AN IMPLEMENTED THE JAKHEY PLAYING TECHNIQUES IN THE CHIN KHIM YAI SONG FOR PIPA

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Author	ZHENG QIWEN
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This paper analyzes the fingering techniques of Jakhey in the Thai traditional music "Chin Khim Yai" in depth, and adapts and applies them to the Chinese traditional instrument Pipa. It is found that the core techniques in Jakhey can be effectively replaced and transformed in Pipa performance.The study pointed out that Jakhey performance emphasizes rhythmic density and continuity of ornaments. Sabat is frequently used in "Chin Khim Yai", forming a unique "flowing tension". Although Pipa is a vertically held plucked instrument, its varied right-hand techniques and rich left-hand timbre processing allow these unique techniques of Jakhey to be reproduced. Therefore, in order to better show the style characteristics of this song, Pipa effectively retains the musical style of Jakhey while showing the timbre advantages of Pipa through the expansion of Lun (Tremolo), Banlun (Semi-Tremolo), and other techniques. Finally, this paper's in-depth analysis of the Thai music Chin Khim Yai not only verifies the feasibility of Jakhey's technique on Pipa, but also provides a specific practical path and skill template for the integration of Chinese and Thai traditional music, and expands the performance space of Chinese instruments in the context of Southeast Asian music.

Keyword : Jakhey, Pipa, Chin Khim Yai, Adaptation of playing skills, Music-cultural integration

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Finally, I hope that this research will serve as a starting point for continued engagement in the dialogue and innovation between Chinese and Thai traditional music, as a way of giving back to all those who have provided me with knowledge and strength.

ZHENG QIWEN

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER 1
INTRODUCTION

1.1 Background

Thailand is a Buddhist country, where religious rituals and festive activities have a profound impact on music. Many traditional music is related to religion. In addition, Thailand's music culture is influenced by various neighboring countries and ethnic groups, such as the culture of Laos, Khmer, Indian culture, and the exposure of Western foreign cultures in the 17th century. Its song beats are usually 2/4 or 4/4 beats, smooth and regular. The same piece of music can be played at three different speeds, namely slow, medium, and fast. Therefore, even with Chinese classical instruments, the characteristics and atmosphere of Thai music can be played.

Traditional Chinese music is deeply rooted in the soil of Chinese civilization, with its origins tracing back to the dialogue between ancient ancestors and nature. The 9,000-year-old Jiahu bone flute attests to the symbiotic relationship between music, labor, and ritual. During the Western Zhou period, the system of rites and music elevated music as a medium for " governing the country and ensuring peace." The " Feng, Ya, and Song" in the Book of Songs conveyed the people's sentiments through songs, while ritual music highlighted the ceremonial order, laying the cultural foundation of " music as a vehicle for the Dao" the way. After thousands of years of accumulation, this musical tradition gradually formed a unique artistic character. With the pentatonic scale of Gong, Shang, Jiao, Zhi, and Yu as the melodic framework, complemented by the distinct tonal aesthetics of the Pipa' s " large pearls and small pearls falling on a jade plate," it developed a " linear melody" as the dominant structural form.

Chinese traditional music has never adhered to a single form, instead, it has continuously evolved through collision and fusion. During the Han and Tang dynasties, the Qiang flute, Huqin, and Central Plains bells and drums resonated together; during the Ming and Qing periods, the Mongolian long tune and vibrato, as well as the complex scales of the Uyghur Muqam, were incorporated into a diverse musical lexicon. This

inclusiveness is not only reflected in the " harmony in diversity" of multi-ethnic music but also permeates the integration of music and philosophy. To this day, the ancient tradition still resonates with the modern world: the deciphering of the Dunhuang ancient scores has revived the lost Tang music, while contemporary artists use digital technology to reconstruct Shuiyue Tang, intertwining the sounds of water striking stones with electronic effects to create a new auditory experience. As a musical instrument with a long history and rich musical characteristics, Pipa has many similarities with Jakhey.

The origin of the Pipa can be traced back to ancient Persia and Central Asia. Being introduced to the Central Plains through the Silk Road, it gradually became localised in the Han Dynasty. During the Northern and Southern Dynasties of Wei and Jin Dynasties, the Pipa was integrated with local musical instruments. In the Tang Dynasty, it reached its heyday and became the core musical instrument of court Yan music, and developed rich playing techniques. Pipa not only has a wide range and strong expressiveness, but also can simulate natural sound. It can be both solo and ensemble, and has an irreplaceable position in the history of Chinese music.

In terms of musical instrument structure, there are similarities between Pipa and Jakhey. For example, the Pipa is a pear shaped four stringed plucked instrument with 20-24 grades, a total of 5 positions, and can play 4 octaves. When playing, the right hand uses nails or picks to play with a variety of techniques, such as wheel fingers, sweeping strings, kneading strings, etc. The left hand controls the pitch and decorative tone by pressing the string, which can simulate natural sounds or war scenes. The tone of the lute is both clear and thick, which can not only express delicate emotions, but also play intense narratives. It has very distinct artistic characteristics. Among Thai musical instruments, the Jakhey is similar to the Pipa. It is an ancient traditional Thai three-string instrument with a pear-shaped or oblong body similar to the Pipa. Both require the cooperation of pressing and plucking the strings to play the melody. It is believed that the Jakhey is a further development of the earlier phi-n instruments. It is made to be played sitting horizontally on the floor or ground. The player sits on the floor or ground also. In order to make it seem more natural in this position, in the old days the case or

body of the instrument was made in the shape of a crocodile and the front part carved to represent the crocodile's jaws. However, the body was also made hollow to serve as a resonance chamber. The word for crocodile in Thai is jaw-ra khay- (จระเข้), which was gradually shortened to Jakhey after it became the name of the in-strument.

In India the phi-n type instruments (vina or bina) from which the Jakhey was probably evolved were made in the shape of a peacock, the upper end being the tail. This instrument was called ma yu-ri- (มยูรี), which means " peacock."

Today the Jakhey body is made more simply and usually without carving and can be considered to resemble the body of a crocodile only in a general, rather stylized way. Also because it is more convenient, today the instrument is made in two-parts—the long, narrow neck and the body or sound box, each side of which bulges out. The head section is 9-12 cm. (3½2" - 4¾") deep, 52 cm., (20½") long and 28 cm. (11") wide. The top slopes gently downward at the edges. The " tail" part is 81 cm. (32") long and 11.5 cm. (4½") wide. The entire length of the instrument is 130-132 cm. (52").

The instrument is made of a hardwood, hollowed out from the bottom. When it is finished, another flat thin piece of wood is fastened to the bottom to make the sound box. There are 5 legs 8 cm. (3") high underneath the instrument—4 under the sound box and one under the " tail" end. The legs which are made of wood are usually turned on a lathe, and those made of ivory are carved in circular ring patterns with a knobby bulge near the top. There are three strings along the top of the body-one of brass wire and two of gut —each of which is attached to a peg inside the neck end, or with this instrument, the " tail" end. From the pegs the strings pass out of the instrument and through a high support or bridge which, with the normal bridge on the sound box, suspends the strings over the 11 frets which are gradated in height from 2 cm. (¾") nearest the resonance chamber to 3.5 cm. (1¼" - 1½") nearest the tuning pegs.

The plectrum is made of bone or ivory, cylindrical in shape 5-6 cm. (2") in length with the playing end coming to a rounded point. It is tied to the index finger of the player's right hand. The thumb and middle finger are used to give added strength and direction of the plectrum as it is pushed and pulled across the strings in a rapid,

horizontal, shaking motion. The body of the instrument is sometimes elaborately decorated with inlaid ivory in intricate designs.

(Jakhey's playing posture as shown in Figure 1)

Figure 1 Jakhey's playing posture

Note. Photos of Jakhey's playing posture, Copyright 2024 by Zheng Qiwen

The Jakhey is often played with a plectrum, and certain left-hand techniques are required to play. The Jakhey has been in use by the Thai people since at least the Ayutthaya period (approximately 1357 A.D. – B.E. 1900), as it was referenced in court regulations from that era. However, it became more prominently featured in Thai string ensembles during the reign of King Rama I (1782–1809).

It is believed that the Jakhey may have originally been used in solo or informal performances before being integrated into the formal structure of Thai classical music. Over time, it became a valued and distinctive instrument in Thai string ensembles, appreciated for its resonant sound and expressive potential.

The similarities in musical instruments also enable the traditional Chinese instrument Pipa to perform Thai music well with its charm and emotions. In addition, Thai music has a unique flavor in the technique of Pipa performance.

1.2 Objective of the study

1.2.1 To study Jakhey playing techniques in Chin Khim Yai.

1.2.2 To apply Jakhey playing techniques from Chin Khim Yai for a solo Pipa.

1.2.3 To analyze the combination of playing techniques between the Jakhey and the Pipa in Chin Khim Yai.

1.3 Significance of the study

Firstly, through adaptive research, it can be discovered how to reproduce the unique charm and rhythm of Thai music on the traditional Chinese instrument Pipa, which can provide more new materials and inspiration for Pipa music. This not only enriches the diversity of Pipa repertoire, but also expands the creative and performance space for Pipa performers. Secondly, by playing Thai music on the Pipa, more people can understand and appreciate Thai music and Pipa art, promote cultural exchange and integration between China and Thailand, and help enhance the understanding and respect between the two peoples of each other's cultures. In addition, in conducting this study, the author adapted some techniques in Thai music performance, using techniques from Pipa performance to add flowers, in order to stimulate new ideas and inspiration in music creation. Combining the unique techniques of Pipa and the melody of Thai music, it may showcase unique musical works and promote the innovative development of Pipa's own Thai music.

1.4 Scope of the study

It is divided into 3 section according to the objectives of the study as follow:

1.4.1 The creative background of this song Chin Khim Yai.

The study chooses to use modern Thai songs of Chin Khim Yai for research.

1.4.2 The development history of Pipa and the application of the techniques of Lun, Ban-Lun, Shuang-Tan, etc.

1.4.3 The development history of Jakhey and the application of Jakhey techniques such as sabat, Krathob sam sai, Deed Rood, etc.

1.5 Definition of specific terms

In this study, some specialized terms will be involved, including music theory, performance techniques, and cultural background.

1.Sabat: It refers to a technique of playing music by way of adding an extra single note to the kep. The decision about whether to add the additional note is made by the performers. This additional note is called "sabat".

2.Krathob Sam Sai: A specialized playing technique for the Saw Sam Sai, meaning "striking three strings." It involves simultaneously engaging all three strings to create rich resonance. This technique requires refined finger control and is often featured in solo performances to highlight the expressive potential of the instrument.

3.Deed Rood: A sliding technique performed using the thumb and index finger in the ting ⁻ noy style, gliding along the metal string from one pitch to another, either ascending or descending. The choice between an inward or outward stroke depends on the number of glissando notes, but the phrase must always conclude with an inward stroke.

4.Ching: A pair of small cymbals connected by a cord, known as ching, which are played using both open and damped striking techniques.

5.Chap: It refers to a musical section originally known as thon, used in choet nok compositions, which later evolved into a signal or cue, replacing the use of thon or tua. It primarily serves as an indicator for the beginning of a musical phrase or section. In performance, the pi (reed instrument) mimics the rhythm of speech, such as the phrase "chap hai ti ti hai tai", to signify the dramatic or musical transition.

6.Chan diao: The single-layered phrase structure is characterized by a fast tempo and short musical segments. It typically comprises one bar of 2/4 meter in the song mai style or two bars of 2/4 meter in the propkai style. This is considered the most

fundamental rhythmic structure, categorized as level 1, and serves as the foundational layer upon which more complex rhythmic forms, such as song chan, are developed.

7.Song Chan: The double-layered phrase structure (Song Chan) is twice the length and complexity of Chan Diao. It typically consists of two bars of 2/4 meter in the song mai style or four bars of 2/4 meter in the propkai style. This structure is employed in moderate-tempo performances and is regarded as an extension of Chan Diao. It may also be used for the adaptation or elaboration of original Chan Diao compositions.

8.Sam Chan: Is a term in traditional Thai music used to describe the third level of rhythmic structure and musical expansion within nathap (drum patterns) and phleng (melodies). Structurally, it represents a doubling of length compared to Song Chan (level 2), and a quadrupling compared to Chan Diao (level 1). In Western metric terms, one nathap cycle in the Song Mai style consists of 4 bars of 2/4, while in the Propkai style, it consists of 8 bars of 2/4.

9.Song mai: Is the name given to a version of the nathap and is defined by being reduced in scale. This is both convenient and appropriate for songs which posses: short melodies, for those which require many different varieties of technique and finally pieces of music which are unlimited in length.

10.Nathap: Nathap refers to the traditional method of drum playing in Thai music, encompassing both the rhythmic patterns and performance techniques used with leather-headed drums such as the taphon, klong khaek, and klong malayu. The sound imitates the original thap, a single-headed drum historically used to accompany ancient songs. In modern practice, the instrument is often referred to as thon, typically paired with the rammana in the mahori ensemble. The primary role of nathap is to maintain correct rhythm and synchronize with the melody and lyrics of a piece, without producing the melody itself. A key principle in nathap is preserving the intended length of a composition—neither shortening nor extending it. Over time, various drum types and playing styles have evolved under the collective system known as nathap.

11.Patterns: A pattern refers to a recurring rhythmic or melodic structure, particularly in drum patterns (nathap) or instrumental motifs. It serves as a fundamental unit that organizes the flow and phrasing of a musical composition.

12.Bot: is a musical section or movement, similar to a "movement" or "part" in Western music

13.Wak: It refers to a musical phrase, typically comprising two measures.

Loogtog: is a cadential or concluding phrase used at the end of a wak or bot.

13.Tan-Tiao: A fundamental plucking pattern combining an outward stroke with the index finger (tan) and an inward stroke with the thumb (tiao).

14.Lun: Rapid plucking across the strings using all five fingers in succession, producing a continuous and flowing sound.

15.Banlun: A tremolo technique using fewer fingers (typically three or four), resulting in a shorter, more percussive articulation than full finger tremolo.

16.Gun-Zou: Rapid alternation of outward and inward strokes on a single string to simulate a sustained note or vibrato effect.

17.Sao: A swift, sweeping motion across multiple strings using a plectrum or fingers, creating a full and dynamic sonic effect.

18.Tui-La Xian: Altering string tension by pushing or pulling while pressing the string, producing expressive pitch inflections or glissandi.

19.Fu: Pressing the string to abruptly mute or stop the sound, often used for articulation clarity or percussive effects.

20.Hua Xian: Sliding the finger along the pressed string to achieve a smooth transition between pitches.

21.Shuang-Tan: Simultaneous plucking of two adjacent strings to produce harmonic resonance or dyadic texture.

1.6 Research Framework

(Research Framework as shown in Figure 2)

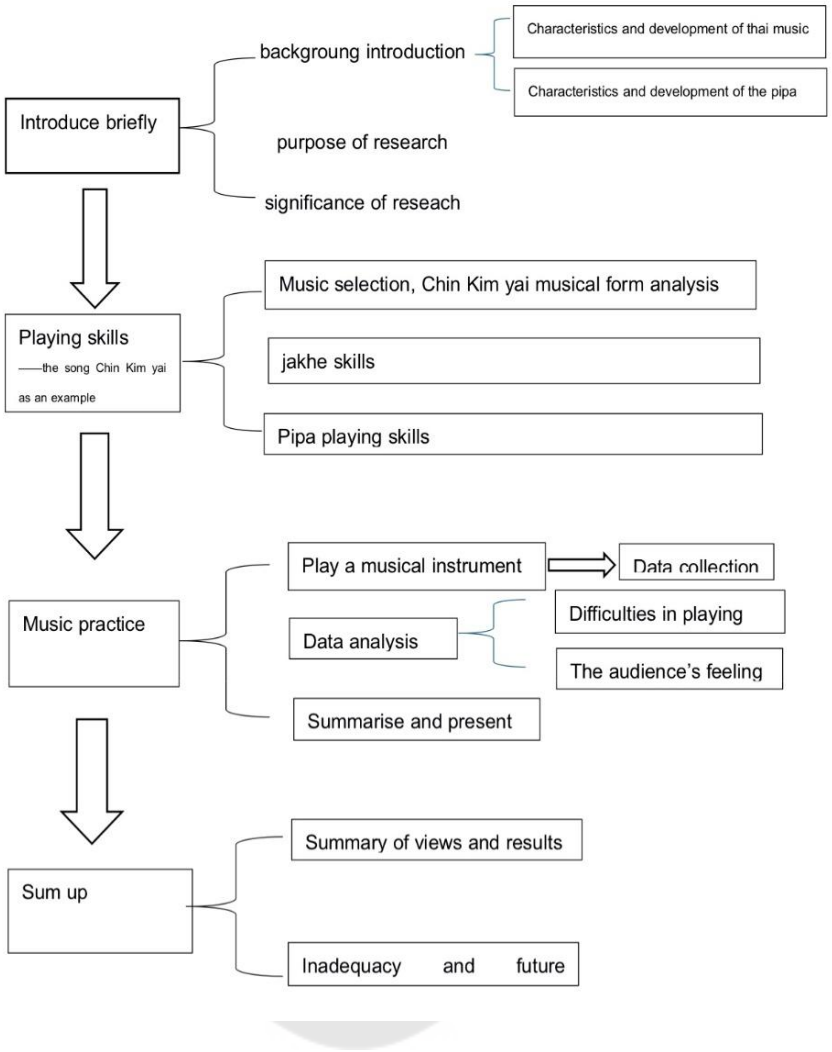


Figure 2 Framework

Note. A Conceptual Framework. Own work

CHAPTER 2
REVIEW OF THE LITERATURE

The research involves three aspects: the cultural accommodation of ancient Chinese culture in Thailand, a review of the relevant literature of the piece Chin Khin Yai, and the cultural adaptation of traditional Thai music performed on the Pipa

2.1 Review of the relevant literature of the piece Chin Khim Yai

2.1.1 Background introduction of Chin Khim Yai songs

Mentioned in the document "The Khim in Thai Culture: Adoption and Adaptation"(Jintana Barton 2008) The composition background of Chin Khim Yai is closely linked to the development of Thai classical music. Chin Khim Yai "Song Chan" belongs to the "Na Thap Song Mai" type and is divided into five sections. The piece features a Chinese-style melody, with similar tones also found in the traditional composition " Ahia." It is believed that this piece was used to accompany Mahori, a traditional Thai musical ensemble, during the late Ayutthaya Kingdom. Initially, it was simply referred to as Chin Khim. Its background can be summarized as follows:

Chin Khim Yai is a traditional Thai piece with evident Chinese musical influences. According to historical records, this piece originated in the late Ayutthaya Kingdom (1350–1767) , a period during which Thailand maintained close trade and cultural exchanges with China. Many Chinese instruments and melodies were integrated into the Thai musical system during this time.

As a result, this piece likely emerged from the deep cultural and musical exchanges between Chinese culture and Thai court music. Initially, Chin Khim Yai was performed as part of the Mahori ensemble, a type of Thai court music incorporating various traditional instruments. Due to its elegant melody and rich cultural background, the piece has become a classic in Thai classical music.

Composition and Performance Legacy

The legacy of this piece has been shaped by contributions from several Thai music masters:

Thongdee Sujaritkul (as shown in Figure 3):

He adapted the piece for Jakhey solo performances, making it more suitable for showcasing the instrument.

Thongdee Sujaritkul (Thai: ทองดี สุจริตกุล), was a renowned Thai musician known for his contributions to traditional Thai music. He composed and arranged numerous pieces, including the famous "Chin Khim Yai" (จีนขิมใหญ่) This piece is celebrated for its intricate melodies and rhythms, which highlight the depth of Thai traditional music. Thongdee Sujaritkul's works hold significant importance in the Thai music world, reflecting his profound understanding and preservation of Thailand's cultural heritage.

Figure 3 Thongdee Sujaritkul

Note. Photo by Thongdee Sujaritkul

2.1.2 Technique of playing the Jakhey

The pitch produced by the Jakhey when the strings are pressed is that of a fixed tuning system. The instrument is played by fingering with the left hand, pressing the string down on the appropriate fret for the desired pitch, while the right hand strikes the string with a plectrum. Pitches of short duration are played with one stroke of the plectrum,sustained pitches are produced by a continuous strumming of the string in a rapid horizontal shaking motion. The technique is comparable to the kre technique of the ranat, except that on the ranat ek octaves are alternated and on the Jakhey a single pitch is reiterated.

For some time after the fourteenth century, the Jakhey was probably considered more suitable for solo performance, and is still often used in this way.

It seems to have appeared only in string ensembles during the reign of King Rama I (1782-1809), the beginning of the Bangkok Dynasty; however, it is now considered an essential part of all string ensembles.

The Jakhey plays the main melody, with slight variations. The singing style varies from a melodic treatment that closely follows the main melody to a more dynamic style similar to the kep technique of the ranat ek (but the pitch is single-note rather than simultaneous octaves).(as shown in Figure 4)

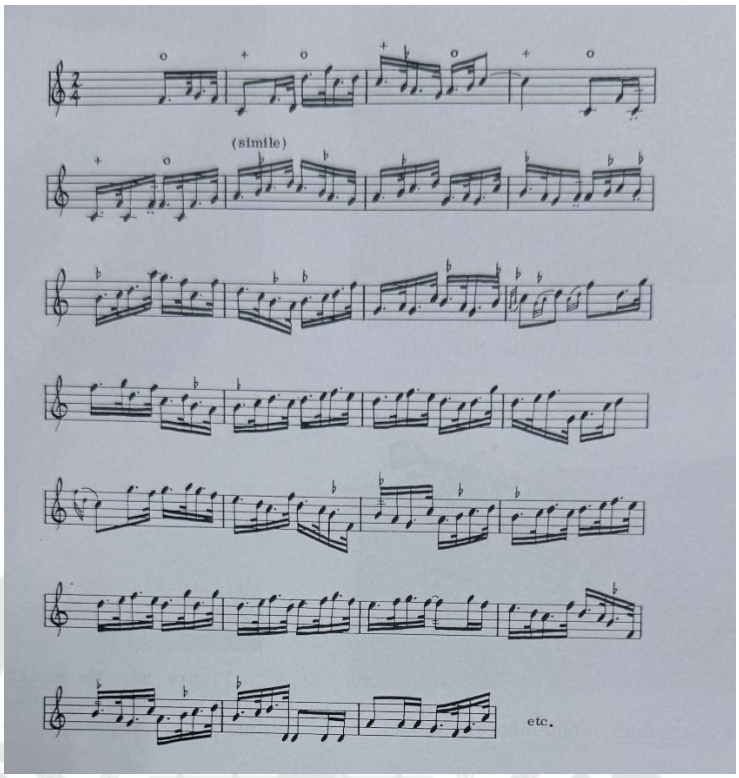


Figure 4 Jakhey plays the main melody

Note. Image from David Morton's transcription of the recording. Copyright 1976 by The Regents of the University of California

2.1.3 Emotional analysis

In the article" Emotional Characteristics of Thai Traditional Music (Chaiyaphum, P & Srisuphan, A. 2015) ": A Case Study on Classical Thai Music Genres, the authors point out that Thai traditional music successfully conveys a diverse range of emotional experiences through its distinctive melodic structures, rhythmic variations, and instrumental timbres. Notably, emotional expression varies significantly across different classical music forms. For instance, certain melodies use slow and smooth melodic lines to express gentle and melancholic emotions, while faster rhythms create a joyful and energetic atmosphere. The authors also emphasize the important role of instruments such as the Ching and Gong in emotional expression; these instruments enhance the emotional intensity of the music through rhythmic reinforcement and

dynamic changes in volume. Moreover, the subtle ornamentation within the melodies and the choice of scales have a profound impact on emotional communication, enabling listeners to experience deep cultural emotional resonance.

In the article " Emotion and Meaning in Music (Leonard B. Meyer 1956) ", Meyer discusses the evidence for the nature and existence of emotional responses to music: Meyer distinguishes between emotions ("ephemeral") and moods ("relatively enduring"). He notes that "most so-called studies of musical emotion are actually concerned with moods and associations."

"The motives of sadness or joy, anger or despair in the works of Baroque composers, and the emotional and moral qualities assigned to particular modes or ragas in Arabic or Indian music are examples of such traditional denotative symbols. When a listener describes feeling this or that emotion, he is likely describing the emotion he thinks the passage is supposed to express, rather than any emotion he has experienced himself."

"Listeners enter the process of perception with explicit beliefs about the emotional power of the music. Even before the first sound is heard, these beliefs motivate the tendency to respond in an emotional way."

The document " Thai Cassettes and their Covers: Two Case Histories" (Wong.D 1998/1990) points out that Thai pop music, especially the Luk Thung style, emphasizes the use of a variety of vocal techniques to enhance the depth and authenticity of emotional expression. Singers often use glissando and vibrato to convey emotions such as sadness, sorrow and nostalgia, especially at the end of a sentence or at a long note, creating a texture that is almost "choked" through the "shaking" of the voice. At the same time, the extension of high notes is used to express the climax or outburst of emotions, such as the struggle of bitter love or the call for ideals, thereby significantly enhancing the emotional tension of the music. In addition, the treatment of tone and punctuation is also an important technique. The singer drags or pauses the rhythm at the key points of the lyrics to make the emotional transition more prominent. This type of treatment not only enhances the audience's resonance, but also gives the

music a certain narrative nature, forming an effect similar to "rap-style lyricism", making the song more story-telling and appealing.

2.1.4 Melody analysis

In The "Theoretical Concepts on Thai Classical Music " (Assoc. Prof. Dr. Manop Wisuttipat n.d), Bot means paragraph and Wak means phrase. A phrase (wak) usually corresponds to four measures in Thai music. The final note of a wak, or phrase. is called Loogtog.

In a piece there will be many wak and, therefore, many loogtog. There are, then, many different loogtog and many repetitions of the same loogtog. The loogtog all bear a relationship with one another according to the melodic movement within the wak; this will be here referred to as the progression from one lootog to the next." The movement of one loosto towards another creates a relationship between the two through the melody of the wak which joins them together; the melody must agree with the loogtog and link together with it smoothly. The relationship between the melody and the progression to the lootog is in pairs; that is, the antecedent wak relates strongly to the consequent wak. In a piece there are continuous strings of alternating antecedent and consequent wak.

However, there is no fixed relationship between the phrase pairs in a piece of music. In some phrase pairs, the two phrases are closely connected, while in other phrase pairs, this connection is much weaker. The strength of this connection causes the progression of phrases in each phrase pair to have different functions and importance. For example: the progression to the phrase pair indicates the end or final part of the piece of music. There are two types of endings or final parts of a piece of music: complete endings and incomplete endings.

Generally speaking, music often contains harmony. It can be said that harmony is not a governing fundamental in Thai music although some harmony notes do appear in the pieces. Instead, Thai music is fundamentally based on the main melody. It can also be seen that some of the musical instruments can play multiple tones

simultaneously (for example, the ranat, the kong wong, the jakhey); when this occurs one tone will be the melody tone, and the other will be the harmony tone.

