, a large number of chromatic and major and minor modes of composition. At the same time, it also integrates rock music, jazz, blues, Irish and other rhythms. The whole music is not only a place or a regional music element. This has become GeorgeGao’s personal musical thinking and music logo, with his distinctive personal emotions. Symbolic feature.

3.1) The fusion of Eastern music and Western music

George Gao's personal experience made him realize the conflict and integration of Eastern and Western cultures. Under the thinking of the intertwining of Eastern and Western cultures, as a Chinese, he must find his own position as a Chinese in order to be able to live in Western society. The movement of space caused George Gao to deal with things and Attitudes towards life must be changed from the past, and the most important thing is identity. At that time, China's overall national strength was not strong, which also involved perceptions and attitudes

among nations and peoples. The rise and fall of national power also indirectly affected other countries' initial perceptions of themselves. After he has gradually adapted to life in a foreign country, he has gradually obtained many opportunities for music creation in the local Chinese community, whether it is in TV, movies, commercials and other music. This experience has also enriched his musicality and made him enjoy The musical thinking tentacles extend longer and farther, and these experiences are almost impossible to happen to him when he was in China, but after the movement of space, all the opportunities appeared in him, through his own profound experience in China. Creating based on the culture of his home country, he unexpectedly found his own music position in Western society, and paved his way to music with a globalized view of music.

3.2) Global music integration

The so-called modernization and globalization are to integrate and synchronize with the West as much as possible. However, at the same time as globalization, it faces the tendency of global homogeneity and less heterogeneity. This is for emphasizing the cultural characteristics of various regions, Is negative, and this is also a problem that George Gao needs to face. In the past, George Gao played Western classical music in his hometown to highlight his heterogeneity, which triggered a wave of shock and transplantation in China. In Canada, it is impossible to highlight one's own subjectivity, regionality and heterogeneity. The result of too high homogeneity is the identity of an Asian, but it is more difficult in Europe and America. For example, majoring in piano at the Royal Conservatory of Music in Canada, except for the Chinese community or Asian ethnicity who will hire him to teach piano, Europeans and Americans are unlikely to hire him to teach piano. This is like Europeans and Americans opening Chinese restaurants in China, I believe Most Chinese people are not interested in tasting the same, but the situation will be different if they open European and American restaurants. Therefore, in order to survive, George Gao must use his own culture as the main body to demonstrate cultural heterogeneity, so that he can gain a foothold on the world stage without losing himself.

3.3) Diversified music integration

With the increasing international popularity of George Gao, covering the entire North American region, Canada and the United States appeal for cultural diversity in cultural policy appeals, and both have the characteristics of cultural hybridity. Therefore, the focus of George

Gao's music development has gradually shifted from Canada to the United States. Music includes: jazz, classical, bluegrass, rock, North American country music, etc., and of course his Chinese music. There is no limit to the degree of music mixing in the Bowfire Orchestra, whether it is European music, American music, Asian music, or any music in the world. They can all be intertwined and then together, causing a whirlwind in North America and setting a good box office record. This is not only an aural fusion, whether it is in the stage, lighting, dance, and costumes, all are exquisite commercial packaging. Of course, such commercial performances of music require strong financial support, and it is precisely because of this that investors see that it contains The commercial value of the company is willing to invest. In addition, the Bowfire Orchestra is a cross-ethnic group. The members are all top musicians from all over the world. They have Jewish, Yugoslav, Chinese... and other multi-ethnic backgrounds. This has broken through the border restrictions. Therefore, in the United States and Canada The region has attracted a lot of attention. One of the members, Kelli Trottier, mentioned when describing the orchestra: It's hard to imagine that it can be mixed to the extreme. It combines the strongest lineup of violin musicians in the "All-Star Show", all of which is surrounded by a fast-paced performance, Has first-class production value, including great sound, beautiful dance, stage lighting, set design and clothing packaging.George Gao said:Everyone's music is great. I used to hear limited music in China, but when I arrived in Canada, I realized that the world is big and there are many unexpected music styles.

3.4) Distinctive personal symbols

According to Homi K. Bhabha, hybridity is the space where coordination occurs. This space is called the "third space". Therefore, promiscuity is a place where hegemony is interrupted and replaced, and it is a space with new situations, new cultural meanings and products of doubts and germination. Of course, George Gao will not go back to the erhu music model of the past. Perhaps his method is to use different styles of rhythmic materials to present the music styles of folk songs, folk songs, as well as opera, ethnic minority music, and even global languages. World music has gradually deviated from the simple dualistic concept of Chinese and Western, and turned to a world-wide diversified musical form.

In this kind of world culture and music language, the series of Erhu Capriccios created is widely circulated in the music academic circles. It has become a part of his artistic achievements

in major international competitions and has been affirmed by people from all walks of life. He added a unique personal symbol and logo belonging to George Gao. George Gao is constantly seeking his own identity and cultural identity in this diversified, globalized mutual integration and hybrid identity definition, including his own music definition and music outlook.

4. Diaspora musicians-the flow of George Gao's identity

Most of the research on scattered living involves the experiences and phenomena of disadvantaged groups' backgrounds of leaving their hometowns and ethnic conflicts. In the past, the meaning of separation was mostly accompanied by loneliness and loneliness. Just as Jews migrated due to war and political persecution, African blacks were trafficked to the Americas as slaves, Chinese migrated to Southeast Asia and other parts of the world... etc. These examples are all passive or inactive ethnic groups. Migrate to the place of residence as a last resort. However, with the advancement of science and technology and the rapid migration of population, the boundaries have become blurred, and the boundaries have been gradually broken. In the face of the term discrete, the meaning of discrimination and persecution in the past has gradually faded, and it has become more active to create new experiences. Negative meaning. The activities of human separation began very early. It seems that the issue of the separation of Chinese musicians has received little attention from scholars, but it has not been paid attention to by ethnomusicologists until the past decade or so, such as: ethnomusicist Zheng Su (Tenured professor in the Department of Musicology of the University of Wisleyan, his research areas include Chinese music, Japanese and Asian music and gender studies, diaspora studies... etc.), researching Chinese musicians separated in the United States. In his book. (Zheng Su,2010). Claiming Diaspora: Music, Transnationalism, and Cultural Politics in Asian/ Chinese America: Music, Transnationalism, and Cultural Politics in Chinese America The transformation of the public display, transnational media culture and popular music, etc., to reveal the discrete soundscape of Chinese musicians. The Chinese live scattered all over the world. With music, these musicians are trying to build a transnational music network in discrete spaces.

Hsin-chun Tasaw LU, a PhD in Ethnomusicology at the University of California, Los Angeles (UCLA), cited the example of Kyaw Kyaw Naing, an Asian American, in order to illustrate how diaspora musicians can cope with living in a different place: using strategies and

activities based on their own views, he was able to Individual subjectivity is developed, and then, at a collective level, regional subjectivity based on cross-culturalism can emerge. George Gao's mixed writing style captures the audience's imagination of pan-Chinese music, making it easy for the audience to accept and listen to his music. The Chinese style in George Gao's music outlines the Chinese's vision of their hometown, which also promotes the business operations, manufacturers Use music to attract Asian people to consume. These products are packaged by music, and music is used to promote ethnic gathering, and then consumption, to achieve commercial benefits. George Gao's music has these characteristics. It has a Chinese style and is mixed with other diversified music. The diversified music complies with the multicultural policy advocated by the Canadian government, which also promotes him to have more opportunities.

George Gao was born in Shanghai, but grew up in Gansu. The two places are thousands of kilometers apart, and the humanities and regions are different. He moved back to Shanghai again when he was 11 years old. In his eyes, he always considered himself a native of Shanghai. For Gansu, where he lived in his childhood and where his parents worked, that's all. With the movement of time and space, after graduating from the Shanghai Conservatory of Music, he went to work in Beijing. After working in Beijing for a year and a half, he left China in 1990 and flew to Canada. George Gao moved from one place to another, transforming into a displacement between countries. George Gao was deeply impressed by the good living environment in Canada, so he got married after he obtained the status of immigrants and took his wife to live in Canada. At this time, George Gao became a Canadian national and an overseas Chinese, and Canada became his second In his hometown, George Gao has lived in Canada for more than ten years. Of course, he traveled between China and Canada. However, in terms of identity, it has been different from the past, and George Gao's concept is also in the Canadian environment and community, identifying with Canada. Culture-diversity and inclusiveness. George Gao returned to work in China briefly as a foreigner in 2010. This new identity puts him between his colleagues. Between friends, there is a new definition of identity. Although the space does not change, the change of time changes the relationship between people. His identity has changed from a local and regional musician to a global international musician. In addition to his status as a performer, he actively became a composer and instrument reformer.

George Gao is a diaspora in diaspora music. The movement of space and the flow of identities enable George Gao to acquire more musical styles and musical elements more directly. It is no longer the imagination of being in the region, but more direct and different. The collision between music and different cultures, and being in a multicultural Canada has enriched his musical path. Through the exchanges of musicians from all over the world and musicians of other ethnicities, plus the acceptance of American brokerage companies Propaganda, with cross-regional experience that ordinary musicians can't get, not only in the mixing of music, the cross-border between music and vision, music and dance, but also the cross-border attempt of music and various cultures and arts, and it has successfully won favor. Out of a path that belongs to the definition of his own identity.

5. World Music-George Gao as a music traveler

Nowadays, diverse and mixed creations have spread all over the world. Diaspora musicians who have traveled around the world are gradually breaking through this boundary, breaking through the limitations of territories, and spreading music to the world in their own way. These unique music, But they find similar musical elements between each other, trying to present a sense of music that is both familiar and unfamiliar, and such music, ethnomusicologist Zheng Su classifies it into the category of world music, because their music is based on The music of various nationalities in the world cannot be clearly classified under any kind of music. However, George Gao has officially joined the ranks of such a "world music" without territorial restrictions, and develops innovative music with its own Chinese culture as the main body. Regarding George Gao's concept of "world music", ethnomusicologist Zheng Su has other opinions. He believes that the term "world music" is often used in ethnomusicology to refer to the music of various nations in the world.

The world music trend should be regarded by people as a new type of travel music, although it is accompanied by a high rate of worldwide presence and high economic benefits, and is among the colonialists, nationalists, and modernists. The long-term history shrouded in the struggle between China is underway

This idea is the same as George Gao's so-called "world music" concept. The flow of identity also created the problem of his identity. Who is he? Chinese people? Canadian? After

breaking through the limits of territory, musicians in such cases are no longer in the minority. In fieldwork and interviews, I was asking questions about George Gao's identity. He said relaxedly: "I think I am a person of the world." He believes that the limitations of territory and race are not for him. Why are things of significance classified? Of course he can understand that this is because in order to survive, there were humans in the beginning, and this way started. But he still hopes that there will be a "world harmony" one day, and he does not want to be imprisoned and recognized as a kind of person.

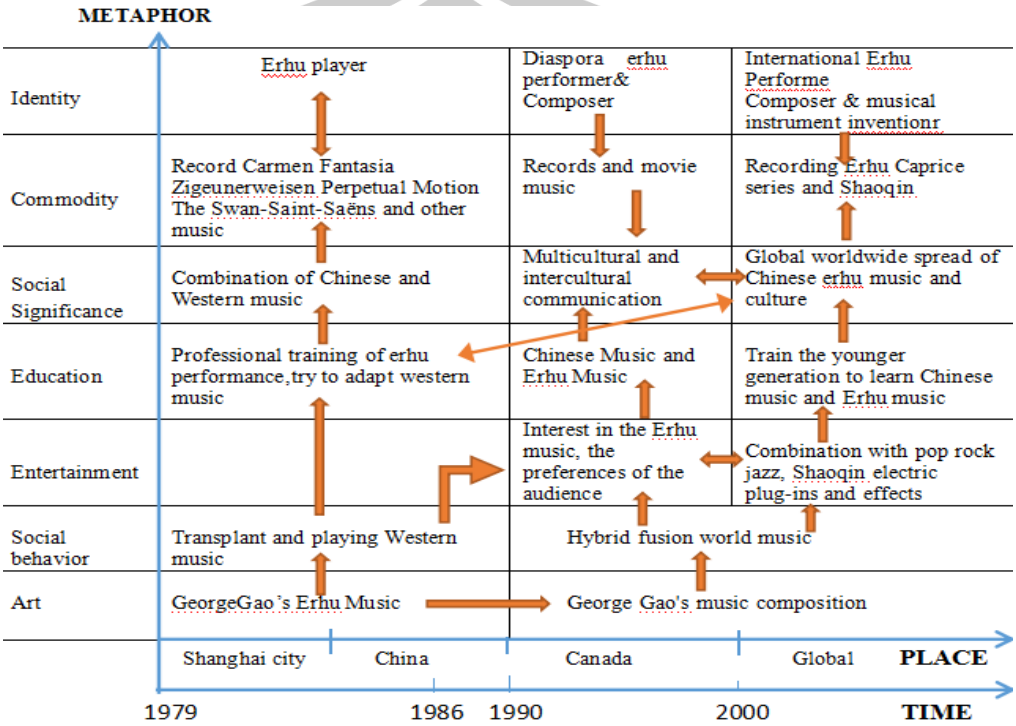
George Gao clearly knows that composers must have their own creative styles. His own music is like the national spirit of Canada, and its music is towards diversity and integration. He takes his own Chinese music as the main body and mixes with the national music of the world. His music is not limited to any ethnic group, country, or region, and becomes the so-called "world music". He is no longer stuck in the small framework of his own national instruments. It is to promote Chinese musical instruments into musical instruments capable of playing world music.

In today's world, it is of course necessary for us to regard music production and consumption as an interconnected sound landscape, because no corner of the world in which we live can be isolated from the sound that reverberates all over the world. …The trend of "world music" should be regarded as a new type of travel music, even though it is accompanied by a high rate of worldwide presence and high economic benefits, and is in a state of being colonialists, nationalists, and The long history shrouded in the struggle between modernists is underway.

6. George Gao's music view

The flow of George Gao's identity and the changes in time and space, and George Gao's consciousness, concepts, and behaviors have all changed. This section uses Rice Timothy's three-dimensional theory of music experience to illustrate George Gao's music outlook.

Table 4. Use Rice Timothy's three-dimensional space of music experience-Time, Place, and Metaphor to reconstruct George Gao's music view.



The music experience of George Gao can be seen directly in the chart. Looking at the experience from Shanghai to the world in the abscissa Place, and the abscissa TIME, he returned to Shanghai from Gansu in 1979 as the time node and entered the Shanghai Conservatory of Music for professional and systematic music learning. With his talent and diligent practice, he won awards in several major competitions and increased his popularity. During his studies at the Shanghai Conservatory of Music, he adapted and transplanted several violin concertos for the erhu, which was the first time at the time and enriched the erhu. Language and playing techniques. After graduating, he worked in Beijing for a short time and went to study abroad in Canada. After that, he immigrated to Canada and became an internationally renowned erhu performer. During this period, he composed several films and TV music. He composed the first Erhu Concerto for the Symphony Orchestra, namely Erhu Capriccio No. 1-Sixiang, and later made achievements in musical instrument innovation and invented Shaoqin.

For George Gao, with the change of his identity and the movement of space, he is undergoing globalization and world-wide changes. He breaks through geographical restrictions and travels between the world. His rich insights make his music fresh and fashionable. It is no longer just empty talk that can attract the attention of young people and actively look internationally. This is also one of the reasons why Gao Shaoqing does not want to be a kind of person, but wants to be a "world person." As a broken Chinese musician, the movement of identity and space has changed his thinking and behavior, including transnational experience and transnational musical thinking, etc., which have affected his music creation and music composition. In my field work and interviews, George Gao has always emphasized that his identity is defined as a world person, which determines his thinking direction, and his music outlook is also toward a diverse and integrated world music. His own Chinese music is the main body, mixed with the national music of the world. His music is not limited to any ethnic group, country, or region, and becomes the so-called "world music." Promote to be able to play the world music medium or window.

Chapter V

Construction of Erhu and George Gao's improved

This chapter will mainly focus on the investigation and research of the production and improvement of erhu instruments since the 20th century.

The 20th century was the most intense 100 years of conflict and fusion between Chinese culture and Western culture. Music in all periods of history has been changed from the development of the shape, structure, and raw materials of musical instruments. The development of current music also starts with the improvement of musical instruments. The improvement of the erhu musical instrument is closely related to the social environment and the background of the times. In China at that time, facing the dissemination of global culture, the Chinese musicians at that time caused a conceptual change. They hoped that the traditional Chinese music at that time could also be innovated, and through the improvement, it would also have better performance on the national musical instruments. It also conformed to the background of the time when Chinese society was striving to change.

This chapter will mainly examine the evolution of erhu in the area south of the Yangtze River in China (Suzhou City, Jiangsu Province). The area south of the Yangtze River has a unique geographical advantage since ancient times, with vast lake resources, fertile land, vertical and horizontal transportation, handicraft and manufacturing levels. Exquisite, such as Chinese ceramics, silk and other traditional crafts are all produced here. Today, these areas have been prosperous for China's manufacturing industry. There are a large number of handmade manufacturing industries. Driven by the prosperous economy, there are many skilled craftsmen, including musical instrument makers. Known as "The Hometown of Erhu"

Figure 20. Suzhou, China map

Photo: www.google.com/search=suzhou (Accessed October 21, 2020)

1. Construction of Erhu

1.1) Background

1.1.1) Influenced by Western countries

At the beginning of the 20th century, China was forced to open to the outside world, and Western music and information were continuously imported into China. The sound effects, performance styles, and the historical experience of the development and reform of musical instruments in Western musical instruments and orchestras shocked the traditional Chinese music and the Chinese people at that time. At this time, China's national musical instruments and folk artists lived a life of poverty and poverty. Most of the national musical instruments were barely maintained by accompaniment and ensemble in folk opera and rap. The erhu and other musical instruments were almost regarded by the world as tools for begging and selling. Western music and Western musical instruments are highly respected in concert halls, which makes Chinese musicians and practitioners start thinking about musical instrument improvement.

1.1.2) The influence of the reform of national musical instruments in neighboring countries of China

When Western music brought pressure on Chinese traditional musical instruments, the Soviet Union and China's neighboring countries also successively implemented national musical instrument reforms, which became another factor in promoting the improvement of Chinese national musical instruments. In 1952, Soviet art groups visited China during this period, Soviet music experts mentioned the issue of "improvement" of Chinese musical instruments, and introduced the Soviet and Azerbaijan reforms of folk instrumental music and band performance experience, discussed the timbre of the instrument group, how to be relatively unified, and use

harmony to enrich the overall sound of the band. , Set up high-pitched part, mid-range part, and low-pitched part.

Not only in the Soviet Union at that time, in Kazakhstan, local musicians used dombra and other musical instruments of different sizes to form a national band with local characteristics. In Indonesia, the musicians in Jakarta improved the angklung according to the twelve equal temperament and the semitone arrangement. The range can reach three octaves, and it can play the main melody as well as complex harmony. In Japan, Japanese musicians have completed the use of Japanese instruments to perform modern ensemble music in decades. Japanese musical instruments have music works and performance techniques that cooperate with various Western instruments and large symphony orchestras. This is also for the future The cooperation of various musical instruments in Asia provides experience.

1.2) Erhu production process.

Erhu production has a long history, as early as the Song Dynasty. In Suzhou, China, the erhu made by folk artists was used as a national musical instrument to pay tribute to the court. However, due to the long history and lack of reliable literature and historical records, it is difficult to verify the way the erhu was made at that time. This thesis only focuses on the production specifications and evolution of the main components of the modern erhu in three periods.

They are: Early stage of Erhu production (1910~1949)

The development period of Erhu production (1950~1979)

The mature period of Erhu production (1980~2010)

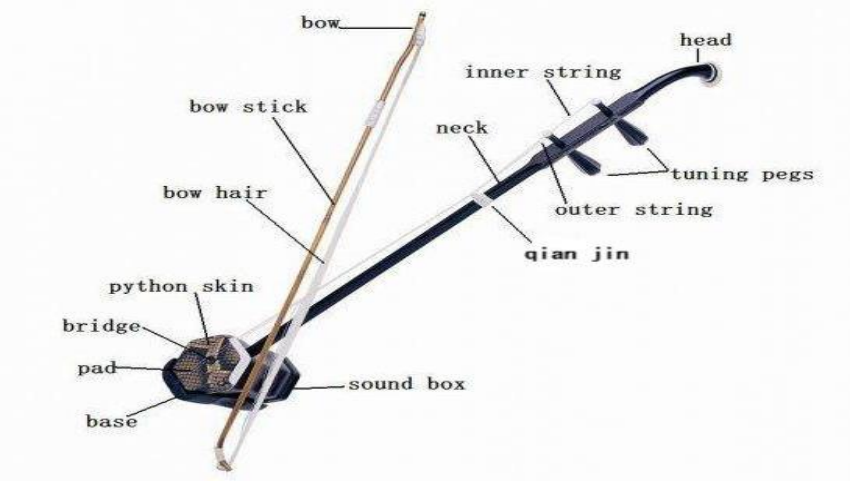


Figure 21. Structure name of each part of Erhu

Photo: Lei Ye

1.2.1) Early stage of Erhu production (1910~1949)

The vast majority of erhu production in this period was made by the folks. It was produced by a master with a few apprentices. The operation method was single and the original handcraft workshop was preserved. By the time of Emperor Guangxu of the Qing Dynasty, there were only 6 shops in Suzhou's larger erhu workshop. These shops were scattered, they were Yang Wanxing, Yang Fenglin, Guo Hengxing, Xu Fengyi, Song Wanmao, and Zhou Wanxing. Around 1936, there were more than 20 workshops and musical instrument shops capable of making erhu in Suzhou. Over time, the position of musical instrument shops gradually shifted to the center of the city, divided into two areas, one area facing the city center. It is mainly retail, and the other area is for customers from all parts of the country, mainly wholesale. The business nature and service targets of the two areas are different from each other. Located in the musical instrument store in the city center, you can get in touch with people from all walks of life at that time, including musicians and artists at that time, and you can listen to the suggestions for improvement from various industries. Another area is not in the city center. It is mainly for wholesale, for customers from all over the country, and the musical instrument is relatively simple. At that time, Suzhou's erhu production level, craftsmanship, timbre and volume were among the best in the country. Ordinary production workshops can only produce bamboo erhu, and only some famous musical instrument stores have the ability to produce wooden erhu. This is why we see that early erhu is made of bamboo.

1.2.1.1) Erhu in the 1920s

Figure 22. Erhu in the 1920s

Source: Shanghai Museum of National Musical Instruments

- Measurement data

Sound box section: round

Section shape of neck: round

neck length: 850mm

Sound box length: 110mm

sound box Front diameter: 70mm~80mm,

sound box Back diameter: 70mm~80mm,

Distance from the lower tuning pegs to the upper end of the sound box: 460mm~550mm

Erhu Bow length: 680mm

Erhu in this period did not have exaggerated shapes, and was rather concise. Round neck section design. Bamboo materials are mainly used, sound boxes are mainly made of bamboo, and a small number of musical instrument stores can make wooden sound boxes. Most of the wooden materials use old furniture or demolition materials for house door frames. Resonance skin uses animal skins, such as sheep, cow, horse, snake skin, etc.

1.2.1.2) Erhu in the 1930s

Figure 23. Erhu in the 1930s

Source: Shanghai Museum of National Musical Instruments

- Measurement data:

Sound box section: Hexagon

Section shape of neck: round

neck length: 750mm

Sound box length: 120mm

sound box Front diameter: 76mm,Horizontal width: 80mm,

sound box Back diameter: 66mm, Horizontal width: 70mm

Distance from the lower tuning pegs to the upper end of the sound box: 460mm

Erhu Bow length: 680mm

In the erhu of this period, the head of the erhu is dominated by flat heads, and the phoenix tail head and the Ruyi head are decorated with auspicious patterns. "zhongYao" decoration, after measurement, the thinnest part is 35mm wide and 210mm around. One end of the skin is wider, 40mm on each side and 240mm around it. It is mostly made of hard wood. Use snake skin to cover.

1.2.1.3) Erhu in the 1940s

Figure 24. Erhu in the 1940s

Source: Shanghai Museum of National Musical Instruments

- Measurement data

Sound box section: round

Section shape of neck: round

neck length: 800mm

Sound box length: 125mm

sound box Front diameter: 80mm,Horizontal width: 85mm

sound box Back diameter: 75mm,Horizontal width: 80mm

Distance from the lower tuning pegs to the upper end of the sound box: 515mm

Erhu Bow length: 700mm

In the erhu of this period, the head of the erhu was mainly flat with a bat head, a dragon head shape, a meniscus headdress, and the thinnest part of the sound box was 35mm wide on each side, 210mm around, and 240mm around 40mm on each side of the skin. The main materials are mahogany. The skin is mostly snake skin or python skin. The python skin at this stage is thinner, about 5mm thick, and has small scales. Most of them are produced in Yunnan, Guangdong, Guangxi, Hainan, etc., China. Tuning pegs, single shape, watermelon petal pattern or twisted silk pattern, made of hard wood materials such as mahogany and boxwood. There is always a certain difference in the production of two tuning pegs, about 150mm in length.

1.2.1.4) Summary

This stage is completely manual production. The tools are original and simple. There is no uniform model of the parts and the specifications are uneven. From material selection to assembly, it is completed by one person. The production is simple, the volume is small, the sound is not good, and the subjective randomness is strong. , Relying solely on workers' experience and user's habit requirements, product specifications are not easy to guarantee, and production efficiency is low.

In 1937, the War of Resistance Against Japan broke out in China. The working people were unable to buy musical instruments. The ruling class at that time advocated Western musical instruments. A large number of Western musical instruments were imported. National musical instruments were not taken seriously. The sales of Suzhou Erhu were very small. After the victory of the War of Resistance Against Japan, the sales of erhu improved slightly. Until the founding of New China in 1949, Suzhou Erhu sold very little.

1.2.2) The development period of erhu production (1950~1979)

With the founding of the People's Republic of China in 1949, a stable social situation was brought about. The country began to vigorously promote the support of handicraft manufacturing and the development of culture, art, and music. This provided a good environment for erhu production. With the continuous satisfaction of material conditions, the production of

national musical instruments has also been developed, and musical instrument shops, employees and products have increased on the original basis.

1.2.2.1) Erhu in the 1950s

Figure 25. Erhu in the 1950s

Source: Shanghai Museum of National Musical Instruments

-- Measurement data

Sound box section: Hexagon

Section shape of neck: round

neck length: 805mm

Sound box length: 129mm

sound box Front diameter: 84mm

Front mouth end thickness: 1mm

sound boxBack diameter: 78mm

Distance from the lower tuning pegs to the upper end of the sound box: 520mm

Erhu Bow length: 730mm

Erhu wood of this period chooses hardwood, which has a higher density. The head of the piano is mostly Ruyi headdress or meniscus. The neck is slightly thicker than before. The neck is inserted above the sound box and fixed. There is no groove in the erhu sound box, which is straight and flared. The inner chamber has a certain slope. The front mouth and the rear mouth are the same, each with a length of 34mm, and both ends are slope-shaped. The skin is mainly

python. Use wood of a different color from the piano body to achieve a decorative effect. The bridge adopts wooden bridge or bamboo bridge, and a few adopt paper bridge.

1.2.2.2) Erhu in the 1960s

Figure 26. Erhu in the 1960s

Source: Shanghai Museum of National Musical Instruments

- Measurement data

Sound box section: Hexagon

Section shape of neck: round, oblate

neck length: 810mm

Sound box length: 130mm

sound boxFront diameter: 86mm

Front mouth end thickness: 4mm

sound boxBack diameter: 78mm

Distance from the lower tuning pegs to the upper end of the sound box: 495mm

Erhu Bow length: 730mm

In the erhu of this period, the internal structure of the sound box showed a diversified development. There was an inner cavity in 1964, the slope length of the inner cavity was changed to 25mm, and it was changed to 15mm in 1966, and a horn-like opening was made more than 20mm from the back mouth. Insert the neck directly into the bottom of the sound box. The skin is mainly python leather. There have been attempts to replace python leather with thin cowhide or silk or sheepskin instead of python leather. These are all given up because of unsatisfactory sound

and difficult to promote. Prior to this, the skinning method used one-time molding. It is worth noting that in 1963, the Suzhou Folk Musical Instrument Factory designed a skinning technology that can adjust the tension and tension, and this skinning technology was overcome. In this period, the erhu began to increase the bottom of the pallet, fixed under the sound box, there is a certain gap between the sound box and the pallet, in order to fully vibrate the sound box while playing and increase the stability of the erhu.

1.2.2.3) Erhu in the 1970s

Figure 27. Erhu in the 1970s

Source: Shanghai Museum of National Musical Instruments

- Measurement data

Sound box section: Hexagon

Section shape of neck: round

neck length: 815 mm

Sound box length: 130mm

sound boxFront diameter: 88mm

Front mouth end thickness: 4mm

sound boxBack diameter: 80mm

Distance from the lower tuning pegs to the upper end of the sound box: 495mm

Erhu Bow length: 760mm

During this period, most of the wood used to make erhu was old furniture materials, and only a small amount of imported wood. At this time, the erhu tuning pegs appeared copper

mechanical shafts, and in 1963, the mechanical copper erhu tuning designed and developed by Zhang zirui pegs, the advantage of this design is that it is convenient for instrument players to tune, and the tuning is very labor-saving. But there are also disadvantages that come with it, such as the erhu's intonation stability. After adjusting the pitch, the intonation deviation will soon appear again. No wooden tuning pegs are stable.

1.2.2.4) Summary

During this historical period, the musical instrument industry prospered and developed, thanks to the great attention of the country. After the founding of the People's Republic of China in 1949, the method of mutual learning and reference between China and the West was adopted to enable comprehensive and in-depth exchanges between Chinese and Western music, including composition and music Temperament, music theory, musical instrument production, etc. After learning from the standardization model of western musical instrument production, through continuous improvement from small private workshops to large musical instrument factories, the production of musical instruments has been developed in the direction of scale, systematization and specialization. People have a more objective understanding of the current situation of Chinese music. People in the music industry began to consider the development of national music, but the prerequisite for development is to unify the production standards of national musical instruments.

1.2.3) The mature period of erhu production (1980~2010)

Erhu production has gone through decades of development and has entered a relatively mature stage. Musical instrument makers are serious and dedicated, and there were sufficient raw materials for production at that time, so the output was large. After 1990, the erhu production industry regularly invited erhu performers, university professors and industry experts to organize academic seminars to optimize the quality and system of erhu production.

1.2.3.1) Erhu in the 1980s

Figure 28. Erhu in the 1980s

Source: Shanghai Museum of National Musical Instruments

- Measurement data

Sound box section: Hexagon

Section shape of neck: pear shape

neck length: 815mm

Sound box length: 130mm

sound boxFront diameter:88 mm

Front mouth end thickness: 3.5mm~4mm

sound boxBack diameter: 80mm

Distance from the lower tuning pegs to the upper end of the sound box: 495mm

Erhu Bow length: 760mm

During this period, the main raw materials for production were wood collected from old furniture. The production of a small amount of imported wood erhu was basically manual and machine-assisted, but the high-end erhu was still made by hand. Because the high-end erhu was made of exquisite materials, the production cycle was long. It is often in short supply. In general, the erhu production technology during this period has been very mature.

1.2.3.2) Erhu in the 1990s

Figure 29. Erhu in the 1990s

Source: Shanghai Museum of National Musical Instruments

- Measurement data

Sound box section: Hexagon

Section shape of neck: pear shape

neck length: 815mm

Sound box length: 130mm

sound boxFront diameter:88 mm

Front mouth end thickness: 3mm

sound boxBack diameter:80 mm

Distance from the lower tuning pegs to the upper end of the sound box: 495mm

Erhu Bow length: 780mm

The erhu at this stage is exquisitely made, rich in shape and beautiful, and more pursuit of production details. The production materials are mainly imported. Old furniture wood is rare. Basically, new wood is used. These new woods are produced in Southeast Asia or India. Setting grooves on the inner wall of the sound box can balance the volume and improve the tone. In addition to the single barrel improvement, the sound box tried to use a double-layer sleeve, but it was gradually cancelled due to poor sound effects. The overall production process is more complete, and the overall tone and volume of the erhu have been greatly improved compared to before.

1.2.3.3) Summary

The production of Erhu has experienced a development process from simple to complex, from perceptual to rational, and from backward to scientific. It is accompanied by the development of the entire erhu art. It is the product of long-term artistic practice and production practice. In addition, “Erhu making as a social practice” is bound to be connected with the country, society, and economic and political systems. From the development process of erhu production, we have seen the continuous improvement of erhu specifications, the increasing technical content, and the gradual improvement of piano-making technology. Each improvement plays an important role in enhancing the expressive power of erhu.

1.3) Improvement method

The early erhu was made of bamboo, and the string was made of silk. It was divided into three types: Zixian, Zhongxian, and Laoxian. Zixian was the thinnest, Laoxian was the thickest, and Zhongxian was somewhere in between. Usually the outer string of the erhu uses zixian, and the inner string uses zhongxian. But at that time there was no standard for the erhu string. Folk artists mostly chose different types of strings according to their own performance needs. For example, the erhu string used by folk artist A Bing is different from others. He uses zhongxian as the outer string and laoxian. It is the inner string. In addition, the sound box, bridge, bow, etc. of the erhu are all undecided, so the folk erhu will be presented in a variety of images. However, whether it is a folk musician or a group of academic musicians, the practice of reforming the erhu form has never stopped.

1.3.1) The improvement from bamboo erhu to wooden erhu.

Because bamboo is convenient and easy to process, the erhu of the late 19th century and early 20th century are generally made of bamboo. The sound box is also made of bamboo tube, the size is small and mostly round, and there is no standard size. There are generally shortcomings such as low volume, poor timbre, and narrow range. Because the main role of the erhu at that time was to act as an accompaniment to opera music, there was no high requirement for timbre. The performance technique has only one position, which is relatively single and lacks a rich range. Because the neck made of bamboo has slub knots, it is not conducive to changing the performance. As the bamboo erhu could not satisfy the performance defects, Zhou Shaomei and Liu Tianhua successively reformed the bamboo erhu and began to use wood instead of bamboo.

After years of research and player feedback, they believe that the erhu made by mahogany is the best performance In this period, the main source of mahogany was old furniture. The wooden erhu is smoother after polishing, which makes the handle changing technique more smooth and reduces the friction of the left hand in the erhu performance. Since then, the use of mahogany for the erhu has been used in the future.

1.3.1.1) Improvement of folk artists represented by Mr. Zhou Shaomei

Zhou Shaomei (1885 - 1938)

As the teacher of Mr. Liu Tianhua, Zhou Shaomei is the inventor of the "San ba tou" playing technique. So what is "San ba tou"? At that time, erhu performance could only be restricted by one position and range. When high notes are encountered, it becomes a low octave performance, and when encounters a low tone, it becomes a high octave performance. This way of playing is not conducive to the flow of musical melody and brings erhu performance. Restrictions. Zhou Shaomei expanded the erhu to the third position by using the technique of changing handles, and broadened the erhu's playing range. Mr. Zhou Shaomei's main improvements to the erhu form are as follows: expand the sound box, increase the neck to about 90 cm, and replace the inner and outer strings with zhongxian and zixian to laoxian and zhongxian. As a result, the volume and range of the erhu increase, and the pitch decreases accordingly, creating a premise for the improvement of its performance method. And composed the first erhu solo to "Yu Shunxun Fengqu". This is the first erhu solo in record, laying the foundation for erhu to become a solo instrument.

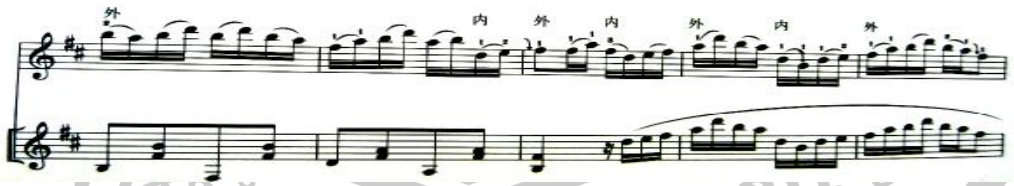


Figure 30. Yu Shunxun feng Music Score Fragment 1

Source :Compiled by the Chinese National Orchestral Society. (1.2010). Shanghai Music Publishing House, Shanghai, China.The Classic of Chinese Music-Erhu Volume Music Pieces (Part 1).page 4,bars 35-39

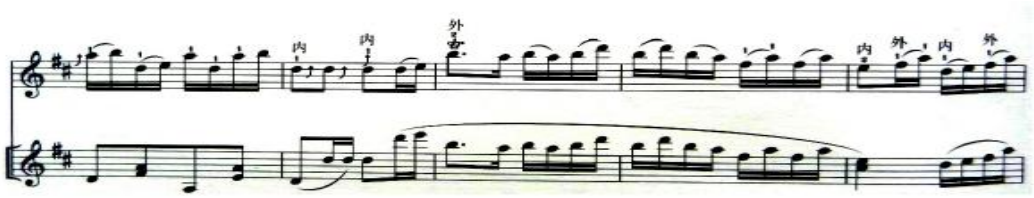


Figure 31. Yu Shunxun feng Music Score Fragment 2

Source :Compiled by the Chinese National Orchestral Society. (1.2010). Shanghai Music Publishing House, Shanghai, China. The Classic of Chinese Music-Erhu Volume Music Pieces (Part 1).page 6,bars 76-80

1.3.1.2) The improvement of academic instruments represented by Liu Tianhua.

