



The characteristics of Yao Henglu's modern music

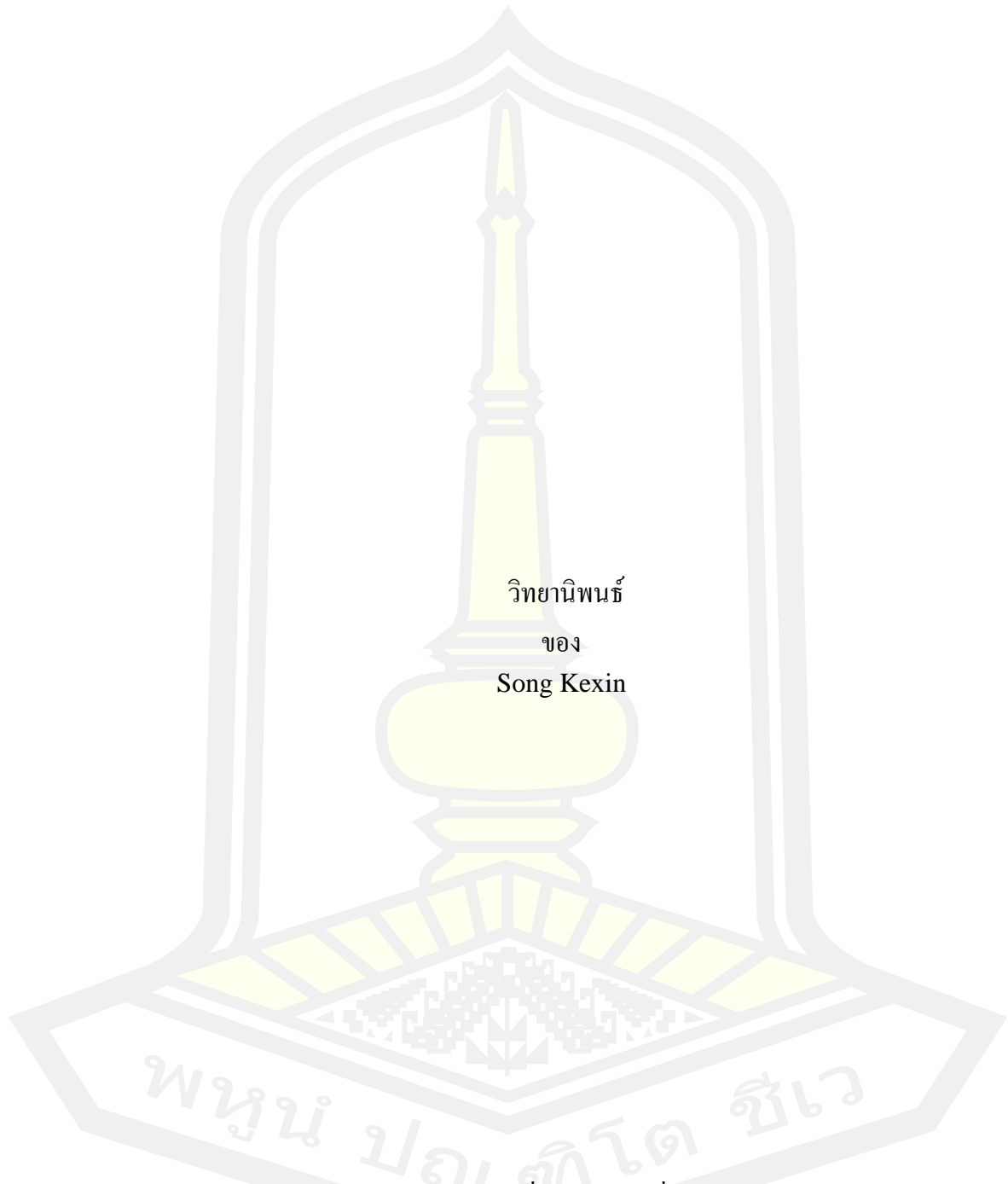
Song Kexin

A Thesis Submitted in Partial Fulfillment of Requirements for
degree of Doctor of Philosophy in Music

January 2023

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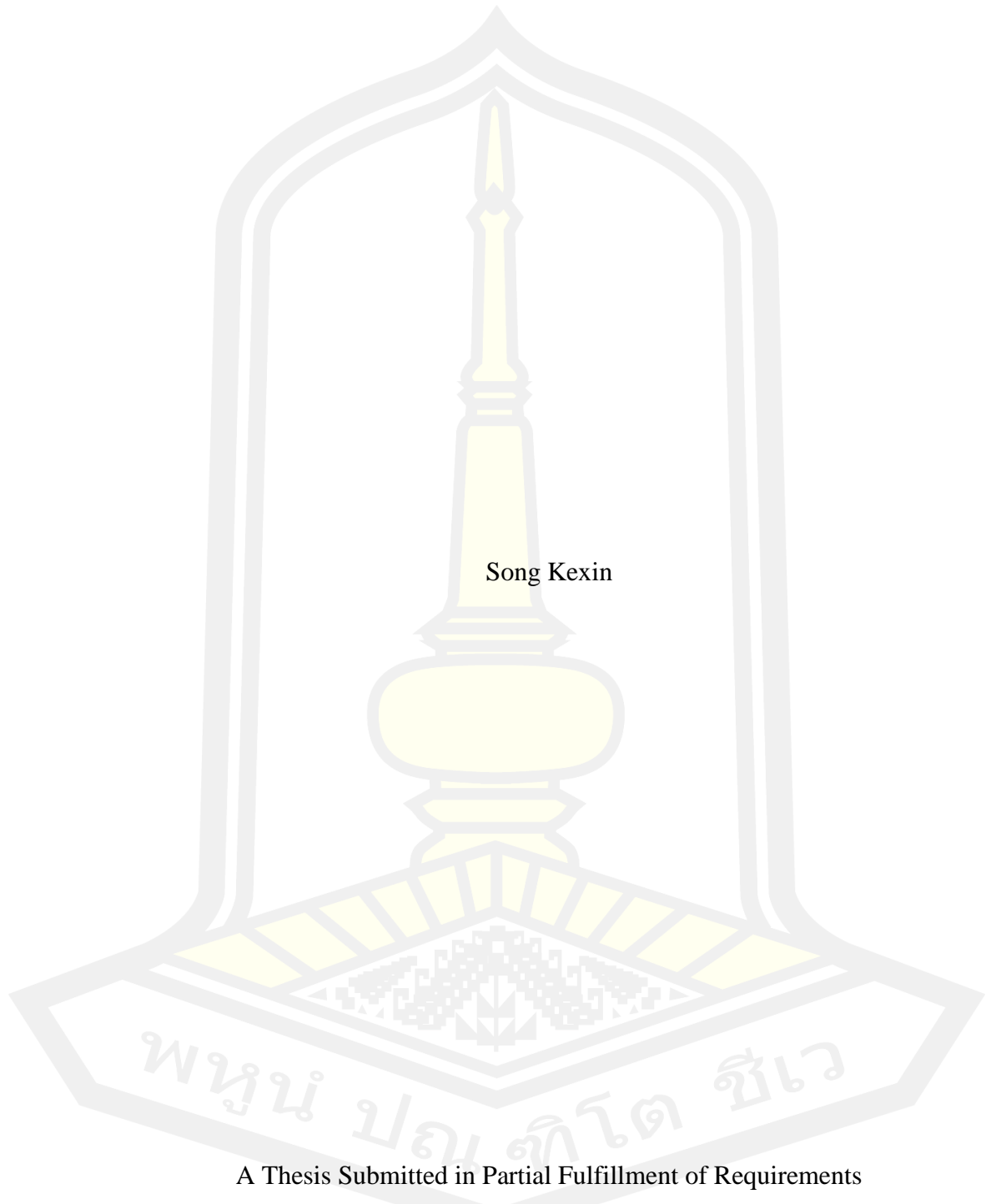
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เสนอต่อมหาวิทยาลัยมหาสารคาม เพื่อเป็นส่วนหนึ่งของการศึกษาตามหลักสูตร
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January 2023

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ABSTRACT

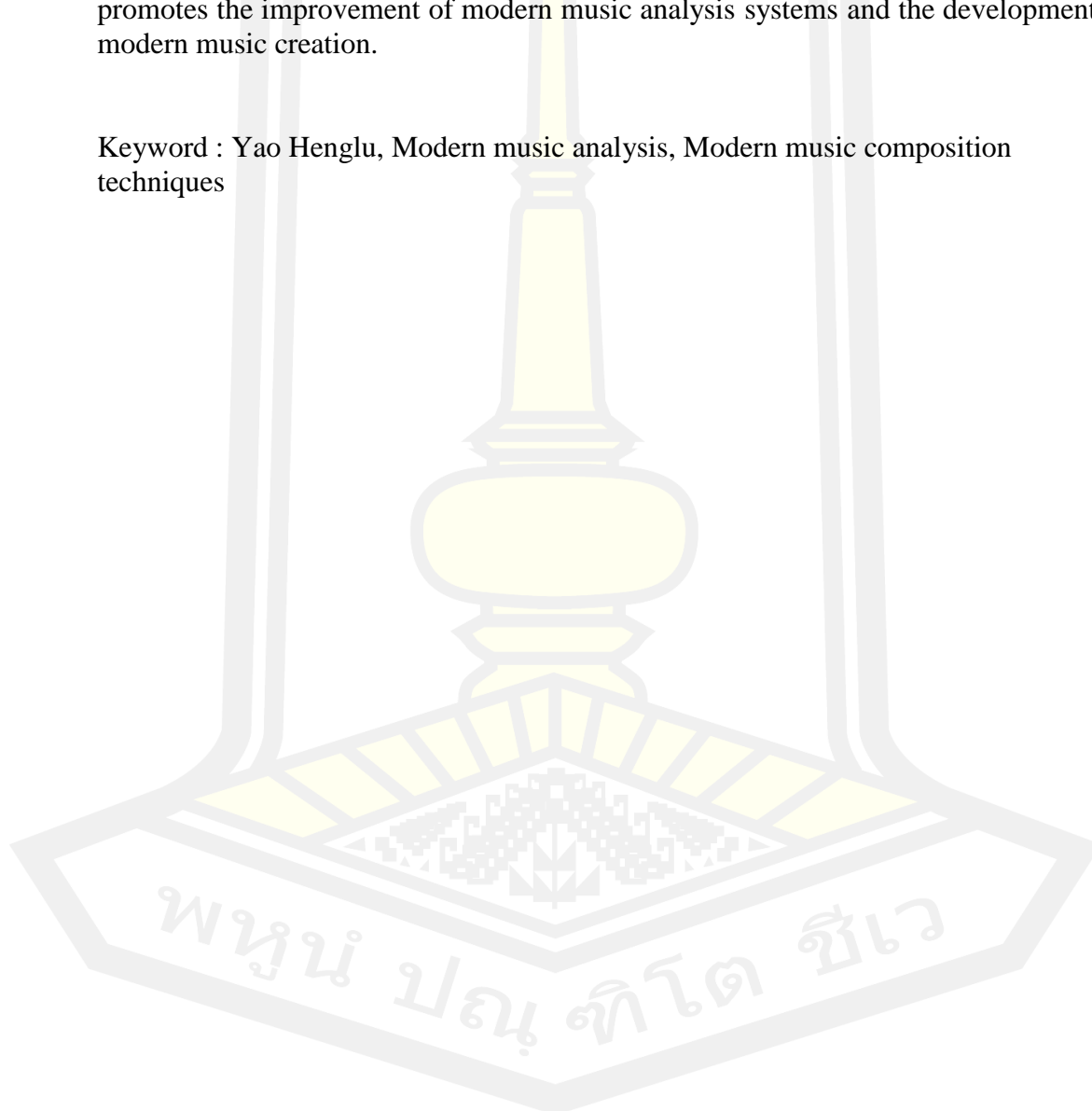
This study discusses the application of modern composition techniques in Yao Henglu's music works. The paper discusses the significance and the referential value of Yao Henglu's modern composition techniques to the practice of Chinese modern music composition. The study firstly describes Yao Henglu's artistic achievements, music composition background and composition process and then uses the literature research method and field investigation method to sort out Yao Henglu's music composition background and the formation of music composition thought, to explore the composition characteristics of Yao Henglu's works and the formation path of music composition thought.

Under the guidance of the theories of Chinese and western modern composition techniques, Yao Henglu's six music works are analyzed in this thesis, including the theme of works, motivation, harmony and tonal relations, instruments, melody structure and related elements (rhythm, tempo, meter, tone). In doing so, this paper summarizes the composition characteristics of his works, explores Yao Henglu's ethnic characteristics and humanistic connotations of music works, and sorts out the influence of Yao Henglu's music works on Chinese modern music composition.

The paper draws the following conclusions. First, Yao Henglu's six music works are created by combining a large number of traditional Chinese music elements with modern western composition techniques. Through the interpretation and analysis of these musical works, three academic research findings of Yao Henglu's composition are summarized, namely the theory and practice of three pitch arrangements, the connotation of latent tonality in atonal music, and the establishment and application of comprehensive analysis methods in the analysis of works. Second, the composition techniques of Yao Henglu's musical works are summarized as follows. Firstly, he uses the Chinese national mode of "*Gong, Shang, Jue, Zhi and Yu*" as the main mode of creation. He uses the modulation of the same *Gong* system and the modulation of distantly related keys to obtain the color sense of different mode harmonies. Secondly, three kinds of pitch arrangements, pitch organization, interval and vector, are used to control melody development. Thirdly, the texture sound-mass writing and texture tone cluster writing replace the traditional musical form structure and breaks the conventional thinking of musical form structure. Fourthly, modern composition techniques are multiply applied, including the atonality, multi-tonality, artificial scale, pitch-class set, 12-tone sequence and tone cluster writing. Fifthly, modern composition

techniques and Chinese pentatonic music use multi-dimensional composition techniques to show a unique musical style. Third, the influence of Yao Henglu's music works on modern Chinese music creation is summarized as follows. Firstly, these musical works help musicians understand modern music and promote the development of modern western composition techniques in China. Secondly, through the analysis, research and summary of Yao Henglu's music works, referential experience are provided for musicians to create modern music works and promote the development of modern Chinese music. Thirdly, through composition practice, Yao has cultivated music creating talents and laid foundation of music analysis. Yao continuously exerts his academic vitality and influence, drives the reform of the curriculum system, and promotes the improvement of modern music analysis systems and the development of modern music creation.

Keyword : Yao Henglu, Modern music analysis, Modern music composition techniques



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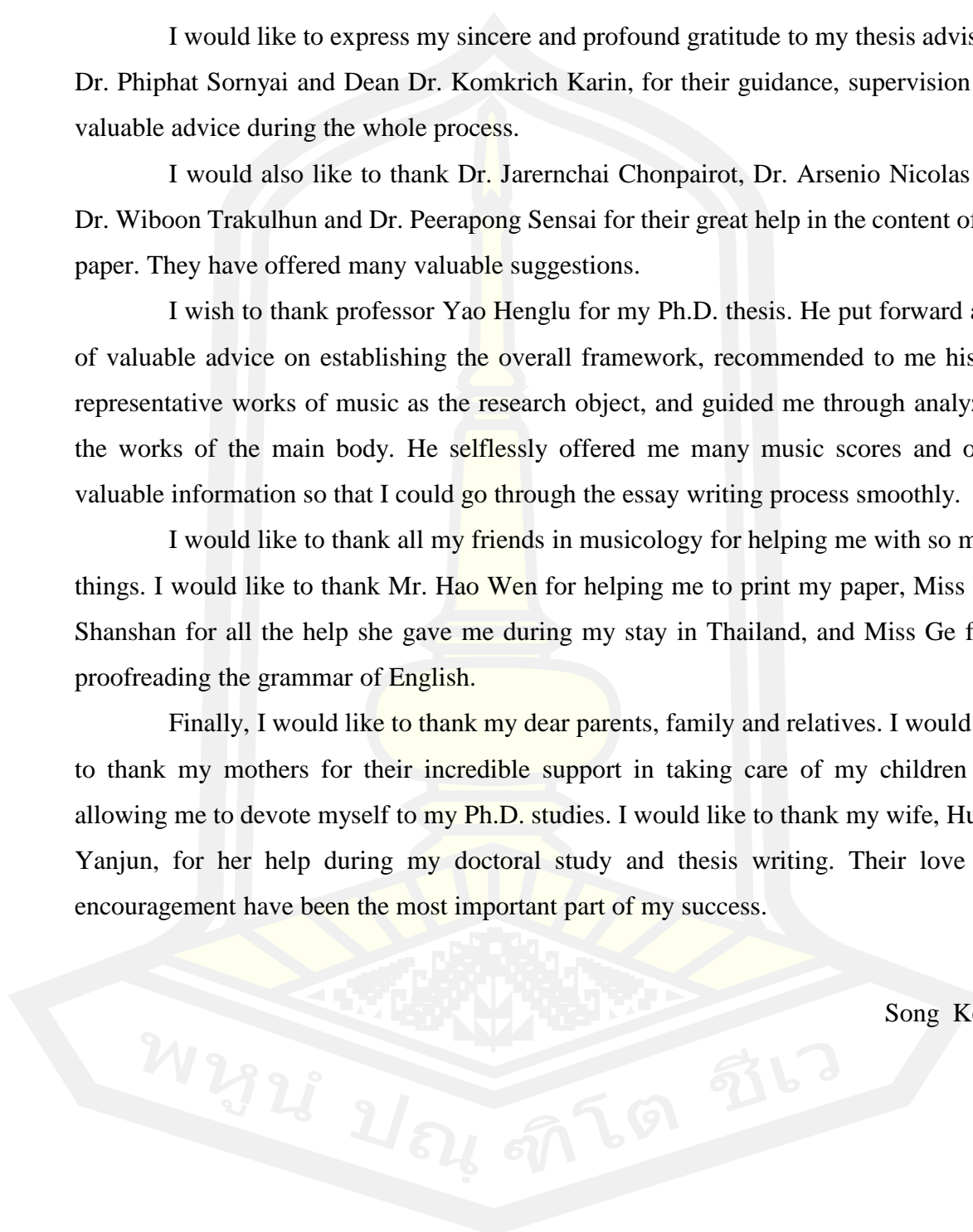
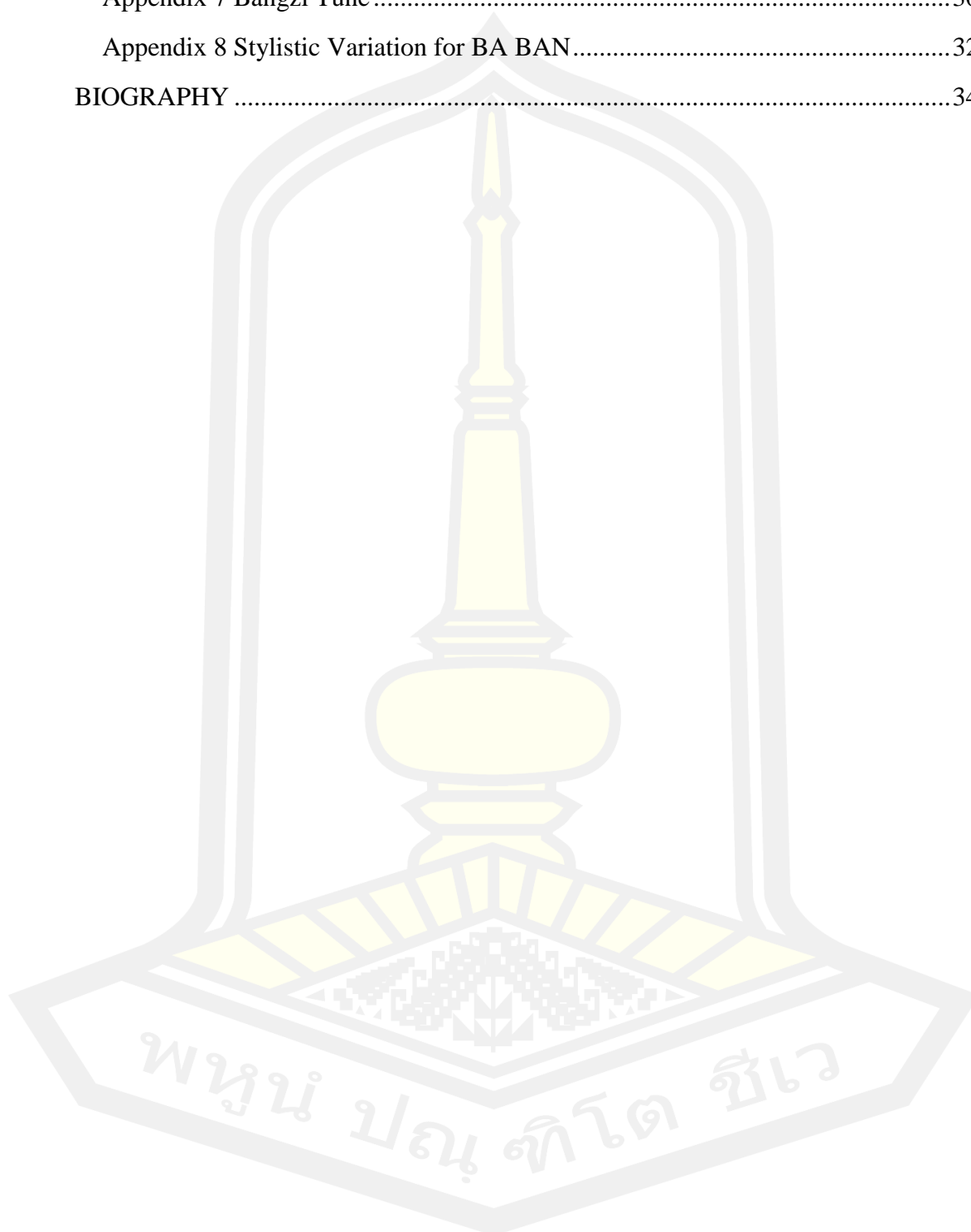


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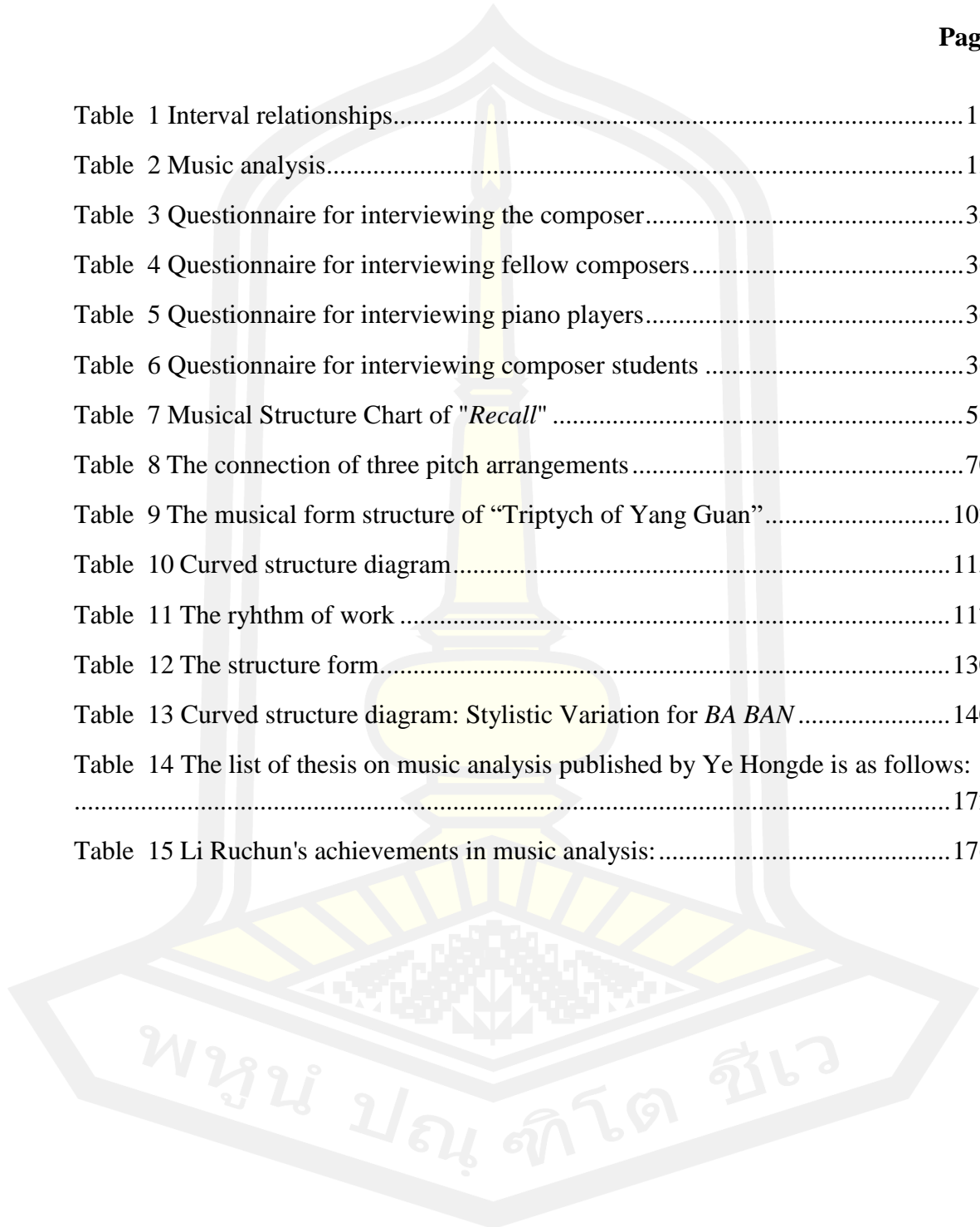
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Chapter I

Introduction

1. Background of Research

In the middle and late 19th century, with the trend of world music emerging with the characteristics of diversification and diversity, the combination of western composition technique and Chinese national music elements has become a new way for contemporary Chinese composers to explore. Professor Yao Henglu returned from abroad to promote western modern composition techniques and apply them to Chinese modern music composition, thus promoting Chinese modern music composition and academic research. Therefore, he is a "scholar composer" with milestone significance.

Yao Henglu was a doctor who graduated from the University of Leeds in the UK and works as professor and doctoral supervisor of the Department of Composition of the Central Conservatory of Music of China. He was the project leader of "Analysis System Research on Contemporary Western Composing Techniques" in the "Trans-century Excellent Talents Training Plan" of the Ministry of Education of China. In the history of modern music development in China, he was the first to set up the professional course of "Modern Composing Techniques" in the Central Conservatory of Music of China, breaking the barrier between traditional and modern composing techniques. He guided practice through theory and applied it in modern composition, opening up a creative path of integrating western modern composition techniques with Chinese traditional music, which has an important influence and promotion on Chinese modern music composition.

In terms of awards, he won the British Government Scholarship for four consecutive years while studying for his degree at Leeds University. His first symphony, *Sublimation*, won the prize in the competition of the new work for doctoral students in composition in British universities in 1993. In 2000, he was awarded the World Network Outstanding Paper Achievement Award by the United States Colby Science and Culture Information Center.

His academic activities were frequent and had great social influence. From 1996 to 2001, he gave lectures at the Conservatory of Music of Shanxi University, Shenyang

Conservatory of Music, Sichuan Conservatory of Music, Wuhan Conservatory of Music, Xinghai Conservatory of Music, and Xi'an Conservatory of Music. While he was studying at the University of Leeds in the UK, his personal works were performed in the UK many times. He paid an exchange visit to the Chinese University of Hong Kong in 1999. In 2000, he went to Seoul, South Korea, to participate in the "China-South Korea Music Week" performance. In 2001, he performed his own works in Beijing Concert Hall and Zhongshan Concert Hall, respectively. In 2002, he was funded by the British Academy and worked as a visiting scholar at the University of Southampton in the UK. During this period, he had extensive exchanges with music circles and music institutions in the UK, Germany, Austria, and other countries. In the past few years, he has organized an exchange concert of new music works between China and South Korea with Korean composers every year. The participating countries include China, South Korea, and Japan.

This study selects six music works composited by Professor Yao Henglu as the research object, analyzing music works by using science of music analyze, pitch class set analysis, twelve-tone sequence analysis theory, musicology theory, Chinese national mode theory, which summarizes the characteristics of Yao Henglu's modern music composition techniques and music composition ideas, and the impact on China's modern music composition.

Through the study of Yao Henglu's music works, three important academic research points are summarized:

- 1) "The theory and practice of three kinds of pitch thinking";
- 2) "Latent tonal connotation in atonality music";
- 3) "Establishment and application of comprehensive analysis methods in work analysis."

These academic views have greatly influenced a group of music composers and played a guiding role in their composition.

From the theoretical level of music analysis theory, tone set analysis theory, twelve-tone sequence analysis theory, musicology theory, Chinese national tonality theory, and so on, this paper comprehensively and deeply introduces Yao Henglu's modern composition techniques. He uses atonal, pan-tonality, twelve-tone composition techniques, and other modern composition techniques and applies them to music

creation. It provides a theoretical research reference value for learners to analyze and interpret Chinese and Western modern music works.

This study comprehensively and deeply introduces Yao Henglu's modern composition techniques from music analysis theory, pitch class set analysis, twelve-tone sequence analysis theory, musicology theory, and Chinese national mode theory. He applied atonality, pan-tonality, and twelve-tone composition techniques to music composition, providing theoretical research reference value for learning the analysis and interpretation of modern music works in China and the West.

By studying the modern music works composed by Professor Yao Henglu, which not only have strong academic value but also show the timing characteristics of Chinese traditional music culture, the composition track of each stage of China's new music development after the reform and opening up could be recorded, laying a theoretical foundation for music researchers in previous dynasties to study and analyze the composition techniques of China's modern music works.

Based on the above reasons, the researcher studied Yao Henglu's life background and artistic composition development process, which summarized the characteristics of Yao Henglu's modern music composition techniques and music composition ideas, and its impact on China's modern music composition through the analysis of his six modern music works, so as to provide the author with creative ideas and experience in the future composition research.

2. Research Objectives

- 2.1 To analyze Yao Henglu's artistic background and his music works.
- 2.2 To analyze the selected music works of Yao Henglu's Modern Music in China.
- 2.3 To study the factors that influence Chinese music composition.

3. Research Questions

- 3.1 What is Yao Henglu's artistic background and music creation process?
- 3.2 What are Yao Henglu's modern music works? What modern composing techniques are used in the works?

3.3 What is the influence of Yao Henglu's modern music works on Chinese music composition?

4. Importance of Research

4.1 We can understand the artistic background and music composition process of Yao Henglu.

4.2 Through the analysis of Yao Henglu's modern song works, we can understand what modern composition techniques are used in his works.

4.3 We can know the influence of Yao Henglu's modern music works on the composition of Chinese music.

5. Scope of research

5.1 Scope of the research content: Yao Henglu's life background, music composition thought, and music composition process; analysis of Yao Henglu's six music works and their influence on the field of Chinese music.

5.2 Scope of the research time: The author interviewed Professor Yao Henglu from July 2021 to March 2022 and discussed the application of music composition methods and technique with Professor Yao through the interview; The author completed the report paper writing in April 2022; In August 2022, the full text of the thesis will be completed for defense.

5.3 Scope of study site: The author interviewed Professor Yao Henglu and Professor Gao Weijie in Beijing, China, and interviewed Dr. Huang Yanjun, a student of Professor Yao Henglu in Nanning, China.

6. Definition of Terms

6.1 “*Song selected*” refers to the six music works composed by Professor Yao Henglu, which are composed by adopting modern composition techniques and integrating modern composition techniques with traditional Chinese music elements.

6.2 “Factors” refer to the reasons and conditions for the development of things; or elements and components of things.

6.3 “Chinese traditional music works” refer to music works composed with music elements with local Chinese characteristics.

7. Conceptual Framework

This study takes six music works composed by Yao Henglu as the research object. The data were mainly obtained by five research methods: Qualitative Analysis, Interview, Observation, Spectrum Analysis, and Literature. These data can be explained by the theories of Composition technique, Musicology, and Ethnomusicology.

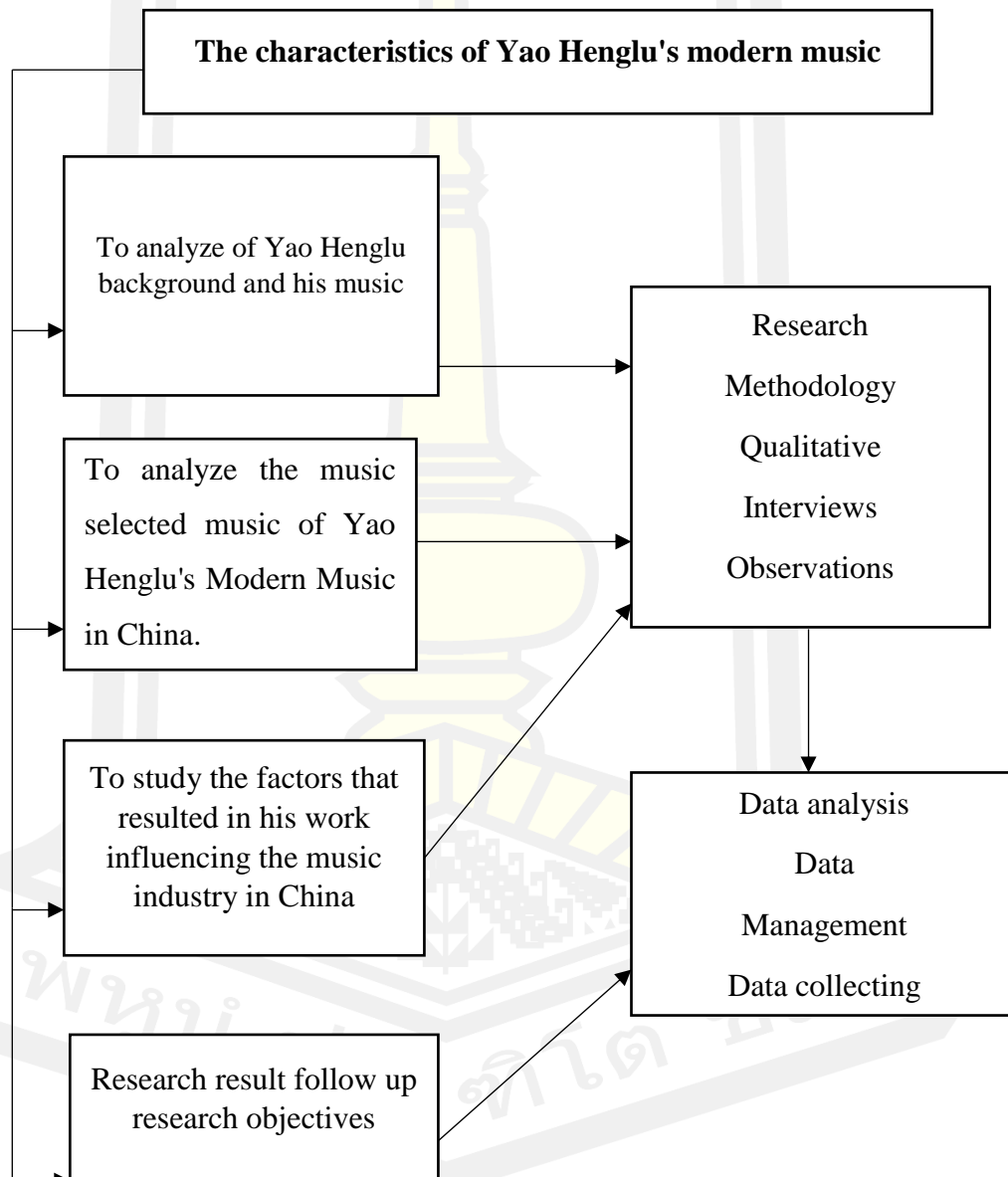


Figure 1 The Conceptual Framework of The Study

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.

1. Topic background.
2. What is Modern Music?
3. Modern composition techniques
4. Music analysis theory used in this study
5. Literature and Research on modern composition techniques, as well as published papers, and works.

1. Topic background.

In the 20th century, with the emergence of many modern music schools and the derivation of modern music techniques, which mainly include rhythm analysis techniques, music analysis techniques from a cross-cultural perspective, pitch space analysis techniques, music and tonality in the 20th century, pop music structure, repetition and irregularity, polyphony techniques, and pitch class set. The emergence of modern music techniques has not only expanded the depth and breadth of music theory and music works analysis but also promoted the international cutting-edge academic trend and information of music analysis, which has had an important impact on the world music world.

Yao Henglu is a doctor at the University of Leeds and a professor and doctoral supervisor of the Department of Composition of the Central Conservatory of Music, China. During his study in the UK from 1991 to 1994, he was exposed to a large number of modern music works of various musical genres in the 20th century. These works use novel modern composition techniques to composite. He learned, borrowed, and absorbed the western modern composition techniques, which included modern music analysis methods, and combined practice with theory to composite a large number of modern music works. After returning to China, he set up the course "Modern

Composing Techniques" in the Central Conservatory of Music to elaborate the theory of modern composing techniques through writing books and composing music works. The application of Chinese music elements has made important contributions to promoting the development of modern Western music in China.

This study takes the six modern music works composed by Yao Henglu as the research object, through analyzing the characteristics of works composition, to understand the composition ideas and the characteristics of music composition techniques of Yao Henglu, the impact on the development of Chinese modern music composition, Chinese national style characteristics reflected by the western modern composition technique and the use of Chinese music elements in his works. The study provides teaching suggestions and practical experience for Chinese contemporary music composers and college composition teachers in music creation. The music analysis has certain practical significance and reference significance for promoting the development of modern music analysis theory in China.

2. What is Modern Music?

Modern music has been a general term for all kinds of music genres since the beginning of the 20th century. It generally refers to all professional music composition works since the impressionist music of the late 19th century and the early 20th century.

Modern music presents the following general characteristics:

(1) In melody, the main part is unsmooth lines, and the sharp jump is the obvious feature. The sentence processing is fuzzy. The melody factors in traditional music are intentionally avoided, and other sound methods are used to replace the melody.

(2) In terms of rhythm and beat, the rhythm is free and changeable, with multiple rhythms, no rhythm, no meter, no bar line, and even a free arrangement of rhythm.

(3) In terms of harmony, modern music breaks the traditional concept of the triad, which frequently uses multiple chords based on sound perception, such as eleven chords and thirteen chords. The tone clusters, sound clusters, and plate type sound groups are used.

(4) In terms of mode and tonality, modern music has broken the concept of traditional mode and tonality. Most of them are non-mode and atonal music, which

composite their own scales and sound sequences and exist outside the mode and tonality.

(5) In terms of orchestration, modern music emphasizes the extreme sound range and noise of individual instruments, highlights percussion music, and seeks new sound colors and the use of vocal instruments.

Through the discussion of the characteristics of modern music, the characteristics of modern music are understood, and on this basis, modern music analysis theories are obtained, such as the pitch class set analysis and twelve-tone sequence analysis theory.

3. Modern Composition Techniques

The modern composition techniques mainly include twelve-tone serial technique, atonality, pitch class set, polytonality, total serialism, and linear thinking harmony. In this study, modern composition techniques such as the set theory, pan-tonality, accidental music, and Chinese national linear thinking harmony are used as follows:

3.1 pitch class aggregation method

The method of music analysis of level set was first proposed by Milton Babbitt, who is a composer and theorist. It divides atonal music into several groups of meaningful and interrelated pitch class groups for composition. In the segmentation process, various musical factors shall be fully considered, and the truncation and grouping shall be carried out according to the relationship formed by pitch, rhythm, phrasing, voice register, and timbre. This analysis method of atonal music is generally recognized as atonal theory or set theory.

3.2 Chance Music

Mark Evan Bonds & Mark Evan Bonds (2006) Chance Music is a western modernist music genre. It refers to music in that composers introduce accidental factors into the process of composition or performance, also known as "chance music". The works of chance music can be played by any instrument player or any combination of instrument players and can last for any length of time.

Therefore, the degree of the contingency of music works caused by the difference in actors' performance highlights the contingency, uncertainty, and non-compulsion of music works, which is also the most significant feature of chance music.

3.3 Chinese National Linear Melody Thinking

Chinese national linear melody thinking is a kind of melody composition form produced by Chinese national music along a certain linear or quasi-linear track.

3.4 Artificial scale

Gao Weijie mentioned in his article "On the Composition, Classification and Cataloguing of Scales" that "artificial scales refer to new scales compared with traditional scales. (Lu Lu, 2009) Generally speaking, the traditional relative key, the medieval scale, the national pentatonic and the chromatic scale belong to the traditional scale, and all other scale forms belong to the artificial scale. Among them, the eight-tone scale is quite different from the traditional scale in the use of melodic form and harmonic vocabulary. It is widely used in a large number of modern music works with a unique way of thinking. (Wang P.K, 2019)

It was Arthur Berger, an American composer and music theorist, who first proposed the term "Octatonic scale". (Arthur Berger, 1912) It refers to an octave scale formed by the alternation of half tones and whole tones within an octave:



Figure 2 Octatonic scale

Characteristics of the Octatonic scale:

1. An octave cycle can be formed outside the octave;
2. The interval cycle structure is formed by the alternation of half tones and whole tones within the octave.
3. Highlight the traditional tonal factors in the scale, and increase the color of the melody by means of semitone
4. Various new pitch combinations in the Octatonic scale can break through the limitation of tonal music, with the uniqueness of pitch structure and the novelty of sound.

3.5 Three pitch arrangements

Yao Henglu (2009) There roughly exists three pitch arrangements, namely pitch organization, interval and vector which are frequently used in multi-parts music creation, mainly expressing the composition of single lines and the way of lateral movement development in the pitch system, directly affecting the writing of melody.

3.5.1 Pitch organization

In tonality music, tones are connected together from high to low to form a system with one tone as the tonic, and this organic system is called mode. Many tones in the mode are arranged from one tonic to another in a specific order, forming a scale. In the West, the 24 major and minor modes are established on the basis of twelve-tone temperament, which are the core of the pitch system; In China, five different national modes are formed with *Gong*, *Shang*, *Jue*, *Zhi*, and *Yu* as the tonic.

In addition to the major and minor mode system and the Chinese five-tone mode, there are also the Western medieval church mode (or called the medieval mode), as well as the unconventional "mode scale" unique to other peoples in the world that do not belong to any traditional scale. In the works of impressionist composers, the diatonicism is often used, and the so-called diatonicism means that the relationship between adjacent tones in the scale is a whole-tone relationship. Since the diatonicism does not contain semitone relationships, there are no minor intervals, chords and corresponding traditional functional relationships in the music, and the feeling of sounding tonal is more wandering and blurred.

The motivation and sound of Debussy's "*Voiles*" are based on the hexachord.



Figure 3 Debussy's Voiles

Original scale structure:



Figure 4 Original scale structure

3.5.2 Interval thinking

Interval refers to the relationship between two scale steps. All natural interval categories (including inversions) include: minor second (major seventh), major second (minor seventh), minor third (major sixth), major third (minor sixth), perfect fourth (perfect fifth), and tritone (remain the same after inversion).

The number of intervals is the number of semitones between the scales. The following table indicates relationship between the original interval and its interval inversion relationship. The sum of the two intervals of each type equals to 12, which means that in the range of twelve mean law semitones, both original ones and inversions can actually be reduced to six pairs of interval relationships, represented by the numbers 1-6.

Table 1 Interval relationships

Number of semitone	1	2	3	4	5	6
Original interval	Minor second	Major second	Minor third	Major third	Perfect fourth	Tritone
Number of semitone	11	10	9	8	7	6
Interval after inversion	Major seventh	Minor seventh	Major sixth	Minor sixth	Perfect fifth	Tritone

As shown in the figure above, all interval relationships can be expressed with the numbers 1-6, of course, including the inversion relationships of various intervals. For example, if the interval relationship between the two tones D-F is a minor third

(inversion being the major sixth), it can be represented by the number 3, which represents a total of 3 semitones between the two intervals.



Figure 5 Original scale structure

This is a melody fragment played by the oboe solo. The melody is centered on the minor third, major second, and perfect fourth, represented by 2+3+5.

4. Music analysis theory used in this study

4.1 The science of music analyze

Chen Hongduo (2007) In western music literature, the discussion on music analysis already exists. In his article *My Idea on the Music Analyze Science*, Professor Chen Hongduo believed the "Analyze" in the German music dictionary *History and Status of Music* and the "analysis" in *The New Grove Dictionary of Music and Musicians* have discussed music analysis quite comprehensively, and to some extent, has included the entire discipline of the science of music analyze.

The science of music analyze extends from music analyze, musical form analysis, and work analysis. Professor Chen Hongduo brings "music analyze" and "analysis of musicology" into the category of the science of music analyze. Their differences and connections are demonstrated through table below:

Table 2 Music analysis

Science of music analyze					
Composition technique analysis		Analysis of musicology			
Comprehensive analysis	Specific content	The student of the relationship between music and ideology	The study of the physical material characteristics of music	The study of the form and composition of music	The study of musical performance
Analysis from the form of music works overall form	Melody, harmony, rhythm, modality, mode and soon.	1. Music Aesthetics 2. Music History 3. Music Ethnology 4. Music Psychology 5. Music Pedagogy	1. Music Acoustics 2. Temperament 3. Organology	1. Melodics 2. Harmonics 3. Counterpoint 4. Music style	1. Performance theory 2. Conducting

Music analysis is mainly engaged in the dissolution, description, and comparison of the structure of works. The analysis focuses on the inherent structure of the work, which tries to grasp music only in the way of "pure music" and temporarily excludes the consideration of any factors other than music. Through analyzing the composition of music one by one, carefully identifying and comparing various elements, clarifying the relationship and influence between these elements and between them and the overall structure, and finally obtaining an understanding of the organizational law in the music structure (can be a work or a group of works). The characteristics of analysis lie in its objectivity, integrity, and systematicness.

The definition and significance of science of music analyze are discussed above. The analysis methods of it will be briefly discussed.

Nicholas Cook, translated by Chen Hongde, (2016) In the traditional approach to music analysis, theorists have regarded scales, chords, forms, and even instruments as indispensable analytical foundations in music analysis. In the entry on “music analysis” in *The New Grove Dictionary of Music and Musicians*, Ian Bent describes music analysis as a "natural science" approach to music, and the rise of scientific thinking has influenced the way music is studied in general. (Nicolas Cook, 2016)

When people analyze a musical work, they usually adopt two ways. One is from the formal analysis of the overall form of the musical work, and the other is from the content analysis of the melody, harmony and rhythm of the musical work. As one of the most important factors in the observation of the form and other musical content of a musical work, harmony is often marked by some simplified symbol. The analysis of harmony, omission and relation is often adopted. Ellipsis refers to the omission of something in a sound, such as a sound that can be produced by using one fundamental to represent a complex overtone structure that is omitted.

David Beach (1974) The digital bass, a performance marker for harmony, was widely used after the Baroque period as a simplified analytical method for analyzing harmony; Roman-letter analysis is a second way of expressing harmonic relationships. Unlike the numeral bass, it was developed as an analytical device rather than a performance practice.

The following part will discuss the musical analysis theories used in this thesis.

4.1.1 Pitch class set analysis

The theory of pitch class set is a kind of music analysis theory used in the 20th century. It exists in modern atonal music as the pitch-organizing element of the deep structure of music. It divides atonal music into several groups of meaningful and interrelated pitch class groups for the composition according to the relationship formed by the aspects of pitch, rhythm, phrasing, sound area, and timbre.

Yao Henglu (2003) In 1973, Alan Ford, who is a famous contemporary American music theorist, proposed the theory of pitch class set for the first time in his book *The Structure of Atonality Music*, which provided theoretical guidance for the study of the structural relations of atonality music pitch organization. The analysis

method is as follows: the "linear set" of three to nine tones in the twelve-tone series is used as the vertical and horizontal structure organization of the basic set, and the complete sequence of twelve-tone is added up to 12. The conclusion of the set analysis is that there are three relations among the sets of each pitch-class: inclusion relation, complementary relation, and similarity relation, which are both unified and contrasted with each other.

4.1.2 Twelve-tone serial technique analysis theory

Yao Henglu (2003) Twelve-tone serial technique analysis theory is produced by the arrangement of twelve-pitch levels in the chromatic scale of the equal temperament according to a specific order. In the original twelve-tone sequence theory, each pitch appears once in the sequence. In this way, based on the arrangement of Prime row, the sequence can also be Retrograde (with the arrangement of the twelve-tone serial technique as the standard and arranged from back to front, that is, the retrograde order of the initial set), Inversion (with the arrangement of twelve-tone serial technique as the standard and centering on the first tone of the prime row, carry out strict reverse inversion, that is, form a mirror reflection form with the prime row sequence in the longitudinal direction). Four basic deformations, such as Retrograde Inversion (which is based on the twelve-tone order of reflection and arranged from back to front, that is, the reverse order of reflection).