When an ensemble performs, many tones are heard at the same time, i.e. there are many melody lines sounding together during which all the instruments create a combination of elaborative melody lines, each being individually characteristic. For this reason, Thai music is capable of having all kinds of intervals and more attention is paid on creating elaborative melody lines - variations - than on arranging harmonic intervals, whatever kind they are. Whenever harmonic intervals appear, however, it is by nature that there must be one melody line and one, two or three additional lines of harmony tones.

One of the most influential Western studies on Thai classical music is David Morton's seminal work, The Traditional Music of Thailand (1976), which offers a comprehensive analysis of melodic organization, scale systems, and rhythmic structures. Morton emphasizes that Thai classical music is fundamentally linear and non-harmonic, relying not on Western harmonic progressions but on a horizontal construction of melody. In this system, a primary melody is performed simultaneously with multiple improvised or ornamental variants, a texture Morton refers to as polyphonic stratification. Although each instrumental line may move independently, they tend to converge at structural points—typically at the end of a phrase—creating a sense of cohesion.

In the article "Musics of many cultures: An introduction (Morton, D 1980) ". In terms of rhythm, Morton describes the use of Ching rhythmic cycles, usually structured in units of four or eight beats. Phrase endings (known as loogtog) commonly fall on the final beat of a cycle, giving phrases a clear and predictable closure. He also outlines the use of the seven-tone scale system, which, despite encompassing seven pitches, generally features only five in any given mode. These are often selected based on the tonal contours of the accompanying lyrics, especially in vocal music. Importantly, Morton notes that Thai scales are not based on equal temperament but reflect the natural intonation of traditional instruments, resulting in non-equidistant pitch intervals.

2.1.5 Music form analysis

In The "Theoretical Concepts on Thai Classical Music " (Assoc. Prof. Dr. Manop Wisuttipat n.d), it is learned that Thai classical music uses a seven-tone equal-distance system, which divides an octave into seven equal parts to construct different pentatonic scale patterns. To facilitate cross-cultural analysis, the study of Thai music usually introduces Do – Re – Mi – Sol – La-Ti instead of Western music: C-D-E-G-A-B.

There are three types of Thai music forms: Melody patterns, Rhythmic patterns, and Performaerns patterns.

The First type of patterns is rhythmic patterns, Piece often has a part or more of its melody that feature the identity particular of that particular piece.

We shall here discuss two types of patterns:

Rhythmic patterns are groups of the rhythmic figures in a melody that show durations of the notes present wherein.

There are rhythmic patterns of many different types and of different proportion of lengths. like:|---x|-x-x| The symbol:"-" indicates a rest; no note is present, "x" indicates a note The majority of rhythmic patterns will be either two or four measures in length.

The Second type of Melodic patterns, that is, the direction of movement of a melody. There are many kinds of movement, For example, patterns move in two directions. All patterns start with the first note, whatever it is; then, if the second note is higher than the first, the third note is lower; if the second note is lower than the first, the third note will be higher. (as shown in Figure 5)

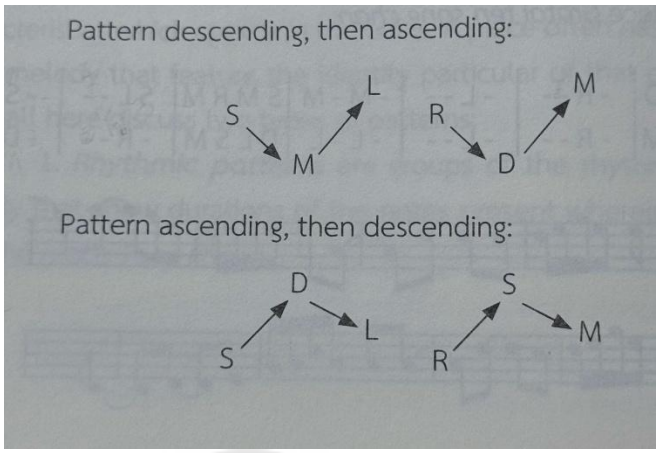


Figure 5 The direction of movement of a melody

Notes. Example of the direction of melody flow, copyright Assoc. Prof. Dr. Manop Wisuttipat .

In addition, the melodic pattern has a variety of movement directions; for example:

1.The notes are arranged in ascending or descending order; for example: d r m f s or s f m r d, or in a pentatonic scale; for example: d r m s l d or d l s m r d.

2.There are jumps between notes; for example: d r m l, s l d m or d l s r, m r d s

3.There are jagged or serrated patterns ascending and descending. For example: r d m r s m s or l d s l m s r m.

4.Repeated notes are used; for example: d d d d, r r r r, or m s m m, s l s s, r d r r, etc.

The rhythmic and melodic patterns which have been discussed here are often found in pieces of type graw or bangkap tang.

In terms of rhythm, Assoc. Prof. Dr. Manop Wisuttipat analyzed the variation playing modes such as sam chan (three layers), song chan (two layers) , chan dio (single layer). Each rhythm structure corresponds to a different nathap length, and the

sense of structure is formed by emphasizing rhythm repetition and deformation. How to distinguish these three rhythm structures? Usually it is to look at the length of a piece of music and the density of notes. In addition, it should be noted that the level of Chan must also consider the melody and rhythm of Ching. What is Ching? A pair of small cymbals attached together by a cord. They can be played with an open and a damped stroke referred to as "ching" or a closed, damped stroke called "chap."

The rhythm of ching The rhythm of ching refers to determining when the clear sound "ching" and "chap" sound in the music. There are many different ways to play ching, for example, ching-chap, ching-ching-chap, ching only or chap only, etc.

Playing in the normal mode; that is, playing "ching" and "chap" alternately in succession. This way of playing the qin in the normal way determines the "chan". However, if we examine the melody alone, or only look at the way ching is played, we may not be able to determine the level of "chan". In order to determine the level of chan, whether it is sam chan, song chan, chan dio, or something else, we must first examine the melody and ching playing at the same time.

From another perspective, we cannot determine the level of chan by examining only the ching part because without the presence of the melody, we can never clearly say which level of sam chan it belongs to. For example, playing the qin very slowly usually indicates sam chan, while playing chan very quickly usually indicates chan dio. These titles may be correct, but it can still be argued that if the chan dio part of a piece is played slowly, then the chan must also be played slowly; or if the sam chan part of a piece is played quickly, then the chan must also be played quickly. A slow chan dio is still a chan dio. A fast sam chan part is still a sam chan. It can be seen that the classification of chan must take into account both the melody and rhythm of the ching.

Nha tap is a specific rhythmic pattern played by drum instruments in Thai classical music. The main functions include: 1. Provide accompaniment to the melody, but its sound is independent of the pitch or scale of the melody. 2. Serves as a unit of measurement for the length of a piece of music, ensuring that nothing is omitted or

added during the performance. 3. Divides the melodic passages in the performance to help the musicians master the structure.

Different types of music correspond to specific nha tap patterns, for example: "Glom nari" uses nha tap Prob gai "Toyoy komen" uses nha tap Song mai rhythm. Lao duang deun uses nha tap Lao. drums

They have absolutely nothing to do with pitch, melody or scale, however, nha tap is related to melody in terms of the length of the piece. It indicates the division of the melody, and many Thai music masters often discuss this: nha tap is a way to measure the length of the piece and ensure that nothing is omitted or added to the piece. However, this measurement method is only for beginners and is not applicable to actual performance, which essentially requires practice until perfection. Even in real performances, where musicians need to compete with each other, remember different pieces and be able to extend or shorten them instantly, they will not consider nha tap. Nha tap cannot make the melody sound complete and effective. It is just a Thai unit for measuring the length of a piece.

2.2 Literature review on the circulation of Pipa in Thailand

2.2.1 Literature research of historical origin

The article " A Study on Sino-Thai Musical and Cultural Exchanges (Zhang, Y. 2012)" mentioned that since the Ming and Qing Dynasties, a large number of Chinese have immigrated to Thailand, especially immigrants from Chaoshan, Fujian, Hainan and other places, forming a large Chinese community. These immigrants brought China's traditional culture, religious beliefs and art forms to Thailand, including traditional musical instruments such as the Pipa. In temple fairs, festivals and opera performances, the Pipa often appears as an important accompaniment instrument, and is gradually familiar and accepted by local Thai people.

Researchers have tried to trace the earliest time and spread of the Pipa in Thailand by studying historical documents and archaeological materials. At present, there is no clear and specific time record in the historical documents of China and Thailand, but the approximate time range of the Pipa's entry into Thailand can be

inferred from the following historical periods and cultural exchange events. For example: According to Jiang Bin's "Draft History of Sino-Thai Cultural Exchange", Chinese musical instruments and music were introduced into Southeast Asia during the Ming and Qing Dynasties, indirectly affecting Siamese culture. The Thai historical material "Chronicles of the Ayutthaya Dynasty" also records that "Tang music and dance" were presented as tribute to the Siamese royal family. Therefore, some scholars speculate that the earliest actual use and dissemination can be traced back to around the 17th century (around the late 1600s), and it was mainly introduced into Thailand through Chinese communities and opera performances.

2.2.2 Pipa spread in the Royal Family

As a traditional Chinese plucked string instrument, the spread of the Pipa in Thailand is not limited to the Chinese community, but has also entered the Thai royal system, which to a certain extent reflects the exchange and integration of Chinese and Thai music cultures. Especially since the establishment of the Bangkok Dynasty, the Thai royal family has always maintained a high degree of respect and interest in Chinese culture. From Rama I to Rama V, the royal palace gradually opened up to the acceptance of diverse music cultures, and Chinese musical instruments began to be used in specific festivals and diplomatic activities. Among them, the Pipa was mostly played as a "foreign instrument" and was used to welcome Chinese envoys, celebrate royal festivals or court performances. Although it was not systematically included in the traditional Thai court band, it played a unique role in the royal music life.

The Qing Dynasty document "Siam Chronicle—— A Brief Record of Siam Xianluo Zhilue (Li, Y 1983) "document "Siam Chronicle" once recorded that "when the Chinese came to Siam, they performed drama and music, and the royal family watched, and the instruments of Tang music were also accepted", implying that Chinese musical instruments such as the Pipa were recognized and accepted by the royal family because of the performance occasions. The Thai local historical material "History of Thai Music (Chaipanya, S 2007)"also mentioned that "the royal palace once had a Tang music, playing string instruments brought in by the Chinese, suspected to be Pipa or

ruanxian", which further proves the historical footprint of Pipa in the royal family. In addition, Thai Princess Maha Zagiris Sirindhorn also mentioned in a speech on Sino-Thai cultural exchange in 2019 that she had heard the performance of Pipa and guzheng in the palace when she was a child, expressing her love and memories of traditional Chinese string instruments. These scattered historical materials and contemporary memories together constitute cultural evidence of the spread of Pipa in the Thai royal family.

2.2.3 The spread of Pipa among the people

Compared with its sporadic appearance in the Thai royal family, the spread of the Pipa among the people is more extensive and far-reaching, especially in Chinese communities and cities with frequent cultural exchanges. In the article "Research on the Spread of Chinese Opera in Thailand (Su Mingshun 2018)", it is mentioned that since the 19th century, with the settlement of a large number of Chinese immigrants from Chaoshan, Fujian, Guangdong and other places in Thailand, the Pipa, as an important accompaniment instrument for southern local operas such as Chaozhou Opera and Han Opera, has been widely spread in Bangkok, Chonburi, Hat Yai, Chiang Mai and other places with the opera troupes. Bangkok's Chinatown, Chaozhou Association and other places often hold folk music performances and cultural festivals based on the Pipa, attracting local audiences and tourists to participate.

In the mid-to-late 20th century, with the improvement of Sino-Thai relations and the strengthening of cultural exchanges, local Thai music lovers have become more interested in Chinese musical instruments. Many Thai youths learn to play the Pipa through folk cultural centers, Chinese Cultural Exchange Associations and online video platforms. Some traditional music schools and Chinese community education institutions in Thailand also offer Pipa courses, inviting Chinese teachers to teach, and cultivating a group of local Pipa players.

In recent years, Chinese music groups have frequently performed and taught in Thailand. For example, the Henan Museum Huaxia Ancient Music Orchestra and the Central Conservatory of Music Chinese Music Orchestra have played Pipa

music in Thai universities or folk cultural venues, and have cooperated and exchanged with Thai traditional bands. "The Henan Museum official website (2014)" and "Xinhua Silk Road (2023)" also described that "the Huaxia Ancient Music Orchestra performed classic Pipa music such as "Ten Sides of Ambush" and "Bawang Xijia" in Thai universities", and mentioned that "Chinese and Thai traditional instruments performed on the same stage".

According to the document "History of Music and Cultural Exchange in Southeast Asia (Chen, J. 2015)": It can be seen that the folk dissemination of Pipa in Thailand is a gradual process of "spreading from the Chinese community to the local area and transitioning from performance practice to the education system". It not only represents the vitality of cultural exchanges between China and Thailand, but also reflects the great inclusiveness and vitality of music as a cross-cultural medium.

2.3 Cultural adaptation of traditional Thai music performed on the Pipa

2.3.1 Thai music

According to the "Thai Music (Fine Arts Department 2015) ", All Thai musicians received their training in playing and singing orally from their teachers, through constant playing and singing in their presence. They had nothing else to rely upon except their own memory which they perhaps possessed in a very remarkable degree, and if they happened to forget any passage, they could fall back on their teachers. It was only through much laborious grinding that they gained their technical experience and practical knowledge in the arts of playing and singing.

Researchers have found that the scale currently in use consists of seven different diatonic scales, arranged in equal intervals, which is completely different from the Western diatonic major scale. The Western diatonic major scale consists of whole tones between 1 and 2, 2 and 3, 4 and 5, 5 and 6, 6 and 7, and semitones between 3 and 4, and 7 and 8. But the Thai scale has exactly the same number of tones within its octave; therefore, it is also a diatonic scale, of course, neither a major nor a minor scale in the sense of Western music, but a special diatonic scale that is characteristic of Thai music and all Thai instruments.

As already stated, the Thai diatonic scale, is composed of seven full tones within its octave. These are evenly distributed in equidistant steps and there are no semitones between any of these full tone-steps. Therefore if you play a Thai diatonic scale on any Thai musical instrument from a certain note, taken as a point of departure or key-note, and proceed step by step to its upper octave, and then play another scale, taking the 2nd note as key-note and again proceed step by step to its upper ocatave, and so on, from the 3w note, the 4th note, the 5th note, the 6" note and the 7h note, it will be found that the changes of these keynotes never affect the arrangement of their scale steps at all, and that the regular full tone steps prevail throughout. This, as you know, is not the case with the Western diatonic scales. If you change the keynote of the natural scale and take any other note as keynote, sharps and flats will have to come into play, in order that the arrangement of scale steps may fit into the order of the Western diatonic natural scale. For this very reason, a Thai musical passage, when played on a Western musical instrument is sometimes apt to affect the scale steps of some particular key, and such passage must therefore be so adjusted by the use of sharps and flats. Unless this is done, that passage will not sound Thai.

We may certainly do so to a certain extent, when a musical passage is unconnected with what has already preceded and what is about to follow, but we must not forget that Thai music, although favouring the pentatonie scale, is not always strictly pentatonic, especially in instrumental music. It can move about within its

7-tone scale, and as the position of the notes on the musical staff of the transcribed music is fixed and is meant for performance by Thai musical instruments, it goes without saying that we cannot transpose and change the keys at our pleasure, as this would only result in the music being disconnected and disfigured.Therefore when we propose to use Western musical instruments to play Thai music correctly, we must adhere to the movement of the written part, as closely as possible, and this can be done only by having recourse to sharps and flats of other keys for smoothing out the unnaturalness of certain passage. Such recourse in Western musical technique is called transition or temporary modulation.

In the article "Thai traditional music: Hot-house plant or sturdy stock (Morton D. 1960)". It is difficult to know what the actual status of music and musicians was in the past in Thailand, at least in all but high court circles. There are only a few references to music in the old court annals, and these are primarily lists of instruments, directions for processions, and the like. And then, almost everything was destroyed at Ayuthaya in 1767. There must have been some musical activity, however, perhaps even a good deal, if we interpret as meaning that an extant annal of the Ayuthaya period in which a court order specifies that no one was to play a musical instrument or sing within earshot of the royal palace without permission. Of course, it is possible that that king just did not care for music.

A few Western travel books of the nineteenth and early twentieth centuries mention music in passing. The authors tend to state generally that the Thai are a musical people and that there is musical activity, but they say nothing of a technical nature about the music itself. If the music is mentioned at all, it is often in none too flattering subjective terms. Bowring, an exception, comments on the desire of the women musicians for accuracy in tuning when tuning up their stringed instruments. Little is said in any book specifically about noncourt music-the music of the general populace.

Thai court musicians and composers were apparently respected even though, like Haydn in the Esterhazy household in the late eighteenth century in Europe, they were literally household servants. But, also like Haydn, the names of some of the great Thai composers who lived in court households will be remembered long after the names of their royal patrons have been forgotten.

Up until the revolution of 1932 and the change from an absolute monarchy to a form of democracy, any young musician showing signs of promise was promptly taken into the service of one of the numerous royal households.Thus the best musicians were never, strictly speaking, among the general populace; their music was for the court and not for the public and, one presumes, except on rare occasions, was not heard by the public. It is probably for this reason that with the change of government in 1932 and the following disintegration of the royal households as circles of culture, Thai traditional

music fell on evil days. Some of the musicians, to be sure, particularly those of the court of King Rama VII, became the nucleus of the newly formed Department of Fine Arts. But the Department was far too small to accommodate all the good musicians in the country. Further, the prime minister in the 1930's openly discouraged the public performance of traditional music on traditional instruments. Two additional factors cannot be overlooked: first is the traditional music being a court music and not the music of the people, when the courts disbanded, there was no reason for the traditional music to exist. The public really never knew it; it was not their music, and they were not interested; another having been a court music, it represented the "old" days of the monarchy. In 1932 traditional music began to become an anachronism. Perhaps, too, it reminded too many people of the old regime that they were ready, at least in part, to forget.

Little or no composing is being done today in traditional style. In fact, there probably has been no composing in traditional style since the last great compositions of Luang Pradit Pbairo in the 1930's. Special mention should be made, however, of Mr. Montri Tramote, previously mentioned, who supervises the music for the Thai traditional music-dramas presented at the National Theater. Mr. Tramote often makes new arrangements of the traditional compositions used in the music-dramas and on occasion composes new material. As also mentioned, short articles by Mr. Tramote, many of them explanations of the background of the traditional compositions that appear in the Silpakorn Magazine together with the music in Western notation, are helping to give us some knowledge of the past of Thai music. The help, at the moment, is mostly for the few interested Thai, however, as these articles are printed in Thai and have not as yet appeared in translation. A group of them were reprinted under one cover as "Thai Classical Songs, Book 1" also in Thai without translation, but this issue has been out of print for some time. Other volumes in this series have, I understand, been contemplated, but for whatever reason, they have not yet appeared.

There seem to be two main reasons for the decline in composing in traditional style: First, there is no demand on the part of the public for new traditional compositions; Second those musicians still performing the traditional repertoire seem

disinclined to compose in traditional style. Two musicians, who perform well in traditional style, whom I asked why they did not compose, replied that they could not do it so well as the great composers of the past, so they did not want to try.

2.3.2 Thai music style

Thai music has a unique style of expression and cannot be compared to Western music or the music of other nations. The same is true for all other art forms. If you want to understand, appreciate and enjoy Thai music performances, you must temporarily forget about the artistic styles and forms of other music.

"Music in Thailand: Experiencing music, Experiencing culture (Morton, D 2001) "Description of music features : In "Music in Thailand: Experiencing Music, Experiencing Culture," Terry E. Miller and Sean Williams describe Thai music as having a distinct character shaped by its historical, cultural, and social contexts. Thai music can be broadly categorized into classical, folk, and popular genres, each with unique features and functions.

Thai classical music, often associated with royal courts and formal ceremonies, relies heavily on traditional ensembles like the pi phat, which emphasizes percussion instruments, and the mahori, which combines strings and percussion. The khrueang sai ensemble is another key component, primarily featuring string instruments. Thai classical music typically employs a scale of seven equidistant tones, providing a distinctive sound different from Western musical scales.

Folk music in Thailand varies significantly across regions, reflecting local cultures and traditions. Instruments such as the khene (a mouth organ) and the phin (a type of lute) are commonly used in northeastern and northern folk music, respectively. These regional styles often serve as a medium for storytelling and communal activities.

In contemporary times, genres like luk thung (Thai country music) and modified Western pop and rock have gained popularity, illustrating the dynamic nature of Thai music and its ability to adapt and incorporate diverse influences.

Description of instruments: music often uses a seven-tone scale, and instruments may vary the pitch within performances, allowing for unique tonal expressions.

Jakhey: A prominent plucked zither, the Jakhey is known for its distinctive shape and rich sound. Players use a plectrum, often worn on the right index finger, to pluck the strings while the left hand manipulates the pitch by pressing the strings. This allows for expressive, bending notes characteristic of traditional Thai music.

In the article "The Traditional Music of Thailand by David Morton (Morton D 1976) "of the University of California.Of all the Southeast Asian musics Vietnamese music is the most related to the Chinese, at least instrumentally: Vietnamese instruments are basically Chinese derived; the Vietnamese never adopted the melodic percussion instruments so characteristic of Southeast Asian ensembles. Superficially, and probably at some depth, the musics of Laos, Cambodia, and Thailand are similar, if not identical. The peoples and cultures of these three areas have been intermingled for at least seven hundred years, and it would be surprising if there were not great similarities.

The "raw material" of Thai music, that is, the basic pitch material, may be discussed under three main headings, from the general to the specific: tuning system, modes, and scales.

Tuning System: The octave is divided into seven equal parts, producing a seven-pitch equidistant tuning system. The distance between any two adjoining pitches is about an eighth of a Western whole step less than a Western whole step: that is, for example, the Thai interval is greater than a Western half-step (C to C#, for instance), but less than a Western whole step (C to D). The fourth and fifth Thai steps (from any beginning pitch, forming an interval with the lower pitch) are about the same as the Western intervals of the 4th and 5th, but the Thai 2nd, 3rd, 6th, and 7th intervals differ noticeably from the Western intervals of those names (for a brief discussion of "interval,"

An equidistant tuning system is found in no other high-art music in Asia.3 Since there is no documentation of the development of Thai music in any extant records, it is impossible to know definitely what factors led to the evolution of an equidistant

tuning system. speculation is that since Indian influences are observable in the architecture and sculpture of the early Indianized colonies, from the coast of Southeast Asia inland to the Khmer capital at Angkor, Indian influences may also have been present in the music. systems of these early cultures may have had more developed modal concepts or a greater variety of modes than Chinese music of the same period. the Khmer may had a tuning system different from the Chinese and/or Thai, and when the Thai migrated southward and came into contact with, conquered, and absorbed much of the Khmer culture, an equidistant tuning may have resulted from the blending of the two different tuning systems.

At any rate, however the equidistant tuning originated, all seven pitches are not used in a Thai composition with equal emphasis, and the modes are essentially pentatonic in Thai music.

The process of "modulation" to other pitch levels demanded equidistance in the Thai system in the same way that the evolving harmonic system in Western music caused the twelve-pitch equidistant system to be devised and firmly established in Europe in the eighteenth century.

Modes: The Chinese modal system consisted (and still consists) of five modes, one beginning on each pitch of the pentatonic tuning

2.3.2 the Pipa history

Wenjuan Tian described the development process of Pipa like this in the article Discussing the Development History of Pipa (Wenjuan Tian 2014): During the Sui, Tang and Five Dynasties, a kind of instrumental solo art also unveiled its mystery, which is Pipa music. Pipa is also an ancient musical instrument with a very long history. According to historical records, there were two types of Pipa in the Qin and Han Dynasties: "Zhixiang Pipa" and "Ruanxian Pipa" (or "Ruan"). Among them, the "straight neck Pipa" is a wooden straight neck with four strings and twelve posts. It is held vertically and played with fingers. During the Eastern Jin Dynasty, there was also the "Quxiang Pipa" from the Western Regions. This kind of Pipa was a wooden pear-shaped speaker with four strings and four columns, held horizontally and played with a plectrum.

By the Tang Dynasty, people absorbed the advantages of "Zhixiang Pipa" and "Quxiang Pipa" and reformed the Pipa, thus forming "Pipa". This kind of Pipa combines the advantages of the above two Pipas. It follows the pear-shaped speaker of the "Quxiang Pipa", with four strings and fourteen posts. It is held vertically and played with fingers. This reform in form and playing method has brought rich artistic expression to "Tang Pipa". It is precisely because of this that Pipa art entered its first peak period in the Tang Dynasty. The Pipa is a musical instrument that has existed since ancient times. After hundreds of years of vicissitudes, it finally became an eye-catching musical instrument in the Tang Dynasty. This can't help but remind people of the famous line "Only after thousands of calls come out" in "Pipa Xing" by the poet Bai Juyi of the Tang Dynasty.

2.3.3 About the playing techniques of Pipa

Pipa Manual, Shanghai Music Press (Yongping Zhuang 2001) Description about techniques of Pipa: The music of the push-pull technique is rich in expression, it can be mournful, it can be tough, it can be soft, and it can be sad. Especially in expressing the unique style and verve, it is one of the indispensable left-hand techniques of the Pipa.

"Push and pull tone" is also known as "push and draw tone", "push" sound is the left hand press the tone finger to push the string inward to raise the tone; The "pull" sound, also known as the "draw" tone, is to pull the string out of the string by pressing the finger of the left hand. "Push and pull" represents two different glides, up glide and down glide.

Relevant description in Opinions on the Ornament Technique of the Pipa with Left Hand (Doudou she2023) The playing techniques of the Pipa are extremely rich, and as far as the left hand is concerned, there are more than ten techniques that can express the " sound cavity" of Chinese music, such as pushing, pulling, chanting, vibrato, hitting, bending, and shaking. Among these techniques, the most difficult to master is chanting and vibrato. "Chanting and vibrato" is an important technique to express the "verve" of Chinese music cavity. "Verve" is an important spirit of Chinese music aesthetics, which seems to express the realm that can only be understood and

cannot be conveyed. It stems from the player's own emotional understanding of the work, as well as the use of right-hand techniques, and more importantly, the change of our left-hand ornament sound. The "chanting" and "vibrato" of the lute are aimed at improving the sound quality, beautifying the timbre, and enhancing the artistic effect. It can be atmospheric or tear-jerking, and it is very musically appealing.

The chanting of the Pipa draws on the same fingering methods of Western stringed instruments, and combines the characteristics of the Pipa and the sound column. It is a conventional means of note ornament, which has a great effect on the timbre and expressiveness of the performance, and is also one of the techniques with left hand that players must master. As a tasteful instrument, the Pipa is chanted mainly by swaying from side to side of the note, causing a subtle change in the pitch of the pronunciation.

The chanting is a vibrato of tension, through the finger joints to do flexion movements, so that the strings are high, low, fast and slow, and different in size. The specific method is to use the tone finger as the benchmark to flex and extend the fingers on the strings by pressing the tone finger. The flexion and extension action is large, and the sound amplitude is large. The flexion and extension action is small, and the sound wave amplitude is small. In the music, chanting is a comprehensive use, it can be slow or fast, it can be large or small, it can be slow and then fast, it can also appear after the up or down glide. They are to achieve the cavity and musical tension required by the music according to the needs of the music and through the embellishment of the music.