Figure 32. Liu Tianhua's Improved Erhu

Length: 760mm neck: 17mm bow shaft length 723mm

Length: 770mm neck: 20mm bow shaft length 730mm

Source: Liu Tianhua Memorial Hall

Liu Tianhua (1895-1932), the musicians represented by him, had the most profound influence on the reform of the erhu form. First of all, he changed the shape of the sound box. The erhu sound box used for a long time was circular in cross section and hexagonal after reform. Secondly, the distance between qianjin and bridge is basically fixed between 46cm-48cm. Again,

the fixed pitch of the string is fixed, the inner string is d1, and the outer string is a1. The "standardization" of Erhu has been initially realized. At the same time, the sound range of the erhu was broadened to three octaves, forming three sections of high, middle, and low ranges, which laid the basic conditions for establishing the status of a solo instrument; and initially realized the "standardization" of the erhu, and played the erhu. He teaching was incorporated into the university curriculum, and he successively composed 10 erhu solo songs and targeted erhu etudes. Mr. Liu Tianhua's improvement of erhu did not work behind closed doors, but with Li Ruilin (instrument maker), after a long period of discussion, Experiments and research have finally successfully developed a new type of erhu-"Liu's erhu": using fine-textured mahogany or red sandalwood as the material, improving the specifications of the "resonance box"-sound box and using high-quality python skins. And increase the length of the neck, improve the erhu bow and so on. Regarding the erhu position, based on his teacher Zhou Shaomei, he continued to extend two positions downward, increasing to the fifth position, which expanded the erhu's vocal range and enhanced expressiveness. In addition, the tuning pitch (d1, a1) of the erhu string has been established. This is the first time in the history of modern erhu that the inner and outer string pitches have been clearly specified. Up to now, the erhu tuning has been using this standard.

To sum up, the erhu musicians represented by Zhou Shaomei and Liu Tianhua have made outstanding contributions to the development of erhu art during this period and laid a solid foundation for the development of modern erhu art.

1.3.2) Improvement from silk string to steel wire

When Liu Tianhua reformed the erhu, he had clear regulations on the use of strings (the inner string is always high-quality zhongxian, and the outer string is zixian), which unified the timbre of the two strings of the erhu. In 1950, Zhang Zirui, a famous national musical instrument reformer in my country, reformed the materials for making erhu strings: changing the original silk strings to steel strings. This is a milestone event in the history of the development of Erhu and the second leap in the history of the development of Erhu. The use of steel strings solves the problem of easy breakage of silk strings and unstable pitch, improves the uniformity of erhu pitch and timbre, and has a good effect in band performance. The silk string is compared with the steel wire string: the volume of the silk string is lower and the tone is dim. Steel strings are louder, brighter, more explosive and penetrating. However, the left-hand pressing of the steel wire

string is difficult to control and easy to slip, so the force and stability of the left-hand pressing are higher. Players who are accustomed to using silk strings were not able to adapt to the use of steel strings at first. During this critical period, the famous erhu player Chen Zhenduo took the lead in using steel strings, which played a certain role in promoting the popularity of steel strings.

Figure 33. From left to right, laoxian diameter 1mm, zhongxian diameter 0.7mm, zixian diameter 0.5mm

Photo : Lei Ye

Figure 34. Steel wire string

Photo: Lei Ye

1.3.3) Improvement of sound box

In 1959, the Ministry of Light Industry of the People's Republic of China conducted a nationwide survey on the erhu. After listening to the opinions and suggestions of experts and luthiers, a unified standard for erhu production was formulated and implemented in various national musical instrument factories across the country. The specifications of the sound box: "Hexagonal tube length 129mm, front mouth outer diameter 84mm, inner diameter 82mm, rear

mouth outer diameter 78mm, inner diameter 67mm, front mouth end thickness 1mm, inner bore slope length 34mm, straight flared shape, rear mouth slope the same length The front mouth is the same. The sound window is inlaid with an ancient coin shape in the middle, and the periphery is composed of six diamonds." (Suzhou National Musical Instrument No. 1 Factory: "Suzhou National Musical Instrument No. 1 Factory", pp. 121-122)

In 1963, the Ministry of Light Industry of China promulgated the standard for the production of erhu for the first time: the total length is 810mm, the sound box length is 130mm, the front diameter is 85mm, the rear diameter is 78mm, and the distance between the center of the lower tuning pegs and the upper end of the sound box is 495mm. In addition, there is no support plate at the bottom of the piano, and the sole of the piano is prismatic to tie the strings. Since then, there has been a unified standard for making erhu nationwide. Around the mid to late 1960s, Cento appeared. In 1978, the erhu production standard was promulgated again, and the sound box with a hexagonal cross-section was listed as the only standard shape of the erhu sound box in the "technical requirements". Afterwards, the musical instrument factory made appropriate adjustments to the sound box in pursuit of better erhu tone and volume. In the 50s, 60s and 70s of the last century, the Shanghai National Musical Instrument Factory "sound box length 125mm—130mm—130mm; sound boxFront diameter 84mm—85mm—88mm; sound box Back diameter 80mm—78mm—80mm. In the same period, Suzhou National Musical Instrument Factory produced The specifications of the Erhu sound box are: "The length of the sound box is 129mm—130mm—130mm; the sound boxFront diameter is 84mm—86mm—88mm; the sound boxBack diameter is 78mm—78mm—80mm.

1.3.4) Improvement of qianjin

Erhu is mainly a single qianjin, and the materials used are mostly pure cotton threads. There is also the phenomenon of installing two qianjin. One is fixed, and the other can move up and down qianjin. The two qianjin extend the range of the erhu down to the pure fourth, but because the conversion between the upper and lower qianjin in the actual performance will affect the continuity of the music and the performance and performance habits are contrary, so after a period of time The practice of China has not been fully popularized. Some people use metal qianjin, but because of the different audiences, only a few people use it. Up to now, erhu performance is still using a qianjin.

Figure 35. qianjin and metal qianjin

Photo: Lei Ye

1.3.5) Improvement of the film

In addition to wild python skins, artificial python skins, sheepskins, cowhides and snake skins have also appeared in Erhu. With the improvement of social civilization and the progress of science and technology, in order to protect wild animal resources, maintain the natural ecological environment and improve the activity of animal skin, the acoustic quality of erhu under the influence of climate is affected. From the 1950s and 1960s, the improvement began, and it has never stopped. The national musical instrument making circles and erhu professionals have made a lot of attempts on artificial leather. However, due to various reasons, it is always difficult to popularize.

In order to explore the reasons, first analyze python leather and existing artificial leather types from the perspective of materials:

The surface layer of the python skin is soft calcium scales, and the inside is an internal protein fiber structure. According to experimental analysis: the elasticity, tensile strength, areal density, elongation and aesthetics of python skin are not available in other animal skins.

The following is an analysis of python skin

- Composition: It is produced by dermis. It is composed of calcium carbonate and other calcium substances (not ossified, not brittle and hard, and has good flexibility), and no latex components.

- Color and pattern: are produced by pigments. The color has deep and shallow levels (yellow, blue, black, brown).

- The squamous sac is composed of fiber bundles, which mainly tie the scales.

- Fibrous tissue is the main component parallel to the lower part of the epidermis, which is a protein fiber component. The deep layer is a net-like structure with fibers distributed longitudinally and less horizontally.

- Subcutaneous tissue, leftover meat, capillaries, etc. (it needs to be removed when used in musical instrument making and processing).

Figure 36. The back of the python skin after processing, Photographed at Suzhou National Musical Instrument Factory

Photo: Lei Ye

Due to the python fiber network structure, this protein fiber layer tissue cell core has organic active hydrophilic groups, so the stability will be affected by environmental climate, such as humidity and temperature, such instability. Brings a difference in the acoustic quality of erhu. To

In order to enhance the stability of the film, in the production process, the surface of the film is mainly sealed by waxing the scale skin and gaps. To

Because the python skin material has animal activity, it can be processed many times. As long as the sound box material is stable and properly maintained. The service life can reach more than ten years.

Artificial python skins and other leathers have not been popularized so far, mostly because of the preferences of the players. The sound does not have the unique timbre characteristics of wild python skins. It can be said that the sound of erhu made by wild python skin is unique. In the production process, in addition to paying attention to the uniform thickness and suitable parts, the skin should be treated many times, so as to better remove the grease on the

surface of the python skin, prevent the skin film from becoming loose in the future, and can also increase the volume and change Less noise, soft and bright tone。

Figure 37. Artificial python skin erhu

Photo: Lei Ye

1.3.6) Bridge improvement

In the past few decades, erhu bridges have used paper, bamboo, wood and other materials more commonly. Later, they gradually used wood codes of different materials. There was once a phenomenon of using violin bridges. In the 1960s and 1970s, under the joint research of Professor Wang Yi from the Shanghai Conservatory of Music and Wang Ruiquan, a luthier from the Suzhou National Musical Instrument Factory, the "fried code" was invented: use wax oil and rosin to mix thoroughly, boil, and fry the mast. Made of wooden bridge. The use of "fried code" makes the timbre of the erhu more beautiful and honest, and also plays a positive role in improving the timbre of the erhu.

Figure 38. Bridges of various materials

Photo: Lei Ye

1.3.7) Other improvements

1.3.7.1) Add string erhu

It is to add one more string to the two strings of Erhu, or add two strings. After each string is added, the qianjin, bridge and bow must be adjusted. The shape of the three-stringed erhu is roughly the same as that of the erhu, except that the neck is thicker, and there are two types of round rods and flat front and rear rods. The upper part is horizontally placed with three tunings. pegs. The sound box is slightly larger than the erhu sound box, in a hexagonal or oblate shape, and has a python skin that is slightly thicker than the erhu. Set wooden or metal fixed qianjin, stepped bridge, install three steel wire strings, the tuning from low to high is: G, d, a or a, d, a two kinds. Its range is expanded on the basis of the erhu. Because the range of the Sanxian Erhu is extended to the bass direction, it is more colorful and extraordinary artistic features than the erhu. It plays double-tone continuous bow, four and five chords, and has music specially composed for it,

Either increase or decrease will change the original way of playing erhu. The biggest problem is to change the way of holding the bow. To use the right middle finger and ring finger to control the two bow hairs, it is difficult to popularize.

1.3.7.2) Electroacoustic Erhu

In the 1990s, in order to pursue a greater breakthrough in the timbre of the erhu, I began to try to electrify the erhu and developed the electroacoustic erhu based on the production techniques of electroacoustic instruments. The most representative one is "Roland-Dunhuang" Electro-acoustic erhu. It was jointly developed by Roland Company of Japan and Shanghai No. 1 National Musical Instrument Factory. On the basis of the traditional erhu, some effectors have been added. The effector loaded on the base is an instrument specially tailored by Roland Company for the erhu. It has delay, mixing, chorus and other effects, making the sound of the erhu more full, pure and three-dimensional. The erhu sound box is directly fixed to this instrument, and it is fixed with the piano holder and hung on the waist, which is convenient for the player to stand and play.

This electro-acoustic erhu is equipped with speakers and has a louder volume, which is suitable for performances in a square. There is no need to set up a microphone on site. The sound can be adjusted according to the needs of the player. At the same time, it also has

MIDI sound effects, making the erhu sound fuller and more three-dimensional. The successful development of electroacoustic erhu has greatly improved the traditional erhu's problems of low volume and low sound quality.

Figure 39. Roland electric erhu.

Photo: Lei Ye

2. George Gao's improved

2.1) Introduction to Shaoqin

1) Shaoqin

Figure 40. Shaoqin's tuning pegs and sound box

Photo: Lei Ye

Shaoqin is improved and invented by George Gao. Shaoqin uses tuning pegs to use modern high-precision gear shafts. It has high accuracy and stable pitch, labor-saving and convenient, which is much more convenient than erhu tuning.

The concert halls built in today's era are all acoustically designed. The top of the concert hall has a reflector. The sound box design of the erhu runs counter to the design of the modern concert hall. When the player faces the audience, the sound box of the erhu is straight. The sound transmission direction is horizontal, and the reflection design on the ceiling of the concert hall cannot be used at all. The sound box of shaoqin can be rotated at will, and the sound transmission direction is changed through the sound box. Normally, the sound box is facing upward by default, which is good for music. When playing in the hall, the sound can be directly transmitted to the reflector on the dome of the concert hall to pass to the audience. Therefore, shaoqin makes up for a number of erhu deficiencies, for example: the subjective hearing increases the volume of the erhu, and the free movement of qianjin increases the erhu The range. In addition, the most important thing is that shaoqin has the same playing technique as the erhu, so it is easy to be recognized by the erhu performers, and it is easy to promote and popularize.

It is a stringed instrument just like the traditional erhu. The ponytail of the bow excites the strings to vibrate and produce sound during performance. From the perspective of musical instrument acoustics, the composition of acoustic components is the same as that of the erhu. They are all composed of vibrating body—strings, resonance body—sound box, excitation body—bow, conductor—bridge, and regulating device—tuning pegs. composition. The shape of the Shaoqin resonance body is quite different from that of the erhu. Most erhu sound boxes have a hexagonal or octagonal shape at the front and rear. The front mouth of the Shaoqin piano tube is hexagonal, and the rear mouth is detachable. Of polygons with turns. In addition, the sound reflection system is also different from the erhu. In addition, the distance between the strings and the neck is also different. The tuning pegs of the erhu are longer, and the tuning pegs of the shaoqin are shorter. Because the strings are far from the shaft, qianjin adopts the form of rope binding. . Shaoqin uses the mechanical transmission tuning pegs of the guitar, the string is close to the neck, and it uses a waist-horse support qianjin similar to the Chinese Banhu style.

In order to understand shaoqin in depth, a series of acoustic measurements, such as range, timbre, volume, etc., were compared with Erhu, and the sound quality characteristics of Shaoqin were analyzed.

2.2) Sound range analysis

Explanation: The following three pictures show the frequency spectrum of the musical scale. The first part of the picture shows the notes played.

The green part in the middle is the audio waveform, and the purple part below is the frequency spectrum of each tone.

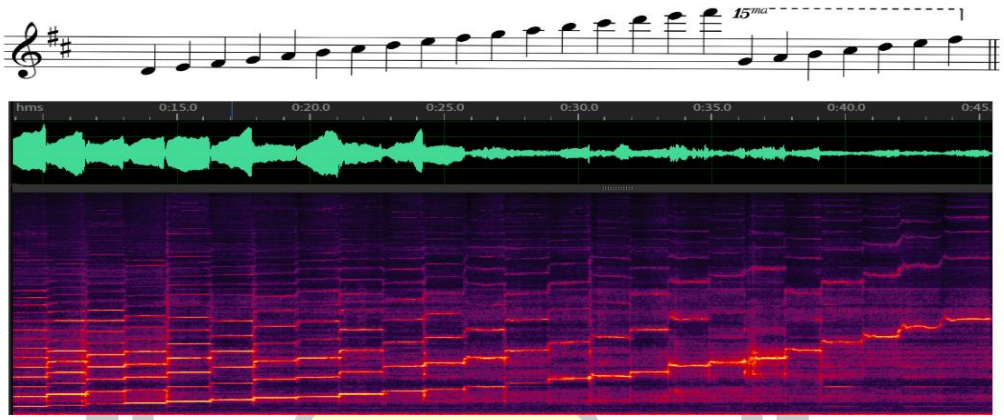


Figure 41. Shaoqin DA tuning range chart

Photo: Lei Ye

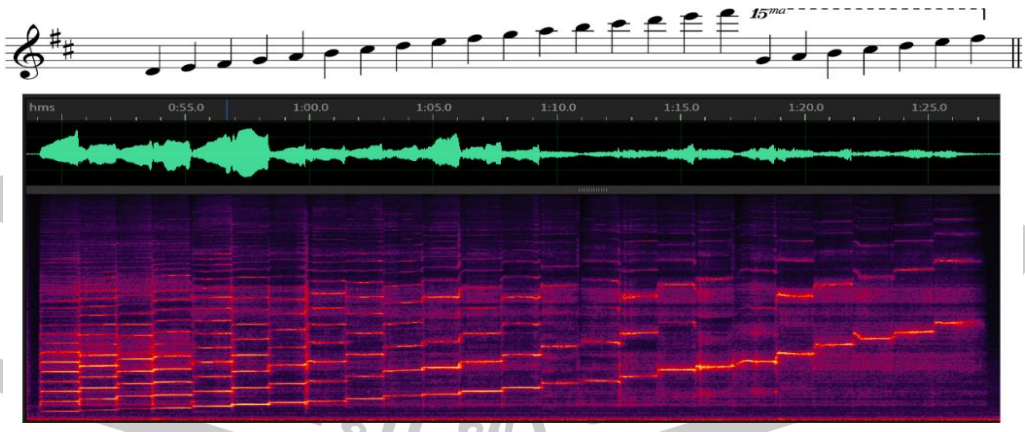


Figure 42. Old mahogany erhu DA tuning range chart

Photo: Lei Ye

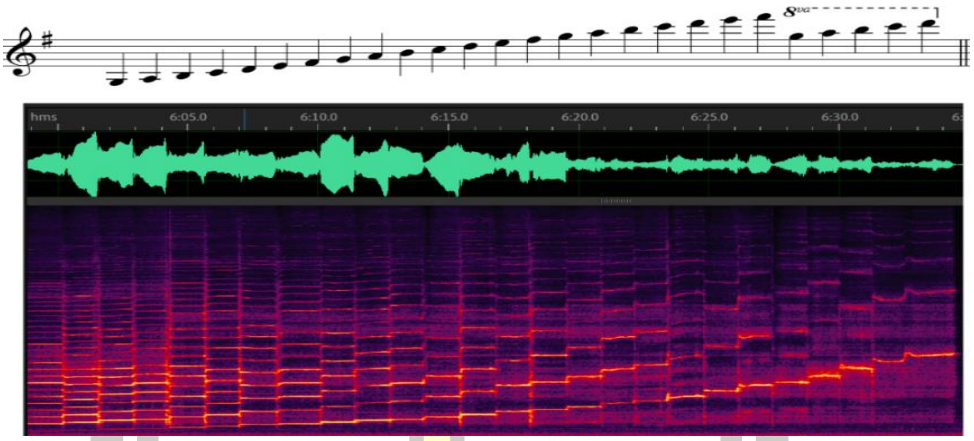


Figure 43. Shaoqin GD tuning range chart

Photo: Lei Ye

Analysis: Shaoqin's open strings are set, when the outer string is set to A and the inner string is set to D, its range is the same as that of the traditional erhu. As we all know, the frequency of string vibration is related to the length, density, tension and other parameters of the string. It is assumed that the shorter the length of the string, the greater the tension, and the lower the string density, the higher the fundamental frequency. The effective chord length, string density, and tension of shaoqin and erhu strings are basically the same, so the range is also the same. The effective range is from one group of small characters d to four groups of small characters #f.

It is worth mentioning that the weight of Shaoqin can be moved up and down, and moving up can make the effective string length longer, so that the effective range can extend to the bass direction by a pure five degrees. The tuning is the outer string D, the inner string G, and the sound range with better sound quality is the small letter group g-the small letter four groups d. For example, the performances of traditional music such as "Earth Springs Reflected in the Moon", "Ting Song" and "Liu Boqu" can be easily played on this shaoqin, and no additional erhu is needed. It is a veritable "multifunctional erhu".

2.3) Tone analysis

Explanation: The following spectrogram shows the full-range frequency components of the three musical instruments, which can be simply understood as the resonance response of the entire musical instrument to each frequency band. The sound samples used cover all the frequencies that the musical instrument can play.

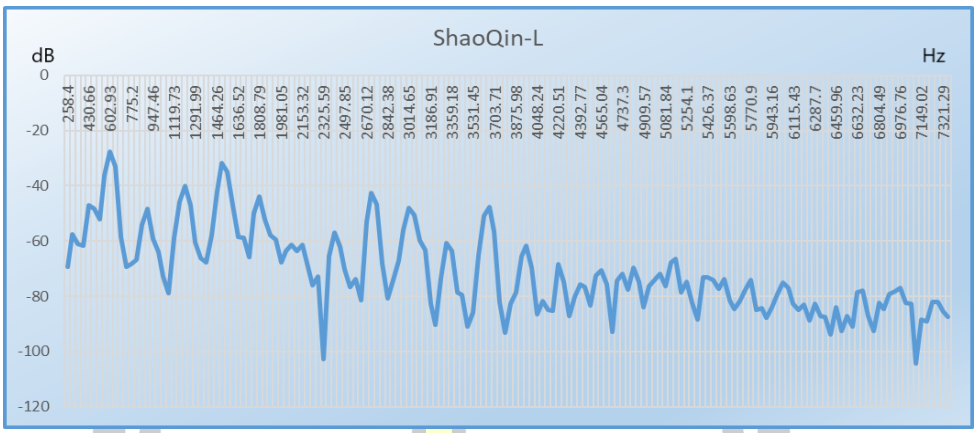


Figure 44. Shaoqin's left microphone picks up the sound sample spectrum

Photo: Lei Ye

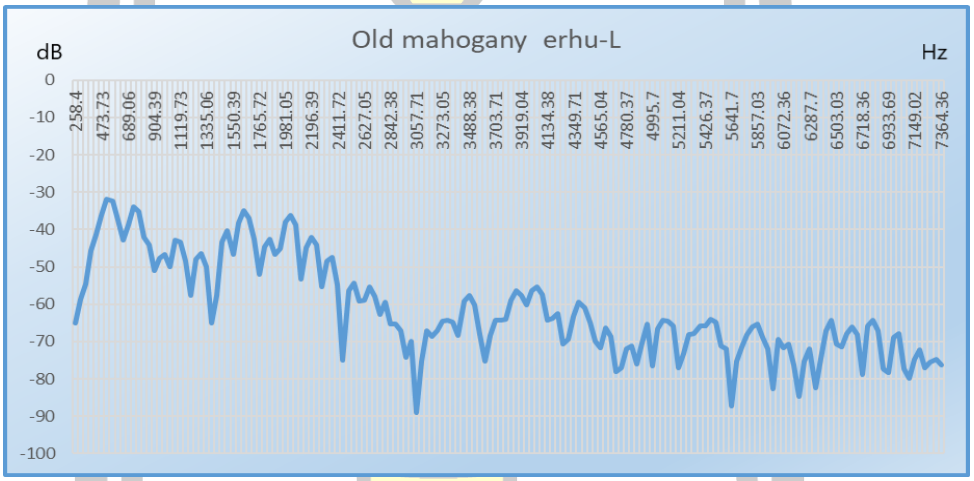


Figure 45. The spectrum of the sound samples picked up by the left microphone of the old mahogany erhu

Photo : Lei Ye

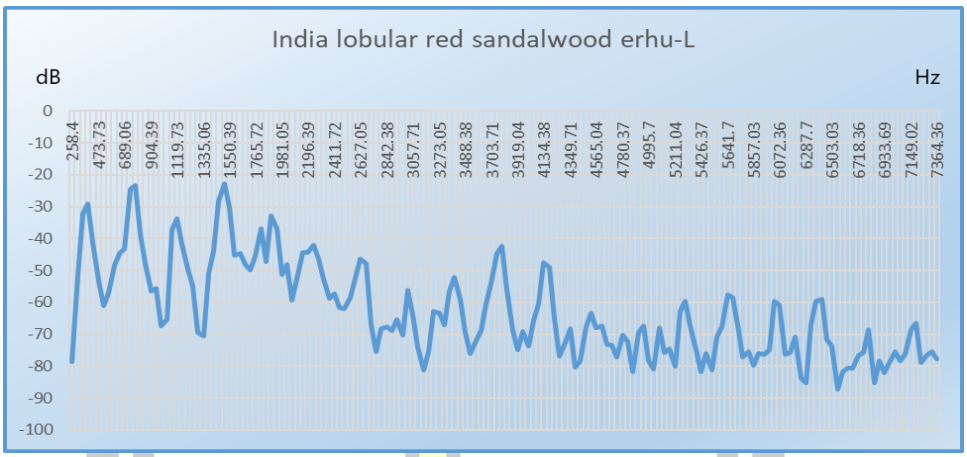


Figure 46. Spectra of sound samples picked up by the left side microphone of Indian red sandalwood erhu

Photo: Lei Ye

The following conclusions can be drawn from the above three spectrograms:

Compared with the old mahogany erhu and red sandalwood erhu Shaoqin, the sound is from low to high frequency, except for 2000Hz, there is an obvious trough. The harmonic amplitude becomes weaker as the frequency increases, and its envelope changes smoothly, showing linear attenuation, and the tone is more balanced. Both erhus have a relatively obvious trough frequency band around 3000Hz, which is the inherent timbre of traditional erhus.

In the frequency range of 4000Hz to 7000Hz, Shaoqin has richer harmonics and more formants, indicating that its timbre has more high-frequency components and a bright subjective sense of hearing. Red sandalwood erhu comes next, and the old mahogany erhu has relatively fewer high frequencies and a softer hearing.

Generally speaking, 294Hz (the lowest tone of the Erhu)-around 1500Hz is the area where the erhu homophonic energy is the most concentrated. Among the above three frequency spectrums, the old mahogany erhu has the most abundant homophony in this frequency band, but the amplitude is generally small. The number of harmonics of Qin is second, but the amplitude is stronger. The number of harmonics of red sandalwood and Erhu is the least, but the amplitude is the strongest. The homophony in this frequency band can reflect the vigor of the erhu. The more homophony, the stronger the amplitude, the thicker the sound.

In the frequency band of 2500Hz-4500Hz for the three Huqins, the overall harmonic energy is higher than 5000-7000Hz and lower than 300-1500Hz, and the sound sounds relatively full.

E. If 60 decibels are used as the baseline, Shaoqin and Laohongmu erhu only respond in the frequency range below 2500Hz, and their sound characteristics are more low-frequency. The harmonic energy of red sandalwood erhu at 2500-4000Hz exceeds 60 decibels, and its sound Low frequency and intermediate frequency are equally emphasized.

2.4) volume analysis

Note: The data in the figure below is the value measured by the sound level meter at a distance of 1 meter directly in front of the piano. The measured note names are: D4, E4, #F4, G4, A4, B4, #C5, D5, E5, # F5, G5, A5, B5, C6, D6, E6, #F6, G6, A6, B6, #C7, D7, E7, #F7 (acoustic group, D4 is a small group D on the piano). In order to ensure that the measurement results are as objective as possible, the sound pressure level of each tone is collected three times, and the data used in the line graph is the average of the three measurement data (retaining two decimal places).

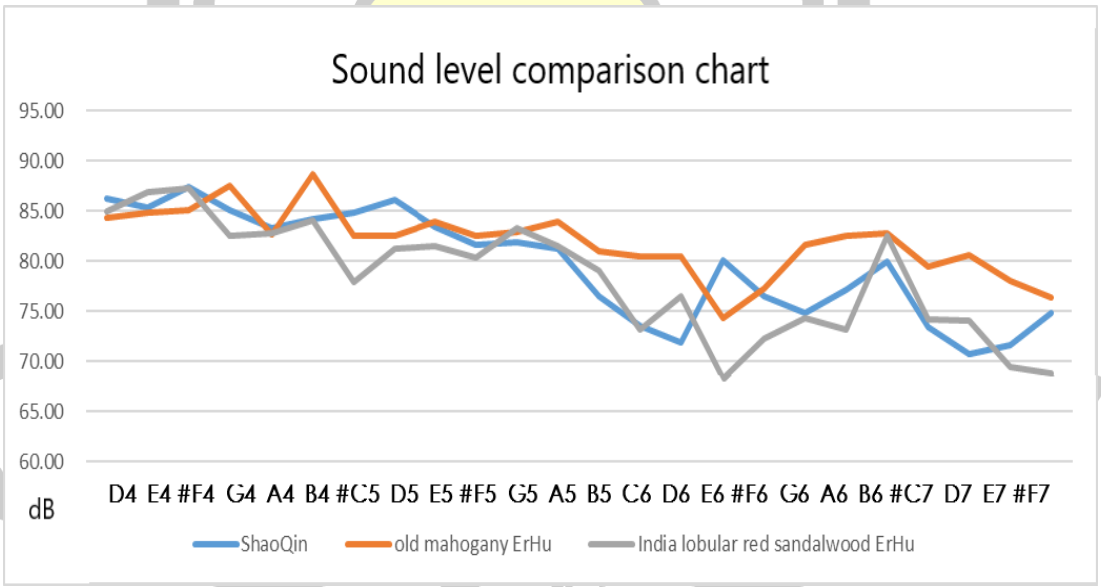


Figure 47. Sound level comparison char

Photo: Lei Ye

Table 5. Measurement data sheet

musical alphabet		D4	E4	#F4	G4	A4	B4	#C5	D5	E5	#F5	G5	A5
ShaoQin	NO.1 (dB)	84.30	85.50	86.70	86.60	84.20	81.10	84.80	85.20	81.90	83.00	81.20	80.80
	NO.2 (dB)	87.60	84.50	85.60	87.50	80.60	85.10	81.30	87.40	85.90	79.00	83.80	81.00
	NO.3 (dB)	86.70	85.90	89.70	81.30	85.00	86.40	88.30	85.70	82.50	82.70	80.50	81.80
	average value (dB)	86.20	85.30	87.33	85.13	83.27	84.20	84.80	86.10	83.43	81.57	81.83	81.20
Old mahogany erhu	NO.1 (dB)	84.20	84.90	83.40	87.50	83.20	89.10	82.30	84.30	85.00	81.70	83.10	84.60
	NO.2 (dB)	83.70	84.80	86.10	87.60	82.00	88.80	81.80	82.90	83.90	82.50	82.90	83.10
	NO.3 (dB)	84.90	84.70	85.80	87.40	82.90	88.10	83.50	80.30	82.90	83.30	82.70	84.20
	average value	84.27	84.80	85.10	87.50	82.70	88.67	82.53	82.50	83.93	82.50	82.90	83.97
India lobular red sandalwood erhu	NO.1 (dB)	84.30	87.60	87.20	83.50	83.80	85.20	75.60	82.10	81.00	81.70	83.70	78.80
	NO.2 (dB)	86.00	87.00	86.50	82.40	83.90	85.60	76.90	82.10	83.00	79.90	83.10	84.00
	NO.3 (dB)	84.40	86.00	88.00	81.80	80.50	81.20	81.20	79.60	80.40	79.20	83.20	81.50
	average value (dB)	84.90	86.87	87.23	82.57	82.73	84.00	77.90	81.27	81.47	80.27	83.33	81.43

musical alphabet		B5	#C6	D6	E6	#F6	G6	A6	B6	#C7	D7	E7	#F7
ShaoQin	NO.1 (dB)	75.50	72.90	70.30	79.90	81.00	74.00	81.00	74.60	72.10	70.60	72.00	72.40
	NO.2 (dB)	78.40	75.00	74.60	80.20	71.40	75.60	73.50	82.40	75.10	70.40	73.00	74.00
	NO.3 (dB)	75.60	72.50	70.60	80.20	77.00	75.00	77.00	83.00	73.00	71.00	69.90	78.00
	average value (dB)	76.50	73.47	71.83	80.10	76.47	74.87	77.17	80.00	73.40	70.67	71.63	74.80
Old mahogany erhu	NO.1 (dB)	80.10	81.50	79.90	74.00	78.80	82.70	81.20	80.90	80.60	80.50	75.00	75.70
	NO.2 (dB)	82.30	79.20	81.00	73.00	75.50	79.80	83.40	84.40	78.40	78.80	79.40	73.80
	NO.3 (dB)	80.70	80.50	80.50	76.00	77.60	82.30	83.00	83.00	79.30	82.60	79.80	79.50
	average value	81.03	80.40	80.47	74.33	77.30	81.60	82.53	82.77	79.43	80.63	78.07	76.33
India lobular red sandalwood erhu	NO.1 (dB)	79.60	70.80	77.00	70.20	73.00	76.30	72.30	82.90	74.00	74.20	70.30	69.60
	NO.2 (dB)	80.30	74.20	76.60	66.60	72.20	71.60	74.10	81.10	73.70	75.40	68.90	68.00
	NO.3 (dB)	77.30	74.30	75.90	68.00	71.40	75.00	73.10	83.70	75.00	72.60	69.00	68.70
	average value (dB)	79.07	73.10	76.50	68.27	72.20	74.30	73.17	82.57	74.23	74.07	69.40	68.77

The sound level meter tests the decibel values of three musical instruments, Measure the lowest pitch (D4) to the highest pitch (#F7) of three musical instruments in decibels

Analysis:

The tone intensity envelope trend of old mahogany erhu and red sandalwood erhu is basically the same. The volume of D5, E6 and #F7 is more prominent on Shaoqin.

B. The overall volume of old mahogany is stronger, followed by Shaoqin and red sandalwood erhu.

C. In the range of D4-A5, the volume of the three types of Huqin is not much different, and the overall volume is relatively balanced and stable.

2.5) Special functions

Description: Shaoqin's box sound consists of two parts, the front end is covered with artificial python skin, which is the fixed end. The sound hole at the rear end can be detached and rotated. This form of design also affects the sound quality of Shaoqin. Now the sound samples measured one meter in front of the player with the sound outlet facing upwards and forwards are analyzed as follows:

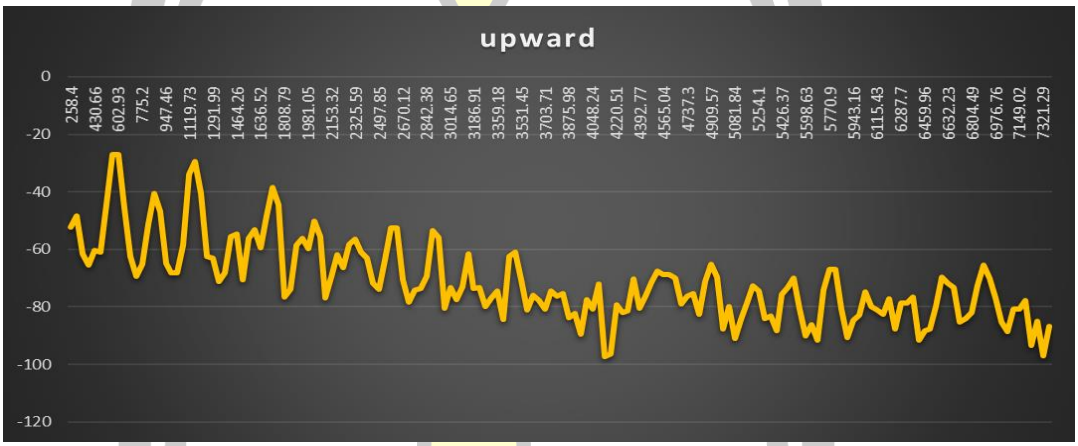


Figure 48. Shaoqin sound hole facing upward

Photo: Lei Ye

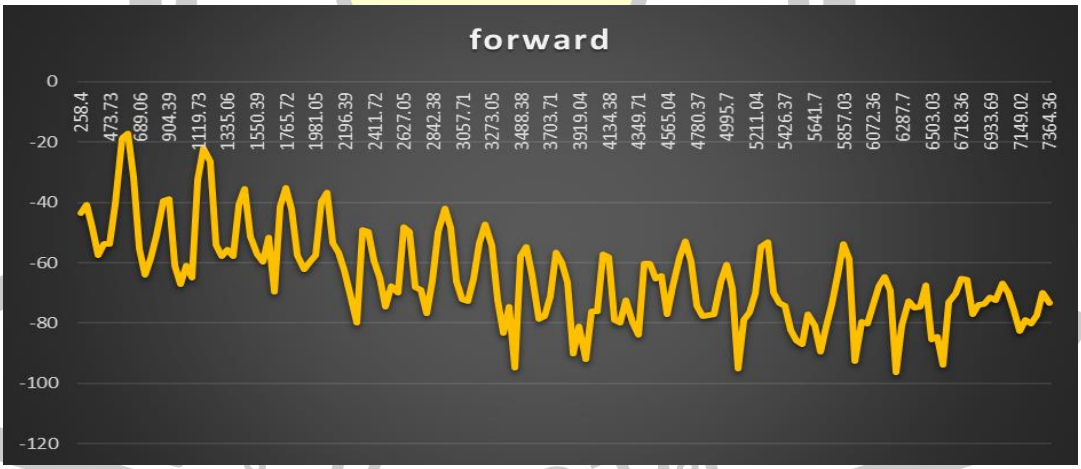


Figure 49. Shaoqin sound hole facing forward

Photo: Lei Ye

Analysis:

A. When the sound hole is facing upwards, a wave trough appears around 4000 Hz, indicating that the sound wave in this frequency band is hindered by the Sound box when it propagates forward. The frequency envelope of the sound hole toward the front is generally stable, and the amplitude attenuates evenly as the frequency increases.

B. For the harmonics before 5800Hz, the amplitude when the sound hole is facing forward is generally greater than when the sound hole is facing upward

2.6) summary

A. The timbres of the three musical instruments have their own merits. As the experimental samples, they are all professionally played musical instruments, so in general, the vibration is relatively sufficient and the sound is relatively transparent.

B. Shaoqin has a large volume and a deep voice, but the sound quality density is not full and solid enough. The old mahogany erhu is relatively solid and full, but not strong enough. The red sandalwood erhu has a rounder sound, but its penetrating power is insufficient, and the treble attenuation is obvious.

C. In terms of sensitivity, the old mahogany erhu is better, followed by Shaoqin and red sandalwood erhu.

After the above comprehensive analysis and research, Shaoqin has obvious advantages over the erhu, and will not be affected by the temperature and humidity of the surrounding environment. Shaoqin can replace the erhu in different tonal areas in performance, which is convenient for erhu players to carry and play, It has a certain value and significance.