Take Schoenberg's Suite (Op.25) (1923) as an example

1) Prime

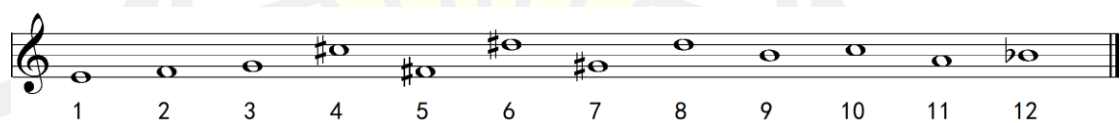


Figure 6 Take Schoenberg's Suite (Op.25)

2) Retrograde

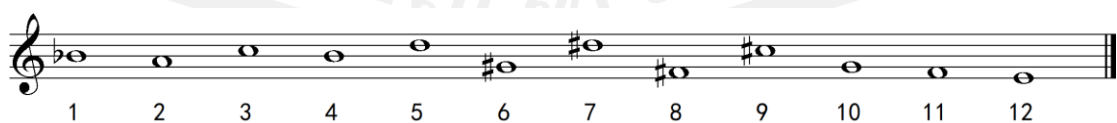


Figure 7 Take Schoenberg's Suite (Op.25)

3) Inversion



Figure 8 Take Schoenberg's Suite (Op.25)

4) Retrograde Inversion

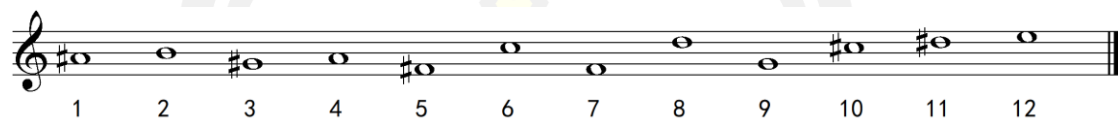


Figure 9 Take Schoenberg's Suite (Op.25)

Sound column marking form:

P=Prime

R=Retrograde

I=Inversion

RI=Retrograde Inversion

S. Kostka (2002) In the twelve-tone system, each note can be written on any octave. Using the traditional notation, the note at the same position omits the natural sign. That is, there is no temporary natural sign for any note, the number below each note becomes an ordinal number, and the pitch class position of each vector style is marked with the same ordinal number.

4.1.3 Lettie's theme-motivation analysis theory

Yao Henglu (2003) Lettie's theme-motivation analysis theory is a method that puts the refined evolution of melody and motivation cells into a theme mode to analyze the deformation of the theme throughout the whole work. This creative method determines the use of transposition, chord, and bridges. The musical form of the work is regarded as a horizontal line type change process, and motivation can be identified without rhythm. This concept was proposed by the famous American pianist, composer, and theorist Rudolph Reti. Beyond Orpheus by David Epstein is a work of "the study of music structure" and also a typical representative work of "Lettie's theme - the analysis theory of motivation." Starting from the internal relationship between motivation, theme, and the overall structure of the whole song, he analyzed the

motivation and theme phenomena in the work. In addition to careful analysis of material issues such as pitch, value, and phrasing, he also paid great attention to the relationship between theme-motivation material and rhythm and the interdependent logical relationship between theme-motivation material and the structure of the whole song.

4.2 Musicology theory

Musicology is the general name of all theoretical disciplines that study music. The general task of musicology is to clarify their essence and laws through various phenomena related to music. For example, studying the relationship between music and ideology, which includes Music Aesthetics, Music History, Music Ethnology, Music Psychology, and Music Pedagogy; Studying the characteristics of the materials of music, which includes Music Acoustics, Temperament, and Organology; The study of music form and composition, which include Melodics, Harmonics, Counterpoint, music style, and other composition technique theories; There are also performance aspects to consider, such as performance theory and conducting.

Yu Runyang (1993) The analysis of musicology is a new method of music analysis. This is an interdisciplinary music analysis method, which not only absorbs the new trend of thought of humanities but also combines the ideas of humanities with music (Du Yaping, 2010). The analysis of musicology belongs to a higher level and comprehensive professional analysis method. It not only examines the artistic style, language, and aesthetic characteristics of music works but also reveals the social and historical context of music works, and makes historical and realistic value judgments, thus forming a high-level understanding of the whole music works.

In chapter V, the author used the "musicology theory" to analyze the harmony, musical form, motivation, mode and tonality, rhythm, and timbre of Professor Yao Henglu's six musical works.

4.3 The Theory of Chinese National Mode

Huang Yanjun&Han Deming (2022) Chinese national mode refers to the Chinese pentatonic mode composed of Gong, Shang, Jue, Zhi, and Yu in Chinese harmony and the Chinese six-tone National Mode and Chinese seven-tone National Mode modes based on Chinese pentatonic mode. Under the same key signature, Gong, Shang, Jue, Zhi, and Yu belong to five different tones in the same Gong system. The Gong tone is the same as the tonic of the same major. And so on, the Shang tone is the

same as the II tone of the same major; The Jue tone is the same as the III tone in the same major; The Zhi tone is the same as the V in the major of the same key; The Yu tone is the same as the VI tone in the same major. 1) Scales in C Major

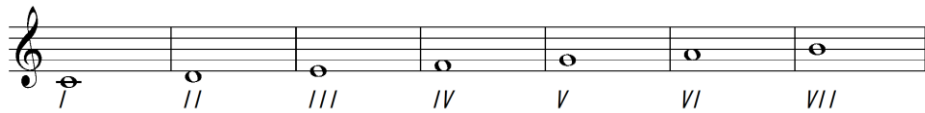


Figure 10 Scales in C Major

2) The Scales of C Gong Scale with Chinese pentatonic mode

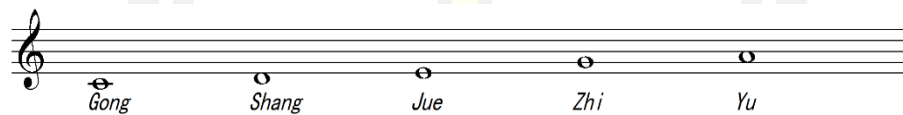


Figure 11 The Scales of C Gong Scale with Chinese pentatonic mode

4.3.1 Chinese pentatonic mode

Chinese pentatonic mode is a Chinese national mode composed of Chinese pentatonic mode: *Gong*, *Shang*, *Jue*, *Zhi*, and *Yu*, under the same key signature. The key sign is the same as the tonic major. There are five types: 1) *Gong* mode, 2) *Shang* mode, 3) *Jue* mode, 4) *Zhi* mode and 5) *Yu* mode. It is named the pitch of the first tone of the mode, and the tonic name of the position is combined with the mode type. The five types of modes under the same key sign belong to the same *Gong* system.

4.3.2 Chinese six-tone National Mode

Chinese six-tone national mode is a Chinese national mode composed of six tones of *Qing Jue* or *Bian Gong* added to the Chinese pentatonic mode under the same key signature. *Qing Jue*, which is equivalent to the IV tone of the same major; *Bian Gong* is equivalent to the VII tone of the same major. There are ten types of Chinese six-tone National Mode. It is named the tonic name of the pitch of the first tone of the mode, and the name of the plus offset is combined with the mode type.

4.3.3 Chinese seven-tone National Mode

Chinese seven-tone National Mode is a Chinese national mode composed of seven tones with two external ones on the basis of the Chinese pentatonic mode under the same key signature. *Qing Yue* adds two-tone changes, *Qing Jue* and *Bian Gong*, which are equivalent to the IV and VII of the same major; *Ya Yue*, which adds two

inflections, namely, *Bian Zhi* and *Bian Gong*, is equivalent to the \sharp IV and VII tones of the same major; *Yan Yue*, with two variations of *Qing Jue* and *Run* added, is equivalent to the level IV and level \flat VI tones of the same major. There are 15 types of Chinese seven-tone National Mode. It is named the pitch of the first tone of the mode, and the tonic name of the position is combined with the mode type.

Through the introduction of the three forms of Chinese national mode: pentatonic mode, Chinese six-tone National Mode, and Chinese seven-tone National Mode, we understand the relationship and difference between them:

1) The relationship between them: in the same *Gong* system, the five modes of *Gong*, *Shang*, *Jue*, *Zhi*, and *Yu* extend the other two modes on the basis of the Chinese pentatonic mode, namely the Chinese six-tone National Mode and the Chinese seven-tone National Mode.

2) The difference between them: there is no deviation in the pentatonic mode; there is only one deviation in the Chinese six-tone National Mode (*Qing Jue* or *Bian Gong*); there are two partial tones in the Chinese seven-tone National Mode at the same time, and the two partial tones can be divided into seven tones clear music mode (*Qing Jue* and *Bian Gong*), seven tones elegant music mode (*Bian Zhi* and *Bian Gong*), and seven tone *Yan Yue* mode (*Qing Jue* and *Run*).

The following will take the three modes of C *Gong* mode (Chinese pentatonic mode, Chinese six-tone National Mode, and Chinese seven-tone National Mode) as an example for your reference (due to too many spectrum examples, the various modes of D *Shang*, E *Jue*, G *Zhi*, and A *Yu* will not be listed in the spectrum examples)

Three modes of *Gong* mode

1) C *Gong* Scale with Chinese pentatonic mode:

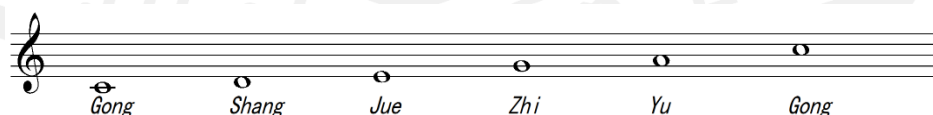


Figure 12 C *Gong* Scale with Chinese pentatonic mode

(2) C *Gong* Scale with Chinese six-tone National Mode

1) Add *Qing Jue* of C *Gong* Scale with Chinese six-tone National Mode



Figure 13 Add *Qing Jue* of C Gong Scale with Chinese six-tone National Mode

2) Add *Bian Gong* of C Gong Scale with Chinese six-tone National Mode

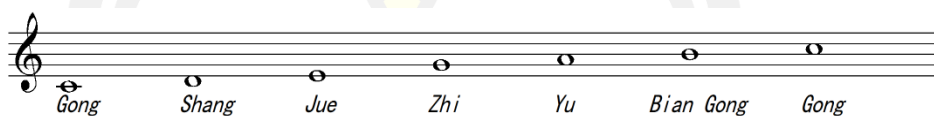


Figure 14 Add *Bian Gong* of C Gong Scale with Chinese six-tone National Mode

(3) C Gong Scale with seven-tone

1) C Gong Scale with seven-tone *Qing Yue* mode

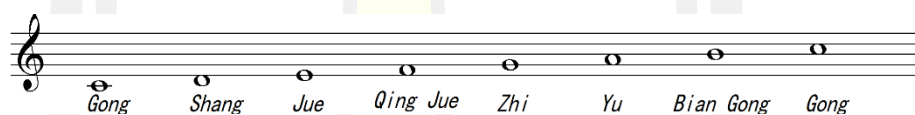


Figure 15 C Gong Scale with seven-tone *Qing Yue* mode

2) C Gong Scale with seven-tone *Ya Yue* mode



Figure 16 C Gong Scale with seven-tone *Ya Yue* mode

3) C Gong Scale with seven-tone *Yan Yue* mode

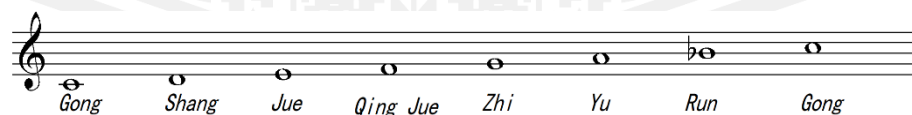


Figure 17 C Gong Scale with seven-tone *Yan Yue* mode

4.4 Ethnomusicology

Ethnomusicology is a theoretical discipline subordinate to musicology, which studies the traditional music of various nationalities in the world and its development

types. Field investigation is the basic way to obtain the source of research materials. Its predecessor is European Comparative Musicology.

Ethnomusicology belongs to the category of musicology, which is closely related to ethnology and folklore. It includes investigating and studying the music characteristics of different nationalities, countries, and regions, exploring the relationship between this music and geography, history, and other cultures so as to draw some music-related conclusions. The mutual penetration and blending of multi-disciplinary and interdisciplinary explore the deep meaning of musicology from the perspective of culturology and restore and explain the relationship of national music in different contexts.

Huang YanJun (2022) According to ethnomusicology, on the basis of field investigation, we can investigate a national culture or culture, study the culture, history, geography, nationality, language, social system, mode of production and lifestyle, folk custom, psychology, and other aspects of the nation, explore the characteristics of the national music culture and the recognition of music under the common national aesthetic consciousness and clarify the music development rules of the nation and the region law, evolution relationship.

5. Literature and Research on modern composition techniques, published papers and works

5.1 literature and Research on Yao Henglu's modern composition techniques

Qu Y (2016) This paper discusses how Yao Henglu's *Five Piano Preludes and Fugue* uses nationalized musical materials and integrates modern composition technique, including "collective structural force", to create the work. It discusses the individualized logical design of the tonality layout of this work and how to use chords to produce strong power and color in the composing technique of "collective structural force". In addition, the relationship between "collective structural force" and musical logic, material organization, structural characteristics, and other musical elements is discussed. It describes the main logical thinking form of the work, that is, the "equal relation" among the five relations and the different embodiment of the "core set" and "contrast set" in work. It analyzes the "collective structural force" of this work using

the overall structural characteristics of "equality relation" and analyzes the structural force of this work based on the "foreground" and "background" in Schenck's theory.

Wang Jiaona (2017) *Application of Pentatonic Harmony in Piano Suite impression of Yanbei*. This paper selects a group of piano suites, *Yanbei Impression*, which is composed of five small tunes with national characteristics based on Shanxi folk music, as the research object, focusing on the application of pentatonic harmony creation techniques. This paper discusses the sound effect of replacing the three-tone chord with the second or fourth tone to describe the happy atmosphere of frolicking in the creation of frolicking. The minor second interval or increased fourth interval, which is not commonly used in China's traditional five-tone melody, is relatively vivid to describe this kind of special sound effect or scene. In order to further consolidate the traditional style of pentatonic mode, this paper discussed the application of parallel three tones and omitted three tones in pentatonic mode. The use of non-three-overlapping chords enriches the artistic expression of the works and has a more distinctive national style.

Yang Chuanchuan (2011) This paper discusses the "intelligibility and analyzability" of atonality music solved by the theory of tone set, one of the analytical methods of atonality music in the 20th century. This paper introduces Allen Ford's pitch class set theory which serves the category analysis of the "structural force" of musical works well. In this paper, on the basis of a sound set of set theory, using the theory of set structure force and power, lessons were drawn from Schenker music analytical theory, through the background of structure and the prospect of dynamic statistical works on the original soundtrack Yao Henglu professor piano solo. The work is based on the Chinese material combined with western modern composing techniques and creation. The structure, harmonic motivation, the utilization of atonality as development method, and the logic of the development are all in line with the traditional composing techniques, combining the western modern composing techniques and traditional Chinese national music element to perfectly show the function of traditional Chinese thinking in the modern music creation. It is concluded that this analysis method is a kind of analysis method with individuation and generality, which not only has traditional inheritance but also has inheritance and development of traditional logical thinking.

This study describes Professor Yao Henglu's three works, *Yanbei Impression* (1980), *Five Piano Preludes and Fugues* (1990), and *Primitive Sound Traces* (1991). From a macro analysis, the three works maintain the use of national elements in creative style and use national pentatonic harmony techniques and pentatonic melody tones in creative techniques. From the microscopic point of view, the three works all embody the language idea of the integration of western modern creative techniques and national five-tone creative techniques. *Yan Bei Impression*, drawing on the essence of Shanxi folk music, blended into the music elements of folk songs and Xiaoqu music in the northern region of the Yan Dynasty and created a multi-tone piano suite by using five-tone harmony. This work not only maintains the flavor of national style but also adopts modern composition techniques such as the integration of three-degree overlapping chord and pentatonic melody tone and the integration of non-three-overlapping chord and pentatonic melody tone. The purpose is to obtain the sound effect of "power" and "color" in the pentatonic melody tone. It clearly shows the national style and regionality of this work.

In the analysis of *Five Piano Preludes and Fugues*, the paper describes that the twelve pitch classes are centered on the tonic on the basis of equality, the melody has the color of a national pentatonic melody, and the mode emphasizes that the perfect pentatonic interval plays a decisive role in the termination. Based on Hindemith's harmony theory, the "typical interval and sequence" in the pentatonic scale are restored to the melody in the way of the melody scale. Influenced by Hindemith's harmony theory, the typical musical elements of the national pentatonic style appear in the melody in a reasonable way, which forms a "nationalized application" of Hindemith's harmony theory.

Zhang Baohua (2009) The paper describes that the original sound trace is composed of two music thoughts with three tone sets and very simple music materials. The two music thoughts represent the presentation of two music cultures, namely, Chinese national music style and western music style.

Zhang Yilin (2010) This paper describes that the orchestral *Rainbow* adopts the theme of four tone motivation, the mode design of axial symmetry, adopts a variety of harmonic writing techniques, and integrates the new romantic technique with the rich Chinese national and regional style, which can not only describe the scenery but also

express and praise the beauty of human nature. The main composition technique is to run through the whole song within a unified rhythm form through motivation thinking. It is analyzed that the work adopts the axial tonality layout, and the up-down relationship of tonality is symmetrical, which is very different from the tonality framework of the subject subordinate relationship in the classical period. In order to seek the special timbre of musical instruments, the paper makes careful arrangements for the presentation of the theme, the strengthening of the development part, and the application of polyphonic texture of the Woodwind Group, brass group, percussion group, and string instrument group respectively. Coupled with the solo function of the piano, the magnificent color of the works is expressed incisively and vividly.

Xue Sujie (2010) This paper describes that *Duet* is the first chamber music work created by Professor Yao Henglu with a twelve-tone sequence technique. It analyzes that the design of the overall structure of the work adopts the sequence prime row with five-tone characteristics, and the reflection form, retrograde form, and shift form of the prime row serial technique run through the three movements of the work, respectively. This paper discusses the core tetrachord as the structural basis of the work and discusses the interval relationship of horizontal melody lines and the application of vertical harmony composed of four or five degrees. This paper discusses the use of the golden section rate to adjust the overall structure proportion of the work so that each chapter of the work is consistent with the time and length of each development stage so as to reflect the aesthetic value of the asymmetric structure in the artistic display of music works.

5.2 literature and research related to published papers and works

Zhang Jingjing (2015) *Crossing The Five Tones: Selected Music Works of Yao Henglu's Solo And Duet*, published by *Intellectual Property Press* in September 2014, is a working album mainly composed of short repertoire works. It adopts the creative idea of traditional alternating techniques and modern styles. In terms of creative style, it has a variety of styles, such as strong Chinese ancient and simple styles and romantic styles. The creative techniques include traditional techniques, twelve-tone serial techniques, interval, key-centered approach, and atonality. The book expounds on the concept of "Fantasy Power," which reflects people's yearning for beautiful things and

the ideal realm. Yao Henglu first applied the concept of "Fantasy" to composition and composited these music works.

Zhang Yuexin (2010) The thesis studied that the course of the *Comprehensive Analysis of Music Techniques* edited by Yao Henglu, contains two core contents. One is "music techniques," which refers to various elements and corresponding technical rules of music works, including four theoretical courses of composition technique: harmony, polyphony, musical form analysis, and orchestration. The other is "comprehensive analysis," which refers to the concept of analysis adopted when studying a music work. This paper discusses two aspects of the course of the comprehensive analysis of music techniques. One is the concept of writing this book, which focuses on cultivating students' cognition of music creation and composition of music works so as to improve students' ability to understand, appreciate, perform, and composite music works and lay a foundation for students' development and lifelong learning. The second is to serve the actual teaching.

Yao Henglu (2009) The categories of teaching techniques include:

- 1) The formation law of a single melody line: movement form, interval, mode, and tonality;
- 2) To understand the rules of polyphonic writing (the analysis of harmony and polyphony);
- 3) The declarative grammar of music language is the formation law of music phrasing and structure;
- 4) Basic knowledge of instrument and orchestration in orchestral music;
- 5) The technique phenomenon of modern music works.

Zhang Danni (2016) The paper takes these *Selected Papers* as the research object and discusses *Selected Papers*. It is divided into three parts. The first part is composed of 39 papers, which are mainly reflected in the scientific research and academic achievements in the field of music analysis and creation, using diversified, multi-perspective, and multi-dimensional analysis methods and a variety of music analysis theories; the second part mainly summarizes and expounds the teaching achievements and teaching concepts of science of music analyze from the perspective of teaching; the third part collects summarizes the preface, preface (including the books

published by students) and essays of his published books, so as to teach his own experience and perception of life and learning.

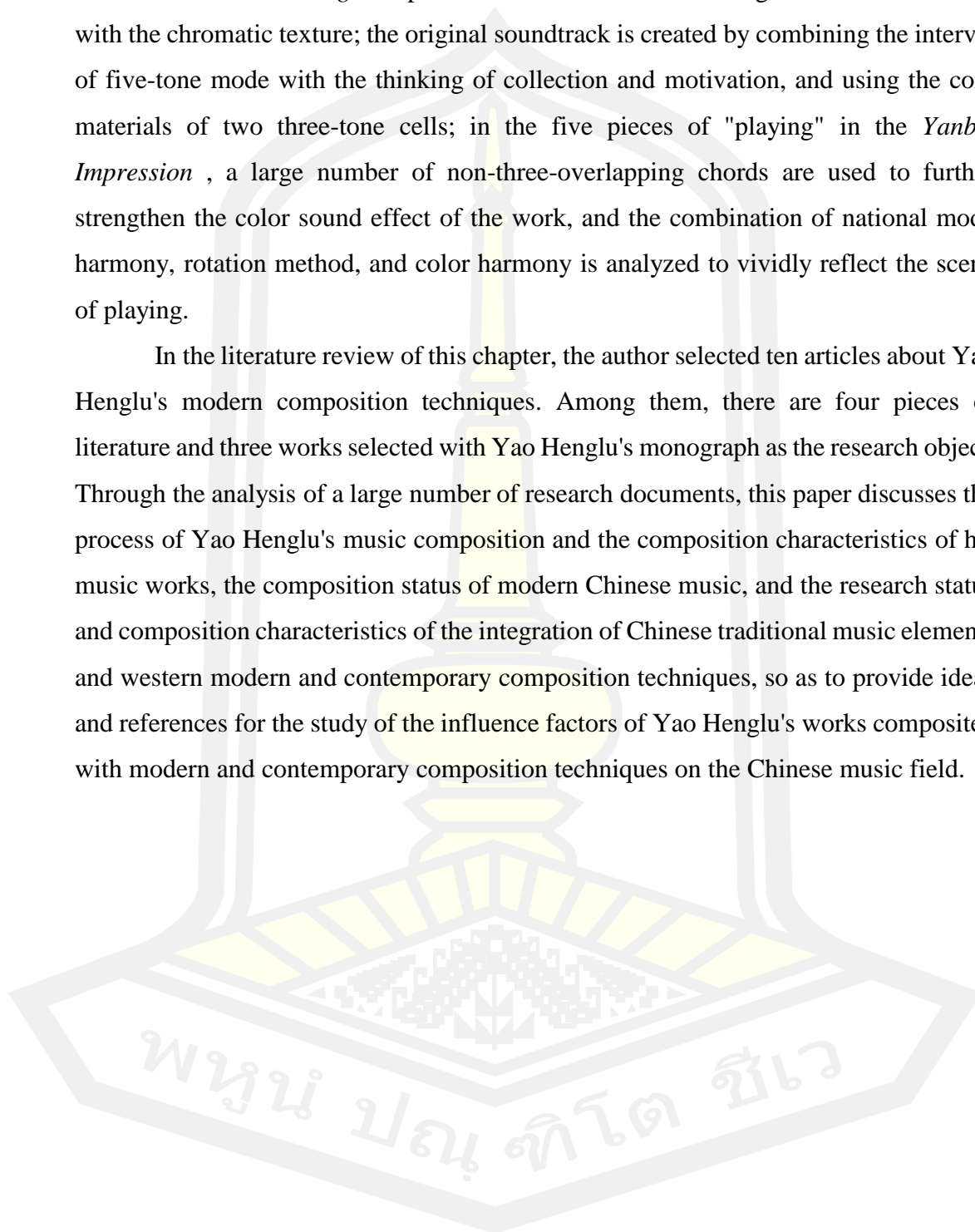
Ye Hongde (2006) Taking the course of *Modern Music Analysis Methods* (written by Yao Henglu) published by Hunan Literature and Art Publishing House in 2003 as the research object, this paper discusses that the course of modern music analysis methods comprehensively introduces and studies the main analysis theories in the 20th century, and makes a creative exploration on the "process" and analytical thinking of music analysis. This paper analyzes the materials (theme-motivation, melody form, rhythm and beat, harmony technique, tonal layout, twelve-tone sequence, and pitch class collection), ways, and structures and introduces a variety of music analysis theories in the 20th century (melody analysis theory, theme-motivation analysis theory, Hindemith's harmonic tonality analysis theory, twelve-tone sequence analysis theory, Allen Ford's pitch class set analysis, Schenk's Form Theory, Mary Venasrom's musical form theory, etc.

Xiong Xiaoyu (2016) The paper takes the basic training of composition (hereinafter referred to as composition) officially published by the people's music publishing house in April 2011 as the research object. The paper discusses that this is a monograph with summative guidance for creative practice, the construction of a composition system with "deformation" technique as the core, starting with music elements and techniques, and using the composition concept of "modern thinking technique", Melody writing is carried out under the framework of tonal layout, Chinese traditional music materials (folk songs, minor, etc.) are integrated into the writing, and the original appearance and creative process of the works are deconstructed and reconstructed through diversified and integrated composition styles, so as to achieve the purpose of creating and innovating works.

Xiong Xiaoyu (2011) Taking Yao Henglu's piano works "the *Original Sound Trace*," published by the *People's Music Electronic Audio-Visual Publishing House* (July 2010 Edition) as the research object, this paper discusses the selection of music works in three different periods and their music styles are different under the influence of different creative periods, creative backgrounds and creative techniques. This paper discusses the creative technique of the integration of Chinese national style and modern Western composition techniques. That is, the *Five Beijing Nursery Rhymes* adopt the

creative idea of the combination of indistinctive theme melody and tonal; *Recalling The Flute on the Phoenix Stage* adopts the creative idea of combining the traditional theme with the chromatic texture; the original soundtrack is created by combining the interval of five-tone mode with the thinking of collection and motivation, and using the core materials of two three-tone cells; in the five pieces of "playing" in the *Yanbei Impression* , a large number of non-three-overlapping chords are used to further strengthen the color sound effect of the work, and the combination of national mode harmony, rotation method, and color harmony is analyzed to vividly reflect the scene of playing.

In the literature review of this chapter, the author selected ten articles about Yao Henglu's modern composition techniques. Among them, there are four pieces of literature and three works selected with Yao Henglu's monograph as the research object. Through the analysis of a large number of research documents, this paper discusses the process of Yao Henglu's music composition and the composition characteristics of his music works, the composition status of modern Chinese music, and the research status and composition characteristics of the integration of Chinese traditional music elements and western modern and contemporary composition techniques, so as to provide ideas and references for the study of the influence factors of Yao Henglu's works composed with modern and contemporary composition techniques on the Chinese music field.



Chapter III

Research Methodology

1. Research Scope

1.1 Research content

The research content includes Yao Henglu's artistic background and music composition process, the analysis of Yao Henglu's music works, which includes the research status and creative characteristics of the integration of Chinese traditional music elements and western modern composition techniques in his works, and the influence factors of his music works on the field of Chinese music.

1.1.1 Scope of research sites

Beijing and Nanning are selected as the research sites for field investigation. Professor Yao Henglu lives in Beijing, China, all year round; Many scholars familiar with Yao Henglu also live in Beijing city; One interviewee is Professor Yao's student who lives in Nanning city.

1.1.2 Scope of time

The author interviewed Professor Yao Henglu from July 2021 to March 2022 and discussed the methods and techniques of music composition with Professor Yao through the interview, during which he completed the writing and revision of the study.

1.1.3 Methodology

- The researcher used a qualitative study process.
- The researchers mainly adopted the fieldwork research process, adopted interview, questioning, and observation techniques.

2. Research process

2.1 Selection of site and key informants

Investigating the composer's artistic background and creative development process and interviewing the composer himself is the best way to understand the creative intention of his music works and the method of using modern composition techniques to composite his works.

Research sites:



Figure 18 Map of Beijing, China

Photo: www.baidu.com. Accessed September 21, 2021

The reason: Key informants: Mr. Yao Henglu

Through an interview with Professor Yao Henglu, he recommended to me six representative modern music works created by him, as follows:

- 1) Chamber music “Recall” Atonal sequence, pitch-class set and interval writing
- 2) Orchestral music “Rainbow” Twelve-tone music (post romantic style)
- 3) Chamber music “Triptych of Yang Guan” Pantonality
- 4) Chamber music “The Mountain Tunes” Atonality interval writing, Accidental music
- 5) Chamber music “Bangzi Tune” Chinese national linear thinking harmony
- 6) Piano Works “Stylistic Variation for BA BAN”, Piano solo -- grasp of music style

The reason why I chose these six music works are as follows:

First, as an important composer and theorist in modern China, Professor Yao Henglu's works enjoy a certain reputation throughout the country. Many scholars recommend the author study Professor Yao's works.

Second, these six works reflect the development status and creative thinking of modern Chinese music composition from a certain level. These works show different modern composition techniques, apply creative thinking combined with Chinese traditional music elements, and study the development path and music characteristics of Chinese modern music composition, which can provide creative ideas and experience for researchers in the field of composition in the future.

The criteria for selecting key informants are:

1) Professor Yao Henglu is a famous music theorist and composer in China. The six modern music works he composited have typical representative works and are also experimental works in that he integrates the western modern school composition technique with Chinese national music elements. In China, modern music composition has pioneer experimental significance. It opened a way to explore modern composing techniques in China.

2) Professor Yao Henglu is a teacher whom the author is familiar with. The author is very interested in his theoretical research results and his music works. We have a certain intersection in the research field, and we also have certain communication and exchange in academic research and music creation. Professor Yao Henglu has given me great help and laid a solid theoretical foundation for my composition.

3) The author has a large number of academic materials such as music literature, video, audio, music works, and other academic materials of Professor Yao Henglu. In the collection of data, the author can save a lot of time and facilitate the author to study in-depth.



Figure 19 Mr. Yao Henglu

Photo: by Yao Henglu

2.2 The casual informant and general informant

In addition, the author also interviewed Professor Gao Weijie of the China Conservatory of music, Ms. Liu Changjie, and Dr. Huang Yanjun, a student of Professor Yao Henglu. The author understand Yao Henglu from different angles through interviews with the above three people. (Gao Weijie, 2015)



Figure 20 Mr. Gao Weijie

Photo: by Gao Weijie

Lu Lu (2009) Mr. Gao Weijie, who graduated from the Sichuan Conservatory of music in 1960, is now a professor and doctoral supervisor at the China Conservatory of music. He once served as the director of the composition department of Sichuan

Conservatory of music, the director of the composition department of China Conservatory of music, the librarian, and the Editorial Committee of people's music. He founded and served as the president of the Composition Exploration Society of composers, the first modern music group in China. Gao Weijie has published or performed more than 40 works since the late 1950s. His adapted and arranged works involve symphonies, dance dramas, chamber music, concertos, solos, vocal works, and other genres. He has performed, participated in competitions, and won awards at home and abroad many times. In his "*On The Structure And Classification Of Scales*" and "*The Matching of Pitch Class Sets*", he expounded two theoretical systems, "non-octave cyclic artificial scales" and "the matching of pitch class sets," and used these two techniques to create a number of excellent works. Yao Henglu and Gao Weijie, both are Chinese modern music composers and theorists, have in common that they have never completely abandoned the traditional composition techniques but integrated the modern composition techniques into the traditional composition techniques, adapted and composited a number of excellent music works, which provides theoretical and technical support for the composition of current music works.



Figure 21 Ms. Liu Changjie

Photo: by Liu Changjie

Liu Changjie, in 2018, played the *Stylistic Variation for BA BAN* composited by Professor Yao Henglu. She introduced that this work adopts a well-known tune card in China, making it a theme variation. She feels that this variation is not just a variation of the music theme but emphasizes the difference of "music style" in each variation, especially the change of harmony language and rotation habit due to the change of

multi-part technique, which makes the music change from the typical Chinese statement as the theme of the whole music: from western Baroque style, classical, romantic, impression New classicism, expressionism and so on different styles, to accidental music, post tune, and jazz style, like a scan through "Minimalist Music History" style. Through the interview with Ms. Liu Changjie, we will further understand the works composited by Professor Yao Henglu and provide help for the analysis of the works.



Figure 22 Ms. Huang Yanjun

Photo: Song Kexin

Ms. Huang Yanjun, born in 1982, is now a young teacher at the school of Art of Guangxi University and Ph.D. in Composition, College of Music, Mahasarakham University, Thailand. She went to the Central Conservatory of music as a visiting scholar from 2012 to 2013 and studied under Professor Yao Henglu. During her study, Ms. Huang Yanjun studied modern composition techniques with Professor Yao Henglu, analyzed a large number of modern music works, and laid a solid foundation for later theoretical research and modern music creation. As a student of Professor Yao Henglu, Ms. Huang Yanjun said that Professor Yao has a distinctive personal style. His modern music works have a rich Chinese cultural heritage, both musical and technical. He is a milestone composer and music theorist. He occupies an important position in the field of Chinese music creation and academic field and is known as a "scholar composer." Through the interview with Ms. Huang Yanjun, the author got an understanding of

Professor Yao Henglu's modern music works from other levels so as to provide help for my next thesis writing.

2.3 Research equipment

2.3.1 Voice recorder: record information about the interview.

2.3.2 Camera: record information about the observation.

2.3.3 VCR: record information about interview and observation.

2.3.4 Laptop: store photos and videos, record text and information.

2.4 Research Tools

The author use interviews and observations:

First of all, the author interviews professor Yao Heng lu to understand the basic situation of his own.

Second, the author asked him about his development in music and the development prospect of the music works of the seven works composited by professor Yao and the experience of writing and using modern music.

Finally, understanding the creative ideas of his music works and how to use the modern music composition technique to composite works with traditional Chinese music elements can be displayed on the international stage.

Through the analysis of Professor Yao Henglu's music works, this study analyzes the composition techniques and music forms in the works, explores the differences in the styles and characteristics of works composited in different periods, and discusses the humanistic and social reasons for their emergence.

The research on Professor Yao Henglu's music composition skills, music composition technique, and music composition thought requires not only science of music analyze, composition technique theory, ethnomusicology, music anthropology, and other knowledge but also the solid composition and composition skills. Based on the comprehensive investigation and analysis of Yao Henglu's music works, the research is carried out from the following aspects:

1) In order to obtain more first-hand materials, the author comprehensively collected and sorted out all the materials of Professor Yao Henglu and sorted out his audio materials, music scores, and research literature.

2) On this basis, the study carries out classification and interdisciplinary research, makes a comprehensive and realistic summary of Professor Yao Henglu's

creative characteristics and ideas of music works, and summarizes its influencing factors on the development of Chinese music.

In order to obtain the research data, the researchers designed a questionnaire according to different questions and designed the corresponding interview form and observation form.

The process of making the questionnaire (based on the research objectives).

- 1) Design 3-6 questions first.
- 2) Take it to the consultant for inspection.
- 3) Modify it according to the editing of the consultant.
- 4) Send it to an expert for inspection before use
- 5) Modify it according to the expert's suggestions before on-site work.

The interview content is attached below.

Table 3 Questionnaire for interviewing the composer

Serial number	Interview content
1	What are your music works created with Chinese folk music elements?
2	What are the ideas and creative features of using Chinese folk music elements?
3	How do you combine western modern composition techniques with Chinese national music elements?
4	What is your music creation history?
5	After so many years of creation and teaching, what are your prospects and expectations for Chinese modern music creation?

Table 4 Questionnaire for interviewing fellow composers

Serial number	Interview content
1	Please make an objective evaluation of Professor Yao Henglu's modern music works
2	What are professor Yao Henglu's music creation styles?
3	Please talk about whether you and Professor Yao Henglu often communicate in music creation. Do you have different views and opinions on some creative techniques? How did you solve it?

Table 5 Questionnaire for interviewing piano players

Serial number	Interview content
1	What works of Professor Yao Henglu are you interested in?
2	What is your greatest feeling when you play professor Yao Henglu's music?
3	Please tell me which of Professor Yao Henglu's music works you have played has the most Chinese minority music style?

Table 6 Questionnaire for interviewing composer students

Serial number	Interview content
1	Please tell us what the biggest benefit you have gained during your study with Professor Yao Henglu is.
2	Please talk about the modern music creation techniques you learned by studying and analyzing professor Yao Henglu's modern music works?
3	Have you made a theoretical study of Professor Yao Henglu's piano music?

2.5 Data collecting

2.5.1 The author searches and obtains relevant materials about Yao Henglu through reading books and literacy materials in the literature library to understand his life background and the development process of music composition.

2.5.2 Through the analysis of music score examples, the author understands Yao Henglu's reference and learning from Western harmony methods and composition techniques. The study organically integrates Chinese national and folk music elements with western composition techniques, and summarizes the composition techniques characteristics of the selected representative works.

2.5.3 Going to the research site (Beijing) to deeply study the composer's creative experience and ideas through the on-site interview, observation, and video shooting.

2.5.4 On this basis, the author carries out classification and interdisciplinary research, makes a comprehensive and realistic summary of Professor Yao Henglu's creative characteristics and ideas of music works, and summarize its influencing factors on the development of Chinese music.

2.6 Data analysis

The researchers take the information obtained from all the studies as the core and use the theory of composition technique to analyze.

In the first goal, the author compiled the music score examples and sound data I collected for work analysis. Therefore, the author used the composition technique theory to carry out the thesis research and take the selected works as his research object

In the second goal, the author makes a special analysis of Professor Yao Henglu's music works as follows:

2.6.1 Work analysis, the author wants to study how his works are composited.

2.6.2 For the study of music composition techniques, the author summarizes the composition ideas and music composition techniques of representative works by analyzing the musical elements such as rhythm, melody, harmony, mode, and tonality of the works.

2.6.3 Through the study of Yao Henglu's modern music composition techniques, this study summarizes its characteristics and the influence of Yao Henglu's modern music works in the field of Chinese music.

The author then extracted all the information collected, analyzed the goal set by the problem, and got the most comprehensive summary.

2.7 Presentation

In this study, the researchers will introduce seven chapters:

2.7.1 Chapter I Introduction

2.7.2 Chapter II Review Literature

2.7.3 Chapter III Methods of Research

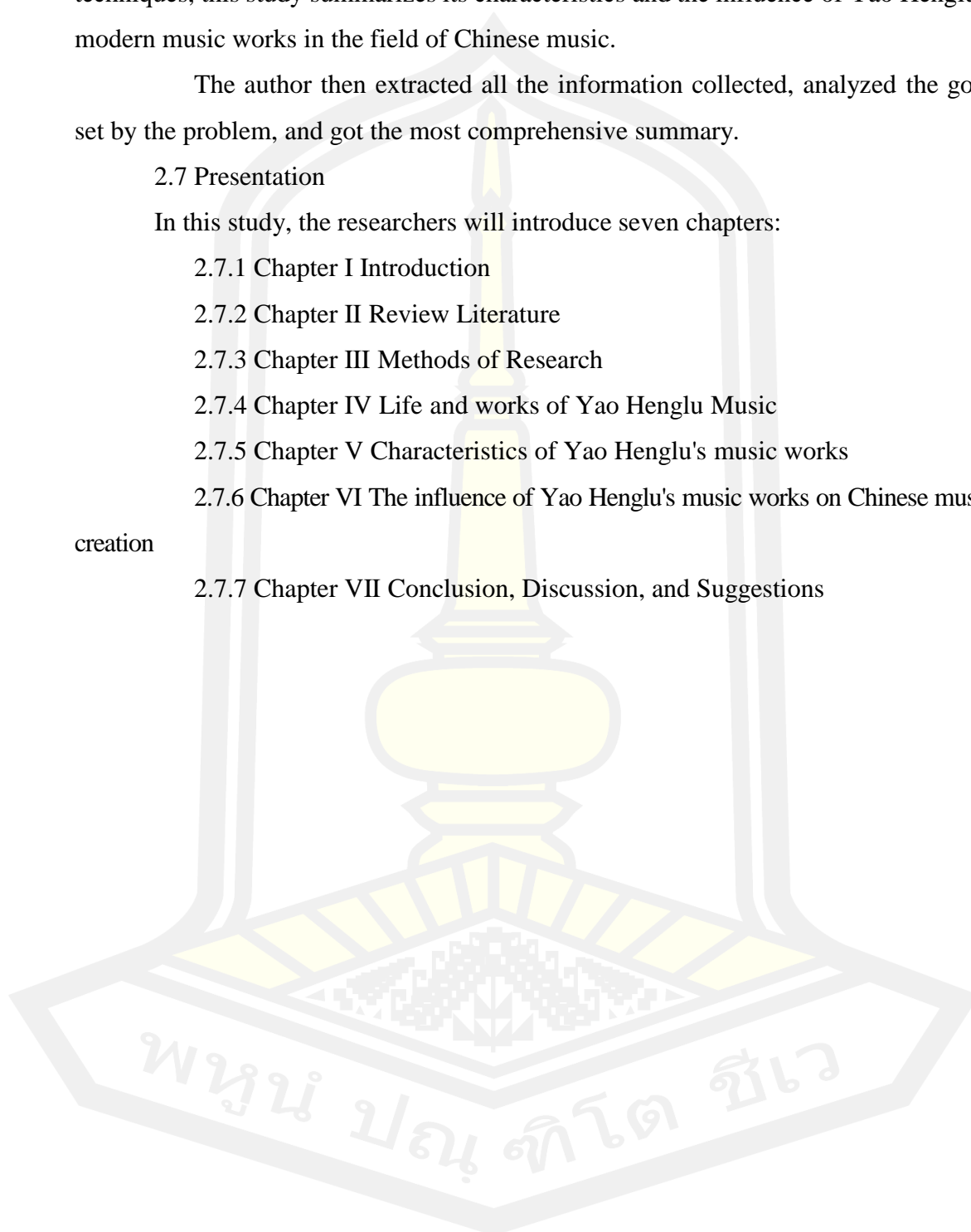
2.7.4 Chapter IV Life and works of Yao Henglu Music

2.7.5 Chapter V Characteristics of Yao Henglu's music works

2.7.6 Chapter VI The influence of Yao Henglu's music works on Chinese music

creation

2.7.7 Chapter VII Conclusion, Discussion, and Suggestions



Chapter IV

Life and works of Yao Henglu Music

1. Yao Henglu's artistic background and work introduction

Yao Henglu (1951-2022) was born in Beijing, China, and is a professor and doctoral supervisor of the Composing Department of the Central Conservatory of Music. China's famous composer, music theorist, and music educator.

From 1968 to 2022, Yao Henglu's composition can be divided into three stages:

1.1 The first stage (1968-1988): Music theory learning and composition exploration period

In 1968, Professor Yao Henglu responded to the national call for young intellectuals to go to the mountains and villages. He lived in Yanbei county of Shanxi Province for five years. During this period, he composited Beijing Opera Model Operas, Shanxi Bangzi, and revolutionary songs. In the practice of music activities, he became very interested in Shanxi Opera and Shanxi folk songs, which became the creative nutrient of Professor Yao Henglu's music composition activities in the future. In 1973, Yao Henglu was admitted to the Music Department of Shanxi University and began to systematically study composition and composition technique theory. He graduated with a bachelor's degree in 1977. In 1980, Professor Yao Henglu returned to Beijing after many years of rural life in Yanbei district of Shanxi Province and worked in the Art Department of Beijing People's Broadcasting Station as a music editor for nine years. At this stage, he composited 13 piano divertimentos, one duet, many vocal works, and various chamber music.

His main works and introduction:

1.1.1 *The Impression of Yanbei* (1981), one piano suite, draws on the essence of Shanxi folk music, integrates the musical elements of folk songs and ballads in the Yanbei region, and composites a piano suite with multi-voice texture music. This suite is composed of five piano pieces, including *A Trip to the Countryside*, *Hengshan Mountain High*, *Play*, *A Little Sing in a Mountain Village*, and *Nao Hong Huo* (One traditional folk cultural activity in Lantern Festival). Among them, *A Trip to the Countryside* and *Play* was published in the third issue of *Music Creation* in 1983. In

this divertimento, three-tone chords have been replaced many times. In order to highlight the unique color of chords, the technique of parallel three tones is used in the configuration of chords. In addition, in order to highlight the coexistence of "color" and "power" of harmony in the pentatonic melody, Yao Henglu also adopted the application of non-three-overlapping chords, including four/five degree overlapping chords and two-seven degrees structures of harmonic materials.

1.1.2 Three piano fugues (1982);

1.1.3 Piano divertimento: *Childlike Innocence Collection* (five pieces): *Pat the Ball, Me and Mimi the Kitten, Hide and Seek, Sweet Dream, Little Driver* (1986) (won the "Finalist Award" of the 21st Century Chinese Children's Piano Music Collection, Shanghai, June 2000);

1.1.4 Duet: for the double bass and piano (three movements) (1988).

1.2 The second stage (1989-1994): theoretical promotion and the shaping period of work style creation

In 1989, Professor Yao Henglu was admitted to the Conservatory of Music of the University of Leeds and completed his studies in 1994. After several years of academic career and creative experience, he systematically learned the twelve-tone serial technique, Fibonacci series composition technique, pitch class collection, and other modern western composition techniques, greatly improving the theoretical foundation of composition technique and enriching the practical experience of composition. The natural soil nutrient of Chinese traditional music culture nourishes the source of his music composition. His music uses different music genres to composite, which fully reflects the deep national feelings, and gradually forms his unique style of integrating Chinese national timbre with modern composition techniques. At this stage, he composited seven chamber music, four piano works, one symphony, and one children's chorus.

His main works include:

1.2.1 Seven pieces of chamber music: *The First String Quartet* (1989), *Concert Pieces for Horn and Piano* (1991), *Singing for xiao, trumpet and cello* (1991), *Autumn Song* for flute, solo and chorus (1992), *No Rhyme* for soprano, flute, clarinet, bassoon, piano, violin, viola and cello (1993) *Percussion Quintet* was written for

percussion (1993); *The Septet* is written for flute, clarinet, bassoon, violin, viola, cello and piano (1993).

1.2.2 Four piano works: *Mirror and Perspective* (four pieces) (1990), *Five Piano Preludes and Fugues* (1990), *Original Sound Trace* (1992), *Three Fold* (three pieces) piano divertimento (1992) (the second one, Cruciform, was published in the third issue of *Music Creation* in 1992);

1.2.3 Symphony 1: *The first symphony Sublimation* (1992);

1.2.4 Children's Chorus 1: *Fairy Tales* (1994)

1.3 The third stage (1995-2021): the mature period of composition

This stage is divided into the mature period of the composer's composition, which shows that Yao Henglu composed a large number of chamber music and orchestral music works of different styles in this stage. His representative work is the orchestral work *Rainbow*, composed in 1999. In this work, the composer used modern composition techniques to composite the theme music materials, tonal layout, harmony application, and orchestration techniques in a personalized way and made a breakthrough on the basis of the traditional sonata structure. The integration of modern music with the tones of Fujian Nanyin and the timbre of brass wind shows that the composer's music composition has become mature. (Zhou L, 2021)

The composer's breakthrough in composition techniques from tradition to modernity is based on the following points:

1. Professor Yao Henglu has rich life experience. With years of life in northern Shanxi and nine years of editing work, he has accumulated a lot of creative materials and absorbed rich nutrition from Chinese national music.

2. While studying for his doctorate degree in Britain, he systematically studied western modern composition techniques and made friends with a number of composers and theorists. Their communication and exchange enabled the composer to broaden his international vision and make some changes in their creative aesthetics and techniques.

3. The composer's national feelings and deep feelings for Chinese culture, as well as the burst of inner feelings and inspiration, consciously combined Chinese national music elements with modern composition techniques. In this stage, Yao Henglu created 23 chamber music, one chorus, five solos, three orchestras, one folk music ensemble, and five piano works. (Shun X.Y, 2021)

His main works include:

1.3.1. Chamber Music 23: *Three Paintings* for String Quartet: *Shouting, Dance of Life, Melancholy, Elegant Rhyme* (1998); *For (Xun) Xiao and zither* (1999), *Three Music for Blowing Drum* was written for two players of wind and percussion music (1999); *Expression of Feelings*, folk music quartet: for dulcimer, pipa, zither and erhu (2001); *Five Chamber Music Ensembles and Chants of Jiang Baishi's Poems*, folk music quartet - *Apricot Blossom Sky Shadow, Drunk Singing Merchant Pieces, Li Shimei Ling, Yangzhou Invasion, Borrowing Red Clothes*, dulcimer, pipa, zither and erhu (2001); *Triptych of Yang Guan*, for cello and piano (2001); *Harmony Lake Music* is a single musical instrument and piano (2001); *Tao* was written for woodwind quintet (2001); *Dialogue of Reed* was written for Sheng and Free Bass Accordion (2002); The three songs are free bass accordion and cello works: *Wrapped in Wire, Half the Moon Climbing Up, A Lovely Rose* (2003); *Heart Covenant*, for alto saxophone and piano (2003); *Ancient and Modern Sentiment of Guanshan Mountain*, for solo of Guqin, Zheng and zither (xiao/flute), Sheng, cello (2004); *Recall*, for solo cello and 7 players (2004); *Wenji 's desire to Return* (2004); *Heaven and Earth*, for dulcimer and synthesizer (2004); The Six Ensembles *The Mountain Tunes*, for flute, clarinet, piano, percussion, viola and cello (2004); Two songs were written for the accordion band: *Pear Garden Capriccio - Fugue, The Rhythm of Spring* (2005); *Beijing Fun* was written for zither, Jinghu and percussion (2005); *One Flower: Mei Lanfang's theme of Peking Opera tunes* - for the plucking band (2006); *Single Element Clarinet Quartet* (2006); *Liunian*, for 12 harps and electronic synthesizers (2006); *Life without Roots* trio for flute, guitar and percussion (2007); *Wufu Lianji* is written for pipa, dulcimer, ancient music, erhu and percussion (2007).