CHAPTER 3

Researchers accessed academic journals, books, papers, music reviews, and other materials through databases such as CNKI 、 Google Scholar and library searches to obtain relevant literature. At the same time, conduct interviews with data personnel and organize various materials to analyze and summarize research results in the descriptive and analytical form of the paper. The researchers have designated guidelines for conducting the study and followed the following steps.

3.1 Research Methods

Research and Information Collection Methods: Research and collect various information related to literature, books, interview data, etc. The detailed fields are as follows.

Data collection stage: When learning and researching relevant information, research sources can be divided into two categories:

3.1.1 Literature Research Method

Based on literature, academic textbooks, journals, and related research results,conduct research from the following sources of information: Srinakharinwirot University、 Books related to libraries in various regions、 Online databases such as CNKI JSTOR, Google Scholar, etc.

3.1.2 Field Investigation Method

On site data collection researchers collected on-site data through observation and interviews, which were divided into the following groups.

Recording of music performed by Pipa players with a certain level of performance

-Understand the differences in music understanding between audiences in different countries.

-Interviews with scholars in the field of music to understand the style of music.

3.1.3 Other Methods

In addition to the literature analysis method mentioned above, which involves collecting research on literature, related books, etc., the use of interview method, participatory observation method, and experiential method are other research methods.

The In depth interview method: Develop a semi-structured interview outline, including open-ended questions, focusing on the performer's performance experience, technical feelings, expert opinions on cross-cultural performance, etc., and encourage respondents to describe and share their experiences.

Experiential approach: By personally experiencing the adaptation of performance techniques, researchers can feel the difficulties encountered in the application of techniques in adaptation and performance, and record the difficulties encountered and their solutions.

Participatory observation method: observe and record the performance and feelings of the listener and record them.

3.2 Data Collection

Data was collected through participant observation method, focusing on capturing the Thai music piece Chin Khim Yai, and collecting the playing techniques of Jakhey and Pipa and the application patterns of Pipa techniques in the Thai music piece Chin Khim Yai.

3.3 Data Analysis

3.3.1 To study Jakhey playing techniques in Chin Khim Yai.

3.3.1.1 Chin Khim Yai song analysis.

-Melody analysis

-Music form analysis

-Emotional analysis

3.3.1.2 The playing skills applied by Jakhey in Chin Khim Yai song.

-Jakhey's fingering and string stringing skills in this music composition

-Jakhey's tone control In this Music composition

-The rhythm, speed and melody of Jakhey in this music composition

3.3.2 To apply Jakhey playing techniques from Chin Khim Yai for a solo Pipa.

3.3.2.1 Introduction to the fingering of Pipa

3.3.2.2 Analyse the Pipa technique used in the song Chin Khim Yai

3.3.2.3 Similarity and difference between Pipa and Jakhey

3.3.3 To analyze the combination of playing techniques between the Jakhey and the Pipa in Chin Khim Yai.

3.3.3.1 Fingering adaptability research

3.3.3.2 Retention and transformation of images

3. 3. 3. 3 Acceptance and response after the combination of music and culture

3.4 Result presentation

Report writing: Provide a detailed description of the performance techniques of Thai music on the Pipa before and after adaptation, present the experiences and feedback of participants, and explore the significance of adapted music in cross-border cultural music. It includes a summary of the research background, discussion of methods and results, and conclusions.

Multimedia presentation: Use various multimedia tools such as videos, audio, and images to showcase the performance process and application of techniques.

CHAPTER 4

Chin Kim Yai is a highly representative traditional Thai musical piece whose melodic structure, rhythmic layout, and instrumental arrangement fully embody the aesthetic characteristics and artistic traditions of Thai music. This chapter will explore the subject through three aspects: first, by analyzing the musical form and structure of the piece; second, by investigating the performance techniques employed by Jakhey during the rendition of Chin Kim Yai; and finally, by examining how these techniques can be transformed and applied to solo Pipa performance, thereby constructing a cultural bridge between Thai and Chinese plucked-string traditions. Through this multidimensional research approach, the study not only reveals the technical intricacies and expressive potential of the piece but also provides new perspectives and practical directions for cross-cultural musical communication and innovation.

At the performance level, this chapter further focuses on the specific Jakhey techniques featured in Chin Kim Yai, such as glissando and rapid plucking, highlighting their functions and expressive qualities. Through a detailed analysis and categorization of these techniques, the study explores how they contribute to the musical expression of both mood and structural development.

More innovatively, the author attempts to transform and apply some of the Jakhey performance techniques to the solo interpretation of the Chinese traditional instrument, Pipa, in order to achieve cross-cultural musical expression. By leveraging the distinctive plucking and expressive techniques of the Pipa, the study examines how the musical language of Jakhey can be revitalized and recontextualized within a Chinese instrumental framework.

This chapter is not only a structural and technical analysis but also a practicalcross-cultural exploration that reflects the contemporary fusion and mutual interpretation between traditional Thai and Chinese music.

4.1 To study Jakhey playing techniques in Chin Khim Yai..

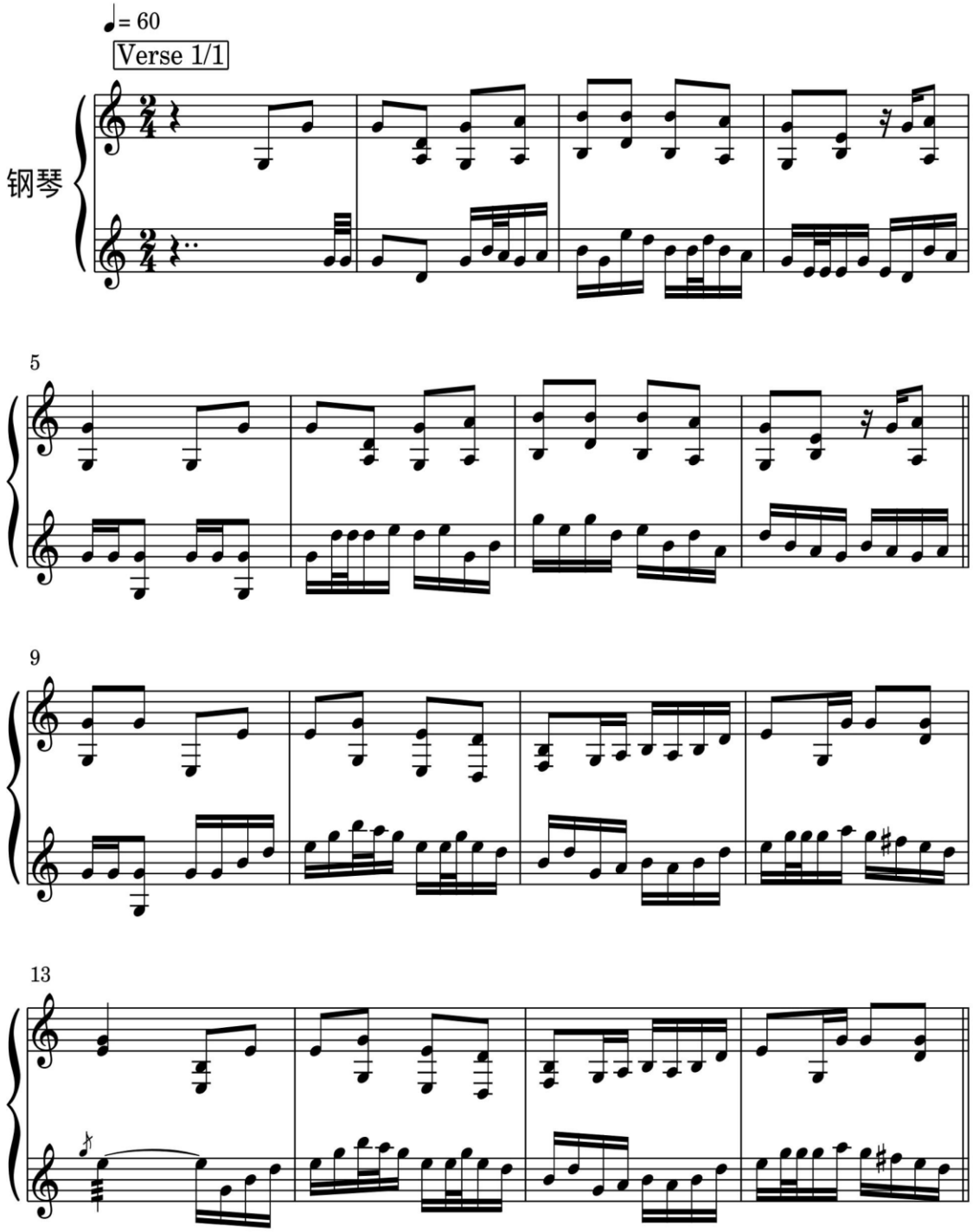
Chin Khim Yai as a representative piece of traditional Thai music, features distinct rhythmic patterns, melodic progressions, and structural organization. By analyzing its form, we can gain a deeper understanding of how Thai traditional music constructs a complete musical narrative, which in turn provides a theoretical foundation for the arrangement and application of Jakhey techniques within the piece. Additionally, examining the actual use of Jakhey in Chin Khim Yai, including the specific playing techniques employed, allows for a practical integration of theory and performance. This kind of study enables a more targeted exploration of the relationship between Jakhey techniques and musical style, helping performers to more accurately interpret and reproduce traditional aesthetics. This section will focus on the version performed by the musician Parynyia Ohmo and the Thongdee Sujarkul's score as the primary material for analysis.

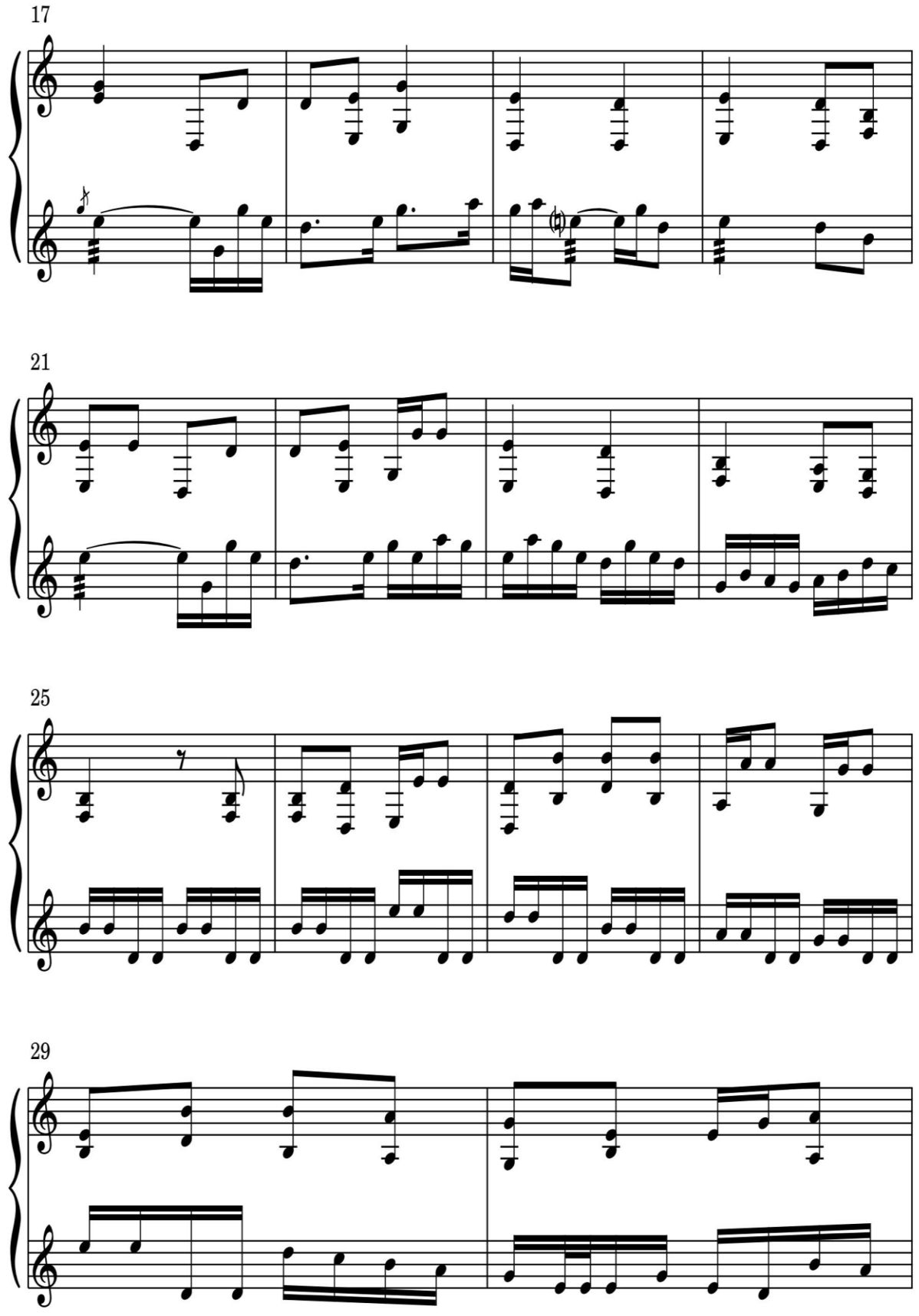
Chin Kim Yai Song

Composer: Thongdee Sujarkul

Trans Criber: Zheng Qiwen

Phatcharaphon Duangban


♩= 60
Verse 1/1
钢琴
5
9
13


17
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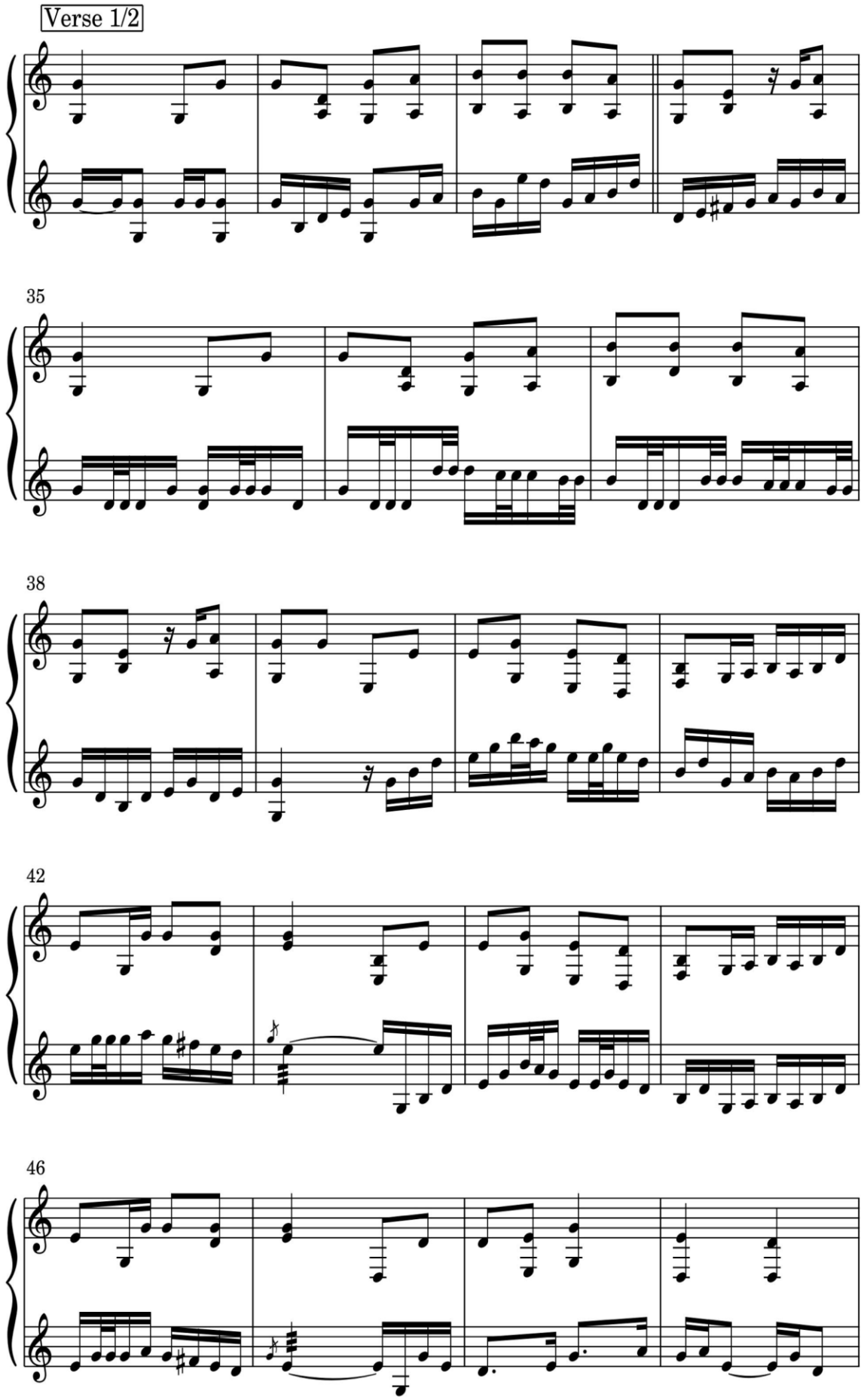
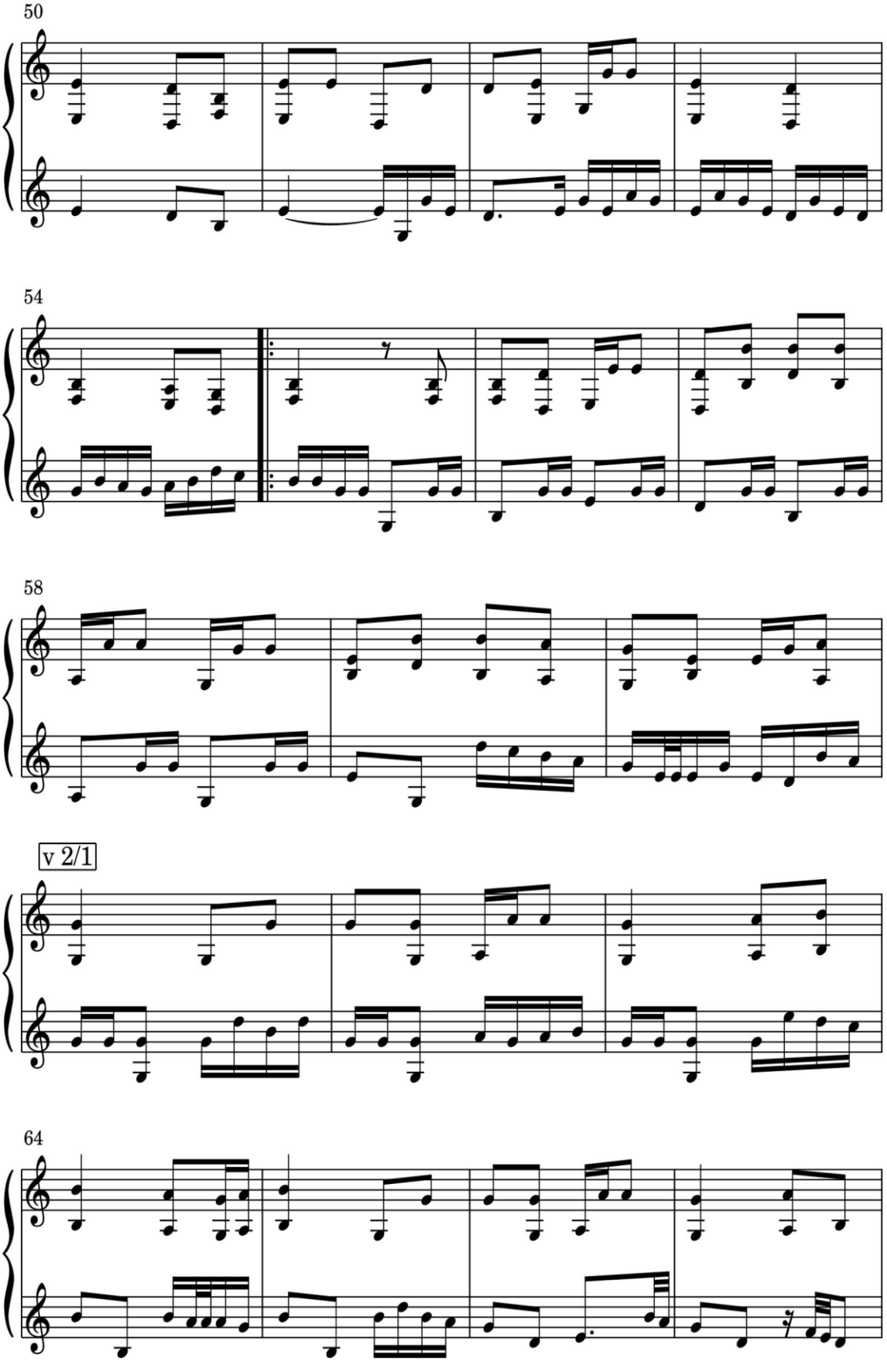
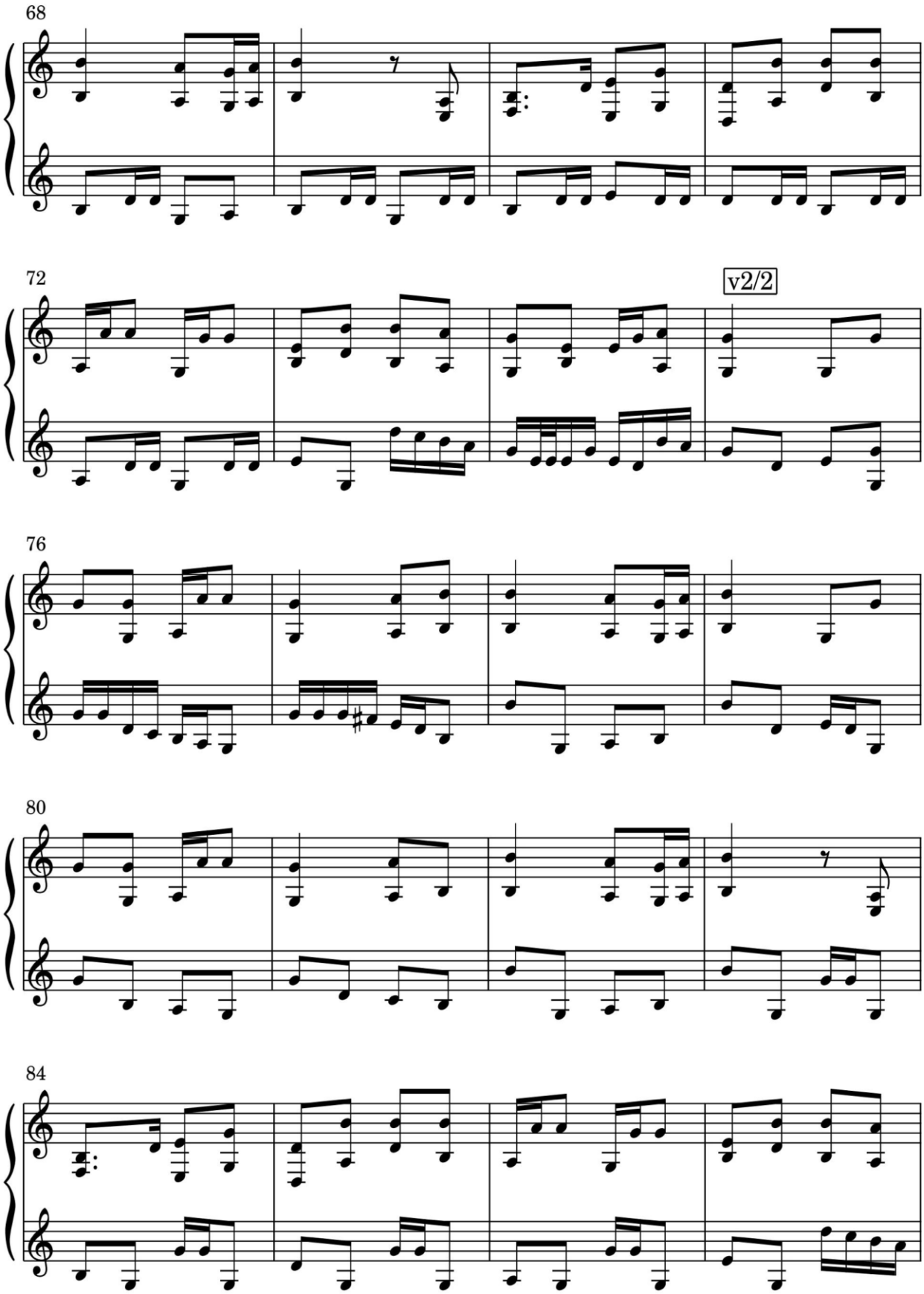
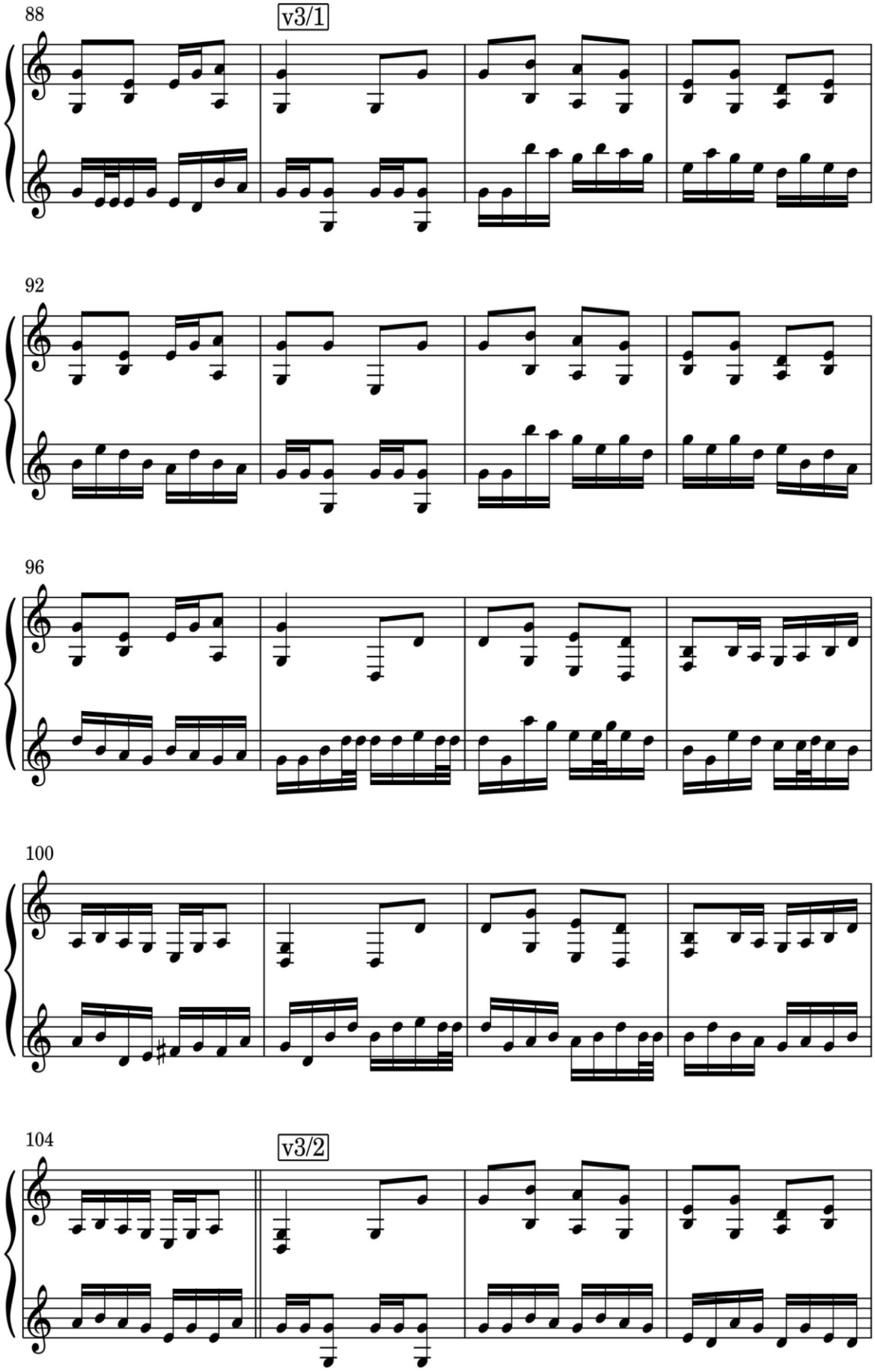
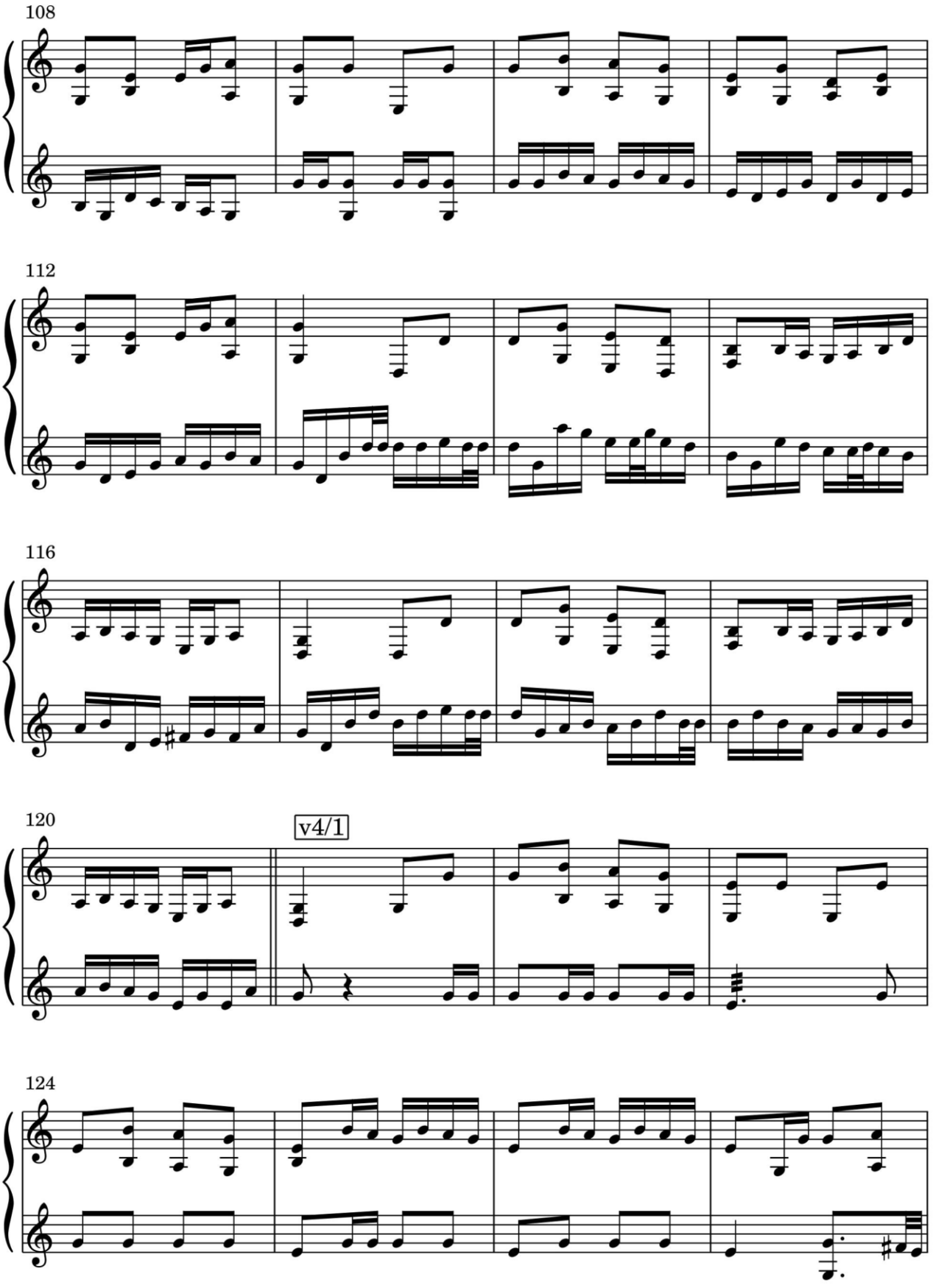
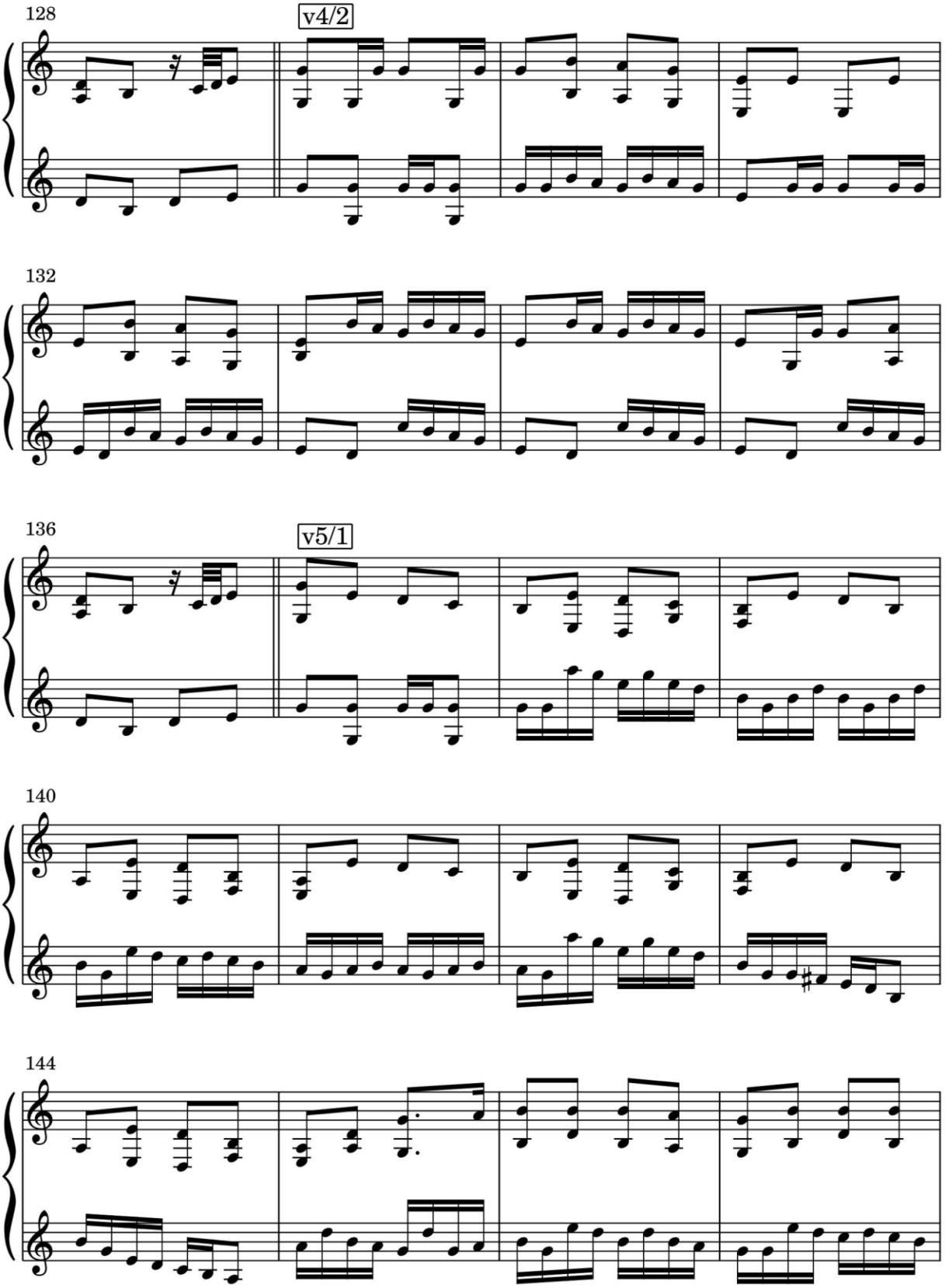