Chapter VI

George Gao's Erhu music composition and playing techniques

The most representative of the Erhu music created by George Gao is the series of 5 Erhu Caprices, namely: Erhu Caprice No. 1-sixiang, Erhu Caprice No. 2-mengfeng, Erhu Caprice No. 3-xuandong, Erhu Caprice No. 4-gebi, Erhu Caprice No. 5-naxi. （Named after Capriccio, it can be judged to be a triad with an introduction and an ending (Introduction-AB-A'-Coda) according to the development of the musical style. The triad is composed of three parts or three sections, each section The length criterion is that the first paragraph and the third paragraph are both longer than the middle paragraph, because the theme determines the tone in the first paragraph, and repeats in the third paragraph, and the middle paragraph is just a change). Several pieces of music are regarded as the required repertoire of large-scale international competitions, and are favored by erhu players from all over the world. They are of extremely important significance in the development of erhu music. These music creations must have an inseparable relationship with personal experience. Through fieldwork, this chapter analyzes and studies George Gao's music creation philosophy and his five Erhu Capriccios, and separately analyzes the composition and composition of each Caprice, Analysis of performance techniques.

1. Performance and analysis of Capriccio No.1 for erhu- sixiang

1.1) Creative background

For a long time, George Gao wanted to write a piece of erhu and symphony music, but his expectations of him were too high, and the results were delayed. This prompted the completion of Capriccio No.1 for erhu-sixiang, which was inspired by the composer Mr. Huang Anlun. At that time, George Gao received news of cooperation with the Russian Symphony Orchestra. Mr. Huang Anlun encouraged him: To cooperate with such a good symphony orchestra, he must write a work and record it. George Gao, who was encouraged, thought it was a good one. The idea changed and began to create. Mr. Huang Anlun is a devout Christian. George Gao listened to his narration and began to think about the problems of life, So when he wrote this piece of music, he naturally expressed this mood, so he included the composition in the music.

The family is deeply attached to the loneliness in the song, but they are constantly pursuing the truth. In the process of writing, because he did not like to be bound by frames, he composes according to his mind and casually, guided by the melody, and wrote down when he felt good, so he felt very happy at the time and enjoyed being in it. Later, the title of the song was changed. Designated as Capriccio.

The staff of Dragon's Music in Hong Kong heard this song and thought it was a good work, so they regarded it as a special work, and selected it as the designation of the second Dragon's Music Chinese Folk Musical Instrument (Erhu) International Competition in 2002 Because it is a symphony music, the piano accompaniment needs to be re-arranged and handed over to Mr. Huang Anlun. The meaning of the song described in the album "Erhu Caprice" released in 2003 is that we are suffering a lot in this world, and at the same time it is difficult to find happiness and peace. In the creation process of "Erhu Caprice", it is hard to find the true meaning of life. Although all the problems have not been answered yet, hope and light have been found.

1.2) Analysis of music structure

From the perspective of music style, capriccio does not have certain restrictions on content and form. It belongs to a free genre form of composers and is also classified as a "free structure" (Ebenezer Prout (1981), Applied form, pp237.) Only genre-works that are titled and have no content plot description requirements, such as ballads and fantasias. Therefore, Caprice does not mean a specific musical technique or structure, but refers to special, whimsical, fantasy and random music.

Because of the free personality of Capriccio, during analysis, it is divided into 9 sections according to the performance of the music content, the change of tonality and the conversion of tempo, and it is regarded as a single-movement and multi-section music. There are preludes and ending sections before and after the whole music. There are 5 sections in the middle, and interludes and connecting sections are inserted between sections 1 and 2. The following will analyze the structure of each section one by one.

The following chart：

Table 6. Capriccio No.1 for erhu- sixiang, Structure chart

part	paragraph	number	Number of bars	Tonality	Speed and terminology
Prelude	a	mm. 1～12	23	C—F—C	♩= 58
	a_1	mm. 13～23			
1	A	mm. 24～33	38	C	♩= 56
	A_1	mm. 34～44			
	B	mm. 44～51		Tonal changes	
	A_2	mm. 52～61		G	
Interlude		mm. 60～80	21	G—$E^{\flat}$—$D^{\flat}$ —F—D	
Transition part		mm. 81～90	10	D—F	freely→ m. 84 : ♩= 76 agitato
2	C	mm. 91～107	32	Tonal changes	piu mosso agitato
	D	mm. 108～122			♩.=96
3	E	mm. 122～146	37	Tonal Alternation	♩= 132→ m. 143 : piu mosso
	F	mm. 147～158		Tonalchanges—C	♩=140
4	A_3	mm. 159～188	30	C— Tonalchanges —C	♩= 112
5	A	mm. 189～209	43	C	
	A_1	mm. 209～231			
End		mm. 231～275	45	C— Tonalchanges—C	accel→ m. 232 : ♩= 160

1.2.1) Prelude (mm. 1～23)

The whole song starts to enter the piano, the prelude is part a, the tempo is marked as ♩=58, and there are a total of 23 measures of paragraphs, which are further subdivided into two paragraphs a and a1 with more pitch. The melody of mm. 1～5 is the theme of this song, and the B sound appears in mm. 4～6, which has a tendency between musical grades. The musical image is just like what the composer said-striving to find the true meaning of life, mm. 5 ~12 It's like responding to inner questions, stating slowly. In the a1 part, mm. 13～16 is for the theme of paragraph a to be raised 4 degrees, and the accompaniment is also entered early. mm. 17～23 are the widest range and richest texture in the prelude. The melody and bass are also used. Descending scale to show a sense of constriction.

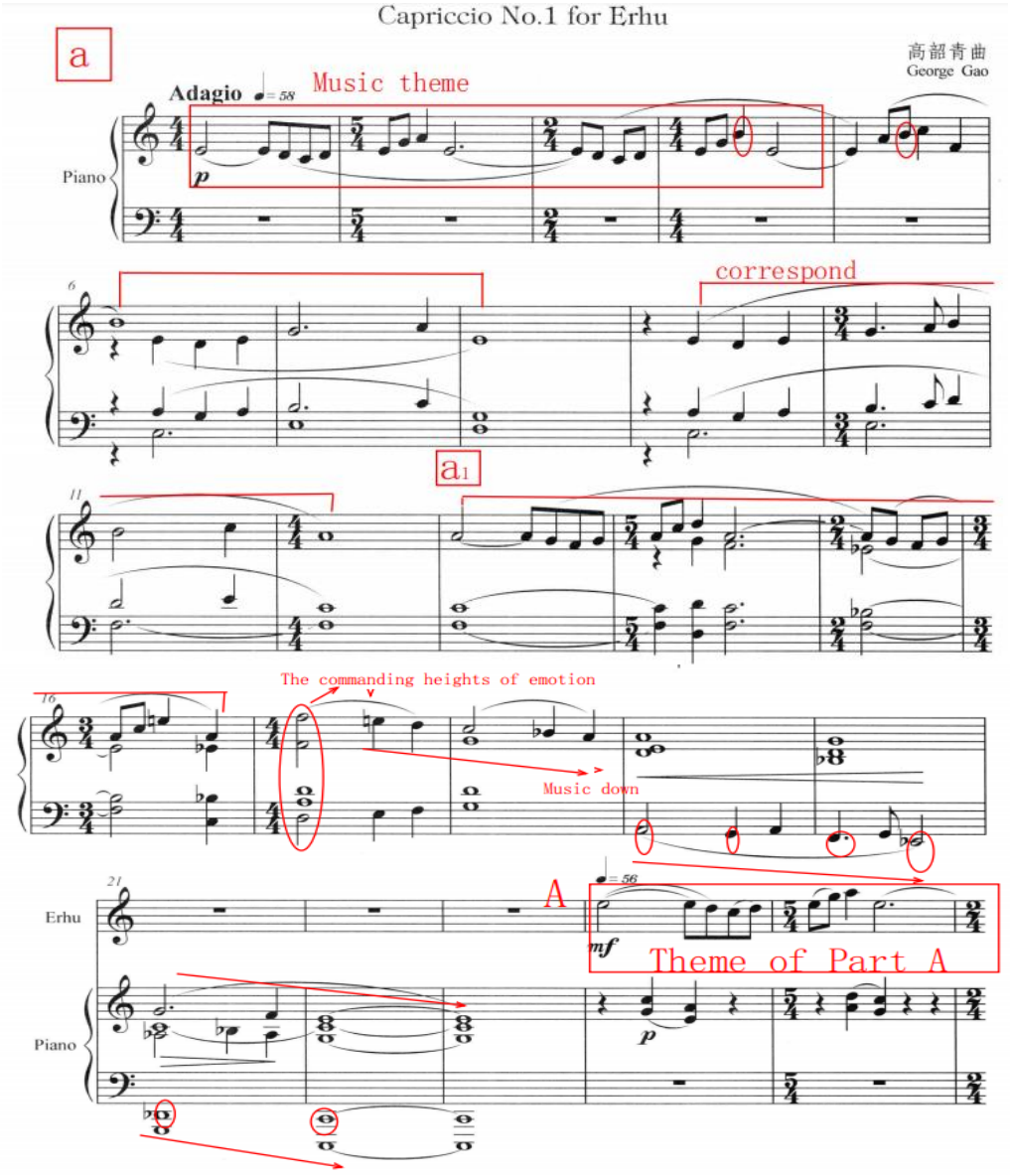


Figure 50. Capriccio No.1 for erhu- sixiang, mm. 1～25

Photo: Lei Ye

1.2.2) part 1 (mm. 24～61)

This part follows the theme of the prelude and inherits the key of C major. The music melody continues to develop. It is divided into four paragraphs A, A1, B and A2 according to the fluctuation of the phrase and the melody material. The difference between paragraph A and paragraph A1 is only the volume and ending. Compared with paragraph A, the downward melody

tone at the end of paragraph A1 uses the opposite method, pushing to the highest note g3 of paragraph 1, forming a strong contrast.

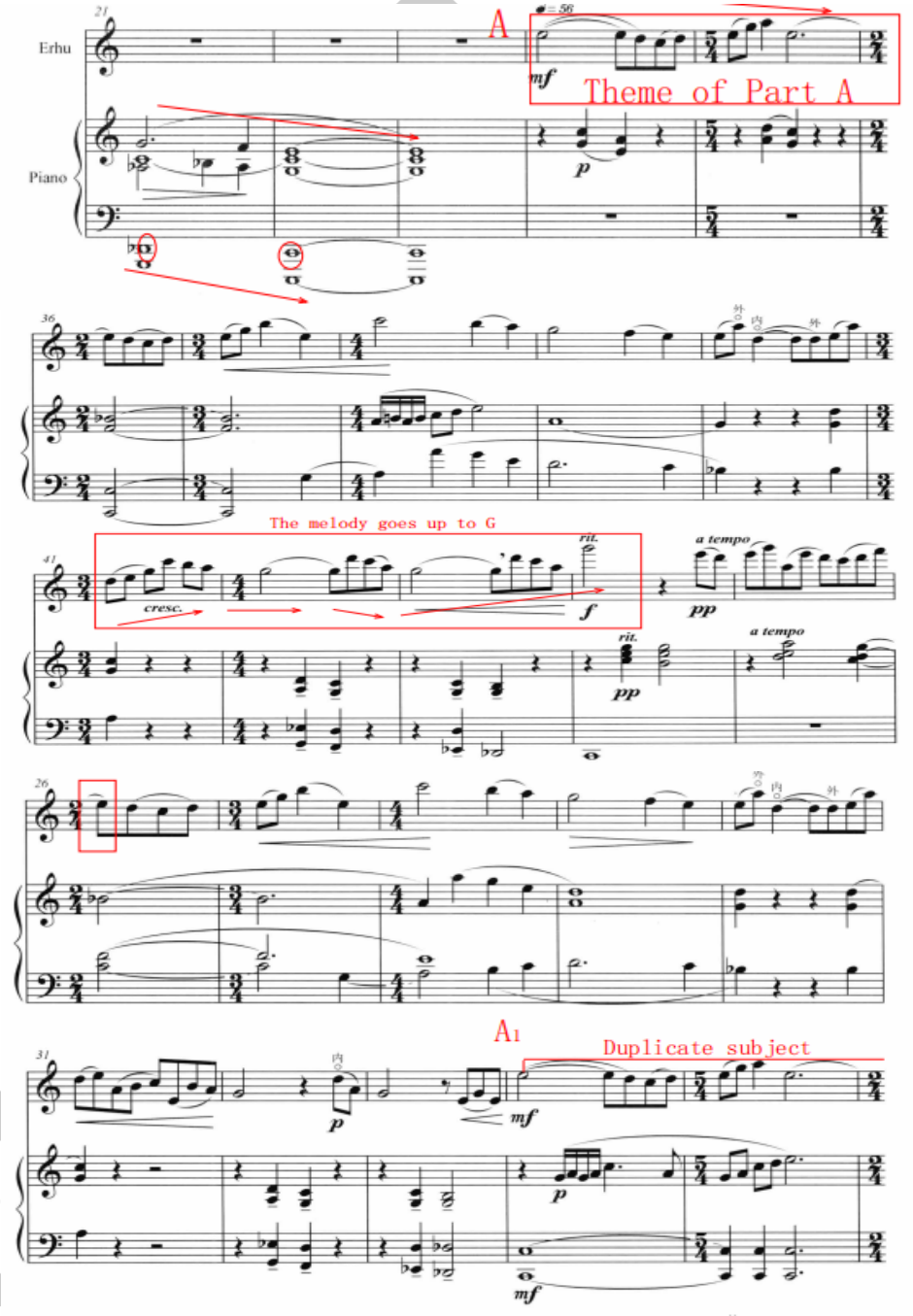


Figure 51. Capriccio No.1 for erhu- sixiang, mm.21~45

Photo: Lei Ye

After the A1 section is condensed in the G sound, the connected B section is made four sets of downward strict mode advances with the same interval in *pp*. The intensity of the music is instantly contracted, and after the range gradually drops, another octave bounce occurs. , Move the melody upward.

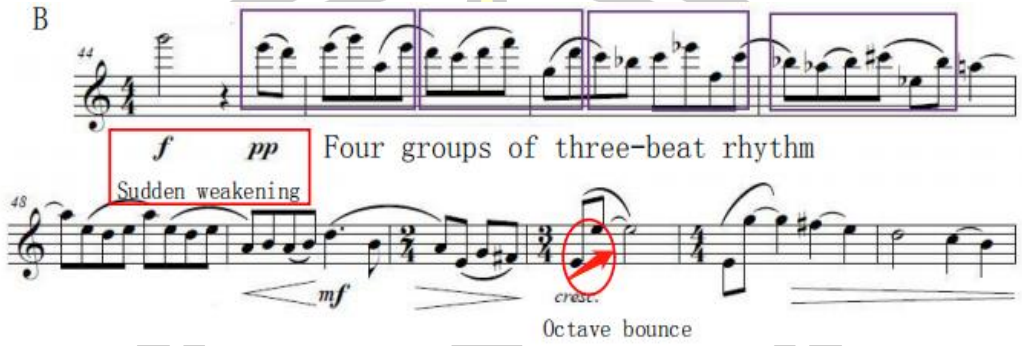


Figure 52. Capriccio No.1 for erhu- sixiang, mm. 44～53

Photo: Lei Ye

The first seven measures of paragraph A2 are taken from the latter part of paragraph A1 (mm. 38～44), and the notes are moved down four degrees, the key is changed from C major to G major, and the a1 paragraph and the a paragraph in the prelude In comparison, it's the opposite of moving up four degrees.

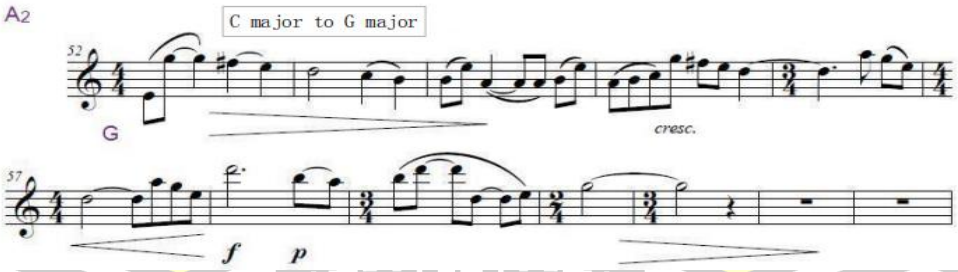


Figure 53. Capriccio No.1 for erhu- sixiang, mm. 52~63

Photo: Lei Ye

1.2.3) Interlude (mm. 60～80)

This section starts in G major, and then uses many scales to transpose; halfway through ♭E and ♭D major, repeat the theme again in a warm atmosphere; then it is transferred to F major, the material is from mm. 38 ~39; finally stopped in D major.

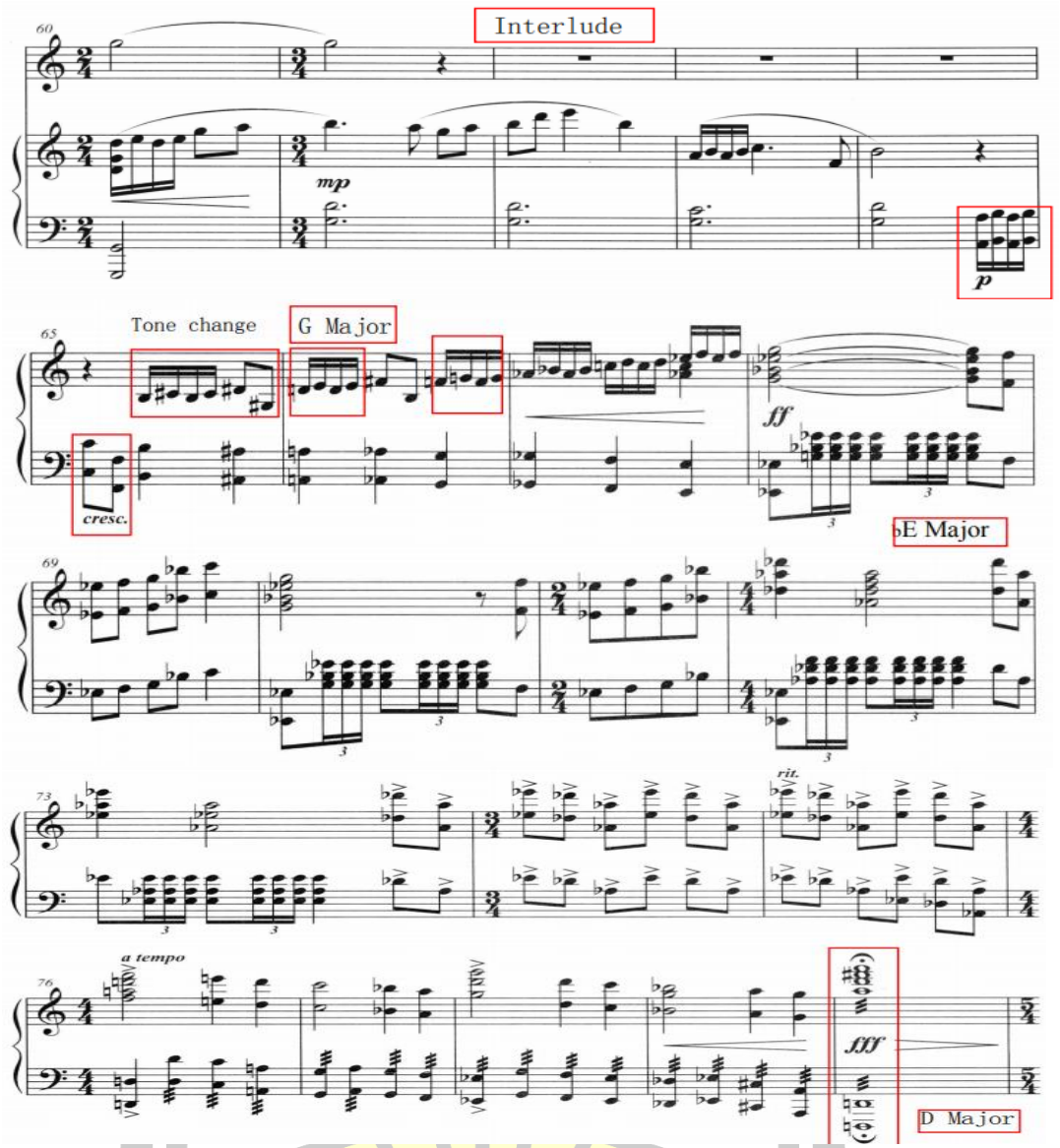


Figure 54. Capriccio No.1 for erhu- sixiang, mm. 60~80

Photo: Lei Ye

1.2.4) Transition part (mm. 81～90)

The speed of this paragraph is relatively free, which is different from the previous part and has a transitional nature. The first three measures are marked as'freely', with 5 notes as a group of sound patterns, played continuously, the playing speed of m. 84 is ♩=76, the term is agitato, which means that the speed and emotion are further promoted, and the last paragraph After the four tones of GDFE are repeated in three different zones, the music develops forward and finally stays on the highest note e4 in this section.

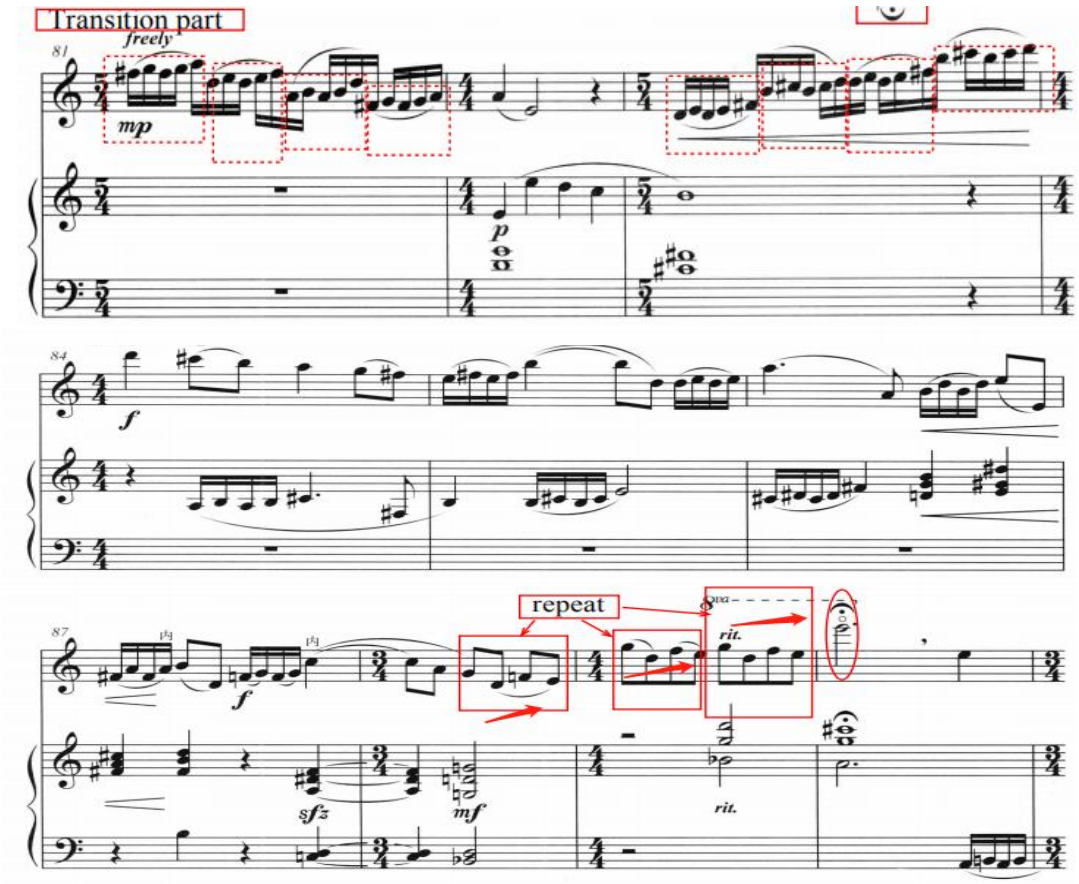


Figure 55. Capriccio No.1 for erhu- sixiang, mm.81~90

Photo: Lei Ye

1.2.5) Part 2 (mm.92~122)

This part of the score is marked with *a tempo* and *piu mosso* agitato, which is faster than the previous section, and the mood of the music is more active. According to the rhythm, the section is divided into C and D sections. In section C, the phrase intercepts the end of the previous sentence and reduces the composition method of the ending sound of the previous phrase.

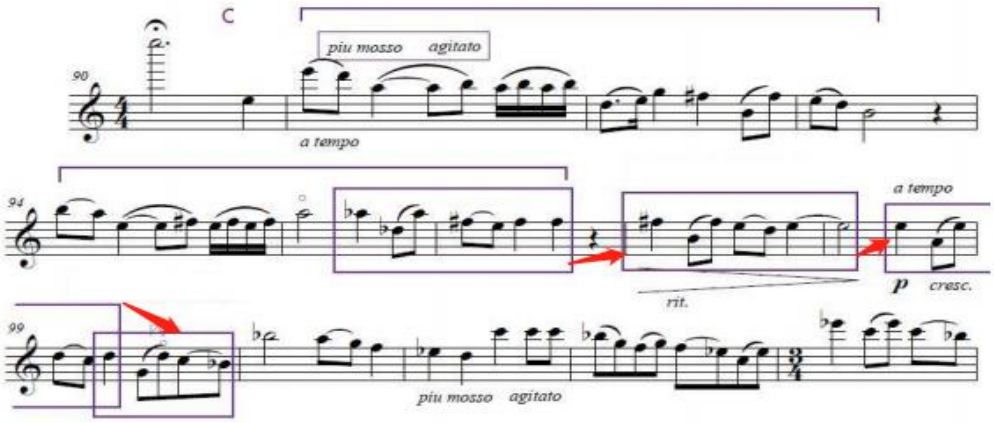


Figure 56. Capriccio No.1 for erhu- sixiang, mm.90~103

Photo: Lei Ye

In paragraph D, the time signature is changed to 6/8 time, and the time signature is constantly changed. The tempo is marked as ♩=96. The rhythm uses sixteenth notes, mostly double notes, and some single notes, increasing the variation of the music. In the rhythm of music, the strong beat also changes with the time signature and tone pattern, causing the music to fluctuate.

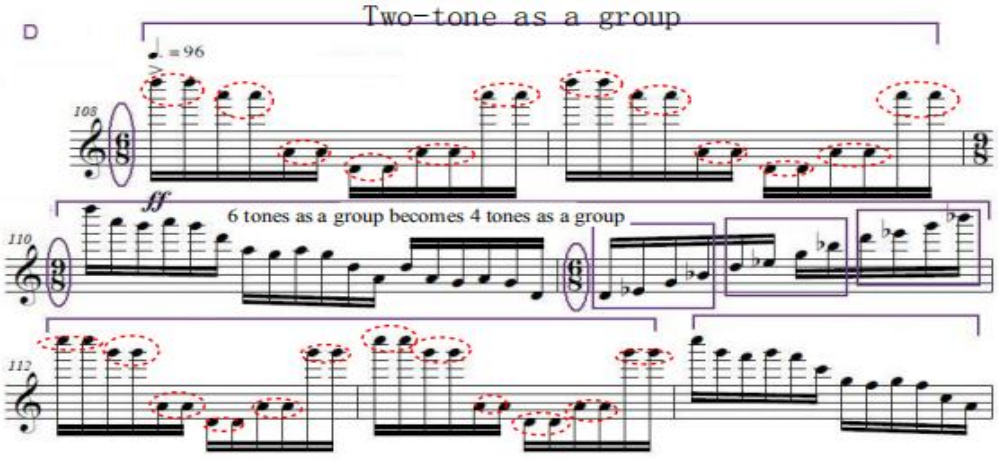


Figure 57. Capriccio No.1 for erhu- sixiang, mm.108~114

Photo: Lei Ye

1.2.6) Part 3 (mm. 122～158)

In this part, the accompaniment is turned on with "Rhythm Guide", the speed is ♩ = 132, and the section can be divided into E and F sections.

The melody of paragraph E is a modular progression of three groups of three measures, and the accompaniment is also performed in an upward semitone. m. 133 is similar to m. 132.

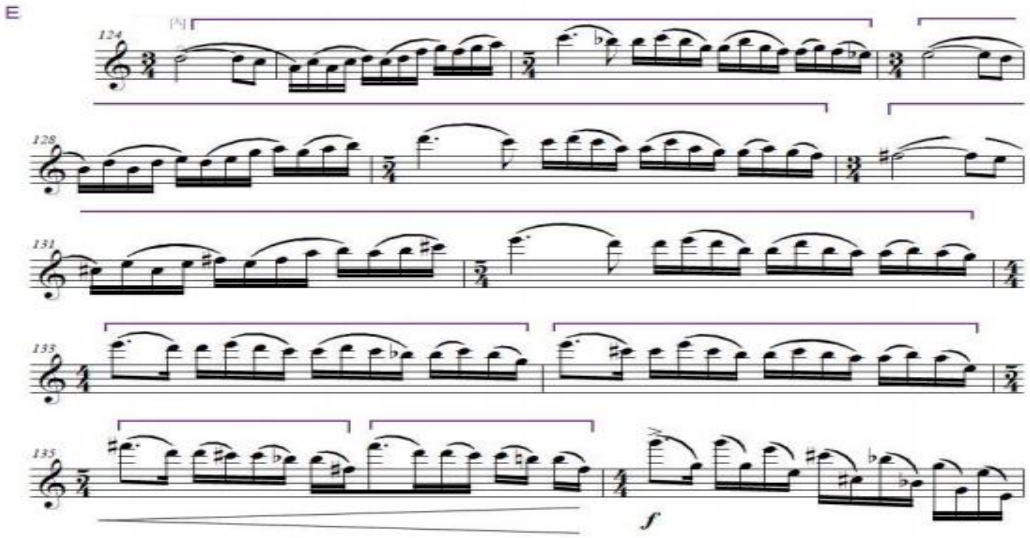


Figure 58. Capriccio No.1 for erhu- sixiang, mm.124~136

Photo: Lei Ye

The speed of the F paragraph is marked as ♩ = 140, the accent and velocity at the beginning are f, which makes the melody have a call to action. The presentation of the sixteenth note is also the interaction of single and double notes, and it is performed upwards. Adjacent notes are four. The interval of degrees.

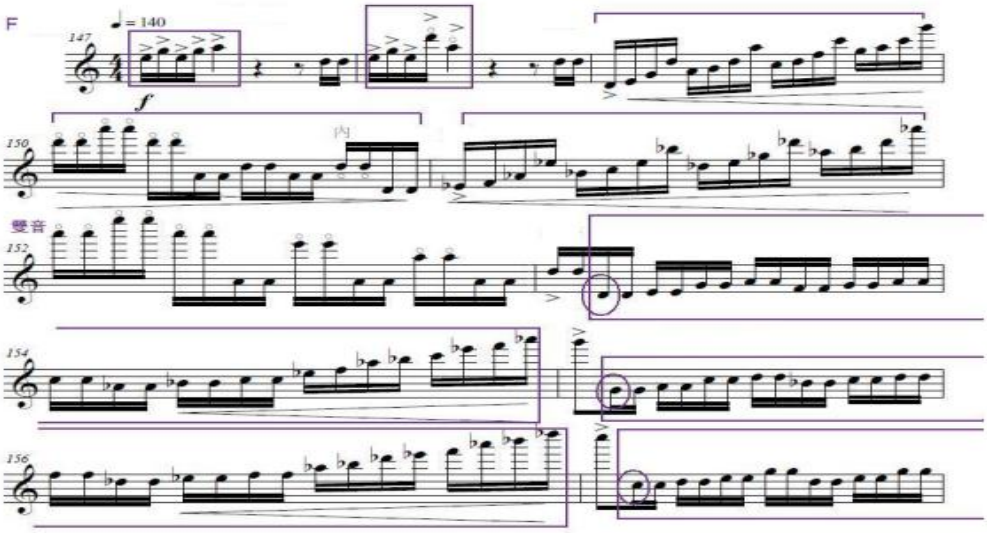


Figure 59. Capriccio No.1 for erhu- sixiang, mm.144~157

Photo: Lei Ye

1.2.7) Part 4 (mm.159~188)

In this part, the roles of the piano and the erhu are interchanged. The piano plays a Canon-style theme with a difference of two beats and one beat in C major. The change of rhythm is expressed as the previous use of reduction. The triplet of the erhu uses an 8-degree melody interval. Used in conjunction with overtones, they are intertwined into mutual gorgeous music segments.

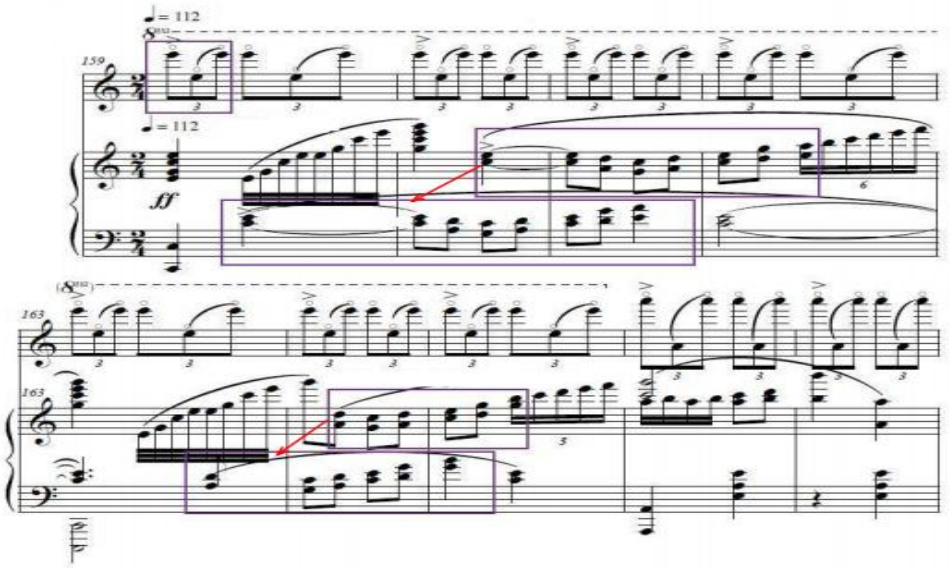


Figure 60. Capriccio No.1 for erhu- sixiang, mm.159~165

Photo: Lei Ye

1.2.8) Part 5 (mm.189~231)

This section is a reproduction of Part1, but only contains the first half. Only paragraph A and paragraph A1 are retained. The melody is almost the same, but the time signature is changed to a more fluid 2/4 time, and the intensity is increased to mf. In addition, in section 1, where the end of the original phrase was originally a rest, in section 5, it is directly filled with notes, and the composer will transform into a calm and contented mood; the decorative sound -D of section A1 is also removed.

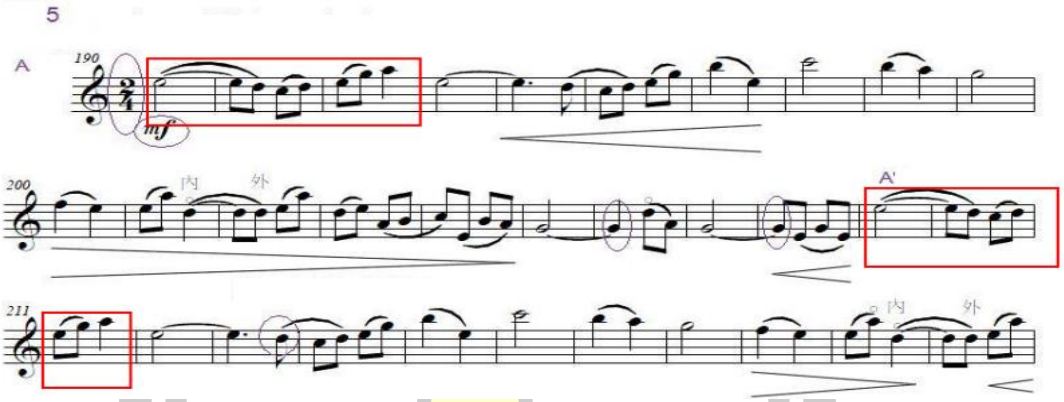


Figure 61. Capriccio No.1 for erhu- sixiang, mm.190~221

Photo: Lei Ye

1.2.9) coda (mm.231~275)

The speed of this section gradually increases from slow to ♩= 160, which is the fastest passage in the whole song. It uses fast and dense sixteenth notes, which are also monophonic and double-tone interleaved. mm. 259～270 Once again using the rhythm reduction composition technique, the mood of the music is pushed up, and the second last measure reaches the climax with an octave jump, and ends the music.