1.3.2 One choral work: *Chanting Board* (1999).

1.3.3 Five solos: Guzheng solo *Praising Zheng in Letian* (2000); *Manjianghong Capriccio* was written for the pipe organ (2001); *Traveling Clouds and Flowing Water*, Marimba Solo (2004); *Impromptu on the theme of the Yellow River*, written for organ solo (2005); Zither solo *Xiange* (2005).

1.3.4 Orchestra 3: *Rainbow* was written for orchestral music (1999); *Prelude to Celebration* was written for orchestral music (2002); *Trek - Infinite Motion Style: It*

was written for the national string orchestra (another version is Western String Orchestra) (2006).

1.3.5 Five piano works: *Piano Trio of Oriental Rhyme* (2002); *Shuangrong* was written for two pianos (2004); *Ah, we call it "Yellow Land"*, written for two pianos (2005); *Five Beijing Nursery Rhymes* - piano suite: *Throw the handkerchief, Beat the flowering palm, Who comes to go with him, Buffalo, Find a friend* (2000-2006); *A Collection of Musical Melodies* - Piano Suite: *Tao Qing* - No End Alignment, *Memories of Blowing the Flute on the Fenghuang Stage* - Chakong, *Chant of Blissful Music* - Little Fugue, *Guanshan Moon* - Passacaglia, and *XiuLan Ci* (2006). (Qing Y, 2013)

2. Academic achievements

In 1994, after graduation, Dr. Yao Henglu returned to the Department of Composition of the Central Conservatory of Music to teach and set up and taught the main course of composition and the teaching of specialized courses such as "Analysis of 20th Century Composing Techniques" and "20th Century Composing". Since 2001, his academic works and papers have emerged in large numbers. (Yan Sichen, 2019)

2.1 Main academic works include:

Analysis of Composing Techniques in the 20th Century (Shanghai Conservatory of Music Press, 2000); *A Study of Rutoslavsky's Accidental Composing Techniques* (Hong Kong Chinese Publishing House, 2001 edition, 2005 reprint); *Course of Modern Music Analysis Methods* (Hunan Literature and Art Publishing House, 2003); *Comprehensive Analysis Course of Music Techniques* (Higher Education Press, 2009); *Basic Training of Composing* (People's Music Publishing House, 2010).

2.2 More than 70 academic thesis

The research field involves the analysis and research of the composition concept and techniques of modern and contemporary music works (such as *the Structural Approach of Schoenberg's Orchestra "A Warsaw Survivor," the Analysis of Rutoslavsky's "The Third Symphony," the Composition Concept of Three Kinds of Pitch Thinking* - Also Talking About the Evolution of Schoenberg's Early Creation Thinking and its Far-reaching Impact, and the *Special Forms in Contemporary Works*. (See Appendix 1 for Yao Henglu's creative works and Appendix 2 for his published thesis

and monographs.). (Zhou kunjie, 2019) As an expert in the field of music composition and music analysis in the 20th century in China, he has composed a large number of music works, published academic monographs and published many academic theses, and cultivated a large number of music composition talents. He opened the door to the world for modern Chinese composition and modern composition techniques. He is a landmark composer and music theorist and has made important contributions to Chinese music composition.

3. Music Composition Thought

From the three stages of Yao Henglu's music composition, we can see that on the basis of traditional composition techniques, he used a lot of modern music composition techniques. He respected tradition and had a pioneering spirit. Through a lot of creative practice, he formed his own music composition ideas:

1. In terms of composition techniques, the composition concept is based on the five-tone national consciousness and the modern consciousness of the twelve-tone serial system.

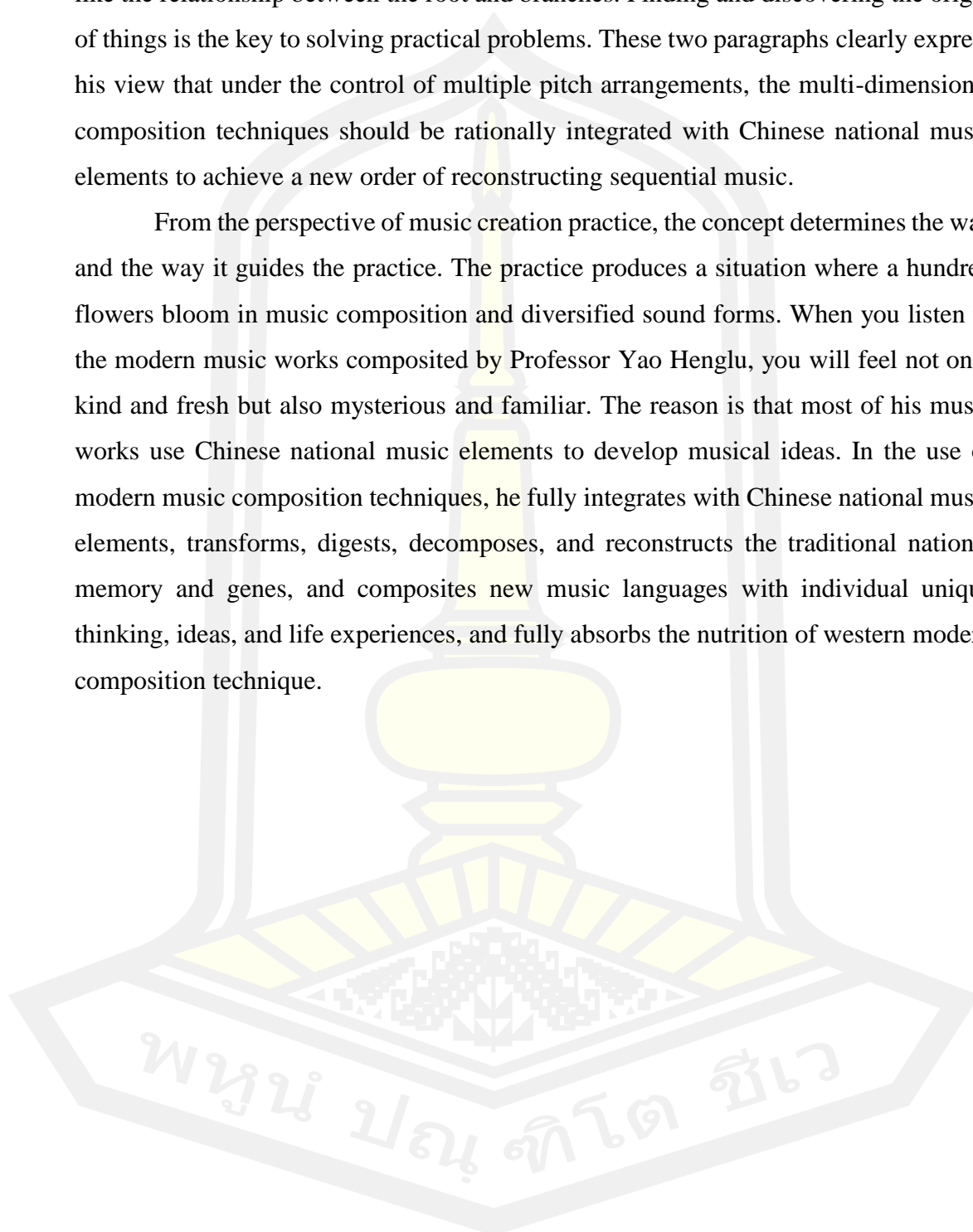
2. In the practice of blending semitone and national harmony, the first step is to follow the movement rules of traditional harmony functions and actively explore the application of national harmony and the practical value of modernity.

3. He paid attention to organizing music thoughts with Chinese flavor with fewer music materials and improved the sound logic in the process of music, which reflected that he inherited the essence of Chinese culture in the innovation of creating musical works.

"In the field of composition techniques, the concept, method, and revolution of music composition, start from the disintegration of tonality to the reconstruction of the new order of sequential music from the perspective of expression form; from the perspective of music writing methods, it is actually the result of a sharp revolution in the pitch system. (Yao Henglu, 2008) This is Professor Yao Henglu's opinion on the integration of modern music composition technique and multi-dimensional composition techniques. He believed that "the origin of the composition should be implemented more in its practical significance than in the results of conceptual reasoning. Creative thinking is the source of the generation of composition techniques.

The relationship between the way of thinking and the implementation of techniques is like the relationship between the root and branches. Finding and discovering the origin of things is the key to solving practical problems. These two paragraphs clearly express his view that under the control of multiple pitch arrangements, the multi-dimensional composition techniques should be rationally integrated with Chinese national music elements to achieve a new order of reconstructing sequential music.

From the perspective of music creation practice, the concept determines the way and the way it guides the practice. The practice produces a situation where a hundred flowers bloom in music composition and diversified sound forms. When you listen to the modern music works composed by Professor Yao Henglu, you will feel not only kind and fresh but also mysterious and familiar. The reason is that most of his music works use Chinese national music elements to develop musical ideas. In the use of modern music composition techniques, he fully integrates with Chinese national music elements, transforms, digests, decomposes, and reconstructs the traditional national memory and genes, and composites new music languages with individual unique thinking, ideas, and life experiences, and fully absorbs the nutrition of western modern composition technique.



Chapter V

Characteristics of Yao Henglu's music works

The music works composed by Professor Yao Henglu always follow the characteristics of western composition techniques, take the music styles of different periods as the historical context, sort out the composition skills, key points and analysis elements, and realize the pioneering experimental role of modern composition techniques in music composition with self composition practice. This study analyzes the six selected modern music works in order to obtain the creative characteristics of Professor Yao Henglu's modern music works and better understand Professor Yao Henglu's creative style.

This study takes Professor Yao Henglu's six modern music works as the research object, and analyzes the main points as follows:

1. The Characteristics of “Recall - for Solo Cello and seven players” Musical Works

1.1 Source of folk song material

1.2 Characteristics of theme

1.2.1 theme-motivation I (prime a)

1.2.2 theme-motivation II

1.3 Characteristics of musical structure form

1.4 Characteristics of composing techniques

1.4.1 Application of Theme-motivation

1.4.2. Composing Techniques of National Music

1.4.3 Artificial scale

1.4.4 Pitch-Class Set

1.4.5 Twelve-tone melody

1.4.6 Three kinds of pitch arrangements

2. Characteristics of the musical works of the “Rainbow”

2.1 Music theme-motivation

2.1.1 Composition of thematic motivation

2.1.2 Relationship between theme and motivation and structure.

- 2.2 The musical structure of the“Rainbow”
- 2.3 Characteristics of music creation techniques
 - 2.3.1 Harmony characteristics
 - 2.3.2 Characteristics of rhythm
 - 2.3.3 Characteristics of timber
 - 2.3.4 Characteristics of tonal relationship
- 3. Characteristics of musical works of “Triptych of Yang Guan”
 - 3.1 Source of music material
 - 3.2 Characteristics of theme
 - 3.3 Music structure form
 - 3.4 Characteristics of composing techniques
 - 3.4.1 The pentatonic artificial scale of paragraph A
 - 3.4.2 Five tone artificial scale of section B
 - 3.4.3 Five tone artificial scale of section C
 - 3.4.4 Pentatonic artificial scale of segment D
 - 3.4.5 Pentatonic artificial scale of segment E
- 4. The Characteristics of the musical works of "The Mountain Tunes"
 - 4.1 The Characteristics of the Theme
 - 4.1.1 The Characteristics of the Introduction
 - 4.1.2 Main Theme 1
 - 4.1.3 Main Theme 2
 - 4.2 Structure diagram of "The Mountain Tunes"
 - 4.3 The characteristics of the Composition Techniques
 - 4.3.1 The characteristics of the Rhythm
 - 4.3.2 Harmonic characteristics
 - 4.3.3 Interval structure characteristics
 - 4.3.4 Application of accidental music
- 5. The Characteristics of musical works of“Bangzi Tune ”
 - 5.1 The Characteristics of The Theme
 - 5.1.1 The Main Theme 1
 - 5.1.2 The Main Theme 2
 - 5.2 The Characteristics of the structure form

- 5.3 The Characteristics of the Composition techniques
 - 5.3.1 Harmonic characteristics
 - 5.3.2 The characteristics of the theme development
 - 5.3.3 The characteristics of Imitating polyphony
- 6."Stylistic Variation for BA BAN" musical works characteristics
 - 6.1 The characteristics of the themes
 - 6.2 The Structure Form
 - 6.3 The characteristics of compositions techniques
 - 6.3.1 variation 1 (Baroque Style, Bach-like)
 - 6.3.2 variation 2 (Classical Style, Mozart-like)
 - 6.3.3 variation 3 (Romantic Style, chopin—like)
 - 6.3.4 variation 4 (Impressive style, Debussy-like)
 - 6.3.5 variation 5 (New-classic style, Bartok-like)
 - 6.3.6 variation 6 (Serialism style, Schoenberg-like)
 - 6.3.7 variation 7 (Lutoslawski aleatory style)
 - 6.3.8 variation 8 (post Tonicity)
 - 6.3.9 variation 9 (simple music)
 - 6.3.10 variation 10 (Jazz style, Joplin-like)

1. The Characteristics of “*Recall* - for Solo Cello and seven players” Musical Works

The work “*Recall*” is a chamber music work composed by Professor Yao Henglu in April 2004. He used the melody of “*Zou Xi Kou*” with the tone of northern Shanxi Province as the creative element, and used personification to tell the story of northern Shanxi Province. “*Recall*”, as the name implies, is “to pursue and recall the stories that happened in the past”. With “*Recall*” as the title, it mainly shows the composer's memories of the nine years of queue jumping in the north of Shanxi, recalling the mountains and rivers, landscapes, and cultural customs during his trip to the countryside in the north of Shanxi, and then entered into deep thoughts, but also shows his admiration and hope for the cold weather there.

1.1 Sources of folk song materials

The folk song material of "*Recall*" comes from the folk song of Northern Shanxi, ZOU XI KOU.

Shanxi folk songs were popular in the Tang and Song Dynasties and the late Ming and early Qing Dynasties. One of the ballads spread in Hequ and Baode, Shanxi, truly describes the scene when people were forced to exit the west by life. At that time, it was customary for the mainland to call entering the grassland area of Inner Mongolia from the Great Wall as "walking west" or "walking outside". It is precisely because of the "Xikou" that the population in northern Shanxi, central and western Inner Mongolia, Zhangjiakou in Hebei, Yulin in northern Shaanxi and other regions frequently flow, and the language and folk songs in various regions are also widely exchanged. (Zhang Jinli, 2006)



Figure 23 Theme of "ZOU XI KOU"

The theme of *ZOU XI KOU* is the folk music source of the core theme motivation of *Recall*.



Figure 24 "ZOU XI KOU" QR code

https://www.bilibili.com/video/BV1CU4y1a7Us/?spm_id_from=333.337.search-card.all.click&vd_source=c1b491aad8d6b0d69595e6c739de7a3c

1.2 Characteristics of theme

1.2.1 theme-motivation I (prime a)

Thematic motivation I (prime a) is derived from the first six sounds of the first sentence of the theme of “Zou Xi Kou”, and the horizontal interval structure is 2+3+3+2+5

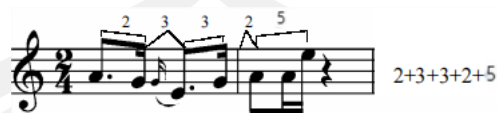


Figure 25 Theme-motivation I (prime a)

1.2.1.1 Theme deformation b

The theme transformation b is the violin I voice part of the previous section entering Part B, which is derived from the two transformations of the theme-motivation. The horizontal interval structure after the change of first theme is 1+3+3+2+5; The transverse interval structure after the change of second theme is 1+4+3+2+6.

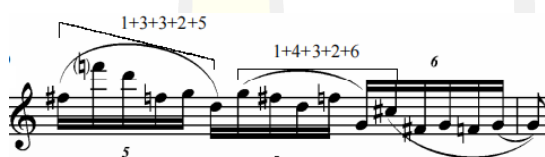


Figure 26 Theme deformation b

1.2.1.2 Theme deformation c

The theme transformation c is the main motivation of the solo cello part starting from Part B. Compared with the prime a, the transverse interval structure of the two parts is completely consistent. But the rhythm is different: prime theme-motivation is 2/4 beats, and theme-motivation c is 3/4 beats; In terms of rhythm, the prime of the theme motor is mainly based on the dot rhythm and the compact rhythm with one quaver in the front and two sixteenth note in the back. Theme C broadens the rhythm and adopts the rhythm with one quaver in the front and one quaver in the back, as well as the big syncopation rhythm to increase the rhythmic sense of music.



Figure 27 Theme deformation C

1.2.1.3 Theme deformation d

The theme distortion d is taken from the 24 bars solo cello part of Part B, the theme-motivation is reduced, and the interval structure is 2+3+5.



Figure 28 Theme deformation D

1.2.2 theme-motivation II

Thematic motivation II comes from the first two bars of the second sentence of the theme of "Zou Xi Kou", and the horizontal interval structure is 2+ 3+2+2+5+2.



Figure 29 Theme-motivation II

Theme-motivation II (a prime) and six theme variations. (Zhang Baohua & Wang Jin, 2010)

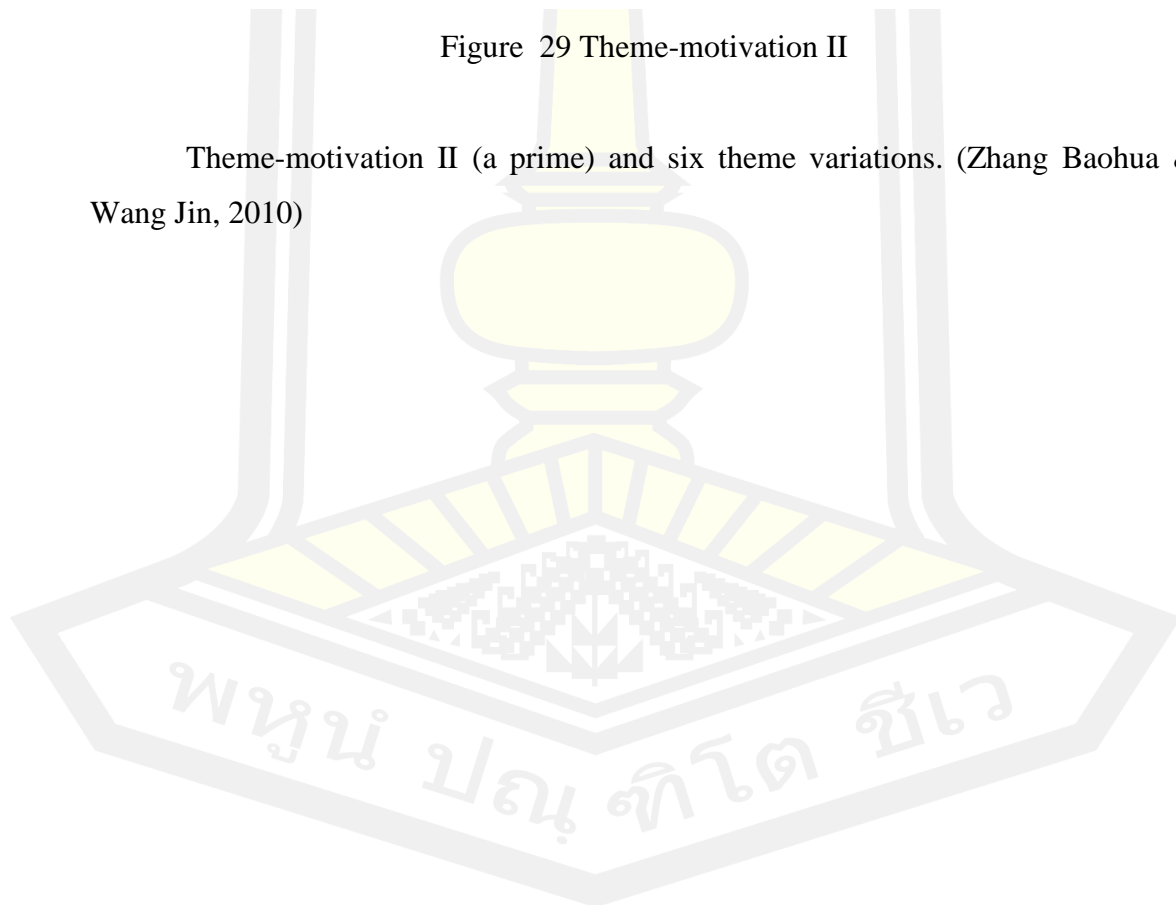


Figure 30 Theme-motivation II (a prime) and six theme variations.

In Figure 30, the theme distortion b is the melody of the tail cello part of Part B, and the horizontal interval relationship is consistent with the theme-motivation II, and the transition from Part B to Part C is made through the distortion b. Distortion c is taken from the flute part in section 6 of Part C, deformation d is taken from the main cello part in section 13 of Part C, and deformation e is taken from the flute part in section 16 of Part C. The thematic patterns of the three deformed melodies are very similar, but their interval relationship and melody trend have changed. Deformation f and deformation g are respectively cut from the beginning of Part D and the cello part of Section 7. The rhythm patterns of the two deformation melodies are similar, but the interval structure has some changes.

Through the above analysis of the prime row and deformation of theme-motivation I and theme-motivation II, the change of interval structure is the biggest

difference between motivation and set, while the rhythm form and melody trend play a role of connection and link. In terms of the musical structure of the work, the whole piece is composed of seven sections A, B, C, D, E, F and G. The main pitch materials of the whole piece are presented in Part A, which is the introduction of the whole piece; Part B mainly focuses on the deformed music materials of theme-motivation I; C. Part D mainly focuses on the prime of theme-motivation II and various deformed music materials. Paragraphs are divided according to the distribution of theme-motivation I and II. From a macro perspective, A, as an introduction, is closely related to B, C and D, and can be used as the first part of the whole song. The following E and F are the second part, and F and G are the third part.

1.3 Characteristics of musical structure

Table 7 Musical Structure Chart of "Recall"

Overall structure	Part I				Part2		Part3	
	A	B	C	D	E	F	G(original folk song theme)	Reproduction a main materials
Music mood	Expressive introduction	Deep singing	Allegro of passion	Soothing sigh	Epic narration	An impassioned climax	Broad praise	Mediation-like ending
Tonality	D Gong- ^b G Gong	^b B Gong- ^b E Gong-F Gong	^b B Gong- ^b E Gong	C Gong- ^b B Gong- ^b E Gong	^b B Gong-C Yu	6 sounds in ^b B Gong(Qing Jue) - 6 sounds in ^b E Gong(Qing Jue)	^b B Gong- ^b E Gong-F Gong	D Gong- ^b G Gong-C Yu
Speed	♩=72 ♩=63 ♩=63	♩=63 ♩=63 ♩=50	♩=132	♩=48	♩=52	♩=92	♩=66	♩=72 ♩=50
r mete	$\frac{7}{8} \frac{5}{4} \frac{3}{4}$	$\frac{3}{4} \frac{6}{8} \frac{9}{8} \frac{7}{8}$	$\frac{7}{8} \frac{8}{8} \frac{9}{8}$	$\frac{9}{8}$	$\frac{3}{2}$	$\frac{4}{4}$	$\frac{12}{8} \frac{7}{8}$	$\frac{7}{8}$
motivation prime and its deformation								
Bar	1-14	15-38	39-58	59-73	74-98	99-119	120-134	134-147

The musical structure of "Recall" has the characteristics of tripartite structure. The whole song is divided into three parts, consisting of A, B, C, D, E, F and G.

The first part consists of sections A, B, C and D. The scope of sections is 1-73.

A: The introduction part (expressive introduction, 1-14)

The first beat is composed of chords stacked in two, four and five degrees. The flute plays four and five consecutive jumps as the motivation material of the work. Then the clarinet and piano play the reverse scale materials respectively to reflect the theme-motivation, showing the mountain ranges, open, deep and continuous artistic conception in northern Shanxi Province. It brings us into the local simple folk customs and pictures, and feels the human interests and local flavor of northern Shanxi. Tonal layout: D *Gong* - ^bG *Gong*.

B: Deep singing (15-38)

The solo cello plays a music theme motivated by short folk song materials. The combination of long lines of arpeggios and short overtones is like recalling the past days and stories. The tonal layout is dominated by pentatonic ^bB *Gong* - ^bE *Gong* - F *Gong*.

C: Allegro of Passion (39-58)

Motivated by rapid trilogies and homophonic repetition, the main technique is the transfer and imitation of timbre between compact instruments, which fully demonstrates the playing skills of cello. The tonal layout is dominated by ^bB *Gong* and ^bE *Gong* pentatonic.

D: Soothing sigh (59-73)

In order to prepare for the reproduction of the previous paragraph, the composer used a large number of other timbres in this paragraph to highlight the cello timbre in the reproduction paragraph. In this paragraph, other instruments were given the opportunity to show, and the cello became the backing voice. Pentatonic C *Gong* - ^bB *Gong* - ^bE *Gong* is presented in different melodic parts.

The second part consists of two paragraphs E and F. The scope of sections is 74-119.

E: Epic narration (74-98)

The solo cello voice part once again shows the motivation of the theme in a sequential way, bringing the audience into a deep-thinking mood.

F: The upsurge and excitement

Tonal layout: from pentatonic to hexachord, bB Gong (*Qing Jue*) - bE Gong (*Qing Jue*). The appearance of partial tone (*Qing Jue*) makes the music materials of the previous parts merge and expand, forming the climax of the whole song.

The third part consists of section G (reproduction A), with the scope of sections 120-147.

G: Broad eulogy and ending in mediation

The piano part at the end of this paragraph completely played the theme of the original folk song, like returning to reality from memory, and also connected the scattered clues in front, obtaining auditory satisfaction. The tonal layout: bB Gong - bE Gong - F Gong. The end repeats the materials of the introduction part. The cello once again slowly plays the theme of the folk song. The memories are more and more distant, like dreams, disappearing into the valley, disappearing into the clouds, which is impressive and memorable. Tonal layout: D Gong - bG Gong - C Gong.

Among them, A B C D is the first part of the work, which uses interval and pitch organization to develop, evolve and expand the music materials of motivation, scale, collection and sound sequence, especially section C, which forms the first climax of the work through the rapid echo of other instruments' vocal parts with the superb playing skills of cello, the acceleration of speed and the rise of emotions. E. F is the second part, which uses the composition techniques of three pitch arrangements (pitch organization, interval and vector). In terms of the tonality and composition technique of paragraph E, the sequential music composed of six tones and the theme-motivation of folk songs forms a sharp contrast with the free voice part of solo cello in the form of Canon, which is unique and profound. Paragraph F is the climax of the whole song, which fully integrates all the scale materials, interval materials and sound sequence materials used previously, and makes statements to form the climax of the whole song. The third part of the work is a broad eulogy and mediation like an epilogue, paragraph G. This part repeats the materials of the introduction part, and the cello once again plays the theme of the folk song slowly and completely, which is still unfinished. It is like returning to reality from memory, and the work ends the whole song with a fading sound.

1.4 Characteristics of composing techniques

The original intention of Professor Yao Henglu to composite "*Recall*" is to combine various techniques with Chinese music elements. This piece of chamber music, composed for solo cello and seven performers, adopts Chinese music elements and employs the following modern music composition techniques under the framework of three-pitch structural thinking (pitch organization, interval, and vector). The characteristics are summarized as follows: 1. Application of Theme-motivation ; 2. National music composition techniques; 3. Artificial scale; 4. pitch class aggregation method; 5. Twelve-tone melody prime row.

1.4.1 Application of Theme-motivation

The "theme-motivation" technique was first proposed by Arnold Schoenberg in his book *Norms for Beginner Composers*. He explained this technique: "motivation is a unit that contains at least one interval or rhythm feature. Its usage has frequent repetition, some are change repetition, and some are complete repetition. motivation and its variants constitute a form of motivation to develop and contrast new paragraphs." motivation is often the coincidence of interval and rhythm, which can form distinctive musical forms and outlines, and imply internal harmony. In the process of music composition, we can use the change and repetition of motivation, use variation to overcome the monotony of single-line melody, and effectively maintain the consistency of the music form before and after the work by retaining the rhythm characteristics, without losing the shadow of the original motivation, resulting in no logic, making people feel irrelevant, thus destroying the basic form of motivation.

In "*Recall*", the source of theme-motivation is the theme melody of "*Zou Xi Kou*", which is refined into theme-motivation I and theme-motivation II. Through the deformation of the two thematic motivations at the beginning of each part, the seven parts of "*Recall*" are organically combined. In addition, thematic motivation, as an important part of the collective form and tone truncation, plays an important role in music. The pentatonic is adopted as the basis of the whole-tune pitch organization.

In addition, the following is an excerpt from some music clips to analyze the theme-motivation.

In the beginning, the work started with the pentatonic as the theme - motivation, showing the composer's pitch organization.

1) Music clip (1-4 sections)

A $\text{♩} = 72$ *con molto esp.*

The musical score for Figure 31 consists of seven staves. The top staff is for Solo Cello. The second staff is for Flute, starting with a *mf* dynamic and a triplet of eighth notes. The third staff is for Clarinet in Bb, also starting with *mf* and a triplet. The fourth staff is for Piano, with *mf* and a triplet. The fifth staff is for Violin I, with *pizz* and *mf* markings. The sixth staff is for Violin II, with *pizz* and *mf* markings. The seventh staff is for Contrabass, with *mf* and *arco.* markings.

Figure 31 Music clip



Figure 32 "RECALL" audio QR Code (0'01''-0'26'')

<https://www.bilibili.com/audio/au3568824?type=1>

It can be seen from above example that the motivation prime row of the first section played by flute is as follows:

2) motivation prime row played by flute:



Figure 33 motivation prime row played by flute

As the theme of Part A - motivation Prototype, its horizontal core interval structure is 5+5, which is the interval melody line formed by the repeated transposition of E-B that jumps in continuously. Then the clarinet and piano played the same melody as the theme-motivation rhythm, and the overall tonality was D *Gong* pentatonic.

3) Trio music clip

Figure 34 Trio music clip

As the transformation of the theme-motivation prime row, the two-part melodic sound pattern played by the clarinet has a horizontal interval structure of clarinet I part: 5+2+2+2, and clarinet II part: 2+5+5+5; Next, the transverse interval structure of piano part I is 2+1+1+1, and that of piano part II is 2+4+2+2. By comparing the horizontal interval structure of the melodies played by the three instruments, the melodic form of the clarinet and the piano is the two transformations of the theme-motivation. In the first transformation (clarinet I voice part), the first interval degree remains unchanged. Both are pure quartiles, the second interval changes from a downward perfect fifth to an major upward second, and the third interval changes from an upward perfect fourth to a major downward second, The fourth interval is consistent with the second interval. The flute part of the fifth interval is carried out in the ascending

perfect fifth, while the clarinet part I uses the way of connecting lines to extend the duration of notes on the same tone. The melody direction of clarinet II voice part is exactly opposite to that of the theme-motivation melody played by the flute. The piano two-voice part melody has almost no change in rhythm and rhythm with the clarinet two-voice part melody, but the melody direction of the two instruments' II voice part has been adjusted.

From the above analysis, it can be seen that the theme of the scale of five tones, which is composed of five sixteenth-note rhythms - motivation, verifies that motivation can be applied through repetition. The repetition can be the original, changed or developed repetition. Obviously, the theme - the original repetition of the motivation rhythm type is adopted here, which preserves all the characteristics and connections of the motivation, makes the music logical and keeps the consistency of the work before and after. In addition, the theme-motivation prime row can composite music works through the transformation of the melody trend, interval structure, rhythm and other forms, and apply the composition techniques such as theme quotation and transformation techniques to the idea of the works, so as to achieve the expansion and development of the music theme.

1.4.2 Composing Techniques of National Music

In the long history of Chinese music culture, national music is an important part. The profound connotation of music culture and national memory contain it, which not only shows the life of our people, but also has a strong national color. National music includes the following three characteristics:

1. In terms of music structure, the Chinese national pentatonic mode "*Gong, Shang, Jue, Zhi, Yu*" is mainly used, reflecting the tonality of Chinese modes and the national characteristics of harmony.

2. In the form of music expression, pay attention to the melody trend of horizontal progress, and the linear thinking of melody is dominant. In traditional folk music, single melody is often the main theme, and harmony is rarely used. Since modern times, Chinese and Western music cultures have been exchanged frequently. Influenced by modern western techniques, contemporary national music began to try to compose harmonies and integrate Chinese music elements to develop, so as to enhance the expressiveness of national music works and enrich their music content.

3. There is a unique way of playing and singing. Some works are integrated into traditional operas, which are highly personalized and full of national characteristics. (Liu Xiaoxi ,2021)

The work "*Recall*" is composited with the pitch organization based on the Chinese pentatonic Mode. On this basis, the six-tone scale, the seven-tone scale and the artificial scale mentioned later are derived, and the scales are truncated or rearranged and combined before being truncated, which provides motivational materials and grade collection materials for interval, and endows the traditional pitch organization with new historical mission and artistic value.

The following part is an introduction to the national mode in the works of "*Recall*" :

1. Part a: Introduction Section (Section 1-4)

The right-hand piano voice part in the second section of Part A (Introduction) shows the D *Gong* pentatonic, and the internal horizontal melody progression and vertical interval relationship are all composed of pentatonic intervals.

The image shows a musical score for three instruments: Flute, Clarinet in B, and Piano. The score is written in 7/8 time and includes dynamic markings such as *mf*. The Flute part features a melodic line with slurs and accents. The Clarinet in B part has a more rhythmic, textured accompaniment. The Piano part provides harmonic support with chords and arpeggiated figures. The score is presented in a standard Western musical notation format.

Figure 35 Part a (Introduction)

The fourth section of this part also shows the pentatonic scale, that is, bG *Gong* pentatonic scale

2. Pentatonic scale

The musical score for Figure 36 shows three staves: Violin I, Violin II, and Contrabass. The time signature is 7/8. The Violin I and II parts feature a pentatonic scale in the first and last measures, marked with *pizz* (pizzicato) and *mf* (mezzo-forte). The Contrabass part has a pentatonic scale in the last measure, marked with *arco* (arco) and *mf*.

Figure 36 Pentatonic scale

It can be seen from the above music score examples that each tone of the pentatonic scale is integrated into the vertical pitch structure and part of the voice or cut off, arranged in dotted form in the work, and the pentatonic national style is integrated into the work to show the application of national music composition techniques in the work.

The pentatonic scale also appears in different forms in different parts of the work. In Part B (25-28) (Figure 37), the cello voice part is carried out in pentatonic melodic scale, which fully reflects the influence of the composer's pitch organization on the pitch structure of the work. The melody is first presented in the bB Gong pentatonic scale, then transferred to the bE Gong pentatonic scale. In the first part of the violin in the 27th bar, the F Gong pentatonic scale is constructed in the form of intervals of major second (minor seventh), perfect fourth (minor fifth) and minor sixth.

3. Part B (25-28)

พหุบัณฑิต ชีวะ

The image displays a musical score for Figure 37 Part B, featuring seven staves for different instruments: S.cello, Fl., Clin Bb, Pno., Vln. I, Vln. II, and Cb. The score is written in a key signature of one flat and a 4/4 time signature. It includes various musical notations such as notes, rests, and fingerings (e.g., 3, 5, 6, 7). The S.cello part has a complex rhythmic pattern with many sixteenth notes. The Fl. part has a melodic line with some slurs. The Clin Bb part has a melodic line with some slurs. The Pno. part has a complex rhythmic pattern with many sixteenth notes. The Vln. I and Vln. II parts have melodic lines with some slurs. The Cb. part has a simple bass line.

Figure 37 Part B



Figure 38 "RECALL" audio QR Code (2'10''-2'27'')

<https://www.bilibili.com/audio/au3568824?type=1>

Through the analysis of the above three music scores, we can see that they are all arranged in the horizontal or vertical pitch of pentatonic, which fully reflects the composer's pitch organization, and also confirms the application of national music composition techniques in the works.

4. Part C (43-44):

In Figure 39, the cello voice part is presented according to the theory of the $\flat B$ Gong pentatonic, while the piano voice part is presented on the $\flat E$ Gong pentatonic. There are two kinds of tonality in the same section, which fully demonstrates the composer's pan-tonal writing techniques and characteristics: wandering tonic and flowing tonality.

Figure 39 Part :41-44 Section



Figure 40 "RECALL" audio QR Code (3'10''-3'22'')

<https://www.bilibili.com/audio/au3568824?type=1>

1.4.3 Artificial scale

In the chamber music "*Recall*", the composer adopted the composition technique of octave cycle artificial scale, and used the octave cycle mode of octave cycle artificial mode. That is, the rehearsal of artificial mode or artificial scale is the same in different octaves. The bass part of the 37-41 bars of Part C played the melody of the Octatonic scale.



Figure 41 Octatonic scale melody of Part C

This Octatonic scale appears in the form of two-tone groups or three-tone groups. There is an obvious pause between the tone groups, and it also has the characteristics of a set of pitch-class set.

Now rearrange the above melodic fragments in high and low order, and the Octatonic scale will be more clear at a glance.

Chromatic scale rearranged in high and low order.

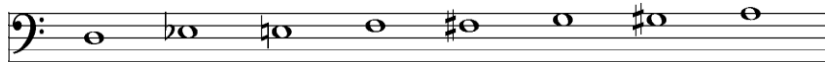


Figure 42 Octave scale rearranged in high and low order

The use of the Octatonic scale can not only increase the contrast and specificity of sound, but also make the work show a complete unity, which undoubtedly enriches the means of creation and sound color.

1.4.4 Pitch-Class Set

Alan Ford, a famous contemporary American music theorist, put forward the theory of pitch class set in his monograph *The structure of Atonic Music* for the first time. (Allen Forte, 1926-2014) Based on mathematical set theory, this theory attempts to provide a more rigorous classification standard and more scientific analysis method for modern music structure through quantitative analysis and comparative research on the connotation of pitch structure and its interrelationship, thus revealing the multiple formal relationships in different pitch combinations.

Pitch-Class Set, a perfect interval, can be used to construct various scales without the control of functional logic and traditional triple overlapping chord arrangement rules. "PC" is the English abbreviation of Pitch Class, which refers to twelve tones in a chromatic scale within an octave. According to the principle that every pitch is equal, there is not only one way to record music.

The following example shows the evolution of the whole song from "motivational tri Class Set" to four Class Set.



Figure 43 theme-motivation I

Set 3-7 Pitch-class form:

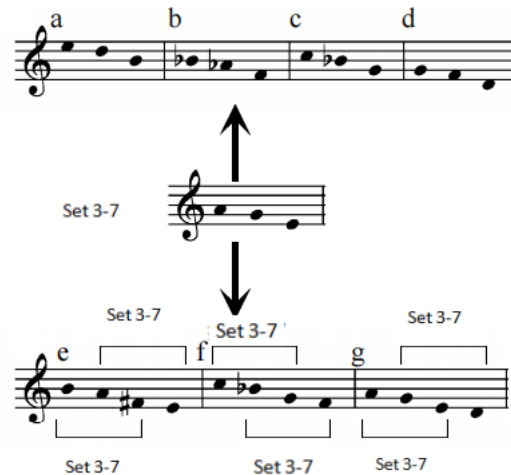


Figure 44 Set 3-7 pitch-class form

Through the analysis and comparison of above example, it can be seen that the form of ensemble 3-7 levels are taken from the first three tones of theme-motivation I (prime a). This tri-tone set controls the internal pitch structure of the work in the form of sub-set, parent set, intersection and union. (Zhang Baohua & Wang Jin, 2010)

1.4.5 Twelve-tone melody

Twelve-tone melody refers to a sequence of twelve semitones arranged into a fixed program according to a certain interval relationship and composited on the basis of their original form, retrograde, reflection and retrograde reflection.

In "Recall", the composer used the creation technique of twelve-tone melody. In Part E, his Twelve-tone serial technique was designed as prime row P, retrograde R, reflection I, and retrograde reflection RI. Where, $R=P6$; $RI=I6$.

The image shows two staves of musical notation. The top staff is labeled 'P' and the bottom staff is labeled 'I'. The top staff has intervals 3-7, 6-32, and P6=R. The bottom staff has intervals 6-32 and I6=RI. Brackets below the notes indicate groupings: 3-2, 3-2, 3-7, and 4-23 for the top staff; and 6-32 for the bottom staff.

Figure 45 Twelve-tone melody prime row

Through the analysis of the pedigree examples of the prime row music scores in above example, it is found that there is an obvious rule: the front and the back are divided into six tones, both of which are sets of 6-32, and the front and the back form twelve-tone melody. In addition, the first six notes are performed in parallel downward, while the last six notes are performed in parallel upward, forming a melody mode of displacement and inversion.

The image shows a musical score for the start of Part E, measures 73-76. The score is arranged in a system with seven staves: S.cello, Fl., Clin Bb, Pno., Vln. I, Vln. II, and Cb. The flute part is marked with '1', '2', and '3' to indicate specific melodic developments. The violin I part is marked with '3' to indicate a repetition. The dynamic marking 'pp' is present throughout.

Figure 46 Part E start section

Example is the beginning of Part E. In the score example, the "1" of flute voice part is the change and development of the first six notes of prime row P in melody rhythm, the "2" part is the shift of the last four notes upward four degrees, and the "3" part of violin I voice part is the original repetition of "1 and 2", and the dislocation of rhythm. Canon's writing technique is used to make the music level clear.

In the following example, there are four symmetrical groups of three tones 3-7 and 3-2; 3-2 and 3-7 form a twelve-tone melody. At the same time, it can be seen that this twelve-tone melody contains two six-tone segments that are shifted and retrograde to each other. The interval of the composer is reflected here: the collective form of thematic motivation I is embodied in 3-7 sets, which is consistent with the pitch sequence of the first three-tone group. Set 3-2 contains minor second and incremental fourth intervals, belonging to a subset of 6-32.

Figure 47 Three-note set

Through the comparative analysis of Part E and Part F, it can be seen that Part E is the beginning of the interconnection and connection of three pitch arrangements: pitch organization, interval and vector. The cello voice is the backing voice to demonstrate the theme-motivation; In Part F, three kinds of pitch thinking is used to integrate the music materials used - expand, and then use multi-dimensional composition techniques to fully integrate, pushing the whole song to a climax.

In the following example, is the middle eight bars of Part F, and it is obvious that the three pitches are integrated with each other. Among them, set 6-32 integrate three kinds of pitch thinking, namely, twelve-tone sequence segment and six-tone scale. Thematic motivation, pitch class set and pentatonic are embodied in the internal composition of sections 6-32.

The image displays two systems of a musical score for a chamber ensemble. The first system, labeled '109', includes staves for S.cello, Fl., Cl.in Bb, Pno., Vln. I, Vln. II, and Cb. The S.cello part begins with a tremolo. The Fl. part has a melodic line with slurs. The Cl.in Bb part features a complex rhythmic pattern with slurs. The Pno. part has a dense texture with slurs. The Vln. I and Vln. II parts have melodic lines with slurs. The Cb. part has a simple bass line. The second system, labeled '113', continues the ensemble. The S.cello part has a melodic line with slurs. The Fl. part has a melodic line with slurs. The Cl.in Bb part has a complex rhythmic pattern with slurs. The Pno. part has a dense texture with slurs. The Vln. I and Vln. II parts have melodic lines with slurs. The Cb. part has a simple bass line. The score includes dynamic markings such as *sf* and *sfz*.

Figure 48 Middle eight subsections of part F



Figure 49 "RECALL" audio QR Code (8'43''-9'02'')

<https://www.bilibili.com/audio/au3568824?type=1>

In terms of harmony configuration, the horizontal melody is pentatonic, the vertical harmony is dominated by pentatonic interval superimposition, and the use of dissonant interval (minor second or third tone interval) increases the dynamics of harmony and the tension of sound.

1.4.6 Three kinds of pitch arrangements

In the work "*Recall*", the composer used three kinds of pitch arrangements (pitch organization, interval, and vector) to composite. The following figure shows the integration of the three pitch structure thoughts: A diagram of the fusion among three kinds of pitch arrangements.

Table 8 The connection of three pitch arrangements

Pitch organization			Interval		vector		
Pentatonic	Hexachord	Seven-tone scale	theme-motivation	pitch-class set	Pentatonic Hexachord	theme-motivation pitch-class set	Serial segmentation

Through the illustration of Table 8, the integration of the three pitch arrangements of pitch organization, interval and vector is clearly outlined. They are different and interconnected. The national mode (pentatonic, hexachord, seven-tone scale) and the set of tones share common characteristics and can be used for each other. The three different modes of thinking in composition provide a referential thinking for

the modern composition techniques presented in Chinese works, which is worth learning.

The diagram of Table 8 clearly outlines the integration of pitch organization, interval and vector. In the title of "*Zou Xi Kou*", six tone scale and seven tone scale were derived from national pentatonic at the beginning, mainly reflecting pitch organization and interval. The theme-motivation originates from the theme of "*Zou Xi Kou*", and the collection of theme-motivation and pitch class reflects the interval of the work. Phonological theory is based on pitch organization and interval. The mutual integration of the two kinds of theories has further promoted the sublimation of music. Thus, through the interpretation of twelve-tone melody music, all the characteristics of the three pitch structural thinking, including the national pentatonic, the hexachord, the seven-tone scale, the thematic motivation, the level set, and the sequence segments, have been integrated and continuously sublimated, It well interprets the application of three kinds of pitch thinking in the whole work. The work fully integrates modern composition techniques such as twelve-tone serial technique, pitch class collection, and artificial mode with multi-dimensional composition techniques of national pentatonic music, perfectly displaying the creation characteristics and music style of "*Zou Xi Kou*", opening the door of contemplation for music researchers, and laying a theoretical foundation for them.

The work "*Recall*" not only uses the composition techniques of the integration of three pitch arrangements: pitch organization, interval, and vector, but also uses the composition techniques of national music and artificial scales. At the same time, it combines modern western composition techniques such as pitch class collection, twelve-tone melody, and Chinese music elements. It is a good example for many composers to learn composition and accumulate creative experience.

2. Characteristics of the musical works of the "*Rainbow*"

Single-movement orchestral music *Rainbow* for orchestra was composed by Professor Yao Henglu in November 1999. The total duration of the full song is 10 minutes and 17 seconds. The first performance was performed at the celebration of the completion of the Xiamen Sea Crossing Bridge at the seaside of Xiamen by the conductor Zheng Xiaoying and performed by the Chinese Youth Symphony Orchestra,

which was later included in the New Century Orchestra Works CD published by the Central Conservatory of Music Press.

The first theme of the work eulogizes the power of composition and the spirit of striving with passionate emotions and active rhythm of groups of free tones. The second theme uses the tune of two clarinets to express a kind of contrast emotion and humorous character. The third theme expresses people's inner feelings of joy and admiration with the lyric tone of Fujian Nanyin with local color. The basic rhythm type extended from the first theme leads the music to the climax gradually and dynamically. It interweaves with the broad lyric mood of the third theme and expresses itself heartily in the music, which not only depicts the magnificent external landscape of "Rainbow", but also eulogizes the magnificent momentum of human pioneering spirit. The composition idea of the orchestra "Rainbow" is based on the romantic feelings of the magical beauty of nature and the praise of the beautiful humanistic spirit. The theme and connotation of the work are revealed through the following contents:

Beautiful rainbow, the nature's sign, it melts the sea and the sky ;

Beautiful rainbow, shining colorful tie, it wastes itself, into my future time ;

Beautiful rainbow, the angel's halo, it arouses the world, true love and care.

"The rainbow is a colorful ring generated by light and water, which decorates the rivers and mountains for nature. It is as gorgeous as a fluctuating poem, and its colorful outlines a beautiful picture. The rainbow symbolizes the bridge in people's hearts. It integrates heaven and water, and shortens the distance between people's hearts. The rainbow covers the gurgling drizzle, warmth, mountains and tsunamis, storms, and storms. Nature gives it colorful colors, and it gives people a bright vision Rotten." (Yao Henglu, 1999)

Professor Yao Henglu skillfully combined traditional and modern composition techniques to composite this excellent work with broad style, bright color and rich sound. This work reflects the composer's profound theoretical basis of composition and adept creative skills from the artistic conception, structure and creative skills, and shows humanistic feelings and praises for the beautiful human nature.

2.1 Music theme-motivation

Music theme, which can express a certain clear theme or personality, often has an independent theme. In China's modern music composition, influenced by the western "music theme penetration" composition techniques, different characters are shaped by different music themes, and the difference between these musical themes can better reflect the composer's grasp of the music image and skillful application of modern composition techniques, and the music theme with distinctive differences and contrast is always throughout the structure of music works. (Huang Yanjun&Han Deming, 2022)

The so-called motivation is a solidified form formed under the control of a relatively unified rhythm with a fixed interval direction and sequence, and runs through the whole song. (Zhang Yilin, 2010). The composer once said that "motivation is like an organism, and development is like proving this organism by various means". The theme-motivation of music changes and evolves through different development methods, usually from the following three aspects: 1. pitch position and melody trend; 2. Rhythm type; 3. Control of core interval relationship. (Huang Yanjun&Han Deming, 2022)

2.1.1 Composition of thematic motivation

The prime row of theme-motivation is composed of four tones, and the interval frame structure is major third+major second+perfect fifth (4+2+5).