Verse 1/2
35
38
42
46

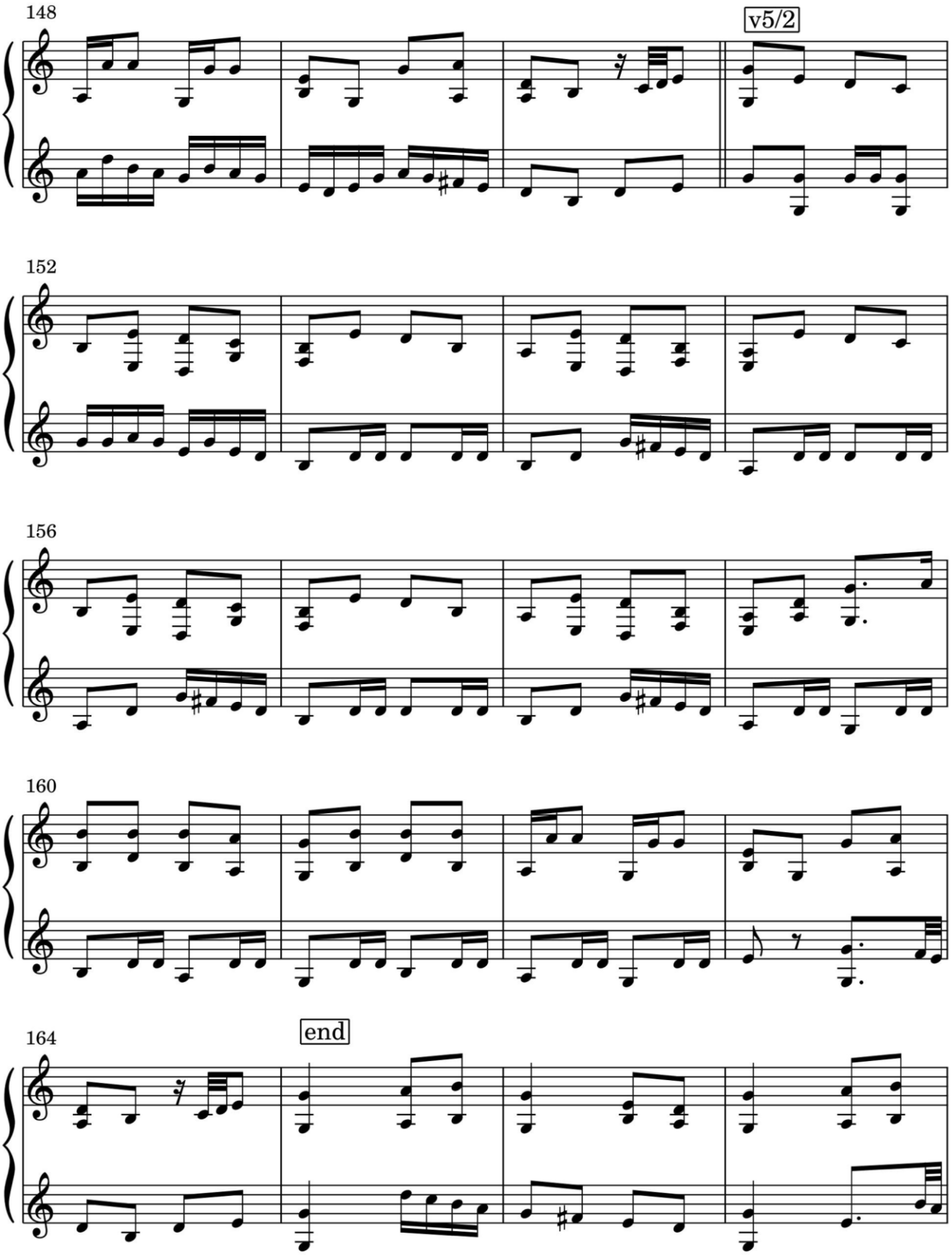

50
54
58
v 2/1
64

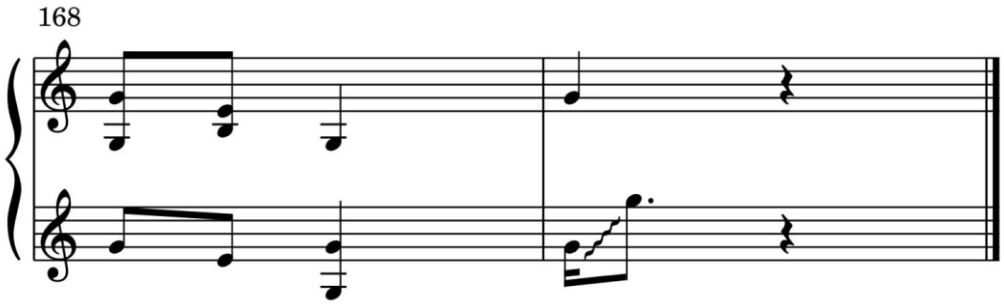

68
72
v2/2
76
80
84


88
v3/1
92
96
100
104
v3/2


108
112
116
120
v4/1
124


128
v4/2
132
136
v5/1
140
144


148
v5/2
152
156
160
164
end



4.1.1 Chin Khim Yai song analysis.

Chin Khim Yai is characterized by its unique melodic structure, which carries a strong Chinese musical flavor and is often performed in court music settings.

The piece adopts a " Song Chan" structure, where the music is divided into two levels or sections. This form, commonly found in Thai classical music, enhances the expressiveness and depth of the composition.

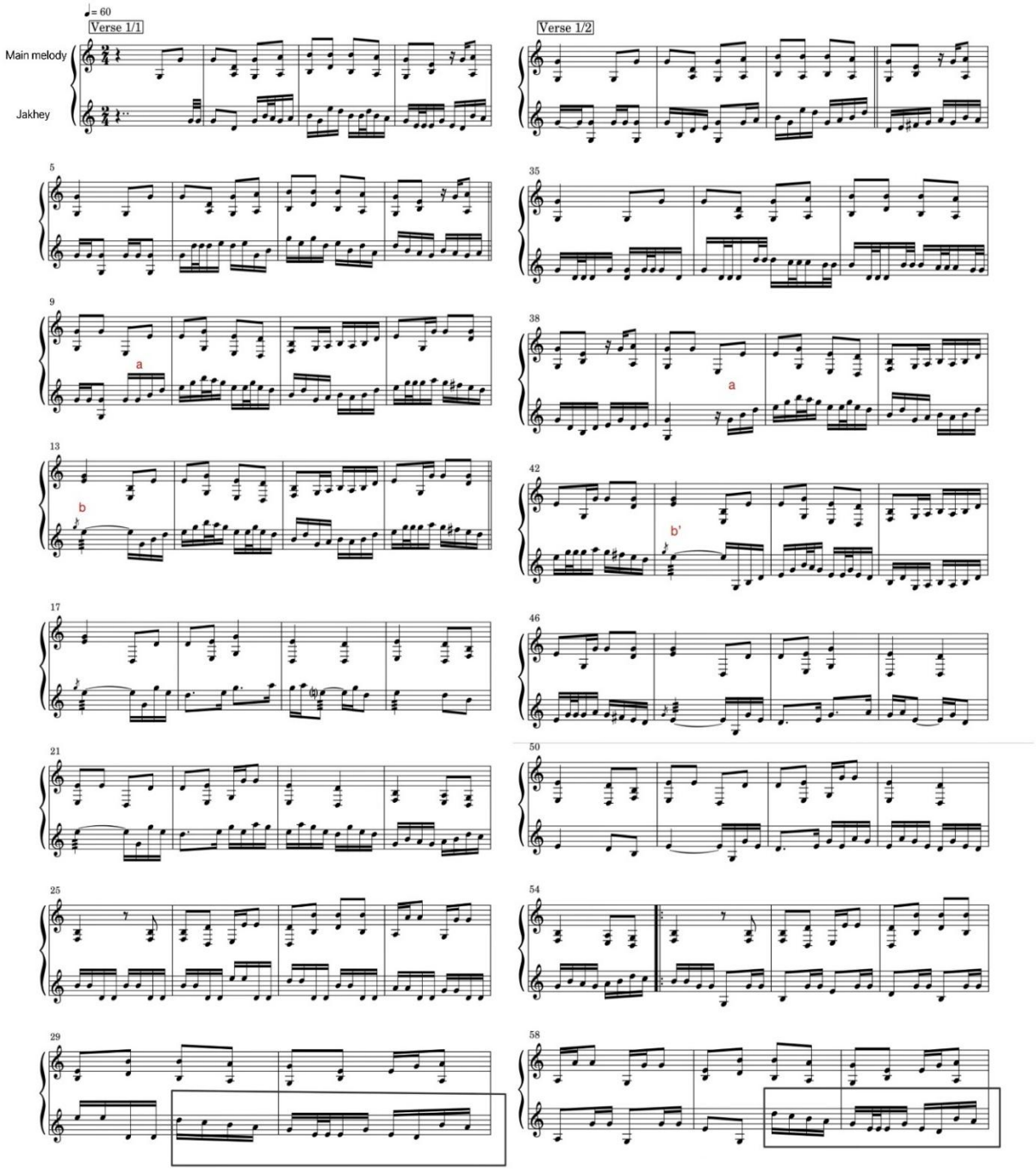
The piece was primarily designed for the Jakhey and sometimes performed with other traditional instruments, such as the Khim (hammered dulcimer). This suggests that the composition might be a localized adaptation of Chinese melodies by Thai musicians.

4.1.1.1 Melody analysis

The melody of "Chin Khim Yai" is based on a structure similar to the Chinese pentatonic scale. The common notes are: C - D - E - G - A (D - R - M - S - L). It avoids the use of "Fa (F)" and "Ti (B)" to create an oriental tonal atmosphere. The scale structure is similar to that of Chinese folk music, which echoes the Chinese style hint in the song title "Chin". The melody adopts non-harmonic modal logic and moves freely up and down.

Analyzing the melody in depth provides valuable guidance for adapting the piece to the Pipa, ensuring that the adaptation retains the essence of the original while incorporating the expressive capabilities of the Pipa to achieve innovative cross-cultural expression.

Analysis of the First Part (First bot)



1. From the melody, we can find that the rhythm pattern of this song is: ---- / ---ching / ---ching / ---chap. This rhythm framework emphasizes the light tapping on beats 2 and 3 and the closed sound on beat 4. It is a typical Ching rhythm pattern used in the Chinese-style tune Song Chan.

2. The main melody of Verse 1/1 is exactly the same as that of Verse 1/2, which is in line with the symmetry aesthetics of Thai music. This is a "circular form" tradition from Thai ritual music, emphasizing stability.

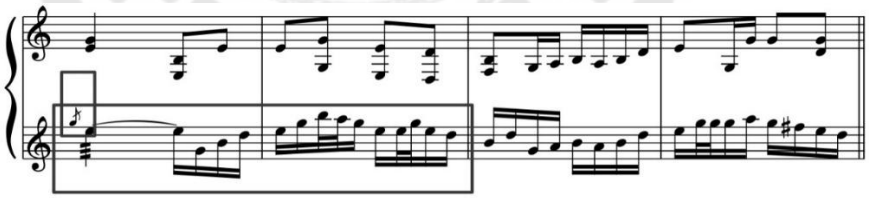
3. Verse 1/1 is the same as Verse 1/2 a' from the beginning, starting with a wake (marked on the score), until the end of the First Bot.

4. Then Verse1/2 starts from b' bars and reproduces the melody of Verse1/1 b section in the form of Octave Lowering until the end. Octave Lowering plays the existing melody in a lower range, bringing space and emotional changes. This Octave Lowering forms the ending sense or "ending segment" of the melody, it "sinks" from the auditory sense, symbolizing the end of a sentence or paragraph.

5. The melody of the ending measure of Verse 1/1 and 1/2 in line 8 of the Jakhey section is the same.

6. Verse 1/1 Jakhey first line , second bar, melody |- - - -|- - SSS|- R - S|TLS L T| , where T is a passing note.

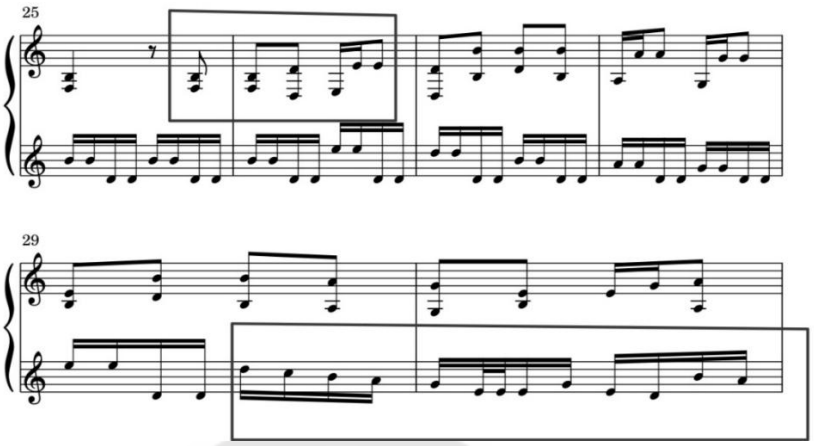
7. There are many short patterns in this melody (such as |T T R R|T T R R|T T R R|M M R R| in line 7 of Verse 1/1) that appear repeatedly. This pattern is called repetition.



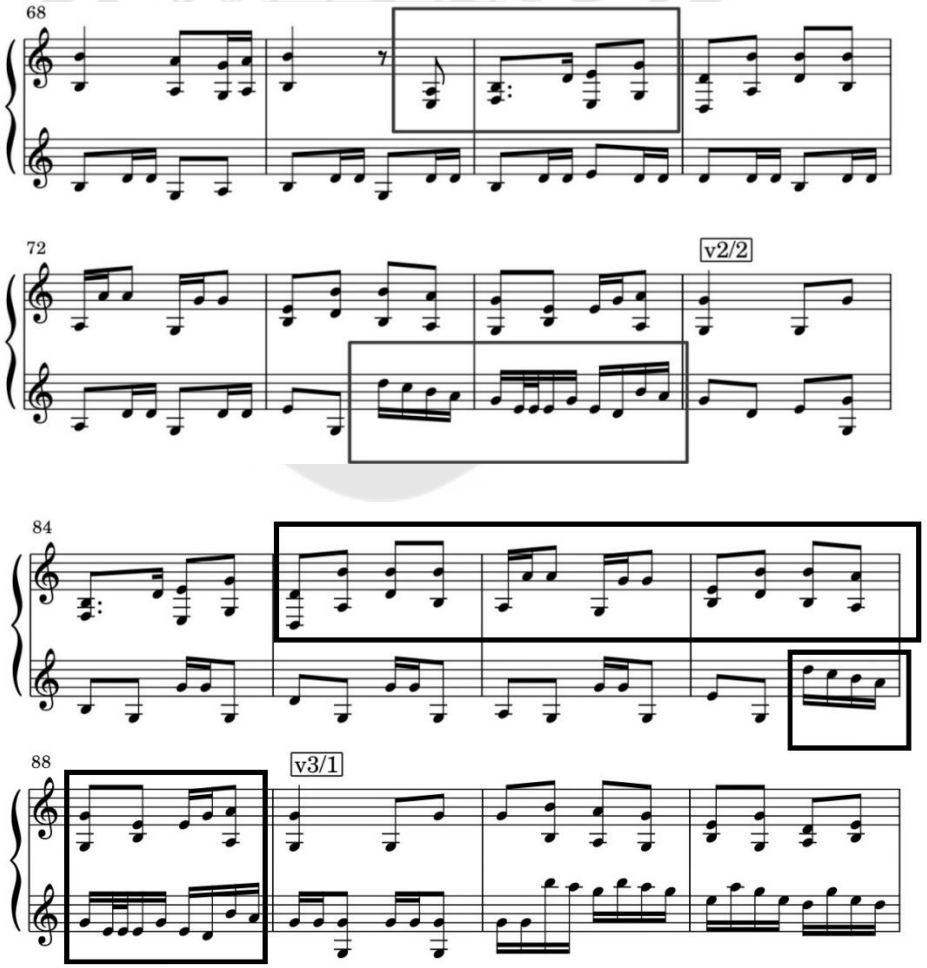
8. According to the picture of the melody fragment above, The melodies in the third and fourth lines of Verse 1/1 Jakhey and the third and fourth lines of Verse 1/1 use the technique of imitation.

|M - - - |- S T R|M S TLS|M MSM R|

Analysis of the Second Part (Second bot)



1、 The melody of bars 69-74 of Verse 2/1 is the same as that of bars 25-30 of the first part, except that the pitch rhythm of bars 69 and 70 is different from that of bars 25 and 26.



2、 The main melody of Verse 2/2 is exactly the same as that of 2/1. The main melody of bars 85 to 88 at the end and the Jakhey part of bar 88 are the same as the ending Wak of Verse 1.