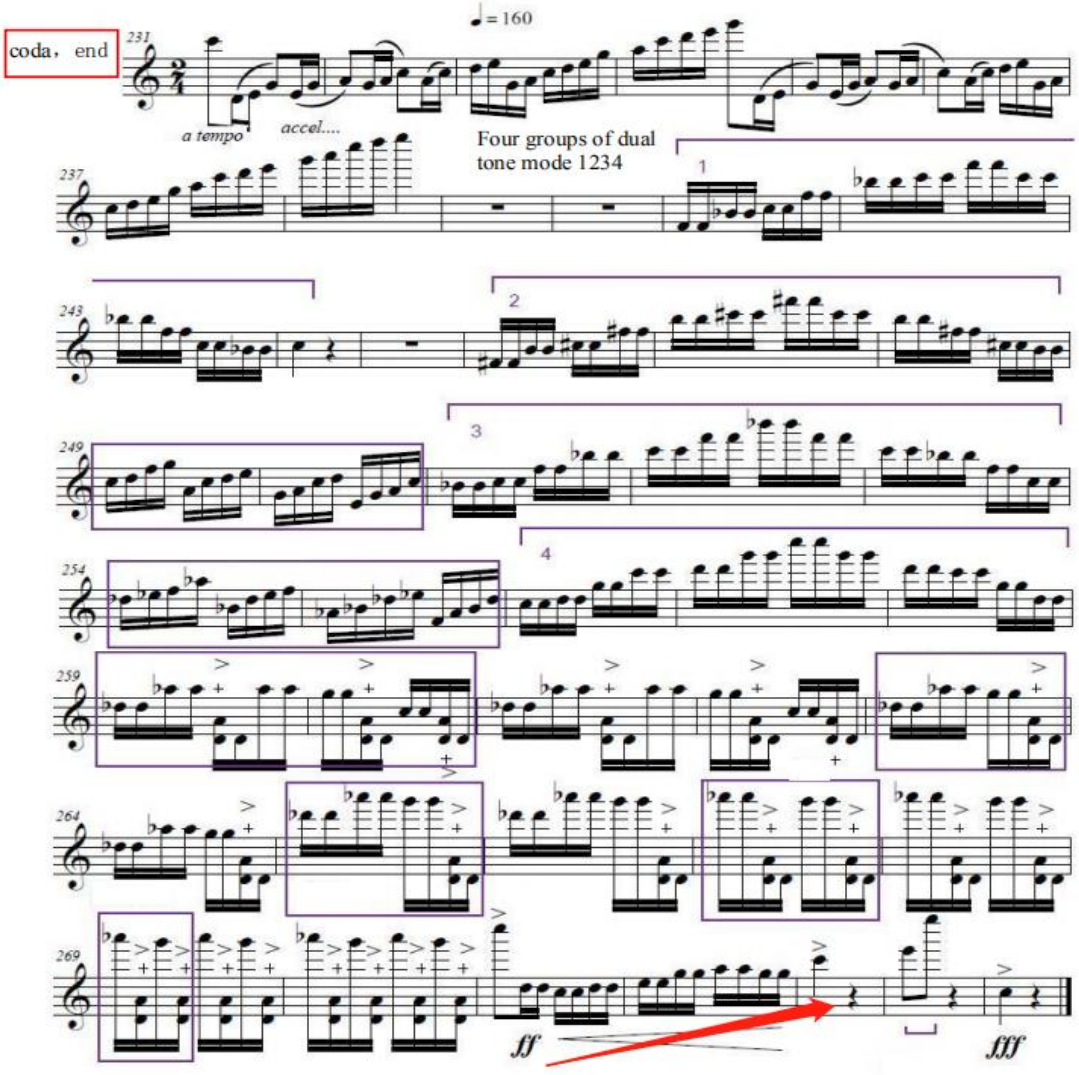


Figure 62. Capriccio No.1 for erhu- sixiang, mm.231~275

Photo: Lei Ye

1.3) Performance technique

This piece of music has also made breakthroughs and innovations in the changing application of bowing, overtones, string rubbing, vibrato, and jumping, which has a great test for the performer. At this time, the performance of the performer's new perspective is particularly important. Skilled skills plus a deep understanding of the connotation of music can enhance the musical expression of the work. Through the performance of this piece, the author believes that the performance of the piece is mainly embodied in the following points:

1.3.1) Bowing

This song has its own uniqueness in the division and application of bowing. For example: Variations in three parts mm. The 88-90 bar bow method is divided from one beat to one bow to one note and one bow. With the slower speed change and the octave-large interval relationship, it is like sitting on a skyship. People are very excited. Pay attention to the coordination of breath, string rolling and bowing when playing. The high-pitched part should be played strongly, and the mood should change with the fluctuation of the pitch; the four parts of the variation mm.128～136 adopt the form of a combination of general bowing and changing bowing. To change the overbeat position of the melody part. Listening to this passage, it is as if the river is ups and downs, arousing white clouds to rise, like smoke, and it is like the sharply rotating vortex, rushing turbulently, driving into the vast ocean, dazzling and fascinating. It expresses the author's urgent desire to return to his hometown. When playing, pay attention to the combination of sixteenth note and special bowing and the grasp of speed. The strength should change with the fluctuation of pitch, highlight the accent, and the left hand should pay attention to the accuracy of the sixteenth note pitch and rhythm in the performance.

1.3.2) Overtone

The use of overtones in this song is novel and diverse. For example: the natural overtones appearing in the variation part of mm.30, the timbre and tone contrast with the previous ones, which is impressive. When playing, the left hand should be prepared in advance, pay attention to the conversion of overtones and real tones, and the right hand should pay attention to the timbre of changing strings inside and outside; the fourth part of the variation mm.142～148 is a loose arpeggio, using overtone fragmentation, just like an angel His tears are so clear and bright. When playing, pay attention to the connection between arpeggios and overtones. The inner heart should be peaceful. It should be in contrast with the state of excitement and turbulence in the front. The left hand should be relaxed, and the intensity should become stronger with the fluctuation of the pitch. Overtones

Must be accurate; the five parts of the variation mm. 166～174 are the climax of the whole song. The theme is played by the piano, and the strong overtones of the erhu part are used as the accompaniment parts. Compared with the overtone passages of other works, the weak dynamic performance is far away. In terms of expressions such as, hazy, quiet, etc., the unique

treatment of this playing technique is the highlight of the whole song. The climax part makes people feel the huge current coming down, deafening, and the vast ocean when the billowing river merges into the sea is unobstructed. It expresses the author's urgent desire to miss the motherland, reflects the author's unique pursuit of timbre and unique style in the use of overtones. When playing, you must be full of emotions and work in harmony with the piano. Gently touch the strings with your left hand to grasp the pitch. The timing of the triplet should be accurate. The bow speed should be fast with the right hand. The bow distance should be extended. Control the pressure of the bow and the strings. Pay attention Tone, highlight the accent.

1.3.3) Shake the strings

String rubbing is one of the most expressive techniques in erhu performance. The song has its own unique style in the use of string rubbing. For example: Part of the variation mm. 24-27 bars, the erhu used the violin's left hand position and stringing for reference in the performance, expressing the author's helpless feeling in a foreign land. When playing the first note, the left hand should have a little portamento, do slow kneading, control the pressure of the string, and use the tone when playing the right hand, so that the melody sounds softer; in mm.196～235, you need music It expresses the magnificent scenery of the clear sky, giving people a feeling of light and happiness. The amplitude and frequency of the strings should be maximized when playing, so as to obtain a full tone to express the author's inner excitement.

1.3.4) Tremolo

Tremolo is often used in the performance of erhu. Most of the tremolo is used in the dazzling section of the song, which is just right, exaggerates the atmosphere, and brings rich auditory effects. For example: the three parts of the variation mm.108～119 are fast arpeggio passages. The author uses tremolo to play, as if he is in a vortex of rapid rotation, rushing crazy and excited. Attention and accent should be coordinated during performance, and the intensity should be dealt with with the large changes in pitch; the four-part arpeggio dazzling section of mm.160～164 is used for the performance of tremolo, just like the river rolling. Go, majestic, and drove into the rough sea. Pay attention to the changes in pitch and dynamics when playing, emphasizing the stress, especially the strength and tone of the high-pitched part; the coda part, mm. 248～279, has a sense of dialogue between the piano and the erhu, and the erhu is a model of tremolo, like layers of layers. The waves, the emotions are progressive, pave the way for the

climax of the whole song. When playing, you must be full of emotions, emphasize the stress, change the dynamics with the fluctuation of the pitch, and pay attention to the grasp of the intonation.

1.3.5) Big jump interval

The big jump interval can promote the development of the mood of the work. The author is bold and innovative in the use and performance of the song, which is quite characteristic. For example: mm. 90～91 bar erhu part is an octave in the high range, and the piano part is accompanied by vibrato, which is in sharp contrast with the slowness of the previous part and the sentence of breathing, which makes the emotional development more intense. When playing, you should pay attention to the grasp of the pitch of the jump, the coordination of speed and intensity, emphasize the high pitch, pay attention to the phrasing and breathing, and the intensity should change with the fluctuation of the pitch; after the four-part mm.141 bar music reaches its climax, Through continuous downward octave jump interval mode advancement, transition to more stretched emotional passages. When playing, pay attention to the accuracy of the intonation, emphasize the accent, and gradually weaken with the change of pitch, reduce the traces of change, and highlight each The treble of the beat and the timbre when changing strings are unified; the four parts of the variation mm.150 and 152 are continuous triplet octave downward modulus. When playing, pay attention to the accuracy of the triplet timing and the left-hand pitch to reduce The traces of the change of handles and strings; the five parts of the variation mm.175～195 Erhu is a big jump interval and the theme melody of piano passion, which is the climax of the emotional development of the whole song. When playing, you should be full of emotions, pay attention to the pitch and tone of the big jump, and the right hand bow should be full, to make the accent and the tone control when changing strings; in the Coda part mm. 281 bar, the octave in the high range jumps, like lightning It's quite attractive across the sky. When playing, you should emphasize the accent, be cool and passionate, the left hand should be accurate, and the right hand should grasp the bow speed and pressure.

1.3.6) pluck the strings

Plucking the strings can make the erhu play a sonorous and powerful tone to enhance emotions. In the ending part of the song mm.266～277, the method of double-tone plucking is used to emphasize the accent, it is chic and passionate, and the atmosphere is rendered. It pushes

the music climax to the extreme. It has received very good results. It is one of the successful cases of plucking the strings. One. Stress should be emphasized when playing. Pay attention to the coordination of plucking and bowing. Change the strings with the right hand to be relaxed, and pluck the strings with the left hand quickly and forcefully, so as to push the whole song to a climax. The analysis and research on music performance techniques and performance techniques can provide useful references for performers and teachers, making this excellent work more popular with the public.

2. Performance and analysis of Capriccio No.2 for erhu- Mengfeng

2.1) Creative background

Through fieldwork and interviews with me, I got the composition description of this piece of music

Capriccio No.2 for erhu- Mengfeng is the commissioned work of the Erhu Competition at the 2008 Shanghai Spring International Music Festival. As new works will be launched in the third round of the finals of this competition, the organizing committee of the competition commissioned George Gao to compose the music. And it is required that it cannot be made public temporarily before the game. Therefore, the commissioned work this time is required to have a certain degree of difficulty, but George Gao has his own view of creating music. He thinks that it is meaningless to show off his skills for the sake of showing off his skills. The work is first of all that the composer must first like the music. If the language is too difficult, it will not easily resonate, and it will lose the meaning of communicating with the audience.

George Gao has lived abroad for many years and has been exposed to many different music styles. He has noticed that Western music always has a strong sense of rhythm. Compared with Eastern music, it pays more attention to the lines of melody. The orientation of musical characteristics between the two is completely different. Because I have been to the competition venue in the past and saw that all the contestants are playing music that is full of oriental charm or is like the material of Peking opera, Gao Shaoqing wants to break this framework and try a new style of music, so that the erhu not only inherits the traditional charm The beauty of beauty can also be expanded by other elements, so this piece of music takes the form of "rhythm" as the first criterion. He wanted to try to see if the erhu could play such rhythmic music styles as North

America's fiddle music, bluegrass... and so on. In addition, he was very fond of Mongolian music in the past, and he had studied Mongolian music for a period of time. So he selected these two main materials-the use of segmented rhythms and Mongolian customary scales, using several tones and mixing the segmented rhythms, and then through different development techniques to complete this piece of music. Use refined materials and turbulent and misplaced rhythms to expand the rhythmic expression of ordinary Erhu music.

As George Gao himself said: The music is based on the Mongolian music style, characterized by a distinctive and bold rhythm, with a simple melody as a motive for music thinking, and developed with difficult erhu techniques. The melody material of the whole piece is concentrated and refined. The simple ABA three-stage allegro is rough and powerful, the adagio is romantic and affectionate, the colorful section is handsome and energetic, and the reproduction section and the epilogue push the music to the end of the frenetic climax. Erhu performance should be chic and free, and attention should be paid to the use of Mongolian music style. Pay attention to the rhythm of section A, especially the rhythm of the split notes and marked accents. Adagio melody should not be sad, but affectionate and not pretentious.

2.2) Analysis of music structure

This piece is an ABA reproduction trilogy with an epilogue. Section A is a rugged and rhythmic Allegro, and Section B is a complex paragraph, which includes lyrical Adagio and colorful scattered boards. The speed of the A section of the song is further increased and presented in a reduced manner. At the end of the last 14 bars, the pentatonic mode is changed to D major, the speed is the fastest in the whole song, and it is a warm and jubilant fast board. In addition, according to the different methods of motivation development, the composer divides the whole song into 12 sections. On the whole, compared with "Capriccio No.1 for erhu", the structure of this piece of music is neater and clearer. The following table is the structure diagram.

Table 7. Capriccio No.2 for erhu- Mengfeng, Structure table

Three-stage structure	Section	Subsection	Number of bars	Tonal	Speed mark
A	1	mm. 1～8	24	F	Allegro (♩= 120)
		mm. 9～16			
		mm. 17～24		F	
	2	mm. 25～32	8	C	
		mm. 33～40	8	F	
	3	mm. 41～57	17		
	4	mm. 58～71	14	F	
B	5	mm. 72～79	8	F	Adagio (♩= 56)
	6	mm. 80～88	9	F	
	7	mm. 89～93	5	F	
		mm. 94	1		
	8	mm. 95～98	4	F	Accel.
		mm. 99～100	2		Con anima (♩= 132)
A	9	mm. 101～108	16	F	
		mm. 109～112			
		mm. 103～116		F	
	10	mm. 117～124	8	C	
		mm. 125～132	8	F	
	11	mm. 133～148	16		
Coda	12	mm. 149～162	14	D	Animato (♩= 144)

2.2.1) part A (mm. 1～71)

The tempo of part A is marked as ♩=120 on the score, and it is not until the last 2 bars of this paragraph that the speed is marked gradually to make the connection to the next Adagio paragraph. The composer is divided into 4 sections according to the development of motivation.

2.2.1.1) Section 1 (mm. 1～24)

The beginning is rough and powerful, and the velocity symbol is ff, using irregular accents, changing rhythms and homophonic repetition to kick off the curtain, creating a tall and burly and wild like a Mongolian man. The section 1 is the same as the whole song, and it is also an ABA structure. A and B are each with 8 bars, and 4 bars are used as a phrase. The last 4 bars are only with, and the end of the first 4 bars is slightly changed.

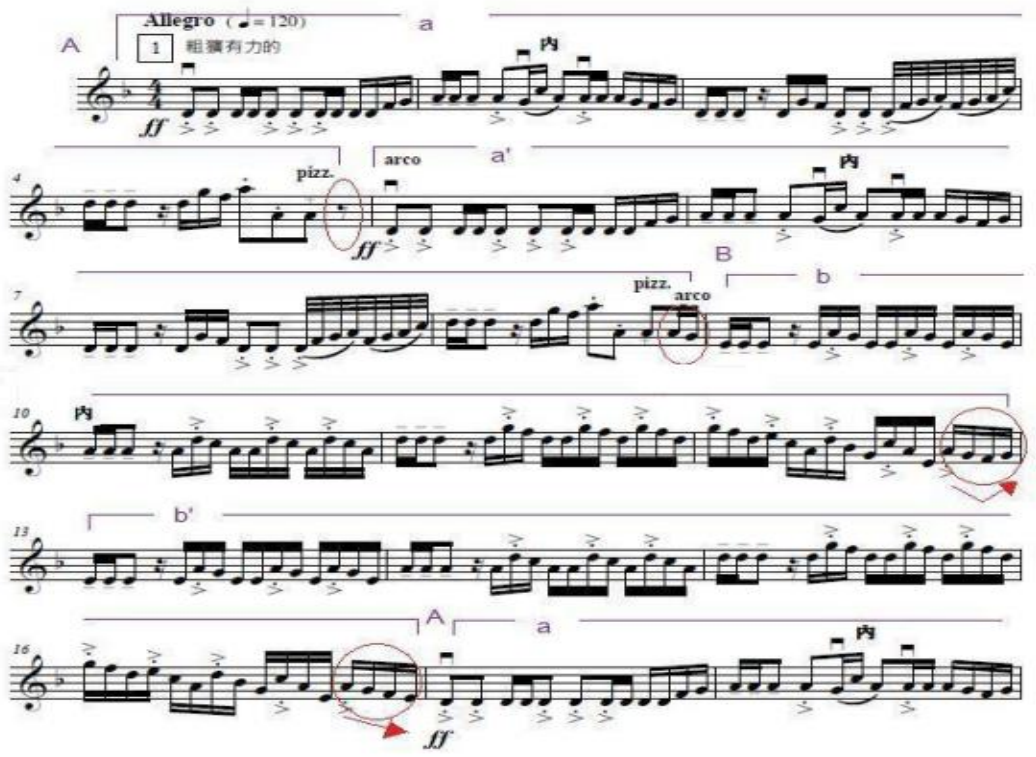


Figure 63. Capriccio No.2 for erhu- Mengfeng, mm. 1～18

Photo: Lei Ye

2.2.1.2) Section 2 (mm. 25～40)

The duration of the note is extended here, but the original speed is not changed. Therefore, in the melody of the song, the rhythm of the beat is still advancing, with a sense of tension and slow singing, and the big jump of the interval outlines joy and freedom. The singing is loud and unrestrained. This paragraph consists of two 8-bar phrases. The first mode is the angle of C, and the second time the melody is pulled up by four degrees, it is the angle of F. In addition, the 3rd vibrato and polyslide that imitate the playing style of the Matouqin are used. The upper part of the piano is played with the theme of section 1 as the support of the melody, and the lower part uses a sound effect similar to a horn, as shown in the figure below.

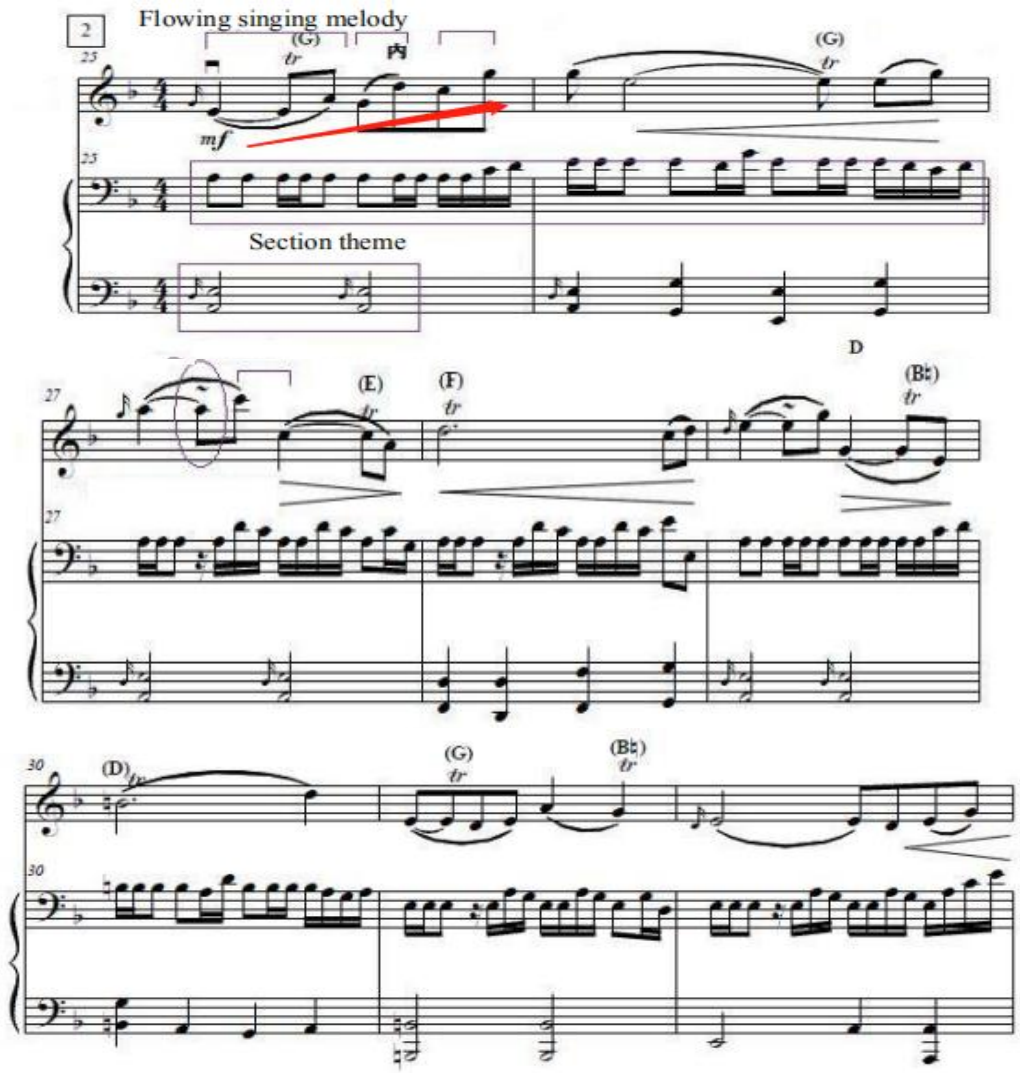


Figure 64. Capriccio No.2 for erhu- Mengfeng, mm. 25~32

Photo: Lei Ye

2.2.1.3) Section 3 (mm. 41～57)

At the beginning of this paragraph, there are a large number of tone patterns motivated by the 4th interval, and the mode is blurred by the 3rd degree mode, which has a sense of unstable beating. The rhythm is mostly 16th notes, and it is played in two notes, mm. 42 adopts a rhythm pattern similar to mm. 12, while mm. 43 adopts a rhythm pattern similar to mm. 9

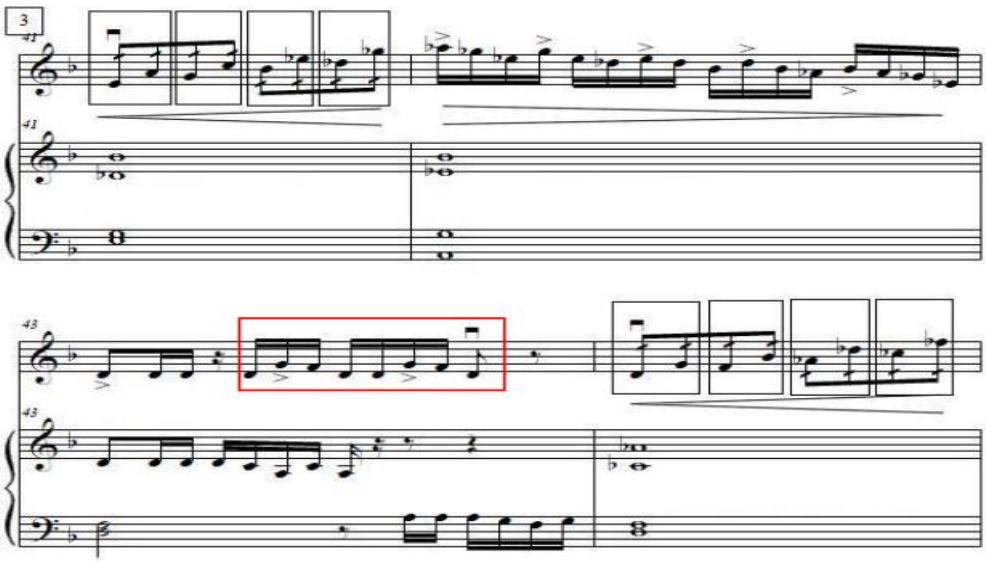


Figure 65. Capriccio No.2 for erhu- Mengfeng, mm. 41~44

Photo: LeiYe

2.2.1.4) Section 4 (mm. 58～71)

This section is a 14-bar piano intermission. The first 8 bars increase the erhu theme in section 1 by two 8 degrees. The piano parts are played in columnar chords, and the irregular accents of the theme are repeated with the left hand. The rhythm of, presents a sense of swing; the range of the last 6 bars is then pulled down, ready to be connected to the melody range of the B-segment Adagio, and the 4th interval material similar to the section 3 is used, which fully combines the section 1 and section 3. Characteristics.

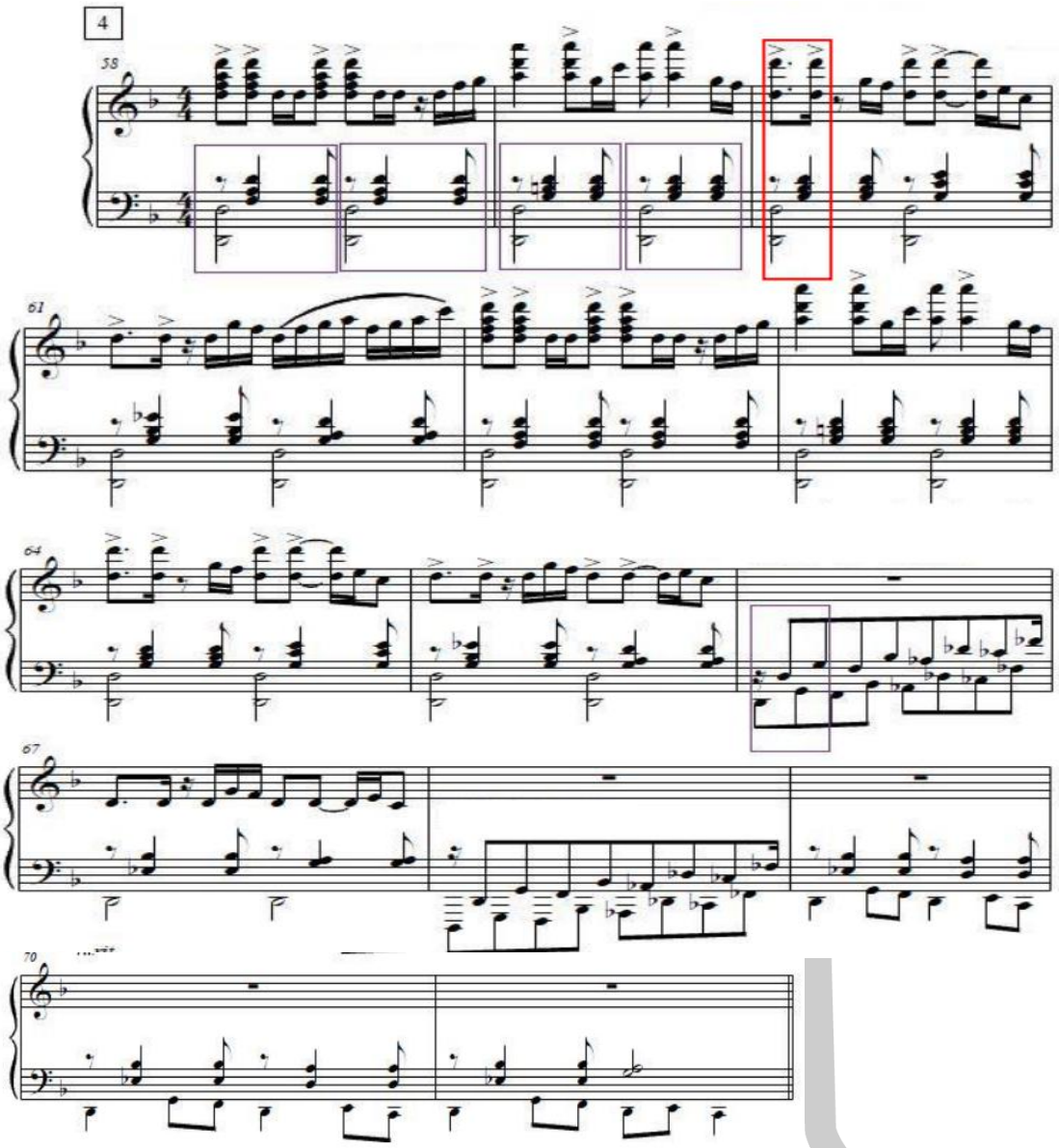


Figure 66. Capriccio No.2 for erhu- Mengfeng, mm. 58~71

Photo: LeiYe

2.2.2) Part B (mm. 72～100)

This passage is played slowly by a romantic Adagio, and then followed by a festoon-like scattered board. Compared with Allegro, the length of these two passages is relatively small, and the motivation for using each other The development method is similar, the two paragraphs are combined to form a compound middle paragraph, which is contrasted with the allegro of the front and the back.

Although the materials used in the Adagio and the Scattered Board are the same, because the emotions expressed are different, the composer divides each section into two sections.

2.2.2.1) Section 5 (mm. 72～79)

The time signature of this section was changed to 6/4, the speed was twice as slow as that of section A, ♩=56, the expression mark was marked as lyrical, and the rhythm pattern of the post-start shot was used. There are only 8 bars in this section. The first 4 bars are the theme of the more restrained tone of the inner strings of the erhu, expressing the gentleness of Mongolian women with a soothing melody; the second 4 bars are transferred to the theme of piano playing, and the erhu plays the corresponding role. The range is increased by 8 degrees, and the lower part continues the split-tone pattern of the interlude to create a swinging musicality.

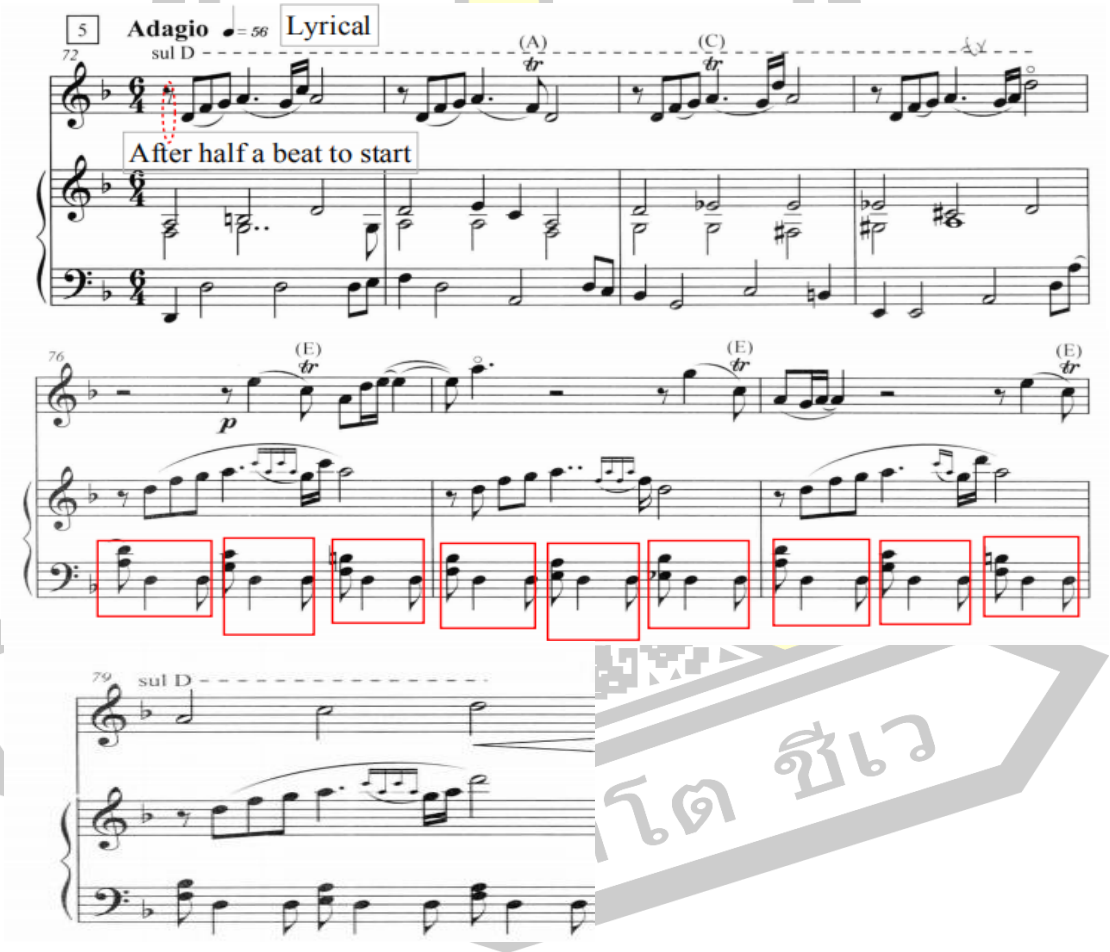


Figure 67. Capriccio No.2 for erhu- Mengfeng, mm. 72~79

Photo: LeiYe

2.2.2.2) Section 6 (mm. 80～88)

The first half of the erhu is reproduced with the melody of Section 5, but the original two-beat long note is reduced to a complicated one, and it is changed to a very fast and gorgeous 64th note that plays like a dazzling skill. The accompaniment is changed to both hands. Vertical chords to enhance strength and momentum. In the last 5 bars, it returns to calmness, playing the vastness and etherealness like the solitary smoke of a desert with hazy overtones.

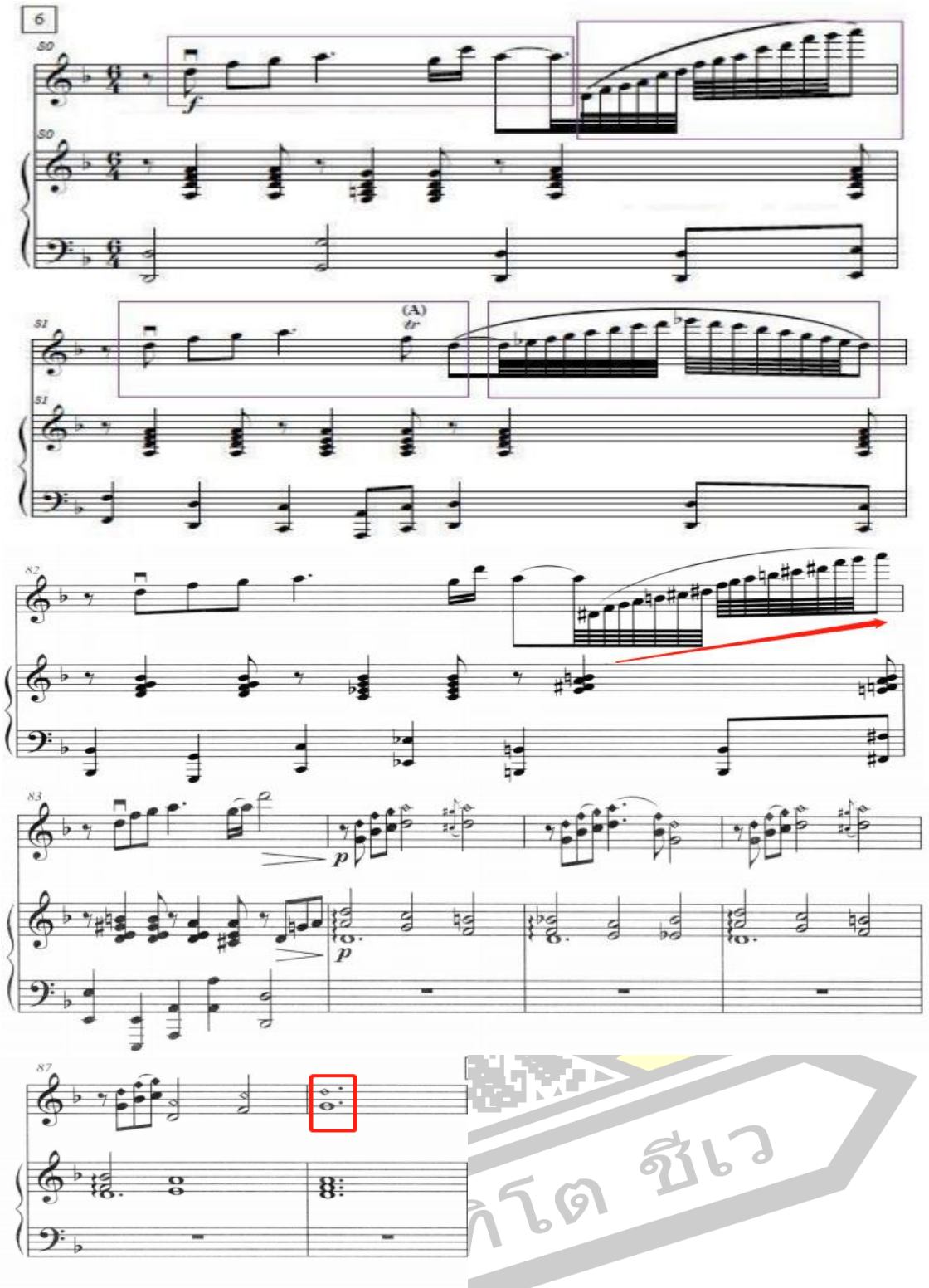


Figure 68. Capriccio No.2 for erhu- Mengfeng, mm. 80~88

Photo: LeiYe

2.2.2.3) Section 7 (mm. 89～94)

The title is loose or free paragraph, which contains a total of five phrases. The beginning part is followed by the motive of the Adagio section, matched with Mongolian music style paragraphs, the usual rhythm of short front and long back, one outer string and one inner string; the third phrase is Imitate the matouqin double-string sound playing method, using the core sound to create a dotted rhythm pattern; the fourth phrase is pushed up to the highest note e4 of the music in six groups; the last bar is marked as "long key style", using imitation Matouqin's third-degree vibrato and complex glide, let this section end in the vast Mongolian grassland scenery.