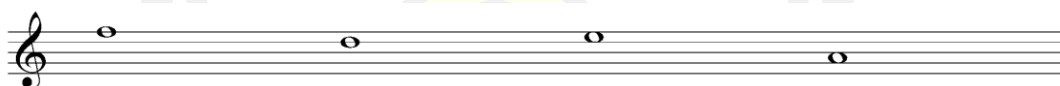


Figure 50 Four tone motivation

The theme-motivation prime row derives the theme-motivation of each music part in the work by means of superposition, repetition, displacement and split.

Introductory motivation, mainly based on two degrees of progression, originates from the use of the second interval in the theme-motivation prime row, and emphasizes that the second interval is the basic material of the introduction part, from which the emotion and style characteristics of the work can be mapped.

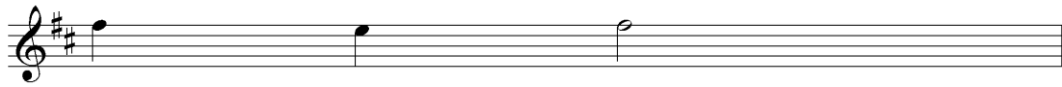


Figure 51 Attractor motivation

The presentation of the whole piece of orchestral music "*Rainbow*" is composed of an introduction+main theme (first theme)+sub theme 1 (second theme)+sub theme 2 (third theme). The main theme-motivation (the first theme-motivation) mainly consists of a four-tone motivation to form a two-sentence symmetrical non-square structure sentence pattern. The interval frame structure is major fourth+major second +perfect fourth (4+2+5), and the musical mood is active rhythm, sonorous and powerful, and passionate.



Figure 52 First theme

The motivation of sub-theme 1 (second theme) is composed of two three-tone groups derived from the four-tone motivation of the main theme. The interval frame structure of the first trisyllabic group is major second+perfect fourth. The interval frame structure of the second trisyllabic group is perfect fourth+major second. The music is easy and humorous.

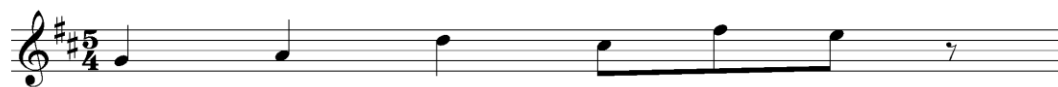


Figure 53 Second theme

2.1.2 Relationship between theme and motivation and structure.

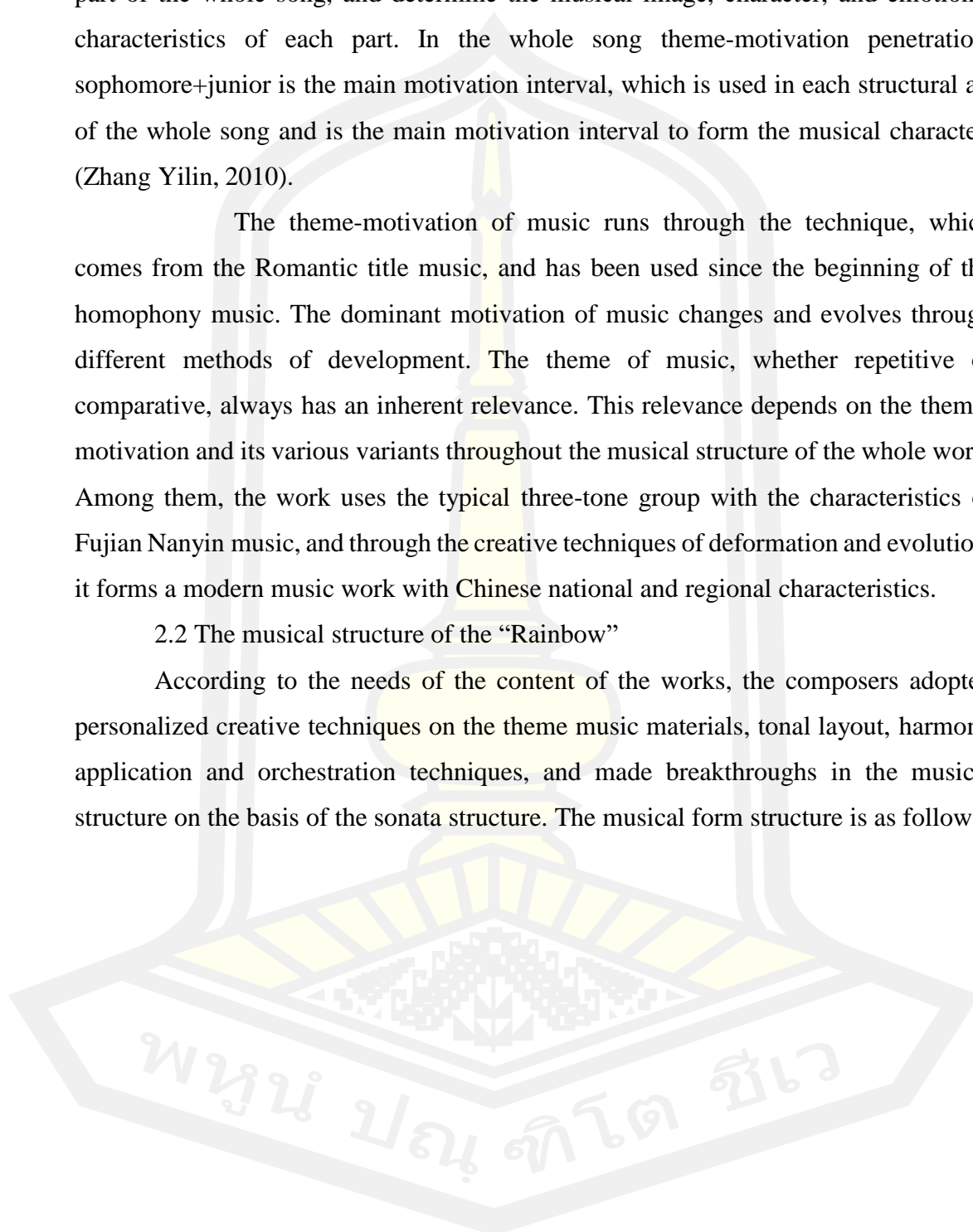
The prime row of the theme-motivation and the introduction, the main theme (the first theme), the sub-theme 1 (the second theme), and the sub-theme 2 (the third theme) derived from the transformation and evolution of the theme-motivation

through different development methods are the main materials to guide each structural part of the whole song, and determine the musical image, character, and emotional characteristics of each part. In the whole song theme-motivation penetration, sophomore+junior is the main motivation interval, which is used in each structural art of the whole song and is the main motivation interval to form the musical character. (Zhang Yilin, 2010).

The theme-motivation of music runs through the technique, which comes from the Romantic title music, and has been used since the beginning of the homophony music. The dominant motivation of music changes and evolves through different methods of development. The theme of music, whether repetitive or comparative, always has an inherent relevance. This relevance depends on the theme-motivation and its various variants throughout the musical structure of the whole work. Among them, the work uses the typical three-tone group with the characteristics of Fujian Nanyin music, and through the creative techniques of deformation and evolution, it forms a modern music work with Chinese national and regional characteristics.

2.2 The musical structure of the “Rainbow”

According to the needs of the content of the works, the composers adopted personalized creative techniques on the theme music materials, tonal layout, harmony application and orchestration techniques, and made breakthroughs in the musical structure on the basis of the sonata structure. The musical form structure is as follows



Musical form structure of the rainbow: sonata form							
Presentation Department				Expansion part	Reproduction unit		
Introducer	First theme (main theme)	Second theme (sub theme I)	Theme III (sub theme II)	Introduction sub topic, Theme III	Reproduction of the first theme	Theme III (sub theme II)	Extended theme
$\downarrow=96 \downarrow=66$	$\downarrow=118$	$\downarrow=100 \downarrow=112$	$\downarrow=68 \downarrow=88$	$\downarrow=88 \downarrow=108$	$\downarrow=122$	$\downarrow=81 \downarrow=81$	$\downarrow=72 \downarrow=108$
Moderato con brio Andante assai legato	energico	con molto esp	cantabile	Poco animato piu mosso	Con Calare	Largamente	
1-38	39-64	65-87	88-113	114-180	181-204	205-214	215-236
6/4 4/4 5/4 4/4	4/4 3/4 4/4 3/4	6/4 5/4 4/4	4/4 3/4 4/4 3/4 6/8 4/4	4/4 3/4 2/4 4/4 2/4 4/4 2/4	4/4 2/4 4/4 3/4 2/4 2/2	12/8 4/4	4/4
D	D (With major colors)	F	bB Gong (Pentatonic mode)	Atonality (tonal ambiguity)	D	D	bB-D
1. energetic second degree motivation; 2. emotional Lyric tone	Four tone motivation forms a two sentence symmetrical non square integral structure	Developed from the four tone motivation of the first theme	Motivation formed by three tone groups with the characteristics of Fujian Nanyin	1. deformation tone of the introduction theme; 2. music materials of sub theme II; 3. chromatic scale	Comprehensive reproduction of the first theme	Reproduce the third theme	The dynamic rhythmic type extended by the first theme
Woodwind Group, brass group, string group	Combination of Clarinet and woodwind	Two clarinets	The oboe and woodwind groups play alternately	Woodwind Group, string group, Piano Group, Percussion Group	Woodwind Group, string group, Piano Group, Percussion Group	Woodwind Group, string group, brass group	Ensemble performance

Figure 54 The structure Form

2.3 Characteristics of music creation techniques

2.3.1 Harmony characteristics

The horizontal material of music works is embodied in pitch organization, and the vertical material is embodied in interval - pitch organization, that is, harmony construction. Thematic motivation intervals play a leading role, and the basic material of harmony is composed of the basic interval cells in the sound system, which are used together in various ways. The theme-motivation interval structure of this work is: major second+major third +perfect fifth (2+4+5). The basic harmony structure is the superposition of the prime theme-motivation interval.

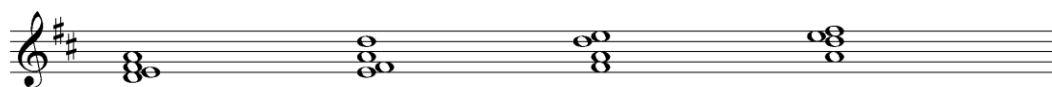


Figure 55 Thematic motivation intervals and transpositions

The introduction and pitch organization of each theme are derived from the theme-motivation interval: major second+major third+perfect fifth and the interval structure of each theme is derived from the theme-motivation interval.



Figure 56 Introduction pitch organization



Figure 57 First theme

2.3.1.1 The application of pentatonic harmony in a three-dimensional structure.

In the use of harmony in China's modern music composition, the harmony structure method of "turning horizontal melody into vertical melody" with pentatonic melody is to use horizontal melody materials as the vertical harmony form based on three-degree overlapping. This has formed a comprehensive harmony method that includes non-traditional functions such as four (five) degree chord overlapping and two-degree chord overlapping. (Wang Anguo, 1985). The Rainbow breaks the T-S-D-T harmony function system in the same tone based on the three-fold structure, and the chords are freely connected to form a colorful sound effect.

Figure 58 Application of pentatonic harmony

2.3.1.2 Harmony creation technique of linear structure.

When dealing with the vertical and horizontal relationship of harmony in the composition of Chinese national music, emphasis is placed on the horizontal part movement mode, and logical part lines are taken as the starting point of harmony structure, which forms the harmony method of linear structure. The longitudinal structure in linear harmony is formed on the basis of transverse movement of each voice part. The structural form of chords and their interconnection is not constrained by the traditional harmony principle. In this work, each voice part makes harmonic movement in the same direction according to the interval of the same structure, which forms a linear movement in the same direction. The linear movement in the same direction includes two forms: parallel movement and linear structure in the same direction. It is similar to the music composition principle of the European multi-voice music "organum". (Fan Zuyin, 2013)

The musical score for Figure 59 consists of three staves. The top staff is for Flute 1 and 2 (Fl. 1, 2), the middle staff is for Clarinet in Bb 1 and 2 (Cl. in Bb. 1, 2), and the bottom staff is for Horn 1 and 2 (Hn. 1, 2). The key signature has one sharp (F#) and the time signature is 4/4. The score is marked 'Poco a poco cresc.' and features a 'S' (Sforzando) dynamic marking. The flute and clarinet parts move in parallel motion, while the horn part provides a harmonic foundation.

Figure 59 Parallel progression of Harmony

In the example above, two parts of the flute and two parts of the clarinet basically move in the same direction and linearly with the harmony composed of a three-dimensional structure. flute 2 and clarinet 2 are presented as additional parts of the melody, which thickens the melody line and forms the melody part layer, which is full in sound hearing.

The linear movement of semitone harmonization belongs to this kind of composition technique in the orchestra "Rainbow", which includes two types: the linear movement of semitone in melody and the linear movement of bass semitone. The following score example is composed of string melodies with five parts. The upper four parts are all semi-toned with a minor second rising, and the bass melody is processed

with a minor second falling. First, the string instrument group instruments such as the cello (Violoncello) play melodic semi-toned rising gradually, which makes the melody thicker layer by layer. The upper four parts go up and down with the heavy timbre of the bass (Controlbass). A "inverted eight-character" structure is formed, which makes the sound effect have a strong tension. It vividly describes the magnificent landscape of rainbow colors, and depicts the three-dimensional outline of the rainbow hanging in the sky after rain.

The image shows a musical score for five string instruments: Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Cello (Vc.), and Contrabass (Cb.). The score is in 2/4 time and features a key signature of one flat (B-flat). The first measure is marked with a '2' in a box. The strings play a melodic line with a minor second interval, moving up and down. The score includes markings for 'div.' (divisi) and 'unis.' (unison).

Figure 60 Linear motion of semitone harmonization

allel harmony to promote the development of melody and increaThe linear movement of parallel intervals and semitone harmonization can release powerful force to promote the development of music in the vertical and horizontal synchronous parallel process. The use of this harmonic technique has changed the thick sense of harmony produced by the overlapping of three degrees of harmony in the 20th century. This method of using parse harmony power is an innovative attempt of modern music creation techniques. It can be seen from the examples that the melodic progression direction of the five woodwind instruments is in the same direction. The horizontal progression of each voice part is also a semi-tone progression of minor second ascending or descending; From the vertical point of view, three degrees, four degrees, five degrees and six degrees of non-strict parallel are adopted.

Figure 61 Longitudinal national harmony

From the analysis of the above score examples, we can see that harmony in this work has the following characteristics: 1. The pentatonic harmony of the three-dimensional structure; 2. Half-tone harmony of linear structure; 3. Parallel harmony. Some of these harmony characteristics exist in a certain melody segment of the work, and some appear in the pitch class set in the texture form. The work is based on national tradition, integrating modern composition techniques, combining nationality with modernity, and the use and innovation of national harmony make the work have a strong new romantic color and national regional style.

2.3.2 Characteristics of rhythm

Rhythm, as one of the three elements of music, is the most indispensable way to understand and interpret music. American contemporary music theorists Grosvenor Cooper and Leonard B Meyer pointed out in their monograph "The Rhythm Structure of Music" that "the study of rhythm is the study of the whole of music. Rhythm not only organizes all musical elements, but also is organized by these elements, so it produces and forms the whole process of music." (Zhang Wei, 2009)

In rhythmic movement, form is a style of duration organization. It reflects the "non-normality of form", that is, a form of rhythm, which can be a single value, or a combination of multiple values, and can also include the length and shortness of the duration, the similarities and differences of rhythm grouping, the rhythm composition

at different levels. The ever-changing rhythm form has generated a driving force to promote the development of music emotion in the development and expression of music. When discussing rhythm, we can't talk about rhythm without pitch. Riemann once pointed out that "rhythm cannot be separated from pitch materials as the main means of composition. It is always connected with harmony and is related to the main constituent factors of this classical music form."

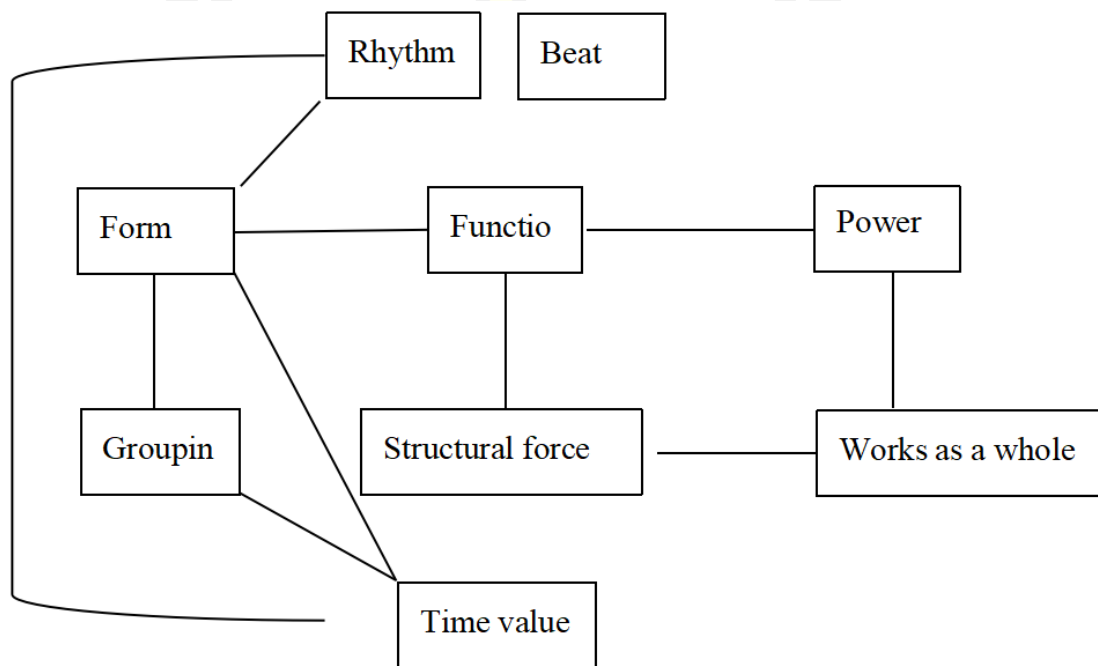


Figure 62 Rhythm correlation reflection diagram

2.3.2.1 Application of speed in rhythm structure

As one of the many elements of music development, speed reflects the specific music movement state through the changes of different speeds to achieve the performance purpose of composers or performers, so as to produce the tension of music emotions. In the state of rhythmic movement, some continuous long sounds or long pauses have unusual rhythmic significance in the rhythmic structure of music. (Zhang Wei, 2009)

In the expansion part of sections 139-141 (The following example), the piano descends from the high-pitch area to the low-pitch area using column harmony

(second, third, fourth and fifth overlapping) and performs at a slow speed after starting fast. In the unfolding part, the rhythm is 4/4 beats. The first beat of the woodwind instrument group and the string instrument group adopts the eight-minute note staccato, and the following music is a long pause; The way in which the brass wind group and percussion instrument group all rest reflects the composer's pursuit of the concept of "sound stillness" and "no time". Although the sound points of each part of the woodwind instrument group and the string instrument group in each bar appear intermittently and regularly in the first beat, for a whole long rest paragraph, these sound points actually set off the sense of stillness of this sound flow. (Zhang Wei, 2009)

Poco a poco rit... 140

The musical score shows the following parts and their notation:

- Picc.**: Piccolo, treble clef, staccato notes.
- Fl.**: Flute 1 and 2, treble clef, staccato notes.
- Ob.**: Oboe 1 and 2, treble clef, staccato notes.
- Cl. in Bb**: Clarinet in Bb 1 and 2, treble clef, staccato notes.
- Bsn.**: Bassoon 1 and 2, bass clef, staccato notes.
- Hn.**: Horns 1, 2, 3, 4, treble clef, staccato notes.
- Tpt.**: Trumpets 1, 2, 3, treble clef, staccato notes.
- Tbn.**: Trombones 1, 2, 3, bass clef, staccato notes.
- Tuba**: Tuba, bass clef, staccato notes.
- Timp.**: Timpani, bass clef, staccato notes.

The score is marked *Poco a poco rit...* and includes a rehearsal mark 140. The music consists of staccato notes in the first beat of each measure, followed by long rests, illustrating the concept of 'sound stillness'.

1
Perc. 2
3
Hp.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.

ff
Poco a poco rit...

Figure 63 The expanded part of the “Rainbow”



Figure 64 The expanded part of the “Rainbow” QR code (6’18’’-6’25’’)

<https://www.bilibili.com/audio/au3568776?type=1>

The composer consciously composites a contrast between the strength and weaknesses of music rhythm movement and the experience of speed change through frequent conversion of rhythm or speed, so as to obtain a new rhythm structure in music. In the development (sections 156-160, Figure 65), Professor Yao Henglu frequently changed the beat of 2/4, 3/4 and 4/4. In the speed movement of the same music speed $\text{♩}=108$, in the rhythm of different intensity of two beats per bar, three beats per bar and four beats per bar, under the powerful interpretation of the symphony orchestra, the music has beautiful color, sharp rhythm contrast and increased the tension of music emotion.

The image displays a page of a musical score for a symphony orchestra. The score is arranged in a standard orchestral layout with the following instruments and parts from top to bottom:

- Picc. (Piccolo)
- Fl. 1 and 2 (Flutes)
- Ob. 1 and 2 (Oboes)
- Cl. in B \flat 1 and 2 (Clarinet in B-flat)
- Bsn. 1 and 2 (Bassoons)
- Hn. 1, 2, 3, and 4 (Horns)
- Tpt. 1 and 3 (Trumpets)
- Tbn. 1, 2, and 3 (Trombones)
- Tuba
- Timp. (Timpani)

The score shows a complex rhythmic structure with frequent changes in meter (2/4, 3/4, and 4/4). Dynamic markings such as *f* (forte) and *mp* (mezzo-piano) are present throughout the piece. A rehearsal mark '160' is visible at the top right of the score.

Figure 65 The expanded part of the “Rainbow” (subsections 156-160)



Figure 66 The expanded part of the “Rainbow” QR code (7'04''-7'12'')

<https://www.bilibili.com/audio/au3568776?type=1>

In each theme of the whole work, the composer uses different speeds to express music emotions. Among them, the theme of the main part (39-64 sections) uses the speed of $\text{♩}=118$ to express the musical mood. With the active rhythm of a group of free tones, it praises the power of composition and the spirit of striving. The music is sonorous and powerful. The sub-theme I (65-87 sections) uses the speed of $\text{♩}=100$ to

make a contrast with the first theme with a relaxed and humorous music image. secondary theme II (88-113 sections) uses the speed of $\text{♩}=68$ to express people's inner feelings of joy and admiration.

The expansion section (114-180 sections) uses two speeds of $\text{♩}=88$ and $\text{♩}=108$ to express musical thoughts. The contrast of speed makes the music colorful and increases the tension of musical emotions. In addition, this study has a novel rhythm, which keeps the development of music and the reproduction of music, which is of great significance for the shaping and unification of music images.

The reproduction section (181-235 sections) is a comprehensive reproduction of various themes. It uses the speed of $\text{♩}=122$, $\text{♩}=81$, $\text{♩}=72$, $\text{♩}=108$ to express the musical emotion. This part of music first reproduces the first theme, and the musical emotion becomes more warm, broad and brilliant; Next, the third theme is reproduced. The rhythm is broadened and lengthened, and the chanting tone and the first theme form a contrapuntal combination, making the music both broad and solemn; Finally, the symphony orchestra played the whole piece at the speed of $\text{♩}=108$, with the dynamic rhythm extended by the first theme interwoven with the broad lyric mood of the third theme, and ended the whole piece in the climax.

By comparing the speed of the whole song, we can clearly see the change of the speed of each part, which directly leads to the change of the rhythm movement speed, thus producing different musical emotions and artistic effects.

2.3.2.2 Rhythm type

Rhythm type refers to the form formed by some combinations of the same or different duration. For example, the intensive rhythm type often displays lively and cheerful music character; The stretch, long-lasting rhythm type generally expresses the lyrical, meditative and narrative musical character. In the following music score example, the woodwind instrument group and the string instrument group adopt a large number of quartet and pentatonic rhythms composed of sixteen notes, making the music warm, broad and brilliant.

The image displays a page of a musical score for an orchestra. The top system includes parts for Piccolo (Pcc.), Flute (Fl.), Oboe (Ob.), Clarinet in B-flat (Cl. in Bb.), and Bassoon (Bsn.). The bottom system includes parts for Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Violoncello (Vc.), and Contrabass (Cb.). The score features complex rhythmic patterns with many beamed notes. Performance markings include 'appass con calare' (passionately, with deceleration) and 'H' (ritardando). A tempo marking of $\text{♩} = 122$ is present. Dynamic markings such as *f* (forte) and *unis.* (unison) are used throughout. The score is divided into measures, with measure numbers 180 and 4 visible.

Figure 67 Warm, unrestrained and cheerful rhythm

In the introduction, its texture is the lyrical polyphonic texture played by the string orchestra. The rhythm type is mainly composed of eight-part, four-part, two-part rhythm and big dot rhythm. The slow speed of $\text{♩} = 66$ is used to perform very coherently and lyrically. The use of the connecting line, coupled with the euphemistic and clear timbre of the string music, outlines a colorful ring produced by light and water, adorns the nature with colorful and beautiful pictures, and expresses the composer's yearning for nature and praises people's limpid spiritual beauty, It arouses the true feelings and friendship in the world.

B $\text{♩} = 66$ *Andante assai legato*

Vln. I *non div.*

Vln. II *non div.*
p

Vla. *non div.*
p

Vc. *div.*
un.
p

Ch.

B

Vln. I

Vln. II

Vla.

Vc.

Ch.



Figure 68 The lyrical introduction of “Rainbow” (section 21-34)



Figure 69 Introduction to the lyric of the “Rainbow” QR code (1’00’’-1’50’’)

<https://www.bilibili.com/audio/au3568776?type=1>

2.3.2.3 Rhythm and harmony

Harmony and rhythm exist in musical texture. In order to have a more comprehensive and in-depth understanding of the meaning of rhythm structure, the movement law of harmony will be taken as a sub-element of the judgment and evaluation of the value and function of rhythm type. The division of rhythm forms is diverse, and the movement of harmony also has an important impact on the division of rhythm forms.

The musical score is written for piano in 4/4 time, key of B-flat major. It consists of two systems, each with two measures. The right hand (RH) plays a melody of long tones with triplets, while the left hand (LH) plays a columnar harmony of long tones with triplets. The first system starts with a forte (*f*) dynamic. The second system ends with a fortissimo (*ff*) dynamic. The score includes various musical notations such as triplets, long tones, and dynamic markings.

Figure 70 Piano solo part of rainbow
(sections 219-222)

In the above Figure, the overall harmony rhythm is the rhythm form of simultaneous playing of long-tone column harmony with left and right hands, combined with continuous triplets and octaves. The mode is bB , and the harmony generally adopts a major second progression from the tonic level I down to level V (I- bVII - bVI -V). Within the harmony rhythm, the momentum of the melody line is increased through continuous chord inversion and the use of seven chords. The development of music has adopted the rhythmic mode progression and the temporary departure from the subordinate chord to the temporary main harmony. This kind of harmony movement makes the music rhythm combine the rhythmic type of continuous triplets with the columnar harmony, which makes the music continue to generate the momentum of development, and has an important impact on the division of rhythm patterns.

2.3.3 Characteristics of timber

Timbre is one of the attributes of sound (i.e. loudness, tone and timbre), which is mainly determined by its overtones. Different overtones determine different timbres. The timbre has different sound performance. The waveform has different

characteristics and different object vibration characteristics. Due to the different materials and structures of musical instruments, the timbre is also different. The following is a brief description of the timbre characteristics of some instruments in the woodwind instrument group and the brass wind group:

(1) Woodwind Instrument Group

1) Long flute and short flute

The overall timbre of the flute is bright, soft and cold; the Piccolo, a deformation instrument of the flute, has a brighter and more sonorous timbre than the flute.

(2) Clarinet and oboe

The overall timbre of the clarinet is luxurious and full, and the sound in the bass area is rich and full-bodied, with obvious chest and metallic voice; The voice in the middle tone area is pale, weak and inflexible, belonging to dark tone; The middle and high pitch areas are bright, pure and full of metallic colors. The oboe has an obvious nasal component, commonly known as the melancholy soprano in the band, and has strong penetration.

1) British tube

The tone is unique, deeper and fuller than the oboe, and the nasal sound is also heavier, with rich exotic colors.

2) Bass

Bass has rich overtones, with nasal tone; The timbre of the bass bassoon is the most distinctive. Similar to the bass clarinet, it has chest tone and great playing flexibility.

(3) Brass Wind Group

1) Horn

The voice in the bass area is dim; The mid-tone area is full and mellow; The treble area is brilliant and bright.

2) Trumpet

The voice in the bass area is slightly dim; The mezzo area is brilliant and gorgeous, while the weak area is clear and soft, full of singing; The timbre in the high voice area is extremely penetrating and sharp.

3) Trombone

Soft and delicate in bass area, dramatic in strong playing, full and brilliant in sound, and very strong in impact. The mid-tone area is full and solid, the weak playing is mellow and soft, and the strong playing is loud, full and powerful.

4) Trumpet

The bass area has a deep and strong timbre, the strong playing is rich and plump, the weak playing is soft, and it is easy for other instruments to blend; The voice in the mid-tone area is mellow and plump; The high voice area is tense, lacks resonance, and the timbre is slightly depressed.

The specific timbre organization, timbre layering and timbre changes in music movement can be used as an important means to identify or judge the rhythm type, especially the rhythm layering. (Zhang Wei, 2009) The timbre produced by different instruments or different combinations of instruments can not only separate the rhythmic movement of a single line into different rhythmic types, but also separate the rhythmic movement of multi-level lines into different forms. This separation can give different levels of rhythmic movement in music and different functions and meanings.

In the expansion section (sections 114-118), all the voice parts in the string instrument group are synchronized in rhythm, which is all long-duration notes. The separation of timbre and the formation of rhythmic layering starts from the third section, which presents five levels: 1. The first level is carried out by the cello using the semitone melody. 2. The second level starts from the second half of the second beat of the third section. The viola moves in a way that imitates the melody of the cello. 3. The third level starts in the second half of the fourth beat until the last sixteenth note B in the second beat of the fourth measure stops. The melody of the second violin completely repeats the melody of the viola. The timbre of the second violin and the viola in the third beat of the fourth measure starts to separate and form the fourth rhythm level. 4. The fourth level is the first violin part in the process of semitone rising. 5. The fifth level is the bass part with two downward degrees of progression.

On the whole, the five rhythm levels presented by the five melodies, their melodies are long and short, entering one by one. The common characteristics of the above four parts are: the upward minor second progression of the semitone is

dominated by the movement of the sixteenth note, and the downward second progression of the bass part. They are reversed in a short musical rhythm, making the overall volume of the melody continuously increase and thicken, resulting in a more obvious musical tension.

Figure 71 The expanded part of the rainbow
(subsections 114-118)

In the example above, taking the timbre cluster of the instrument group as the research object, in the beginning, the string instrument group mainly presents the movement of the sixteenth note, and the percussion snare drum and the string instrument group simultaneously play five beats from weak to strong. Then the timbre was transferred to the timbre cluster of the brass wind group, followed by the timbre cluster of the woodwind instrument group. In the fourth section, the timbre clusters of the three major instrument groups played at the same time, clearly feeling the differences between the timbre clusters of the string instrument group, the timbre cluster of the woodwind instrument group and the timbre cluster of the brass wind group in the movement of music rhythm.

125

Picc.

Fl. 1
2

Ob. 1
2

Cl. in B \flat 1
2

Bsn. 1
2

Hn. 1
2
3
4

Tpt. 1
2
3

Tbn. 1
2
3

Tuba

Timp.

Timp.

Perc. 1
2
3

Hp.

Pno.

Vln. I

Vln. II

Vla.

Vcl.

Cb.

s. a.

mf

f

sfz

acc.

stacc.

marc.

unb.

Figure 72 The expanded part of the rainbow
(subsections 123-126)



Figure 73 The expanded part of the “Rainbow”

QR code (5’53’’-6’02’’)

<https://www.bilibili.com/audio/au3568776?type=1>

(3) The application of piano's unique timbre and solo function

The solo function of this piano work is very prominent. The use of the piano which has been combined in this work makes the piano reflect the solo function and the magnificent color of rainbow.



Figure 74 Piano solo music clips

(Sections 133-135)

2.3.4 Characteristics of tonal relationship

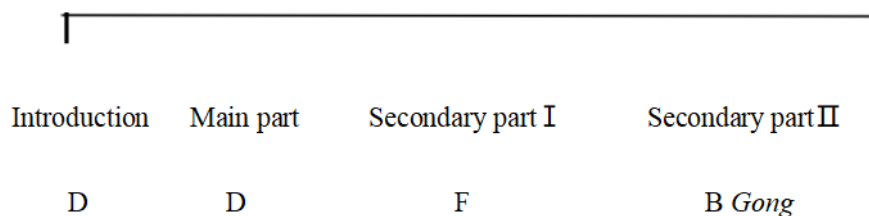
In this work, sonata form is characterized by the tension of tonal expansion and the balancing of tonal unity. The tonal layout of the form is juxtaposed in the presentation section between the theme of the main part and the theme of the auxiliary part, and in the reproduction section, the theme of the auxiliary part returns to the theme of the main part, so as to realize the sonatality of the sonata. As a tonal work, “*Rainbow*” has the characteristics of the tonal layout of the traditional sonata style in terms of tonal layout, but it does not lose the new romantic approach in the contemporary creative trend. Its most remarkable feature is to emphasize the new style and audibility of the

work, and the comprehensive application of the fusion of techniques not limited in the conventional usage.

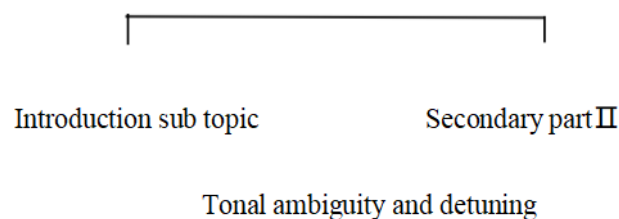
The “*Rainbow*” is composited with a new romantic technique. Its musical form is a sonata form, which is composed of presentation part, unfolding part and reproduction part.

The presentation part is composed of four parts: an introduction, a main theme, a sub-part 1 and a sub-part 2. The tonality of the introduction is stated in the D key. After a very consistent string part transition to the theme of the main part, the D with major tone color as the central key forms a symmetrical tonality of axial relationship with the auxiliary part 1 and 2 respectively. That is, the tonality of the auxiliary part 1 and the auxiliary part 2 is the F key, which is a minor third tonality above the theme of the main part; The tonality of sub-part 2 is bB , which is a minor third below the theme of the main part. The tonality of sub unit 1 and sub-unit 2 is the relationship from master to subordinate: F- bB .

Exposition



Development



Reproduction unit

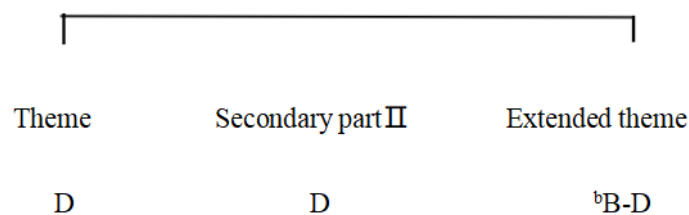


Figure 75 Relationship between musical form and tonality

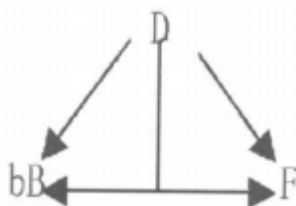


Figure 76 Tonal relationship diagram

The tonality of the symmetric relationship fully reflects the composer's unconventional technique, fully expresses his personal feelings and personality, and highlights the romantic feelings, personality and unique charm, which is the specific embodiment of the characteristics of the new romantic style. As one of the most significant tonal layout characteristics of sonata form principle, the tonal regression of the theme reproduction of the sub-part is of great significance for the image shaping and music unification. The application of this work also reflects the organic inheritance based on the breakthrough of traditional form structure.

Professor Yao Henglu focuses on the use of modern composition techniques and elements of Chinese folk music, which is a concrete manifestation of the integration of the new romantic style and national style of the works. In the composition of the orchestra "*Rainbow*", the composer fully embodies the blend of romanticism and nationality from the aspects of composition concept, and composition techniques. The beautiful humanistic feelings that the composer put in when he conceived this work, the lofty and pure heart of the composer and his humanistic care for human beings are the deep emotional conception of this work, in terms of creative techniques, the theme-motivation, half-tone bass harmony, parallel harmony, structural meaning in orchestration techniques, and chamber music techniques. Used are multiple uses of more modern techniques that do not stick to one pattern. On the basis of following the traditional composition techniques, the tonal layout of sonata, the tonal regression of the reproduction part, the theme splitting technique and tonal dissociation of the unfolding part, and the traditional orchestration technique are all traditional techniques, which have some characteristics of Romantic music. This combination of tradition and modern writing techniques has formed a new romantic music style and temperament,

which is the writing characteristic of New Romanticism. It can be seen from the implementation and composition of the composer's diversified techniques that the application of national materials and the innovation of national harmony, combined with the application of western composition techniques, is the result of attaching importance to techniques, music performance and music structure, forming a new romantic music style with our national style.

3. Characteristics of musical works of “*Triptych of Yang Guan*”

The work “*Triptych of Yang Guan*” was composed by Professor Yao Henglu for cello and piano in 2001. The theme is taken from the ancient song “*Triptych of Yang Guan*” of the Tang Dynasty, and the lyrics are taken from the poem "Send Away the Second Envoy of the Yuan Dynasty to Anxi" of the Tang Dynasty poet Wang Wei, which expresses the feelings of not giving up when leaving. Another name of this poem is Weicheng Qu. Weicheng was Chang'an at that time, while Yangguan was a frontier in the Han and Tang Dynasties, adjacent to the Western Regions. As the three-tiered chanting can better express the author's feelings, it is named “*Triptych of Yang Guan*” by taking the place name of Yangguan.

This work is composed by the composer combining the musical characteristics of the East and the West. It depicts the ethereal artistic conception of ancient poetry. The main characteristics of composition techniques are as follows: 1. In terms of structure, the principle of reproduction and the form of variation suite are comprehensively used; 2. In terms of theme, the penetration and change of core interval, and the combination of mode; 3. In terms of harmony, on the basis of pentatonic harmony, the tendency of semitones is strengthened.

3.1 Source of creative music material

The creative material of this work comes from the theme of ancient song *Triptych of YANG GUAN* in the Tang Dynasty.

“TRIPTYCH OF YANG GUAN”

Song arranger: Wang Zhenya
Lyrics: (Tang Dynasty) Wang Wei



mf

渭城朝雨浥轻尘，客舍青青柳色新
wei cheng zhao yu yi qing chen ke she qing qing liu se xin

Figure 77 Theme of original ancient music



Figure 78 The theme of the original ancient song QR Code

https://www.bilibili.com/video/BV1iz4y1y7CJ/?spm_id_from=333.788.recommend_more_video.1&vd_source=c1b491aad8d6b0d69595e6c739de7a3c

3.2 Characteristics of theme

Theme first phrase a (1-6 sections)



Cello

Piano

pp *sf* *p*

Con grande espress

Figure 79 Theme first phrase a



Figure 80 Theme first phrase a Audio QR Code (0'01''-0'30'')

<https://www.bilibili.com/audio/au3568829?type=1>

The following conclusions are drawn from the comparison of the above two scores:

The melody of the first phrase of the theme of *Triptych of Yang Guan* is derived from the transformation of the main motive of the theme of the original ancient music “Triptych of Yang Guan”, as shown in the following Figure:



Figure 81 Theme main motive

Summary of theme transformation methods:

1) By widening the length of the main motive rhythm of the ancient music *Triptych of Yang Guan*: lengthen the G tone in the first section of the ancient song by two beats, and lengthen the bB tone by two and a half beats. In the second section, the rhythm of D and C tones is widened to one and a half beats, and then add notes that step up and down or jump into the middle, so that the music theme can be developed.

2) The transformation is carried out by widening the interval of the main motive: the third interval of G- bB in the first section of the ancient music is extended to ten degrees, and the second interval of D-C is extended to seven degrees from the second section. Through the great leap of interval and the gathering of strength, the power of the music is enhanced, the tension is expanded, and the mood is high.

3) The third and fourth sections of *Triptych of Yang Guan* by Yao Henglu change and develop by expanding the rhythm and keeping the interval distance unchanged.

4) The register of the ancient music *Triptych of Yang Guan* starts from the small g, while the register of *Triptych of Yang Guan* by Yao Henglu starts from the large group G. The difference between the two sound areas is a perfect octave. This method of processing the register makes the contrast of timbre stronger and the mood more full. (Liu Dong, 2012)

Figure 82 Theme second phrase b



Figure 83 Theme second phrase b Audio QR Code (0'30''-0'52'')

<https://www.bilibili.com/audio/au3568829?type=1>

Figure 84 main motive of the last two bars

Through the comparison of the above two examples, it can be seen that the melody of the second phrase b of the theme of *Triptych of Yang Guan* is also developed from the deformation of the main motive of the last two sections of the theme of the ancient music *Triptych of Yang Guan*.

Summary of transformation methods:

1) The transformation is carried out by widening the length of the main motive rhythm of the last two bars of the theme of the ancient music *Triptych of Yang Guan*: after the rhythm of F, G and F in the ancient song is widened, two triplet sound patterns are inserted in the middle, which enhances the dynamic sense of the melody;

2) In terms of interval relationship, the original D and F in the ancient music are three degrees, while the highest F in the second section of the duet *Triptych of Yang Guan* is developed by raising the F to a perfect octave in the ancient music, so that the interval is extended to ten degrees, so that the momentum of music development is enhanced and the mood is high;

3) The main motives of the last section of the theme of the ancient music, bB and C, develop musicality by stretching the rhythm and jumping the interval, making the yearning for friends last forever.

3.3 The musical form structure

“*Triptych of Yang Guan*” is a symmetrical structure as a whole, including a central symmetrical structure, an arched symmetrical structure and a tripartite structure.

The structure of this song reflects the principle of three parts, which are divided as follows:

Table 9 The musical form structure of “*Triptych of Yang Guan*”

Tripartite structure	Exposition		Development			Recapitulation	
Structural segmentation	A	B	C	D	E	F	G
Texture change		Homophonic repetition; Overtone	Glide down	Homophonic glide; Long line	Ornament	Half expansion and half reproduction	playback
Changes in musical mood		Running, feeling flustered	Sigh	Ups and downs of mood	Theme decoration	Excitement	Review and Meditate
Variation	Introductory music	Theme presentation	Theme Variation 1	Theme Variation 2	Theme Variation 3	Echo with B	coda
Speed	$\text{♩}=60$	$\text{♩}=81$	$\text{♩}=72$	$\text{♩}=33$	a tempo	$\text{♩}=72$	$\text{♩}=56$
Tonality	Octtonic scale of <i>Shang</i> and <i>Yu</i>	G <i>Yu</i> <i>Ya</i> <i>Yue</i> hexachord	G <i>Gong</i> octave scale	B <i>Gong</i> <i>Shisheng</i> Scale	Octtonic scale of <i>Shang</i> and <i>Yu</i>	G <i>Yu</i> <i>Ya</i> <i>Yue</i> hexachord	Octtonic scale of <i>Shang</i> and <i>Yu</i>
Interval	2+3+4 major second, minor third and major third	2+3+4 minor seven expanded	2+4 major six expanded	2+3+4 Expanded of partial tens	2+3 major six and minor seven expanded		2+3+4 major second, minor third and major third

It can be seen from the diagram of the musical form structure of “*Triptych of Yang Guan*” that the structural layout of the work is divided into three parts: the presentation part, the expansion part and the reproduction part, which are composed of seven consecutive paragraphs A, B, C, D, E, F and G. The formation of the “TRIPTYCH” is developed through three variations of the theme.

The seven paragraphs of the work form a tripartite structure as a whole. Segments B and F are symmetrical inside the work. The theme of paragraph A and the reproduction of paragraph G form a tripartite structure that echoes from beginning to end. Due to the symmetrical characteristics of paragraphs B and F, they echo each other in the development of the internal melody of the work, and the whole piece presents another structural type - the arch representation structure (see the figure below). It can be seen that the duet “*Triptych of Yang Guan*” is a work with multiple symmetrical structures.

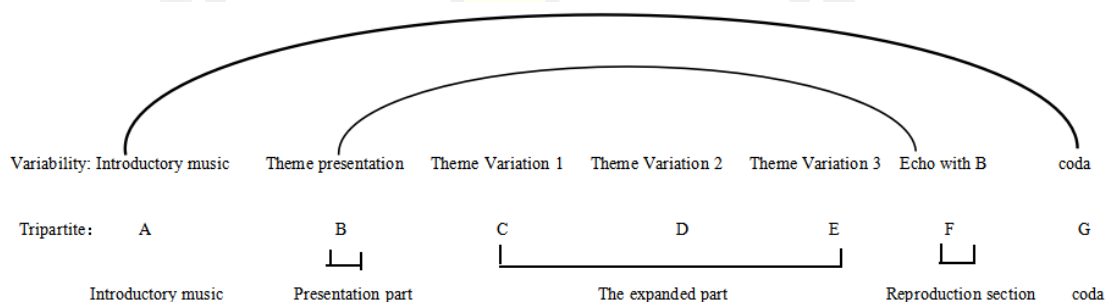


Figure 85 Arch form

3.4 Characteristics of composing techniques

Through the analysis of the five paragraphs A, B, C, D and E, the composition techniques of this work are mainly reflected in the artificial scale composition of Chinese national mode and the interval relationship of the theme motivation. The composition techniques and musical characteristics of *Triptych of Yang Guan* will then be explored.

3.4.1.1 The pentatonic artificial scale of paragraph A

Through the analysis of the score example of the first phrase a (1-6 bars) of the theme of *Triptych of Yang Guan*, the pitch center in the melody is G, which is

repeatedly emphasized in the fourth and fifth bars. The subordinate voice C plays a very good tonal support role. While emphasizing the subordinate voice, it strengthens the G tonal attribute with G as the tonic.



Figure 86 Octtonic scale of *Shang* and *Yu* natures

The octave scale with national pentatonic in the above example is obtained by arranging the notes in the theme of the first phrase a in the order of G as the tonic from low to high. It can be seen that, in the scale, the minor third of I G and IV \flat B plays a supporting role in the scale, with the tonal color of *Shang* and *Yu*.

Interval characteristics of the theme of paragraph A:

Through the observation of Figure 77 and Figure 79, the first two sections of the ancient music are composed of G- \flat B-D-C- \flat B-C, and the main interval relationship is 2+3+4 (major second, minor third, major third). The first sentence a of the theme of the duet "*Triptych of Yang Guan*" (see Figure 79), the main interval relationship is 2+3+4 (major second, minor third, major third). It can be seen that the interval relationship of the theme of the duet "*Triptych of Yang Guan*" comes from the ancient music, and the pitch relationship of melody, harmony and low part is controlled by this core interval. The application of the core interval runs through the whole work, making the cello and piano parts more powerful, and then promoting the development of melody through the control of the core interval.

3.4.1.2 Five tone artificial scale of section B

The image shows a musical score for two instruments: Cello and Piano. The score is in 3/4 time and starts at measure 18. The Cello part (top staff) begins with a series of sixteenth notes, followed by a melodic line with dynamics markings *mp* and *mf*. The Piano part (bottom staff) features a complex rhythmic pattern of sixteenth notes in the left hand and a melodic line in the right hand, also with dynamics markings *mp* and *mf*. The score includes various musical notations such as slurs, accents, and dynamic markings.

Figure 87 Section B Music Theme

It can be seen from the score Figure 87 that the melody always develops musicality around the tonic G. The following is G as the main tone, and the tones are arranged in order from low to high to obtain an artificial scale with pentatonic style: G *Yu Ya Yue* hexachord.



Figure 88 G *Yu Ya Yue* hexachord.

In the above Figure, the *Yu* mode with G as the tonic omits the *Zhi* F, and adds the *Bian Gong* A and the *Bian Zhi* E to form the *Yayue* scale, that is, the G *Yu Ya Yue* hexachord. Composers repeatedly use A and E deviation in cello part B and piano part B, making the deviation become the main motive. This unique way of use makes music with strong national style.

Interval characteristics of the theme of paragraph B:

As can be seen from Figure 87, the main interval relationship of the piano part of section B is 2+3+4 (major second, minor third, major third), which is reflected in the low piano part of section 19 and the high piano part of section 20-21. The melody trend of the piano vocal part is developed from the transformation of the theme of ancient music and the change of rhythm: the creation technique of reversing the theme of ancient music, the use of major jump octave interval, the integration of major rest and dot in rhythm, and the left-hand piano accompaniment voice, the long tone maintenance of column harmony and the rhythm form of continuous staccato produce a long breath of melody lines and a flustered mood. It can be seen that the core interval relationship of 2+3+4 can control the development of music in any part.