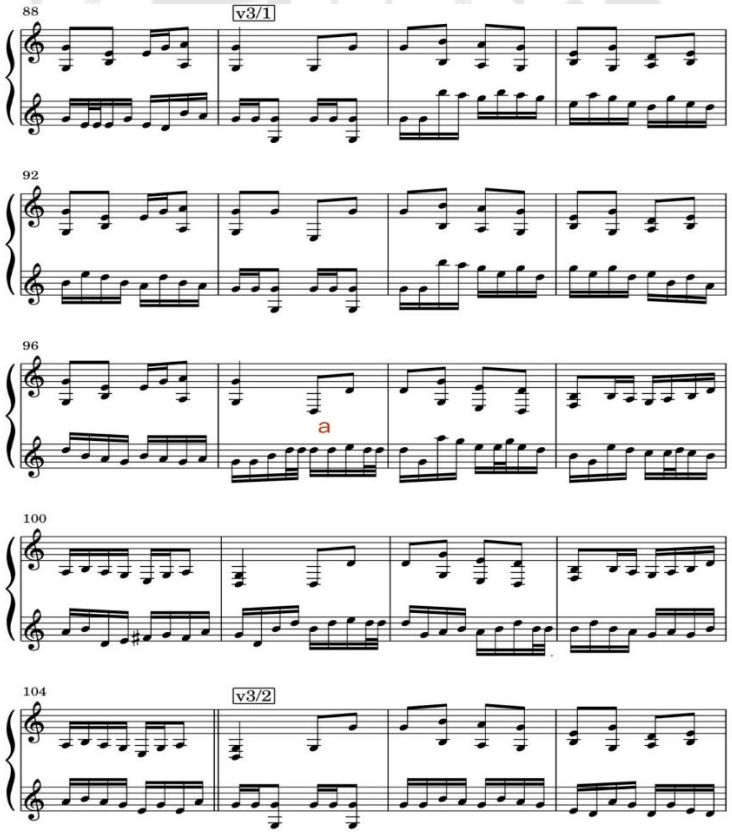
The ending Wak of Verse 129-31bars:|R D T L|S MMM S|M R T L|S S S-|

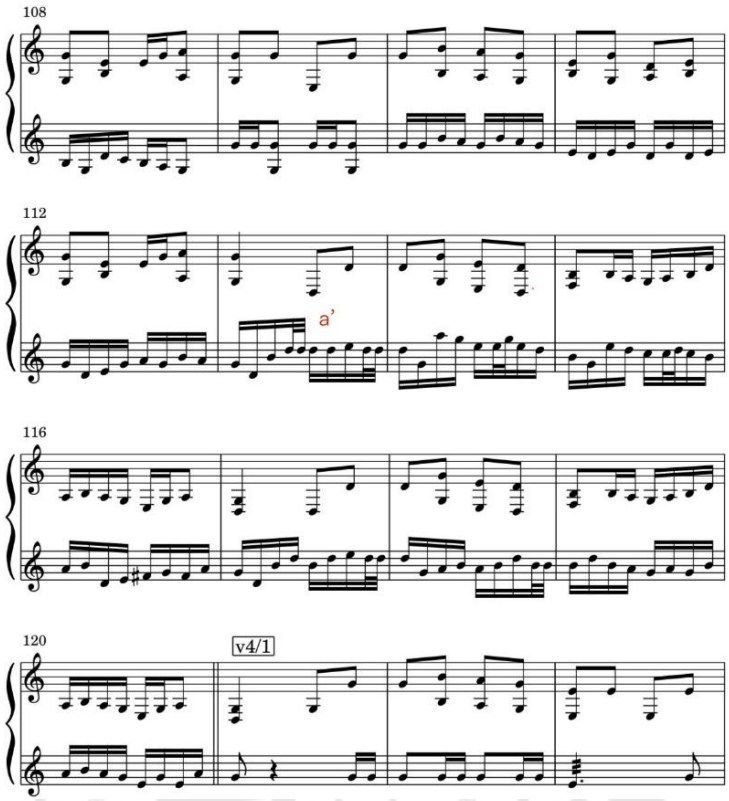
The ending Wak of Verse 173-75bars:|R D T L|S MMM S|M R T L|S - R-|

Jakhey 87-89 bars:|R D T L|S MMM S|M R T L|S S S-|

3、 According to the above score, the second and third lines of the Jakhey section of Verse 2/1 and 2/2 are the same as the ending bar melody of Verse 1/1 and 1/2. The ending melody used in Verse 1/1 – 2/2 is a kind of "Jop Khrung": it creates a sense of stability and cycle in form, but does not fool the audience into thinking that the whole song has ended.

Analysis of the Third Part (Third bot)



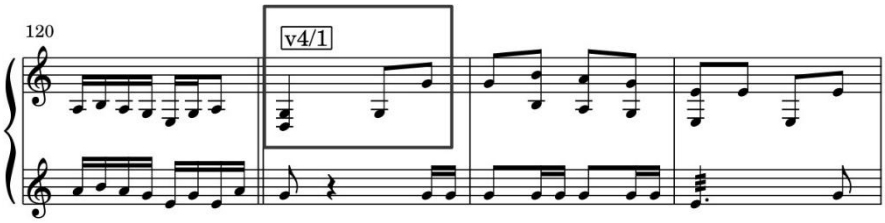


1、 The main melody of Verse 3/2 is the same as that of 3/1

2、 The Jakhey part plays Verse 3/1 from the mark a to the end, which is exactly the same as the melody of a' in Verse 3/2

3、 The ending melody of bars 118-120 no longer uses the melody of the first two parts. The music is ready to turn in the third part, and a clear contrast is formed through "multiple identical endings + mutations", creating a sense of turning for Verse 3

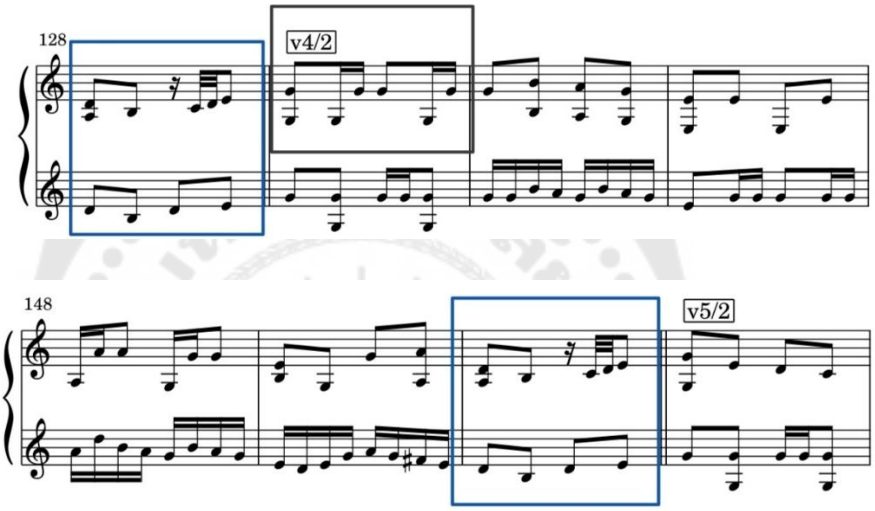
Analysis of the Fourth Part (Fourth bot)



1、 The main melody of Verse 4/1 and 4/2 is the same, except that the pitch rhythm of the opening bars of the two bots, bars 121 and 129, is different. This

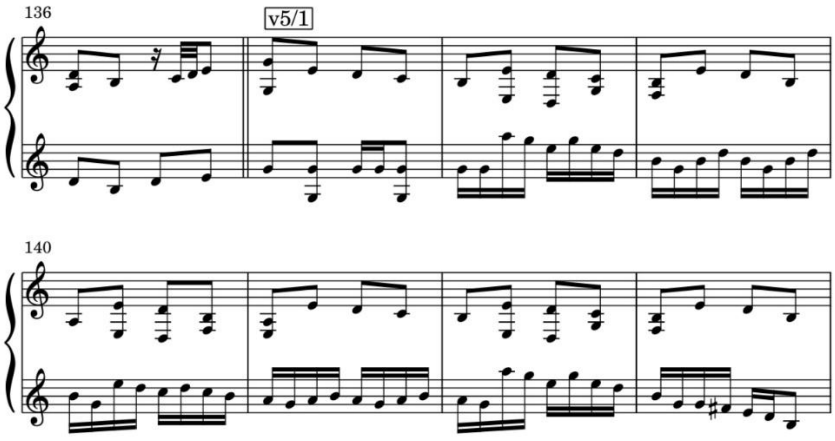
change is called Decorative Repetition in traditional Thai music, which means inserting local melody modifications in the repeated framework to make the music transition more naturally. In addition, adding slight changes after multiple repetitions can refresh the melody attention.

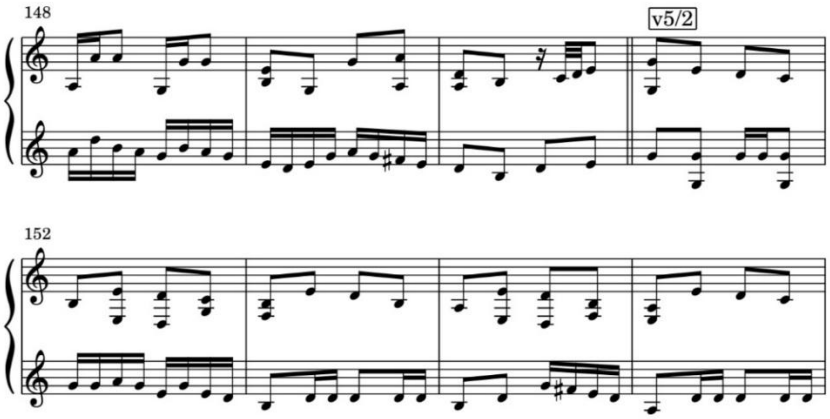
2、 This change is similar to the "symmetry of the beginning and the end, slight changes in the middle" structure in Chinese music, and it is also similar to the "repetition + variation" in Chinese Pipa music.



3、 The ending melodies of bars 128 and 150 of Verse 4/1 and Verse 4/2 are exactly the same. |R - T -|R - M -|The repeated ending makes it easy for the audience to recognize the paragraph loop and helps to remember the melody

Analysis of the Fifth Part (Fifth bot)





1. The main melody of Verse 5/1 is the same as that of 3/2

2. The melody starts to descend from 5/2, reflecting a sense of "return". In Thai music theory, this change is called "Descending register", which gradually lowers the range and symbolizes the end.

Summarize

The melodic design of Chin Khim Yai shows a high degree of structural integration with ethnic style. The melody is developed on the basis of the pentatonic scale, and T and F notes rarely appear.

The rhythmic pattern of this song is: ---- / ---ching / ---ching / ---chap, and these endings are usually accompanied by the chap of Ching, forming a small rest.

The melody line is mainly undulating contour; most watha start from the middle tone, ascend 2-3 degrees and then descend, forming a typical "beginning-development-transition-conclusion" sentence structure; at the end of the paragraph, descending intervals are often seen to strengthen the sense of sentence end and structural termination.

The melody often employs stepwise note progressions, avoiding excessive leaps to create a sense of continuity and elegance. Ornamentation, such as shake and slide, is extensively used throughout the piece. These intricate ornaments not only enhance the expressiveness of the melody but also highlight the refinement and delicacy of Thai music.

Additionally, the melody frequently features the repetition and variation of motifs. Subtle changes in rhythm, intervals, or ornamentation add depth and coherence to the melody.

4.1.1.2 Music form analysis (as shown in Figure 6)

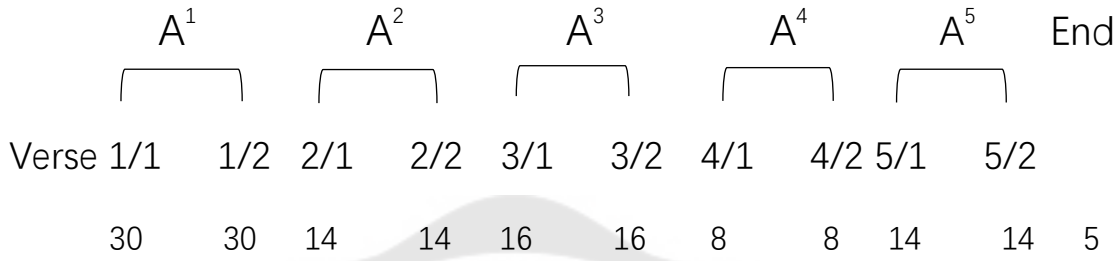


Figure 6 Music form analysis

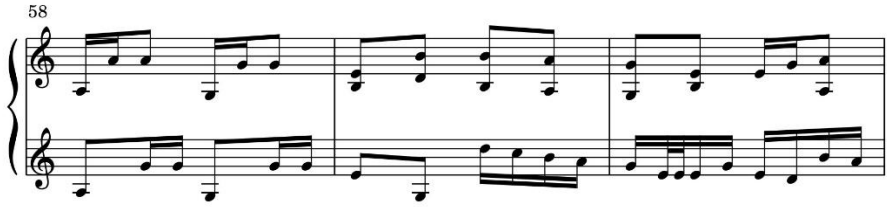
Note: Form analysis chart. Own work.

The whole song is divided into five main sections (bot), each section contains two waks. "Chin Khim Yai" is a medium-tempo instrumental music with clear structure and strong symmetry. The score tempo is 60 beats.

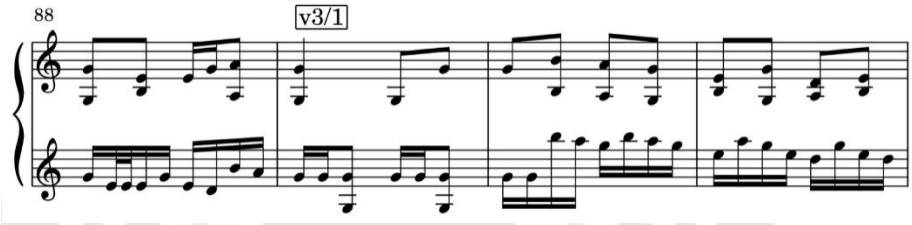
The first bar A1 part consists of two small waks (bar 1/1 + bar 1/2), each bar has 30 bars, A1=30＋30, A2=14＋14, A3=16＋16, A1=8＋8, A5=14+14. The segmentation is clear, such as bars 1/1 to 5/2 are relatively balanced waks. Each paragraph basically adopts a repetition and slight change structure.

This song adopts the Song Chan rhythm level, that is, medium-speed rhythm and moderate melody, which is the second level of the "Phleng Thao" form in Thai traditional music. The rhythmic structure of this song is as follows: ---- / ---ching / ---ching / ---chap It is often accompanied by the "Na Thap Song Mai" rhythmic structure. This rhythmic structure emphasizes the light opening notes on the second and third beats, and the closing notes on the fourth beat. This is a typical Qing-style rhythmic structure used in Chinese-style Song Chan, creating a smooth and non-stiff rhythmic feeling. This Qing-style rhythmic structure is often used in traditional Thai music that begins with "Chin". In addition to "Chin Khim Yai", there are also "Chin Noi" and "Chin

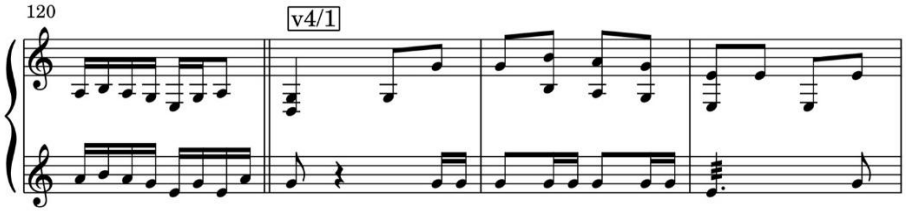
Tawai". These songs are influenced by traditional Chinese music in terms of melody style and scale use, so the rhythmic structure is relatively light and elegant, unlike the heavy hitting and sinking of Thai drum music.



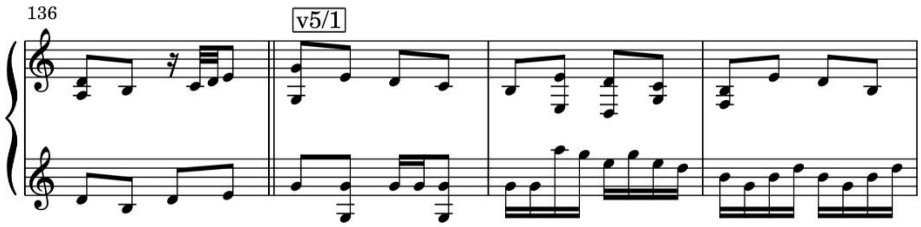
The First part establishes the modal center, starts with a weak rhythm, and introduces the main melody. The A1 loogtog on the 6th degree. The melody is relatively simple, and the phrases are mostly 4+4 structures.



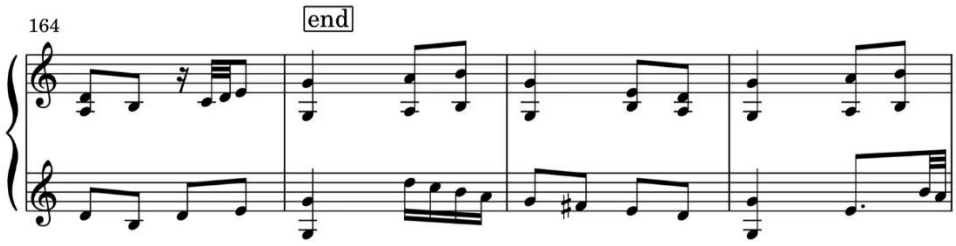
A2 continues the melodic theme of A1 and uses ornaments such as glissando. The rhythm does not change much, but the melody is fuller, maintaining the symmetry of the structure, and the loogtog also on the 6th degree.



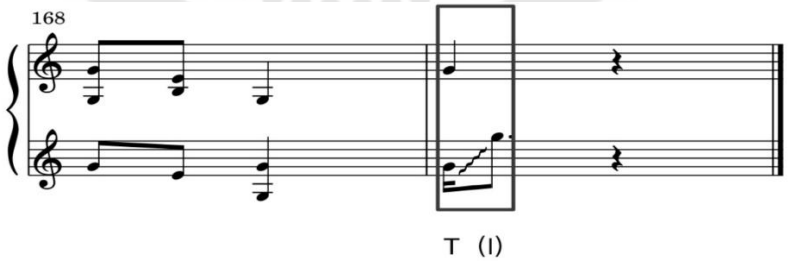
A3 creates paragraph contrast, develops the tension of melody and rhythm, and loogtog on the 6th degree. Modulation is used, including the repeated structure of rising/falling pitch.



A4 echoes the theme of A1, enhances the unity of the structure, and adds the development elements of A3 on the basis of the original theme melody - the melody of the first bar of A4 is the same as A3. The theme of A4 is highly similar to the first four bars of A1, but the ending has changed (it can be called "finale variation"), and loogtog on the 3rd degree.



A5 ends the whole song, forming a complete and closed section. The rhythm speeds up and the melody tends to decline. Loogtog on the 3rd degree. Finally, the End part loogtog on the 5th degree. (In Western mode, it returns to the tonic G to complete the finale)



The structure of "Chin Khim Yai" is highly symmetrical and balanced, echoing the symmetrical and balanced style of Song Chan. It presents the complete process of theme-development-return-end in five sections. This structure is common in traditional Thai instrumental music, which facilitates the development of melody, decorative variation and the gradual advancement of rhythm levels.

4.1.1.3 Emotional analysis

The melody of Chin Khim Yai is infused with rich Chinese musical influences, structured in five distinct sections following the Song Chan form. This structure, commonly found in Thai classical music, enhances the depth and expressiveness of the piece through its layered progression.

The composition opens with a gentle and soothing melody, evoking a sense of nostalgia, as if reminiscing about cherished moments of the past. This sentiment is beautifully conveyed through the Jakhey's use of sabat, immersing the listener in a serene and elegant atmosphere. As the tempo accelerates in subsequent sections, the music becomes dynamic and spirited. The Jakhey's rapid plucking and agile rhythmic shifts capture a lighthearted and joyful energy, reflecting the vibrant and lively aspects of Thai music. This exuberance fills the air with a celebratory and communal spirit. The piece concludes with an uplifting slide, like a playful leap, radiating vitality and joy. This exuberant ending leaves the listener with a sense of renewal and delight.

As a fusion of Chinese and Thai musical elements, Chin Khim Yai conveys a profound respect for the cultural exchange between the two traditions. Each section of the melody is imbued with both emotional depth and cultural significance, showcasing Thai classical music's embrace of diversity and its ability to convey rich, multi-faceted expressions.

This piece, through the distinctive tonal qualities and playing techniques of the Jakhey, delivers a melody that is both graceful and full of tension. It seamlessly transitions between lyrical, tender passages and sections that are rhythmically vibrant and spirited, showcasing a rich emotional palette. From the serene nostalgia of its quieter moments to the lively, dynamic energy of its faster segments, the composition offers a layered and captivating emotional journey.

Moreover, the Chinese-inspired melodic lines, paired with free-flowing rhythms and interwoven with traditional Thai musical elements, paint a vivid auditory picture of cultural exchange and harmony. The result is a masterful tribute to the fusion

of Chinese and Thai influences, making this piece not only a work of artistic beauty but also a significant reflection of historical and cultural connection. It stands as a timeless classic within the repertoire of traditional Thai music.

4.1.2 The playing skills applied by Jakhey in Chin Khim Yai songs

The Jakhey is a significant instrument in traditional Thai music, renowned for its melodious sound and diverse playing techniques. Mastering the Jakhey requires not only a deep understanding of the instrument's structure and historical background but also meticulous operation and precise emotional expression. Proper technique in plucking the strings, including maintaining correct hand posture, balanced strength, and consistent tone, is essential for showcasing the Jakhey's unique sound characteristics and enhancing the stability of one's performance.

To successfully adapt the traditional Thai piece Chin Khim Yai for the Pipa, it is essential to have an in-depth understanding of the Jakhey instrument and its playing techniques.

Alternating " Out" and " In" Strokes

Plucking is executed by alternating between an " out" stroke and an " in" stroke, beginning with an " out" stroke. This applies to both open-string plucking and fretted-string plucking; in all cases, the dynamic weight (volume) of the strokes must be equal.

Open-string plucking:

Test by alternating out and in strokes for at least two pairs, ensuring that the final stroke is always an " in" stroke. This forms the foundation for proper out–in technique in relation to the melody.

The strength of the hand when plucking " out" and " in" must yield equally loud sounds.

Fretted Plucking

For fretted plucking—whether executing a sequential (ascending/descending) passage or a cross-string pattern—the correct finger position is critical. The finger should press at the fret (or marker) very close on its left side. When sliding along the frets (or " นม") for each note:

The plucking must conform to the proper technique so that the sound produced is correct and clear.

For simple cross-string passages:

The finger's position on the fret must be correct.

The plucking, according to the principles of embellishment, should produce accurate and clear tones.

Producing the " Ting–Noy" (ทิงนอย) Sound

There are several methods to generate the " ting–noy" sound using various combinations of fingers: one method involves placing the tip of the thumb underneath the index finger at the fingertip's joint so that the thumb presses the metal string while the index finger remains on the same fret of the first string, with an " in" stroke on the metal string producing " ting" followed by an " in" stroke on the first string yielding " noy" ; alternatively, the thumb's tip can be placed under the middle finger at the fingertip joint to diagonally press the metal string while the middle finger holds the same fret of the first string, again using consecutive " in" strokes to produce " ting" and " noy" respectively; yet another approach is to have the pinky press against the ring finger by using the pinky to press the metal string and the ring finger to press the first string at the same fret, then executing an " in" stroke on the metal string to yield " ting" and an " in" stroke on the first string to yield " noy" ; for open-string " ting–noy" plucking, both the metal and first strings are plucked with an " in" stroke so that the metal string produces " ting" and the first string produces " noy," with all methods evaluated based on correct execution, accurate pitch, clarity, and equal volume.

Decorative pick (Chon)

This technique adds extra sound to the basic melody, increasing its density. For example, in Thai notation one measure might include four note values achieved by alternating out and in strokes to produce equally loud sounds. Evaluation is based on:

The proper use of fingers for embellishment.

For passages descending in pitch: starting with the index finger, then pairing with the middle finger for the next lower note, followed by the ring finger; and similarly, for further descending sequences, continuing with the ring finger from the middle finger, etc.

For ascending passages: beginning with the index finger and then, in various paired or continuous sequences, using the index, middle, or ring finger as appropriate.

In all cases, both the " out" and " in" strokes must produce equally loud sounds and the plucking rate must be consistent without sloppiness.

Rapid Plucking (Deed Rua)

This involves rapid, alternating out–in strokes, always ending with an " in" stroke, with each note sounding equally loud.

Krathob Sam Sai (K3)

K3 is a sophisticated and expressive playing technique in traditional Thai music, specifically associated with the Saw Sam Sai, a three-stringed bowed instrument. The term " Krathob Sam Sai" literally translates to " striking three strings," highlighting the technique's core aspect of engaging all three strings simultaneously to produce harmonious resonance.

This technique demands precise finger control and a deep understanding of the instrument, making it a challenging yet rewarding method often showcased in solo performances. The Saw Sam Sai itself holds a prestigious position in Thai musical heritage, frequently featured in royal ceremonies and classical ensembles.

Shake (Sabat)

Using the right hand with a plectrum attached to the finger (usually the index or thumb), quickly plucking back and forth on a string to create an effect similar to a " roll" or tremolo.

Slide (Deed Rood)

Slide on the Metal String:

Using the thumb and index finger in the " ting–noy" style, slide along the metal string from one note to another—either ascending from low to high or descending from high to a deeper tone. The choice of starting with an " in" or " out" stroke depends on the number of glissando notes dictated by the melody; however, the phrase must always end with an " in" stroke.

Slide (Rapid " Rua" Type):

Simultaneously move the pick rapidly and use a finger to slide from one note to the next on any of the three strings.

Slide (" Tiew" Type):

Execute an " in" stroke while using the index finger to press and slide the string from one note to another, always sliding from a lower note to a higher note—commonly in groups of eight notes.

Double-notes and Triple-notes (Pra)

Double-notes (Two Strings):

For the first and second strings, pluck an " in" stroke on one (typically the first string) while letting the pick strike the second string so that the two sounds blend harmoniously. The same applies for the second and third strings.

Triple-notes (Three Strings):

This is performed by plucking all three strings simultaneously with one " in" stroke. There are two methods: Firstly, use the index finger to press the middle string at the " Do" note (located on the left side of the third fret position) and then pluck all three strings together, with the other two strings played open. Second, Either use the ring finger to press the first string at the " Re" note (at the first marker) and the pinky to

press the metal string at " Re" (at the same marker), plucking all three strings together with the second string open, or use the ring finger to press the first string at the " Mi" note (at the second marker) and the pinky to press the metal string at " Mi" (at the second marker), again with the second string open. The method is chosen according to what suits the musical passage.

Tremolo (Rua)

This is a technique where an " in–out–in" sequence is played at an increased speed—effectively turning a two-note embellishment into three notes within one beat. It can be executed for one, two, or three notes. The evaluation criteria include: Clarity of every note produced, Complete execution of the in–out–in sequence, Equal dynamic weight for all notes.Levels of tremolo are classified as follows:

Single-Note Tremolo: In–out–in on one note (three strokes on the same note).

Two-Note Tremolo: In–out–in covering two notes (two notes produced with three strokes).

Three-Note Tremolo: In–out–in covering three distinct notes (three strokes on three notes).

String Tapping (Deep Tob)

This involves applying slightly stronger pressure with a finger at a designated position to produce an additional sound immediately following a pluck with a single pick stroke. It can be divided into:

Tapping the metal and open string with an " in" stroke, then positioning the thumb and index finger as in the " ting–noy" technique; subsequently, using the nail of the thumb to tap at the desired position to generate a trailing sound with one pick stroke.