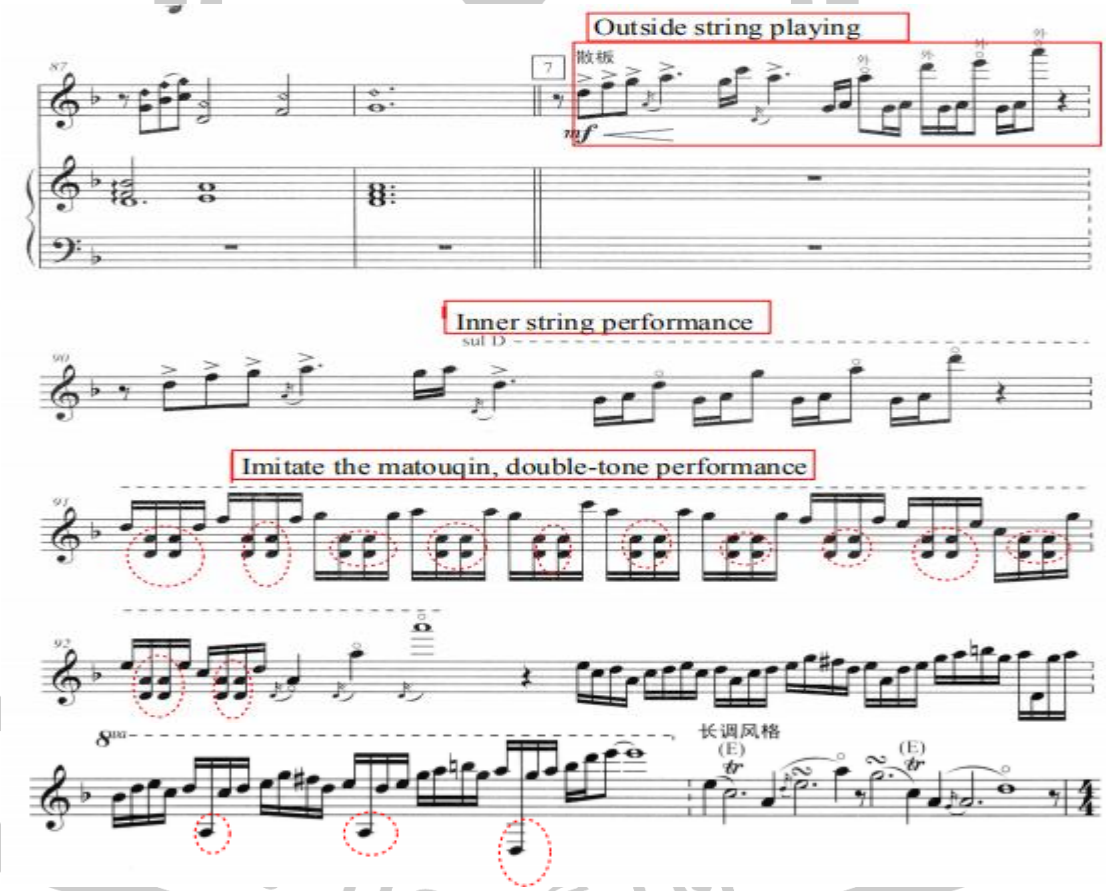


Figure 69. Capriccio No.2 for erhu- Mengfeng, mm. 89~94

Photo: LeiYe

2.2.2.4) Section 8 (mm. 95～100)

This passage is a cohesive section, which is a preparatory process to gradually wind up the loose rhythm. The first 4 measures use the F key, and the tune is maintained in units of 1 bar, which is the upward mode of the four groups of intervals. , The accompaniment is added in the way of Canon at the beginning of the second measure, and the same mode is used to enter the tune. Here the tempo term is marked as slow rising and getting faster, reaching a tempo of ♩= 132 in the fifth measure, and the piano uses staggering in these 2 measures Rhythm and irregular accents create a vivid sense of rhythm, allowing the music style to quickly introduce the mood of the A segment.

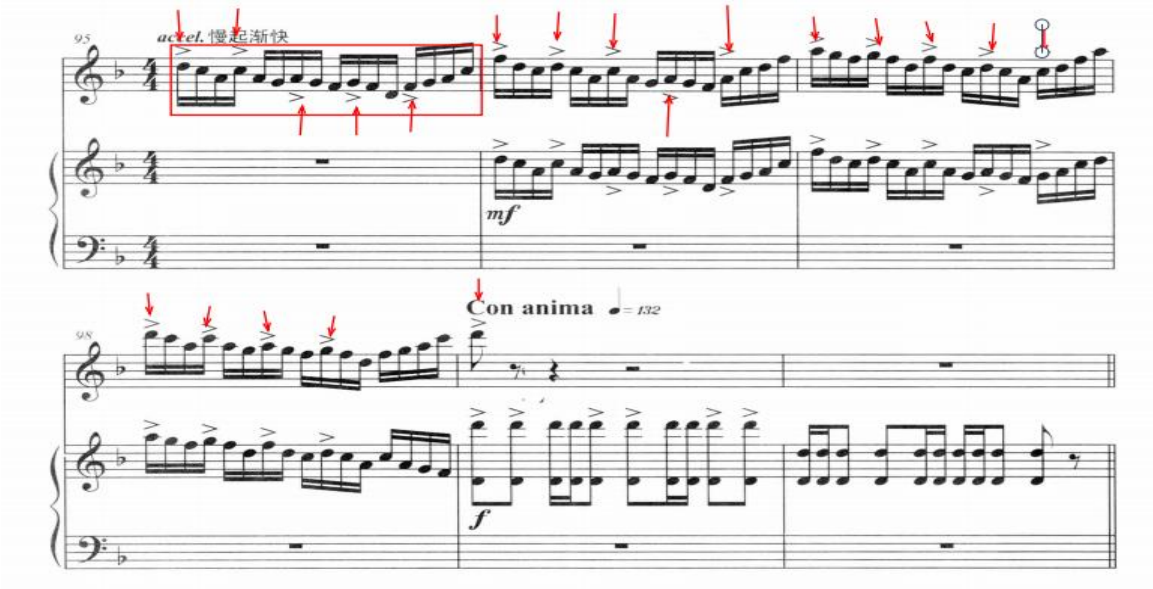


Figure 70. Capriccio No.2 for erhu- Mengfeng, mm. 95~100

Photo: LeiYe

2.2.3) part A1 (mm. 101～148)

This part is a reduced repetitive paragraph of Part A. The material of each section basically follows the original motivational development method, and then through reduction, changing the melody part... etc., the A1 music not only repeats the previous A section, but It is another manifestation of standing on the original structure. Compared to section A, which has 4 sections, section A1 removes the piano intermission, leaving only 3 sections. Therefore, sections 9, 10, and 11 correspond to sections 1, 2, and 3.

2.2.3.1) Section 9 (mm. 101～116)

The original section 1 is an ABA structure, each section is 8 bars, a total of 24 bars; in section 9, the second and third parts of B and A are cut by half, and there is nothing else in the music content. Change, so that the theme is presented in a more streamlined way when reviewing.

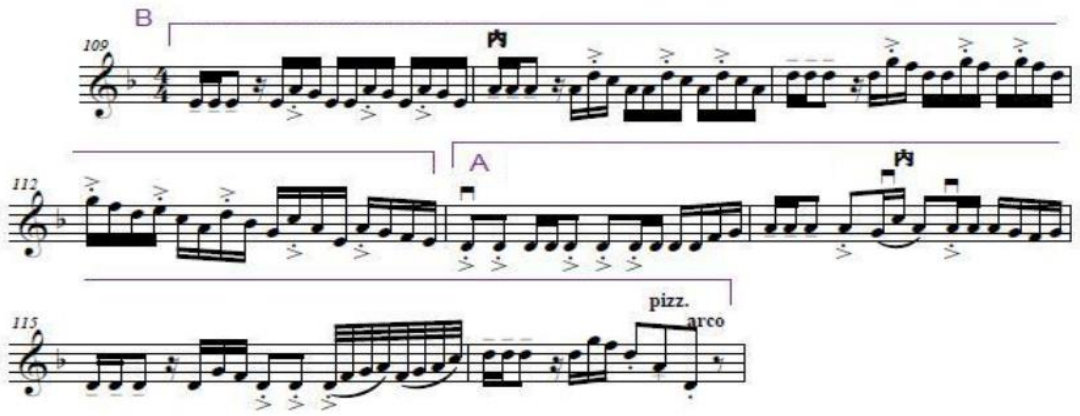


Figure 71. Capriccio No.2 for erhu- Mengfeng, mm. 109~116

Photo: LeiYe

2.2.3.2) Section 10 (mm. 117～132)

The melody used in this section is similar to section 2, but when the melody is shown for the second time, the melody is played on the piano part, with a slight variation at the end of the sentence, and the erhu is played with a double-stringed rhythm that changes the accent. Response phrase, It makes the passage full of passion and swing.

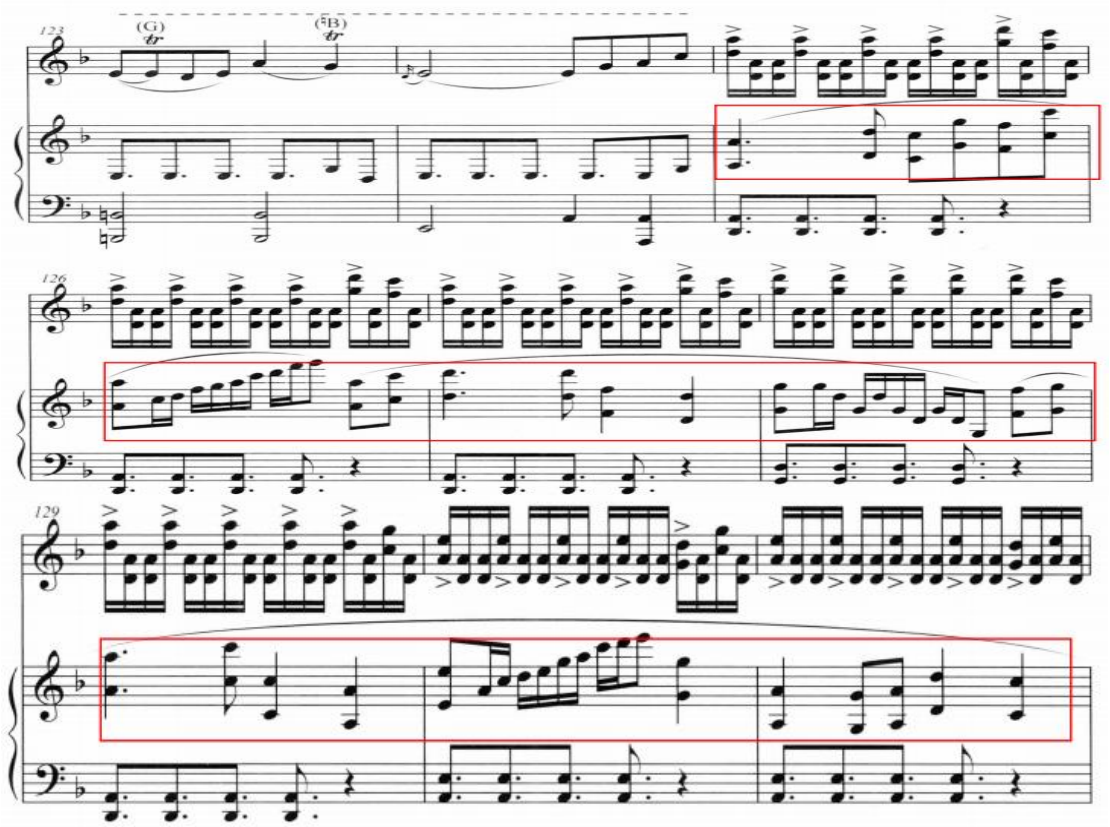


Figure 72. Capriccio No.2 for erhu- Mengfeng, mm. 123~131

Photo: LeiYe

2.2.3.3) Section 11 (mm. 133～148)

This section is almost the same as section 3, except that a series of ascending chromatic transition sentences in section 3 are removed at the end to repeat the big jumps three times and then stop quickly.

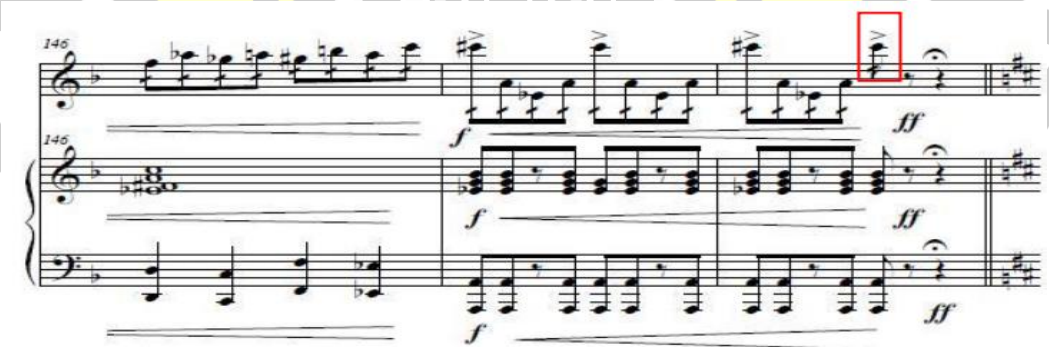


Figure 73. Capriccio No.2 for erhu- Mengfeng, mm. 146~148

Photo: LeiYe

2.2.4) Coda

The ending section 12 only has 16 bars. This section changes the key to D major, which also uses many variations, adding harmony to the color. The theme material is even more condensed from the original 4 bars into 2 bars. A series of d4, the highest note of the same tone in different zones, is pushed to the end. At the end, the four notes in the form of accent and extended notes give a magnificent sense of space. The last note is pulled and plucked at the same time, and the whole song is ended in a magnificent manner.

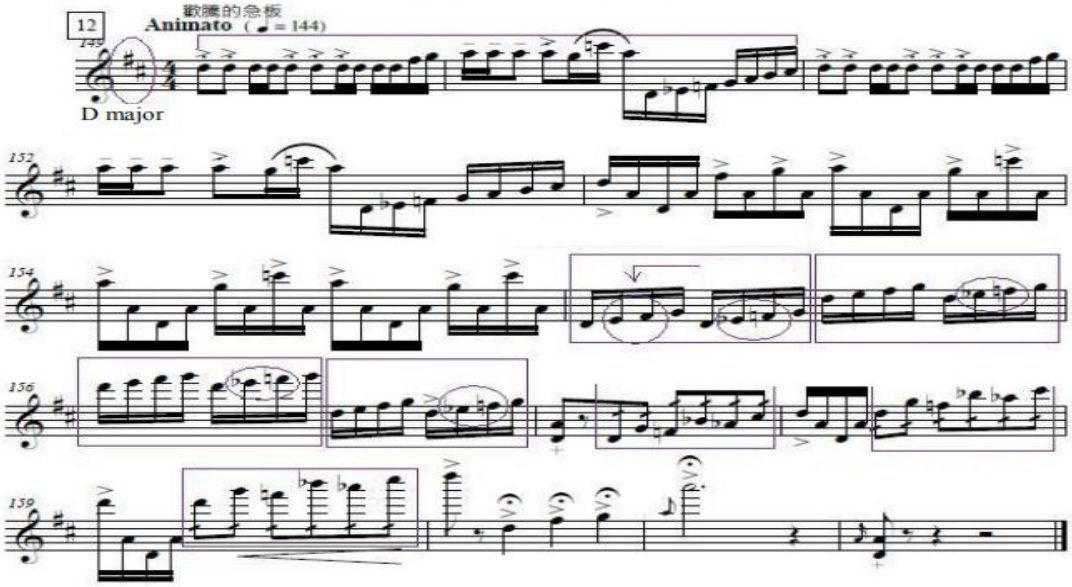


Figure 74. Capriccio No.2 for erhu- Mengfeng, mm.149~162

Photo: LeiYe

2.3) Playing technique

2.3.1) Trill

Trill is abbreviated as "tr." and often appears in Mongolian "long-tune" style melody. This piece of music draws on a lot of Mongolian music elements and uses many trill techniques. In erhu performance, the left hand is played with index finger, middle finger, ring finger and little finger, then the third tone can only be two combinations, index finger and ring finger, the other group is middle finger and little thumb, and the third trill is performed with one finger between the two fingers. , There are one or three fingers and two or four fingers in the song.

Generally, the independence of the ring finger and the little finger is weaker than the other fingers in the natural state. Therefore, if you want to play the third tone in a good song, you must strengthen the independence of the third and fourth fingers. In particular, pay attention to the way the finger joints are lifted, and they are relatively relaxed, so that the sound is granular. Secondly, the right hand bow is tightly combined, and the accent should be highlighted, so that it can be closer to the feeling of matouqin.

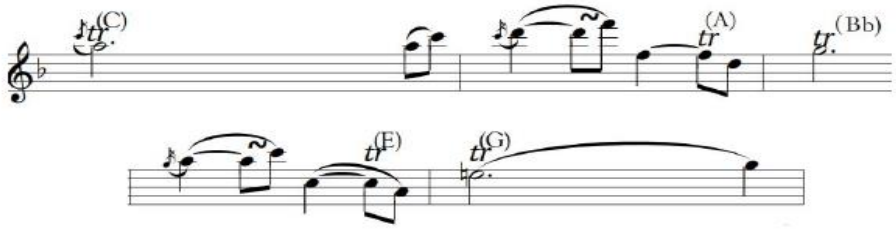


Figure 75 Capriccio No.2 for erhu- Mengfeng, mm.34~38

Photo: LeiYe

2.3.2) Dual tone

Double-tone is a commonly used technique in Georgr Gao 's five Capriccios. The double-tone method is to press down the bow hair with the middle finger and ring finger of the right hand, so that the bow hair pulls the inner string, and the index finger presses the bow stick toward the body to make the bow stick. A technique of pulling the outer strings and then making sounds at the same time. As shown in the example of the above chart, it is not difficult to find that there are single tones and double tones. At the same time, it must be gradually faster. The continuous conversion of single and double tones will greatly increase the difficulty of performance. Therefore, the player must keep his right hand when playing. Lax, clear and organized, remember not to rush to keep the sound clean.

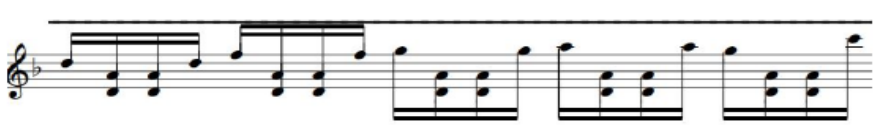


Figure 76. Capriccio No.2 for erhu- Mengfeng, mm.91

Photo: LeiYe

2.3.3) Overtone

Overtones are a commonly used technique for stringed instruments. Both Western violin and Eastern stringed instruments are commonly used. Overtones can be divided into natural overtones and artificial overtones. This piece of music has artificial overtones. Artificial overtones are evolved from natural overtones. When playing natural overtones, press the string with your left hand and your fingertips only need to touch the strings lightly, not real pressing. The performance of artificial overtones is more difficult than natural overtones. The playing technique of artificial overtones is to press the little thumb with the left index finger. Generally, the artificial overtones are mostly pure fourths and pure fifths, so the finger distance control ability must be very good. Keep your right hand stable. Don't be affected by the left hand and then reduce your strength. The right hand should still maintain a solid bow, so that the vibration of the string can be better played, making the overtone sound more transparent and clear.

Figure 77. Capriccio No.2 for erhu- Mengfeng, mm.85~86

Photo: LeiYe

2.3.4) Chromatic scale

From the twelve equal temperament, it is a scale composed of twelve semitones, called a chromatic scale. When playing a fast chromatic scale, the most important thing to solve is the pitch problem. First of all, don't use the bowing method on the score example directly to practice. You can use the split bow to practice first. Each tone is facing the piano one by one, and it is also training your own vision. Sing and practice ears. Secondly, it is necessary to notice that there is a law in the finger distance relationship of the erhu position. Erhu has a total of five traditional positions. The lower the position, the larger the position, and the higher the position, the smaller the position. Therefore, the technique of playing the chromatic scale is: the finger spacing should be very small, almost every finger should be close together, and the finger-handling method should be used when the position is high, so that the accuracy of the sound can be grasped. Of course, it can be seen from the spectrum example that there are not only fast chromatic scales but also handle changing skills. At this time, pay attention to the left hand to

relax, the left hand to change the wrist has almost no amplitude and the fingers to be closer to the strings, keep as relaxed as possible, If you are proficient and accurate to do the above action essentials, you can complete fast chromatic exercises.

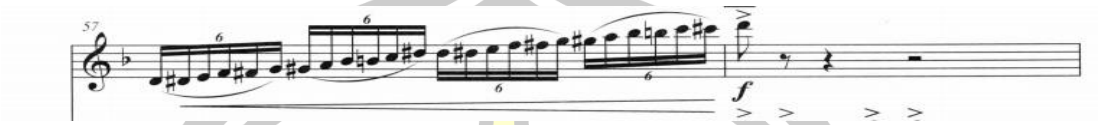


Figure 78. Capriccio No.2 for erhu- Mengfeng, mm.57

Photo: LeiYe

2.3.5) Accent

As shown in the figure below, this is the motivational phrase that runs through the music. From the perspective of rhythm, it is the first eight, sixteen, and sixteen. The irregular accent is used, and the position and sound pattern are used for repeated creation. The creative technique makes the rhythm of the sense of rhythm more prominent. The change of the rhythm is mainly manifested in the irregular changes of the accent. There are also strong performances in many downbeat positions. It breaks the law of traditional music works, which will refresh the original inconsistent creation. It is easy to produce accents when you draw the bow in a regular performance, and here many accents are on the bow, and at the same time you have to perform in a fast situation and have a short and strong sound quality. Therefore, such a performance technique is very demanding for the performer. , Especially in the explosive power of the right hand, the alternation of strength requires the explosive power of the right hand to complete, instead of using the large and small arms to drive the bow movement. This will make the right hand stiff music to express emotions. Weak but not weak, strong but not dry, the right hand power point and wrist should be tightly combined, fully flexible, and use the bow root to play more, so that it is easy to have a granular sound effect.

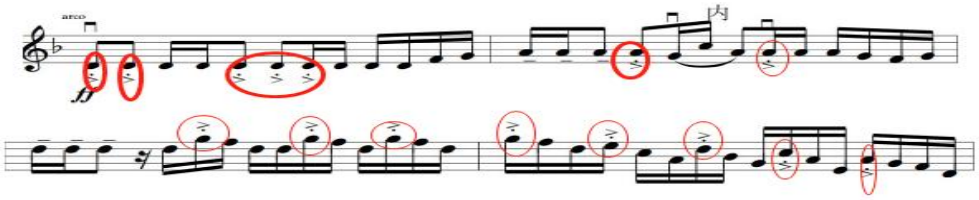


Figure 79. Capriccio No.2 for erhu- Mengfeng, mm.5~6&11~12

Photo: LeiYe

2.3.6) Arpeggio

As shown in the figure below, although this melody appears in the Adagio paragraph, it can be seen from the example of the score that the speed of the arpeggio part is fast and the range contains three octaves. When playing, you should pay attention to the clean and decisive sound, the fingers are sensitive, and you can't be muddled. The scale tone should be played within the accurate rhythm and the pitch should be strict. At the same time, this scale is a supplement to the phrase, so it can't be very abrupt when playing, and the breath should be connected to the previous sentence.

Figure 80. Capriccio No.2 for erhu- Mengfeng, mm.82

Photo: LeiYe

2.3.7) Strength control

In this piece of music, the composer used many changes in velocity to enrich the melody, especially in the second section imitating the Mongolian "Nogula" technique segment and scale model segment, the scale model is mostly rhythmic and timbre regularity They are all the same, so we must pay attention to the changes in the intensity of the light sound to highlight the emotions. Most of the scale modulus is that the higher the sound, the higher the volume, and the lower the sound, the lower the volume, so as to push the emotion to a climax.

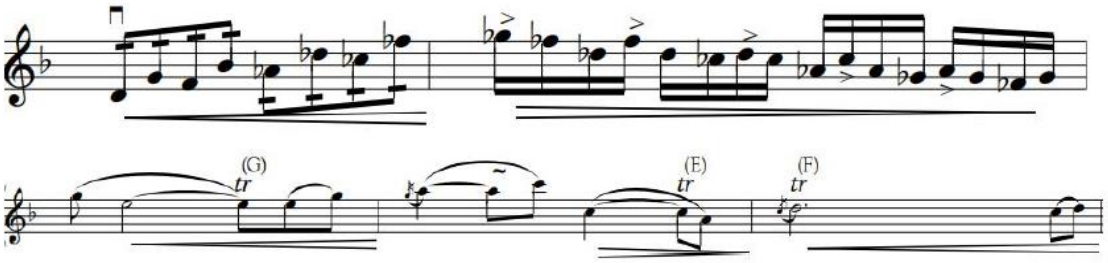


Figure 81. Capriccio No.2 for erhu- Mengfeng, mm.82&mm.26~28

Photo: LeiYe

3. Performance and analysis of Capriccio No.3 for erhu- Xuandong

3.1) Creative background

After fieldwork and interviews with me, I got the description of the composition of this music.

George Gao's rich life experience overseas enabled him to have in-depth exposure to different music cultures around the world, improved his music literacy, broadened his horizons, and profound knowledge reserves, which enabled him to have a diversified perspective on his understanding of music. It provides inspiration and theoretical basis for his future creations. In 2009, under the commission of "Wang Yongde Erhu Studio", he created the Erhu Capriccio No.3 for erhu-Xuandong, which was published by Shanghai Conservatory of Music Press in November 2010. In the works, the dialogue between Chinese traditional music and world music, and the combination of modern and traditional techniques have formed their own unique musical art style with a strong modern musical culture.

This work is based on the traditional Chinese pentatonic scale ‘mi-sol-la-do-re’ as the melody motivation, and the creative center is composed of changeable rhythms. "Xuan" means cool technique, which fully demonstrates the changeable performance skills; "Dong" is the swing rhythm, which combines the rhythm of multiple music types, making the whole work extremely innovative. The allegro section combines jazz, rock and other music styles, cleverly combined with traditional Chinese music elements, giving the work a strong exotic flavor; the adagio adopts a low melody, and the continuous undulating music is intertwined with the piano accompaniment. Carry out the artistic concept that music comes from life into the works. As the traditional

national instrument of our country, the erhu, effectively combined with jazz, rock and roll and other diversified music, makes the whole work full of strong penetrating power and vitality, giving people a sense of vigor and vitality.

3.2) Music structure analysis

This piece of music is named after Capriccio. According to the development of the form, it can be judged to be a three- part (Introduction-A-B-A'-Coda) with an introduction and an ending. The three-part is composed of three parts or three parts, The criterion for the length of each paragraph is that the first and third paragraphs are both longer than the middle paragraph, because the theme is determined in the first paragraph and reaffirmed in the third paragraph, and the middle paragraph is just a change. In this piece of music, the first section and the second section can be further subdivided into three sections, which are called compound three-sections in the form of music, and the composer is based on the perspective of the form of music. The whole song is divided into twelve sections (A~L). When dividing an interlude, such as: D and L both include the four-measure and two-measure interlude, instead of dividing it into the previous section.

To discuss this work from a pitch point of view, only the intro of the whole song uses the key signature, that is, the D major with two sharp signs is used, and the C major notation is used in the other passages. Although the introduction uses D major notation, only the first and second bars are actually developed in D major, and the temporary rise and fall marks are frequently used for the rest.

The first paragraph of Allegro uses the central theme of the whole song, and uses the techniques of fast clusters, double tone, overtones, etc., to show dazzling skills and dynamics to match the title of the song. The second paragraph uses Canon's pairings to overlap the lyrical and soft melody, presenting a continuous musical image; the third paragraph reproduces the theme but is more streamlined, and there is no redundant repetitive section directly to the end, and its speed is the best of the whole song. Present a wonderful ending with enthusiasm and joy.

The figure below is the structure chart:

Table 8. Capriccio No.3 for erhu- xuandong, Structure table.

Three segment		Part	paragraph	Number	Number of bar	Speed and terminology
Prelude			A	mm. 1~3	3	Adagio ♩=56
				mm. 4~6	3	from slow to fast ♩=30
				mm. 7~8	2	from slow to fast ♩=30
				mm. 8~11	4	from slow to fast ♩=60
				mm. 12~22	11	Allegretto ♩=72
A	a	part 1	B	mm.23~54	32	Allegro ♩=140
	b		C	mm. 55~70	16	
	a'		D	mm. 71~86	16	
		Interlude	E	mm. 87~97	11	Con moto ♩=124
B	c	part 2	F	mm. 98~113	16	Andante non troppo ♩=82
	d		G	mm. 114~121	8	
	c'		H	mm. 122~129	8	
A'	a''	part 3	I	mm. 130~143	14	Allegro ♩=142
	b		J	mm. 144~151	8	
			K	mm. 152~159	8	
Coda			L	mm. 160~181	22	Animato ♩=144

3.2.1) Prelude

This is the beginning of the music, with a free rhythm, and the key signature is two sharps. mm.1~2 are the marks of "ff", indicating that this phrase requires sonorous, powerful, free and rough, and full of personality; mm.3~6 gradually accelerates from 30 beats per minute, from low to high, from weak to strong, and level Sense is very strong. In addition, the many changes in the phrase reflect the composer's solid foundation in using modern atonality creation techniques.

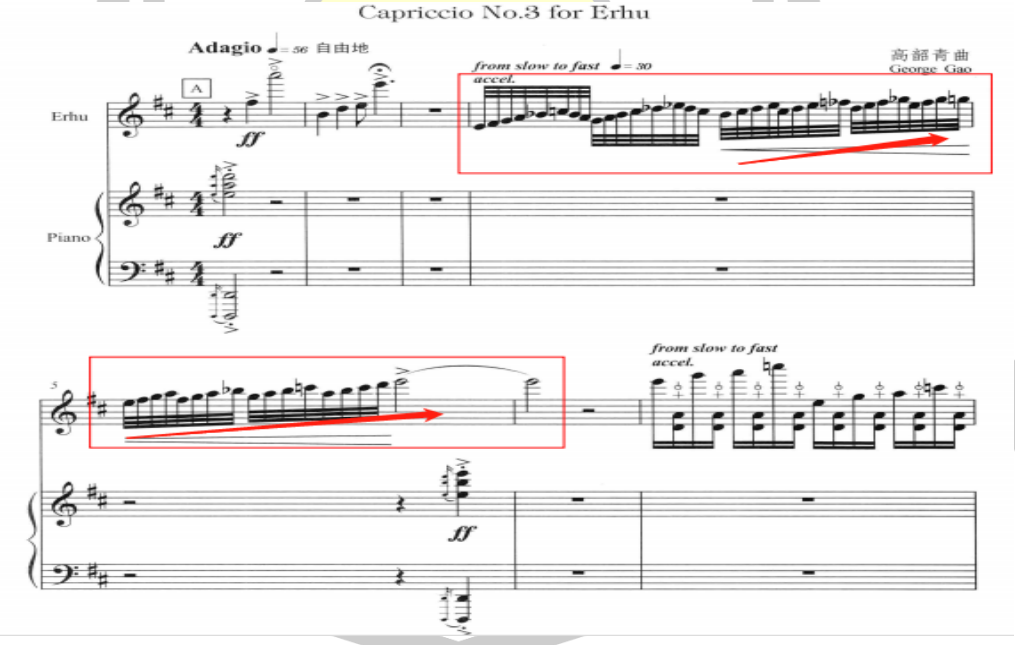


Figure 82. Capriccio No.3 for erhu- Xuandong, mm.1~7

Photo: Lei Ye

In mm.7-11 in, mm.7 & 8 is the first time the theme of the music, while the use of the bow and plucked a combination of techniques, the pentatonic elements into analog from high to low. The composer is not a straightforward statement, but hides his melody in the prelude. The choice and application of performance techniques show different expressions of motivation. In mm.9~11, the double-string playing technique is used, so that each note forms a harmony with a pure fifth relationship.

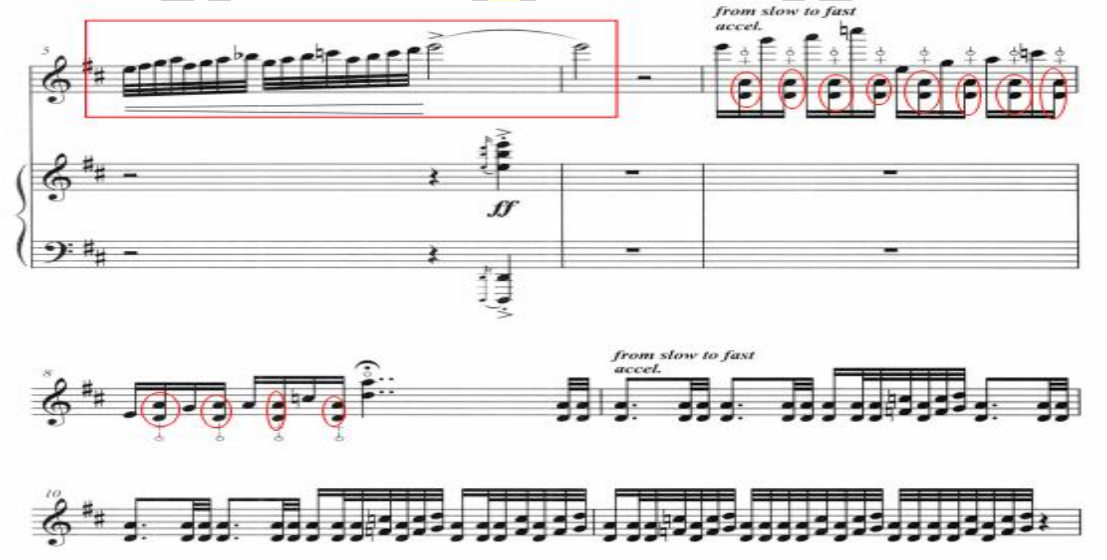


Figure 83. Capriccio No.3 for erhu- Xuandong, mm.5~11

Photo: Lei Ye

In mm. 12~mm.22, it is marked as Allegretto, 72 beats per minute. In the 12-15 measures, the piano accompaniment and the erhu changed their roles. The piano uses a key shift to play the theme melody of the pentatonic elements, and the erhu uses arpeggios as accompaniment, which echoes the mm.7~8 melody. In mm.16-22, it is a solo performance of the erhu. It has a special rhythmic pattern of triplet and also uses natural overtones to show agile tones. In mm.18&19, complicated arpeggios were used, and finally the phrase was ended with "♮ sol", which gave the whole phrase a complicated sound effect. mm.21-22 Return to the pentatonic scale element to play slowly, paving the way for the next paragraph (B). Section A appears three times in the score "from slow to faster", and the rhythm is generally more free.

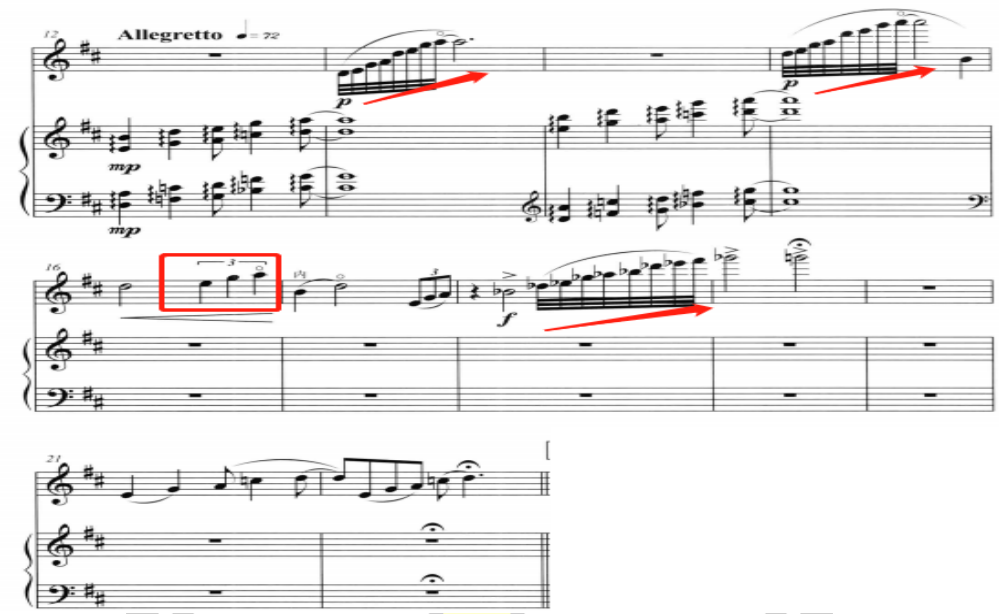


Figure 84. Capriccio No.3 for erhu- Xuandong, mm.12~22

Photo: Lei Ye

3.2.2) Part A

This part is an allegro section, 140 beats per minute, lively and lively, it is the most important theme melody of this song. Sections 23-38 are composed of 2 phrases composed of 8+8, and the theme of the pentatonic scale elements reappears, in contrast to the second theme tone that appears later. The structure of each phrase is composed of 4+4 bars, which is very regular. mm.39-54 is the reproduction of the previous changes. Most of the notes of this melody are marked with skip marks, and some notes are marked with both skip and accent marks. The sound is flexible and dynamic when played. Although the whole section is divided unconventionally, it is very different from the traditional rhythm in terms of the rhythm of each measure and each phrase. There are two consecutive eighth dotted notes, and four identical two 32th notes plus eighth rests appear in a row, together with piano-regular quarter note bass accompaniment. These rhythm combinations are typical jazz rhythm styles, with irregular and impromptu characteristics. Many variations are used in the melody, which complements the rhythm of jazz.