3.4.1.3 Five tone artificial scale of section C (section 37-40)

Figure 89 Section C Music Theme

It can be seen from Figure 89 that the tonic of the theme is G, and the tones are arranged from low to high to obtain an artificial scale with pentatonic style:

G Gong octave scale

Figure 90 G Gong octave scale

On this scale, the first degrees G to the third degrees B is the major third. In the national pentatonic mode, the interval distance between *Gong* and *Jue* is the major third. As the only major third, it is the main basis for judging the relationship between Gong and Jue

Interval characteristics of the theme of paragraph C:

In Figure 89, it can be seen from the analysis of the cello melodic voice parts in sections 37-39 that the first two notes B-A in section 37 are presented in a big jump of a minor seventh, with the transposition interval of a major second, and the next melody is A-B-A- \sharp F. The interval relationship is 2+2+3 (M2+M2+m2), followed by one gliss from \sharp F to the perfect octave \sharp F below. Through the use of the cello blowing "gliss" technique, and the rapid decline from the high pitch to the low octave of the same name, this sound effect makes the sigh very strong. In section 38, starting from the second half of the second beat, the overall interval relationship of melody E-D-B-D-B is 2+3 (M2 and m2). According to the analysis, the total interval relationship of

the theme of paragraph C is 2+3 (M2, m3), which is the core interval throughout, effectively controlling the development of music, reflecting the composer's strong control over interval and music emotion in the process of music creation, It effectively expresses the deep feeling of leaving friends and the helpless sigh of when we can meet in the future through the timbre and playing techniques of the cello.

3.4.1.4 pentatonic artificial scale of segment D(Section 57-61)

The image shows a musical score for Cello and Piano. The Cello part is in the upper staff, and the Piano part is in the lower staff. The score is marked 'Con doloroso espressione' and includes dynamics 'mp' and 'mf'. The tempo is indicated as quarter note = 33 (half note = 99). The score is for measures 57-61.

Figure 91 D music theme



Figure 92 Section D Music Theme Audio QR Code (3'05''-3'16'')

<https://www.bilibili.com/audio/au3568829?type=1>

It can be seen from Figure 91 that the tonic of the theme is B, and the tones are arranged from low to high to obtain an artificial scale with a pentatonic style: B Gong Shisheng Scale.

The image shows a musical notation for the B Gong Shisheng Scale. The scale is written on a single staff with a treble clef. The notes are B, C, D, E, F#, G, A, B, arranged from low to high.

Figure 93 B Gong Shisheng Scale

The mode and tonality of segment D is the B *Gong* system. Compared with the several previous segments, the melody of segment D jumps out of the G *Gong* system, and the upper third tone B is the *Gong* tone. The music melody thus moves to the B *Gong* system. The reason why composers adopt different *Gong* systems through different paragraphs is to develop music through the change of tonal color, and the transposition is also one of the methods of music development.

Interval characteristics of the theme of paragraph D:

In Figure 91, through the melody analysis of sections 57-60, this melody is derived from the main motive of the ancient music *Triptych of Yang Guan*. The total interval relationship of the main voice A, B, A, $\sharp F$ of the cello part: 2+3 (major second, minor third). The main motive of the second half of the ancient music (see Figure 89) has produced the melodic lines of section D through three degrees of displacement and deformation, that is, the melodic lines of section A, B, A, $\sharp F$ and A of section D have evolved through three degrees of upward movement of ancient music F, G, F, D and F, and the local interval of three degrees has expanded to ten degrees through the big jump, increasing the tension of the music.

3.4.1.5 Pentatonic artificial scale of segment E

The musical score for Section E consists of two staves: Cello and Piano. The Cello staff begins with a treble clef and a key signature of one flat (B-flat). The Piano staff begins with a bass clef and the same key signature. The score is marked 'a tempo' and includes dynamics such as *p* (piano), *sfz* (sforzando), and *mp* (mezzo-piano). The music is in a pentatonic artificial scale.

Figure 94 Section E Music Theme



Figure 95 Section E Music Theme Audio QR Code (4'00''-4'14'')

<https://www.bilibili.com/audio/au3568829?type=1>

It can be seen from the observation of Figure 94 that the tonic of the theme is G, and the tones are arranged in order from low to high to obtain an artificial scale with pentatonic.

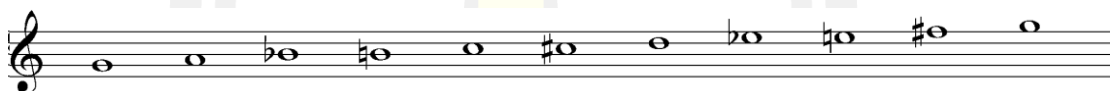


Figure 96 A decatonic scale of *Shang* and *Yu*

Interval characteristics of the theme of paragraph E:

In Figure 94, through the melody observation of sections 81-83, the interval relationship is mainly 2+3 (minor second+major third). The piano voice part penetrates the interval relationship of 2+3 through the interval transposition.

Segments F and G are playback segments of the song. The F segment reproduces the B segment, and the tonality of the two parts shows an echoing relationship, both of which are G *Yu Ya Yue* hexachord; The tonality of the G segment of the epilogue and the A segment of the introduction are both *Shang* and *Yu* scales, and the tonality also shows a corresponding relationship.

Through the analysis of the characteristics of the artificial scale and interval relationship of the above paragraphs, the conclusion is that the tone and interval relationship of the introduction section A and the ending section G are the same, which reflects the principle of the unity of the tone and interval relationship between the presentation part and the reproduction part. As the three paragraphs of theme variation, C, D and E have great tonal changes, showing the characteristics of tonal dissociation. Composers focus on the interval relationship of 2+3+4, that is, major second, minor

third and major third. Each paragraph of Yangguan Sandie has an inevitable relationship with the pitch relationship and interval relationship of ancient music. On the whole, the overall tonal layout and harmonic layout have three characteristics.

The use of Yao Henglu's music composition techniques has the characteristics of diversification and individuality, forming his own music style.

1. Innovation in the layout of music structure: he uses the vertical and horizontal control of the core interval and scale to the music structure. In "*Triptych of Yang Guan*", he used different artificial scales to replace tonality in different paragraphs, forming the musical structure of each paragraph.

2. The characteristics of pitch relationship: (1) With interval as the core, it controls the pitch relationship of each part horizontally and vertically, thus controlling the development of music; (2) The pitch relationship of each part is controlled with the scale as the core. The scale controls the structure of harmony in the vertical direction, and different deformation methods are used to control the vocal part of music in the horizontal direction for different pitches.

Through the summary, it can be seen that the composer has carried out a lot of practical research in his creation, integrating western composition techniques with Chinese music elements, and formed his own personalized music creation style.

4. The Characteristics of the musical works of "The Mountain Tunes"

Professor Yao Henglu's "Mountain Melody" was composited in 2004. It is a six-piece chamber music for flute, clarinet, piano, percussion, viola and cello. Its music style is free and atonal, and the core control of the whole song is established through interval and sound collection, mainly based on the voice part and texture writing of the New Vienna School. The percussion part is the biggest feature of the whole song, which reflects the characteristics of Chinese minorities.

At the same time, there are some of Debussy's texture styles, and its core pitch material is the sound collection (0, 1, 4).

4.1 The Characteristics of the Theme

4.1.1 The Characteristics of the Introduction

1 *AdLib.* ♩ = 66

Flute

Clarinet in B \flat

Piano

Percussion

Viola

Violoncello

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

Figure 97 Introductory music part



Figure 98 Introduction clip audio QR Code (0'01''-0'20'')

<https://www.bilibili.com/audio/au3568826>

The introduction part of the composition technique of free beat in rhythm. The theme is presented by the viola voice part, consisting of three-tone groups, five-tone groups and ten-tone groups; The cello part adopts the dotted rhythm, which echoes with the viola. The rhythms of other parts are presented freely, and the music theme appears on different instruments, thus controlling the development of the whole music.

4.1.2 Main Theme 1

Theme 1 music clip (8-11 sections)

2 *Andante* ♩ = 84

Fl. *stacc.*

Cl. *stacc.*

Pno. *stacc.* *mp*₃

Perc. *f-gong* *mp*

Vla. *tr* *mp*

Vc. *tr* *mp*



The image shows a musical score for a six-part ensemble. The parts are: Flute (Fl.), Clarinet (Cl.), Piano (Pno.), Percussion (Perc.), Viola (Vla.), and Cello (Vc.). The score is in 3/4 time and consists of three measures. The Flute part starts with a melodic line marked *mp*. The Piano part features a complex rhythmic pattern with a *w.blocks* marking. The Percussion part has a simple rhythmic pattern. The Viola and Cello parts play a six-tone group melody.

Figure 99 Theme 1 Music clip



Figure 100 Theme 1 Music clip audio QR Code

(0'31''-0'40'') <https://www.bilibili.com/audio/au3568826>

Main theme 1 is developed through the six-tone group $\#F, G, \flat B, \flat D, D, \flat E$ as the core interval. Its interval relationship is 1+3 (minor second and minor third), played by viola and cello parts. The controlling power of pitch relation of theme one is mainly embodied in melody and harmony.

4.1.3 Main Theme 2

Main Theme 2: Percussion is the main theme, and the acoustic effect of percussion is felt through the vertical harmony of piano voice part, percussion voice part, and the performance of bass, which reflects the composer's thinking on the changes of China's historical and cultural trajectory and his view on the real society.

Main Theme 2 Music clip (Sections 57-59)

4 *Visce ma non troppo* ♩ = 50

Fl. *mf*

Cl. *mf*

Pno. *mf*

S. drum

Perc. *mf*

Vla. *mf*

Vc. *mf*

Figure 101 Main Theme 2 Music clip



Figure 102 Theme 2 Music clip audio QR Code (2'59''-3'07'')

<https://www.bilibili.com/audio/au3568826>

The interval relationship of the theme two intervals is 2+5, which is dominated by major second and perfect fourth. In the melody, there are also very distinctive four tone groups: B, E, $\sharp F$ and $\sharp C$. Composers concentrate the melodies played by six instruments in the same pitch material, which is reflected in melody, sound, chord and rhythm.

4.2 Structure diagram of "The Mountain Tunes"

Table 10 Curved structure diagram

musical structure	Introductory music	Exposition		Development		Recapitulation.	coda
Structural segmentation	1	2	3	4	5	6	7
Structure	Introductory music	Theme I	Connection	Theme II	Connection II	The second percussion theme	coda
Meter	Free beat	2/4 beats	Free beat	6/8 beats	3/4 beat and free beat	6/8 beats	7 counts of 8 and 6 counts of 8
Speed	$\text{♩}=66$	$\text{♩}=84$	lively	$\text{♩}=50$	$\text{♩}=80$	$\text{♩}=84$ $\text{♩}=152$ $\text{♩}=50$	$\text{♩}=144$ Enthusiastically
Interval	1+3+4 Minor second minor third major three	1+3 Minor second minor third	1+2+3 Minor second, major second, minor third	2+5 major second, perfect fourth	1+3+4 Minor second, minor third, major third	2+5 major second, perfect fourth	1+2+3+4+5+6 Minor second, major second, minor third, major third, perfect fourth, perfect fifth, and trisyllabic
Bar	1-7	8-19	20-56	57-97	98-113	114-154	155-179

The Mountain Tunes is a work with a three-part structure. The whole song consists of five parts and seven paragraphs: the introduction part, the Exposition part (theme I, connection), the Development part (theme II, connection II), the Recapitulation part (second percussion theme), and coda. These seven paragraphs are divided on the basis of different interval structures, themes, beats, speeds, sounds and textures, and each paragraph is both related and contrasted. When arranging the structural layout, composers control the overall structure by means of interval structure, beat, rhythm, sound and other creative techniques. (Liu Dong, 2021)

4.3 The characteristics of the Composition Techniques

4.3.1 The characteristics of the Rhythm

In Figure 97, the rhythm of the introduction part as a whole is characterized by the combination of sparse and dense, and the complementation of dynamic and static. In the first section, the woodwind instrument group uses the full rest. The piano part only plays a column chord with an octave rhythm, and the other parts are basically in a static state. The theme melody is presented by three different rhythmic sound groups of the alto violin, namely, three-tone group, five-tone group and ten-tone group.

The cello part plays the eighth note with the strength of *sf*, and uses the tremolo playing technique to play three punctuated rhythm melodies from weak to strong. After three beats, the percussion part will join in. After two eighth notes are played strongly, the two beats will be played in turn. In the second section, the melody is transferred to the piano part, and the rhythm type is alternately used by the sixteenth note and the quarter rest. The woodwind instrument group is still at a standstill, cello and percussion music suddenly stop on the octave rhythm, and viola performance is free to extend the two-part rhythm. Through the analysis of Figure 101, The rhythm of the introduction part as a whole is characterized by the combination of sparseness and density, and the complementation of movement and stillness.

Main Theme 1 is mainly composed of 2/4 beats. At the same time, the repetition of 4/4 and 3/4 beats has also occurred, which has generated momentum for the development of music. In the use of rhythm, the piano part adopts column chord, and uses quarter note and eighth note plus quarter rest and eighth rest to stretch the rhythm; The two woodwind instruments use a dense rhythm. The rhythmic rhythm of this tight combination makes the music image lively and relaxed.

The connected I beat is characterized by a free beat. In the connection part, 2/4, 3/4 and 4/4 beats appear alternately, increasing the sense of music melody. In sections 51-56, the melodic beat is free. The writing method of expanding and tightening the melodic rhythm makes the statement of music free and loose.

Main theme 2 uses 6/8 beat, which has the rhythm of dance music and the atmosphere of percussion music, making this part of music more emotional and colorful.

The second link is mainly 3/4 beat and free beat, with obvious contrast between the two different beats and melodic rhythms. The first half of Connection 2 is a short theme, alternating between the beats of 3/4 and 2/4, with a relaxed and lively rhythm. The beat and rhythm of chance music are artificially controlled and interrupted. The sharp contrast of rhythm aims at the dramatic change of music's emotion due to the stillness of music.

The second percussion theme is 6/8 beat. This section is the climax of the whole song. The dance music style of 6/8 beat makes the music more emotional and

the atmosphere more active under the impact of the powerful sound of percussion music.

The ending beats are 7/8 and 6/8. The form of rhythm and beat is freer and richer, which is a comprehensive application of various rhythms in the previous six parts.

The composer uses the following rhythm in the structure of each part of the work:

Table 11 The rythm of work

Introduction	Main Theme 1	The First Link	Main Theme 2	The second link	The second percussion theme	coda
Rubato	2/4、 3/4、 4/4	2/4、 3/4、 4/4	6/8	3/4、 2/4	6/8	7/8、 6/8

The rhythm of this work is characterized by the composer's freedom to use rhythm. Starting from the free rhythm of China, different rhythms and complex rhythms are used alternately, giving the rhythm of the work a sense of rhythm.

4.3.2 Harmonic characteristics

1. Harmony in the introduction part

The introduction interval structure in the use of longitudinal harmony is specifically shown in the first section of Figure 97, where $\#F-G$, $G-B$ (minor second, major third) intervals form a longitudinal harmony. The fourth section uses the minor second and major seventh (the transposition interval of the minor second) to form the longitudinal chord. The analysis shows that the interval structure of the primer is the basis for the development of longitudinal harmony, and the minor second and major third intervals as the core intervals play a key role in the use of the primer longitudinal harmony.

2. Harmony in the main theme 1

Figure 103 Theme 1 Music clip (12-14 sections)

In subsection 13 of Figure 103, the core interval of theme I dominant motivation is composed of two groups of chords $\#F-G-^bE$ and $D-^bG-^bD$ in the horizontal relationship of structure; The vertical relationship is 1+3+4 (minor second, minor third, major third). The composer adopted the development method of repetition of sound patterns, which enabled the lively mood of music to be displayed.

3. Harmony in the main theme 2

In Figure 101, the interval relationship of the theme two intervals is 2+5, which is dominated by major second and perfect fourth. In the melody, there are also very distinctive four tone groups: $B, E, \#F$ and $\#C$. Composers concentrate the melodies played by six instruments in the same pitch material, which is reflected in melody, sound, chord and rhythm.

4.3.3 Interval structure characteristics

1. The Instruction Part

As shown in Figure 104, the dominant motivation of the introduction is developed through the five-tone groups $\#F, G, ^bB, B, ^bD$ as the core interval. The interval relationship is 1+3+4 (minor second, minor third, major third), which is presented by the violin vocal part performance. The interval structure control of the introduction is mainly embodied in melody and harmony.

Figure 104 is a musical score for four instruments: Piano, Percussion, Viola, and Violoncello. The Piano part consists of two staves with dynamic markings *sf* and *p*. The Percussion part is on a single staff with markings *w.blocks*, *accel.*, and *cresc.*. The Viola part is on a single staff with markings *sf*, *p*, and *pizz*. The Violoncello part is on a single staff with markings *sf* and *p*. The score is in a key signature of one sharp (F#) and a 2/4 time signature.

Figure 104 The core pentatonic group of the primer

The core pitch organization of the introduction part melody is developed through the composition techniques such as the shift and deformation of the pentatonic group. In figure 105, the five-tone groups presented by the violin voice part: D, bE, bG, G, bB are developed from the three major shifts of the core tone group of the introduction part in Figure 104, and the interval relationship is still 1+3+4. Through the composition method of shift and deformation, the core interval can be easily penetrated into the melody part of the introduction. The interval relationship of the melody lines of the violin voice part is the practical application of the core five-tone group of the introduction.

Figure 105 is a musical score for three instruments: Percussion, Viola, and Violoncello. The Percussion part is on a single staff with a triplet marking '3'. The Viola part is on a single staff with a triplet marking '3' and a tremolo marking. The Violoncello part is on a single staff with a triplet marking '3'. The score is in a key signature of one sharp (F#) and a 2/4 time signature.

Figure 105 The core pentatonic of the violin

2. Main Theme 1

Theme 1: The music melody is lively, which depicts a lively and lively rural-style picture.

As shown in Figure 99, Theme 1 is developed through the six-tone group #F, G, bB, bD, D, bE as the core interval. Its interval relationship is 1+3 (minor second and minor third), played by viola and cello parts. The controlling power of pitch relation of theme one is mainly embodied in melody and harmony.

In subsection 9 of Figure 99, the flute sound part shifts and develops the six tone groups of theme 1: G, bA, B, C, bE and E through no-strict shift and deformation, and the interval relationship is 1+3. In sections 10-11, the piano voice part adopts polyphonic imitation to imitate the six tone groups: D, bE, bG, A, bB, B for three major polyphonic imitations, and the interval relationship is 1+3. Figure 106: The melodic lines of the violin part and the piano part echo back and forth, just like the dialogue between two people, which is vivid and vivid.

Figure 106 Dialogue between Violin and Piano

In order to show the purpose of the development of music power, the composer used the development techniques of mode progression, repetition and reduction to cut through the core six-tone group of themes one in each voice part.

2. The link 1

As shown in Figure 107, the connected interval relationship can be represented by the three melodic sound groups of the viola in section 52. Sound group

I: D, C, B, \sharp G, G; Tone group two: C, B, \sharp G, G, F; Group 3: B, \sharp G, G, F, D. Through the comparison of the three sound groups, the pitch materials they use are all 1+2+3 composition techniques, and the interval relations they use are all minor second, major second and minor third. In addition, the interval structure of the latter two-tone groups is derived from the *non-strict* downward second and third of the first core tone group. There is also a layer of relationship between them. That is, the composition technique of *non-strict* downward modeling is adopted. They are the basis of connecting development and developing pitch through this core interval relationship.

The musical score for Figure 107, section 52, consists of six staves. The top three staves (Fl., Cl., Pno.) show sustained chords with fermatas. The Perc. staff shows a rhythmic pattern. The Vla. and Vc. staves show melodic lines with slurs and a 'poco a poco dim rit' marking.

Figure 107 Connecting music clips Connecting (section 52)

4. Main Theme 2

In Figure 108, the interval relationship of the theme two intervals is 2+5, which is dominated by major second and perfect fourth. In the melody, there are also very distinctive four tone groups: B,E, \sharp F and \sharp C. Composers concentrate the melodies played by six instruments in the same pitch material, which is reflected in melody, sound, chord and rhythm.

4 *Vivace ma non troppo* ♩ = 50

Fl. *mf*

Cl. *mf*

Pno. *mf*

S. drum

Perc. *mf*

Vla. *mf*

Vc. *mf*

Figure 108 Theme 2 Music clip

5. The Second Link

In Figure 109, the core sound groups of flute parts are # F, G, bB, bD, D and bE, and the interval relationship is minor second and minor third. The interval of the high part of the piano in section 100 is related to the minor second, minor third and minor sixth (transposition of major third). From a comprehensive perspective, the interval relationship between these two parts is 1+3+4, and the interval relationship is minor second, minor third and major third.

พหุบัณฑิต ชีวะ

Figure 109 consists of two music clips. The first clip, starting at measure 98, is marked with a tempo of 80 and a box containing the number 5. It features six staves: Flute (Fl.), Clarinet (Cl.), Piano (Pno.), Percussion (Perc.), Viola (Vla.), and Violoncello (Vc.). The second clip, starting at measure 101, features the same six staves. The Percussion part in the second clip includes dynamic markings: *f.gong*, *w.blocks*, and *f.gong*. The score includes various musical notations such as notes, rests, dynamics, and articulation marks.

Figure 109 Link two music clips

In Figure 109, the new material is composed of perfect fourth and perfect tritone. Its addition makes the melody color and music's expressive force more abundant. In section 101, the bass part of the piano has a G- \flat D diminished fifth (tritone) interval; In section 102, the high part of the piano has an interval of \flat D-G plus fourth

degrees (tritone); In section 103, the bass part of the piano has a perfect fourth interval of bB - bE . Based on the above analysis, the composer added perfect fourth and triple intervals on the basis of retaining the original core interval, adding rich color to the short connecting two themes.

6. The second percussion theme

The second percussion part is the climax of the whole piece. The contrast of percussion music makes the music more enthusiastic and the atmosphere more active.

Figure 110 shows a musical score for the second percussion theme, spanning sections 114-115. The score includes parts for Flute (Fl.), Clarinet (Cl.), Piano (Pno.), Percussion (Perc.), Viola (Vla.), and Violin (Vc.). The tempo is marked as quarter note = 152 and half note = 50. The key signature has two flats (B-flat and E-flat). The time signature is 6/8. The score starts at measure 114. The Percussion part is labeled 'S. drum.' and features a rhythmic pattern of eighth notes and rests. The Flute and Clarinet parts play a melodic line with eighth notes and quarter notes. The Piano part features chords and arpeggiated figures. The Viola and Violin parts play a melodic line with eighth notes and quarter notes.

Figure 110 The second percussion theme music clip (Sections 114-115)

Figure 110 flute part theme is obtained by moving the piano part theme up three times. Interval relation: 2+5 (major second, perfect fourth). In section 114, the chords of the high part of the piano are superimposed according to the interval relationship of the major second and the perfect fourth: bB - C - D - G . Chords of section 115: bA - bB - bE - F are also arranged in the interval relationship of major second and perfect fourth. It can be seen that interval structure can not only be presented in the direction of melody, but also form the basis of harmony vertically.

4.3.4 Application of accidental music

The music structure of the link 2 is composed of short themes and chance music, which makes playing freer. Chance Music appears in sections 110-113. The rhythm of Chance Music is disordered and loose: in section 112, the woodwind instrument group is composed of an expanded and tightened rhythm, which forms a sharp contrast. The use of repetition marks, in fact, is a free repetition, which comes from the master according to the needs of the work and the mood of the performer, until the end of the clarinet performance. It can be seen from the analysis that the rhythm of chance music requires players to enter and exit together at the beginning and end. During the performance process, each voice part is relatively random, and the rhythm is not required to be aligned. At the end, all voice parts end together.

6 *Ad.Lib.* ♩ = 84

Fl. *mf*

Cl. *mf*

Pno. *mf*

Perc. *sf p*

Vla. *mf*

Vc. *mf* *ppp*

The image displays a musical score for a section of a work, identified as Figure 111, Link 2, Chance Music clips (Section 110-113). The score is arranged in two systems, each containing six staves for different instruments: Flute (Fl.), Clarinet (Cl.), Piano (Pno.), Percussion (Perc.), Viola (Vla.), and Violoncello (Vc.).

The first system (measures 111-112) shows the following details:

- Fl.:** Measure 111 starts with a dynamic marking of *mf* and an accent. Measure 112 features a *drum* instruction with a *(b)* marking.
- Cl.:** Measure 111 has a dynamic marking of *mf* and an accent. Measure 112 has a *drum* instruction.
- Pno.:** Measure 111 has a dynamic marking of *mf*. Measure 112 has a dynamic marking of *p*.
- Perc.:** Measure 111 has a dynamic marking of *mf*. Measure 112 has a dynamic marking of *p*.
- Vla.:** Measure 111 has a dynamic marking of *mf*. Measure 112 has a dynamic marking of *p*.
- Vc.:** Measure 111 has a dynamic marking of *mf*. Measure 112 has a dynamic marking of *p*.

The second system (measures 113-114) shows the following details:

- Fl.:** Measure 113 has a dynamic marking of *f*. Measure 114 has a dynamic marking of *mf*.
- Cl.:** Measure 113 has a dynamic marking of *f*. Measure 114 has a dynamic marking of *mf*.
- Pno.:** Measure 113 has a dynamic marking of *f*. Measure 114 has a dynamic marking of *mf*.
- Perc.:** Measure 113 has a dynamic marking of *f*. Measure 114 has a dynamic marking of *mf* and a *w.blocks* instruction.
- Vla.:** Measure 113 has a dynamic marking of *f*. Measure 114 has a dynamic marking of *mf*.
- Vc.:** Measure 113 has a dynamic marking of *f*. Measure 114 has a dynamic marking of *mf*.

Figure 111 Link 2 Chance Music clips (Section 110-113)



Figure 112 Connect two accidental music clips audio QR Code (4:55"-5:28")

<https://www.bilibili.com/audio/au3568826>

5. The Characteristics of music works of “Bang Zi tune”

Bangzi Tune is a chamber music work in local opera style composed by Professor Yao Henglu in 2017. Its musical structure is relatively short, with the characteristics of classical chamber music and the charm of traditional opera music. The music is composed of violin, accordion and piano.

5.1 The Characteristics of The Theme

5.1.1 The Main Theme 1

The theme is the violin voice part, which consists of three sections. The main core materials are: a. the drama materials in sections 1-2; b. The surrounding ornament rhythm of section 5; c. The half-tone of the accordion part in section 5 goes down. These three core elements run through the whole song.

In Section 6, the accordion part takes material b as the material, develops continuously, and the violin and piano parts move and imitate constantly. The first section is in section 18, ending with the tonic G

In Section 6, the accordion part takes material b as the material, develops continuously, and the violin and piano parts move and imitate constantly. The first section is in section 18, ending with the tonic G

Figure 113 Dialogue between accordion and violin



Figure 114 Exposition Music Clip audio QR Code (0'47''-1'01'')

<https://www.bilibili.com/audio/au3568758>

5.1.2 The Main Theme 2

In the middle part, slow, deep Adagio. The theme appears in the accordion part of section 39 (Figure 125) in F major, and the melody takes the third interval as the

core interval. From the sections 37-48, the melody trend of the piano voice part is a three-tone series or a five-tone series with chromatic progression, which has played a certain role in the overall structural force of the work. This part mainly focuses on the mutual imitation of violin and accordion, and the music is turned to E key in the 70th section.

B ♩ = 63 *Adagio*

The musical score consists of three systems. The first system (measures 36-38) features a Violin part with a melodic line, a Bass Accordion part with chords and a bass line, and a Piano part with a complex rhythmic accompaniment. The second system (measures 39-41) continues these parts, with the key signature changing to two flats. The tempo is marked 'Adagio' with a quarter note equal to 63 beats. Dynamics include 'mp' (mezzo-piano).

Figure 115 Middle clip (Section 37-41)



Figure 116 Exposition Music Clip audio QR Code (1'38''-2'01'')

<https://www.bilibili.com/audio/au3568758>

5.2 The Characteristics of the structure form

Bangzi Tune is a ternary form structure, and its mode is the Chinese national pentatonic mode.

Table 12 The structure form

Tripartite structure	Exposition A	Middle part B	Recapitulation C	coda D
Changes in musical mood	Andante	Adagio	Andantino	Allegretto
Meter	4/4、5/4	4/4、5/4	3/4、5/4、4/4	4/4
Speed	$\text{♩}=88$	$\text{♩}=63$	$\text{♩}=78$ $\text{♩}=88$	$\text{♩}=88$
Tonality	C Gong、G Gong	F Gong、 ^b B Gong	C Gong、G Gong	G Gong
Bar	1-36	37-74	75-134	135-152

Bangzi Tune is a ternary form structure, composed with the Exposition A + Middle part B + Recapitulation C + coda D.

5.3 The Characteristics of the Composition techniques

5.3.1 Harmonic characteristics

In Bangzi, Professor Yao Henglu uses the five tone harmony technique of Chinese national mode, which reflects the strong Chinese national characteristics.

5.3.1.1 Application of unconventional three overlapping chords - replacing triple chords

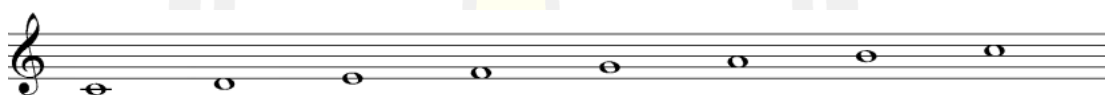
Chords that replace three tones usually refer to the way in which the biased tone is replaced by the adjacent mode level in the national pentatonic mode level. The specific method is as follows (Figure 127, taking the seven-tone scale of C Gong as an example). On the Shang note (Figure 128a), an in-situ triad is constructed according to the three-degree relationship: D-F-A-D (Shang- Qing Jue-Yu-Shang). At this time, the second tone "Zhi" above the "Qing Jue" will be used to replace the "Qing Jue", forming a new chord with three tones replaced: D-G-A-D (Shang-Zhi-Yu-Shang).

The interval relationship has changed from the original third overlapping to the chord structure of the fourth+second interval relationship.

According to the above method, build an original triad (see Figure 128 b): G-B-D-G (Zhi -Bian Gong-Shang -Zhi) on the symbol, and then replace "Qing yu" with "Gong" above "Qing yu" to form a new chord G-C-D-G (Zhi- Gong - Shang - Zhi) with three tones replaced.

It is emphasized here that, in principle, the tone that has been replaced is generally biased "Qing Jue", "Bian Gong", "Bian Zhi", and "Qing Yu". Only when special sound effects are required, can the three tones of the triad be replaced at will.

It can be seen from this that the triad formed on the Shang sound and the characteristic sound can lead to the second interval or the perfect fourth interval in the chord, no matter whether the above tone or below tone of the original triad is used.



Gong Shang Jue Qing Jue Zhi Yu Bian Gong Gong

Figure 117 C Gong Seven tone scale

Replace the new chord formed by three tones:

a:

b:



Figure 118 Chord Examples

The use of chords in the first beat of the accordion part in section 23 of *Bangzi Tune* is to obtain rich sound effects by replacing three tones. The longitudinal structure of chords is the chord structure of the "four degrees+two degrees" interval relationship.

Figure 119 Music clips (Sections 23-25)



Figure 120 music clip audio QR Code (1'01''-1'09'')

<https://www.bilibili.com/audio/au3568758>

5.3.1.2 Use of non-three-overlapping chords

(1) Four (Five) Overlapping Chord

In the configuration of the pentatonic chord structure, Professor Yao Henglu believes that the "power" and "color" of harmony should have the same position in the pentatonic melody, and finding the location where harmony and melody are mutually configured in sound can achieve good music effects. In the second beat of the accordion part and the following beats in the 23rd section of Bangzi Melody, a large number of four or five degrees are superimposed (Figure 129) to show the folk flavor of opera music. (Wang Jiaona, 2017)

(2) Harmony material of the second (seventh) structure

In the development of music melody, the minor second interval has a very rich artistic expression. In the traditional Chinese pentatonic, the interval relationships among Gong, Shang, Jue, Zhi and Yu are major two, minor three and major three strongly controlling the trend of music melody development. Instead of the minor second and major seventh intervals in the pentatonic, composers are often involved in the development of horizontal melody and vertical harmony, so as to obtain a unique music style and make music more distinctive national charm. The accordion part and piano part in Figure 134 (section 26), use a large number of harmonic materials with a two-dimensional structure; In the violin part of the 27th section, the harmony material with a major seven-degree structure is used. The use of these harmonic materials highlights the strong national charm of opera music.

The image displays a musical score for three instruments: Violin (Vln.), Bass Accordion (B.Acc.), and Piano (Pno.). The score is for Section 26-28, starting at measure 26. The key signature is one sharp (F#) and the time signature is 4/4. The Violin part features a melodic line with some grace notes and slurs. The Bass Accordion part provides harmonic support with chords and some melodic fragments. The Piano part has a more complex texture with chords and moving lines in both hands.

Figure 121 Exposition music clip (Section 26-28)



Figure 122 music clip audio QR Code (1'10''-1'15'')

<https://www.bilibili.com/audio/au3568758>

5.3.2 The characteristics of the theme development

The melody development techniques of the trio *Bangzi Tune* mainly used repetition, variation and modeling (imitating polyphony). These development methods are closely related.

5.3.2.1 Repetition

Repeating the phrase or theme as is the most basic way of development. Repetition is no longer the first statement of the theme, but plays a role of emphasis and consolidation.

The image displays a musical score for three instruments: Violin (Vln.), Bassoon (B. Acc.), and Piano (Pno.). The score is in G major (one sharp) and 4/4 time. It begins at measure 141, marked with a repeat sign. The Violin part features a melodic line with eighth-note patterns and rests. The Bassoon part provides a rhythmic accompaniment with eighth-note patterns and rests. The Piano part consists of chords and a melodic line in the right hand, with a bass line in the left hand. The score is presented in three systems, each with a grand staff for the piano and single staves for the violin and bassoon.



The image displays two systems of musical notation for a Coda section. The first system, labeled '144', shows the Violin (Vln.), Bassoon (B. Acc.), and Piano (Pno.) parts. The second system, labeled '147', shows the same three instruments. The music is in a key with one sharp (F#) and a 4/4 time signature. The Violin part features a melodic line with eighth and sixteenth notes. The Bassoon part provides harmonic support with chords and moving lines. The Piano part includes both high and low registers, with the right hand playing chords and the left hand playing a steady bass line.

Figure 123 Coda music clip (Sections 141-147)



Figure 124 Coda music clip audio QR Code (6'53''-7'12'')

<https://www.bilibili.com/audio/au3568758>

In the Coda part, the music theme of sections 142-144 is repeated in sections 145-147. Among them, the high part of the piano in section 113 presents a

single melody. In section 116, when the high voice part of the piano repeats, it adopts the distorted performance of upward repetition of the octave and sixth intervals. In section 144, the bass part of the accordion moved up to a perfect octave.

5.3.2.2 Application of variation techniques

Piano part (41-44 sections)

Figure 125 Piano part

Piano part (49-54 bars)

Figure 126 Piano part



Figure 127 Piano voice part audio QR Code (2'29''-3'08'')

<https://www.bilibili.com/audio/au3568758>

(Figure125) From the fourth beat of the piano part in section 41 to the end of the first beat of section 44, and (Figure136) from the fourth beat of the piano part in section 49 to the end of the first beat of section 54, these two pieces of music both adopt the deformation techniques of interval shift, interval expansion and interval compression, presenting variations for several times continuously, and the completely consistent rhythmic pattern effectively controls the development of music emotion, It makes music both have contrast and maintain a high degree of unity.

(Figure 126) In the piano part of sections 54-56, the rhythm type has changed from the previous intensive type to the stretching type. The melody uses interval shift, and the chord uses interval expansion or interval compression to present.

5.3.3 The characteristics of Imitating polyphony

It refers to a creative technique that extracts some small fragments from the stated theme materials to change and develop, that is, to repeat a small fragment of the theme at different heights.

The musical score for Figure 128 shows three staves: Violin (Vln.), Bassoon (B. Acc.), and Piano (Pno.). The score is in 2/4 time and features imitating polyphony. The Violin part starts with a melodic phrase in measure 70, which is then imitated by the Bassoon and Piano parts in subsequent measures. The Piano part features a complex rhythmic pattern with many sixteenth notes. The score is marked with measure numbers 69, 70, and 71.

Figure 128 Imitating polyphony (70-71 bars)



Figure 129 Mimetic polyphony audio QR Code (3'59''-4'10'')

<https://www.bilibili.com/audio/au3568758>

(Figure 128) In sections 70-71, the composing technique of imitating polyphony is adopted. The theme material comes from the violin voice part, and the high voice part of the accordion uses the writing technique of reflection to form a reverse process with the violin voice part to present the theme material; The bass part of accordion is developed from the downward twelve degrees of the theme material, and the interval structure is consistent with the rhythm form; The high and low pitch melody of the piano part is imitated after the change of the theme material, and the piano melody part is repeated by moving the high pitch part down two octaves on the bass score.

On the whole, this is a national chamber music work, which is based on the musical pitch material of the opera as the core material and adopts a variety of theme development techniques.

6. Stylistic Variation for BA BAN" music works characteristics

"Stylistic Variation for BA BAN" is a piano variation composed by Professor Yao Henglu in 2018. It is a very interesting piano work with the theme of the Peking Opera erhu tune "Old Ba Ban", combined with several musical styles and composition techniques from the Baroque period to the 20th century. The following analyze from the perspective of theme development techniques, application of harmony techniques, tonal layout and interpretation of various variation music styles.

6.1 The characteristics of the themes

The theme music part belongs to the section structure. Every eight bars is a section. There are three sections and six short phrases: A (a, a1) +B (b, c) +C (d, e). The square structure is 8+8+8. The mode is the bB Gong pentatonic mode. Shang and Zhi are the main mode tones. The core interval structure of the theme is 2+3+5+5(major second, minor third, perfect fourth, perfect fifth).

1. Theme core music materials

Figure 130 Core music materials of prime theme



Figure 131 Prototype theme music materials audio QR Code (0'01''-1'00'')

<https://www.bilibili.com/audio/au3570418?type=1>

As shown in Figure 140 as the dominant motivation of the whole theme music part, phrase a play a role in fixing music ideas and controlling rhythm patterns, and the

horizontal interval structure is dominated by a major second, perfect fourth and perfect fifth. The whole interval structure of the five phrases a1, b, c, d, e is consistent with that of the dominant motivation a. In terms of rhythm form, the dominant motivation rhythm form is:



Figure 132 Rhythm form of dominant motivation

It can be seen from the observation of Figure 140 that the rhythm patterns of the five phrases a1, b, c, d and e in the three sections are basically consistent with the rhythm patterns of the dominant motivation a, which reflects that the dominant motivation plays a role in fixing music ideas and controlling rhythm patterns in the whole section.

a1 phrase is the variation and repetition of phrase a, using the writing technique of the same beginning but a different ending. The melody change of a1 phrase comes from the reverse transformation of phrase a melody. The phrase a end on the commercial sound, and the a1 phrase ends on the overtones. The melodies of the two phrases are both unified and contrasted.

6.2 The Structure Form

Table 13 Curved structure diagram: Stylistic Variation for *BA BAN*



Structural layout		Variation 1	Variation 2	Variation 3	Variation 4	Variation 5	Variation 6	Variation 7	Variation 8	Variation 9	Variation 10
The theme	Classical charm with Chinese characteristics	Baroque style of Bach-like	Classical style of Mozart-like	Romantic style of Chopin-like	Impressive style of Debussy-like	New-classical style of Bartok-like	Serialism style of Schoenberg-like	Chance Music of Lutoslawski-like	Post-tonal style	Minimalism of John Adams-like	Jazz style of Joplin-like
Musical emotion	Simple and elegant	Elegant mood	Medium speed, elegantly	Melodious and monologue like	Phantasmagorically	Humorously	Elegant mood	Music language of casual expression	Narratively	Elegantly	Passionately and actively
Tempo	$\text{♩}=63$	Andante $\text{♩}=74$	Andantino $\text{♩}=84$	$\text{♩}=60$	$\text{♩}=63$	$\text{♩}=80$	Andante $\text{♩}=69$	Ad lib $\text{♩}=86$	$\text{♩}=40$	Adagio grazioso $\text{♩}=72$	$\text{♩}=69$
Meter	2/4	2/4	4/4, 3/4	3/4	5/4, 2/4, 4/4	3/4, 2/4, 4/4	2/4	Free beat	3/8	2/4	2/4

Table 13 (Continued)

Structural layout	The theme	Variation 1	Variation 2	Variation 3	Variation 4	Variation 5	Variation 6	Variation 7	Variation 8	Variation 9	Variation 10
Tonality	^b B Gong pentatonic mode	^b B, ^b E	C	C, Departure section, C	^b E, D	Polytonality: ^b E, G, C	Twelve tone sequence Atonality	Atonality	F	C	^b B, A
Bar	1-24	25-59	60-72	73-94	95-109	110-123	124-146	147-153	154-178	179-209	210-255
Time	0'00''-1'00''	1'01''-1'52''	1'53''-2'29''	2'30''-4'07''	4'08''-5'29''	5'30''-6'00''	6'01''-6'57''	6'58''-8'11''	8'12''-8'56''	8'57''-10'11''	10'12''-10'18''

6.3 The characteristics of composition techniques

This work is in the form of variation, and the composer has adopted different musical styles to create the work, which will be elaborated one by one.

6.3.1 variation 1 (Baroque Style, Bach-like)

Variation 1 is based on the theme music and imitates the Baroque music style of Bach.

6.3.1.1 Introduction to Baroque Music

Baroque, which was originated from Portuguese (Baroco), originally meant irregularly shaped pearls, which is an art form. Baroque music originated in Italy, and its popular period lasted from 1600-1750. Representative figures include Bach, Vivaldi and Handel.

Baroque music features: in the use of melody, the polyphonic method of multi-melody and polyphonic music is adopted. The phrases vary in length and are gorgeous and complex. Ornament and modal progressions are often used. The development of melody is characterized by visualization and symbolism, and the tonality replaces the mode and has a clear harmony attribute. Its rhythm is strong, jumping, and it emphasizes the ups and downs of the music, so it attaches great importance to the change of strength, and the tempo remains unchanged from beginning to end.

6.3.1.2 The music characteristics of variation 1

1. The theme form of variation one has not changed much. All the ornaments of the prime theme have been removed, and the sound effect of weak start plus skip staccato has been adopted at the beginning of each phrase, which forms a short stay in the music pool, increasing the sense of breath and pause.

variation 1 (25-45小节)

Var. 1 (Baroque Style Bach-like)
♩ = 74 *Andante*

25

mf

mf



Figure 133 variation 1 (25-45 bar)



Figure 134 variation 1 audio QR Code (1'01''-1'32'')

<https://www.bilibili.com/audio/au3570418?type=1>

2. The development method of variation 1 theme music - imitation

The theme first appears in the treble, bB . In the low voice, imitate the lower twelve degrees, bE . From the perspective of interval relationship, the imitative interval distance between the treble and the low voice part is a perfect fifth. In terms of tonality, the theme of the treble is bB , and the theme of the low voice part is bE , which is also a perfect fifth relationship. The theme music melody of variation 1 adopts the creation technique of twelve-degree (five-degree) imitation, and also adopts the composition technique of five-degree imitation in tonality, which is the core leading interval distance controlling the tonal logic, thus ensuring the unity of music.

3. Control of Baroque Music Style

The music tempo of variation 1 adopts $J=74$, and the tempo remains unchanged from beginning to end. At the beginning of the phrase, the sound effect of weak rise and skip staccato is adopted, and the short stay increases the sense of

breathing and pause. The melody is light and cheerful, with a strong sense of rhythm and jumping. Through analysis, variation 1 has obvious characteristics of baroque music style.

6.3.2 variation 2: (Classical Style, Mozart-like)

Variation 2 is an imitation of Mozart's classical style. The broken chord of the lower part and the regular structure of the chord reflect the classical music style, such as the C major minor sonata, the first movement.



Figure 135 Sonata in C major, first movement

6.3.2.1 Introduction to classical music style

From about 1750 to 1827, it was a music school formed in Vienna, also known as "Vienna Classical Music School". Representative figures are Haydn, Mozart and Beethoven.

The characteristics of music in the period of classicism are: 1) the high unity of reason and emotion, and the high unity of profound ideological content and perfect artistic form. 2) In terms of creation techniques, the music language is refined, simple and friendly, the form structure is clear and symmetrical, and the conflicts in music are strengthened and deepened. 3) In terms of melody, it pursues a beautiful and moving temperament, tends to be neat and symmetrical, square and integral phrase structure, and is more closely related to civil dance, folk tone and dance rhythm; 4) In terms of tonality and harmony, it is clear in tonality, dominated by the style of homophony, and simple in harmony style.

Variation2 (60-72小节)

Var. 2 (Classical Style Mozart-like)

♩ = 84 Andantino

60 *mp* *legato*

63

66

69 *rit.* *p*

Figure 136 Variation2 (60-72 bar)



Figure 137 variation 2 audio QR Code (1'53''-2'29'')

<https://www.bilibili.com/audio/au3570418?type=1>

6.3.2.2 The characteristics of variation 2 music

1.The theme-motivation of variation 2 is: E-A-D-C, C major, and section structure.

2.Variation 2 The development of musical texture

Variation 2 has three melodic parts. The first part is the theme part, the second part is the contrastive polyphonic part, and the third part is the bass part. The 60-65 bars in the first part are presented in the form of accompaniment by broken chord, and the 66-72 bars in the second part are presented in the form of columns and strings.

3.Presentation of classical music style

From the analysis of the tonality and harmony of variation 2, the harmony of the melodic part is off-key, but the overall tonality is to use C major as the homophony to run through the end of this section and end on the complete main triad. The accompanying texture of section 60 is presented in the way of chord decomposition. The chord trend is I- V6- I- V7 (-5), which strengthens the harmonic functional attribute of the T-D in C major. The overall music mood is happy dancing rhythm. In terms of texture development techniques, it is presented in the way of three-voice part contrast polyphony. The composition techniques of variation 2 adopt the typical melody development techniques and the application of functional harmony of the homophony music in the period of classicism. The melody trend, harmony color and music image reflect the style characteristics of classical music.

6.3.3 variation 3: (Romantic Style, chopin-like)

6.3.3.1 Introduction to Romantic Music Style

Romantic music style came into being at the beginning of the 19th century, which is a new school after Vienna Classical Music School. The music of this period is the worship of subjective feelings, the love of nature and the illusion of the future. Representative figures in the early stage of romanticism: Schumann, Liszt, Chopin.

The characteristics of romantic music: 1) Be good at expressing personal feelings and fantasies, and emphasize the experience of individualism. 2) In terms of music style, special attention should be paid to absorbing the essence of national folk

music. 3) Lyric personal psychological description and strong autobiography. 4) Fantastic

6.3.3.2 Comprehensive analysis of variation 3

Variation 3 is an imitation and variation of Chopin's romantic style.

Compared with the original theme, the theme part of variation 3 adds F in the core pitch material, the lines of the theme are also elongated, and some intertemporal texture patterns of connected notes are added. The internal texture flow pattern is added, and at the same time, the lower part adds hidden lines, which are ubiquitous in Chopin's piano works, such as: Prelude in # c minor, op.28. no. 8.

The image shows two systems of musical notation for Variation 3. Each system consists of a treble clef staff and a bass clef staff. The key signature is one sharp (F#) and the time signature is common time (C). The first system begins with a piano (*p*) dynamic marking. The right-hand part features a melodic line with slurs and ties, while the left-hand part features a bass line with triplets and asterisks. The second system continues the same musical material.

Figure 138 Prelude in #c minor op.28. no. 8

Variation3 (73-78小节)

(Var.3 Romantic style Chopin-like)
♩ = 60

73

76

Figure 139 Variation3 (73-78 bar)



Figure 140 variation 3 audio QR Code (2'30''-2'58'')

<https://www.bilibili.com/audio/au3570418?type=1>

2.Variation 3 The development method of music texture

The melodic lines and rhythm of the theme music of variation 3 are developed with the development method of expanding the duration. The internal texture uses the flowing sound pattern as the accompaniment part, which increases the use of the cross-beat legato playing techniques, and requires the performer to closely grasp the romantic music's melodious, elegant and illusory style, and play it out very consistently. The bass part adds a hidden melody line: C-F-E-D, hidden in the flowing texture. This writing method of bass melody lines reflects the composition technique of the Baroque music period, the through-bass, making a sharp contrast between bass and treble.

2. Presentation of Romantic Music Style

From the perspective of the tonality and harmony of variation 3 (82-87 sections), the composition technique of continuous off-tone is adopted, and the harmony material is carried out by ascending minor second mode. The instability of the music tonality, coupled with the application of the internal flowing tone texture of the music, makes the music mood full of mystery and fantasy, reflecting the Chopin style of romantic music.

6.3.4 variation 4 (Impressive style, Debussy-like)

6.3.4.1 Introduction to Impressionist Music Style

Impressionist music is a new musical style that originated in Paris, the center of European cultural activities, at the end of the 19th century. Impressionist music with a completely abstract, beyond the reality of the color is the beginning of music into modernism. Representative figures: Debussy and Ravel, French musicians.