The fingering summary

Table 1 The fingering summary of Jakhey

Thai Term	Romanization	English Meaning	Description
ดีด	Deed	Pluck	Basic pluck using the thumb
ย้อน	Yôn	Reverse pluck	Pluck in the opposite direction (usually with index finger)
สะบัด	Sabat	Shake	Rapid, continuous plucking on one string for a trembling effect
รัว	Rua	Tremolo	High-speed alternating pluck for a sustained vibrating tone
ดีดรูด	Deed Rood	Slide	Slide from one note to another smoothly
ประ	Pra	Simultaneous pluck	Two or more notes plucked together (double or triple notes)
ตบ	Tob	Tap	Percussive tap on the string, like a staccato strike
ช้อน	Chôn	Decorative pick	Quick decorative pluck used between melody lines
กระทบสามสาย	K3	Krathob Sam Sai	Plucking the string for a special effect (Pluck three strings together.)
เคาะ	Kó	Light tap	Gentle tapping on the string or body for rhythmic decoration

Note. This table is a self-compiled summary of Jakhey playing techniques based on the description and teaching instructions provided by Srisakul 2017.Own work.

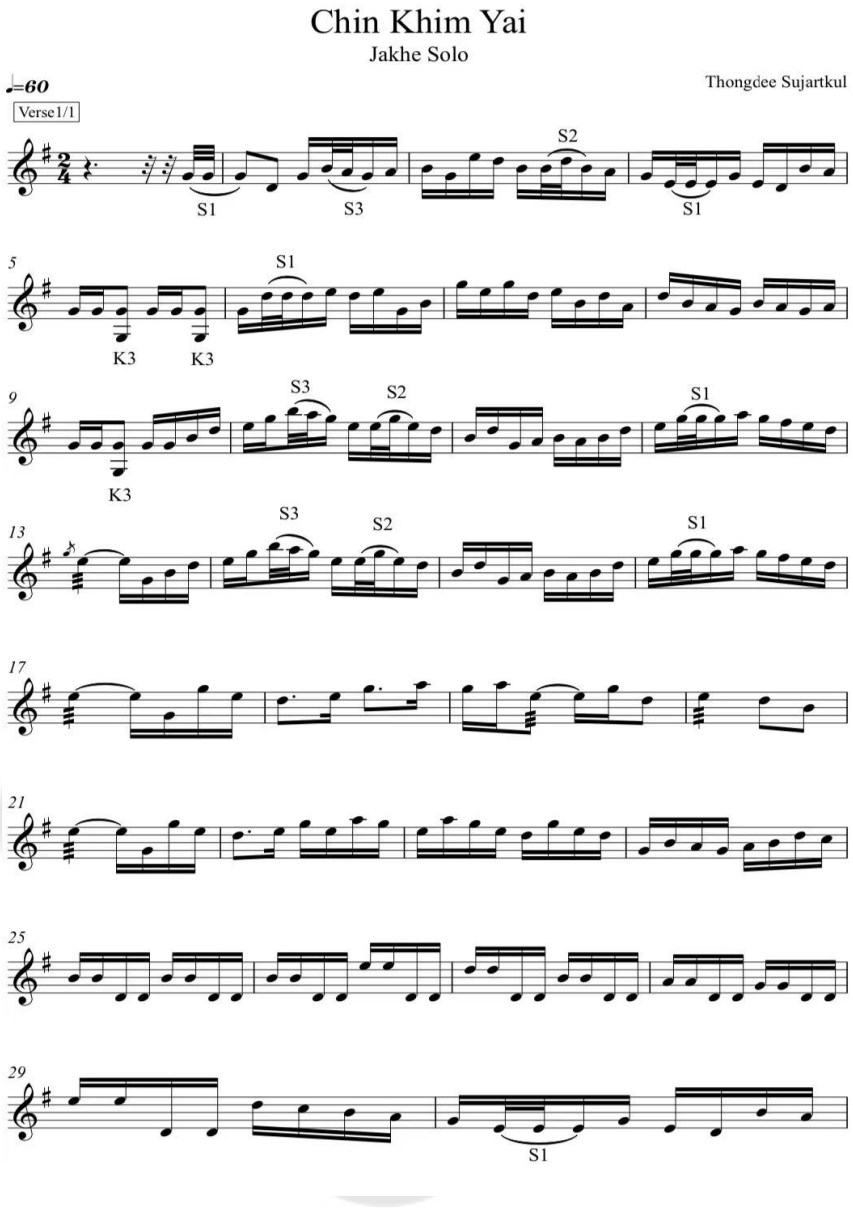
In Jakhey performance, technical proficiency is undoubtedly important, but the expression of musical emotion is even more essential. Through the flexible movements of the fingers and mastery of rhythm, the Jakhey not only conveys the grandeur and elegance of traditional Thai music but also reveals its intricate and touching emotions. The instrument's rich playing techniques and expressive potential make it an indispensable part of Thai traditional music, offering boundless possibilities in the art of instrumental performance.

4. 1. 2. 1 Jakhey's fingering and string stringing skills in this music composition.

In the previous subheading, the researchers summarised the relevant skills of Jakhey and the playing style of the skills. In order to facilitate the analysis, the researchers will analyse it in five sections. However, before analysing this song, it should be pointed out that because the inheritance of traditional Thai instrumental music Jakhey mainly relies on oral transmission, different genres or performers may have personalised processing in technical details. Researchers chose to watch Parinya Tassanamas and core of Thongdee Sujarkul foe analysis.

The First Phrase, The First Part

1.Music Score



2.Mode

Consists of 1, 2, 3, 4, 5 and 6, 7 seven notes.

3. Analysis of Jakhey Techniques

In the First section of the First movement of the Thai traditional piece Chin Khim Yai, a wide range of ornamental techniques is employed to support both the structural and emotional framework of the music. The performer makes frequent use of 12 instances of Sabat techniques—five marked as Sabat1, three as Sabat2, and three as Sabat3 (notated in the score as S1, S2, and S3)—as well as three uses of Krathob

Sam Sai (marked as K3). These techniques not only contribute to the surface-level figuration of each phrase, but also play a vital role in the emotional expression, structural contour, and stylistic continuity of the work.

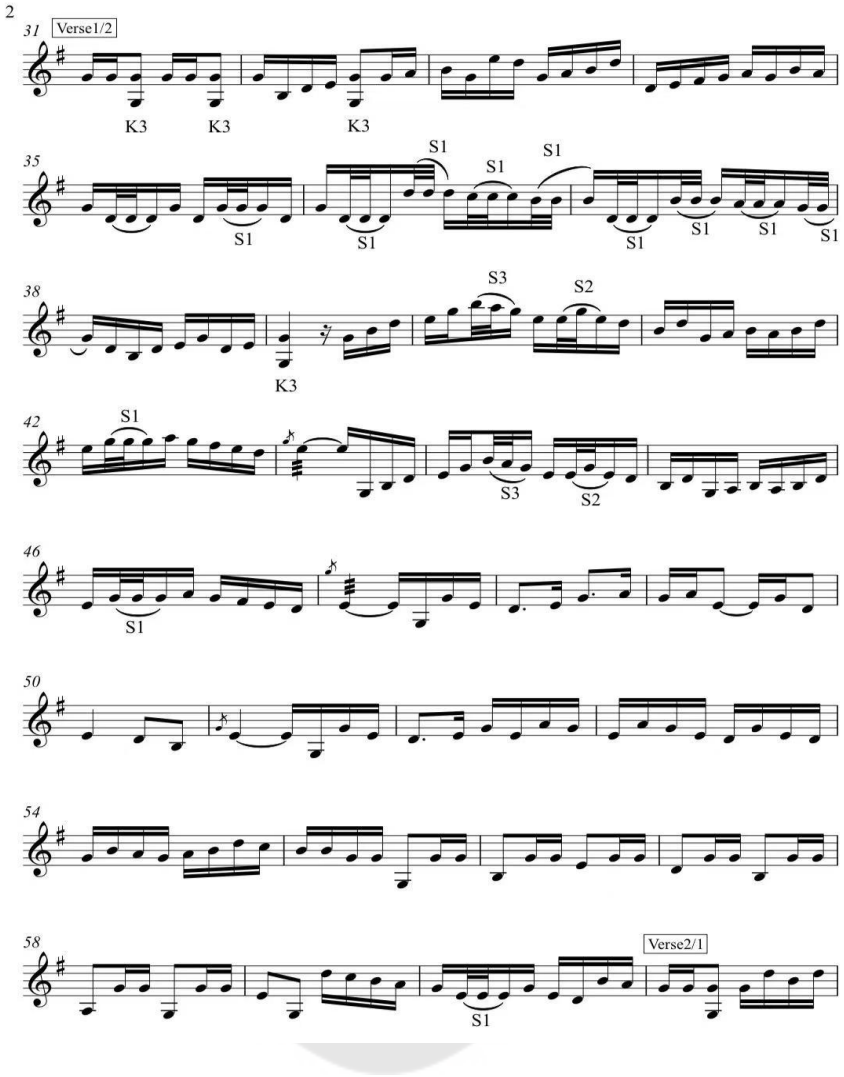
To begin with, Sabat1 involves the rapid repetition of a single pitch to create a sustained tremolo-like effect, enhancing both the tension and fluidity of the melodic line. Sabat2 is executed by rapidly alternating between two pitches, enriching the phrase with added dynamism and a more intricate melodic texture. Extending this logic, Sabat3 consists of rapid movement across three different pitches, showcasing virtuosic skill and increasing the ornamental brilliance of the music. The frequent deployment of these Sabat patterns creates a sustained sense of inner momentum and sonic flow. The high density of twelve Sabat instances effectively fills rhythmic gaps within the phrases and imparts a distinctive wave-like motion to the melodic contour. This repetition of ornamentation strengthens the " breath" and vitality of the melodic line, serving as a key mechanism for drawing the listener emotionally into the sound world of the piece. It also sets a vivid and expressive tonal palette from the outset, laying a strong foundation for the musical and emotional development in subsequent sections.

Furthermore, the strategic application of Krathob Sam Sai three times (notated as K3 in the score) provides both harmonic reinforcement and accentuation of melodic downbeats. By introducing resonance from other strings at key structural tones, this technique not only enriches the sonority but also emphasizes pivotal pitch points within the phrase. As a result, the melodic rise and fall gain increased dimensionality and resonance.

Taken together, the use of these techniques in the first section reflects the " aesthetic of technique" central to Jakhey performance, while also embodying the Thai musical philosophy of " emotional expression through detail." These ornamentations are not merely displays of virtuosity; rather, they are deliberately and precisely applied in service of phrase structure, emotional logic, and stylistic integrity. In doing so, they establish a tension-rich and colorfully varied opening that paves the way for the unfolding of the entire work.

The First Phrase, The Second Part

1.Music Score



2.Mode

Consists of 1, 2, 3, 4, 5 and 6, 7 seven notes.

3. Analysis of Jakhey Techniques

In the Second section of the First movement of Chin Khim Yai, the dense and refined deployment of performance techniques both extends and deepens the expressive logic established in the first section. According to statistical analysis, this section features a total of 16 instances of Sabat, including 12 uses of Sabat1 (with 9 occurring consecutively within the first phrase), 2 of Sabat2, 2 of Sabat3, and 4

instances of Krathob Sam Sai (notated as K3). The organization and layering of these techniques serve not only the melodic development and phrase breathing, but also play a central role in constructing the section's sonic focal points and stylistic identity.

Firstly, the high frequency of Sabat applications significantly enhances the continuity of the sonic texture and the emotional momentum of the section. Compared to the previous section, this portion features a denser distribution of Sabat, particularly marked by the uninterrupted sequence of 9 Sabat1 instances in the opening phrase. The rapid repetition of a single pitch generates a tremolo-like rolling effect, establishing a sense of ongoing tension and directional energy. This produces a sustained auditory flow that propels the musical emotion from exposition toward cohesion. The extensive use of Sabat also intensifies the drive and urgency of the passage, highlighting a kind of " linear tension" that accumulates over time. Meanwhile, Sabat2 and Sabat3, interspersed between the dense occurrences of Sabat1, introduce rapid alternations across two or three pitches, breaking the rhythmic uniformity and offering subtle contrasts and melodic inflections, thereby avoiding monotony.

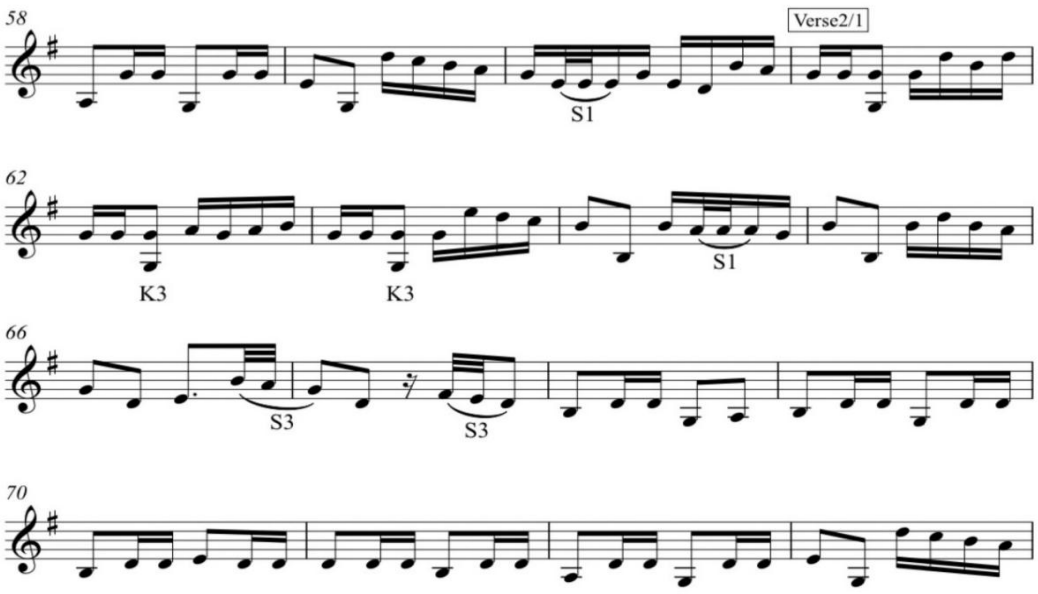
Secondly, the four applications of Krathob Sam Sai (K3) in this section serve a more structural function. Unlike in the first section—where K3 was employed primarily to emphasize melodic tones—here, the double-stroke passages appear closer to phrase openings or internal junctions. This creates a formal layering that reflects a " beginning–continuation–transition" structure. The added harmonic weight from K3 moments helps guide the listener's perception of internal segmentation and directional flow within the section, effectively organizing the pacing and logic of melodic motion.

Overall, the combination of a ninefold consecutive use of Sabat1 and four instances of K3 renders this section a technical and expressive climax. The performer must exhibit precise control over rhythm and tone color to realize the full expressive potential of the Jakhey. Although the technical framework continues the material from the previous section, this portion differentiates itself through a lowered register, denser technique deployment, and additional ornamentation, thus creating a

refreshed sonic image. This manipulation of contrast within repetition exemplifies the Thai traditional aesthetic of " structure as variation. " Moreover, it highlights the performer's capacity for strategic technique deployment: with a limited set of tools, the section achieves layered clarity and gradual emotional progression—an essential characteristic of its design. Positioned at the conclusion of the first movement, this portion also functions as a preparatory bridge, layering intensity and releasing tension in order to set up the musical pivot or climax in the forthcoming sections.

The Second Phrase, The First Part

1.Music Score



2.Mode

Consists of 1, 2, 3, 4, 5 and 6, 7 seven notes.

3. Analysis of Jakhey Techniques

In the structural progression of Chin Khim Yai, the first subsection of the second movement presents a markedly different technical density and emotional trajectory compared to the previous sections. Statistically, this section contains only four instances of Sabat—including two uses of Sabat1 and two of Sabat3—along with three occurrences of Krathob Sam Sai (K3), representing a significant reduction in frequency from the preceding segments. This intentional " technical contraction" not only

establishes a formal contrast between sections but also signals a recalibration of rhythmic pacing and emotional tone.

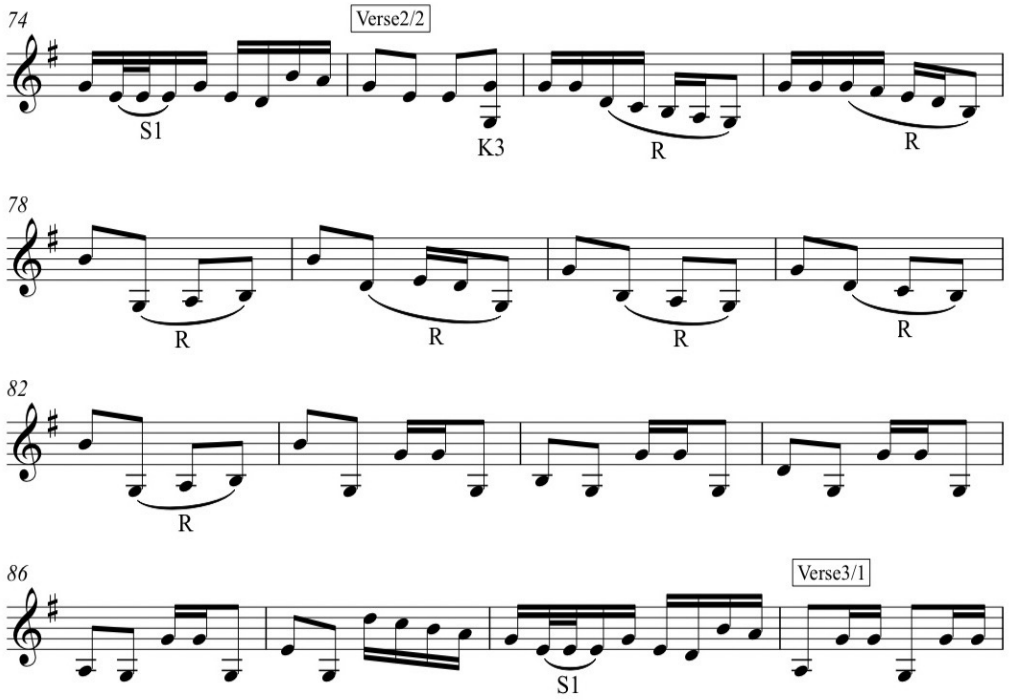
Firstly, the reduced use of Sabat reflects a deliberate tempering of emotional intensity. In the previous section, Sabat functioned as a primary driver of momentum and expressive expansion, with its density imparting heightened tension and fluidity to the melodic line. In contrast, the sharp decrease in Sabat usage here causes the melodic contour to flatten, guiding the emotional character toward a more restrained and tranquil expression.

The retention of three instances of K3 continues to provide harmonic depth and melodic grounding within the section, though its role shifts toward marking structural points rather than driving emotional climaxes. Each application of K3 is precisely aligned with critical moments in the melodic progression—particularly at the beginning of phrases or at points of transition—where the dual-string resonance serves to emphasize structural downbeats and anchor the formal coherence of the music.

From a broader perspective, this segment offers a space of " auditory breathing" following the densely textured passages that preceded it. By lowering the overall technical complexity, the music affords the listener a moment of repose while simultaneously creating room for a potential resurgence of techniques in the following sections. This type of " tension–release–tension" design reflects a common dynamic strategy in traditional Thai instrumental music, aiming to shape an aesthetic experience characterized by rhythmic undulation and clearly articulated formal divisions.

The Second Phrase, The Second Part

1.Music Score



2.Mode

Consists of 1, 2, 3, 4, 5 and 6, 7 seven notes.

3. Analysis of Jakhey Techniques

In the Second subsection of the Second movement of Chin Khim Yai, the use of performance techniques is notably economical yet highly expressive. Statistical analysis indicates the presence of only one instance of Krathob Sam Sai (K3), one instance of Sabat1, and seven instances of Deed Rood. This specific distribution of techniques not only reflects the sectional design's cyclical structural intent but also brings about a qualitative shift in melodic expression through the extensive application of Deed Rood.

The singular use of Sabat1 serves a structural and thematic function, operating as a" motivic recall" and" formal closure." The melodic material carried by this Sabat1 is, in fact, a repetition of the closing phrase from the earlier sections. This type of " referential quotation" is characteristic of Thai traditional musical structures, reinforcing the organic continuity between sections. Simultaneously, the reappearance of this

material within a contrasting technical context enhances the listener’ s sense of familiarity and stabilizes the rhythmic and structural center of the section.

Of particular significance is the concentrated use of seven Deed Rood techniques. Deed Rood, commonly used in the Jakhey repertoire, refers to the technique of sliding a finger or plectrum along the string to produce continuous pitch modulation. In this section, its clustered deployment creates a sonic texture that is flowing, pliant, and melodically expansive. In contrast to the pointillistic plucking patterns that dominate the first subsection, the linearity and expressive nuance of the Deed Rood passages suggest a melodic " turning" or" unfolding" function. Notably, all instances of Deed Rood occur at the beginnings of phrases. When employed at phrase openings, Deed Rood effectively enhances the rhetorical launch of the melody, creating a seamless upward or downward transition that imbues the music with fluidity and expressive tension. This phrase-initial sliding not only directs auditory focus but also imparts a " lifting" or" extending" artistic quality to the melodic gesture.

Sonically, the " continuous pitch glide" of Deed Rood contrasts with the discrete articulation of traditional plucked techniques, creating a sense of suspended tension and anticipation prior to the arrival on principal tones. This design enriches the timbral diversity of the section and aligns with the aesthetic logic of " weak onset—strong resolution" commonly found in Thai melodic phrasing.

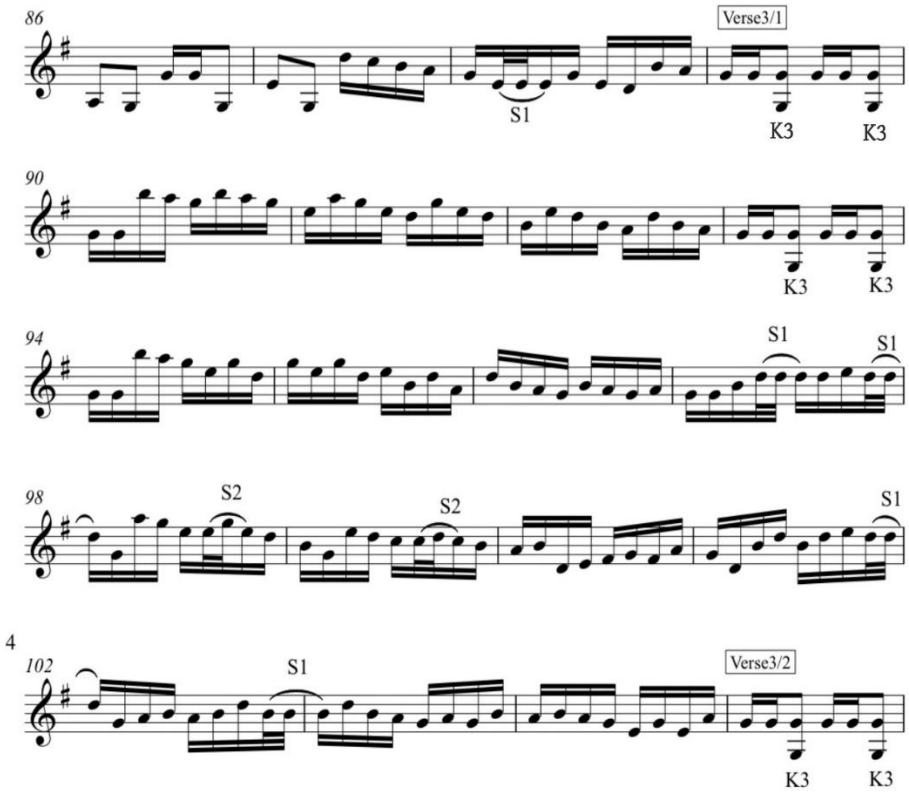
Structurally, this subsection establishes a pronounced contrast with the preceding subsection of the second movement: a shift from dense rapid-plucking textures to Deed Rood-dominated linear gestures. The overall rhythmic profile softens, and the emotional contour gradually unfolds, signaling a transitional or expository phase within the movement. This " technical decompression" facilitates a natural release from the tension accumulated in prior sections, effectively preparing the expressive groundwork for climactic development or thematic transformation in the upcoming passages.

In conclusion, the second subsection of the second movement in Chin Khim Yai employs a sparse but strategically significant combination of Sabat1,

Krathob Sam Sai, and extensively used Deed Rood to achieve a synthesis of motion and restraint. The interplay between the linear propulsion of Deed Rood and the referential compactness of the plucked material forms the internal source of tension in the section. More broadly, this reflects the deep-seated logic and aesthetic tradition in Thai classical music wherein technical variation is employed as a principal vehicle for structural evolution and expressive contrast.

The Third Phrase, The First Part

1.Music Score



2.Mode

Consists of 1, 2, 3, 4, 5 and 6, 7 seven notes.

3. Analysis of Jakhey Techniques

Within the overall structural arc of Chin Khim Yai, the third movement marks a transitional moment wherein the music shifts from the emotionally charged release and structural exposition of the first two movements toward a more introspective yet highly organized expressive state. In the first subsection of this movement, the

distribution of techniques reveals a balanced and deliberate design: a total of six Sabat are used—four instances of Sabat1 and two of Sabat2—alongside four applications of Krathob Sam Sai (K3). Notably, the Sabat are concentrated within the latter phrase of the section, a positional decision that implies their significant role in shaping both the emotional trajectory and the structural weight of the passage.

The concentrated use of Sabat in the final phrase is not a matter of coincidence but rather a manifestation of the " phrase-final intensification" principle, a hallmark of the " back-loaded" segmental architecture in Thai traditional music. The sonic density and rapid oscillation produced by the Sabat technique serve to forge an emotionally weighted auditory impact at the phrase's conclusion. This functions not only as an emphatic closure to the section but also introduces an internal contrast between antecedent and consequent phrases, enhancing the breath-like pacing and propulsive rhythm within the phrase. Such technique-driven structural logic is closely aligned with the Thai instrumental tradition's emphasis on " phrase-final ornamental tension."

Meanwhile, the four instances of Krathob Sam Sai (K3) are primarily situated at phrase openings or transitional junctures. In this context, K3 no longer serves merely as a thickening device for sonic resonance but emerges as a structural stabilizer and a marker of motivic identity. With the aid of K3, the melodic material gains clearer formal definition at phrase onsets, reinforcing the sense of contour and rhythmic articulation throughout the section.