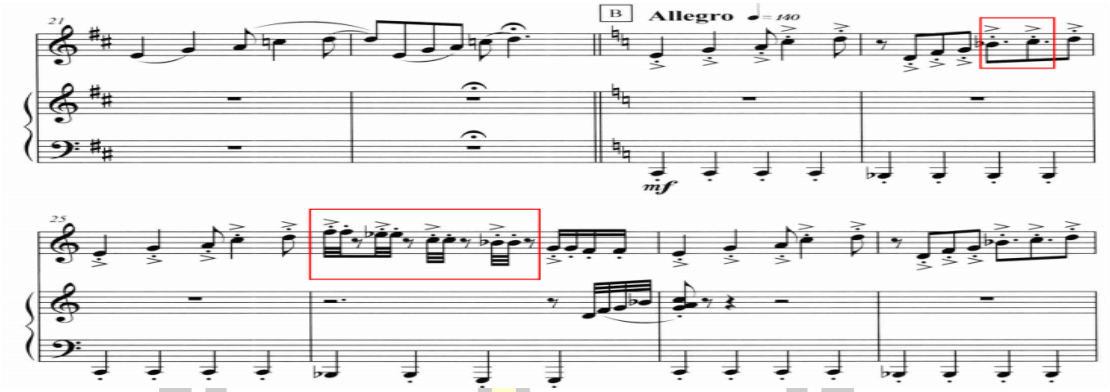


Figure 85. Capriccio No.3 for erhu- Xuandong, mm.21~28

Photo: Lei Ye

In mm.55~70, composed of two identical 8+8 phrases, the third theme tone appears. This part is all played in five-tone two-tone performance, with regular accents in the sixteenth notes, and most of the accents are at the end of each beat, with a strong sense of rhythm.

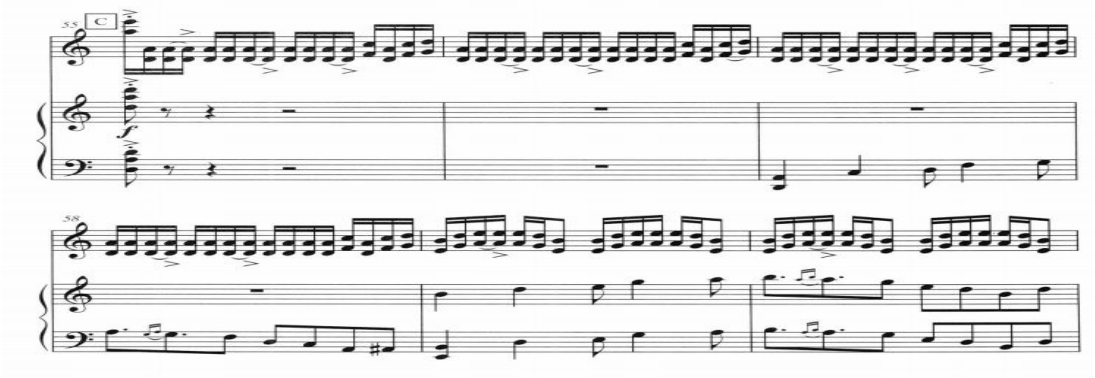


Figure 86. Capriccio No.3 for erhu- Xuandong, mm.55~60

Photo: Lei Ye

Between mm.71-86. mm.71-74 has the function of connecting the previous and the next, the interval relationship between the sound and the sound is complicated, with more changes of tones, there are minor sevenths, and continuous minor seconds and other discordant intervals, which makes the phrase appear inharmonious. . In mm.75-86, these 12 bars are the reproduction of the theme melody of the previous pentatonic elements. mm.75-82 uses artificial overtones with difficult techniques to continuously play the theme tones.

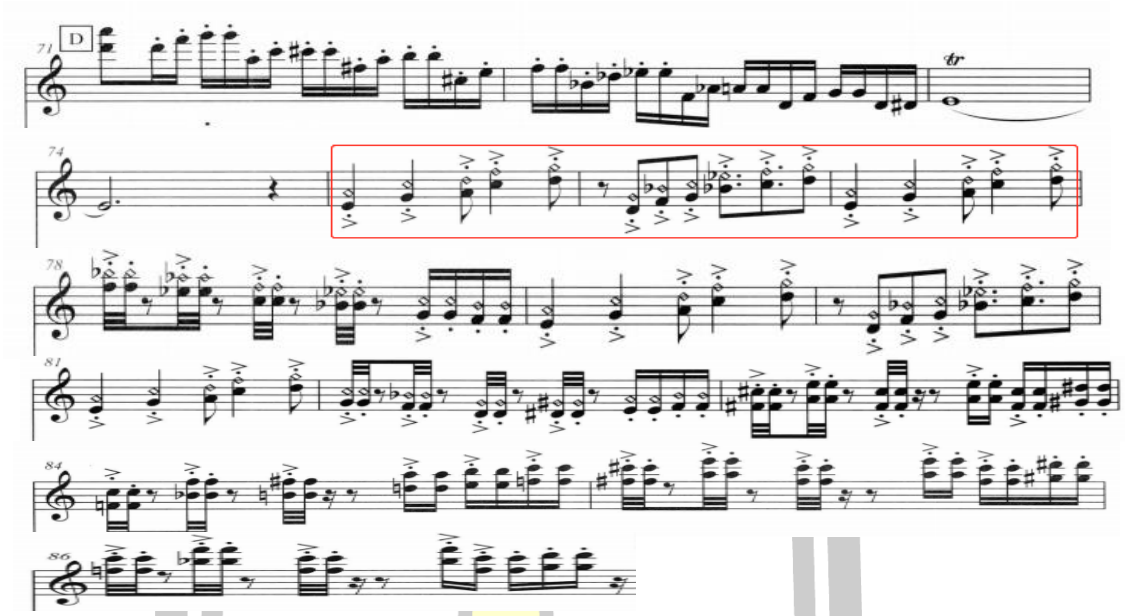


Figure 87. Capriccio No.3 for erhu- Xuandong, mm.71~86

Photo: Lei Ye

The interlude part is a new tone, the melody is lyrical and beautiful, and it is in sharp contrast with the previous in terms of speed, timbre, emotion, performance style and emotional expression. mm.87-97 bars, the rhythm is sonorous and powerful. Among them, the combined use of continuous bow and skipping sound across measures and units makes the sound full and full of vitality.

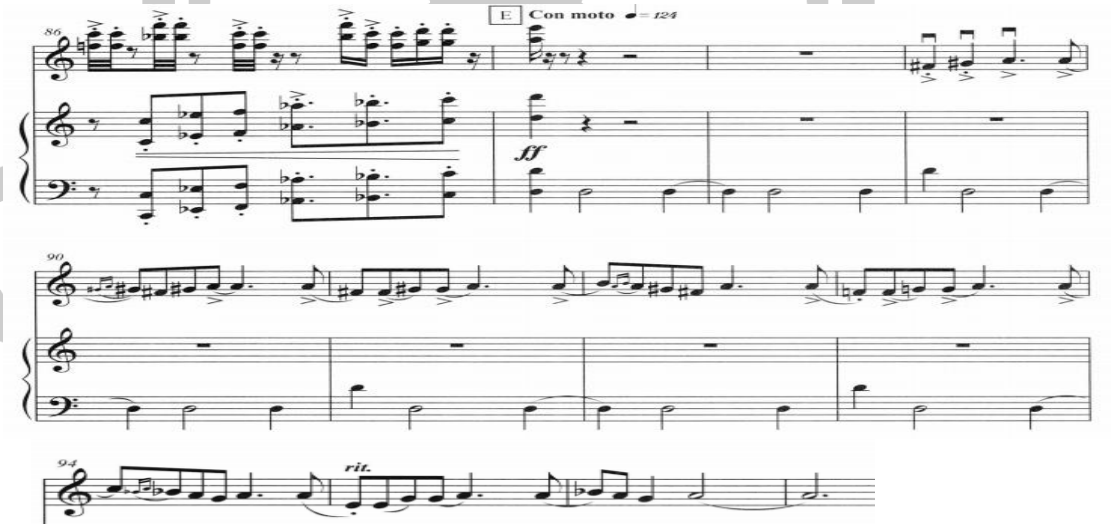


Figure 88. Capriccio No.3 for erhu- Xuandong, mm.87~97

Photo: Lei Ye

3.2.3) Part B

In this part mm.98-113, the erhu first plays the main melody, the piano then enters the melody theme, using Canon's creative method, just like the dialogue between the erhu and the piano, one after another, one after another. The first half of the passage is lyrical, introverted, smooth and beautiful, and gradually pushes the music to a climax; the second half has a wide range, full of emotion, and passion, which makes people feel emotional after listening.

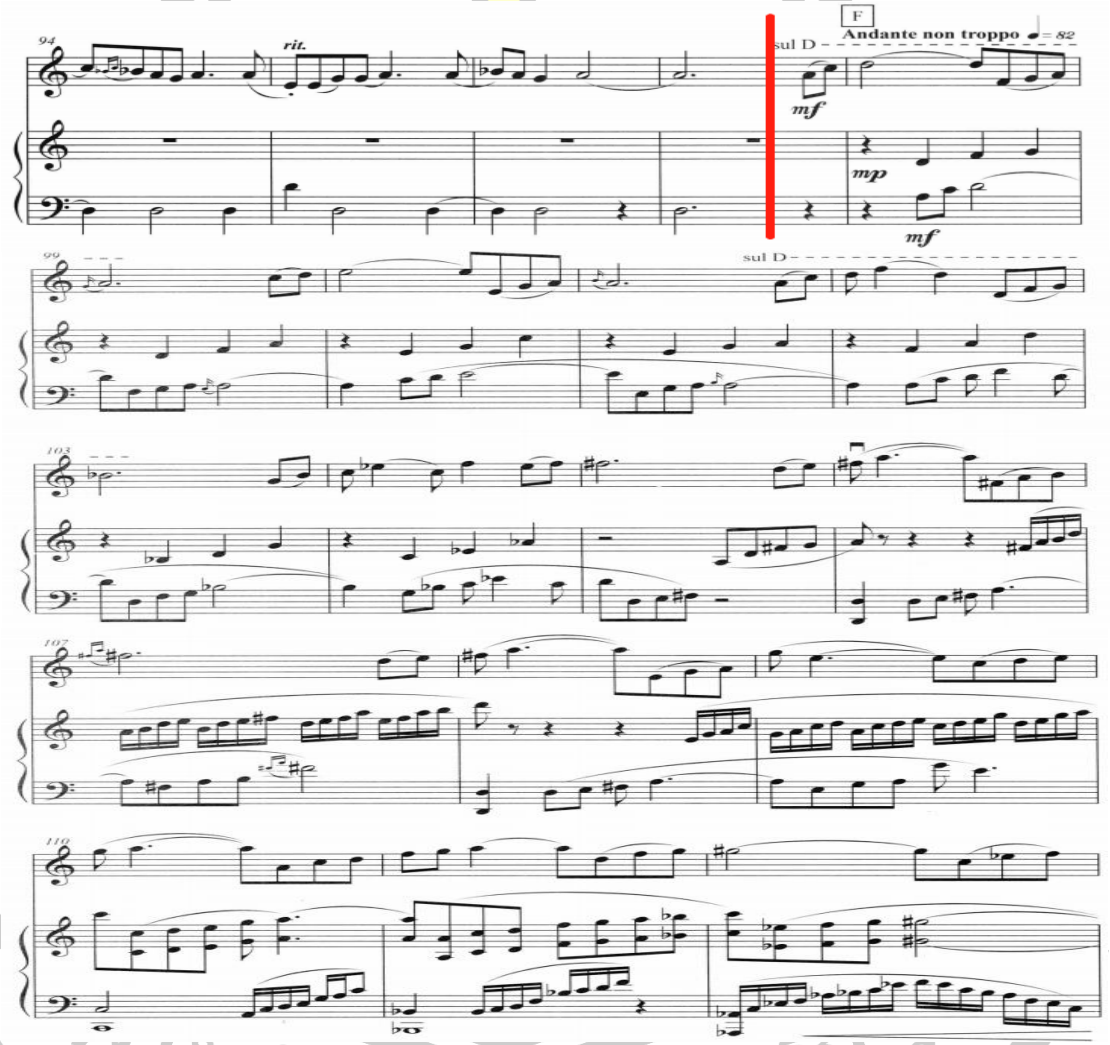


Figure 89. Capriccio No.3 for erhu- Xuandong, mm.98~113

Photo: Lei Ye

As you can see from the score below, in mm.114-121, there is a color contrast with the previous part. The composer uses a large number of sixteenth notes to tie the bow, which has a strong singing ability. At the same time, the use of arpeggios makes The ups and downs of the

melody are very smooth, as free as flowing water, softly listening, full of the beauty of artistic conception.

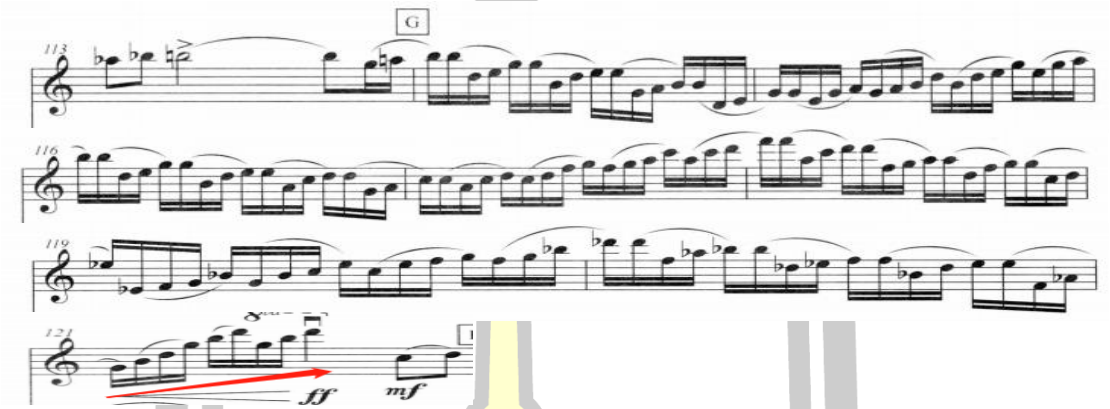


Figure 90. Capriccio No.3 for erhu- Xuandong, mm.114~121

Photo: Lei Ye

The mm.122-129 section still uses Canon's creative methods. The melody of this erhu part is slower and the beat value is longer. The piano part follows the same melody. At the same time, the use of triplets in the lower part of the piano further enhances the smooth, lyrical, and lyrical melody of the erhu part. beautiful, The feeling of openness.

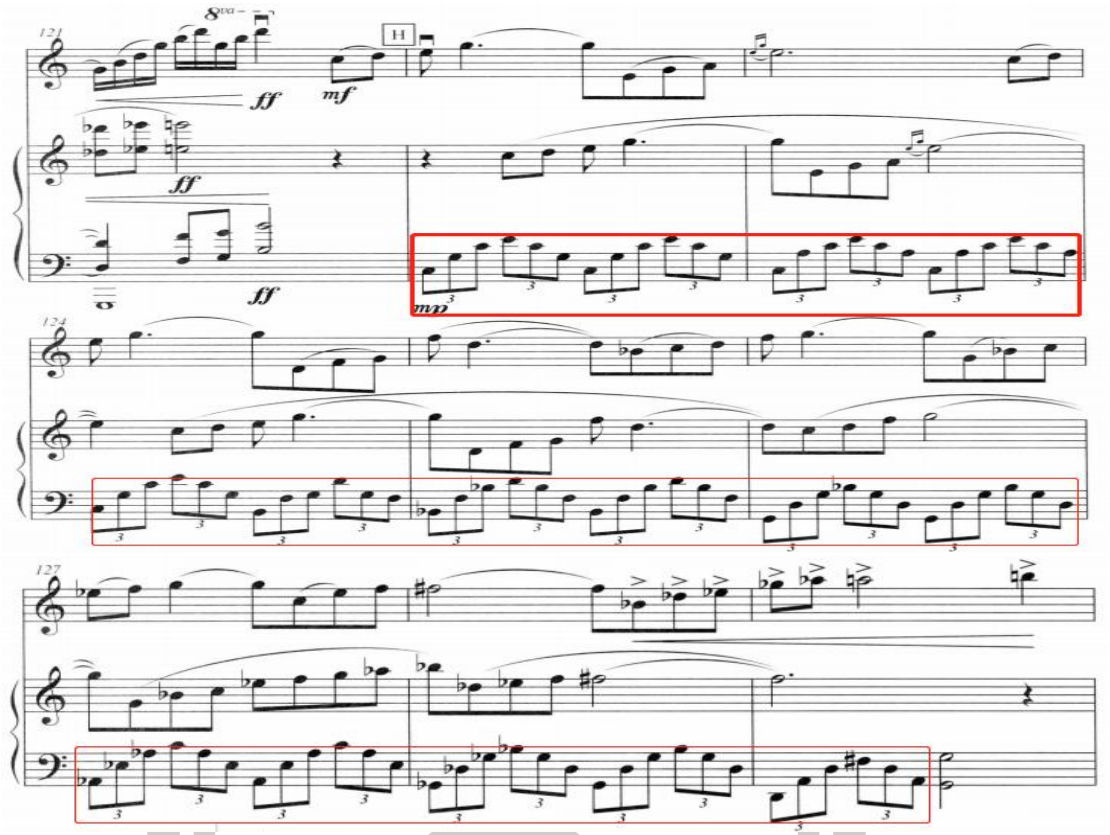


Figure 91. Capriccio No.3 for erhu- Xuandong, mm.121~129

Photo: Lei Ye

3.2.4) Part A'

This part is a reproduction of section A, in section 130-143, the structure is 2+4+4+4. The first two measures are the prelude to the piano accompaniment, and the next is the reproduction of the theme music of the pentatonic elements. Compared with the B section, the paragraph length has been reduced, of which the 136-139 sections are slightly changed to expand the music and make the whole phrase more lyrical and smooth.

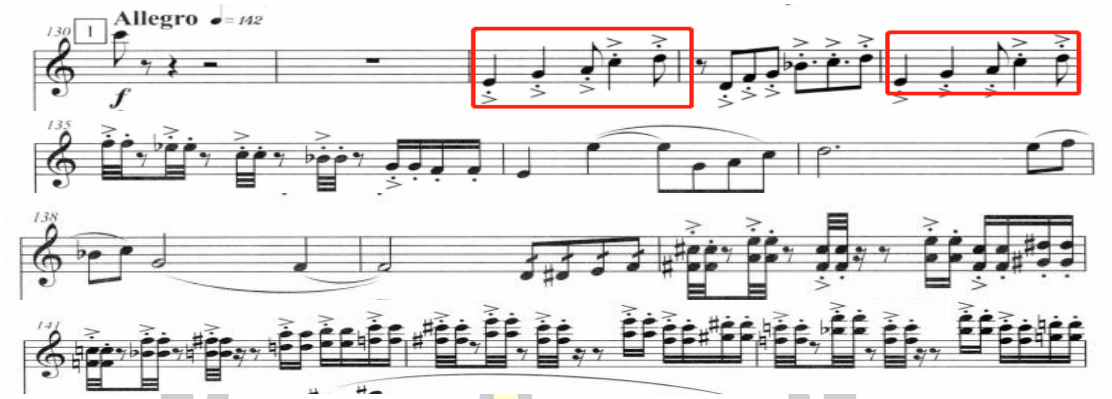


Figure 92. Capriccio No.3 for erhu- Xuandong, mm.130~143

Photo: Lei Ye

3.2.5) Coda

This part takes the first two measures at the beginning of the music as the theme. It has been changed three times in total, pushing the music to the end with a fast sixteenth note.

In mm.160-181, it is the ending part of the music, and the format is divided into 2+8+8+4, which is the climax of the whole song. In this part, the pentatonic elements are still used. At the same time, the use of the sixteenth note fast bow, the improvement of the overall speed, the highlight of the second half of the beat, the ups and downs of the tone, and the continued dynamic style of the music, make the music The sense of hierarchy has been deepened and strengthened, and a fierce and beautiful spark has been collided. When listening to this passage, everyone feels inspiring and excited.

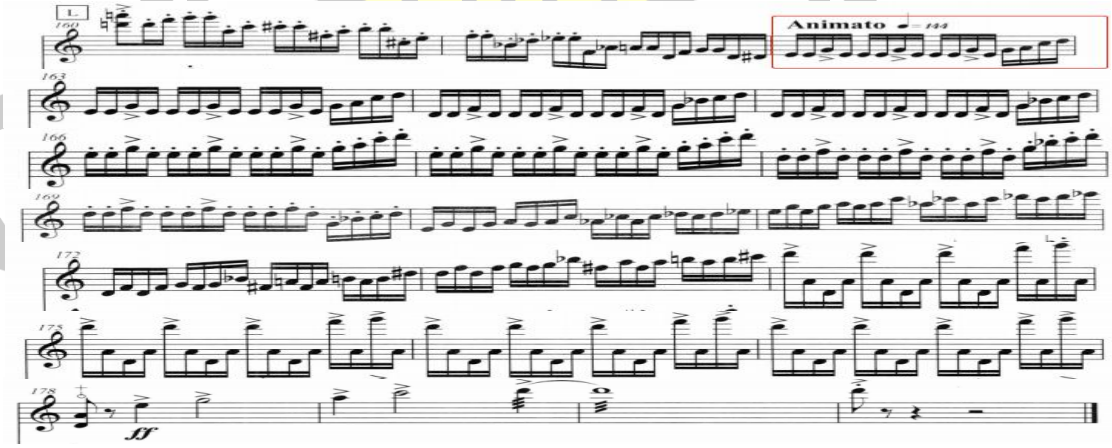


Figure 93. Capriccio No.3 for erhu- Xuandong, mm.163~181

Photo: Lei Ye

3.3) Performance technique

Standard performance techniques are the prerequisite for performance. Only by achieving proficiency in performance techniques can the performer perfectly interpret the connotation and meaning of the music. When the performer can accurately express the style of the music and express the emotions of the music incisively and vividly, can he achieve the peak state of the harmony of the human and the piano, so as to truly achieve the integration of technology and emotion, the performer can only devote himself to the music. Among the works, only works that move people's hearts can be deduced.

3.3.1) Combination of plucking and pulling

As a basic technique in erhu performance, plucking strings is widely used in various works. The left-hand plucking string generally adopts a mixed method of inner hook and outer play. Due to the strong sense of rhythm in the music, the speed of plucking and pulling the strings is extremely high. When playing, the left hand should press each note separately, pay attention to the fullness of the tone and the strict control of the pitch, and the right hand should move the position of the string according to the position of the left hand.

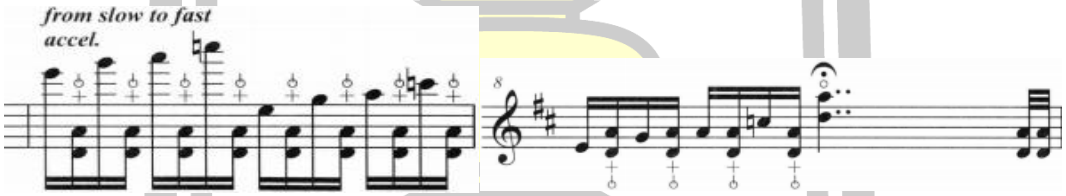


Figure 94. Capriccio No.3 for erhu- Xuandong, mm.7~8

Photo: Lei Ye

3.3.2) Artificial overtones

Overtones are the sounds produced by the vibration of the pronunciation body, which are divided into natural and artificial overtones. Artificial overtones are extremely difficult in erhu playing skills. The pitch of the player must be extremely accurate. When playing, you need to press two notes at the same time, pressing the string with one finger on the left hand and pressing the four fingers virtually. If the skill is not good, it will cause one of them. Or if a few notes are not pressed, the artificial overtone timbre cannot be played, and the phenomenon of mute and noise will appear. In this piece of music, artificial overtones run through the entire paragraph. The

music melody is faster and the sound changes more. In order to perfectly display the music, the player is required to be extremely proficient in performance. The main left hand must be fixed during performance. Proficient in treble playing skills. As shown below:

Figure 95. Capriccio No.3 for erhu- Xuandong, mm.78

Photo: Lei Ye

3.3.3) Rubbing

String rubbing is also one of the common techniques in erhu performance. At the same time of playing, it incorporates the technique of rubbing strings, which can enrich the feelings of the music. In the Adagio in Part B of the music, the technique of string rubbing is used. When playing, the fingers of the left hand are required to press down the string on the pitch and then release it to the original note, but it must not leave the string. Because the rhythm of the work is relatively compact, for the performer, it is necessary to correctly use the light and heavy, fast and slow performance of the string.

3.3.4) Double strings

Erhu is a single melody instrument with bowstrings. The double-string playing skills are not commonly used. It is one of the special erhu playing skills. In the work "Dazzling", the double string technique is frequently used. The double-string technique is an erhu performance technique that simultaneously pulls the inner and outer strings. The sound is produced by the simultaneous pulling of the bow rod and the bow hair. There is a five-degree relationship between the inner and outer strings of the erhu. Therefore, when playing, pressing the string with the left hand can produce multiple sound effects. When playing double strings, you need to control the friction between the bow hair and the bow, so that the sound effects of the inner and outer strings can be balanced and unified. The player needs to stick the bow hair to the inner string with his right hand, and at the same time, the bow stick to the outer string to play at the same time, thereby forming the effect of two-tone performance. It is worth noting that the double-string technique of this song is applied to the fast bow, and the speed is relatively fast. It is very difficult to put the

performance by relying only on the power of the right index finger. It is recommended that the player use the right index finger and middle finger together to play the double string.

Figure 96. Capriccio No.3 for erhu- Xuandong, mm.32

Photo: Lei Ye

3.3.5) Jumping the bow

This is a more difficult technique in erhu performance. In erhu performance works, only natural bow jumping can express the cheerful and lively musical connotation of music. In the process of playing Erhu, it is easy to draw the bow, but it is difficult to push the bow. In the application of natural bow jump technique, wrist training is very important. Grasp the bow of the right hand, and gradually repeat the movement of the wrist from extending outward to bending inward. bow jumping technique is used to make the whole chapter easier.

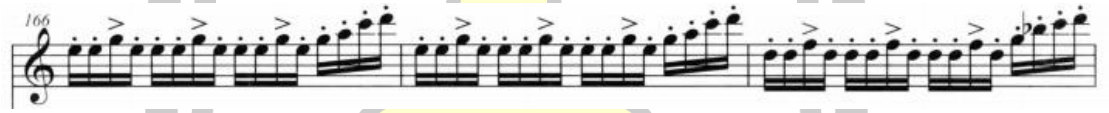


Figure 97. Capriccio No.3 for erhu- Xuandong, mm.166

Photo: Lei Ye

3.3.6) Stress

One of the important factors that determine the overall artistic effect of erhu performance is stress. The characteristics of stress determine the style and emotional characteristics of the music. The arrangement of the accent can achieve that when playing under the accent, the right wrist should be like a front bow slanted to the right. When pushing the bow, close the right palm, lead the forearm, and bend the right wrist to the left to push the bow. The forearm is to be recovered as the first point to drive the forearm to the left. The rhythmic accent timbre appears in the B section of "Dazzling", which makes the section low and accentuates the ups and downs of the tune, making the whole piece no longer monotonous. In this song, similar rhythms are repeated many times, and these similar rhythms have an irregular jazz style. It is the appearance of these accents that make the music show its vitality.

4. Performance and analysis of Capriccio No.4 for erhu- GeBi

4.1) Creative background

After fieldwork and interviews with me, I got the description of the composition of this music.

George Gao inherited his Erhu Capriccio No.4 for erhu-GeBi and created Capriccio No.4 for erhu-GeBi. This piece was composed for the 2012 Shanghai Spring International Arts Festival Erhu Competition, with a strong musical style in Northwest China. The music depicts the vast natural scenery of the Gobi in the northwest. As George Gao said: At the very beginning, I also considered whether to write a Xinjiang style. Later, this piece was written in Taiwan, and I like to go out for a walk in Taiwan, because when I had this composition task, it was equal to the whole people's mind. Body and mind are inside, so when I was walking, I was thinking about it. This inspiration came out when I was wandering in the street one day. In fact, I came out first in the allegro that was shot on 12/8 at the back, because at that time I Before writing, I want to try the modern and popular harmony in Hollywood blending here. That one is a very typical seven-tone mode in Northwest China, with that diacritic, but you can analyze Hollywood's That kind of harmony, which is very interesting, is the color harmony. For the matching method of that movie, it has become the harmony that everyone likes and is used to now. And when I was walking on the road, I suddenly had the motivation of the four sounds of "DGCA", and in terms of rhythm, it was like the feeling of a tall horse running, it was this kind of vivid feeling, so this inspiration is like this Coming. Once the motivation is determined, you can sit down slowly and write it down.

4.2) Analysis of music structure

This piece of music is divided into three parts in structure, as shown in the figure below

Table 9. Capriccio No.4 for erhu- GeBiStructure table.

Part	Music Section	Number	Music speed
Slow part	Prelude	mm.1~10	♩=76 Grandioso、 Lamento
	A section	mm.11~25	Esuberante
		mm.26~33	
	B section	mm.34~49	Tranquilly、 Espressivo
	Connection segment	mm.49~66	Espressivo
	C section	mm.66~77	Elastic velocity
		mm.77~96	♩=76
Allegro part	D section	mm.97~104 mm.105~112 mm.113~118	Allegro ♩=126
	E section	mm.119~131 mm.132~139	♩=138
	F section	mm.140~147 mm.148~155 mm. 156~163	Molto Allegro ♩=120
Presto	coda	164~173	♩=168

4.2.1) Prelude

At the beginning, the piano plays the core motivation first with the high-pitched part, the main fourth-degree downward melody D⟶C⟶A, of which a G appears in D and C, so the first and second bars present two fourth-degree melodies. 2nd The part of the bar will immediately echo the high-pitched melody, and raise the third beat C by a semitone, while extending the melody. It grows to four bars. After the 5th bar, two sets of models are used to advance and descend, emphasizing this core motivation. The 6th to 7th bars also echo the melody of the 5th bar.

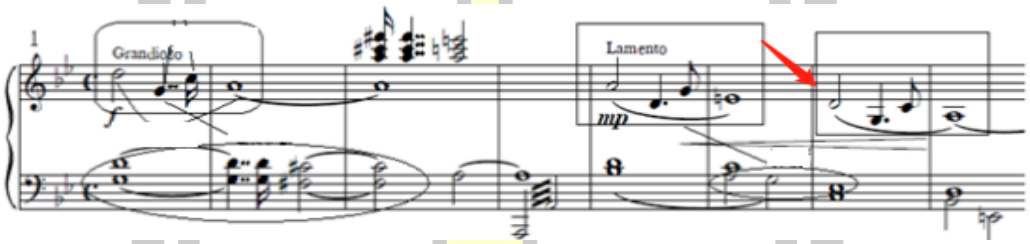


Figure 98. Capriccio No.4for erhu- Gebi, mm.1~8

Photo: Lei Ye

4.2.2) A section

The melody is developed from the core motivation of the previous section. According to the analysis in the previous section, there are mainly A, C, F sections and even stages in the creation of melody as the material. The A section of the piano first plays the accompaniment two measures in a progressive upward (d-e-f-g) manner in the high-pitched part, and the bass part is advanced with one long note per measure, creating a sense of being in the vast Gobi desert. A sense of vitality. In the 13th bar, the erhu plays a four-bar melody. The last two bars will change from the fourth-degree upward to the fifth-degree downward, which not only corresponds to each other, but also has the effect of emphasis. In bars 17-20, the melody is played in fourth intervals, so the velocity changes from mp⟶mf. In the 21st to 22nd bars, the melody begins to change, and the last third tones down to the second to be DGC up. Finally, in the 24th to 25th bars, the erhu goes up in stages, the piano increases the parts, expands the texture, and pushes towards The first wave of climax, hand the melody to the piano.

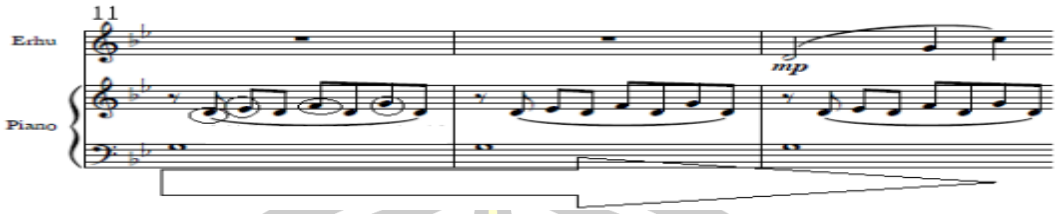


Figure 99. Capriccio No.4for erhu- Gebi, mm.11

Photo: Lei Ye

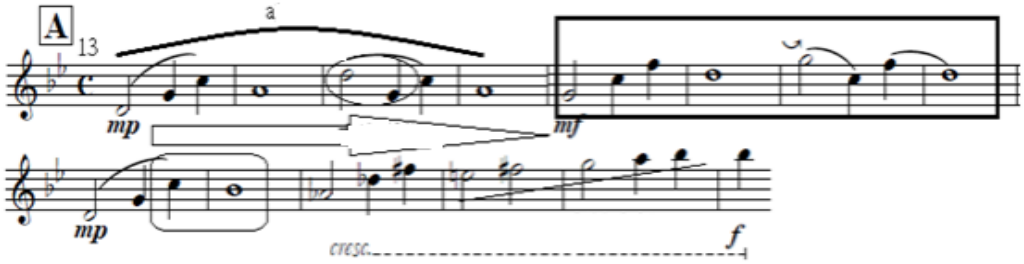


Figure 100. Capriccio No.4for erhu- Gebi, mm.13~25

Photo: Lei Ye

After the sound is stacked to the 26th bar, the piano inherits the erhu melody, constantly repeating and changing the core motives. The melody adds chords or octaves to increase the tension and thickness of the music. Finally, the long note in the 32nd bar has an extended effect, Has the function of ending the A section to continue to the next section.

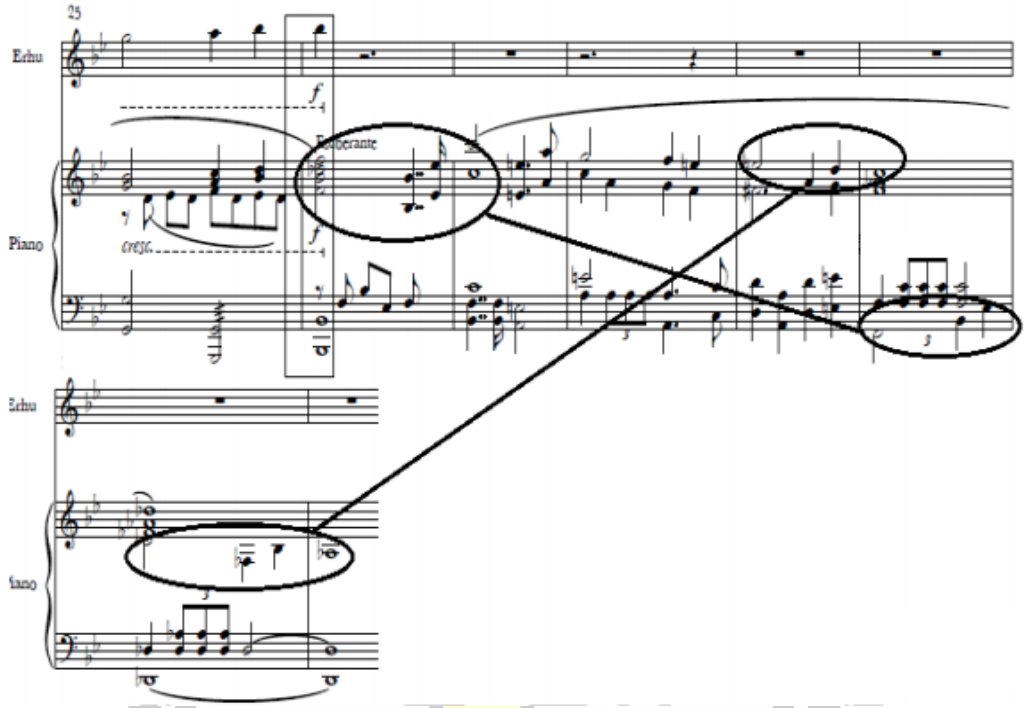


Figure 101. Capriccio No.4for erhu- Gebi, mm.25~31

Photo: Lei Ye

4.2.3) B section

The B section is connected to the piano melody of the A section. In order to change the key, the last note of the A section is continued with the same sound. Entering the B section, the piano also plays the triplet accompaniment with the treble part as the background. Compared with the monotonous rhythm of the A section, it adds a sense of fluidity, and the accompaniment shape changes from the upper part of the A section to the lower part, and the bass part Continuing the atmosphere of the A section, the performance of the continuous long tone and the high-pitched part presents a dynamic and static contrast, and the high-pitched part repeats the same tone pattern every four tones, thus creating a kind of ambiguity in the rhythm, as if it is in the Gobi desert. The feeling of wind and sand, and then brought out a melody with strong Shaanxi music characteristics.