The characteristics of impressionist music style are as follows: 1) In terms of music form, short and irregular forms are often used to reflect the freer characteristics of impressionist music; 2) Break through the major minor system in music language and attach importance to harmony, texture and orchestration colors; 3) In the development of tune, short tune cells are combined into a new motivational vocabulary; 4) In rhythm, polyrhythm and polymeter are used. The irregular subdivision of rhythm weakens the driving force and presents a loose flowing state; 5) Pay attention to the expressiveness of modes, expand the concept of tonality, and bring about the multi-tonal factors; 6) By increasing the possibility of chord structure and weakening the function of harmony, different colors and sounds are juxtaposed in a flat and pictorial way, and harmony becomes the most important means of expression; 7) The timbre is rich, unique and novel; 8) Novel arrangement of ligature and texture; 9) The structure is loose and fuzzy.

6.3.4.2 The music characteristics of variation 4

Variation 4 mainly imitates the style of Debussy's piano works. The parallel movement of parallel chords and isometric intervals is the obvious feature of Variation 4. Variation 4 is only a partial reference to the diatonicism in Debussy's *Voiles*, which only retains the color of augmented triad and gives consideration to the

pentatonic feature b of the Chinese national pentatonic mode. The theme floats in the flowing texture, appearing in the treble (g-c-f^be).

7

II

Modéré (♩ = 88) (Dans un rythme sans rigueur et caressant)

The musical score for Debussy's 'Voiles' (Modéré) is shown in a grand staff. The tempo is marked 'Modéré' with a quarter note equal to 88 beats per minute. The instruction '(Dans un rythme sans rigueur et caressant)' suggests a relaxed and caressing rhythm. The piece is marked 'p très doux' and 'p'. The score includes fingering numbers (1-5) and dynamic markings like 'p' and 'più p'.

Figure 141 Debussy's *Voiles*

Var. 4 (Impressive style)

Debussy-like

♩ = 63

The musical score for Variation 4 of Debussy's 'Voiles' is shown in a grand staff. The tempo is marked '♩ = 63'. The score includes fingering numbers (1-5) and dynamic markings like 'p'. The piece is marked 'p'.

Figure 142 variation4



Figure 143 variation 4 audio QR Code (4'08''-4'50'')

<https://www.bilibili.com/audio/au3570418?type=1>

6.3.5 variation 5: (New-classic style, Bartok-like)

6.3.5.1 Neoclassical music

Neoclassicism music is a school of western music in the first half of the 20th century, represented by Stravinsky, Bartok, Hendermet, the Six People's Group and other composers, based on the natural scale of seven tones, to avoid excessive pursuit of half-tones. At the same time, Debussy's harmonic color and scattered texture should be avoided. At the technical level, it reflects the characteristics of polytonality and polymode.

6.3.5.2 The characteristics of variation 5 music

Variation 5 is the imitation and variation of neo-classical style. The creative technique of this part is the presentation of neo-classical style.

Variation 5 is polyphonic and consists of three tones: bE -G-C. The upper two voice parts are basically presented in a six-degree parallel manner, and the tonality is a six-degree relationship. The rhythm form is relatively simple, basically using the eight-point rhythm and quarter-point rhythm. The lower part adopts the dense voice type with strong mobility, which forms a sharp contrast with the texture of the upper two voice parts.

Under the condition that the tempo remains uniform, the performance of the above two parts is relatively stable. After adopting the rhythm and sound pattern of the prime theme and the transformation of the tonality of the prime dominant motivation, the sound effect presented has the characteristics of language refining, simplicity, and affinity, returning to "classical music", and the structure of music expression is clear and symmetrical. However, the music image presented here has the

characteristics of multi-mode and multi-mode music, which reflects the difference between the neo-classical music style and the classical music style.

Through the observation of the 110-115 and 116-118 sections of Figure 157, it is found that the music theme is developed through the method of rhythm deformation. The front rhythm is dominated by the rhythm of 28/20 and the rhythm of 4/4, while the back rhythm is dominated by the rhythm of 46/48 and the rhythm of 8/16, and the duration is basically reduced by one time. Through the transformation of rhythm, the contrast between the two parts of music image is very obvious. Through the above analysis, the music image presented by the creative techniques of variation 5, such as multi-mode and rhythm deformation, highlights the music style of the neo-classical period.

Var. 5 (New-classic style Bartok-like)

$\text{♩} = 80$

110

113

116

Figure 144 variation5 (110-118 bar)



Figure 145 variation 5 audio QR Code (5'30''-5'48'')

<https://www.bilibili.com/audio/au3570418?type=1>

6.3.6 variation 6: (Serialism style, Schoenberg-like)

6.3.6.1 The Introduction of Sequencism

Sequencism, also known as sequential music, is a kind of music creation technique that appeared in the 20th century, and then developed into a modern music type and genre. Representative figures: Schoenberg, Webern.

Sequential music adopts twelve-tone serial technique composition method and has no tonality. The specific use method is mentioned in the "twelve-tone serial technique analysis theory" in the fourth part of the second chapter of this paper, and will not be discussed here.

Sequential music style features: 1) In terms of tonality, atonal creation techniques (including free atonality and serialized twelve-tone techniques) are adopted; 2) The melody is fragmented and sharp; 3) Irregular rhythm; 4) Free structure; 5) The dynamics change abruptly.

6.3.6.2 The characteristics of variation 6 music

Variation 6 is an imitation of Schoenberg's twelve-tone sequence style. In section 125, the motivation of theme 1 appears in the treble (A-D-G-F), reflecting the pentatonic characteristics. The treble is the Prime row, and the middle voice part is RI. The middle part is retrograde inversion, and the lower part is Prime row.

In sections 125-128, the twelve-tone melody Prime row is extracted from the high part melody. The theme melody of the bass part of section 126 is to move the tenor theme melody down to a perfect octave and develop it by imitating polyphony.

Var.6 (Serialism style Schoenberg-like)
♩ = 69 Andante

Figure 146 variation6 Theme I (124-129)



Figure 147 Variation6 Topic 1 audio QR Code (6'01''-6'14'')

<https://www.bilibili.com/audio/au3570418?type=1>

variation6 Theme II (137-143 sections):

พหุ ประถมศึกษา

Figure 148 variation6Theme II



Figure 149 Variation6 Topic 2 audio QR Code (6'31''-6'47'')

<https://www.bilibili.com/audio/au3570418?type=1>

In section 137, the theme II motivation appears in the treble ($\#D-\#G-\#C-B$), which is the development of the theme I motivation material A-D-G-F downward diminished fifth degrees of displacement. Its twelve-tone melody prime row is:

Figure 150 Twelve-tone melody prime row of Topic 2

6.3.6.3 Presentation of sequential music style

From the perspective of the tonality of variation 6, it uses the serialized twelve-tone serial technique to composite, which is shown as atonality. In terms of melody, the picture sense of the four-tone group motivation melody lines of theme 1 and theme 2 is more prominent, while the melody of other parts is fragmented, the music rhythm is not prominent, and the sound effect is sharp. From the above analysis, we can see that the serialization style of variation 6 is more prominent.

6.3.7 variation 7:(Lutoslawski aleatory style)

6.3.7.1 The Introduction of Chance Music

Chance Music, one of the western modernist music schools, began around the 1950s. It refers to the music in which the composer introduces accidental factors into the composition process or performance process.

The style of chance music: 1) In performance, there are improvisation, randomness, contingency and uncertainty in melody pitch, strength, rhythm and other musical elements; 2) Use special notation symbols; 3) Dissonant harmonious language; 4) Strange sound effect, with great stimulation; 5) Complex polyphony and atony; 6) No fixed musical structure. Representative figures: Rutoslavsky, John Cage.

6.3.7.2 The music characteristics of variation 7

Var. 7 (Lutoslawski aleatory style)
♩ = 86 *Ad lib.*

The musical score for Variation 7 is presented in a two-staff format. The upper staff is in treble clef and the lower staff is in bass clef. The key signature has one sharp (F#) and the time signature is 4/4. The score begins at measure 147. The upper staff starts with a fortissimo (*sfz*) dynamic and a melodic line. The lower staff starts with a mezzo-forte (*mf*) dynamic and a more rhythmic accompaniment. The score includes various dynamics such as *sfz*, *mf*, and *mp*, and is marked *Ad lib.*

The image displays three systems of musical notation for Variation 7, measures 147-151. The first system (measures 147-149) features a treble clef with a key signature of two flats and a common time signature. The right hand starts with a fortissimo (*f*) dynamic, followed by a *rit.* (ritardando) marking. The left hand begins with a piano (*p*) dynamic. The second system (measures 150-151) starts with a piano (*p*) dynamic in the right hand and a mezzo-piano (*mp*) dynamic in the left hand. It includes trills (*tr*) in the right hand. The third system (measures 151) begins with a mezzo-forte (*mf*) dynamic in the right hand. The score includes various musical notations such as slurs, ties, and dynamic markings.

Figure 151 variation 7 (147-151)



Figure 152 Variation6 Topic 2 audio QR Code (6'58''-8'03'')

<https://www.bilibili.com/audio/au3570418?type=1>

Through the observation of Figure 164, the composer marked "Ad lib." on the score, which means improvisation and requires improvisation, and the performer gave up or weakened his subjective control over the tempo, rhythm, strength, emotional expression and other musical elements in the score. This chance music style is characterized by the uncertainty of music in time.

In harmony, a large number of chords composed of dissonant intervals, such as triad, major and minor second, major and minor seventh, and increasing and decreasing intervals, are used. Among them is the column chord in the first beat of section 147: C - #F-B-F-C-E. This chord structure contains dissonant intervals such as increasing fourth (C-#F), major seventh (C-B), decreasing eighth (#F-F), decreasing fifth (B-F) and major seventh (F-E). The high part chords of section 148 contain a major second (G-A). The interval structure of the two chords in the high and low parts of section 149 adopts the interval relationship of double overlap. The use of these chords makes the sound effect particularly sharp and gives people a strong impact on hearing.

In terms of playing tempo and mood, the composer's intention is to improvise according to the performer's personal mood. For example, a number of C tones in Section 149 are repeatedly displayed, which should be "rit." in tempo and "PPP" in strength. The control of these musical elements requires the performer to grasp, and interpret the ideological connotation of music according to the performer's own inner feelings.

According to the above analysis, variation 7 adopts the creation techniques of chance music, which reflects the style characteristics of chance music from the presentation of harmonic sound effects, changes in melody pitch, rhythm, strength and other musical elements.

6.3.8 variation 8:(post Tonality)

6.3.8.1 The Introduction of post-tonal music

post-tonal music refers to the music that appeared in the western countries since the end of the 19th century and sought to weaken and eventually disintegrate the functional tonal harmony system with a new pitch organization structure, and gradually formed new technologies and new styles at the same time. Post tonal music composition techniques cover a wide range, such as the pitch class set theory, "twelve-tone system", the use of "central tone" thinking, texture polyphonic techniques, truncation and sequence creation. (Miguel A Roig- Francoli, 2006)

6.3.8.2 Multi-tone technique of music texture

Variation 8 uses the composition mode of polyphonic techniques to enrich the texture of music through multiple independent horizontal melody lines. In the use of harmony, the traditional functional harmony is abandoned, and the non-three-

overlapping chords composed of dissonant intervals are used vertically to strengthen the music image through the role of timbre carrier.

Var.8 (后调性 Post Tonality)

♩ = 40 叙事、如歌地

The musical score for Var.8 (后调性 Post Tonality) is presented in four systems, each with a treble and bass clef staff. The first system starts at measure 152 with a forte (*f*) dynamic in the bass and a mezzo-forte (*mf*) dynamic in the treble. The second system starts at measure 156. The third system starts at measure 160. The fourth system starts at measure 164 with a mezzo-forte (*mf*) dynamic. The score features complex rhythmic patterns, including sixteenth and thirty-second notes, and overlapping chords with dissonant intervals. A large, faint watermark in Thai script, 'พหุบัณฑิต ชีวะ', is visible at the bottom of the page.

Figure 153 variation 8 part (152-175)



Figure 154 Variation8 part audio QR Code (8'03''-8'56'')

<https://www.bilibili.com/audio/au3570418?type=1>

1. Single line multi-tone and multiple-voice part melody lines are presented and used together, so that the melody appears successively and presents a texture form of a complete melody. This technique highlights the colorful timbre combination, and maintains the continuity and equality of musical instrument roles. (Sun Xiaoye, 2021)

In section 154, the theme is first presented in the treble with flowing rhythm. At the same time, the second voice part and the bass part successively played the theme of the deformed melody, forming a strong contrast in timbre and sound. In the whole paragraph of variation 8, the creation technique of single line and multi-tone is used in several clips.

2. Imitation

Sections 164-173 are variations on sections 154-163. Among them. The moving imitation of section 169 to section 159 shows that the melody lines and rhythm patterns of the two sections are completely consistent. The rhythm and sound patterns of the second voice part and the bass part are consistent. Melodic lines only adjust the pitch structure and changing sounds of the imitated voice part, thus creating flexible and dynamic sound effects.

3. Rhythmic counterpoint

Rhythmic counterpoint refers to that many parts of the voice are not synchronized in the same time between different rhythm types in the longitudinal direction, which can make the music form internal tension in local movement and overall movement. The composer used rhythm counterpoint in several pieces to increase the tension of the music. Taking the two sections 155-156 as an example, the composer used the counterpoint technique to make the rhythm elements interlace in rhythm, with a sense of hierarchy between the vocal parts, and a strong contrast in sound, which played a positive role in promoting the development of music.

Through the above analysis, it can be seen that the music texture of variation 8 is composed of three independent horizontal melody lines. In terms of creation techniques, the polyphonic technique of texture is adopted. The music is developed through single-line polyphony, imitation, rhythm counterpoint and other techniques, and the overall sound flow generated by interaction with other music materials reflects the characteristics of post-tonal music.

6.3.9 variation 9:(simple music)

6.3.9.1 Introduction to simple music

Simplicity music is a musical genre that emerged in the 1950s and 1960s. The basic feature is to keep the same rhythm segment from beginning to end, and the pitch of a limited number of notes changes continuously. In the repeated process, the internal melody, rhythm and harmony show slight changes.

The characteristics of simple music are as follows: 1) refined music materials; 2) If there is no functional tonality in music, it emphasizes harmonious chords to complement melody and harmony; 3) Repetitive techniques are used for "motivational fragments" of smaller units; 4) Phase shift; 5) Reflect the static

characteristics of music in the form of continuous bass, rhythm or long tone. Yang Jing (2008)

6.3.9.2 The music characteristics of variation 9

The core motivation of the theme of variation 9 is E-A-D-C. The theme is repeated constantly. With the development of music, the theme is also changing constantly. The change of theme is not the most important, but the change of texture and harmony is very rich.

Var. 9 Minimalism John Adams like
♩ = 72 Adagio grazioso

Figure 155 variation 9 (179-184)



Figure 156 Variation9 audio QR Code (8'57''-9'10'')

<https://www.bilibili.com/audio/au3570418?type=1>

1. Bass - use of "drone" technique

Through the observation of Figure 168, the lower part adopts the technique of drone. Its specific method is to connect two homophonic and rhythmic

sounds by connecting them across bars, doubling the duration, so as to achieve a drone production of a single sound. Two bars are taken as a cutoff, and the bass part is presented in the way of half-tone ($\sharp F$ - $\flat F$ -E) downlink progression, giving a sense of non-dynamic static sound.

2. Motivational Fragments - Application of "Repetition" technique

"Motivational fragments" can be composed of "single tone", "sound pattern", "motivation" or "phrase". The musical materials of minimalist music are mainly motivational fragments. The core motivation of variation 9 is E-A-D-C. Motivational fragments in the form of four tones are repeatedly played.

3. Adding Structure -- Promoting the Change and Development of Texture



Figure 157 variation 9

In Figure 166 and Figure 168, we can see that the music texture of the two has changed: the theme of subsection 197 is the deformation of the second half of the prime theme, and the bass part has become a more fluid texture, and the rhythm is uniform. By constantly adding new melody and rhythm patterns to the original voice parts, the sound part combination form of music is more dynamic, so that these "added parts" of music fragments play the role of expanding the music structure.

The composer created a piece of music with a minimalist music style in variation 9 by using the techniques of "drone", "repetition" and "adding structure".

6.3.1 0variation 10: (Jazz style, Joplin-like)

6.3.10.1 Introduction and characteristics of jazz

Jazz, originated in the United States at the end of the 19th century and the beginning of the 20th century, was born in the southern port city of New Orleans. The musical roots come from Blues and Ragtime. Jazz emphasizes improvisation and

is based on the Shuffle rhythm with swinging characteristics. It is a combination of African black culture and European white culture.

The musical characteristics of jazz music are: 1) flowing, jumping, lively and full of dance; 2) Use the blues scale; 3) The rhythm is mostly 2/4 or 4/4, and the average rhythm of the left-hand part is mostly the eighth note; 4) Unique jazz chords; 5) Sound processing is realized by pitch, intensity and color of sound; 6) The melody mostly uses syncopated rhythm and triplet, so it forms the inversion of light stress; 7) Impromptu. (Du Wei & Zhang Li, 2008)

6.3.10.2 The music characteristics of variation 10

The music clips of variation 10 belong to the lively jazz style. Composers use continuous lines and rhythmic and dynamic octave rhythm to create a good swing effect. ^bII and ^bVI notes are used in the scale, which are characteristic notes of common jazz scales.

Var. 10 (Jazz Style) Joplin-like
♩ = 69

Figure 158 variation 10 part



Figure 159 Variation10 audio QR Code (10'12''-10'28'')

<https://www.bilibili.com/audio/au3570418?type=1>

1. Use of syncopation rhythm -- increase the swing sense of music

The essence of the sense of swing comes from the strong sense of power brought by maintaining the same tempo and rhythm from beginning to end. Among them, the use of syncopation rhythm can cause the feeling that the beat stress is ahead of or behind, break the law of the strength of the normal beat, produce a tension, and thus form a sense of swing. In Figure 171, the use of syncopation rhythm is obtained by changing the strength of the original beat by using a connecting line between two homonymous sounds.

2. Regular chord accompaniment in the bass

Through unified tempo and rhythm, jazz music maintains a stable rhythm and brings strong impetus to music. The bass part is the presentation of the eighth note column chord with the average rhythm chest on the beat, playing a firm and stable role in the whole music rhythm.

3. Special treatment of sound effects

Different instruments have different playing techniques. For example, the "kneading" of string instruments can change the pitch; The overblowing method of wind instruments creates rough or hoarse sound effects; Piano realizes the special treatment of sound through stress, strong retention or various types of staccato. In this piece of music, the composer used the special treatment of sound effects to composite.

1) Use of accent

In section 210, the playing symbols of stress ">" plus staccato "·" are used for the D tone, representing 1/2 of the duration when playing the D tone and 1/2 of the duration when playing the rest. Therefore, the performance of D sound is both bouncing and dynamic. Most of the chords in the bass part adopt the playing technique of "·", which makes the overall music a sense of jumping.

2) Use of strong retentives

Strong retentive, "-", requires the player to play full and forcefully, and the duration should be sufficient. In section 213, the playing technique of strong retentive "-" is used on the three notes of ^bB-D-F in the bass. In addition, the technique of "strong retentive" is also widely used in other parts of the music, making these notes played more plump and powerful.

Through the analysis of *Stylistic Variation for BA BAN*, we can see that it is a variation formed by ten variations of the music theme of Chinese Qin rhyme style, using the multi-voice technique, the use of harmonic language and the creation technique of imitating the western music styles in various periods.

Stylistic Variation for BA BAN emphasizes the grasp of "music style" in each variation. In addition, it also emphasizes the changes of multi-voice technique, the use of harmonic language, and the changes of the spinning habits, which make music vary from the typical Chinese statement as the theme of the whole song at the beginning: Western Baroque style, classical style, romantic style, impression, neo-classical style, expressionism and other different styles, to chance music Backtone, Jazz Style. It is like a "minimalist music history" style of browsing. (Yao Henglu, 2018)

Chapter VI

The influence of Yao Henglu's music works on Chinese modern music composition

Professor Yao Henglu's music works have a profound influence on Chinese modern music composition and play a leading role in practice. According to the evaluation of many scholars, Professor Yao Henglu is a teacher with broad thinking and profound scholarship. On the one hand, he laid a solid foundation for the theoretical system during his doctorate study at the University of Leeds in England. He learned a lot of modern Western composition techniques and music analysis methods. On the other hand, he had lived in northern Shanxi for many years, and the elements of national folk music and local feelings were imperceptibly incorporated into his music creation. It can be said that Yao Henglu's rigorous theoretical thinking, deep academic foundation, and diverse work styles have an important impact on his music composition and teaching practice. At the same time, it also has a long-term impact on his students and the composition of modern Chinese music.

1. Western modern composition techniques were introduced in the middle and late 20th century

With the increasingly frequent exchange of music and culture between China and the West, modern western composition techniques have broadened the artistic vision of Chinese composers. People have been exposed to new creative techniques, showed great interest, and made efforts to explore their unknown fields. In the middle and late 20th century, with the efforts of musicians, western modern composition techniques were gradually introduced into China. (Wu Zuqiang, 2000). Professor Yao Henglu was exposed to a large number of modern music works of the 20th century during his doctoral study in the School of Music, University of Leeds, UK. These works use a large number of modern composition techniques, such as the twelve-tone serial technique, pitch-class set, pan tonality, and latent tonality. During his stay in England, Professor Yao systematically studied modern music analysis methods. After his return to China, he set up a course in modern music analysis at the Central Conservatory of

Music, which filled the gap in the teaching of modern music in China. The difference in music aesthetics inevitably leads to the difference between modern music and traditional music aesthetics. The deep-rooted traditional music appreciation methods and composition technique is quite different from modern music. In cultural pluralism, only by understanding its characteristics and mastering its laws can we respect the aesthetic differences presented by different cultural pluralism. The introduction of the composition techniques of Western University only requires a deep understanding of the characteristics of modern composition techniques, which can be incorporated into the curriculum teaching system of the discipline and applied to the composition of actual music works.

After learning the western modern composition techniques and modern music analysis methods, Professor Yao Henglu composited a large number of modern music works in China. He systematically taught professional musicians the characteristics of modern music composition techniques, which promoted the development of western modern music composition in China. In particular, he composited modern music works with Chinese national style through the integration of multi-dimensional composition techniques - the integration of western modern composition techniques and Chinese national music elements, which helps professional musicians to analyze and study his works carefully, summarize the rules, and composite more modern music works. This enables composers and music teachers to have more reflection and reference in the practice of modern music so as to promote the development of modern music in China and make due contributions to the continuous progress of world music culture.

2. The Training of a large number of music analysis and music composition talents in China

Professor Yao Henglu trained a large number of talents in music composition and music analysis when he was teaching in the Composition Department of the Central Conservatory of Music in China. He asked himself to teach every lesson well and train every student who loves composition well. Today, these students have become young major music teachers in many colleges and universities across the country. The young composers he trained were active in various art festivals and high-standard competitions and achieved fruitful results.

Some outstanding students trained by Professor Yao Henglu are listed below:

2.1 Professor Xie Fuyuan was born in Leiyang County, Hunan Province in November 1979. He graduated from the Composing Department of the Central Conservatory of Music with a master's degree and a doctor's degree. The doctoral thesis "Research on Alfred Schnittke's Symphony Creation" won the honor of excellent doctoral thesis of the Central Conservatory of Music. In 2009, he joined the Conservatory of Music of Hunan Normal University, mainly engaging in the theoretical teaching and research of composition technique. The research direction mainly focuses on western modern music and modern Chinese music.

Professor Xie has presided over and participated in a number of projects of the Ministry of Education and the provincial level; Published more than 20 core papers; He has published two monographs, *Research On The Composition Of Alfred Schnittke'S Symphony* and *Research On The Composition Of Alfred Schnittke's Grand Concerto*, which are important documents for studying the composition of Russian composer Schnittke at home and abroad. He has published a textbook, *Music Analysis Music Score Collection*, which is now the designated textbook of many music colleges and universities. From September 2016 to September 2017, as a national visiting scholar, he studied with Professor Chen Yi, an American Chinese composer, at the Kansas City Campus of the University of Missouri for one year. He has been awarded as the young academic backbone of Hunan Normal University and the young backbone teacher of Hunan Province.

Professor Xie Fuyuan's article focuses on the theory of composition techniques and the analysis of music works. Among them, the thesis *Blending of Multiple Composing Techniques - Analyzing Schnittke's The Third Concerto* introduced Schnittke's creative design of chord sequences composed of twelve large and small chords and took them as the core pitch materials of the whole song, thus organically unifying the multiple composition techniques within a framework, making the multiple composition techniques blend, thus forming a "complex style" integrating multiple style characteristics. This kind of composition method of Schnittke is enlightening to composers in the era of multicultural interaction.

In the thesis *Research on the Artistic Characteristics of Gao Ping's Playing and Singing the Piano*, Professor Xie Fuyuan studied the unique artistic value of Gao Ping's

“Playing and Singing the Piano works” by analyzing the creative techniques in his works. “Playing and singing the piano” is a unique form of music performance. Pianists also “sing” while playing the piano. This kind of “singing” is different from the singing methods in art songs, including bel canto, whistling, exhaling, chanting, yelling, and so on. In this paper, the author summarized the following artistic characteristics of Gao Ping's “Playing and Singing the Piano” works:

1. Composition with tonal polyphonic variation, harmony, and other techniques. This is more profound in the melody and content of single melody songs;

2. The utilization of the composition paradigm of artistic songs to composite. It organically combines the literariness of the lyrics, the degree of coincidence between the melody and the artistic conception of the lyrics, and the artistry of the piano part to express the charm of art songs with strong Chinese classical connotations.

3. The adoption of a personalized development approach. Among the development methods of the music in this work, the composer mostly used repetition, which highlighted the image of the music and left a deep impression on the audience.

4. The adoption of complex style composition techniques. The so-called “complex style” means that there are two or more different musical styles in work, which means that there are two or more different creative paradigms to achieve a complex style. The most common way to achieve a complex style is to quote and collage, that is, to combine materials of different styles in work. (Xie Fuyuan, 2017)

Through the literature analysis of Professor Xie Fuyuan's academic thesis, it can be seen that under the guidance and influence of Professor Yao Henglu, who has a very solid foundation in the analysis vision of modern music works and the mastery of music analysis techniques. He inherited and developed modern music analysis methods, making great contributions to the development of modern music in China.

2.2 Ye Hongde, who was admitted to the Composing Department of the Central Conservatory of Music in 2003, studied modern composition techniques and music analysis under the guidance of Professor Yao Henglu. In 2006, he received a doctor's degree in literature with his graduation thesis, *Research on the Creation of Hans Werner Henck Symphony*.

In recent years, he has published more than ten academic papers in such journals as *Music Research*, *Journal of Central Conservatory of Music*, *People's Music*, and

Chinese Music; Many music works won prizes in the competition; "Theory and Practice of Music Analysis" (series of papers) won the first prize of Shandong Provincial Excellent Achievement Award of Culture, Arts and Science in 2007; He undertook many national and provincial projects. He is now a professor in the Department of Composition of China Conservatory of Music.

Table 14 The list of thesis on music analysis published by Ye Hongde is as follows:

The serial number	Paper title	Name of published Journal	Published time
1	<i>Song without definite Rules, Form and Method are natural</i>	<i>Journal of central Conservatory of Music</i>	Issue 2, 2012
2	<i>Rational Rigor and Poetic Flourish -- A Study of Boulez's First Piano Music</i>	<i>Music study</i>	Issue 1, 2012
3	<i>Theory and Practice of Tonality Logic in Sonata Form</i>	<i>Music performance</i>	Issue 4, 2011
4	<i>An Analysis of Henze's Symphony No. 6</i>	<i>Journal of Tianjin Conservatory of Music</i>	Issue 4, 2011
5	<i>An Analysis of Henze's Symphony No. 9</i>	<i>Music and Performance</i>	Issue 4, 2010
6	<i>The Structure and Function of Hengce's "Moving Chords"</i>	<i>Journal of central Conservatory of Music</i>	Issue 4, 2009
7	<i>Chapter in The Study of Opera Music</i>	<i>People's music</i>	Issue 5, 2008

Table 14 (Continued)

The serial number	Paper title	Name of published Journal	Published time
8	<i>The Mathematical Spirit of Equal Rhythm and its Expanded Application in the 20th Century</i>	<i>Poems new</i>	Issue 3, 2008
9	<i>Perspective, Style, Chain, Structure -- An Analysis of Symphony No. 1</i>	<i>Journal of central Conservatory of Music</i>	Issue 4, 2007
10	<i>Analysis of The Techniques of Henze symphony No. 5</i>	<i>Music performance</i>	Issue 4, 2007
11	<i>Structural Approaches to Free Atonal Music</i>	<i>Journal of Tianjin Conservatory of Music</i>	Issue 4, 2007
12	<i>The Key to Modern Music</i>	<i>People's music</i>	Issue 2, 2006
13	<i>Combinatorial Logic and Structural Function of Pitch Materials</i>	<i>Journal of Tianjin Conservatory of Music</i>	Issue 1, 2006
14	<i>Complementary Exploration and Practice of Music Analysis in the 20th Century</i>	<i>Music study</i>	Issue 3, 2005
15	<i>Deconstruction of logic, Mutual Integration of Techniques and Leap of style</i>	<i>Journal of Tianjin Conservatory of Music</i>	Issue 3, 2005

Table 14 (Continued)

The serial number	Paper title	Name of published Journal	Published time
16	<i>On the History and Thinking Orientation of Music Analysis</i>	<i>Journal of central Conservatory of Music</i>	Issue 3, 2004
17	<i>Messiaen's Finite Shift Mode and its Application in Chinese Works</i>	<i>Chinese Music (Cooperation)</i>	Issue 1, 2004
18	<i>"Linear Thinking in music Analysis in the 20th Century"</i>	<i>Journal of Central Conservatory of Music (Cooperative)</i>	Issue 3, 2003
19	<i>The Role of Piano Music in Piano Teaching in the 20th Century</i>	<i>People's Music (Cooperation)</i>	Issue 5, 2003
20	<i>A Study of Liszt's Piano Sonata in B Minor</i>	<i>A small player</i>	Issue 6, 2003
21	<i>"The Penetration of structural Force in the Analysis of Music in the twentieth century"</i>	<i>Journal of Northwest Normal University</i>	Theory edition 2003
22	<i>Homology and Differentiation</i>	<i>Qilian Singing</i>	Issue 5, 1998

2.3 He Qingtao is currently the deputy dean of the School of Music of Shandong Academy of Arts, the director of the Department of Theoretical Composition, a professor of composition, and the tutor of master's degree students. He is a member of the Chinese Musicians Association, the University Music Alliance of the Chinese

Musicians Association, and the Music Education Society of Chinese Colleges and Universities. He is a member of the Music Analysis Society of the China Music Association and the Shandong Musicians Association.

For many years, he has mainly engaged in the teaching, creation, and scientific research of composition and composition technique theory. His previous courses include Composition, Analysis of Works, Music Appreciation, Folk Music Orchestration, Orchestra Method, Piano Accompaniment Writing, Orchestra Rehearsal Class (as conductor), Modern Music Theory, 20th Century Music Appreciation, Modern Music Analysis, Analysis of Music Literature Techniques, etc.

Art Practice:

Over the years, he has composited many musical works in various genres. The main works include many instrumental works: orchestral works *Jian Jia*, *Breaking the Array*, *Characteristics of Qilu*, saxophone and orchestra *Dao Qing*, clarinet solo *Shanbei Customs*, *Sea*, violin solo *Song of Wild Goose*, zither solo *Daguandeng*; Chamber music works: *Lu Tune*, *Mei Di*, *He He*; Many musicals: *Little White Turtle*, *Baby*, *Young Shun*, *The Song of the Forest*, *The Song of the Swan*, *Health Together*; Drama music: *How Far is Heaven*; Many choral works: *The Bell of Return*, and the unaccompanied chorus *Yimeng Mountain Minor*; Vocal music works: nearly 100 vocal music works including the solo *Motherland*, *I Talk to You*, *Motherland Forever*, *Wandering*, *Huanxi Sand*, *Drunken Flower*, *Chinese Family*, *The Wind of the Earth*, *Love Together*, *55 Red Candles*, *Love You in My Heart*, *Beauty Yu · Hear the Rain*, etc.

Over the past few years, Professor He Qingtao has participated in various academic seminars for many times, made conference speeches and paper discussions; Participated in the research group of the key reform curriculum of Solfeggio organized by the Education Commission of Shandong Province, and presided over and participated in many national, provincial and ministerial projects; He has written many theses, such as *Music Analysis of Tippert's Double String Orchestra Concerto*, *Technical Research of Ligeti's "Six Piano Etudes" IV*, *Preliminary Exploration of the Composing technique of the Chinese Blowpipe Concerto "Divine Comedy"*, *Modern New Tone Color Expression Characteristics*, and *Evolution of the Structure of the Violin Plate*.

2.4 Li Ruchun, male doctor, graduated from the Composing Department of the Central Conservatory of Music, is now an associate professor and master's supervisor of Shandong Academy of Arts; Core member of the research team of "Taishan Scholars" distinguished professor; External professor of Jinan University and Qilu University of technique. His research fields include composition and composition technique theory, music analysis in the 20th century, modern music analysis technique, harmony, polyphony, orchestration, music culture, and other fields.

Achievements of Li Ruchun's papers on music analysis:

Table 15 Li Ruchun's achievements in music analysis:

The serial number	Paper title	Name of published Journal	Published time
1	<i>Tippett's Core Rhythm Vocabulary</i>	<i>The music</i>	Issue 4, 2012
	<i>An Analysis of metronomic Techniques in the Composition of Tippit's Symphonies,</i>	<i>Shanghai Conservatory of Music Publishing House, "The First Symposium on Music Analysis"</i>	First edition 2011
2	<i>Structural Analysis of Three Shandong Folk Songs from the Perspective of Modern Music Analysis</i>	<i>Qilu Yichang Newspaper</i>	Issue 1, 2011
3	<i>The Contrast of Polarization and the Alternate Expansion of "Dynamic" and "Static"</i>	<i>"The music"</i>	Issue 3, 2009
4	<i>A chart analysis of schoenberg & LT; Piano Sketch 6 & GT;Op.19</i>	<i>Qilu Art Garden</i>	Issue 2, 2008

Table 15 (Continued)

The serial number	Paper title	Name of published Journal	Published time
5	<i>A Study of polyphonic Structure in Tippit symphonies</i>	<i>"The music"</i>	Issue 3, 2007
6	<i>Wedding in Orkney with Sunrise & GT; Music Analysis</i>	<i>Journal of Nanjing University of the Arts</i>	Issue 4, 2006
7	<i>The Tonal Analysis of the Small Universe of Boating.</i>	<i>Yuefu New Voice</i>	Issue 3, 2006
8	<i>Lt; Lyrical Sketch & GT; Contribution of Composition Technique</i>	<i>Journal of Shandong Institute of Education</i>	Issue 2, 2004
9	<i>Grigg & LT; Anitra & GT; An Analytical Study</i>	<i>Journal of Shandong University of Arts</i>	Issue 2, 2000
10	<i>A Comparison of Artistic Songs between Huang Zi and Chen Tianhe</i>	<i>Outstanding Bachelor's Dissertation award of Shandong Province</i>	In 1999,
11	<i>Analysis and Research on composing Technique of Tippit's Four Symphonies</i>	<i>The dissertation</i>	

2.5 Xiong Xiaoyu, male, born in 1976 in Zhangshu, Jiangxi Province, is a member of the Communist Party of China. He is currently the dean, professor, and doctoral supervisor of the School of Music of Jiangxi Normal University, a doctor in the direction of work analysis in the Composing Department of the Central Conservatory of Music, and a visiting scholar in the Kansas City Campus of the University of Missouri. He is an expert member of the National Art Professional Degree Postgraduate Education Steering Committee, a vice chairman of the National College

Composition Theory Society, a vice-chairman of Jiangxi Musicians Association, an expert on aesthetic education in Jiangxi schools, a member of the Chinese Musicians Association, and a special creative member of the Central People's Radio Broadcasting Selected Songs.

Professor Xiong Xiaoyu has presided over more than ten national, provincial and ministerial projects: he has presided over one national social science fund key project in art, presided over and completed one youth literary and artistic composition support plan project of the China Federation of Literary and Art Circles, one provincial major horizontal topic and five provincial and ministerial general project topics; He has published one CD album and four monographs (edits); Thesis and treatises won the third and second prizes of the 16th and 17th Outstanding Achievement Awards of Social Sciences in Jiangxi Province respectively and the second prize of Jiangxi Provincial Teaching Achievement Award; He has won many honorary titles such as "Excellent Lecturer", "Advanced Individual", and "Xiong Zhiming Scholarship".

He has published more than 30 academic theses and works in such academic journals as *Music Research*, *People's Music*, *Journal of Tianjin Conservatory of Music*, *Music Composition*, and *Songs*. The academic thesis has won the second prize of the fifth "People's Voice Club Cup" review award sponsored by the Chinese Musicians Association, the first prize of the seventh college students' art performance education research paper in Jiangxi Province, and other honors. More than 20 awards and honors have been awarded at or above the provincial and ministerial level, including the "Excellent Candidate Works Award" for the song of the 2007 'World Summer Special Olympic Games, the first prize (anthem) for the song of the 10th Middle School Games of the People's Republic of China, the shortlist prize for the song of the 11th National Games of the People's Republic of China, the first prize for the composition of the fourth Jiangxi Music "Yingshan Hong" Award, and many works have been published on Shandong Satellite TV, Beijing People's Radio Broadcast by Jiangxi People's Broadcasting Station, etc. 200 (Yao Henglu, 2007)

He has composed more than 60 works (songs), including Erhu and the national orchestra *Lao Biao*, chamber music *Features of Jiangxi*, *Yi*, symphonic chorus *Who am I, Sail*, vocal music works *Role Model*, *Follow the Party Forever*, and *Daohuaxiang*.

3. He continued to exert his academic vitality and influence, prepared a composition forum in various forms, taught young students in different channels to drive the reform of the curriculum system, and promoted the improvement of the modern music analysis system and the development of modern music creation.

Professor Yao is a teacher and is responsible for students in teaching. Professor Yao is the leader of the discipline. He not only has unique views on teaching but also has a sense of mission and responsibility for the overall discipline construction of the college. He has put forward constructive suggestions on the construction of the discipline of composition and music analysis. At present, in the teaching of composition major, the traditional "four pieces" courses are obviously separated from each other and not related to each other. When extended to the analysis and creation of students' works, it leads to the disadvantage that technical details are disconnected from the overall structure layout, and teaching cannot be shared with it. Professor Yao has made a breakthrough in his research and teaching. He said: "As far as discipline construction is concerned, in the current college courses in music colleges in China, the musical form course is only available in the second grade, while some polyphony and orchestration are available in the third grade. Most of the students had already been exposed to the creation of chamber music before the third-grade instrument opening class. The composition of the first grade has already involved the writing of modern style and national style. Therefore, the outdated teaching content and the disconnection between some technical theory learning and creative practice need to be updated urgently, and the knowledge structure needs to be rationally distributed. Melody writing and polyphony courses should be opened in the first grade or even high school of the Department of Composition so as to cultivate students' inner feelings of multi-voice lines and counterpoints as soon as possible and standardize and improve students' multi-voice writing. Music form and orchestration courses shall be arranged in second grade. The traditional "Four major pieces" shall be taught in the third grade. In the third and fourth grades, students can begin to learn some systematic contemporary composition technique theories, such as modern harmony, modern polyphony, modern music analysis, and modern orchestration. It is also urgent to set up "The writing basis of Chinese national harmony" and "The theoretical analysis of Chinese national music technique" as compulsory courses to solve the music language problems in multi-voice

music writing, from the aspects of nationality to the sense of the times. In addition, it is important to advocate diversified teaching methods, break the unified one-to-one teaching method, increase the participation of students, and strengthen the professional pertinence of foreign language learning. "

Professor Yao has not only made great achievements in teaching and theory but also works as a famous composer. He has made great achievements in his composition. As a composer and researcher of modern music in China, he took his initial acceptance of traditional composition theory to step-by-step mastery of modern composition techniques as an example of creative teaching and practice in order to explore the changes in the creative concept of contemporary composers' inner music expression and to emphasize the impact of changes in an era on the formation of a mature creative concept of composers. His music works include the beneficial attempt to organically combine national harmony and modern harmony in the early works such as the piano divertimento *Impression of Yanbei* in his student days, the piano divertimento *Original Sound Trace*, the modern chorus *Autumn Song*, the first symphony *Sublimation* (seven movements), chamber music *Recall* (for cello and seven performers). A series of modern music works, such as *Triptych of Yang Guan* (a suite for cello, piano, and piano) and *Five Beijing Nursery Rhymes*, is full of strong artistry and philosophy, no matter from the perspective of the work, the treatment of the relationship between Chinese and Western music, or the innovation of composition technique.

In the multicultural era with various genres, as a Chinese composer, Professor Yao Henglu has an ideal mission for the teaching of composition and the dissemination of composition culture. He said: "The expressive function of music, as well as the level and depth of the composer's subjective consciousness and its reflection of the external objective world, are the basis for the implementation of composition techniques and the source of power. From the perspective of the practice of music composition, ideas determine the way and ways guide practice. The practice has produced a situation of music composition and diversified sound forms. As contemporary Chinese composers, we are short of the great classical romantic period in the West. The accumulation of quantitative music composition also lacks the practice of diversified styles in the period of impressionism, neo-classicism, and national music. From a popular creation to a new music practice synchronized with the world, there are still many shortcomings in art

and omissions in cultural aesthetics behind its positive significance, which brings a sense of historical 'Fragmentation' to music composition. Therefore, at this stage, it is very necessary to experience and take remedial measures to reflect the performance field of music composition in multiple styles and levels. (Qingyin)

3.1 Application of Chinese traditional culture and folk music elements in works

In the continuous exploration and practice of Chinese music, Professor Yao Henglu's compositions break through the traditional composition framework. He uses Chinese traditional folk music that radiates the original ecological charm and absorbs nutrients from Chinese traditional culture and multi-ethnic folk music to reflect the cultural life of the nation. His works have a strong national consciousness and local characteristics. They skillfully integrate the Chinese pentatonic mode with the western twelve-tone system. They are simple and generous without a lack of rhythm, fresh and bright without a lack of liveliness. Each capital can be called a representative work of Chinese style composition. In combination with Chinese classical aesthetic thought, it can achieve the artistic conception of beauty pursued by literati music. Professor Yao's in-depth grasp of harmony techniques enables him to boldly innovate and shape the Chinese pentatonic mode. With the piano, violin, and various national instruments as the carrier, it fully demonstrates the national characteristics of Chinese music and endows the works with the flavor of the times.

Professor Yao Henglu's music works have deep research in cultural value, national style, creative techniques, and works interpretation, which has a great impact on the composition of future generations.

3.1.1 Application of national and folk music elements

Most of the creative materials of Professor Yao Henglu's music works come from folk music elements. The materials of national folk music are obtained by collecting styles from ethnic minority areas all over the country. The regional style of his music works is rich, reflecting the local music culture and folk feelings. The unique music elements often originate from the long history of music culture and have a long artistic accumulation, and exist in the fertile art soil. One of the distinctive signs is the strong regional characteristics. Taking *Recall* as an example, which has the characteristics of Shanxi folk music, as an example, the composer adopted the fusion of multi-dimensional composition techniques - the integration of modern Western

composition techniques and Chinese national music elements. In terms of emotional expression, sound effects, and humanistic characteristics, the composer showed the shadow of the northern Shanxi music gene, reflecting the Chinese culture with deep artistic conception.

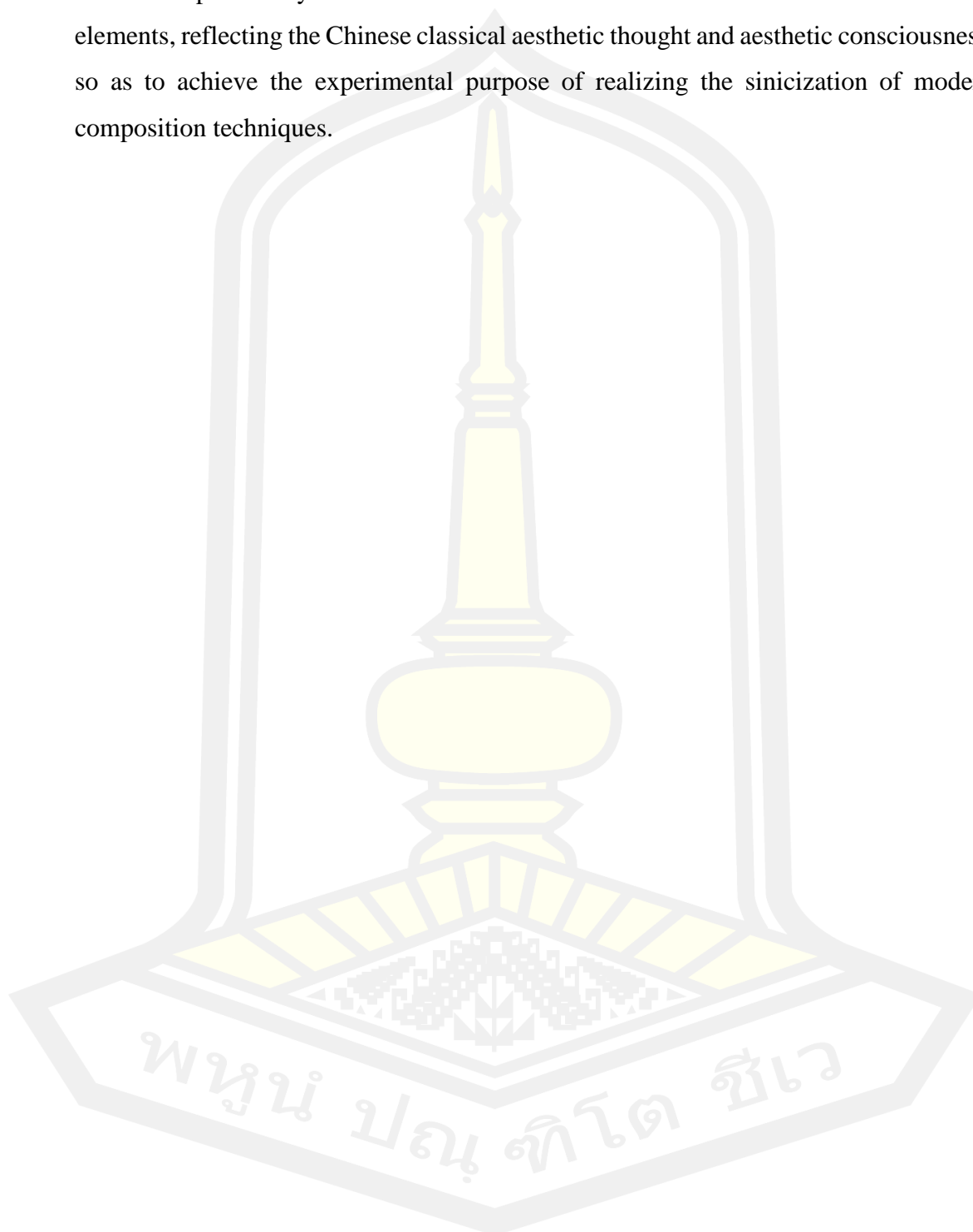
3.1.2 Influence of Chinese traditional culture and ideology

The application of three kinds of creative thinking (pitch organization, interval, and vector) in Professor Yao Henglu's music works, especially the national elements such as national pentatonic and artificial mode, reflects the special connotation of Chinese culture in his works. His creative idea and intention provide a creative idea of "Making the past things serve the present and making foreign things serve China" for the young generation of music composers. His works reflect the cultural thought of "Neutralization", and show the Chinese classical aesthetic thought, which is deeply influenced by the Chinese traditional music culture and carried on the inheritance and development. Guided by Chinese aesthetic thought, the use of modern composition techniques runs through the works in pursuit of philosophical profundity. In terms of the musical structure of his works, he used Western musical structure and different genres to retain Chinese national elements and pentatonic mode system to the greatest extent so as to endow them with Chinese style and characteristics. At the same time, modern composition techniques such as twelve-tone serial technique, pitch class matching, pan tonality, polyphonic counterpoint, timbre imitation, harmony overlapping, and rhythmic structural force and power application are integrated to highlight the innovation of modern music works and the characteristics of Chinese music works.

3.1.3 Application of Modern Composing Techniques

The music works composed by Professor Yao Henglu always follow the characteristics of western composition techniques, take the music styles of different periods as the historical context, sort out the composition skills, key points, and analysis elements, and realize the pioneering experimental role of modern composition techniques in music creation with self-creation practice. In many of Professor Yao Henglu's works, modern composition techniques have been used throughout, such as the twelve-tone serial technique, pitch class matching, pan tonality, polyphonic counterpoint, timbre imitation, harmony overlapping, rhythmic structural force, and

power application. These modern composition techniques are applied to the music works composed by Professor Yao and combined with Chinese national and folk elements, reflecting the Chinese classical aesthetic thought and aesthetic consciousness, so as to achieve the experimental purpose of realizing the sinicization of modern composition techniques.



Chapter VII

Conclusion, Discussion and Suggestions

This study analyzes the selected music works by combing Professor Yao Henglu's life and creative history, mainly reflecting the three objectives of this study. The research results are summarized as follows:

1. To analyze Yao Henglu's artistic background and his music work.
2. To analyze Yao Henglu's modern music works.
3. To study the factors that influence Chinese music creation.