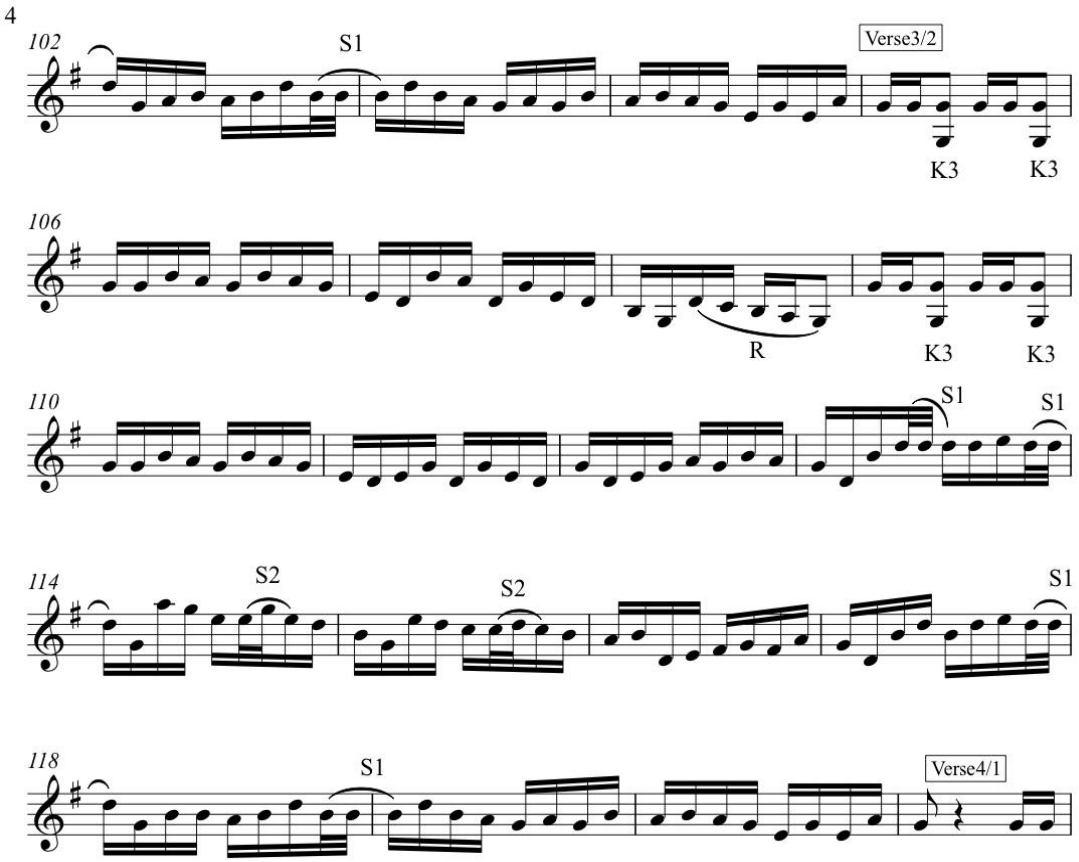
From a structural-aesthetic perspective, the use of techniques in this subsection demonstrates a " tight-to-strong" developmental arc: K3 provides foundational harmonic grounding and structural clarity at the outset, while the subsequent intensification through Sabat in the latter phrase completes the phrase's emotional and rhythmic release. This results in a coherent " initiation–continuation–development–closure" phrase structure, imbuing the subsection with both a natural sense of phrasing and forward motion. This balance ensures that the section remains expressively engaging without excessive tension, aligning with the piece's broader shift in the third movement toward more introspective melodic thinking.

From the performer’ s standpoint, this technique distribution facilitates a buildup of expressive intensity toward the end of the section, allowing for breath and dynamic control in the earlier phrase and reserving physical and emotional energy for the explosive deployment of Sabat at the conclusion. This approach reflects a core aesthetic tradition in Jakhey performance practice: " gradual emotional escalation followed by technical culmination."

In sum, the first subsection of the third movement reveals a sophisticated coordination between form and expression through its concentrated use of Sabat in the latter phrase and strategically placed K3 at structural junctures. This not only demonstrates the piece’ s layered architectural planning but also exemplifies the nuanced strategies by which Thai traditional instrumental works deploy technique to shape and control structural tension.

The Third Phrase, The Second Part

1.Music Score



2.Mode

Consists of 1, 2, 3, 4, 5 and 6, 7 seven notes.

3. Analysis of Jakhey Techniques

Within the five-part structure of Chin Khim Yai, the second subsection of the third movement functions as both a continuation of internal coherence and a site of melodic development. According to statistical observation, this subsection maintains rhythmic construction identical to the previous subsection but introduces significant changes in pitch content, while continuing the use of six Sabat—four instances of Sabat1 and two of Sabat2—as well as four uses of Krathob Sam Sai (K3) . This compositional strategy of " technical consistency with melodic variation" not only demonstrates a high degree of structural control within the section but also reflects the

aesthetic principle in Thai traditional music that emphasizes rhythmic stability alongside melodic diversity.

Firstly, the usage of Sabat mirrors that of the preceding subsection, indicating a sustained rhythmic dynamism. The continuous deployment of Sabat sustains the vibrational intensity and emotional momentum of the melodic line, ensuring that the phrase maintains fluidity and expressive tension. Especially under the condition of changed pitch content, the recurrence of Sabat reinforces auditory familiarity and extends emotional continuity, thereby preserving the directional flow within the musical narrative. The " de-ornamented" directness of these Sabat gestures further consolidates a sense of unity amid melodic variation.

Simultaneously, the continued presence of K3 serves dual roles of structural anchoring and harmonic enrichment. The paired-note plucking enhances pitch texture and supplies vertical support for the newly introduced melodic content. Rather than being reduced in frequency, K3 remains stable in usage, thereby underlining its " skeletal" function within the rhythmic and harmonic architecture. When placed at the beginning or within the interior of phrases, K3 functions as an internal accent that cues listeners toward new organizational structures in pitch, without disrupting the underlying rhythmic framework.

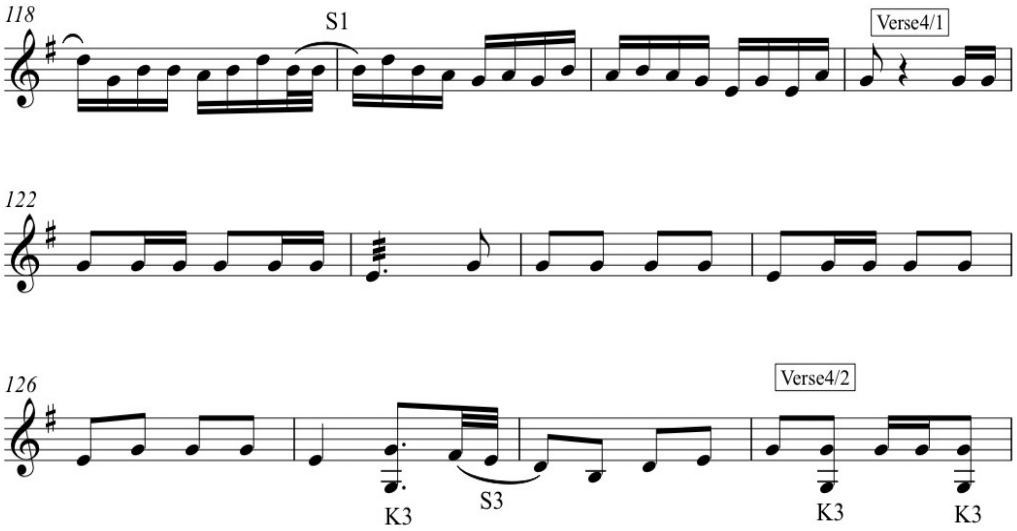
Of particular note is the aesthetic contrast that arises from the pairing of unchanged rhythmic structure with modified pitch content. This strategy, which builds upon a repeated rhythmic framework to support melodic variation, cultivates a listening experience rooted in familiarity while inviting novelty—a hallmark of the " variation within repetition" stylistic feature characteristic of Thai instrumental music. This not only heightens the music’ s expressivity and listenability but also reflects a deeper compositional logic of " revealing unity through change."

From a structural perspective, the second subsection of the third movement achieves formal coherence by retaining the rhythmic and technical framework of the preceding phrase while introducing melodic development. This compositional approach constructs a section characterized by " external stability amid

internal variation," reinforcing continuity within the movement while offering listeners a sense of renewal. It fully embodies the multi-layered aesthetic of Jakhey performance, where technical articulation and structural planning are intricately coordinated.

The Forth Phrase, The First Part

1.Music Score



2.Mode

Consists of 2, 3, 4, 5 and 7 five notes.

3. Analysis of Jakhey Techniques

Within the overall performance structure of Chin Khim Yai, the fourth movement serves as a crucial transitional passage following the emotional and rhythmic momentum of the previous three sections. Its first subsection, in particular, exhibits a structural inclination toward decreasing density and a shift from motion to stillness. Statistically, this section employs only one Sabat3 and one Krathob Sam Sai (K3), both situated at the end of the phrase.

To begin, the use of Shake at the phrase' s onset fulfills a clear initiatory and directive function. As a short, densely articulated figure composed of rapid repetitions, Shake is typically employed at the beginning of phrases to immediately capture the listener's attention and establish rhythmic grounding. In this context, Shake

not only breaks the initial stasis and injects kinetic momentum into the phrase, but also builds a sense of propulsion for the unfolding melodic material. Functionally, its presence lends the opening a ceremonial and anticipatory character, assuming a formal role akin to a musical introduction.

Subsequently, the Sabat and K3 techniques appear integrated within the same rhythmic figure at the phrase's end—a design choice that reflects both technical economy and internal cohesion. The vibratory intensity produced by Sabat at the phrase's conclusion increases rhythmic density, while the polyphonic thickness of K3 enhances the figure's sonic stability and depth. This convergence of techniques at the phrase's closure exemplifies the common Thai instrumental strategy of " end-focused phrasing," whereby formal and emotional resolution is achieved through layered technical articulation.

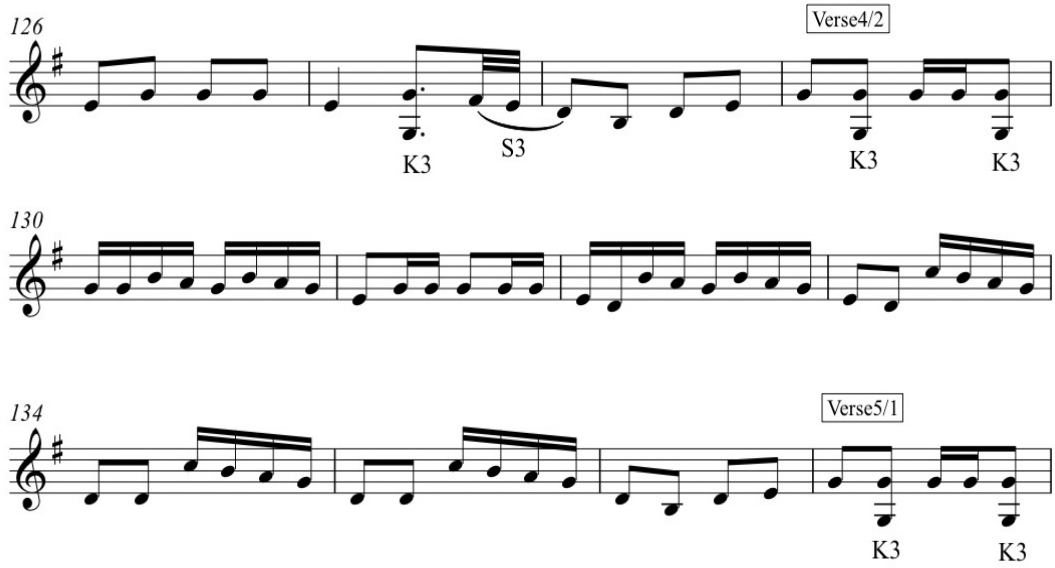
From the perspective of technique combination, the juxtaposition of Sabat (horizontal density) and K3 (vertical fullness) within a unified rhythmic gesture yields heightened performative tension and marks a structurally accented moment. Notably, whereas Sabat and K3 appear separately in other sections, their fusion here represents a " rhythmic highlight," forming the sole peak of sonic density within the subsection.

Structurally, this subsection adopts a tripartite form—Shake at the beginning, melodic expansion in the middle, and Sabat + K3 at the end—establishing a clear technical symmetry. This arrangement reflects a hallmark of Thai instrumental aesthetics: " midsection simplification with emphasized openings and closings," in which control over phrasing and emotional direction is paramount.

Moreover, from a psychoacoustic standpoint, the strategic placement of techniques enhances the recognizability and memorability of the section. The combination of marked technical gestures at both the beginning and end with a more restrained melodic core establishes the subsection as a " low-profile intensification phase," functioning as a closure to prior momentum and a preparatory platform for subsequent development.

The Forth Phrase, The Second Part

1.Music Score



2.Mode

Consists of 1, 2, 3, 5, 6 and 7 six notes.

3. Analysis of Jakhey Techniques

In the structural progression of Chin Khim Yai, the second subsection of the fourth movement exhibits a clear tendency toward technical reduction. Statistically, it employs only two instances of Krathob Sam Sai (K3), both located within the initial melodic segment. Despite the significantly reduced number of techniques compared to earlier sections, the structural and expressive functions of these K3s are notably prominent—especially in relation to the contrapuntal relationship of "identical pitch content with altered rhythmic configuration" when compared to the preceding subsection.

To begin with, the use of K3 at the opening introduces a sonically enriched multi-note texture that immediately disrupts the linear purity of single-note melodic lines. This implementation establishes a strong sense of pitch stratification and auditory focus from the outset, grounding the entire subsection with a pronounced tonal center. In traditional Thai instrumental idioms, the deployment of K3 at the beginning of a

phrase often carries the symbolic function of " pitch center indication" and " phrasing mode establishment." As such, the presence of K3 here is not merely ornamental, but serves a crucial role in structural orientation.

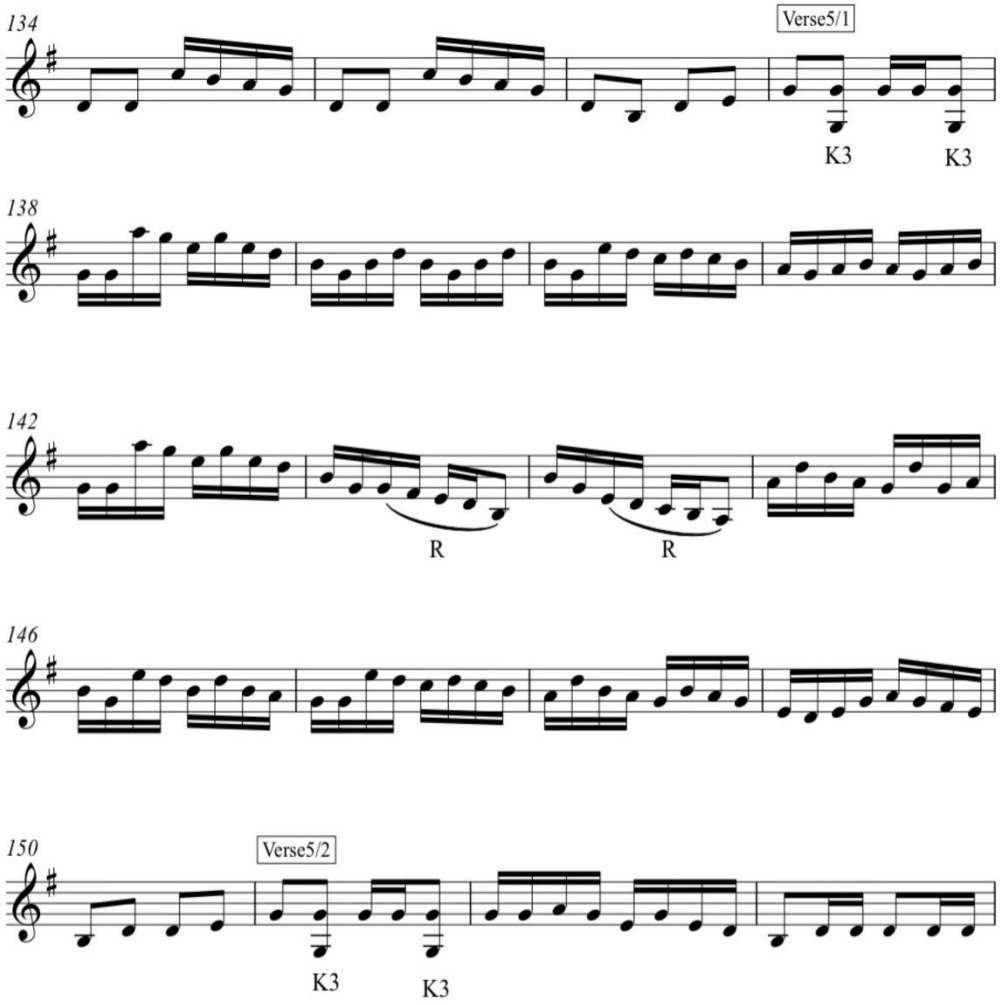
Secondly, it is significant that this section's K3 employs the " same pitch material" as previous subsections, yet within a different rhythmic framework. This compositional approach—" melodic invariance with rhythmic variation" —demonstrates the archetypal technique of variation-based recurrence commonly found in traditional music. The aim is to inject rhythmic vitality into the phrase while retaining melodic recognizability, thus allowing the listener to experience fresh expression within a familiar tonal environment. Within this context, K3 fulfills the role of maintaining pitch stability and is a key factor in reinforcing melodic memory.

Structurally, a comparison between this subsection and the first part of the fourth movement reveals a clear transition marked by a reduction in technical density. While the previous part still featured Shake and rapid plucking techniques, this subsection gradually withdraws from such complexity, retaining only the foundational support of double stops. This shift constructs a transition logic characterized by" technical dissolution–rhythmic simplification–melodic return. " The result is a reinforcement of this subsection' s function as a transitional passage, while simultaneously leaving emotional and technical space for the subsequent expansion in the fifth movement.

Finally, from a psychoacoustic perspective, this technical simplification does not diminish expressive capacity. On the contrary, through strategic sparseness and rhythmic transformation, the subsection acquires a more introspective quality and a sense of structural resolution. Here, K3 functions not as an ornamental flourish but as an essential sonic symbol within the phrase's structural grammar. Its precise placement ensures that the melodic texture, though simplified, remains coherent and impactful.

The Fifth Phrase, The First Part

1.Music Score



2.Mode

Consists of 1, 2, 3, 4, 5, 6 and 7 seven notes.

3. Analysis of Jakhey Techniques

Within the five-part structure of Chin Khim Yai, the fifth movement serves as the concluding section of the composition. Its first subsection not only extends the melodic motives of the previous movement but also presents a close technical and rhythmic correspondence with the fourth movement. Statistically, this section opens with two instances of Krathob Sam Sai (K3), whose rhythmic configuration mirrors that of the fourth movement. Additionally, it incorporates two mid-phrase instances of Slide (Deed

Rood) . The combination of these two techniques constructs a unified aesthetic of structural stability and melodic softening, appropriate for the final phase of the piece.

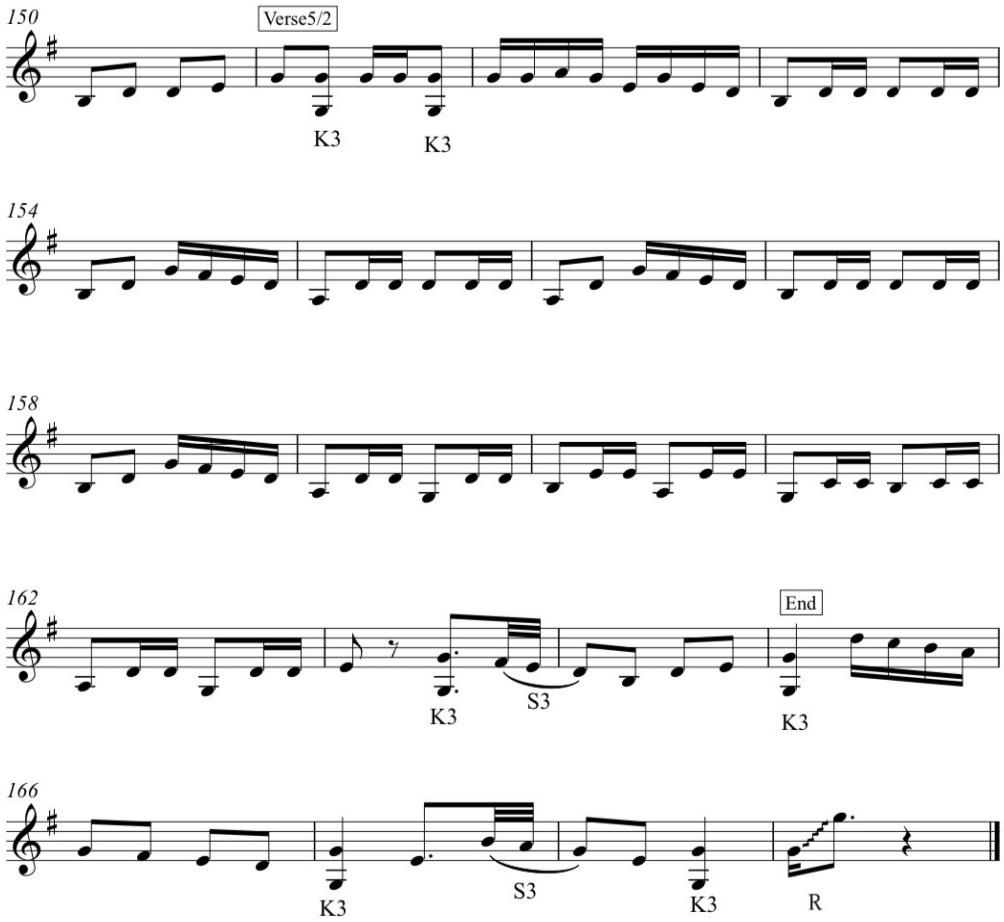
Firstly, the appearance of K3 at the beginning of the section continues the rhythmic design introduced in the fourth movement, exemplifying a parallel and cyclical structural approach. While the melodic material remains consistent with earlier sections, the rhythm in the fourth and fifth movements tends toward uniformity, creating a sense of terminal rhythmic stability. This stability sonically suggests the approaching conclusion of the piece. The harmonic density provided by K3 accentuates the downbeats and enriches the melodic line with gravitas, granting the opening of the final section a dignified and conclusive character. It functions as a pivotal sonic anchor in the closing movement.

Secondly, the two occurrences of Deed Rood within the phrase introduce a lyrical flexibility and a sense of motion within an otherwise rhythmically stable framework. By nature, Deed Rood offers fluidity and expressiveness, serving to counterbalance the potential rigidity of a fixed rhythmic structure. In this context, the embedded Deed Rood passages enhance the continuity of the melodic line while simultaneously contributing a brighter and more resonant timbral quality. As a result, the fifth movement retains a degree of dynamic tension even as it moves toward closure.

From both an aural and structural perspective, the technical layout of the first subsection of the fifth movement demonstrates clear summarizing and retrospective characteristics. The double-stop K3 technique, repeating the rhythmic design of the fourth movement, signals a " closing echo," while the continued use of Deed Rood maintains melodic fluidity within the phrase. This structural " symmetrical extension" and technical continuity not only allow the fifth movement to seamlessly inherit the developmental logic of the previous material, but also ensure that the piece concludes with a cohesive interplay of techniques. The result is a structurally unified, rhythmically resolved, and emotionally conclusive finale.

The Fifth Phrase, The Second Part

1.Music Score



2.Mode

Consists of 1, 2, 3, 4, 5, 6 and 7 seven notes.

3. Analysis of Jakhey Techniques

As the final subsection of Chin Khim Yai, the second part of the fifth movement reaches the structural and technical climax of the entire piece. According to statistical analysis, this section employs six instances of Krathob Sam Sai (K3), two of Sabat3, and one of Slide (Deed Rood). The spatial arrangement, interplay of techniques, and syntactic structure demonstrate a strong sense of compositional design and internal logic.

The section begins with two consecutive applications of K3, whose rhythm mirrors that of the fourth movement, while the melodic pitches draw from the opening phrases of the entire composition. This setting completes a rhythmic unification of the piece's core motives and establishes a terminal form of " melodic recurrence and rhythmic return," allowing the listener to perceive a sense of closure through familiar sonic material.

At the conclusion of the section, the reappearance of the K3 and Sabat pairing reinforces the structural dialogue with the earlier part of the fourth movement, forming a clear structural loop. This intertextual relationship—between the opening and closing sections, and between previous and current segments—exemplifies the typical Thai traditional musical features of "cyclical sectional construction" and "main theme reappearance."

Of particular note is the composer' s deliberate substitution of a single note in place of the expected K3 within the final K3–Sabat rhythmic cell. This decision reflects not a simplification of technique but a calculated reduction of sonic density while retaining rhythmic clarity. This strategy allows the texture to gradually shift from fullness to translucency, producing a psychological sense of dynamic contraction and signaling a transition from "dense ensemble texture" to a more "soloistic resolution."

Simultaneously, a previously single-note melody is in another location expanded with K3, demonstrating a reverse technique of intensification. This localized amplification of sonic density introduces greater internal contrast and showcases the composer's nuanced control over both sonic balance and rhythmic dynamics.

The final closing gesture of the piece employs a combination of one K3 and one Deed Rood, reflecting the classic duality of pitch stability and timbral fluidity. This setting provides not only aural symmetry but also symbolizes the natural emotional release and formal conclusion of the composition—achieving a synthesis between technical precision and expressive depth.

The final Slide (Deed Rood) , used at the very end, softens the closing sonority and facilitates the emotional decrescendo, transforming the earlier momentum into a state of lyrical repose. This transition from tension to relaxation enables a gentle emotional resolution.

In sum, the second subsection of the fifth movement serves as a condensed culmination of Chin Khim Yai's technical and structural logic. Through the dense application of K3 and rhythmic symmetry, it reinforces cyclical closure; through the strategic use of technical "retention–substitution–amplification," it articulates emotional progression and release; and through the final Deed Rood, it achieves a sonic conclusion that is formally stable, structurally complete, emotionally nuanced, and aesthetically unified.

Summary Table

Table 2 Summary Table of fingering techniques used in each part of Jakhey solo score.

Verse	S1	S2	S3	K3	R
Verse1/1	5	3	3	3	0
Verse1/2	12	2	2	4	0
Verse2/1	2	0	2	3	0
Verse2/2	1	0	0	1	7
Verse3/1	4	2	0	4	0
Verse3/2	4	2	0	4	0
Verse4/1	0	0	1	1	0
Verse4/2	0	0	0	2	0
Verse5/1	0	0	0	2	2
Verse5/2	0	0	2	6	1
Total	28	9	10	30	10

In the Five-part structure of the traditional Thai instrumental piece Chin Khim Yai, the five performance techniques—Sabat1 (S1), Sabat2 (S2), Sabat3 (S3), Krathob Sam Sai (K3), and Deed Rood (R)—are distributed across different sections in a manner that not only enriches the sonic texture but also reveals their multifaceted roles in formal construction, emotional expression, and functional articulation of each segment.

The Sabat series techniques are predominantly employed at the ends of phrases or in cadential positions, especially concentrated in Verse3 and Verse4/1. Their rapid articulation and dense sound profiles contribute to a sense of "strong closure" or "emotional hammering," thereby reinforcing structural boundaries. Positioned at phrase endings, Sabat techniques form a dynamic contrast with the preceding melodic content, creating natural breathing points within the phrases and enabling performers to modulate emotional pacing. Notably, S3 is combined with K3 in Verse5/2 to create a "rhythmic climax," serving as a sonic marker of the peak and resolution of the musical narrative.