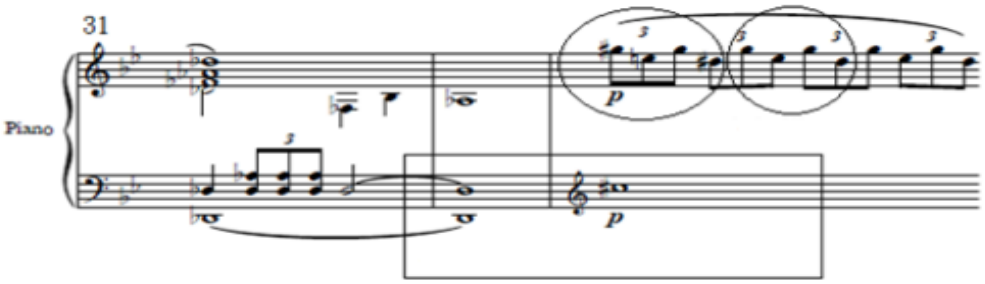


Figure 102. Capriccio No.4for erhu- Gebi, Piano accompaniment part, mm.31~32

Photo: Lei Ye

The B section is mainly divided into two phrases. The first sentence is divided into the first sentence (mm.34~37) and the latter sentence (mm.38~41). The latter sentence is the repetition of the previous sentence, only in the 41st bar of the latter sentence. The group of music moves up by a semitone, and then the second sentence (mm.42~49) shifts the mode, which is the semitone ascending model of the first phrase, and the mood is more agitated. In the 45th bar, the 44th bar is emphasized. When the whole mood is pushed to the 46th bar, there is a downward gliding of the downward major sixth, which has the effect of easing emotions. Finally, the 47~48th bar has continued the development of the previous major sixth downward sound End this segment. The whole section is full of emotions, as if people from the Northwest are standing on the vast Gobi and sing the high-pitched folk songs of Northern Shaanxi.

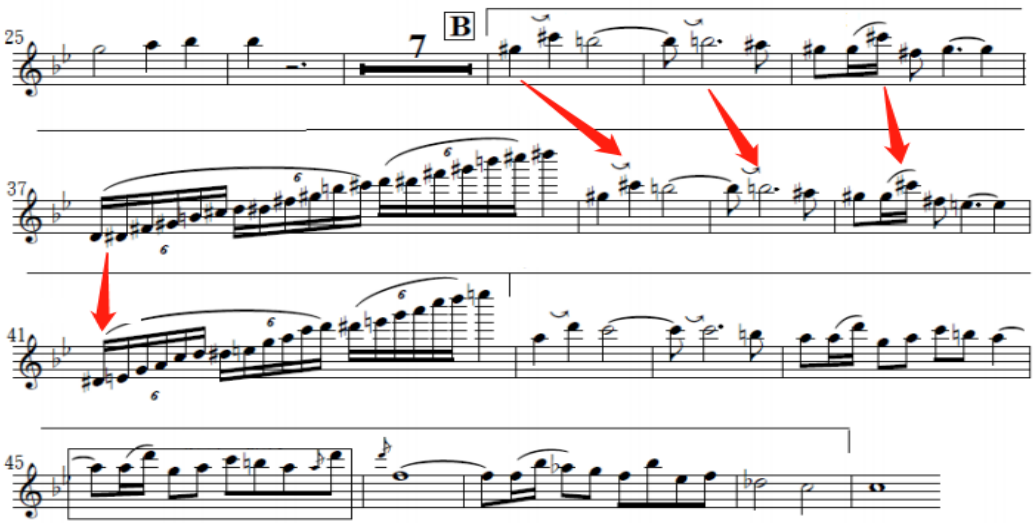


Figure 103. Capriccio No.4for erhu- Gebi, mm.25~49

Photo: Lei Ye

4.2.4) Connection section

The upper part of the piano from the 49th to 54th bars of the connecting paragraph is played five times in a row with the core motivation, emphasizing that the b melody will return to a melody, and the bass part will also increase texture. After six measures, the piano plays the main melody part of the erhu section of the A section from the 55th to the 60th bar. As the piano can play multiple voices, the melody not only enriches the texture and layers, but also increases the tension and tension of the section. The fluidity ends with the b melody. The whole connection stage has the function of connecting a and b melody. Once again, the theme melody is explained, which implies that the theme is about to be developed.

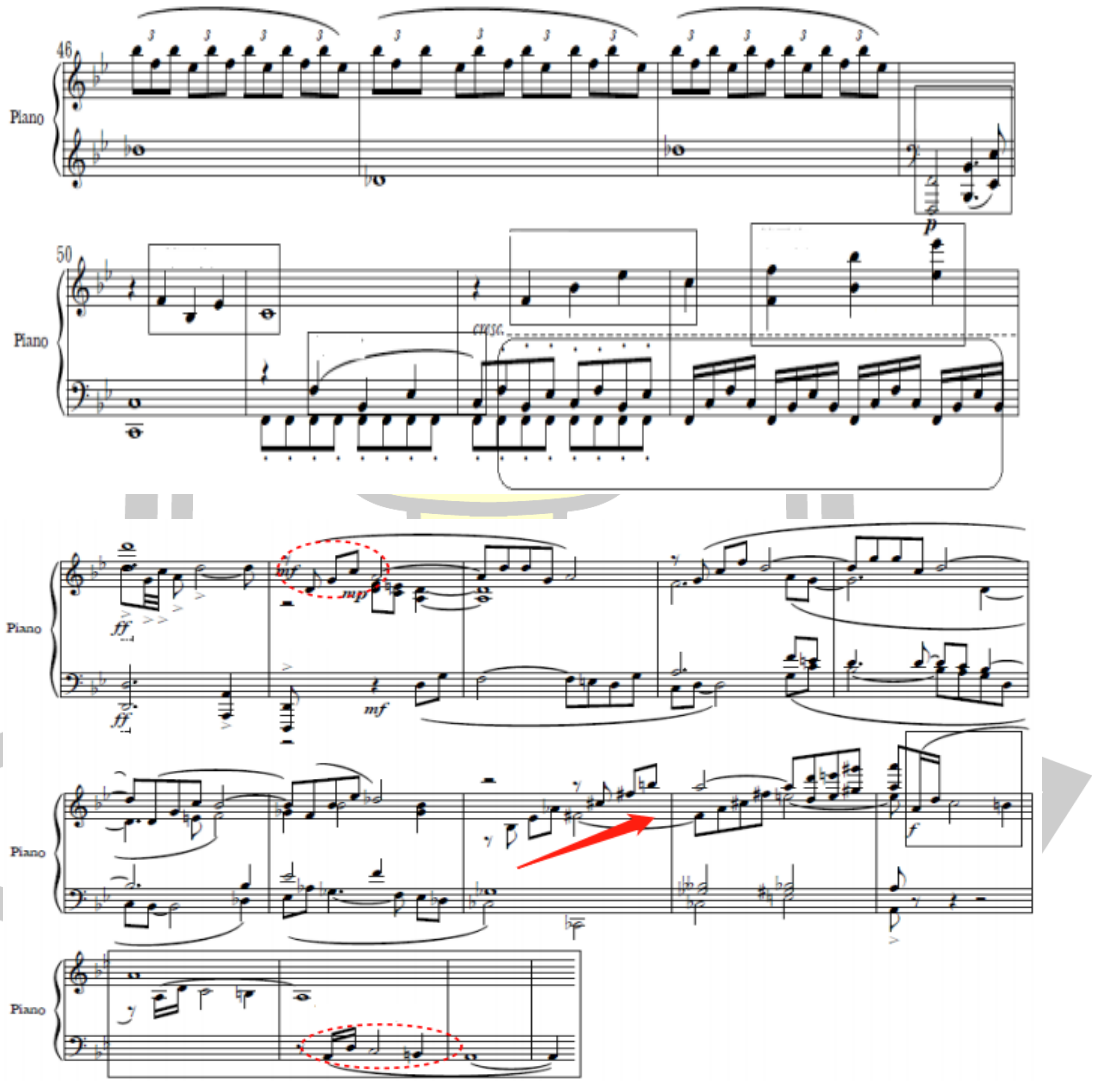


Figure 104. Capriccio No.4for erhu- Gebi, mm.46~67

Photo: Lei Ye

4.2.5) C section

This part is the colorful section of the music (mm.67~77). mm.67~70 combine the lower and upper lines of the melody variation into one phrase. The score below shows that the composer regards the ending notes of the descending as the ending notes. The starting sound of the upward movement will be played in the mode from the 71st to the 74th bar, and the long piano sound will be added as a foil, which indicates that the piano accompaniment will be added slowly.

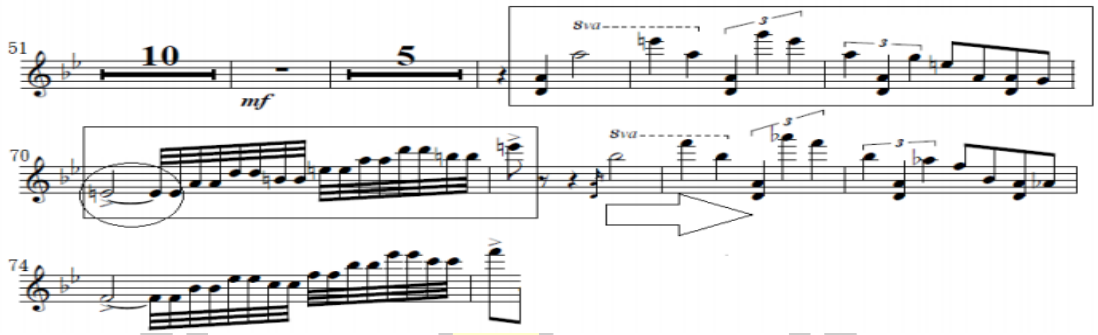


Figure 105. Capriccio No.4for erhu- Gebi, mm.51~74

Photo: Lei Ye

4.2.6) D section

The D section is (Allergo) with tempo indication ♩=126. Before entering the theme, the piano only prepares for the motivational pattern of two beats and 16th notes. The mood changes very quickly in the music. The Allegro melody entering the 97th bar is a compressed variation of the melody of the B section, as shown in the figure below.

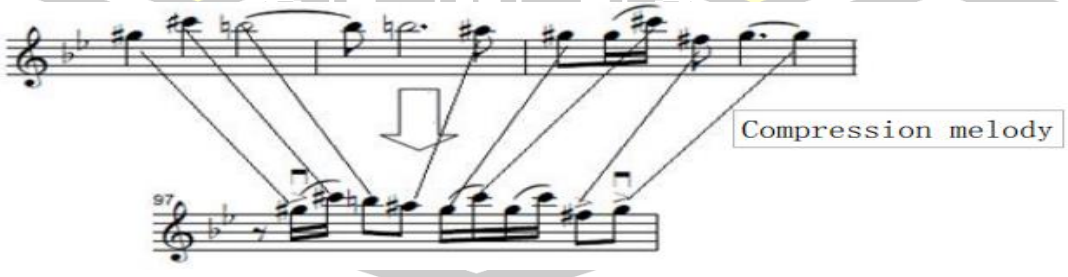


Figure 106. Capriccio No.4for erhu- Gebi, mm.97, Compression melody

Photo: Lei Ye

For the first time in bars 105~108, the compound time (9/8 time) is used. Erhu is here to retreat to the role of accompaniment. The piano obviously plays a short a melody with a semitone (Eb⟶E⟶F⟶F#) Variations of the technique.

The erhu is built on the piano for development, especially in the 105th bar, it can be found that the piano and the erhu are notated with the same sound and different names. The inner part of the piano in bars 113~116 also hides the deformed a melody. Bars 109~112 are interlaced with compound beats (bars 109 and 101) and single beats (bars 110, 112). The compound beats are played by the piano a melody, and the single beats are played by the erhu allegro melody. A sense of dialogue, the two main melody questions are naturally blended together. In bars 117 to 118, the piano plays the b' melody, the two bars are played in high and low octaves, and the erhu is played in a fast mode with a minor third, and the mood is getting more and more intense.

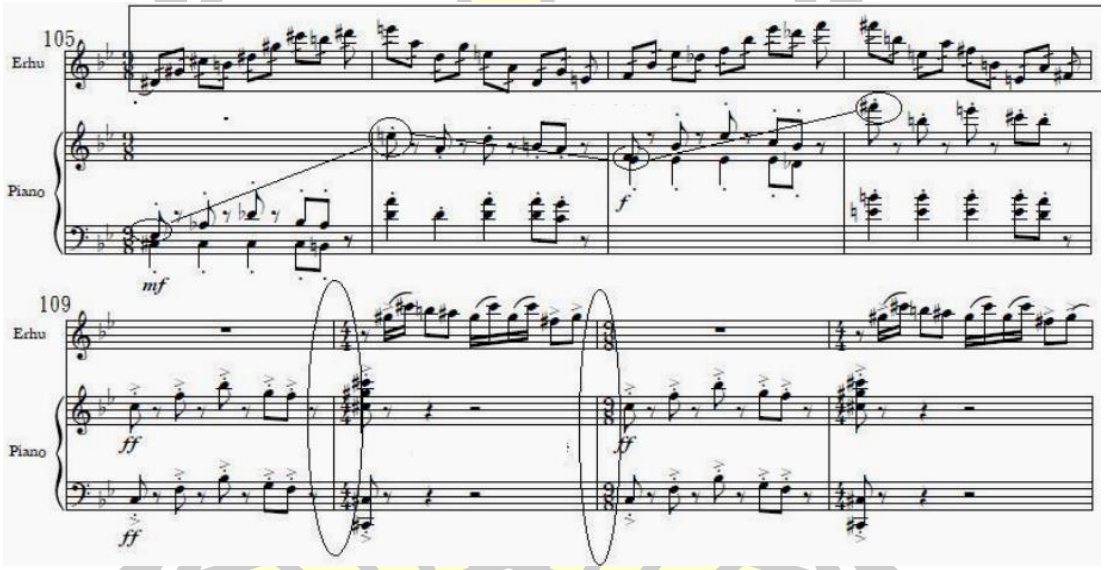


Figure 107. Capriccio No.4for erhu- Gebi, mm.105~112

Photo: Lei Ye

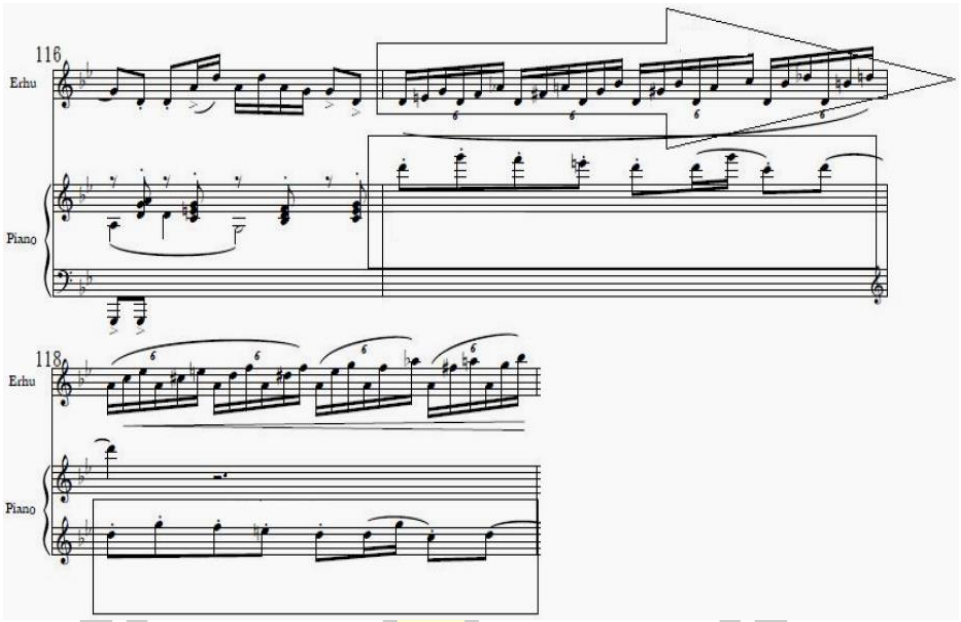


Figure 108. Capriccio No.4for erhu- Gebi, mm.116~118

Photo: Lei Ye

4.2.7) E section

Sections 119 to 131 are the most intensely rhythmic sections of "Gobi", so the mood is more exciting, and the speed also accelerates to ♩=138. This section mainly expresses irregular rhythmic accents and the display of double string technique. In the 119th bar, the composer cleverly placed the first three notes of the melody (G#-C-#B) in the fast sixteenth group. At this time, it is easy to cause the feeling of rhythm misalignment, and the composer even more The second sixteenth note is placed on the accent, and it has the effect of splitting, so it has a stronger sense of rhythm. And the double string part of the 120th bar is to play the rhythm of the 119th bar with a high octave split accent. At the 123rd bar, the rhythm will be reduced from four beats, two beats to one beat, which creates a sense of tension. In bars 126~131, the erhu uses the combination of melody and double strings to increase the technical difficulty, and emphasizes the melody with the piano, making the model move forward and down. When passing through bars 128 to 131, the piano plays the theme in advance in the bass part, and then variation.

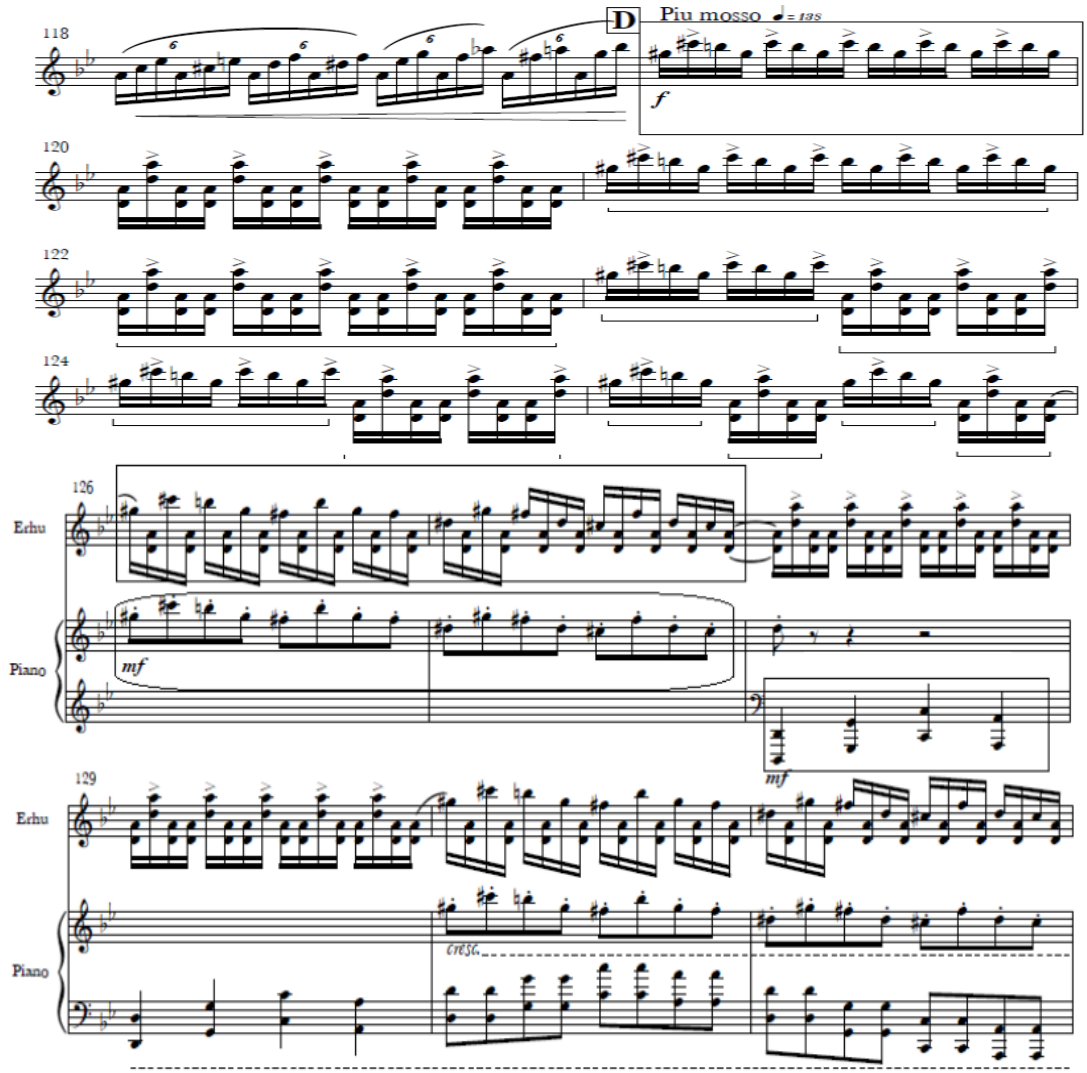


Figure 109. Capriccio No.4for erhu- Gebi, mm.118~131

Photo: Lei Ye

4.2.8) F section

Entering this part of the section, there are three phrases. First, in bars 140~147, the composer changes the erhu melody of the original A section (4/4) to make the melody more sonorous and powerful. The bass part of the piano is more powerful. The two-beat-delayed Canon and Erhu duet theme, the high-pitched part steadily plays the rhythm like a march; the 148~155th bars play the theme octave higher, and the master-slave relationship of the piano melody is also replaced, and the theme is changed to high pitch Voice presentation.

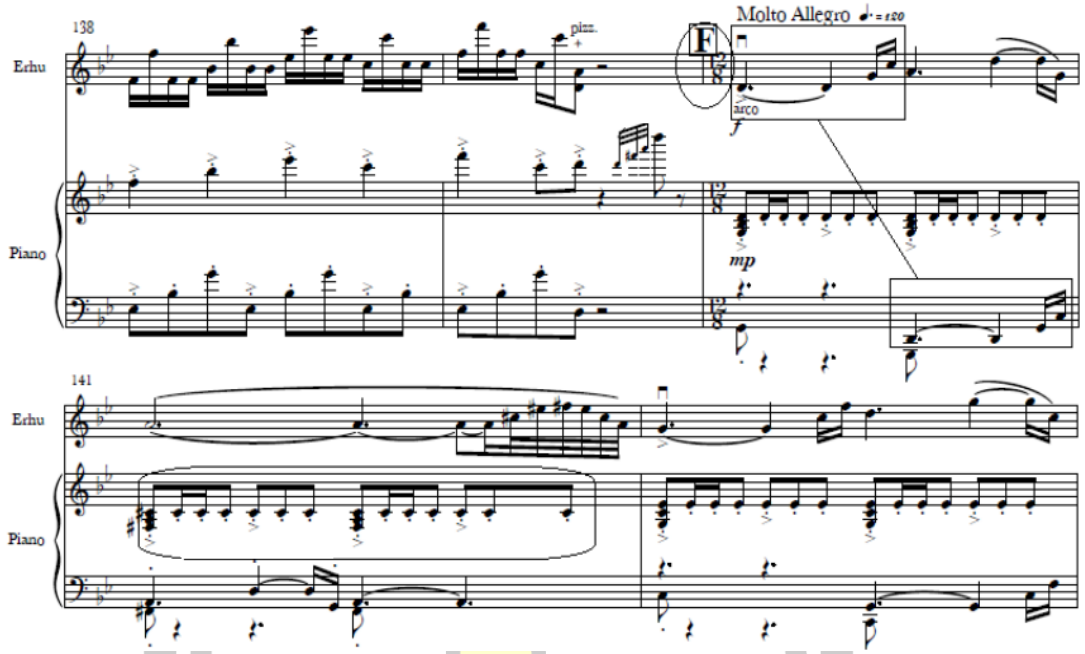


Figure 110. Capriccio No.4for erhu- Gebi, mm.138~142

Photo : Lei Ye

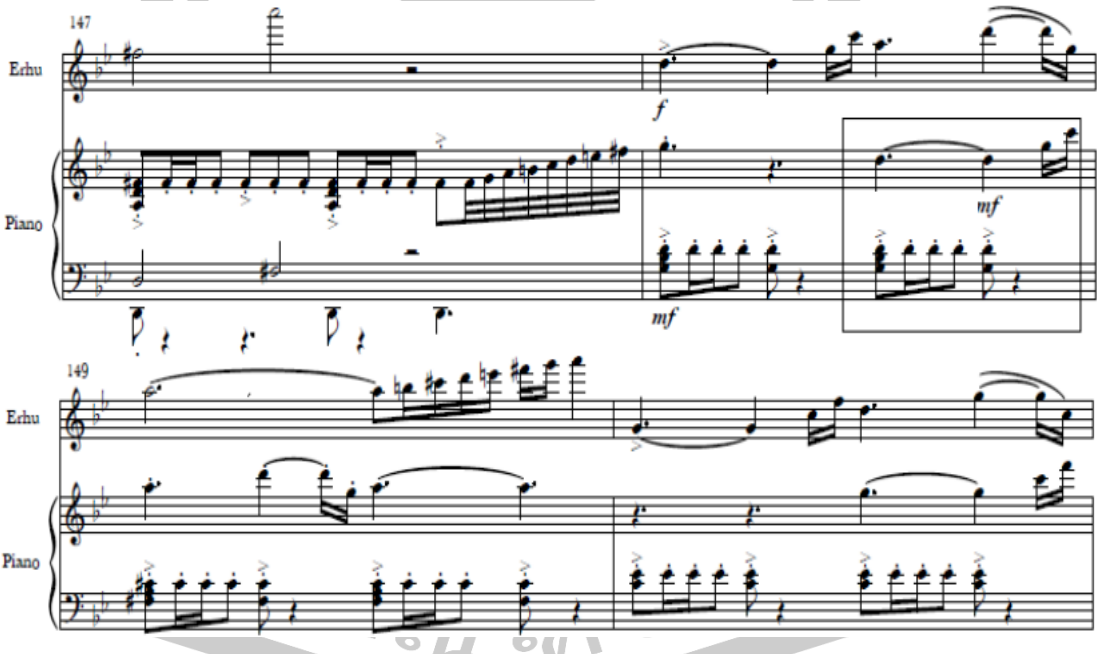


Figure 111. Capriccio No.4for erhu- Gebi, mm.148~150

Photo: Lei Ye

In bars 156 to 163, the theme melody is transferred to the piano for performance, and the erhu is accompanied by a fast group of broken chords above and below, and the bass part of the piano also changes the rhythm with a split rhythm. This section has reached the climax of the music, so the texture and layers are enriched to increase the tension of the music.

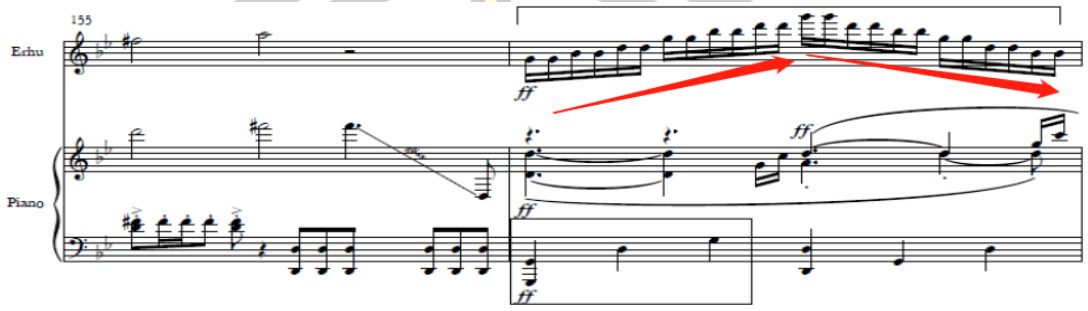


Figure 112. Capriccio No.4for erhu- Gebi, mm.155~156

Photo: Lei Ye

4.2.9) Coda

The speed is marked ♩=168, but the theme of allegro is emphasized. The accompaniment part is slightly modified. Although the erhu looks like a series of triplet scales in the 170th to 171st bars, the composer also specially emphasized the accent of each beat. If you mark it out, you can see the triplet developed by reproducing and emphasizing the core motivation of the fourth interval, and finally the whole piece of music is ended in a simple and neat, strong and powerful way.

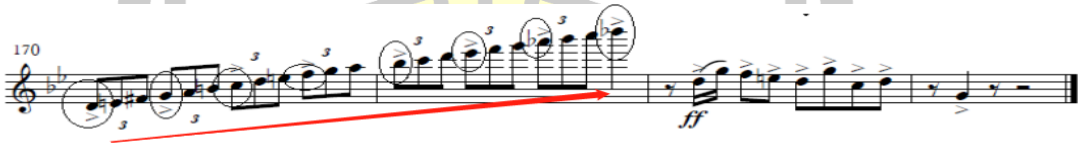


Figure 113. Capriccio No.4for erhu- Gebi, mm.170~173

Photo: Lei Ye

4.3) Performance technique

An excellent musical composition is inseparable from an excellent performance interpretation. How to successfully recreate the work is the subject and responsibility faced by every performer. In addition to first possessing and completing the basic performance skills

required by the work itself, a thorough understanding of the composer's creative ideas and intentions and an accurate grasp of the connotation and style of the work are equally important factors that the performer should pay attention to.

According to this piece of music, the following five points are sorted out and described one by one from the different playing methods of the left and right hands.

4.3.1) Raising the string

Raising strings originated from the Qinqiang Banhu in Shaanxi opera. It is an important means of expressing the style of the Qin school. However, when playing erhu strings, the force applied to the strings with the left hand is different from that of the banhu. The erhu stringing needs to be studied first. How can the pressure exerted by the fingers on the string be just right? The second, third, and fourth degree of the crotch are mainly used for the sound levels of the crotch, while the fourth degree crotch is used in the "Gobi". Generally speaking, four-degree chords are played mostly with four fingers, but "Gobi" requires three fingers to complete. The first beat of the 36th bar of the melody of the B section is played with two fingers. g #2 is the fulcrum. , Bring the three fingers and four fingers together with the two fingers, relying on the strength of the wrist hem, drive the three fingers to press the strings instantly to the pitch of c #3. Because the process of raking the string is very fast and short, although the sound of the raking string is recorded with an average real value, the actual performance of the raking string is more like the dotted time value of the front and the short. Remember to play the chord must reach the required pitch, otherwise you will not be able to perform well.

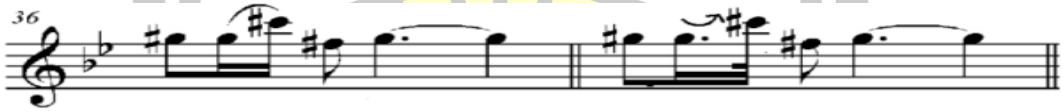


Figure 114. Capriccio No.4for erhu- Geb, mm.36, Music score and actual performance Photo: Lei Ye

4.3.2) Portamento

Portamento is one of the most distinctive performance techniques of the erhu. The commonly used portamento can be divided into upward portamento, sliding tone, pad finger portamento and back portamento. As the name suggests, the basic up and down tones, sliding towards the treble are called upslides, of course, sliding towards the bass is the sliding tones. The

usage of these two portamentos is not limited by the spectrum, and can often be used freely according to the emotional needs of the player, but on the premise that it does not affect the structure and style of the music. The only portamento that is specially marked on the music score is the glide back. Although the glide back is also divided into up and down glide, but most of the music more often use the bottom glide. Use a lot of back portamento in the B section, such as the c #3 sound of the second beat of the 34th bar. When playing, press the finger on the c #3 first, and quickly slide the bass by a semitone with the palm of the finger. Or go back to the original tone after the whole tone, and neither the position nor the mouth of the tiger will move during the sliding process. The right-hand bow and string must be firmly applied during the glide process, otherwise the effect of the glide tone will be lost, and the main function of the back glide tone should also be emphasized. This sound, as in the 34th bar above, is to emphasize the fourth-degree jump interval of the core motivation. In the second half of the second half of the third beat of the 44th bar, although there is no indication of the way of playing back portamento on the score.

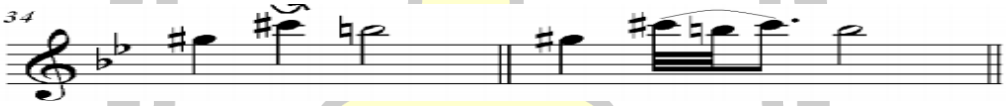


Figure 115. Capriccio No.4for erhu- Gebi, mm.34, Music score and actual performance Photo: Lei Ye

4.3.3) Shaping

Because of the distance between the strings and the shaft of the erhu, the application of the erhu strings makes the application of the erhu strings varied and exciting. Commonly used string kneading includes tumbling, pressure kneading, smooth and gentle kneading and so on. Tumbling is the most basic and most commonly used technique. The B section of this piece of music is in three short measures. In addition to the above-mentioned playing method of stringing and glide, the technique of kneading is also added. Mainly use the grip of the fingers to press the strings in the direction of the shaft to change the pitch changes produced by the tension of the strings, such as the b2 sound in the 34th and 35th bars. The sound of kneading is very tense, and it is often used To animate the sound of crying, or want to show inner entangled emotions, pay

attention to playing the chord, and the position of the finger to press the sound should be lower than the reference sound.

4.3.4) Double strings

Because the erhu is a monophonic instrument, the dual-tone performance is not a normal performance technique. The composer incorporates this performance into the creation, and this song is a contrast with the double-stringed use of the music. It has a melody nature, which is mainly reflected in the 118th to 131st bars of the E section, and the 118th to 125th bars are the skills of practicing double-tone, which is the sound made by the bow hair playing the inner string and rubbing the bow against the outer string. , When playing, you can assist your index finger with your right middle finger, which can increase the friction of the outer strings and the stability of the bow. This part is mainly used to render the atmosphere. In bars 126 to 131, the technique of fast alternating single and double strings appears. The performance is more difficult and laborious. Because of the need to pay attention to the single tone (outer string) part, it cannot be like playing continuous double tone at this time. To hold the bow, you must return to the normal bow holding posture, place the right hand on the outer string, and play the inner string with the power of the middle finger and ring finger when playing double notes, and instantly rub the bow stick against the outer string with the power of the index finger and thumb. , When playing, avoid the sound of the bow stick touching the piano tube, so you can lift the bow a little bit, and try to avoid too many noises. I think it is a playing method that takes time to ponder. Because the bow stick needs a certain amount of friction to rub the string, the author hereby suggests that if the player is using a new bow, first use sandpaper to remove some wax and then apply some rosin to the place where the bow stick and the string rub against. This will make it easier to play double strings; if you have used the bow for a long time, you can skip this step.

4.3.5) Jumping the bow

Bow jumping is also a more difficult technique for erhu. It can be performed mainly in the way the performer is accustomed to. It is only used in the 113th bar of the music, and the effect of embellishment is very good. Jumping bow is mainly used to play the outer string, which is carried to the forearm by the forearm, and then transmitted from the forearm to the wrist, so that the wrist shows a large swing, so that the bow will have a bounce effect at the moment of touching the string. Push the bow and start practicing. Push the bow quickly and then pull the

bow back by your wrist. When you pull it back, hold the bow so as not to be too tight. You can make a very short but elastic note. The practice process changes from slow to faster. The feeling of drawing the bow and playing the jumping bow, and finally training the coordination of the right and left hands of the jumping bow. After mastering the above methods, can play a very flexible, light and clear jumping bow.

5. Performance and analysis of Capriccio No.5 for erhu-NaXi

5.1) Creative background

Through fieldwork and interviews with me, I got the composition description of this piece of music

This piece was composed by the Chinese young erhu performer Lu Yiwen invited by Mr. Gao Shaoqing, and was premiered as the entry for the ninth "Golden Bell Award of Chinese Music" Erhu Competition. The composer's inspiration for creating this piece came from two VCDs of Yunnan ethnic minority collections presented by Professor Huang Bai of Shanghai Conservatory of Music to Mr. Gao Shaoqing. One of them contains an image record of the Naxi ethnic group singing and dancing in Yunnan Province. The author is quite well-known by the Naxi ethnic group. The characteristic music style is deeply attracted, and the name "NaXi" is also one of the reasons that attracts George Gao the most. In recent years, he has been committed to trying to combine Chinese music with Western music. Due to the openness and exchange of Chinese and Western cultures, The influence of Chinese and Western music concepts, the change of creative concepts, and the introduction of modern Western art creation techniques, the integration of Chinese music and the performance techniques of many Western instruments, have made music creation materials diversified, musical images and emotional expressions complicated, and continue to draw from Musical elements from all over the world have brought the creation of erhu works into a new and diverse stage in terms of the invention of new techniques, the transformation of musical styles, and the richness and variety of artistic conceptions.

5.2) Analysis of music structure

This piece of music takes sol -la- sol -mi- la -sol -mi as the leading motive, and has many variations in the whole song, which enriches the expressive power of this leading motive. The

introduction part of the music is composed of piano and erhu. After a long period of piano solo, the erhu solo part is sounded, and the connection is very close. The second part enters into the theme of the music and makes three variations on the dominant motive. The first level is played with the erhu as the main melody, the second level is played with the piano as the main melody, and the third level is played by the erhu part with the main melody increased by three degrees. The Huacai part consists of two plucked strings and the entire overtone. The third part uses waltz music elements to model the melody in different zones and instruments.

The first level uses the erhu melody to express the theme of the waltz, the second level is played by the erhu in the lower fourth level, the third level uses the piano as the main melody and the erhu as the sub-melody. The main and sub-melody alternately cooperate with the performance to push the waltz theme to the third level. A small climax, the main melody of the fourth level is added with floral variations, and the music mood is pushed to the climax with the decomposition of chords. The erhu and the piano parts are closely matched and echoed each other. Then a section of the introductory part is reproduced as a connecting sentence, leading to the next section. The fourth part is a lively and intense Allegro, pushing the emotions to a climax. The first level, sol -la- sol -mi- la -sol -mi, reappears, retelling the theme in the form of a small Allegro, echoing the first appearance of the theme in the first part.

The second level of dominant motivation adds floral variations, adopting the form of sixteenth notes, and the close combination of speed and rhythm forms a sense of musical aural tension, which is faster than the first level, paving the way for the emotional expression of the third level of music .

The third level is the climax of the whole song. After a full sixteenth note allegro is over, the jazz's representative big-segment rhythm is used to push the music to the climax. Although the big-segment rhythm slows down the speed, the mood of the music is Still high, the theme adds floral variations, echoing the beginning of the music. Then the jazz melody came to an abrupt end, and a string of broken chords pushed the music to a climax, ending the whole song. The music uses Naxi themed materials throughout the whole song. It is carried out in different vocal regions by adding flower variations. The erhu and piano melody parts are alternately expanded. The musical themes are displayed on different instruments, forming a contrast in timbre and enriching the music. The musical expression of the work.