1. Conclusion

In the research goal I, the author combed Professor Yao Henglu's personal life and composition process by using the methods of literature research and field research, and listed his important artistic achievements. Through the historical stages of his works, taking the time and place of study and work chronologically, and taking the characteristics of works presented in the composition process as the judgment basis, his works are divided into three main stages: 1.The period of music theory learning and composition exploration (1968-1988) ; 2.Theory promotion and style composition shaping period (1989-1994) ; 3.Maturity period of composition (1995-2021). Since 1980, Professor Yao has composited more than 100 music works, involving symphony, chamber music, piano works, chorus, art songs and other genres. Many music works have won awards at home and abroad. He has published more than ten monographs or albums; He has published more than 60 papers in various academic journals, and his research field involves the analysis and research of the composition concept and techniques of modern music works. In terms of his music composition ideas, he actively promoted the regional development of Chinese modern music and advocated holding music weeks in many places. He focused on music and cultural exchanges between China and the Asia Pacific region, and introduced art groups from Europe, the United States and South Korea to China for performance exchanges. Besides, he deeply tapped the elements of Chinese national music, nourished music works with national music resources, integrated modern composition techniques with multi-dimensional

composition techniques and practiced composition techniques and diversity of works' contents and genres in order to realize the pioneering role of modern composition techniques in Chinese music creation.

In the research objective II, six modern music works composed by Yao Henglu are selected as the research object, and the modern creative techniques used are refined. Among them, a large number of modern creative techniques, such as pitch class collection, twelve-tone serial technique and pan-tonality, are used. By means of integrating Chinese national music elements and western modern composition techniques, the following three academic research viewpoints are explored: 1. Theory and practice of three kinds of pitch thinking; 2. The latent tonal connotation in atonal music; 3. Establishment and application of comprehensive analysis method in work analysis.

In the research objective III, on the basis of studying the composition characteristics of Professor Yao Henglu's 6 music works, the author discusses his influence on Chinese modern music composition from three aspects, and summarizes as follows:

1. The introduction of western modern composition techniques in the middle and late 20th century. Professor Yao Henglu studied modern music composition techniques and modern music analysis methods while studying for the doctor's degree at the University of Leeds in the United Kingdom, and fully practiced these methods in China, composing a large number of modern music works. He introduced these western modern composition techniques into the promotion and application of modern composition techniques in China, thus playing a role in the evolution of modern music composition trends. He combined western modern composition techniques with Chinese national music elements and composed a large number of modern music works with Chinese national style. This is helpful for professional musicians to analyze and study his works, summarize the rules, inspire the creative thinking of modern music works, provide practical thoughts and reference experience and promote the development of modern music composition and music analysis in China, and make due contributions.

2. Cultivation of a large number of talents in music analysis and music composition in China. Through interviews and data inquiries with Yao Henglu's

students, most of them have become young backbone teachers of music area in many colleges and universities across the country. The young composers, whom he trained, have been active in various major music festivals and high-level composition competitions and have achieved fruitful results.

3. Professor Yao Henglu continued to give play to his academic vitality and influence, and prepared the composition forum in various forms to promote the development of the composition discipline and the exchange of international cutting-edge academic information; teach young students in different channels and give them systematic theory of music analysis. He promoted the construction and maintenance of the composition curriculum system, and promoted the improvement of the modern music analysis system and the development of modern music composition.

2. Discussion

Through the research of this study, we have combed the different musical style characteristics of the modern music works composited by Yao Henglu, and then explored the cultural value and work connotation of the integration of modern music composition techniques and Chinese national music elements, which has great academic value for the development of Chinese modern music composition. It inherits and protects local music in the form of modern chamber music, deeply excavates local folk music materials, and explores new ways to protect and inherit Chinese folk music from the perspective of the integration of modern music composition and folk music materials. On the basis of previous analysis, this study makes an in-depth analysis of some of Yao Henglu's music works through modern music analysis methods, and obtains a breakthrough in the theory of modern music works:

1. The use of multiple creative thinking. In his musical work *Recall*, Professor Yao integrated the western modern composition techniques with the Chinese national music elements on the basis of the western musical form structure framework through the application of three kinds of thinking (pitch organization, interval and vector). In harmony, the Chinese national pentatonic mode system is used, especially the national pentatonic and artificial mode. In terms of modern composition techniques, the use of twelve-tone serial technique, pitch class sets and pan-tonality has added modern color to the works. This endows modern music composition techniques with innovation and

diversity of music styles. The composition concept and intention have a profound impact on later generations of composers, providing a creative idea of "making the past serve the present and making foreign things serve China", realizing a new breakthrough in the localization of modern composition techniques in music composition, and guiding the direction and laying a theoretical foundation for subsequent modern music composers.

2. In orchestral works, the composition of the "*Rainbow*" composer uses the following techniques:

(1) The development method of theme-motivation: drawing lessons from western music of "making music theme throughout the process" composition techniques, according to the creative thinking that different characters shall be shaped by different theme music, various parts of the music theme motivations are derived from the theme motivation by techniques including superimposing, repetition, shift and splitting.

(2) Harmony application techniques: 1) Using the color function of harmony to participate in music composition; 2) Using three overlapping structure as the foundation, with harmony building methods of pentatonic melody of "changing transversal melody into the pillar harmony", the four/five overlapping chord, two degrees superimposed chords and other non-traditional function of harmony are created, breaking the T - S - D - T harmonic function the system in the same tone and achieving the free connection between chord and the colorful sound effects.

(3) The use of rhythm form: 1) In the rhythm movement state, different tempo s are changed to produce the tension of musical mood; 2) The use of different rhythm types to express different musical emotions; 3) Rhythmic harmony, which increases the power of melody lines by means of continuous chord inversion and rhythmic sequenza; 4) The special performance of the timbre of various musical instruments in the rhythm structure makes the timbre cluster movement not only have obvious differences, but also make the music more distinct.

(4) Form a symmetric tonality relation with centered on D. From what has been discussed above, orchestral the *Rainbow*, with the writing techniques used by the theme of the motivation, pentatonic harmony, diversified utilization of cluster tone and other modern techniques in the rhythm and instrumentation, combining with integrated

utilization of the traditional formal structure, the relationship between the tonality and the division development technique of each body, developed a new romantic music style with Chinese national taste and temperament.

3. Using Chinese classical aesthetic approach to composite. In other music works of this thesis, *Triptych of Yang Guan*, combines the musical characteristics of the East and the West, and uses Chinese artistic conception approach to describe the ethereal artistic conception of ancient poetry. At the level of composition technique, the principles of reproduction and the form of variation suite are comprehensively used. In terms of theme, it adopts the combination of penetration and change of core interval and mode. In terms of harmony, based on the pentatonic harmony, the tendency of semitones is strengthened. *The Mountain Tunes* reflects the characteristics of Chinese folk music. The overall music style is free and atonal. The core control of the whole song is established through the combination of interval and pitch-class. The voice part and texture writing are mainly written by the traditional neo-classical music school and are interspersed with Debussy's texture style. *Bangzi Melody* is a chamber music work with local opera style. The structure of the music is short, with the characteristics of classical chamber music and the charm of opera music. *Bangzi Melody* is a ternary form structure, with pentatonic tone as main musical theme. *Stylistic Variation for BA BAN*, with the theme of *Old BA BAN*, an Erhu Qupai of Peking Opera, is mainly composed of five tones, adopts a variety of modern composition techniques, and uses different musical styles throughout the history of music to form a quite interesting piano variation.

4. Professor Yao Henglu's modern music works have high humanistic research value and music academic practice value. Through the research, by analysis and summary of the characteristics of the six modern music works studied in this study, the author will explore the charm of Professor Yao's works and the depth of humanistic feelings. The author will continue to study his works.

The modern western composition techniques used by Professor Yao Henglu to create music works are relatively complex. Local folk singers or villagers who have not systematically learned professional theories cannot accept or enjoy such music works to some extent. The recipients of such works are often professionally trained college music teachers, students, personnel engaged in modern music composition or performers with certain

theoretical knowledge. The public still need time to understand and enjoy the beauty of modern music.

3. Suggestion

1. Suggestions for further study

1.1 The author will increase the number of researches works of Professor Yao Henglu, so as to accumulate the number to a certain level. The author hopes that in the future the author can analyze more of Professor Yao Henglu's modern music works.

1.2 The author will extend the depth of music analysis of Professor Yao Henglu's works. The works analyzed in this topic are only a few of Professor Yao Henglu's works. The analysis angle and technical method requires solid academic and theoretical knowledge.

1.3 The author will further study the composition techniques of Professor Yao Henglu's works. Professor Yao Henglu's works are not only rich in emotion, but also a living textbook of composition techniques. His application of orchestration techniques and the form of his works, and the integration of Chinese music elements and modern composition techniques demonstrate his profound composition skills. Composing technique plays a prominent role in the practice of his works. The author hopes he can master more modern music composition techniques and apply them to music composition.

2. Suggestions for the application of research results

2.1 We can use Chinese folk music elements and Chinese pentatonic national modes to composite and analyze, so that students can understand this composition technique.

2.2 We can learn from Professor Yao Henglu's modern composition technique to composite music, so that students can understand the technique and skillfully use them

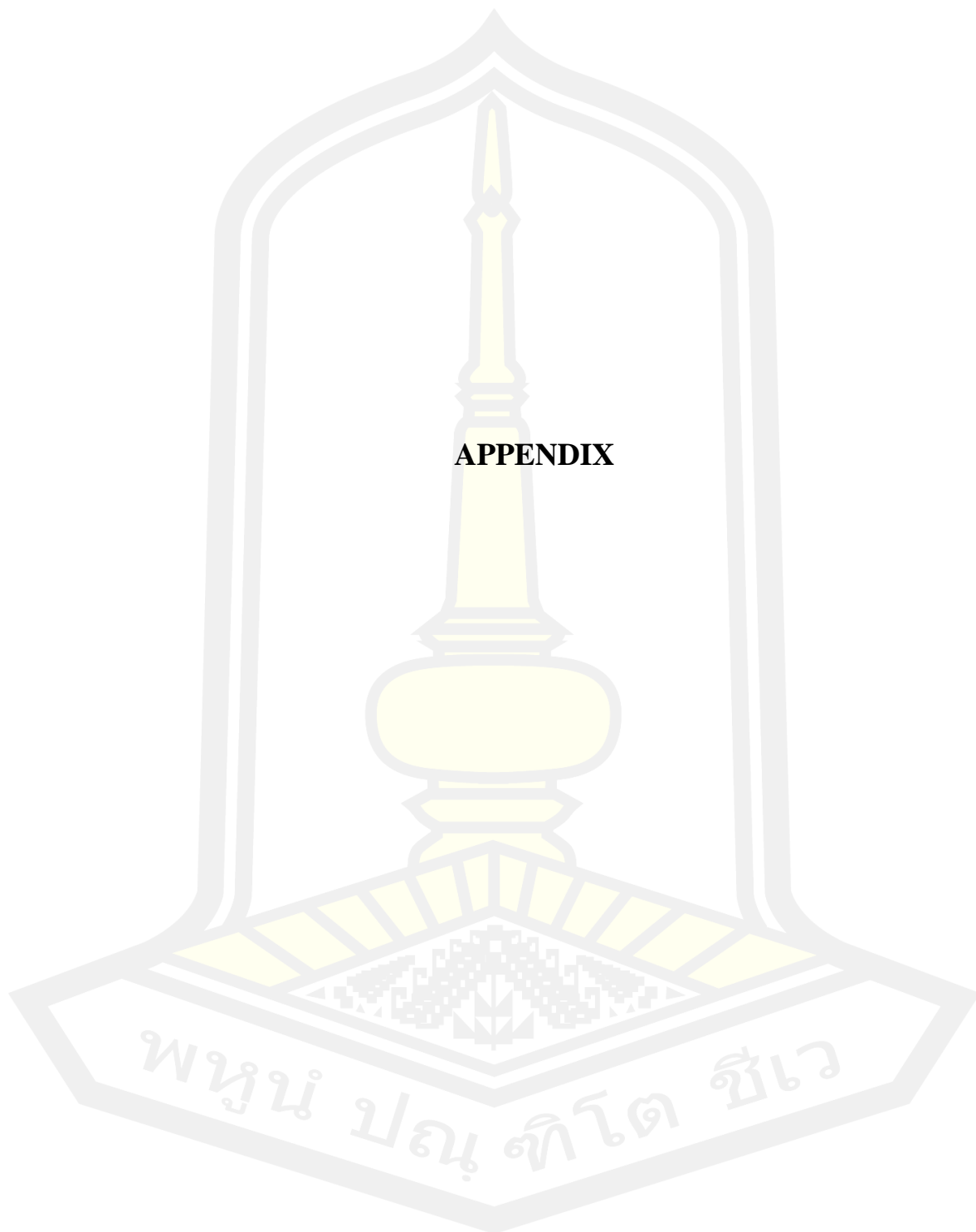
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APPENDIX

พหุณํ ปณฺ ทิโต ชีเว

Appendix 1 Catalogue of Yao Henglu's works

Appendix 1 catalogue of Yao Henglu's works				
Serial number	Published works	Work duration	Creation time	Publication and time
1	Piano suite: <u>IMPRESSION ON YAN BEI</u>	10' 40''	1981	"WALKING IN THE COUNTRYSIDE ", "PLAYING" were published in music creation, issue 3, 1983
	WALKING IN THE COUNTRYSIDE	1' 03''		
	HENG MOUNTIAN HIGH	3' 13''		
	PLAYING	1' 59''		
	SINGING IN THE MOUNTAIN VILLAGE	2' 48''		
	CARNIVAL	2' 46''		
2	THREE FUGHETTAS for Piano	5'	1982	
3	Piano suite: (five pieces) THE COLLECTIONS OF CHILDREN LIKE INNOCENCE,	5'	1986	"Finalist Award" in the solicitation and selection of Chinese children's piano music in the 21st century, Shanghai, June
	BOUNCING A BALL	0' 39''		
	THE KITTEN AND ME	1' 19''		
	HIDE-AND-SEEK	1' 06''		
	SWEET DREAM	1' 05''		
	ALITTLE DRIVER	0' 48''		
4	DUEI, for contrabass and piano	5' 30''	1988	
5	STRING QUARTET No.1	7'	1989	China-South Korea Music Festival "Oriental Era" September 2000"
6	MIRROR AND PERSPECTIVE; Four piano pieces	4' 30''	1990	
7	CONCERT PIECE, for Horn and Piano	6' 30''	1991	
8	EIVE PRELUDE AND FUGUE, for piano	10' 21''	2005	
		C3' 34''		
		F2' 52''		
		G2' 29''		
		E2' 18''		
A2' 35''				
9	ASIMPLE VERSE, TRIO: for Xiao, Vibraphone and Cello	5'	1991	
10	SONIC TRACK OF THE ORIGIN, for Piano	7' 30''	1992	Published in music creation, issue 3, 2000

11	AUTUMN WORDS_ _text by Li Bai, for flute, solo medium voice and chorus;	6'	1992	
12	TRIPTICH Three Piano pieces;	5'	1992	The second one "CRUCIFORM" was published in the third issue of music creation
	GROWING			
	CRUCIFORM			
	REGRESSION			
13	Symphony no.1, SUBLIMATION, for seven movements;	28'	1992	
14	THE RHYME WITHOU I WORDS, for soprano, flute, harp, viola and cello;	6' 30"	1992	
15	PROSBECIS, for Orchestra	7'	1992	
16	PERCUSSION QUINTEI; for 5 Percussion Players	9'	1993	
17	SEPTEI, for Flute, Clarinet, Bassoon, Violin, Viola, Cello and Piano	7' 30"	1993	
18	BEYONDTHE SQUNDS, for solo harp	3'	1993	"Published in music creation, issue 4, 1994"
19	THE STATE OF CHILDREN'S JALE	2' 30"	1994	
20	THREE PAINTINGS, for String Quartet; 1 SCREAM: 21 DANCE OF LIFE; 3/ MELANCHOLY;	7'	1998	
21	QUAINT CHARM, for (Xun)Xiao and Zheng	6'	March, 1999	
22	TRINITY WITH BLOWING MUSIC, for A Chinese Ins. Player and a Percussion Player	10'	August, 1999	
23	RECITING ACCENTED BEATS, for chorus	5'	August, 1999	
24	RAINBOW, for orchestra	11' 20"	November, 1999	
25	GLORIEICATION Io ZHENG by BAI JU-YI, for Solo Zheng	6'	March, 2000	
26	DAO QING, for Quartet of Chinese Istruments Yang-qin, Pipa, Gu-zheng and Er-hu	4' 30"	October, 2001	
	FIVE PIECES FOR CHAMBER MUSIC AND CHANTING BY JIANG BAL-SHI'S ANCIENT SONGS, Chinese Instruments Quartet: Yang-qin, Pipa, Gu-zheng and Er-hu			

27	APRICOT FLOWER WITH HEAVEN SHADOW	3' 39"	November, 2001	
	CHANTING A SHANG-MODE MUSIC IN DRUNK	4' 16"		
	BROOK GE. POEM OF PLUM	3' 08"		
	SENTIMENTAL YANG ZHOU	4' 51"		
	HAVING PITY ONA GIBL	5'		
28	IRIPTYCH of YANG GUAN, for Cello and Piano	7' 30"	January, 2001	
29	SCHERZO, for Clarinet and Piano	4' 30"	March, 2001	
30	CAPRICCIO OF 'MANJIANG HONG ' for solo Pipe Organ	0' 30"	2001	
31	TAQ, for Woodwind Quintet (c. Sep., 2001)	8'	2001	
32	ACADEMY OVERTURE	7'	May, 2002	
33	FLAVOR FROM ORIENTAL COLOR	9'	2002	
34	DIALOGUE WITH REEDS, for Sheng (Chinese blowing ins.) and Free-base Accordion	7'	2002	
35	Three Pieces for Free-bass Accordion and Violoncello	13'	May, 2003	
	TWINING AROUND PLATE AND SILK	4' 41"		
	CAPRICCIO FOR HALEMOON IS CLIMBING UP	5' 00"		
	ALOVELY ROSE	3' 37"		
36	AN AGREEMENTTOHEART, for Alto Saxophone and Piano	5' 20"	June, 2003	
37	MOVING CLOUD AND FLOWING WATER for solo Marimba	1' 20"	January, 2004	
38	DOUBL, ECHIMES for tow pianos	7' 30"	February, 2004	
39	SENTIMENT OF ANTIQUITY-TODAY IN GUAN MOUNTAIN	2' 30"	March, 2004	
40	RECALL, for solo cello and 7 players	12'	April, 2004	
41	LONGING FOR RETURN by Lady Wenji	8' 30"	September, 2004	
42	HEAVENAND EARTH for Yangaqin and Synthesizer	10'	November, 2004	
43	AMOUNTAIN TUNE, for Flute, Clarinet, Piano, 1 Percussion player, Viola and Cello.	7' 30"	October, 2004	
44	IMPROMPTU FROM YELLOW RIVER for Solo Pipe Organ.	8'	March, 2005	
45	Two Pieces for Accordion Band		March April 2005	
	CAPRICCIO QE PEKING OPERA-FUGUE	11'		
	THE RHYTHM OF SPRING	7'		

46	INTERESTOE LOCAL OPERA for Gu-zheng, Jing-hu and Percussion	10'	June, 2005	
47	OH, JIHAT'S WE CALLED YELLOW LAND, for Two Pianos	5' 30"	January, 2006	
48	TRUDGING- -A style of Perpetuum Mobile	10'	April, 2006	
49	Piano Suite, EIVE PIECES FOR. BEIJING CHILDREN'S FOLK. SONGS	12'	2000-2006	"THROWIN THE HANDKERCHIEF AWAY" was published in children's music in December 2000
	THROWIN THE HANDKERCHIEF AWAY			
	CLAPPING THE HANDS			
	WHO WILL BE COMING WITHIM			
	WATER INSECT			
	FINDING A FRIEND			
50	HISTORICAL REMAINS OF QIN RHYME , Piano Sute	15'	July, 2006	
	DAO QING - Endless Counterpoint			
	RECOLLECTION OF BLOWING XIAO ON THE PHOENIX STAND- Chaconne			
	CHANTING WITH HAPPINESS - Fughetta			
	MOON ON GUAN SHAN - Passacaglia			
	MU LAN'S SPEECH- Theme and Variation			
51	A BRANCH OF FLOWER, a theme from Peking Opera, for Chinese Plucked Instruments	12'	August, 2006	
52	E-LEMENT, for Clarinet Quartet,	8' 00"	October, 2006	
53	THIS LIFE OF OURS IS BUTA RQOILESS THING Trio, for Flute, Guitar and One Percussion player	10'	April, 2007	
54	PavilinoFairyland, for solo Zheng	8'	2005-- 2007	
55	It Is ALIKE WATER. ELAPSING TIM... For Twelve Kong-hou and Electronic Sythesizer		June, 2006	
56	FIVE. GOODLUCK IN OUR WHOLEIFE, for Pipa, Yang-qin, Zheng, Er- hu and Percussion	6'	January, 2007	

Appendix 2 list of Yao Henglu's papers and works

Appendix 2 list of Yao Henglu's papers and works		
序号	Thesis name	Publish or publish information
一、Music analysis papers		
1	John MaCabe and No.1 of his THREE IMPROMPTUS	Music creation 1993 (157) p.96
2	The bearing of potential tonalities and the plan of chromatic organization in Webern's early works	Journal of the Central Conservatory of music (general 52), P. 48, No. 3, 1993
3	Peter Maxwell Davies, His CHRIST RECIEVES THE CROSS from VESALII ICONES	Music creation, No. 4, 1993 (total 160), p. 82
4	Structure pathway in "a survivor of Warsaw"	Huang Zhong, Journal of Wuhan Conservatory of music, 1994, issue 3, p.33
5	Announcement of the theme of Lei on Beethoven "Satisfing Sonata"	Music exploration, 1997. 1 (total 53) P. 28
6	Two analytical methods of "three piano pieces of four piano products" in Scriabin	Art of music, No. 3, 1997, (total 70): p.85
7	Introducing Roger Soxin's my diary II	Music creation, 1997, issue 3 (total 175), p.64
8	Sound structure and auditory signal in Rutoslavski works	Symphony, No. 4, 1997, (total 78), P. 33
9	Saar's post-institutional analysis	Huang Zhong, No. 4, 1997, (total 41) P. 42
10	"Non-modified 12-tone sequence analysis and sound level collection analysis (upper, bottom) - thinking about two non-modulative music analysis pathways	Yuefu New Sound, issue 1, 1998
11	The organizational logic of musical language statement structure in lutoslavsky's works	Journal of the Central Conservatory of music, 1998, issue 1
12	British composer Burt Wessel's indoor music "My own song"	Music creation, issue 3, 1998
13	Hendimit 's' Distribution Game' and Its Theoretical Basics (upper, middle, bottom)	Journal of Xinghai Conservatory of music, issues 1, 2 and 3, 1998
14	Principle of Supporting Compliance Composition of Trimmonics - Analysis of Babits' "Semi - Simplified Variation"	Symphony, March 1998, (total 81) p.29, was awarded the excellent academic paper of Colby in the United States and entered the global information network of the Internet in May 2000

15	Junberg's theory of composing technique about theme motivation	Music learning and research, Journal of Tianjin Conservatory of music, 1998. 2. (total 51), p.23
16	Structural thinking of "chain, link and stage" -- an analysis of Lutoslavsky's orchestral music "chain 3"	Music exploration, Journal of Sichuan Conservatory of music, 1998, issue 2 (total 59), P.20
17	Analysis of Lutoslavsky's Third Symphony	Music art, Journal of Shanghai Conservatory of music, 1999, issue 2, p.64
18	Schenker chart and analysis of Pan tonality	Journal of the Central Conservatory of music, 1999, issue 2, p.3
19	Free atonal writing and potential tonal layout -- an analysis of one of Wilburn's five songs	Huang Zhong, Journal of Wuhan Conservatory of music, 1999, issue 3, p.55
20	The special process of embodying the expressive function of music language in western modern music	Huang Zhong", Journal of Wuhan Conservatory of music, 2000, issue 2, p.44: Research on music and dance, book and newspaper data center of Renmin University of China Reprinted in the sixth issue of 2000; CLC No.: J6 "
21	Special rhythm forms in contemporary music works	Journal of Central Conservatory of music, issue 4, 2000
22	Raw cells produce original traces	Music creation, issue 3, 2001
23	the Ti Tissue Morphology of Modern Beats and Its Expression	Journal of Xi'an Conservatory of music, No. 1, 2001
24	Music creation, No. 3, 2001, No. 24, mirror you and Perspective -- commonality of structural proportion in music works	Journal of Xi'an Conservatory of music, No. 3, 2001
25	The principle of the syndrome in the sequence organization, the technique of piano Op33a "technique"	Music exploration, issue 4, 2000
26	Lutoslavski, Cello Concerto "Music Learning and Research"	Journal of Tianjin Conservatory of music, issue 2, 2001
27	Lutoslavsky's main strike syndrome is summary	Journal of Xinghai Conservatory of music, issue 2, 2001
28	Determination of Generalized Conditioning in Modern Music	Yuefu Xincheng, Journal of Shenyang Conservatory of music, issue 2, 2001
29	Modern Music Analysis	Music research, No. 3, 2001
30	As the sound melody, "Tone" and "Objectivism" structure	Music exploration, Journal of Sichuan Conservatory of music, No. 4, 2001, P. 24

31	Mile and Kube's rhythm analysis identification system	Music art, Journal of Shanghai Conservatory of music, 2002, issue 1 p. 60
32	On the Composition of the Melody in Modern Music Works "	Chinese music, 2002, issue 1
33	The endurance connotation in the free composer	Journal of Central Conservatory of music, issue 2, 2006
34	Gestalt analysis and comprehensive analysis of music works -- Also on the promotion of the grade of work analysis course in the music teaching system	Journal of Xinghai Conservatory of music, issue 4, 2003
35	Creative concept and practice of three pitch thinking	Journal of Central Conservatory of music, issue 3, 2008
二、Music Education Papers		
序号		
1	A glimpse of music teaching and music life in British schools	Chinese music education, 1996, issue 3, P. 31
2	Music appreciation teaching in British schools	Chinese music education, No. 4, 1996, P. 40
3	Music performance teaching and music club activities in British schools	Chinese music education, 1996, issue 5, p.38
4	Composition teaching in British School Music Curriculum	Chinese music education, 1997, issue 1
5	High quality music creation and its theoretical construction	Huang Zhong, Journal of Wuhan Conservatory of music, 2001, issue 1
6	Interview with the former International Music Education Center ISME - University of reading, UK	Chinese music education, No. 8, 2002
7	Current situation and Prospect of professional music education - Speech at the forum of presidents of music colleges (serials from top to bottom)	Beijing Music weekly, April 30, 2004
8	Some Thoughts on the Teaching Reform of Compose Professional"	People's music, 2004, 5 issues, 457 issues in total
9	Suggestions on Junior Music Academic Degree System"	Journal of Central Conservatory of music, issue 2, 2004
10	Integrated concept of education reform to ordinary music colleges	Journal of Shanxi Datong University, July 2008
11	My understanding of learning professional English -- Preface to selected readings of music English	Hunan Literature and Art Publishing House, 2008 Edition
12	Dean Zhao Yu and I talk about music education and modern music	Journal of Central Conservatory of music, issue 2, 2007

13	Should respect the ontological law of music art	Post reading opinions on art curriculum standards (compulsory education stage)
14	Music creation and cultivation of creative ability in composition teaching	Yuefu Xincheng, issue 2, 2007
15	The preface of the comprehensive analysis of music techniques edited by the author	Higher education press, 2008 Edition
三、Foreign exchange, preface, preface and essay		
序号		
1	1、Minutes of in class interview	Beijing Music weekly, June 2002
2	2、Revelation of visiting European colleges	Chinese music education, No. 9, 2002
3	The emerging "commercial composition course" -- the socialization tendency of Practical Composition Teaching	Beijing Music weekly August 2, 2002
4	Creative intensity of chorus and its training promotion	Chorus art, Journal of China Chorus Association, 22 issues in total, November 2002
5	Visit Experience of music creation in Europe	Music review, Taiwan National Symphony Orchestra, issue 40, 2002
6	Indo Music Tour	People's music, issue 7, 2003
7	Enlightenment of Shen Xiang's education investment to me -- collection of Shen Xiang's commemorative works	People's music publishing house, July 2003
8	The cradle of musicians	Music review, Taiwan National Symphony Orchestra, issue 48, 2003
9	The author monograph "20th Century Compliance Process Analysis"	Shanghai Music Publishing House, April 2004
10	Enterprise "Music Analysis"	Encyclopedia of music, Central Conservatory of music, 2005
11	Entries "Non-tone", "Frequency", "Multicotubility"	Encyclopedia of music, Central Conservatory of music, 2005
12	Entries "British music"	Encyclopedia of music, Central Conservatory of music, 2005
13	The author monographs "Poland Composer Ruposlavsky's Casual Music Code"	Hong Kong Chinese publishing house, 2005 Edition

14	Chinese Complex - "Chinese Love", "Song of International Students"	"Selected from Qian Rong and song Rongguang, chief editors of years in singing"China Central Radio and Television University Press, December 2000 "
15	Foreword "Piano Runner 30" published by the author	Shanxi Education Press, July 2001
16	The preface of the guide to music appreciation (Volume 9) edited by the author - "about this set of books"	Shanxi Education Press, 2003 Edition
17	Preface to introduction to staff and introduction to simplified staff edited by the author	Times Economic Publishing House
18	The preamble of "Ginger <Lyrics> Research" (Author: Li Ruchun)	Nanjing University Press, 2008 Edition
19	The preamble of "Ginger <Lyrics> Research" (Author: Li Ruchun)	People's music publishing house, 2008 Edition
20	Centennial speech -- to "new voice of Yuefu"	Journal of Shenyang Conservatory of music, 2008

四、Works of Yao Henglu

序号		
1	Analysis of composition techniques in the 20th century	(Shanghai Music Publishing House, 2000 Edition)
2	Modern music analysis method course	(Hunan Literature and Art Publishing House, 203 Edition)
3	Editor in chief of 9 volumes of music appreciation Guide	(Shanxi Education Press, 2003 Edition)
4	Research on the composition techniques of accidental music by Polish composer Lutoslavsky	(Hong Kong Chinese Language Press, 2005 Edition)
5	Selected readings of music English	(Hunan Literature and Art Publishing House, 2008 Edition)
6	Basic training of composing techniques	(people's music publishing house, 2008 Edition)
7	Editor in chief of the "Eleventh Five Year Plan excellent music teaching material" comprehensive music technique analysis (book and CD) of Higher Education Press	(Higher Education Press, 2008 Edition)

พหุบัณฑิต

Appendix 3 “RECALL” for Solo Cello and Seven players

《追忆》 RECALL

For Solo Cello and Seven Players
为独奏大提琴七位演奏家而作

姚恒璐
Henglu Yao
2004

A ♩ = 72 *con molto esp.*

Musical score for the first system, measures 1-4. The score includes staves for Solo Cello, Flute, Clarinet in Bb, Piano, Violin I, Violin II, and Contrabass. The Solo Cello staff is mostly silent. The Flute, Clarinet in Bb, and Piano parts feature complex rhythmic patterns with triplets and slurs. The Violin I and II parts have some notes, and the Contrabass part includes an *arco* section. Dynamics include *mf* and *pizz*.

Musical score for the second system, measures 5-8. The Solo Cello part begins with a melodic line in measure 5, marked *mf*. The Flute and Clarinet in Bb parts have some notes, with the Clarinet in Bb marked *solo*. The Piano part has some notes. The Violin I and II parts have some notes. The Contrabass part has some notes. Dynamics include *mf* and *solo*. The tempo marking is ♩ = 63 *almost freely*.

Octet, RECALL,

Tempo I

Musical score for Octet, RECALL, Tempo I, measures 9-12. The score is arranged in six staves: S cello, Fl., Cl in Bb, Pno., Vln. I, and Cb. The S cello part begins with a *p* dynamic and a *slowly gliss* instruction. The Fl. part includes a *non vib* marking. The Cl in Bb part features a *3* triplet. The Pno. part has a *3* triplet. The Vln. I and Vln. II parts have rests. The Cb. part has a *3* triplet.

Musical score for Octet, RECALL, Tempo I, measures 13-16. The score is arranged in six staves: S cello, Fl., Cl in Bb, Pno., Vln. I, and Cb. A section marker **B** 深沉地 is placed above the S cello staff. The S cello part starts with a *63* marking. The Fl. part has a *3* triplet. The Cl in Bb part has a *3* triplet. The Pno. part has a *3* triplet. The Vln. I part has a *3* triplet. The Vln. II part has a *3* triplet. The Cb. part has a *3* triplet.

Octet, RECALL.

Musical score for Octet, RECALL, measures 17-20. The score is arranged in six staves: Sello (Cello), Fl. (Flute), Cl in Bb (Clarinet in B-flat), Pno. (Piano), Vln. I (Violin I), and Vln. II (Violin II). The Cello part features a complex melodic line with slurs and fingerings (3, 4, 5, 6). The Flute and Clarinet parts have rests. The Piano part has a complex texture with slurs and fingerings (4, 5, 6). The Violin I and II parts have rests.

Musical score for Octet, RECALL, measures 21-24. The score is arranged in six staves: Sello (Cello), Fl. (Flute), Cl in Bb (Clarinet in B-flat), Pno. (Piano), Vln. I (Violin I), and Vln. II (Violin II). The Cello part has a tempo marking of $\bullet = 50$ and a dynamic marking of *mf*. The Flute part has a melodic line with slurs. The Clarinet part has a complex texture with slurs. The Piano part has a complex texture with slurs. The Violin I and II parts have rests. The Cello part has a tempo marking of $\bullet = 63$ and a dynamic marking of *f*.

Octet, RECALL.

Musical score for Octet, RECALL, measures 25-31. The score is arranged in a system with six staves: S.cello, Fl., Cl.in Bb, Pno., Vln. I, and Vln. II. The Cb. staff is present but contains no notation. The S.cello part features a complex rhythmic pattern with triplets and sixteenth notes. The Fl. part has a melodic line with slurs and accents. The Cl.in Bb part has a rhythmic accompaniment with slurs. The Pno. part has a complex texture with many sixteenth notes and slurs. The Vln. I and Vln. II parts have melodic lines with slurs and accents. The Cb. part is empty.

Musical score for Octet, RECALL, measures 29-35. The score is arranged in a system with six staves: S.cello, Fl., Cl.in Bb, Pno., Vln. I, and Vln. II. The Cb. staff is present but contains no notation. The S.cello part has a melodic line with slurs and accents. The Fl. part has a melodic line with slurs and accents. The Cl.in Bb part has a rhythmic accompaniment with slurs. The Pno. part has a complex texture with many sixteenth notes and slurs. The Vln. I and Vln. II parts have melodic lines with slurs and accents. The Cb. part is empty.

♩ = ♪ ♩ = 50

Octet, RECALL.

agitando

33

S.cello

Fl.

Cl.in Bb

Pno.

Vln. I

Vln. II

Cb.

C ♩ = 132 *energico*

37

S.cello

Fl.

Cl.in Bb

Pno.

Vln. I

Vln. II

Cb.

Octet, RECALL.

41

S cello

Fl.

Cl in Bb

Pno.

Vln. I

Vln. II

Cb.

45

S cello

Fl.

Cl in Bb

Pno.

Vln. I

Vln. II

Cb.

pizz arco.

pizz

Octet, RECALL,

49

Sello

Fl.

Cl in Bb

Pno.

Vln I

Vln II

Cb.

53

Sello

Fl.

Cl in Bb

Pno.

Vln I

Vln II

Cb.

7

Octet, RECALL.

D $\text{♩} = 68$

Musical score for measures 57-65. The score is for an Octet and includes parts for S cello, Fl., Cl in Bb, Pno., Vln. I, Vln. II, and Cb. The S cello part features a complex rhythmic pattern with sixteenth notes and a large slur over the final measure. The Fl. and Cl in Bb parts have similar rhythmic patterns with slurs. The Pno. part has a bass line with triplets. The Vln. I and Vln. II parts have a steady eighth-note accompaniment. The Cb part has a simple bass line.

Musical score for measures 61-69. The score is for an Octet and includes parts for S cello, Fl., Cl in Bb, Pno., Vln. I, Vln. II, and Cb. The S cello part has a melodic line with slurs and accents. The Fl. part has a rhythmic pattern with slurs. The Cl in Bb part has a complex rhythmic pattern with slurs. The Pno. part has a bass line with slurs. The Vln. I and Vln. II parts have a steady eighth-note accompaniment. The Cb part has a simple bass line.

Octet, RECALL,

Musical score for Octet, RECALL, measures 65-72. The score is arranged in a system with six staves: S.cello, Fl., Cl.in Bb, Pno., Vln. I, and Vln. II. The Cb. staff is also present but contains no notation. The S.cello part features a melodic line with vibrato markings and a double bar line at measure 68. The Fl. part has a melodic line with slurs and accents. The Cl.in Bb part has a complex rhythmic pattern with slurs and accents. The Pno. part has a melodic line with slurs and accents. The Vln. I and Vln. II parts have melodic lines with slurs and accents. The Cb. part has a bass line with a *pizz* marking at measure 68.

Musical score for Octet, RECALL, measures 73-80. The score is arranged in a system with six staves: S.cello, Fl., Cl.in Bb, Pno., Vln. I, and Vln. II. The Cb. staff is also present but contains no notation. The S.cello part has a melodic line with a vibrato marking and a double bar line at measure 76. The Fl. part has a melodic line with slurs and accents. The Cl.in Bb part has a complex rhythmic pattern with slurs and accents. The Pno. part has a melodic line with slurs and accents. The Vln. I and Vln. II parts have melodic lines with slurs and accents. The Cb. part has a bass line with a *pizz* marking at measure 76.

Octet, RECALL

Musical score for Octet, RECALL, measures 1-4. The score is written for S.cello, Fl., Cl. in Bb, Pno., Vln. I, Vln. II, and Cb. The S.cello part begins with a *rit.* marking and a *Calando* tempo change. The Fl. part features a melodic line with slurs and accents. The Cl. in Bb part has a complex rhythmic pattern with slurs. The Pno. part provides harmonic support with chords and arpeggios. The Vln. I and Vln. II parts play sustained chords with some movement. The Cb. part has a steady bass line with a *pizz.* marking at the end of measure 4.

Musical score for Octet, RECALL, measures 5-8. The score continues for S.cello, Fl., Cl. in Bb, Pno., Vln. I, Vln. II, and Cb. The S.cello part has a melodic line with a *trill* marking. The Fl. part continues with a melodic line. The Cl. in Bb part has a complex rhythmic pattern. The Pno. part provides harmonic support. The Vln. I and Vln. II parts play sustained chords. The Cb. part has a steady bass line with a *arco* marking at the beginning of measure 5.

Octet, RECALL.

Musical score for Octet, RECALL, measures 89-92. The score is arranged in a system with six staves: S.cello, Fl., Cl in Bb, Pno., Vln. I, and Vln. II. The Cb. staff is present but contains no notation. The S.cello part features a complex rhythmic pattern with a five-measure rest in the second measure. The Fl. and Cl in Bb parts have melodic lines with slurs and accents. The Pno. part provides harmonic support with chords and arpeggios. The Vln. I and Vln. II parts have sustained notes and some melodic movement. The Cb. part has a few notes in the first and second measures.

Musical score for Octet, RECALL, measures 93-96. The score is arranged in a system with six staves: S.cello, Fl., Cl in Bb, Pno., Vln. I, and Vln. II. The Cb. staff is present but contains no notation. The S.cello part has a melodic line with a five-measure rest in the second measure and a 'Crescendo' marking. The Fl. and Cl in Bb parts have melodic lines with slurs and accents. The Pno. part provides harmonic support with chords and arpeggios. The Vln. I and Vln. II parts have sustained notes and some melodic movement. The Cb. part has a few notes in the first and second measures.

Octet, RECALL.

F $\text{♩} = 92$ *agitando* 激昂地

97 *accel. & cresc.*

S cello *accel. & cresc.* *f*

Fl. *accel. & cresc.* *f*

Cl in Bb *accel. & cresc.* *f*

Pno. *accel. & cresc.* *f*

Vln. I *accel. & cresc.* *f*

Vln. II *accel. & cresc.* *f*

Cb. *accel. & cresc.* *f* *pizz.* *arco*

101

S cello

Fl.

Cl in Bb

Pno. *mf* *p*

Vln. I

Vln. II

Cb.

Octet, RECALL,

Musical score for Octet, RECALL, measures 105-109. The score is arranged in a system with six staves: S cello, Fl., Cl in Bb, Pno., Vln. I, and Vln. II. The Cb. staff is present but contains no notation. Measure 105 shows the S cello and Pno. staves with complex rhythmic patterns. Measure 106 features a dynamic marking of *f* and a triplet of eighth notes in the S cello part. Measure 107 includes a triplet of eighth notes in the Pno. part. Measure 108 shows a triplet of eighth notes in the Vln. I part. Measure 109 concludes the system with a triplet of eighth notes in the Vln. I part.

Musical score for Octet, RECALL, measures 109-113. The score continues with six staves: S cello, Fl., Cl in Bb, Pno., Vln. I, and Vln. II. The Cb. staff is present but contains no notation. Measure 109 features a dynamic marking of *ff* and a tremolo in the S cello part. Measure 110 shows a complex rhythmic pattern in the Cl in Bb part. Measure 111 includes a complex rhythmic pattern in the Pno. part. Measure 112 shows a complex rhythmic pattern in the Vln. I part. Measure 113 concludes the system with a complex rhythmic pattern in the Vln. I part.

Octet, RECALL.

Musical score for Octet, RECALL, measures 111-113. The score includes parts for S cello, Fl., Cl in Bb, Pno., Vln. I, Vln. II, and Cb. The music features complex rhythmic patterns and melodic lines across all instruments.

Musical score for Octet, RECALL, measures 114-116. The score includes parts for S cello, Fl., Cl in Bb, Pno., Vln. I, Vln. II, and Cb. The music features complex rhythmic patterns and melodic lines across all instruments. A tempo change to 66 is indicated at the start of measure 114.

Octet, RECALL.

Musical score for measures 121-124. The score is for an octet and includes parts for Scello, Fl., Cl in Bb, Pno, Vln I, Vln II, and Cb. The key signature has two flats (Bb and Eb) and the time signature is 3/4. Measure 121 starts with a rest for the Scello and Fl. parts. The Cl in Bb part has a triplet of eighth notes. The Pno part has a complex chordal texture. The Vln I and Vln II parts have melodic lines. The Cb part has a bass line. Measure 122 continues the textures. Measure 123 shows more development. Measure 124 ends with a triplet of eighth notes in the Scello and Fl. parts.

Musical score for measures 125-128. The score continues from the previous system. Measure 125 starts with a rest for the Scello and Fl. parts. The Cl in Bb part has a triplet of eighth notes. The Pno part has a complex chordal texture. The Vln I and Vln II parts have melodic lines. The Cb part has a bass line. Measure 126 continues the textures. Measure 127 shows more development. Measure 128 ends with a triplet of eighth notes in the Scello and Fl. parts. Dynamics include *f* and *mf*.

Octet, RECALL.

Musical score for measures 129-132. The score includes parts for Scello, Fl., Cl in Bb, Pno., Vln. I, Vln. II, and Cb. The Scello part features a rhythmic pattern of eighth notes. The Fl. and Cl in Bb parts have melodic lines with some grace notes. The Pno. part has a complex accompaniment with triplets and sixteenth notes. The Vln. I and Vln. II parts play sustained chords. The Cb. part plays a steady bass line.

Tempo I

Musical score for measures 133-136. The score includes parts for Scello, Fl., Cl in Bb, Pno., Vln. I, Vln. II, and Cb. The Scello part has a melodic line with a *rit.* and *mf* dynamic. The Fl. and Cl in Bb parts have melodic lines with *mf* dynamics and triplets. The Pno. part has a complex accompaniment with triplets and sixteenth notes. The Vln. I and Vln. II parts play sustained chords with *rit.* and *pizz.* markings. The Cb. part has a melodic line with *mf* dynamics.

Ochet, RECALL,

♩ - 52 寂静, 沉思地

p *rit. and dim*

S cello

Fl.

Cl in Bb

Pno.

Vln. I

Vln. II

Cb.

144

ppp

144

ppp

144

pp

144

ppp

ppp

ppp

ppp

S cello

Fl.

Cl in Bb

Pno.

Vln. I

Vln. II

Cb.

Appendix 4 "RAINBOW" for orchestra

虹

为管弦乐所作

姚恒璐 曲

A $\downarrow = 108$ Moderato Con brio 富于活力地

Piccolo

Flutes

Oboe

Clarinets in B \flat

Bassoons

Horns in F

Trumpets in B \flat

Trombones

Tuba

Timpani

Percussions 1 马林巴 Marimba 小军鼓 Side drum

Percussions 2 吊钹 Suspended cymbal

Percussions 3 小军鼓 Side drum

Harp

Piano

Violin I

Violin II

Viola

Cello

Contrabass

1

5

Picc.

Fl. 1 2

Ob. 1 2

Cl. in B \flat 1 2

Bsn. 1 2

Hn. 1 2 3 4

Tpt. 1 2 3

Tbn. 1 2 3

Tuba

Timp.

Mari.

Perc. 2

3 $\text{##} \text{##}$ Tubular Chimes. S. d.

Hp.

Pno.

Vln. I

Vln. II

Vla.

Ve.

Cb.

non div.

This musical score page, numbered 224 and page 2, features a variety of instruments including Piccolo, Flutes (1 and 2), Oboes (1 and 2), Clarinets in Bb (1 and 2), Bassoons (1 and 2), Horns (1, 2, 3, and 4), Trumpets (1, 2, and 3), Trombones (1, 2, and 3), Tuba, Timpani, Snare Drum (S. drum), Percussion (Perc. 2 and 3), Harp (Hp.), Piano (Pno.), Violins I and II (Vln. I and Vln. II), Viola (Vla.), Violoncello (Vc.), and Contrabass (Cb.). The score is written in a key signature of two sharps (F# and C#) and includes dynamic markings such as *stacc.*, *div.*, *cresc.*, *unis.*, *f*, and *Mari.*. It features complex rhythmic patterns, including triplets and sixteenth-note runs, and includes performance instructions like *1.* and *2.* for first and second endings. A large, light-colored watermark is visible on the left side of the page.

3

15

Picc.

Fl. 1

Fl. 2

Ob. 1

Ob. 2

Cl. in Bb 1

Cl. in Bb 2

Bsn. 1

Bsn. 2

Hn. 1

Hn. 2

Hn. 3

Hn. 4

Tpt. 1

Tpt. 2

Tpt. 3

Tbn. 1

Tbn. 2

Tbn. 3

Tuba

Timp.

Mari.

Perc. 2

Perc. 3

Hp.

Pno.

Vin. I

Vin. II

Vla.

Vc.

Cb.

rit.

f

dnc.

unis.

20 **B** $\text{♩} = 66$ *Andante assai legato* 十分连贯地

Picc.

Fl. 1 2

Ob. 1 2

Cl. in Bb 1 2

Bsn. 1 2

Hr. 1 2

Hr. 3 4

B $\text{♩} = 66$ *Andante assai legato* 十分连贯地

Vln. I *non div.*

Vln. II *non div.*

Vla. *non div.*

Vc. *div.* *unis.*

Cb.

21

Vln. II

Vla.

Vc.

Cb.

5

Vln. I *mp*

Vln. II *mp*

Vla. *mp*

Vc. *mp*

Cb.

Fl. 1 *Poco a poco cresc.*

Fl. 2 *Poco a poco cresc.*

Cl. in B \flat 1 *Poco a poco cresc.*

Cl. in B \flat 2 *Poco a poco cresc.*

Hn. 1 *Poco a poco cresc.*

Hn. 2 *Poco a poco cresc.*

Vln. I *Poco a poco cresc.* *div.*

Vln. II *Poco a poco cresc.* *div.*

Vla. *Poco a poco cresc.* *div.*

Vc. *Poco a poco cresc.* *div.*

Cb. *Poco a poco cresc.*

40

C $\text{♩} = 118$ *energico* 有力地

Picc. —

Fl. 1 2

Ob. 1 2

Cl. in B \flat 1 2

Bsn. 1 2

Hr. 1 2 3 4

Tpt. 1 2 3

Tbn. 1 2 3

Tuba —

Timp. —

Perc. 1 小军鼓 *S. d.* *Mari.* *f*

Perc. 2 3 小军鼓 *S. d.* *f*

Hp. —

Pno. —

Vin. I *f* *amiv.* $\text{♩} = 118$ *energico* 有力地 *div.*

Vin. II *f* *div.*

Via. *f* *div.*

Vc. *f* *amiv.* *div.*

Cb. *f* *f*

7

45

Picc.

Fl. 1, 2

Ob. 1, 2

Cl. in Bb 1, 2

Bsn. 1, 2

Hr. 1, 2, 3, 4

Tpt. 1, 2, 3

Tbn. 1, 2, 3

Tuba

Timp.

Mari. 1

Perc. 2, 3

Hp.

Pno.

Vln. I

Vln. II

Vla.

Vc.

Cb.

1.2.3.

8^{va}

1.2.3.

Mari.

大鼓 Bass drum

吊钹 S. cym.

unisc.

div.

div.

V

V

50

Picc.

Fl. 1
2

Ob. 1
2

Cl. in B \flat 1
2

Bsn. 1
2

Hn. 1
2
3
4

Tpt. 1
2
3

Tbn. 1
2
3

Tuba

Timp.

Perc. 1
2
3

Hp.

Pno.

Vin. I

Vin. II

Via.

Vc.

Cb.

f, *sf*, *div.*, *unis.*

9

55

Picc.

Fl. 1 2 *1.2.*

Ob. 1 2

Cl. in B \flat 1 2

Bsn. 1 2

Hr. 1 2

Tpt. 1 2

Tbn. 1 2

Truba

Timp.

Perc. 1 *大鼓 B. d.* *>*
2 *吊钹 S. cym.* *>*
3 *小军鼓 S. d.*

Hp.

Pno.

Vln. I *mf* *unis.*
Vln. II *mf* *unis.*
Vla. *mf* *unis.*
Vcl. *mf* *unis.*
Cb.

60

Picc. 1. *stacc.* *rit.*

Fl. 1 2. 3.

Ob. 1 2.

Cl. in B \flat 1 2.

Bsn. 1 2.

Hn. 1 2. 3. 4.

Tpt. 1 2 3.

Tbn. 1 2 3.

Tuba.

Tamp.

Perc. 1 2 3.

Hp.

Pno.

Vln. I *div.* *rit.*

Vln. II *div.*

Vla. *div.*

Vc. *amb.*

Cb.

11

Cl. in B \flat 1 2 mf D $\text{♩} = 100$ *Con molto esp* 很有表情地
 Hn. 1 2
 Vln. I mp D $\text{♩} = 100$ *Con molto esp* 很有表情地
 Vln. II mp
 Vla. mp
 Vc. mp *pizz.* *arco* *pizz.* *arco* *pizz.*
 Cb. mp *pizz.* *arco* *pizz.*

Cl. in B \flat 1 2 rit.
 Hn. 1 2 mp
 Hn. 3 4 div. arco mp
 Vln. I uniss. rit.
 Vln. II uniss.
 Vla. uniss. mp
 Vc. div. arco uniss. mp
 Cb. arco mp

al tempo

75

Vln. I
Vln. II
Vla.
Vc.
Cb.

Detailed description: This system contains five staves of music. The Violin I staff has a whole rest for measures 75-78 and enters in measure 79 with a half note G4. The Violin II staff plays a melodic line with eighth and sixteenth notes. The Viola, Cello, and Double Bass staves play a rhythmic accompaniment of eighth notes.



80

81

Picc.
Fl.
1
2
Ob. 1
2
Cl. in Bb 1
2
Bsn. 1
2

Detailed description: This system contains five staves of woodwind music. The Piccolo, Flute, Oboe, and Clarinet staves play a complex rhythmic pattern of sixteenth notes with triplets and quintuplets. The Bassoon staves play a simpler accompaniment. Dynamics include *mf* and *mf*. There are markings for *acc* (accents) on the Bassoon staff.

Vln. I
Vln. II
Vla.
Vc.
Cb.

Detailed description: This system contains five staves of music. The Violin I staff has a whole rest for measures 80-81 and enters in measure 82 with a half note G4. The Violin II staff plays a melodic line. The Viola, Cello, and Double Bass staves play a rhythmic accompaniment of eighth notes.



13

E *rit.* ♩ = 68 *cantabile* 如歌的

Picc. *solo*
 Fl. 1 2
 Ob. 1 2
 Cl. in B♭ 1 2
 Bsn. 1 2
 Hn. 1 2 3 4
 Tpt. 1 2 3
 Tbn. 1 2 3
 Tuba
 Timp.
 Perc. 1 三角铁 (Triangle)
 Perc. 2 铃鼓 (Tambourine)
 Perc. 3
 Hp.
 Pno.
 Vln. I ♩ = 68 *cantabile* 如歌的
 Vln. II
 Vla.
 Vc.
 Cb.

Musical score for measures 1-5. The score includes parts for Oboe 1 & 2, Clarinet in Bb 1 & 2, Percussion 1 (Triangle), Harp, Violin I & II, Viola, Violoncello, and Contrabass. The key signature is Bb major and the time signature is 3/4. Measure 1 contains a rehearsal mark [50]. Percussion 1 plays a triangle. The Viola and Violoncello parts have 'solo' markings. The Violoncello part has 'pizz.' and 'arco' markings.



Musical score for measures 6-10. The score includes parts for Oboe 1 & 2, Clarinet in Bb 1 & 2, Percussion 2 (Vibraphone), Harp, Violin I & II, Viola, Violoncello, and Contrabass. The key signature changes to B major and the time signature is 4/4. Measure 6 contains a rehearsal mark [51]. Percussion 2 plays a vibraphone. The Viola part has a 'pizz.' marking.

Musical score for page 16, measures 100-108. The score includes parts for Piccolo, Flute (1, 2, 3), Oboe (1, 2), Clarinet in Bb (1, 2), Bassoon (1, 2), Horn (1, 2, 3, 4), Trumpet (1, 2, 3), Trombone (1, 2, 3), Tuba, Timpani, Percussion (1, 2), Harp, Piano, Violin I, Violin II, Viola, Violoncello, and Contrabass. The score features complex rhythmic patterns, dynamic markings like 'f' and 'div', and a rehearsal mark at measure 108.

17

F Poco animato piu mosso 115 *pice*

Picc. Fl. 1 2 Ob. 1 2 Cl. in Bb 1 2 Bsn. 1 2

Hn. 1 2 3 4 Tpt. 1 2 3 Tbn. 1 2 3 Tuba Timp.

Perc. 1 2 3

Hp. Pno.

小军鼓 S. d. *大鼓 B. d.*
钟琴 (Vibraphone.) *吊钹 S. cym.*

2 Poco animato piu mosso *div.* *uniz.*

Vln. I Vln. II Vla. Vcl. Cb.

120

Picc.

Fl. 1 2

Ob. 1 2

Cl. in B \flat 1 2

Bsn. 1 2

Hn. 1 2 3 4

Tpt. 1 2 3

Tbn. 1 2 3

Tuba

Timp.

Perc. 1 2 3

Hp.

Pno.

Vln. I

Vln. II

Vla.

Vcl.

Cb.

小军鼓 S. d.

Vibra.

div.

unis.

125

Picc.

Fl. 1 2

Ob. 1 2

Cl. in B \flat 1 2

Bsn. 1 2

Hr. 1 2 3 4

Tpt. 1 2 3

Tbn. 1 2 3

Truba

Timp.

Perc. 1 2 3

Hp.

Pno.

Vln. I

Vln. II

Vla.

Vc.

Cb.

S. d.

dir.

unic.

This page of a musical score features a variety of instruments. The woodwind section includes Piccolo (Picc.), Flute (Fl. 1 and 2), Oboe (Ob. 1 and 2), Clarinet in B-flat (Cl. in Bb. 1 and 2), Bassoon (Bsn. 1 and 2), Horn (Hn. 1, 2, 3, 4), Trumpet (Tpt. 1, 2, 3), Trombone (Tbn. 1, 2, 3), and Tuba. The percussion section consists of Timpani (Timp.), Maracas (Mari.), Vibraphone (Vibra.), and Suspended Cymbal (吊钹 S. cym.). The string section includes Violin I (Vln. I), Violin II (Vln. II), Viola (Via.), Violoncello (Vc.), and Contrabass (Cb.). The score is written in a key with one sharp (F#) and a 3/4 time signature. It contains complex rhythmic patterns, including sixteenth and thirty-second notes, and dynamic markings such as *f* (forte) and *div.* (divisi). A rehearsal mark [130] is present in the Piccolo part. The bottom of the page features a large, light gray watermark.

21

(慢起原速)

Picc.

Fl. 1
2

Ob. 1
2

Cl. in B \flat 1
2

Bsn. 1
2

Hn. 1
2
3
4

Tpt. 1
2
3

Tbn. 1
2
3

Tuba

Timp.

Perc. 1
2
3

Hp.

Pno.

Vin. I

Vin. II

Vla.

Vc.

Cb.

(慢起原速)

This page of a musical score, numbered 22, contains staves for the following instruments: Picc., Fl. 1 & 2, Ob. 1 & 2, Cl. in Bb. 1 & 2, Bsn. 1 & 2, Hn. 1, 2, 3 & 4, Tpt. 1, 2 & 3, Tbn. 1, 2 & 3, Tuba, Timp., Perc. 1, 2 & 3, Hp., Pno., Vin. I & II, Vla., Vc., and Cb. The score is written in a key signature of two sharps (F# and C#) and a common time signature. It features complex rhythmic patterns, including sixteenth and thirty-second notes, and various articulations such as slurs, accents, and dynamic markings like *f*, *sf*, and *ff*. A rehearsal mark '134' is present at the beginning of the Piccolo staff. The bottom of the page features a large, light gray watermark logo.

23

慢起快后再慢 *Poco a poco rit...* 140

Picc. *sf*

Fl. 1 *sf*

Fl. 2

Ob. 1

Ob. 2

Cl. in B \flat 1

Cl. in B \flat 2

Ban. 1

Ban. 2

Hn. 1 *sf*

Hn. 2

Hn. 3 *sf*

Hn. 4

Tpt. 1

Tpt. 2

Tpt. 3

Tbn. 1

Tbn. 2

Tbn. 3

Tuba

Timp.

Perc. 1

Perc. 2

Perc. 3

Hp.

Pno. *sf*

Poco a poco rit...

Vln. I

Vln. II

Vla.

Vc.

Cb.

G $\text{♩} = 108$ 强有力的 *con forza* 145

Picc. *mf*

Fl. 1 2 *mf*

Ob. 1 2 *mf*

Cl. in B \flat 1 2 *mf*

Bsn. 1 2 *mf*

Hn. 1 2 3 4 *con forza* (强有力的) *mf*

Tpt. 1 2 3 *mf*

Tbn. 1 2 3 *mf*

Tuba *mf*

Timp. *mp*

1 *Mari.*

Perc. 2 *Vibra.*

3 *R. toms* *mf* *小军鼓 S. d.*

Hp. *gliss.* *f*

Pno.

3 $\text{♩} = 108$ 强有力的 *mf* *div.* *unis.*

Vin. I *mf* *div.* *unis.*

Vin. II *mf* *div.* *unis.*

Vla. *mf* *div.* *unis.*

Ve. *mf* *div.* *unis.*

Cb. *mf* *div.* *unis.*

25

150

Picc. Fl. 1 2 Ob. 1 2 Cl. in Bb 1 2 Bsn. 1 2

Hr. 1 2 3 4 Tpt. 1 2 3 Tbn. 1 2 3 Tuba Timp.

Perc. 1 2 3

Hp. Pno.

Vln. I Vln. II Vla. Vc. Cb.

poco a poco cresc.

gliss.

S. d.

大鼓 B. d.

小鼓 S. cym.

div. *unis.*

155

Picc.

Fl. 1 2

Ob. 1 2

Cl. in Bb 1 2

Bsn. 1 2

Hn. 1 2 3 4

Tpt. 1 2 3

Tbn. 1 2 3

Tuba

Timp.

Perc. 1 2 3

Harp (Hp.)

Piano (Pno.)

Vin. I

Vin. II

Vla.

Ve.

Cb.

assai legato.

poco a poco

cresc.

div.

p

unis.

acc.

marc.

f

R. toms

27

强有力地

Picc. *f*

Fl. 1 2 *f*

Ob. 1 2 *f*

Cl. in B \flat 1 2 *f*

Bsn. 1 2 *f*

Hr. 1 2 3 4

Tpt. 1 2 3

Tbn. 1 2 3 *f*

Tuba

Timp. *f* *mp*

Perc. 1 2 3 *f* *mp* *mp*

Hp.

Pno.

Vln. I *f*

Vln. II *f*

Vla. *f*

Vc. *f*

Cb. *f*

小军鼓 S. d. *mp*

吊钹 S. cym. *mp*

R. toms *f* *mp*

160

Poco a poco cresc.

Tpt. 1 2

Tbn. 1 2

Timp.

Perc. 2

小军鼓

号鼓

R. toms

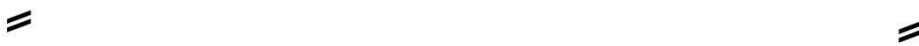
Vln. I

Vln. II

Vla.

Vc.

168



Poco a poco cresc.

Vln. I

Vln. II

Vla.

Vc.

Cb.

170

29

178

Picc. —

Fl. 1 —

2 —

Ob. 1 —

2 —

Cl. in B \flat 1 —

2 —

Bsn. 1 —

2 —

Hr. 1 —

2 —

3 —

4 —

Tpt. 1 —

2 —

3 —

Tbn. 1 —

2 —

3 —

Tuba —

Timp. —

Perc. 1 Mari *mf*

2 Vibra. *mf*

3 —

Hp. —

Pno. —

Vln. I *div.* *f* *uniz.*

Vln. II *div.* *f* *uniz.*

Vla. *div.* *f* *uniz.*

Vc. *div.* *f* *uniz.*

Cb. *f* *div.*

31

180

H $\text{♩} = 122$ 热烈地
con calare

Picc. $\text{♩} = 122$

Fl. 1 2

Ob. 1 2

Cl. in Bb 1 2

Bsn. 1 2

Hn. 1 2 3 4

Tpt. 1 2 3

Tbn. 1 2 3

Tuba

Timp.

Perc. 1 小军鼓 S. d. $\text{♩} = 122$
2 军鼓 S. cym.
3 小军鼓 S. d.

Hp. gliss. $\text{♩} = 122$

Pno. $\text{♩} = 122$

Vin. I $\text{♩} = 122$ unis. $\text{♩} = 122$ *div.* $\text{♩} = 122$ con calare

Vin. II $\text{♩} = 122$ unis. $\text{♩} = 122$ *div.* $\text{♩} = 122$ con calare

Vla. $\text{♩} = 122$ unis. $\text{♩} = 122$ *div.* $\text{♩} = 122$ con calare

Vc. $\text{♩} = 122$ unis. $\text{♩} = 122$ *div.* $\text{♩} = 122$ con calare

Cb. $\text{♩} = 122$

185

Picc.

Fl. 1 2

Ob. 1 2

Cl. in B \flat 1 2

Bsn. 1 2

Hn. 1 2 3 4

Tpt. 1 2 3

Tbn. 1 2 3

Tuba

Timp.

Perc. 1 2 3

Hp.

Pno.

Vin. I

Vin. II

Vla.

Vc.

Cb.

大鼓 B. d.

R. toms

p

div. *unis.* *gliss.*

[10]

Picc.
Fl. 1
2
Ob. 1
2
Cl. in Bb 1
2
Bsn. 1
2
Hn. 1
2
3
4
Tpt. 1
2
3
Tbn. 1
2
3
Tuba
Timp.
Perc. 1
2
3
Hp.
Pno.
Vln. I
Vln. II
Via.
Vc.
Cb.

195

Picc.

Fl. 1 2

Ob. 1 2

Cl in Bb 1 2

Bsn. 1 2

Hn. 1 2 3 4

Tpt. 1 2 3

Tbn. 1 2 3

Tuba

Timp.

Perc. 1 2 3

Hp.

Pno.

Vin. I

Vin. II

Vla.

Vc.

Cb.

小军鼓 S. d.

R. toms

non. div.

div.

unis.

I $\text{♩} = 81$ **Largamente** 宽广庄重地

rit.

Picc. ff

Fl. 1 ff

2 ff

Ob. 1 ff

2 ff

Cl. in Bb. 1 ff

2 ff

Bsn. 1 ff

2 ff

Hr. 1 f

2 f

3 f

4 f

Tpt. 1 f

2 f

3 f

Tbn. 1 f

2 f

3 f

Tuba f

Timp. ff

Perc. 1 S. cym. ff

2 ff

3 S. d. ff

Hp. ff

Pno. ff

9 $\text{♩} = 81$ **Largamente** 宽广庄重地

rit.

Vin. I ff

Vin. II ff

Vla. ff

Ve. ff

Cb. ff

This page of a musical score contains the following instruments and parts:

- Picc.** (Piccolo)
- Fl.** 1, 2 (Flutes)
- Ob.** 1, 2 (Oboes)
- Cl. in Bb.** 1, 2 (Clarinets in B-flat)
- Bsn.** 1, 2 (Bassoons)
- Hr.** 1, 2, 3, 4 (Horns)
- Tpt.** 1, 2, 3 (Trumpets)
- Tbn.** 1, 2, 3 (Trombones)
- Tuba**
- Timp.** (Timpani)
- Perc.** 1, 2, 3 (Percussion: 1. 大鼓 B.d., 2. 大手鼓 Crash cymbals, 3. 大手鼓 Crash cymbals)
- Hp.** (Harp)
- Pno.** (Piano)
- Vin. I**, **Vin. II** (Violins)
- Vla.** (Viola)
- Vc.** (Violoncello)
- Cb.** (Contrabass)

Key performance markings include *rit.*, *ff*, *stacc.*, *aliss.*, *uniss.*, and *div.*. The score is written in a key signature of two sharps (F# and C#) and a 4/4 time signature.

39

Picc.
 Fl. 1 2
 Ob. 1 2
 Cl. in B \flat 1 2
 Bsn. 1 2
 Hn. 1 2 3 4
 Tpt. 1 2 3
 Tbn. 1 2 3
 Tuba
 Timp.
 Perc. 1 2 3
 Hp.
 Pno.
 Vln. I
 Vln. II
 Vla.
 Vcl. *unis.*
 Cb. *div.*

大鼓 B. d.
 吊钹 S. cym.
 大钹 Crash cymbals

p *f*
p *f*
f

220

Picc.

Fl. 1 2

Ob. 1 2

Cl in B \flat 1 2

Ban. 1 2

Hn. 1 2 3 4

Tpt. 1 2 3

Tbn. 1 2 3

Tuba

Timp.

Perc. 1 2 3

Hp.

Pno.

Vln. I

Vln. II

Vla.

Ve.

Cb.

大鼓 B. d.

吊桶 S. cym.

排钟 Tubular chimes

gliss.

ff

41

225

♩ = 108 加快地

Picc.

Fl. 1 2

Ob. 1 2

Cl. in B♭ 1 2

Bsn. 1 2

Hr. 1 2 3 4

Tpt. 1 2 3

Tbn. 1 2 3

Tuba

Timp.

Perc. 1 2 3

Hp.

Pno.

Vln. I

Vln. II

Vla.

Ve.

Cb.

mp

mf

dim.

unis.

Mari

Vibra.

小军鼓 S. d.

♩ = 108 加快地

230 *stacca.*

Picc. Fl. 1 2 Ob. 1 2 Cl. in Bb 1 2 Bsn. 1 2 Hn. 1 2 3 4 Tpt. 1 2 3 Tbn. 1 2 3 Tuba Timp. Perc. 1 2 3 Hp. Pno. Vln. I Vln. II Vla. Vc. Cb.

大鼓 R. d. 吊钹 S. cym. 编钟 Tubular chimes gliss.

43

43

ff *stacca.* 255

Picc. *ff*

Fl. 1 *ff*

Ob. 1 2 *ff*

Cl. in B \flat 1 2 *ff*

Ban. 1 2 *ff*

poco a poco cresc.

Hr. 1 2 *ff*

3 4 *ff*

Tpt. 1 2 *ff*

3 *ff*

Tbn. 1 2 *ff*

3 *ff*

Tuba *ff*

Timp. *ff*

大鼓 B. d.

吊钹 S. cym.

R. toms

大钹 Crash cymbals

Hp. *gliss.*

gliss.

Pno. *gliss.*

div. *poco a poco cresc.* *gliss.* *gliss.* *ff*

Vln. I *div.* *gliss.* *gliss.* *ff*

Vln. II *div.* *gliss.* *gliss.* *ff*

Vla. *div.* *gliss.* *gliss.* *ff*

Ve. *div.* *gliss.* *gliss.* *ff*

Cb. *div.* *gliss.* *gliss.* *ff*

unis. *ff*

ff

Appendix 5 “TRIPTYCH OF YANG GUAN” for cello and piano

TRIPTYCH OF YANG GUAN

阳光三叠

for cello and piano
为大提琴与钢琴

Yao Heng lu
姚恒璐

2001

A ♩ = 60 *Con grande espress*
 Cello: *ppp*, *p*, *p*
 Piano: *p*

Cello: *p*, *sfp*
 Piano: *p*

Cello: *mp*, *mp*
 Piano: *mp*

B ♩ = 81 *Andante mosso*
arco sul pont
 Cello: *mp*
 Piano: *mp*

Cello

Piano

18 *mp* *mf*

Cello

Piano

24 *pizz.* *arco* *p* *sul pont* *pizz.* *arco*

Cello

Piano

29 *mf* *rit.* *p* *a tempo* *arco sul pont*

2

Cello

Piano

35 *mf* *mf* *72*

Cello

Piano

41 *pizz.* *arco* *mf* *pizz.* *arco* *pizz.*

Cello

Piano

46 *arco* *pizz.* *arco* *sul pont*

3

Cello

Piano

D $\text{♩} = 33$ ($\text{♩} = 99$) *Con doloroso espressione*

Cello

Piano

Cello

Piano

4

Cello

Piano

Cello

Piano

E *a tempo*

Cello

Piano

5

86

Cello

Piano

♩ = 81

92

Cello

Piano

98

Cello

Piano

rit.

f

pp

6

104

Cello

Piano

mf

mf

110

Cello

Piano

poco a poco cresc.

ff

ff

115

Cello

Piano

a tempo

mp

stacc.

p

p

7

Cello

Piano

121

rit.

G ♯ = 36 Grave

pp

127

*sf**p*

mf

133

p

mf

rit.

gliss.

pizz.

pp



Appendix 6 The Mountain Tunes For Sextet

山曲 The Mountain Tunes

六重奏 For Sextet

姚恒璐
YaoHeng-lu
c.2004.

1 *Ad.Lib.* ♩ = 66

Flute

Clarinet in B \flat

Piano

Percussion

Viola

Violoncello

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

w.blocks *accel.* *cresc.*

sf *p*

mp *cresc.*

pizz

H.L.Yao

六重奏《山曲》

5

Fl. *stacc.* *tr*

Cl. *stacc.* *tr*

Pno.

Perc. *f.gong* *h.cym.*

Vla. *tr*

Vc. *tr*

2 Andante ♩ = 84

7

Fl. *stacc.*

Cl. *stacc.*

Pno. *stacc.* *mp*

Perc. *f.gong* *mp*

Vla. *tr* *mp*

Vc. *tr* *mp*

六重奏《山曲》

Musical score for measures 9-11 of the sextet "Mountain Song". The score is written for six instruments: Flute (Fl.), Clarinet (Cl.), Piano (Pno.), Percussion (Perc.), Viola (Vla.), and Violoncello (Vc.). The time signature is 3/4. The key signature has one flat (B-flat). The dynamics are marked *mp* (mezzo-piano) and *w.blocks* (with blocks). The Flute part features a melodic line with a *mp* dynamic and a *tr* (trill) marking. The Piano part has a complex rhythmic pattern with *w.blocks* markings. The Percussion part has a simple rhythmic pattern. The Viola and Violoncello parts have a more melodic and harmonic accompaniment.

Musical score for measures 12-14 of the sextet "Mountain Song". The score is written for six instruments: Flute (Fl.), Clarinet (Cl.), Piano (Pno.), Percussion (Perc.), Viola (Vla.), and Violoncello (Vc.). The time signature is 3/4. The key signature has one flat (B-flat). The dynamics are marked *h.cym.* (high cymbal). The Flute part features a melodic line with a *tr* (trill) marking. The Piano part has a complex rhythmic pattern with *h.cym.* markings. The Percussion part has a simple rhythmic pattern. The Viola and Violoncello parts have a more melodic and harmonic accompaniment.

六重奏《山曲》

15

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

3 *Animato* 活泼的

19

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

f.gong *w.blocks* *f.gong*

pizz *pizz*

六重奏《山曲》

22

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

f.gong *w.blocks*

arco

25

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

f.gong *w.blocks*

六重奏《山曲》

28

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

32

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

六重奏《山曲》

35

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

Detailed description: This system of musical notation covers measures 35 to 38. The Flute (Fl.) part is mostly silent, with a few notes in measure 38. The Clarinet (Cl.) plays a rhythmic eighth-note pattern in measures 35-37. The Piano (Pno.) has a complex texture with sixteenth-note runs and triplets in both hands, marked with '5' and '8va'. The Percussion (Perc.) part is silent. The Viola (Vla.) plays a rhythmic eighth-note pattern. The Violin (Vc.) plays a rhythmic eighth-note pattern.

39

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

Detailed description: This system of musical notation covers measures 39 to 42. The Flute (Fl.) has a melodic line with slurs and accents. The Clarinet (Cl.) has a similar melodic line. The Piano (Pno.) has a complex texture with sixteenth-note runs and triplets in both hands, marked with '3' and '5'. The Percussion (Perc.) part is silent. The Viola (Vla.) plays a rhythmic eighth-note pattern. The Violin (Vc.) plays a rhythmic eighth-note pattern.

六重奏《山曲》

Musical score for measures 44-47 of the sextet "Mountain Song". The score is arranged in six staves: Flute (Fl.), Clarinet (Cl.), Piano (Pno.), Percussion (Perc.), Viola (Vla.), and Violoncello (Vc.). The key signature is one flat (B-flat major/D minor), and the time signature is 3/4. Measure 44 begins with a treble clef and a key signature change to one flat. The Flute and Clarinet parts play a rhythmic eighth-note pattern. The Piano part features a complex chordal texture with many accidentals. The Percussion part is silent. The Viola and Violoncello parts play a steady eighth-note accompaniment. Measure 47 ends with a 3/4 time signature change.

Musical score for measures 48-51 of the sextet "Mountain Song". The score is arranged in six staves: Flute (Fl.), Clarinet (Cl.), Piano (Pno.), Percussion (Perc.), Viola (Vla.), and Violoncello (Vc.). The key signature is one flat (B-flat major/D minor), and the time signature is 3/4. Measure 48 begins with a treble clef and a key signature change to one flat. The Flute and Clarinet parts play a melodic line with a slur and a *rit.* marking. The Piano part features a complex chordal texture with many accidentals. The Percussion part is silent. The Viola and Violoncello parts play a steady eighth-note accompaniment. Measure 51 ends with a 3/4 time signature change.

六重奏《山曲》

51

Fl. *p*

Cl. *p*

Pno. *p* *poco a poco dim rit*

Perc. *w.blocks* *p*

Vla. *pizz*

Vc. *pizz*

52

Fl.

Cl.

Pno. *poco a poco dim rit*

Perc. *poco a poco dim rit*

Vla. *poco a poco dim rit*

Vc. *poco a poco dim rit*

六重奏《山曲》

53

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

55

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

pp

pp

pp

六重奏《山曲》

4 *Vivace ma non troppo* ♩ = 50

57 *mf*

Fl.

Cl.

Pno. *mf*

S. drum.

Perc. *mf*

Vla. *mf*

Vc. *mf*

60

Fl.

Cl.

Pno.

Perc. *stacc.*

Vla. *stacc.*

Vc.

六重奏《山曲》

64

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

w.blocks

68

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

六重奏《山曲》

71

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

S.drum.

74

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

六重奏《山曲》

77

Fl.

Cl.

Pno.

Perc. *h.cym.*

Vla.

Vc.

80

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

六重奏《山曲》

83

Fl.

Cl.

Pno.

Perc. *h.cym.*

Vla.

Vc.

86

Fl.

Cl.

Pno.

Perc. *f.gong*

Vla.

Vc.

Detailed description: This is a musical score for a six-part ensemble, titled '六重奏《山曲》'. The score is divided into two systems, each containing six staves. The first system covers measures 83 to 85, and the second system covers measures 86 to 88. The instruments are Flute (Fl.), Clarinet (Cl.), Piano (Pno.), Percussion (Perc.), Viola (Vla.), and Violoncello (Vc.). The key signature is one flat (B-flat major or D minor), and the time signature is 2/4. The Flute and Clarinet parts feature melodic lines with slurs and accents. The Piano part is mostly silent, with some chords in the second system. The Percussion part includes a cymbal roll in measure 83 and a gong in measure 86. The Viola and Violoncello parts play a rhythmic accompaniment of eighth notes with slurs. The score is marked with measure numbers 83, 86, and 89.

六重奏《山曲》

89

Fl.

Cl.

Pno.

Perc.

Vla. *stacc.*

Vc. *stacc.*

92

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

六重奏《山曲》

95

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

5 ♩ = 80

98

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

六重奏《山曲》

101

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

f.gong

w.blocks

f.gong

104

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

w.blocks

f.gong

六重奏《山曲》

107

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

h.cym.

w.blocks

mf

6 *Ad.Lib.* ♩ = 84

110

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

mf

mf

sf p

ppp

六重奏《山曲》

111

Fl. *tr* *(b)*

Cl.

Pno.

Perc.

Vla.

Vc.

113

Fl.

Cl.

Pno.

Perc. *w.blocks*

Vla.

Vc.

六重奏《山曲》

♩ = 152 ♩ = 50

114

Fl.

Cl.

Pno.

Perc. *S.drum.*

Vla.

Vc.

116

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

六重奏《山曲》

119

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

w.blocks

Detailed description: This system of musical notation covers measures 119 to 121. It features six staves: Flute (Fl.), Clarinet (Cl.), Piano (Pno.), Percussion (Perc.), Viola (Vla.), and Violoncello (Vc.). The Flute and Clarinet parts are in treble clef, while the Piano, Viola, and Violoncello parts are in bass clef. The Percussion part is in a drum set notation. The Piano part shows a complex texture with many sixteenth notes and slurs. The Percussion part has a 'w.blocks' marking. The Viola and Violoncello parts have rests in measure 119 and 120, and enter in measure 121.

122

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

Detailed description: This system of musical notation covers measures 122 to 125. It features the same six staves as the previous system. The Flute and Clarinet parts continue with melodic lines. The Piano part has a more rhythmic accompaniment with chords and slurs. The Percussion part has a steady pattern. The Viola and Violoncello parts have a more active role in measures 122-125.

六重奏《山曲》

126

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

S.drum.

129

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

六重奏《山曲》

132

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

135

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

h.cym.

六重奏《山曲》

138

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

141

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

141 *h.cym.*

六重奏《山曲》

144

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

147

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

stacc.

stacc.

8^{va}

Detailed description: This is a page of a musical score for a six-piece ensemble. The score is divided into two systems, each containing six staves. The instruments are Flute (Fl.), Clarinet (Cl.), Piano (Pno.), Percussion (Perc.), Viola (Vla.), and Violoncello (Vc.). The first system covers measures 144 to 146. The second system covers measures 147 to 149. The Flute and Clarinet parts feature melodic lines with various ornaments and dynamics. The Piano part provides harmonic support with chords and moving lines. The Percussion part has a rhythmic pattern. The Viola and Violoncello parts have melodic lines with some staccato markings. A '8^{va}' marking is present in the Piano part in measure 146. The page number 296 is in the top right corner, and the title '六重奏《山曲》' is centered at the top.

六重奏《山曲》

150

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

153

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

六重奏《山曲》

7 $\text{♩} = 144$ *Caldamente* 热情地

triple tone

155 *f* *triple tone*

Fl.

Cl.

155 *f*

Pno.

155 *f.gong* *S.drum.*

Perc.

155 *f*

Vla.

Vc.

156

Fl.

Cl.

156

Pno.

156

Perc.

156

Vla.

Vc.

六重奏《山曲》

triple tone

158

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

161

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

f.gong

w.blocks

六重奏《山曲》

164

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

w.blocks

167

Fl.

Cl.

Pno.

Perc.

Vla.

Vc.

triple tone

f.gong *w.blocks* *S.drum.* *f.gong*

Appendix 7 Bangzi Tune

椰子腔

(钢琴三重奏)

姚恒璐 曲
c. Yao Heng-lu
2017年 6月

A ♩ = 88 *Andante* 激情的行板

Violin

B. Accordion

Piano

Vln.

B.Acc.

Pno.

H.L. Yao

《椰子腔》

7

Vln.

B.Acc.

Pno.

This musical system covers measures 7, 8, and 9. It features three staves: Violin (Vln.), Bassoon (B.Acc.), and Piano (Pno.). The key signature is one sharp (F#) and the time signature is 4/4. Measure 7 begins with a rest for the violin and bassoon, while the piano plays a rhythmic pattern of eighth notes. In measure 8, the violin and bassoon enter with melodic lines, and the piano continues its accompaniment. Measure 9 shows a change in the piano's accompaniment, with more sustained chords and a different rhythmic feel.

10

Vln.

B.Acc.

Pno.

This musical system covers measures 10, 11, and 12. It features the same three staves: Violin (Vln.), Bassoon (B.Acc.), and Piano (Pno.). The key signature remains one sharp (F#) and the time signature is 4/4. Measure 10 shows the violin and bassoon playing sustained chords, while the piano continues with a rhythmic accompaniment. In measure 11, the violin and bassoon have rests, and the piano plays a more active melodic line. Measure 12 concludes the system with sustained chords in the violin and bassoon, and a final piano accompaniment.

《椰子腔》

12

Vln.

B.Acc.

Pno.

This musical system covers measures 12 and 13. It features three staves: Violin (Vln.), Bassoon (B.Acc.), and Piano (Pno.). The key signature is one sharp (F#) and the time signature is 4/4. Measure 12 begins with a 5/4 time signature change. The Violin part has a melodic line with a 'V' marking above it. The Bassoon part provides harmonic support with chords and single notes. The Piano part has a complex texture with arpeggiated chords and moving lines in both hands.

14

Vln.

B.Acc.

Pno.

This musical system covers measures 14, 15, and 16. It features three staves: Violin (Vln.), Bassoon (B.Acc.), and Piano (Pno.). The key signature is one sharp (F#) and the time signature is 4/4. Measure 14 begins with a 5/4 time signature change. The Violin part has a melodic line with a 'V' marking above it. The Bassoon part provides harmonic support with chords and single notes. The Piano part has a complex texture with arpeggiated chords and moving lines in both hands.

《椰子腔》

Musical score for measures 17-19 of the piece 《椰子腔》. The score is arranged for Violin (Vln.), Bassoon (B.Acc.), and Piano (Pno.).

- Measure 17:** Vln. plays a melodic line with a slur. B.Acc. plays a rhythmic pattern with a slur. Pno. plays a complex rhythmic accompaniment.
- Measure 18:** Vln. continues the melodic line. B.Acc. plays a rhythmic pattern with a slur. Pno. continues the accompaniment.
- Measure 19:** Vln. plays a melodic line with a slur. B.Acc. plays a rhythmic pattern with a slur. Pno. continues the accompaniment.

Musical score for measures 20-22 of the piece 《椰子腔》. The score is arranged for Violin (Vln.), Bassoon (B.Acc.), and Piano (Pno.).

- Measure 20:** Vln. plays a melodic line with a slur. B.Acc. plays a rhythmic pattern with a slur. Pno. plays a complex rhythmic accompaniment.
- Measure 21:** Vln. continues the melodic line. B.Acc. plays a rhythmic pattern with a slur. Pno. continues the accompaniment.
- Measure 22:** Vln. plays a melodic line with a slur. B.Acc. plays a rhythmic pattern with a slur. Pno. continues the accompaniment.

《椰子腔》

23

Vln.

B.Acc.

Pno.

26

Vln.

B.Acc.

Pno.

《椰子腔》

29

Vln.

B.Acc.

Pno.

32

Vln.

B.Acc.

Pno.

rit.

《椰子腔》

B ♩ = 63 *Adagio* 深沉的柔板

36

Vln. *mp*

B.Acc. *mp*

Pno. *mp*

39

Vln. *mp*

B.Acc. *mp*

Pno. *mp*

《椰子腔》

48

Vln.

B.Acc.

Pno.

48

48

5

51

Vln.

B.Acc.

Pno.

51

51

《椰子脸》

54

Vln.

B.Acc.

Pno.

This system contains measures 54, 55, and 56. The Violin (Vln.) part features a melodic line with eighth and sixteenth notes, including a sharp sign on the second measure. The Bassoon (B.Acc.) part has a similar rhythmic pattern with some rests. The Piano (Pno.) part provides harmonic support with chords and moving lines in both hands.

57

Vln.

B.Acc.

Pno.

This system contains measures 57, 58, and 59. The Violin (Vln.) part continues the melodic development with a fermata over the final note of measure 58. The Bassoon (B.Acc.) part includes a quintuplet (marked with a '5') in measure 58. The Piano (Pno.) part continues with harmonic accompaniment.

《椰子腔》

60

Vln.

B.Acc.

Pno.

63

Vln.

B.Acc.

Pno.

《椰子腔》

65

Vln.

B.Acc.

Pno.

Musical score for measures 65-66. The score is in 2/4 time and features three staves: Violin (Vln.), Bassoon (B.Acc.), and Piano (Pno.). The key signature has one flat (B-flat). Measure 65 shows the Violin playing a melodic line with eighth notes and a quarter note, while the Bassoon and Piano provide accompaniment. Measure 66 continues the melodic development in the Violin and Bassoon parts, with the Piano accompaniment consisting of chords and moving bass lines.

67

Vln.

B.Acc.

Pno.

Musical score for measures 67-68. The score continues with three staves: Violin (Vln.), Bassoon (B.Acc.), and Piano (Pno.). Measure 67 features a more complex melodic line in the Violin and Bassoon parts, with the Piano accompaniment providing harmonic support. Measure 68 shows a continuation of the melodic and harmonic material, with the Violin and Bassoon parts becoming more active and the Piano accompaniment providing a steady rhythmic and harmonic foundation.

《椰子腔》

69

Vln.

B.Acc.

Pno.

72

Vln.

B.Acc.

Pno.

《椰子腔》

C *Andantino* ♩ = 78 动感的小行板

75

Vln. *mf*

B.Acc. *mf*

Pno. *mf*

79

Vln.

B.Acc.

Pno.

《椰子腔》

82

Vln.

B.Acc.

Pno.

86

Vln.

B.Acc.

Pno.

《椰子腔》

89

Vln.

B.Acc.

Pno.

92

Vln.

B.Acc.

Pno.

《椰子腔》

95

Vln.

B.Acc.

Pno.

95

96

97

98

Vln.

B.Acc.

Pno.

98

99

100

《椰子腔》

101

Vln. B.Acc. Pno.

This system contains measures 101, 102, and 103. The Vln. part starts with a treble clef, a key signature of one sharp (F#), and a 2/4 time signature. It features a melodic line with eighth and sixteenth notes. The B.Acc. part has a bass clef and a 2/4 time signature, with a rhythmic accompaniment of eighth notes. The Pno. part has a grand staff with a key signature of one sharp and a 2/4 time signature, providing harmonic support with chords and moving lines in both hands.

104

Vln. B.Acc. Pno.

This system contains measures 104, 105, and 106. The Vln. part continues with a treble clef, a key signature of one sharp, and a 2/4 time signature. It includes a fermata over the first measure of the system. The B.Acc. part has a bass clef and a 2/4 time signature, with a rhythmic accompaniment of eighth notes. The Pno. part has a grand staff with a key signature of one sharp and a 2/4 time signature, providing harmonic support with chords and moving lines in both hands.

《椰子腔》—钢琴三重奏

106

Vln.

B.Acc.

Pno.

Detailed description: This system contains measures 106, 107, and 108. The key signature is one sharp (F#). Measure 106 is in 5/4 time, 107 is in 4/4, and 108 is in 4/4. The Violin (Vln.) part features a melodic line with eighth and sixteenth notes. The Bassoon (B.Acc.) part provides harmonic support with chords and eighth notes. The Piano (Pno.) part has a rhythmic accompaniment with chords and eighth notes.

渐快

$\text{♩} = 88$ 更加活跃地

109

Vln.

B.Acc.

Pno.

mf

mf

mf

Detailed description: This system contains measures 109, 110, and 111. The key signature remains one sharp. Measure 109 is in 5/4 time, 110 is in 4/4, and 111 is in 3/4. The tempo marking '渐快' (Ritardando) is above measure 109, and '更加活跃地' (Allegretto) with a tempo of 88 is above measure 111. The Violin (Vln.) part has a melodic line with a dynamic marking of *mf*. The Bassoon (B.Acc.) part has a rhythmic accompaniment with a dynamic marking of *mf*. The Piano (Pno.) part has a rhythmic accompaniment with a dynamic marking of *mf*.

《椰子腔》

112

Vln.

B.Acc.

Pno.

This musical system covers measures 112 to 115. The Violin (Vln.) part begins with a melodic line in measure 112, featuring eighth and sixteenth notes. The Bassoon (B.Acc.) part provides harmonic support with chords and moving lines. The Piano (Pno.) part features a rhythmic accompaniment with chords and moving lines in both hands.

116

Vln.

B.Acc.

Pno.

This musical system covers measures 116 to 119. The Violin (Vln.) part continues with a melodic line, showing more complex rhythmic patterns. The Bassoon (B.Acc.) part continues with harmonic support. The Piano (Pno.) part maintains the rhythmic accompaniment with chords and moving lines in both hands.

《椰子脸》

119

Vln.

B.Acc.

Pno.

123

Vln.

B.Acc.

Pno.

《椰子腔》

126

Vln.

B.Acc.

Pno.

129

Vln.

B.Acc.

Pno.

《椰子腔》

132

Vln. *cresc. & del.*

B.Acc. *cresc. & del.*

Pno. *cresc. & del.* 渐快

D ♩ = 88 *Allegretto* 欢快的尾声

135

Vln. *f*

B.Acc. *f*

Pno. *f*

《椰子腔》

138

Vln.

B.Acc.

Pno.

141

Vln.

B.Acc.

Pno.

《椰子腔》

144

Vln.

B.Acc.

Pno.

This system of music covers measures 144 to 146. It features three staves: Violin (Vln.), Bassoon (B.Acc.), and Piano (Pno.). The key signature is one sharp (F#). The Violin part has a melodic line with eighth and sixteenth notes. The Bassoon part provides harmonic support with chords and some melodic fragments. The Piano part has a steady accompaniment with chords and moving lines in both hands.

147

Vln.

B.Acc.

Pno.

This system of music covers measures 147 to 149. It features three staves: Violin (Vln.), Bassoon (B.Acc.), and Piano (Pno.). The key signature is one sharp (F#). The Violin part continues its melodic line. The Bassoon part has more active passages with eighth notes. The Piano part maintains its accompaniment with some changes in texture.

《椰子腔》

rit.

The musical score is divided into two systems. The first system starts at measure 149 and includes a *rit.* (ritardando) marking. It features three staves: Violin (Vln.), Bassoon (B.Acc.), and Piano (Pno.). The Violin part has a melodic line with a *f* dynamic. The Bassoon part has a rhythmic accompaniment with a *f* dynamic. The Piano part has a complex texture with arpeggiated figures and chords, also marked *f*. The second system starts at measure 151 and features a *ff* (fortissimo) dynamic. The Violin part has a sustained note with a *ff* dynamic. The Bassoon part has a sustained note with a *ff* dynamic. The Piano part has a complex texture with arpeggiated figures and chords, also marked *ff*.

Vln.

B.Acc.

Pno.

Vln.

B.Acc.

Pno.

Appendix 8 Stylistic Variation for BA BAN

“八板” 风格变奏曲

♩ = 63 (主题 Theme)

Stylistic Variation for BA BAN

姚恒璐 曲
c. Yao Heng-lu

古朴、娴雅地

Piano *mp*

Var. 1 (Baroque Style 巴洛克风, Bach-like)

♩ = 74 Andante

mf

mf

H.L. Yao

"八板"风格变奏曲

31

38

46

54

Var. 2 (Classical Style 古典风格, Mozart-like)

♩ = 84 Andantino

60

"八板"风格变奏曲

(Var.3 Romantic style 浪漫风格 Chopin-like)
♩ = 60 (悠扬、独白似的)

"八板"风格变奏曲

Musical score for measures 79-81. The piece is in 2/4 time. Measure 79 features a treble clef with a melodic line and a bass clef with a supporting accompaniment. Measure 80 continues the melodic development. Measure 81 shows a change in the bass line with a triplet of eighth notes.

Musical score for measures 82-84. Measure 82 has a treble clef with a complex melodic line and a bass clef with a steady accompaniment. Measure 83 continues the melodic line with a triplet. Measure 84 features a treble clef with a melodic line and a bass clef with a steady accompaniment.

Musical score for measures 85-88. Measure 85 has a treble clef with a melodic line and a bass clef with a steady accompaniment. Measure 86 continues the melodic line with a triplet. Measure 87 features a treble clef with a melodic line and a bass clef with a steady accompaniment. Measure 88 has a treble clef with a melodic line and a bass clef with a steady accompaniment.

Musical score for measures 89-91. Measure 89 has a treble clef with a melodic line and a bass clef with a steady accompaniment. Measure 90 continues the melodic line with a triplet. Measure 91 features a treble clef with a melodic line and a bass clef with a steady accompaniment.

Musical score for measures 92-94. Measure 92 has a treble clef with a melodic line and a bass clef with a steady accompaniment. Measure 93 continues the melodic line with a triplet. Measure 94 features a treble clef with a melodic line and a bass clef with a steady accompaniment. The piece concludes with a final chord in the bass clef.

"八板"风格变奏曲

Var. 4 (Impressive style 印象风格, Debussy-like)

♩ = 63 (幻象、空灵般地)

95

97

100

103

105

"八板"风格变奏曲

rit.

Var. 5 (New-classic style 新古典主义风, Bartok-like)

♩ = 80 谐谑幽默地

"八板"风格变奏曲

119

121

Var.6 (Serialism style 序列主义风, Schoenberg-like)
♩ = 69 Andante

124 *p*

127

"八板"风格变奏曲

Musical score for measures 130-133. The piece is in a key with one flat (B-flat major or D minor) and a 2/4 time signature. The right hand features a melodic line with eighth and sixteenth notes, often beamed together. The left hand provides a harmonic accompaniment with chords and moving lines. Measure 133 includes a five-fingered scale-like passage in the right hand.

Musical score for measures 134-136. The right hand continues with a melodic line, and the left hand has a steady accompaniment. Measure 136 ends with a *pp* (pianissimo) dynamic marking.

Musical score for measures 137-139. The right hand has a melodic line starting with a *p* (piano) dynamic. The left hand has a bass line with a *mp* (mezzo-piano) dynamic marking in measure 139.

Musical score for measures 140-143. The right hand has a melodic line with a *mf* (mezzo-forte) dynamic marking in measure 143. The left hand has a bass line with a triplet of eighth notes in measure 143.

"八板"风格变奏曲

144

Var. 7 (Lutoslawski aleatory style 偶然音乐风)

♩=86 *Ad lib.*

147

149

150

"八板"风格变奏曲

151

mf

Var. 8 (后调性 Post Tonality)

♩ = 40 叙事、如歌地

152

f *mf*

156

mf

160

mf

"八板"风格变奏曲

164 *mf*

168

172

Var. 9 简约主义 Minimalism John Adams like
♩ = 72 Adagio grazioso

176 *ff* *mp*

"八板"风格变奏曲



"八板"风格变奏曲

Affrettare

Var. 10 (Jazz Style 爵士乐风格) Joplin-like

♩ = 69 激情、活跃地

"八板"风格变奏曲

214

Musical score for measures 214-216. The piece is in a key with two flats (B-flat major or D-flat minor) and a common time signature. The right hand features a melodic line with eighth and sixteenth notes, often beamed together. The left hand provides a harmonic accompaniment with chords and single notes.

217

Musical score for measures 217-220. The right hand continues with a more active melodic line, including some triplets and sixteenth-note patterns. The left hand maintains a steady accompaniment.

221

Musical score for measures 221-224. The right hand has a melodic line with some rests and dynamic markings like accents. The left hand continues with a consistent accompaniment.

225

Musical score for measures 225-228. The right hand features a melodic line with a dynamic marking of *mp* (mezzo-piano). The left hand continues with a consistent accompaniment.

"八板"风格变奏曲

Musical score for measures 229-232. The piece is in a key with one flat (B-flat major or D minor) and a 4/4 time signature. The right hand features a melodic line with eighth-note patterns and slurs, while the left hand provides a harmonic accompaniment with chords and moving bass lines.

Musical score for measures 233-236. The right hand continues with a melodic line, incorporating some grace notes and slurs. The left hand maintains a steady accompaniment with chords and eighth-note patterns.

Musical score for measures 237-240. The right hand features a melodic line with some chromaticism and slurs. The left hand provides a harmonic accompaniment with chords and moving bass lines.

Musical score for measures 241-244. The piece begins with a forte (*f*) dynamic. The right hand features a melodic line with some chromaticism and slurs. The left hand provides a harmonic accompaniment with chords and moving bass lines.

"八板"风格变奏曲

Musical score for measures 244-251. The piece is in a key with two flats (B-flat and E-flat) and a common time signature. The score is written for piano, with a treble and bass clef. Measure 244 starts with a treble clef and a bass clef. The melody in the treble clef features a series of chords and eighth notes, with a dynamic marking of *ff* (fortissimo) starting in measure 248. The bass line consists of a steady eighth-note accompaniment. Roman numerals (IV, V, VI) are placed above the notes in measures 245, 246, and 247.

Musical score for measures 248-251. This system continues the piece from measure 248. The treble clef part shows a continuation of the melodic line with chords and eighth notes. The bass line remains a steady eighth-note accompaniment. Roman numerals (VI, V, IV) are placed above the notes in measures 250 and 251.

Musical score for measures 252-255. This system continues the piece from measure 252. The treble clef part shows a continuation of the melodic line with chords and eighth notes. The bass line remains a steady eighth-note accompaniment. Roman numerals (VI, V, IV) are placed above the notes in measures 254 and 255. A dynamic marking of *ff* (fortissimo) is present in measure 255.

BIOGRAPHY

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