Table 10. Capriccio No.5 for erhu-NaXi, Structure table

structure	Part		
	A	B	A’
mm.	1~ 79	80~160	161~226
Music beat	5/4, 6/4, 7/4, 4/4	3/4 , 5/4	3/4, 3/16, 4/4
Tonal	G major	G major	G major

In terms of the musical structure, it follows the western composition technique-"A-B-A' based on the variational musical style". A lot of variations are used, but the overall structure is still A-B-A'. The first part A is measures 1-79, the third part B is measures 80-160, and the third part is measures 161-226. The structure of the music is progressive, and the Naxi music is integrated with Western music through the technique of variation. The artistic color of this song is vividly displayed.

5.2.1) Part A

5.2.1.1) The national characteristics of the Naxi people are fully reflected at the beginning of the music. The composer uses the same melody to perform three high and low octaves alternately to introduce the first theme of the song, which seems to reflect Naxi here. The men, women and children of the tribe happily sang in the mountains, as shown in the following example

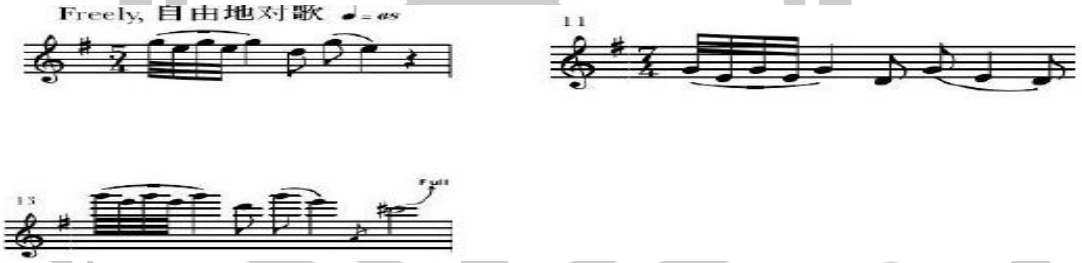


Figure 116. Capriccio No.5 for erhu-NaXi, mm.10~12

Photo: Lei Ye

When playing this passage, you need to pay attention to the control of the volume. When Mr. Gao Shaoqing is playing, he can change the volume by controlling the volume, which can be understood as the different acoustic cavities of men and women when singing; it can also

be understood as the men and women, young and old in antiphonal singing, on different hills. The sound coming is different in distance; I even guessed that this is the sound that echoes between the valleys when people sing. And the long series of melody appearing in the next section is an important passage in the creation of this song, as shown in the figure below

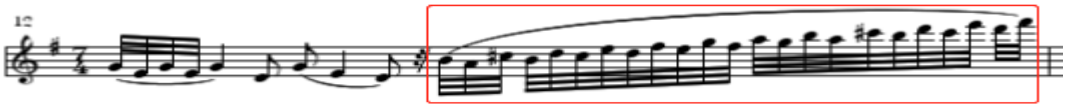


Figure 117. Capriccio No.5 for erhu-NaXi, mm.12

Photo: Lei Ye

The beginning of the music is also through the orchestra to bring in this melody, and it appears many times throughout the whole song. A large number of variations and adaptations have become an important part. Pay attention to ensuring the fluency of the melody lines when performing performance processing. With the end of the melody of "Male and female duet", the music progressed to the special technique of "dual tone" introduced by the author in the previous chapter. This sound effect seems to imitate the performance of Lusheng. After the "male and female duet", a band variation was added. Or maybe it is the arrival of another singer who joins Humai, adding a little mystery to the upcoming second theme, and also showing the versatility of the Naxi people.

5.2.1.2) The second theme melody is entered into the 27th bar of the music performance, and it is also one of the most important theme melody of this song.

As shown below:

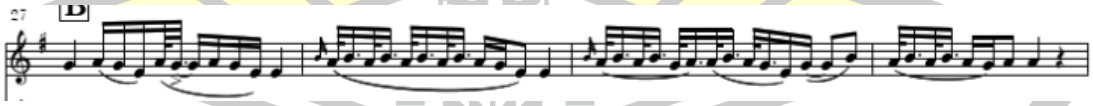


Figure 118. Capriccio No.5 for erhu-NaXi, mm.27

Photo: Lei Ye

In the first bar, the last note sol of the second group of notes rhythm pattern is added with a decorative sound la, and the accent of the rhythm is changed by connecting with the first note sol of the next set of rhythm patterns. And this change in decorative sound and accent is one of the characteristics of Naxi music, and it is also the first musical motive that provided Mr.

Gao Shaoqing with the inspiration for this song. Therefore, most of the variations of the whole song are adapted from this melody. When dealing with the second section of the above example, Mr. Gao Shaoqing used a bow with multiple notes and changed the speed of the bow regularly with two notes as a group at the same time, which gave a playful sense of hearing and gave this passage. The rich expression makes the audience sound a strong sense of enthusiasm.

5.2.1.3) Sections 33-50 are the first "Combination of Chinese and Western" presented to us by the composer. Through clever writing techniques, the composer transformed the "characters" of the antithetical song into an erhu and an orchestra. The theme of the 33rd to 38th bars is played by the orchestra, and the erhu is used as the accompaniment part, which brings out the second special technique-the combination of playing and pulling. (Erhu is the accompaniment part at this time)

The acoustic effects played by this technique are derived from reggae music (a style of popular music with a strongly accented subsidiary beat, originating in Jamaica. Reggae evolved in the late 1960s from ska and other local variations on calypso and rhythm and blues, and became widely known in the 1970s through the work of Bob Marley; its lyrics are much influenced by Rastafarian ideas.)

Figure 119. Capriccio No.5 for erhu-NaXi, mm.33~34

Photo: Lei Ye

The melody is played by the erhu part and the orchestra acts as the rhythmic accompaniment. This melody is octave higher than the previous paragraph, so Mr. Gao Shaoqing made the bow hair more sticky when he played it. The string increases the volume of this paragraph, showing a high-pitched sound effect. This "one sing, one harmony" and "one question and one answer" performance form fully demonstrates the Naxi antiphonal character, and also reflects the composer's strong yearning for the exchange of "antagonistic songs" between Chinese music and Western music.

Figure 120. Capriccio No.5 for erhu-NaXi, mm.39

Photo: Lei Ye

5.2.1.4) In bars 50-66, two special techniques are used to add flower variations. When playing, pay attention to the accent of the triplet on the first note to ensure the overall rhythm and the stability of the rhythm. This paragraph describes a scene of singing and dancing. The following example

Figure 121. Capriccio No.5 for erhu-NaXi, mm.51

Photo: Lei Ye

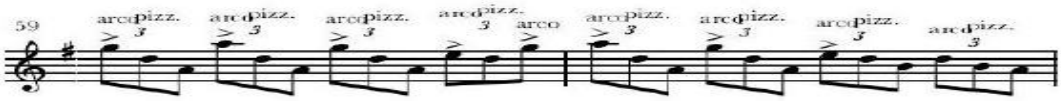


Figure 122. Capriccio No.5 for erhu-NaXi, mm.59

Photo: Lei Ye

After the variation, the music entered a paragraph of artificial overtone music (mm. 67-79). The following example:

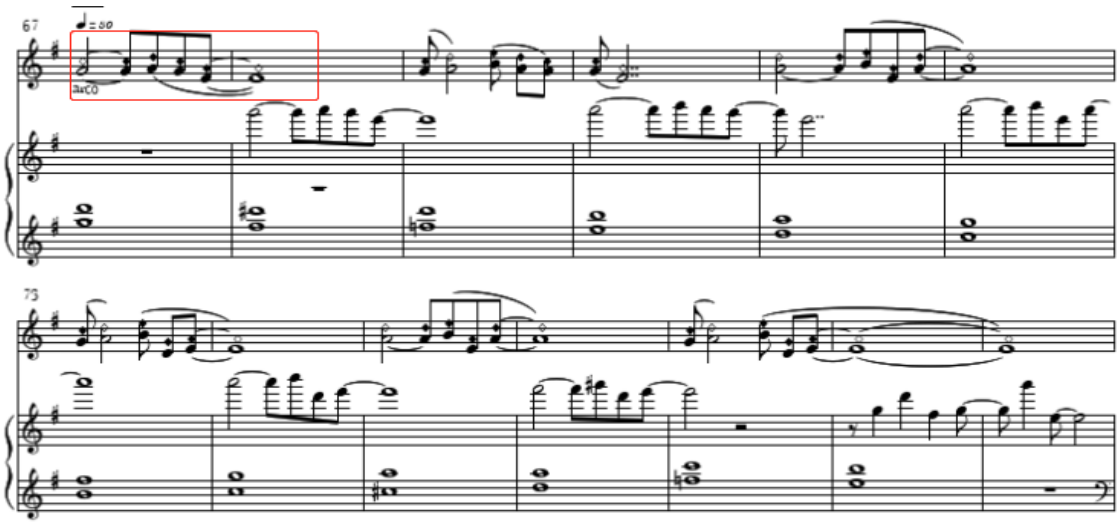


Figure 123. Capriccio No.5 for erhu-NaXi, mm.67~79

Photo: Lei Ye

George Gao added the techniques of overtones and string-wringing when playing this paragraph, which makes the melody rich in singing and graphic sense, and it seems to bring us into a beautiful picture: "The sun is setting, the night is quiet, and a couple of men and women in love are here. Quiet conversation". The composer will also bring this beautiful scene into Part B.

5.2.2) PartB

After the music entered the B section (80-159 bars), the composer once again brought "the combination of Chinese and Western". Along with the rhythm of the waltz of four or three beats, the third theme of this song was introduced, and it was played twice through the high and low octave respectively. The following example:

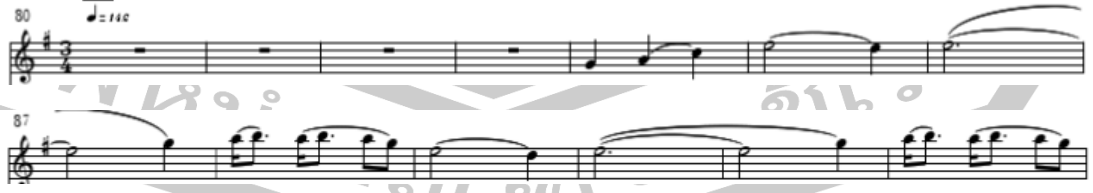


Figure 124. Capriccio No.5 for erhu-NaXi, mm.80~92

Photo: Lei Ye

Sections 80-137 echoed with section A. Erhu and the band once again played alternate roles of "protagonist" and "supporting role".

Until (138-159 bars) the perfect fusion of the melody part and the accompaniment part, the erhu can create two roles. The scene embodied in this section is not the state of "dialogue" that appeared in section A, but the Naxi people dance to their heart's content in the beautiful mountain scenery of Yunnan. Under the magnificent natural scenery, they are joyful and happy. life.

When playing this paragraph, the use of understatement and bowing, combined with the genre of waltz, makes people sound like dancing with it, which is in sharp contrast with the high-pitched "antiphonal" singing of the A section. When playing the melody of the two corners of the erhu, you should ensure the continuity of the combination, so you need to maintain the stability of the bow. as the picture shows:

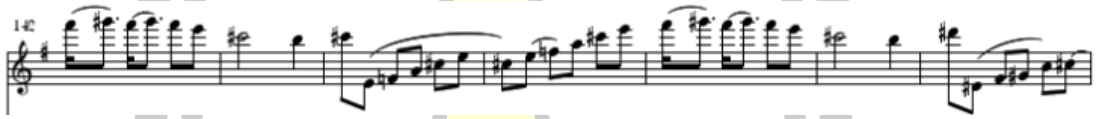


Figure 125. Capriccio No.5 for erhu-NaXi, mm.142~148

Photo: Lei Ye

5.2.3) Part A'

5.2.3.1) Part One

In the first part of the A' segment (bars 161-192), three variations were performed with the second theme melody of the music. Bars 161-168 change the inner and outer strings to increase the density of the notes; bars 169-184 add double notes to the inner and outer strings, and increase the three-dimensionality of the notes again by changing the inner and outer strings. The 185-192 bar is based on the above two methods of playing the piano tube is added to make the melody more dynamic. The following example:

Figure 126. Capriccio No.5 for erhu-NaXi, mm.161~162

Photo: Lei Ye

Figure 127. Capriccio No.5 for erhu-NaXi, mm.169~170

Photo: Lei Ye

Figure 128. Capriccio No.5 for erhu-NaXi, mm.185~186

Photo: Lei Ye

When playing this section, the changes in technique and dynamics are used to make each additional flower variation sound more hierarchical, so as to gradually bring the music to the ending section and push it to the first climax of the music.

5.2.3.2) Part Two

This part is basically the same as the first part of the variation technique, the same melody texture is played separately through two octaves. The following example:

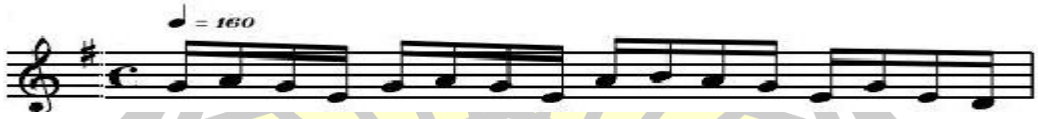


Figure 129. Capriccio No.5 for erhu-NaXi, mm.193

Photo: Lei Ye

Figure 130. Capriccio No.5 for erhu-NaXi, mm.201

Photo: Lei Ye

However, through the analysis of acoustic data, the accompaniment part of the 201 bar ushered in the return of the reggae rhythm, and in the 205 bar appeared a way of playing

jazz: walking bass (one of the most characteristic ways of playing jazz) The bass part is basically the decomposition of chords and some transitional sounds, which are very similar to the effect of four beats, but the high-pitched part is mainly triplet, so the music sounds very special, there is a kind of desire to make people follow the dance), this Time also symbolizes that the composer will once again bring a "combination of Chinese and Western" and interpret it in a jazz way.

5.2.3.3) Part Three

Enter the third part (bars 212-219), the composer himself uses the musical elements and rhythm patterns of jazz

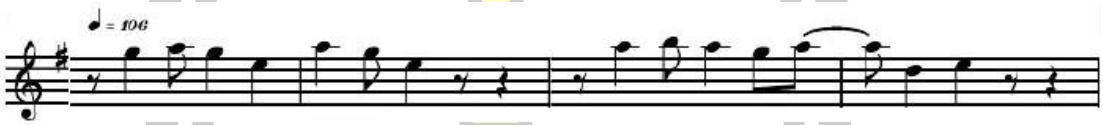


Figure 131. Capriccio No.5 for erhu-NaXi, mm.212~215

Photo: Lei Ye

Through the analysis of the audio-visual data, it can be heard that the accompaniment part has an obvious jazz stride style performance at this time. The main melody has also returned to the second theme, which is most frequently used. When playing this paragraph, it should be full of volume, and all notes should be drawn as much as possible. At the same time, it should cooperate with the rhythm of the accompaniment part to bring out the powerful swing of jazz. Then the song ended with a speed of 180.

5.3) Performance technique

5.3.1) Double strings

Erhu is a pure fifth interval with a set of small characters re la as a tuning instrument. When playing double strings in many modern erhu works, it is common to use the index and middle fingers of the right hand to hook the bow at the same time and force the outer string inward to rub the outer string. The bow hair is tight and close to the inner string. Play at the same time to form a pure fifth dual tone sound effect. In this piece of music, the composer innovated and sublimated the double-string technique. Through the performance technique of double-string different fingers, the double-tone performance of erhu is no longer limited to the sound effect of the fifth degree, breaking the traditional double-string playing form, and the sound is more The richness makes the single-melody erhu instrument form a multi-voice melodic auditory effect.

The so-called double-string different finger refers to the fact that the right hand rubs the outer string with the bow rod and the bow hair at the same time. The left hand is no longer a single finger pressing the string, but the inner and outer strings use different fingers to press the strings at the same time, forming a pure fifth degree. Two-tone interval.

In the beginning of the music, the second half of the erhu melody is a 9-bar double-string melody with different fingers. In this phrase, pure fifths, major sixths, major sevenths, and pure octaves alternate. The first bar of the phrase adopts a pure octave and pure fifth alternate performance method. The double string performance method of pure fifth is the same as the previous performance method, and the double string performance method of pure octave is to press the left index finger simultaneously inside and outside. The string is pressed more vigorously than in the past. At the same time, the left wrist suspension increases. The four-finger pressing only touches the pitch of the outer string sol, and the one-finger pressing creates a pure octave auditory effect. In the process of bowing with the right hand, the bow hair sticks to the inner string, and the bow pressure increases. The index and middle fingers turn the bow shaft up and apply force inward to form tension between the bow shaft and the bow hair. The bow shaft and the bow hair are divided. Its job is not to touch each other, and play with the left hand at the same time, so that the double-string playing sound is clean and bright. The second bar of the phrase adopts a pure fifth and a major sixth, a major seventh and a major sixth alternately. The performance method is the same as the pure octave two-tone performance method. Only the four fingers of the left hand touching the outer strings are used three times. The finger and the two fingers replace the performance respectively. The phrase 3 and 4 bars are the original reproductions of the 1 and 2 bars respectively, and the playing method is the same as the 1 and 2 bars. Bars 5-9 are all double strings of pure octave and pure fifth intervals. It is the same as the above-mentioned performance technique. It only needs to change the finger position and order of the left hand single-touch outer string finger according to the need of the number of notes on the chart. can. Compared with ordinary double-stringed performances, the double-stringed different finger performance method is more difficult, not only to ensure the accuracy of the pitch, the stability of the rhythm, but also the audibility of the melody and the purity of the timbre. Variations in different intervals

The performance technique of changing the double strings with different fingers combined with the playing technique of hitting, the alternation of rhythm patterns, changing tones, and decorative sounds, imitating the acoustic effects of reeds, and adding to the musical expression of this work The fun, pave the way for the style of Naxi music for the thematic paragraphs.

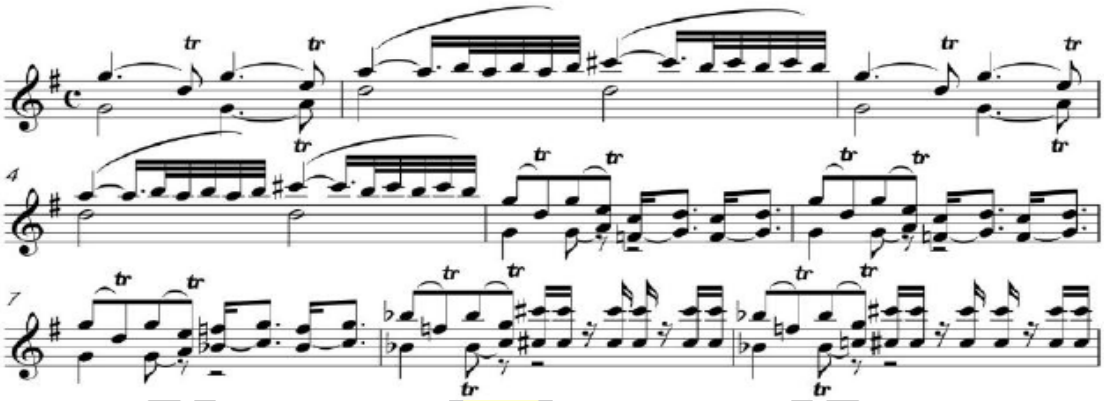


Figure 132. Capriccio No.5 for erhu-NaXi, mm.1~9

Photo: Lei Ye

5.3.2) Overtone

In this piece of music, the composer uses a whole paragraph to show the technique of artificial overtones and the way of combining overtones and strumming, which not only increases the difficulty of performance, but also provides a new creative idea for future erhu works. The difficulty of artificial overtones lies in how to play the overtones cleanly and brightly without noise. This requires the accuracy of the phonetic position of the left hand, pressing the four fingers with one finger, and grasping the strength and distance of each finger. It also requires a reasonable distribution of the bow speed and bow pressure of the right hand. The bow stroke is increased, and the bow is more solid and calm. Only the left and right hands cooperate reasonably, and keep trying to find the right touch point and bow strength, In order to make the sound of artificial overtone performance clear and translucent. The theme melody still continues the motif of sol- la-sol -mi la -sol -mi, with additional floral variations. The end of each sentence is in the form of long tones. Therefore, we added in the process of playing overtones. Kneading the strings not only increases the difficulty of playing, but also makes the music more soft and melody. The erhu string rubbing technique has many methods such as rolling, kneading, kneading

and pressing. Under the premise of ensuring the accuracy of the finger position, the strength of one finger pressing is increased, the inner and outer strings are held at the same position at the same time, and the four fingers are virtual pressing. And do the tumbling technique at the overtone phoneme

Reason, keep the phonetic position and hand shape, ensure the intonation, form a kind of sound fluctuation from the auditory, and make the overtone sound

The color is no longer monotonous and rigid, giving the audience a dreamy and hazy feeling.

The second time the music uses the combination of overtones and strums, the two-bar artificial overtones are followed by the two-bar eighth-note decomposition chords, which are played five times in different zones, each time the decomposition chords Both push the emotions to the next phrase. In the fifth reappearance, artificial overtones are used as a transition to push the more exciting emotions to the next level. The combination of overtone and strum performance tests the performer's performance skills. This requires the performer to find an accurate finger-to-finger distance relationship in a very short time and grasp the accuracy of the pitch. The strength of the right hand bow is changed from simple Quickly switch to the artificial overtone, which is a more solid and stable bow press. This requires the player to strengthen the practice during the practice, and find the most comfortable and natural state of switching between the overtone and the flute, especially outside of the performance. When the strings are artificially overtones, the bow sticking to the strings is tighter, and the bow moving direction moves forward to the right, making the overtone points of the outer strings brighter. The combination of overtone and strumming makes the musical performance of the whole melody full of changes, and the timbre contrast is remarkable, giving the audience a unique and novel feeling.

5.3.3) Bow root pull

This playing technique is one of George Gao's innovative playing techniques, especially the combination of the special timbre of the bow root, the plucking strings, and the piano drum depicting a picture of Naxi boys and girls singing, dancing, and dancing lightly. When playing, put the bow hair at the root of the bow close to the inner string with your right hand, lift the bow in a small margin, hit the barrel with the middle of the bow, and at the same time pluck the string with your right index finger at the bottom of the string, and press the string

with your left hand to play. The strength of the music changes with the melody lines one after another. The right hand uses the belly of the finger to pluck the strings, which makes the plucking easy and full of jumping. It is as crisp as drums when hitting the piano tube. The bow roots seem to imitate the sound effect of dance steps. In addition, the piano main melody of this section is greatly enriched. The fun of music.

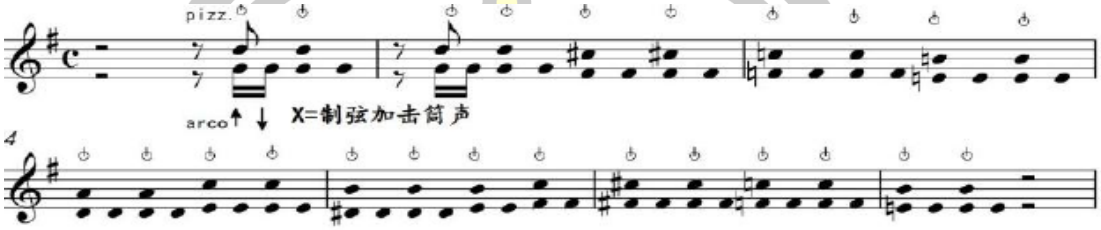


Figure 133. Capriccio No.5 for erhu-NaXi, Music snippets

Photo: Lei Ye

At the end of the plucking and pulling section, the entire section is followed by a pure plucking performance. This paragraph still adopts the rhythmic pattern of triplet. The first note of each beat is the rhythmic accent. The right hand plucks the string and the left hand presses the note. The accent is still the main backbone of the Naxi music melody, the second and third. Each note is played with a weak pizzicato with the left hand. The combination of strong beat and weak beat has a clear rhythm and prominent accent. The sound imitates the acoustic effects of American tap dance, fully expressing the national characteristics of Naxi boys and girls who are good at singing and dancing. Pay attention to the stability of the rhythm when playing, because it is pure pizzicato, it is easy to catch up with the speed in the performance. However, Mr. Gao Shaoqing's works have some improvisational characteristics. The increase in speed can also be seen as the acceleration of dance steps, the sublimation of emotions progresses layer by layer, and the mood of music becomes more cheerful and warm.

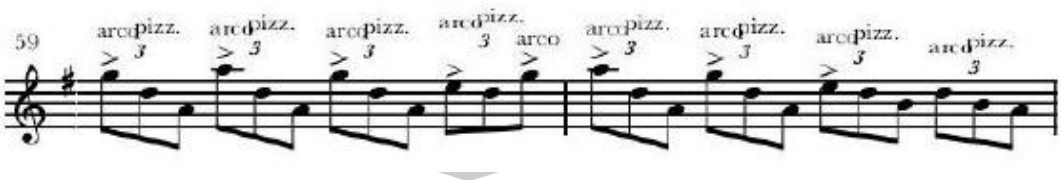


Figure 134. Capriccio No.5 for erhu-NaXi, mm.59 (arco & pizz.)

Photo: Lei Ye

5.3.4) Double string drum

When hitting the erhu tube, point the right hand downwards and forcefully point upwards to separate the bow hair from the bow shaft, spread a certain distance, and at the same time lift the bow slightly, hit the tube with the front part of the bow shaft to make the tube knock The sound is crisp and bright. From the sound effect, it is more like imitating the sound effect of percussion. During the performance, the piano is the main melody. A series of techniques for the erhu are to match the rhythm of the piano to make the melody and The rhythm is tightly integrated. The intensity of the piano drum also changes with the melody line. In addition, the combination of three different timbres of plucking, drum and bow, enriches the form of music expression and enhances the sound effect of music.

When the double string hits the barrel, the right hand holds the bow more forcefully. The middle finger and the ring point inward force to make the bow hair stick more to the inner string. The index finger lifts the bow slightly upwards and sends out the force inward to make the bow stick to the outside. When pulling the bow, raise the bow. When pushing the bow, the bow rod no longer applies force to the outer string. The bow rod does not touch the outer string and prepares the bow for the next bow hitting the piano tube. Especially for the performance of the third-level high-octave two-tone percussion piano tube, due to the high sound range, the accuracy of the pitch needs special attention. When playing the high range, the bow should use the second half of the bow to strike the piano tube to make the performance sound. More solid and powerful.

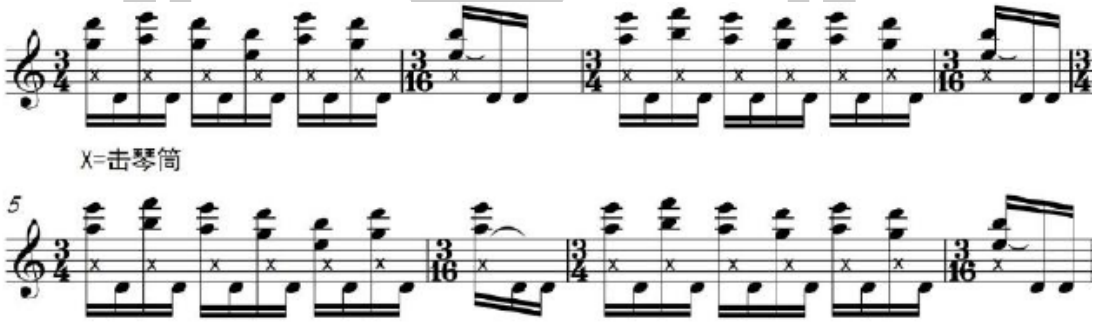


Figure 135. Capriccio No.5 for erhu-NaXi, Music snippets

Photo: Lei Ye

6. summary

This chapter analyzes the series of 5 Erhu Capriccios created by George Gao, studies the exploration and achievements in the creation and performance of Erhu music, and provides new thinking directions and enlightenments. In the process of creation and performance, he did not confine himself to the inherent traditional concepts, but stood from a brand new angle and made breakthroughs in innovation while inheriting the tradition. Nowadays, traditional erhu works seem to be a little weak in terms of playing style and technique, which can no longer meet people's needs. The fusion of Chinese and Western and foreign use for Chinese are the inevitable trends in the creation of erhu works. The erhu itself is a very inclusive instrument. It can play different styles of works, have different performance forms, and has a variety of performance techniques. George Gao once said that the erhu playing violin music is sometimes more touching than the violin. His innovation and practice of erhu music creation and performance can be said to be an innovation and practice of erhu tolerance. In his erhu music creation, "diversity" and "inclusiveness" are the core elements. His works are rich in content and form, and unique, with both the essence of national music and the rhythm of Western music. It can be concluded that the diversified development of erhu music must be based on retaining the original national sentiment, infiltrate and organically integrate with Western music culture, and appropriately use performance techniques to achieve the complementarity of Chinese and Western music cultures. The combination of melody and dazzling technique makes this kind of work meet today's aesthetic standards for erhu works. The successful exploration of erhu music creation and performance will not only better promote the erhu art to the international stage, but also provide a new direction for thinking in the erhu world and even the folk music world—that is, the work not only reflects the national character, but also has a variety of music The diversity of cultural elements, and more attempts in this direction along the way of erhu creation, continue to make contributions to erhu art.

Chapter VII

Conclusion of results, discussion, and recommendations

1. Conclusion of results

This thesis is based on the study of George Gao's music activities and music track, the improvement and innovation of erhu and the music he composed.

Through fieldwork interviews and collection of literature, through the deconstruction of George Gao's personal experience, he explained and explained his identity and music outlook. As a separated musician, George Gao's diaspora experience influences George Gao's music outlook, and also has a significant impact on his music activities, music behavior, music creation and music practice.

Results 1. George Gao's diversified and globalized music view

Diaspora musicians have experienced the process of separation, that is, the process of spatial movement, and have experienced two different regions or more than one culture. It is difficult to classify the mixed music of what kind of music. Such a style of music makes it difficult to clearly identify the type of music. Division type, George Gao's music is like this. It is difficult to define what kind of music it is. His music contains too many regional musical elements, so as he said, he is a "world man". To some extent, this also supports the view of music anthropologist Alan P. Merriam. In The Anthropology of Music, Merriam proposed a tripartite model for the study of ethnomusicology, centering around the study of "music in culture." This model suggested that music should be studied on three analytic levels: conceptualization about music; behavior in relation to music; and the sound of music.

Through the research of this article, we understand GeorgeGao’s personal experience and music views, understand GeorgeGao’s identity and musical activities and behaviors, how to improve erhu and how to compose erhu music.

Results 2. George Gao's musical instrument improvement-shaoqin, it has a certain value and promotion significance

George Gao's musical philosophy has guided his musical practice and musical behavior. Focusing on the innovation and improvement of erhu, George Gao as a professional musician, has

traveled around the world for a long time, and realized the shortcomings of the traditional erhu in terms of structure and musical effects. Innovative and improved-named Shaoqin. This article conducted acoustic measurements on Shaoqin and erhu, and concluded that Shaoqin has solved the problem of increasing the range of the erhu to a certain extent, and the design of the knob has solved the problem of difficulty in tuning the erhu. In addition, Shaoqin is designed with a free sliding track, which can switch different tones at will, avoiding carrying several pieces of erhu in the performance. These advantages of Shaoqin are worthy of promotion and popularization among erhu fans all over the world. On the other side of George Gao's musical performance, he composed 5 series of Erhu Capriccios.

Results 3. George Gao's Erhu music composition and playing techniques.

In another aspect of George Gao's music practice,, he composed 5 series of Erhu Capriccios. In Chapter 6 of this article, he analyzes Erhu Capriccios No.1~No.5, and separately analyzes the creative background and music structure of each piece of music. , Sections, phrases and performance techniques are analyzed one by one. The purpose is to allow future scholars and performers to better study and perform George Gao's music.

2. Discussion

From the historical environment and cultural background of GeorgeGao's growth, he discussed the stage of his professional music learning in China, and then with the movement of GeorgeGao's time and space, the change of identity and the reorganization of music, diversification, hybridity, GeorgeGao The influence of the flow of identity on his music practice has formed his own worldview and music relationship. This formal thinking mode has always allowed him to keep changing and innovating, including the improvement and innovation of the erhu, and the formation of the Shaoqin Chamber Orchestra Knowing that today, he uses the TV media, the Internet, social platforms and personal websites to update and release his music performance content and related consultations every day. Through his past music experience, he is looking for a music commercialization model that fits the era. Previously, China The article by Mr. Zhu Xiaogu, a predecessor in the national musical instrument industry, affirmed George Gao’s innovative shaoqi, praised him for his correct direction and achievements in musical

instrument innovation, and published it on the Internet, which also attracted more and more followers to agree with his ideas and practices. People understand GeorgeGao's and his music.

This article uses objective scientific data analysis instead of relying on people's subjective auditory feelings. This kind of research is more convincing. It is worth discussing that in the fourth chapter of this article, a comparative study of Shaoqin and two materials of erhu is conducted. Through acoustic analysis, the erhu is not as good as Shaoqin in some frequency bands. Shaoqin also has sound quality attenuation in some frequency bands. Shaoqin is better than Erhu in terms of design, practicality, functionality, and portability. Therefore, the further improvement of shaoqin is not limited to the second time. Similarly, the improvement of the erhu instrument has never stopped. It needs to continuously improve and innovate with the help of scientific methods and technologies.

The Erhu Caprice series is George Gao’s music representative work. This article combines his personal identity and cultural identity. After analysis, his music incorporates diverse world music elements, with national and contemporary music creation techniques, these characteristics It also makes him different from other erhu musicians, and strives to express himself through music performance and music creation. Among them, Erhu Caprice No. 2-Mengfeng's mixed-style music has aroused repercussions in the erhu world. George Gao learned that his music creation has been affirmed by the society, and used this method again in Erhu Caprice No. 3 -Xuandong. Erhu Capriccio No. 4-Gebi is based on the Northwest style, imitating the style of chords in film music, with the intention of depicting the deserts and vast scenes of the Gobi. Erhu Caprice No. 5-Naxi is based on the music of the Naxi ethnic group in Yunnan, China. In addition to Western music rhythms, new erhu playing techniques are added, and at the same time, it plays a double-string harmony that is not a complete fifth. Due to the limitations of the instrument, the erhu cannot play two notes at the same time, but can only play a full fifth interval. George Gao used Shaoqin to challenge this technique. This is the first time and a pioneering work in erhu playing technology. George Gao made achievements in the new exploration of erhu music and the improvement of erhu, and at the same time had a significant impact.

3. recommendations

To actively create the image of an international musician, we need to rely on the market and the broad masses of people. The mainstream is about the masses and the market, the marginal and the core, the subculture and the mainstream culture, how to overcome the Western hegemony and mix diversity under the dualistic thinking that dominates China and the West Music, in China, and even in the Asian market, strives for the recognition of the mixed culture and music by the wider masses. While George Gao is trying to move closer to the core culture under a non-mainstream music culture, there is also a vast number behind it. Market opportunities.

In the current internationalization, George Gao actively faces and seeks the balance between his own music concept and the current commercial music market. It needs the support of the public, but he does not want to lose his sense of autonomy. Therefore, he appears as a world musician, and is characterized by a diverse and fusion of music creation, which has become a symbolization with personal characteristics. These musical symbols make him different from other erhu musicians.

George Gao believes that every erhu teacher and erhu performer shoulders the mission of inheriting erhu music and Chinese music, and cultivating the younger generation, especially now that we use the Internet as a communication platform, and various social media use voice, video and text. Communication, music is also circulated in this huge network as a commodity. You can make good use of the Internet platform to promote GeorgeGao music activities and increase more opportunities. In addition, he is also committed to the promotion of Shaoqin and the establishment of the Shaoqin band, participating in the recording of online music courses (such as: IART school), so that erhu learners and enthusiasts around the world can listen to George Gao's lectures on music at close range and let more The younger generation likes his music. This also allows his music to circulate in different spaces and the Internet, breaking regional restrictions.

From George Gao's music experience, we can understand how scattered musicians manage their own music activities, how to highlight their own existence, regionality and heterogeneity. He can not only compose, create, and improve and innovate musical instruments, spanning a wide range of music fields, from traditional Chinese music, pop music, jazz, Middle

Eastern music, Indian music, environmental music, etc., to commercial music such as TV and film music, Advertising music...etc,

In the cross-cultural practice of musicians, it is not difficult to find that the diaspora musicians have shaken their long-term position centered in the West by their worldview, music view, aesthetic view and cultural form, challenging the spatialization of duality categories and consciousness. Part of this contribution to “global culture” is the addition of a transnational network that spreads from the non-Western world to the Western world, and this network includes people, ideas, and cultural products (Zheng Su 2010). And through cultural connections, we understand the differences between cultures in the world today, and establish mutual respect and mutual understanding between each other's cultures, which can be elevated to another cultural level. The diaspora Chinese musicians are on the margins of the world and are often ignored in academic research. I hope to use this thesis to try to study the music experience and practical process of the diaspora musicians. For example, it is impossible to experience the life experience of the interviewee in various regional environments, and cannot directly participate in long-term observation. It can only be through the interview of the interviewee and the narration of the data provider. However, George is one of many separated musicians, and there are still many Chinese musicians scattered all over the world. I hope that more scholars will participate in this kind of research in the future, and I look forward to more in-depth field work in the future to supplement the deficiencies.

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