K3 appears frequently at the beginnings of phrases or sectional transitions, particularly in Verse3, Verse4, and Verse5, where it functions as a signifier of tonal centers and formal entry points. The technique's polyphonic texture reinforces the vertical structure of the melody, providing harmonic depth and a sense of grounded ness to otherwise linear melodic lines. K3 often anchors the opening of a phrase, serving as a rhythmic and tonal focal point. Its recurrence throughout the composition creates multiple instances of thematic return, facilitating formal cohesion and sectional intertextuality.

The sliding technique Deed Rood introduces fluidity and expressive nuance, disrupting rhythmic stasis and infusing melodic lines with dynamic continuity—particularly when the overall form tends toward rigidity. In Verse5/2, Deed Rood is employed to gently glide into the final notes, shifting the emotional trajectory from intensity to calm, completing the piece with a psychological sense of release. Beyond its

ornamental function, R plays a critical role in ensuring melodic coherence and seamless transitions between sections.

The interplay of these techniques not only enhances the expressive depth and structural clarity of the piece but also exemplifies the refined aesthetics of Thai traditional music, which emphasizes the triadic integration of rhythm, timbre, and form.

4.1.2.2 Jakhey's tone control in this Music composition

The Tone Control of Jakhey in " Chin Khim Yai"

Jakhey, with its warm, low-pitched, and slightly metallic tone, has become an indispensable instrument in Thai music. In the classic composition " Chin Khim Yai" , the tone of the Jakhey is delicately controlled and skillfully executed, not only showcasing the unique charm of Thai music but also profoundly conveying the emotional essence of the piece.

Firstly, the tonal qualities of the Jakhey make it particularly outstanding in " Chin Khim Yai" Its soft and delicate tone allows it to precisely express the gentle emotions of the lyrical passages. In more rhythmically active sections, the Jakhey' s Sabat and Deed Rood techniques inject vibrant energy into the piece, highlighting the lively and dynamic nature of Thai music. However, when playing these rapid rhythms, it is important to maintain a steady tempo and avoid inconsistencies. Additionally, the metallic quality of the Jakhey' s tone contrasts sharply with other instruments such as wind and percussion, adding a unique layer of harmony.

Secondly, performance techniques are key to the Jakhey' s tone control. When playing specific notes or performing cross-string melodies, the performer must ensure that their fingertips press accurately on the correct fret (nom) and that their hand movements adhere to proper plucking standards, producing clear and precise pitches. This accuracy ensures clean and polished tones. Moreover, in " Chin Khim Yai," rapid plucking techniques are frequently employed, where maintaining consistent volume is crucial. The sound should remain even regardless of the plucking direction (inward or outward) . By adjusting the plucking force, performers flexibly shape the

dynamic changes in the piece. Soft and delicate tones suit gentle passages, while crisp and bright tones bring liveliness to joyful melodies. Additionally, the use of Deed Rood and Sabat techniques enhances the fluidity and ornamentation of the melody, making the tone more expressive. The Jakhey not only plays clear main melodies but also provides rich harmonic support through chords, making it a versatile instrument in the composition.

Finally, the tone control of the Jakhey is not merely a technical skill but also a cultural expression. Through the Jakhey's performance in "Chin Khim Yai," the elegance and liveliness inherent in traditional Thai music are vividly presented. This tone control embodies profound cultural connotations, allowing listeners to appreciate the distinctive beauty of Thai music while making the piece more captivating to the ears.

In conclusion, the tone control of the Jakhey in " Chin Khim Yai" fully demonstrates the cultural depth and national characteristics of Thai music. With its rich tonal variations and unique performance style, the Jakhey breathes life into the composition and conveys the deep emotions embedded within the music. This not only tests the performer's artistic skill but also serves as a vivid representation of the cultural heritage of Thai music.

4.1.2.3 The rhythm, speed and melody of Jakhey in this music composition

Rhythm, Tempo, and Melody of Jakhey in Chin Khim Yai

1. Rhythm

In Chin Khim Yai, the rhythm of Jakhey is highly diverse, providing not only a stable rhythmic foundation for the composition but also enriching the overall musical expression through subtle rhythmic variations.

Basic Rhythm: Jakhey often plays the role of rhythmic accompaniment, performing simple and stable rhythmic patterns to support the development of the main melody. The rhythm is mainly composed of 36th notes, supplemented by 8th notes.

Rhythmic Ornamentation: During the gaps in the main melody, Jakhey frequently employs Sabat and subtle rhythmic embellishments to add dynamism and depth to the music.

Rhythmic Transitions: Jakhey uses techniques such as gradual acceleration or ritardando during transitions between sections, naturally guiding the flow of emotion and rhythm throughout the piece.

2. Tempo

The tempo in Chin Khim Yai is highly flexible, showcasing distinct styles in different sections, and Jakhey' s performance aligns seamlessly with these changes.

Slow Sections: In lyrical and expressive passages, Jakhey is played at a slow tempo to highlight the subtlety of the melody. The rhythm here is relatively free, allowing the performer to convey emotions through slight tempo variations.

Fast Sections: In lively and energetic parts, the tempo of the composition accelerates significantly. Jakhey uses Sabat techniques to create rhythmic vitality, enhancing the dynamic energy of the music. Performers need to maintain precise control to ensure consistent note clarity and uniform rhythm.

Tempo Contrast: The piece often alternates between slow and fast sections to create emotional contrasts, and Jakhey' s versatile playing further emphasizes these contrasts effectively.

3. Melody

In Chin Khim Yai, Jakhey serves as both a lead melodic instrument and a harmonic supporter, showcasing its versatile melodic capabilities.

Melodic Presentation: When Jakhey plays the main melody, its clear and warm tone conveys fluid and elegant melodic lines. Techniques such as Deed Rood enhance the melody with a distinctive Thai aesthetic, especially suited for expressing long, lyrical phrases.

Ornamentation and Improvisation: Jakhey performances often include a variety of embellishments, which enrich the melody's expressiveness and demonstrate the performer's improvisational skills.

In Chin Khim Yai, Jakhey's stable rhythmic foundation, varied tempo control, and refined melodic expression make it an indispensable core instrument in the composition. Its rhythmic and tempo variations shape the emotional depth of the piece, while its melodic versatility fully embodies the unique charm and cultural essence of traditional Thai music. These elements come together to form a vibrant and artistic musical masterpiece, establishing Chin Khim Yai as a classic work in Thai music.

4.2 To apply Jakhey playing techniques from Chin Khim Yai for a solo Pipa.

As a prominent representative of traditional Chinese plucked instruments, the Pipa has developed a rich and complex playing technique system over a long historical evolution, embodying both profound cultural heritage and multicultural integration.

The Pipa's techniques are not solely the result of internal development, but also deeply influenced by other instruments. Complex techniques such as rolls, SaoLun (sweeping tremolo), and vibrato likely drew inspiration from instruments like the Dizi (bamboo flute), Guqin (zither), and Huqin (bowed string instruments). Additionally, techniques like harmonics, glissandi, body tapping, and string slapping demonstrate the Pipa's capacity to imitate natural sounds and convey sonic imagery, commonly used for evoking moods or storytelling.

In the 20th century, exposure to Western music and global cultures led to further innovation and hybridization of Pipa techniques. This included the incorporation of elements from the guitar, shamisen, and even the Thai Jakhey.

Jakhey techniques often involve Deed Rood, Sabat, and Krathob Sam Sai, which can be interpreted on the Pipa through the use of tremolo (Lunzhi), (Shuang Tan), and other expressive methods.

4.2.1 Introduction to the fingering of Pipa

Tan-Tiao (Pluck-Upstroke and Downstroke) (as shown in Figure 7): The basic plucking technique where the thumb executes a downward stroke (tan) and the index finger performs an upward stroke (tiao). These are fundamental to producing clear, alternating sounds.

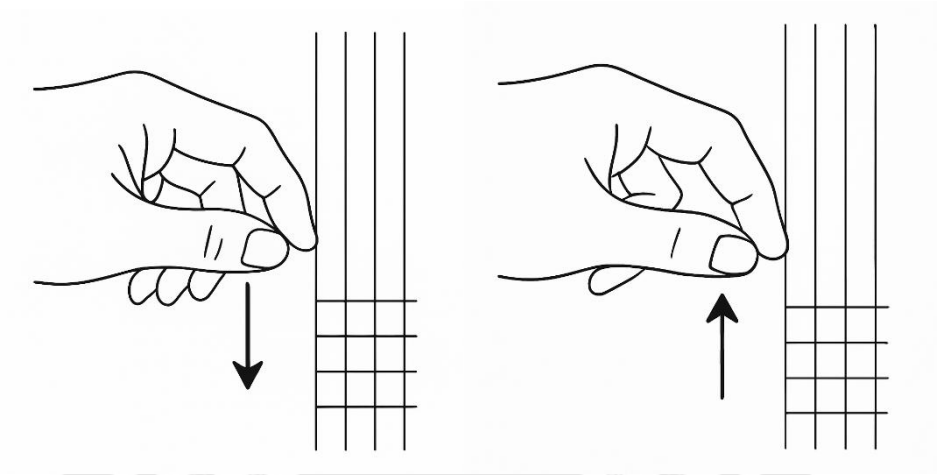


Figure 7 Tan-Tiao (Pluck-Upstroke and Downstroke)

Note. This fingering image of Tan-Tiao is original and does not contain any existing copyrighted visual material. This image was created by the author using DALL·E based on the text description. Own work.

- Shuang-Tan (Double plucking) (as shown in Figure 8): Two strings make sound at the same time. This is a frequently used fingering technique, which is often used to add sound effects at the end of sentences.

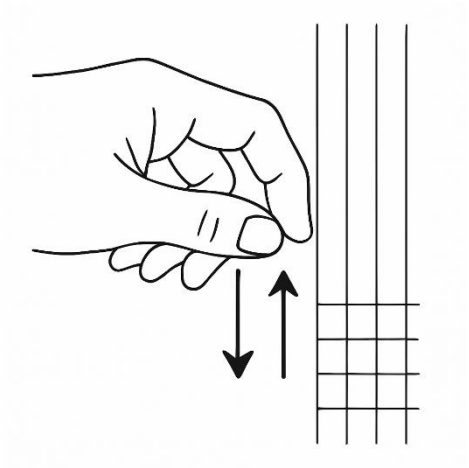


Figure 8 Shuang-Tan (Double plucking)

Note. This fingering image of Shuang-Tan is original and does not contain any existing copyrighted visual material. This image was created by the author using DALL·E based on the text description. Own work.

- Ban-Lun (Semi-tremoloing) (as shown in Figure 9): A technique where the fingers rapidly pluck the srine in aero, inius aquick, typically using feer fingers than the full " wheel-finger" roll, creating a quick rhythmic effect.

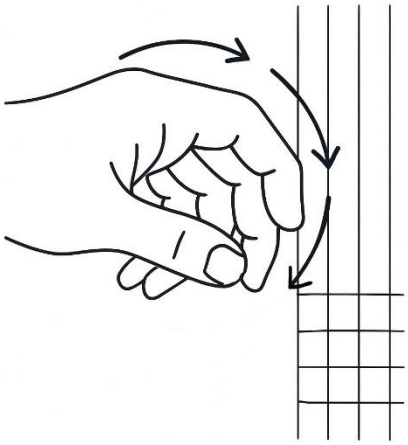


Figure 9 Ban-Lun (Semi-Tremolo)

Note. This fingering image of Ban-Lun is original and does not contain any existing copyrighted visual material. This image was created by the author using DALL • E based on the text description. Own work.

• Lun-Zhi (Tremolo) (as shown in Figure 10): The fingers of the right hand (thumb, index, middle, and ring fingers) pluck the strings in a continuous rolling motion, producing a fast, uninterrupted sound. This is one of the hallmark techniques of Pipa performance.

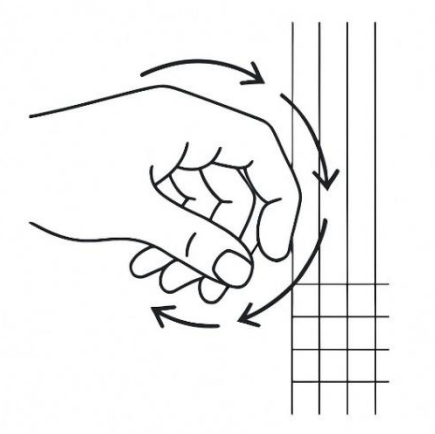


Figure 10 Lun-Zhi (Tremolo)

Note. This fingering image of Lun-Zhi is original and does not contain any existing copyrighted visual material. This image was created by the author using DALL·E based on the text description. Own work.

• Sao-Xian (Strumming) (as shown in Figure 11): A broad strumming technique, where the player sweeps across the strings in one fluid motion, producing a dramatic, resonant sound often used for powerful, accentuated moments.

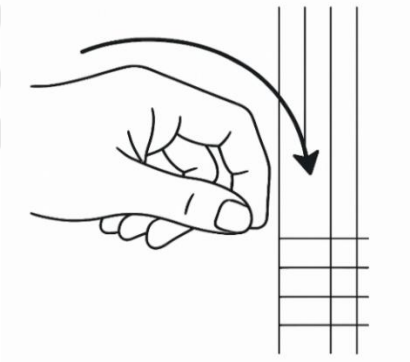


Figure 11 Sao-Xian (Strumming)

Note. This fingering image of Sao-Xian is original and does not contain any existing copyrighted visual material. This image was created by the author using DALL • E based on the text description. Own work.

Tui-La-Xian (Push-Pull Strings) (as shown in Figure 12): This involves pushing or pulling the string to bend the pitch either upwards or downwards, creating a distinctive vibrato or pitch-bending effect.

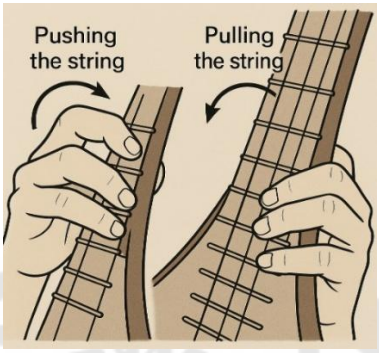


Figure 12 Tui-La-Xian (Push-Pull Strings)

Note. This fingering image of Tui-La-Xian is original and does not contain any existing copyrighted visual material. This image was created by the author using DALL • E based on the text description. Own work.

- Gun (Rolling) (as shown in Figure 13): A continuous rolling or tremolo effect produced by rapidly plucking the strings, often used in more complex, faster passages.

Figure 13 Gun (Rolling)

Note. This fingering image of Gun is original and does not contain any existing copyrighted visual material. This image was created by the author using DALL • E based on the text description. Own work.

• Tan-Mian-Ban (Plucking the Soundboard) (as shown in Figure 14): Striking or plucking the wooden soundboard of the Pipa with the fingers, producing a percussive sound.

Figure 14 Tan Mian-Ban (Plucking the Soundboard)

Note. This fingering image of Tan Mian-Ban is original and does not contain any existing copyrighted visual material. This image was created by the author using DALL • E based on the text description. Own work.

• Fu (Bowing) (as shown in Figure 15): Placing the right hand's fingers on the strings or using the palm to mute them, creating a dampened, soft effect, often used for contrast in dynamics.

Figure 15 Fu (Bowing)

Note. This fingering image of Fu is original and does not contain any existing copyrighted visual material. This image was created by the author using DALL • E based on the text description. Own work.

Summary table

Table 3 Summary table of Pipa skill

Technique Name	Hand Used	Description	Characteristics	Common Usage	Illustration
Tan (Pluck)	Right	Use the index fingernail to pluck the string to the left.	Bright tone; fundamental technique.	Often combined with "Tiao" to form "Tan-Tiao".	
Tiao (Pick)	Right	Use the thumbnail to pick the string to the right.	Clear tone; fundamental technique.	Often combined with "Tan" to form "Tan-Tiao".	
Banlun (Semi-Tremolo)	Right	Sequentially pluck with index, middle, ring, and little fingers.	Moderate speed; even tone.	Used for flowing melodic passages.	
Lun (Tremolo)	Right	Rapidly alternate plucking with all five fingers.	Continuous sound; rich texture.	Sustaining notes or creating dynamic tension.	
Sao (Strum)	Right	Rapidly sweep across multiple strings with the index or thumb.	Strong volume; rhythmic emphasis.	Accentuating climactic moments.	
Tui-La Xian (Push-Pull String)	Left	Press and slide the string upward or downward.	Pitch variation; expressive nuance.	Emulating vocal inflections or emotional expression.	
Gun Zou (Roll)	Right	Rapidly repeat a single note using alternating fingers.	Smooth, continuous sound.	Conveying urgency or rapid movement.	
Tan Mianban (Tap Soundboard)	Right	Tap the soundboard with fingernails.	Percussive effect; adds rhythmic texture.	Enhancing rhythm or special effects.	
Fu (Mute)	Left	Use the fingertip to mute the string after plucking.	Clean articulation; controls resonance.	Creating staccato effects or precise rhythms.	
Hua Xian (Slide)	Left	Slide the finger along the string to a new pitch.	Smooth transition; expressive glissando.	Connecting notes fluidly or adding expressiveness.	
Shuang-Tan(Double Plucking)	Right	Tow strings make sound at the same time	Clear tone	It is often used in the accent to increase the chord sound effect	

Note. This table is compiled and interpreted by the author based on the description of fingering in She 2023 and is for teaching and analysis purposes only. Own work.

4.2.2 Analyse the Pipa technique used in the song Chin Khim Yai

In the previous section, the researcher summarized relevant Pipa techniques and distinctive performance styles. For the purpose of analysis, the discussion will be divided into five parts. However, before analyzing the piece, it is important to note that due to the traditional nature of Chinese instrumental music, the Pipa has various regional styles, and different schools or performers may apply personalized approaches in terms of technique and detail. The researcher's study of Pipa performance is more closely aligned with the characteristics of the Southern school, which differs in certain aspects from the Northern school's approach.

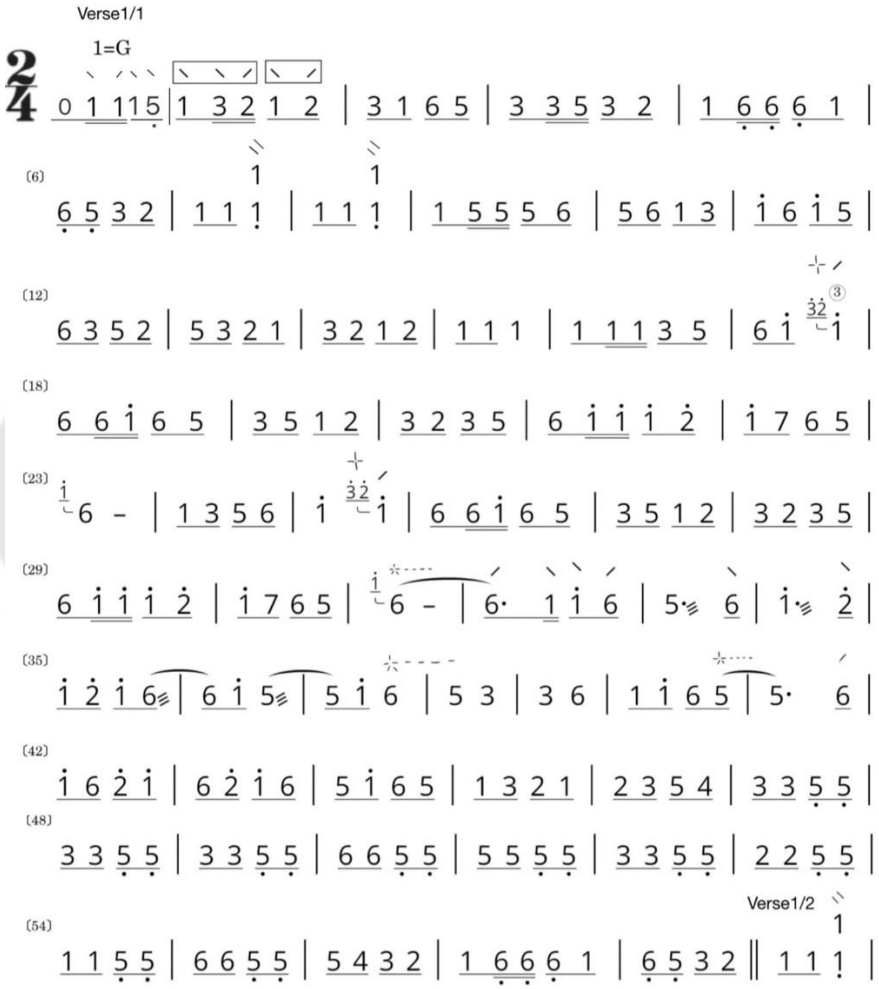
The First Phrase, The First Part

1.Music Score

Chin Khim Yai

Composer: Thongdee Sujarkul

Trans Criber: Zheng Qiwen



2. Mode

Consists of 1, 2, 3, 4, 5 and 6, 7 seven notes.

3. Analysis of Pipa Techniques

In the process of adapting Chin Khim Yai into a Pipa score, the selection of finger techniques reflects a fusion and re-creation between Chinese and Thai instrumental languages. Particularly in the first verse, the application of traditional

Pipa techniques—such as Banlun, Tantiao, Lunzhi, Gunzou, and Shuangtan—plays a critical role in structural articulation, rhythmic guidance, and emotional expression.

Banlun appears two times at the beginning of the verse, mostly serving as ornamental notes. Its swift and light quality parallels the Sabat technique found in the Thai Jakhey, imbuing the melody with fluidity and decorative nuance while enhancing phrase-leading functions. Tantiao, especially when used at the beginning of the section, reinforces the rhythmic clarity and declarative character of the musical entrance, imparting a sense of ceremony and definition to the phrase's initiation.

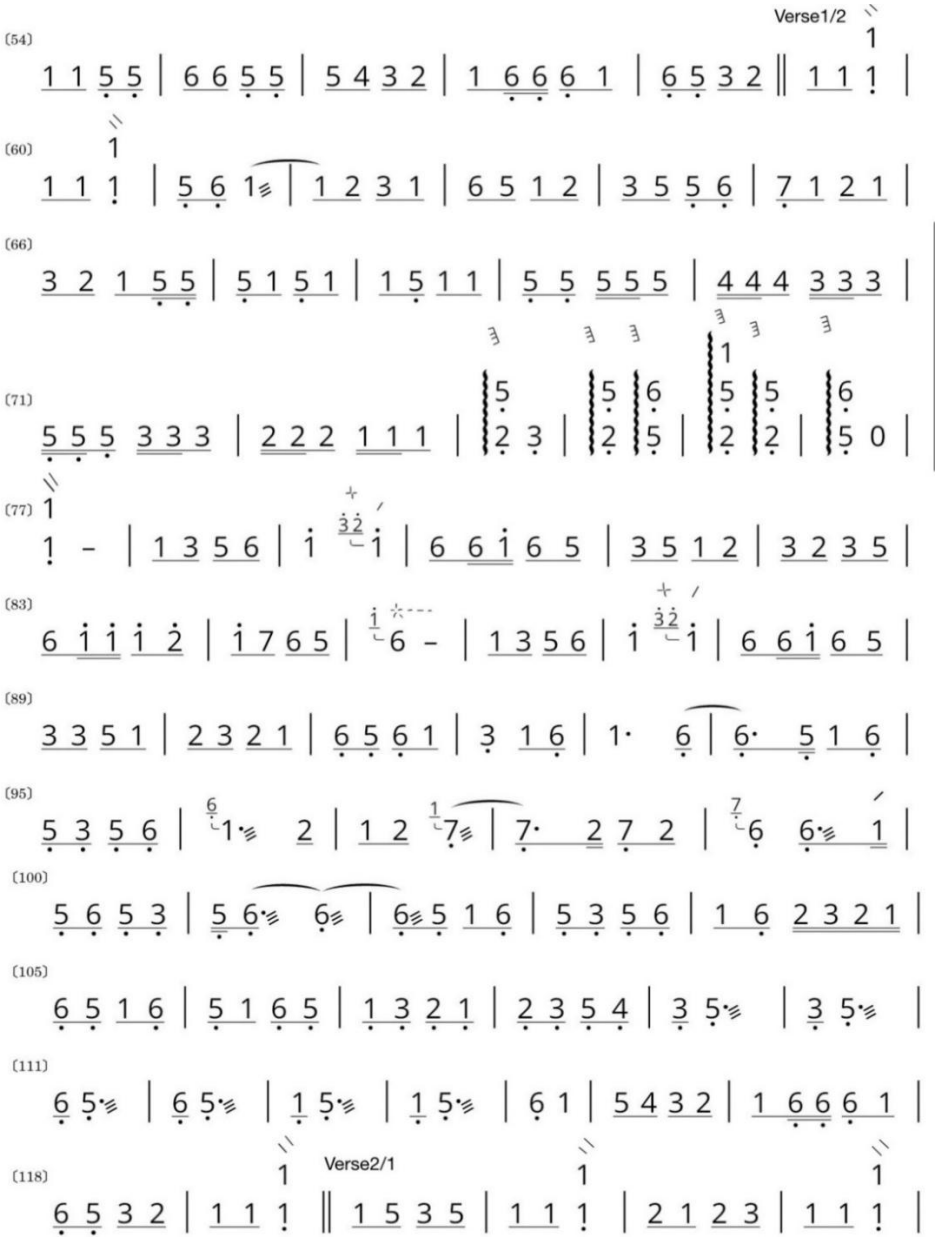
Lunzhi is primarily employed on sustained notes within phrases, where rapid repeated plucking extends the sound and maintains emotional tension. This mirrors the functional logic of Rua in Thai music, adding continuity and penetrative depth to the melodic line. Gunzou appears at accentuated or structurally significant moments within the phrases, where its dense, rapid plucking generates rhythmic peaks and local climaxes, creating dynamic contrast across the section.

Shuangtan, as a double-stop technique, functions similarly to the Thai Krathob Sam Sai (K3). Typically used at the beginning or at structural focal points, it provides harmonic support and sonic thickness, enhancing the melody's spatial dimension and gravitational pull.

Overall, the interplay of these techniques not only reconstructs the acoustic characteristics of the original composition but also demonstrates a profound transliteration of Thai traditional rhythmic grammar and structural imagery within the context of Chinese instrumental vocabulary.

The First Phrase, The Second Part

1.Music Score



2.Mode

Consists of 1, 2, 3, 4, 5 and 6, 7 seven notes.

3. Analysis of Pipa Techniques

In the second part of the first section of the Chin Khim Yai adaptation for Pipa, the selected Pipa techniques demonstrate a high level of organization and logic in terms of rhythmic continuity, sonic layering, and structural function, further reinforcing

the role of this passage as a transitional bridge within the overall structure of the composition. The use of Double plucking appears twice at the beginning of the section and again at the end, forming a symmetrical technique layout that echoes the rhythm and melody of the first section. This establishes a cyclical structural relationship between sections. As a technique of simultaneous dual-tone execution, Double plucking enhances the harmonic depth and accentuation of the melody. Its placement at the opening and closing positions reinforces the segment boundaries and audibly frames the passage with a sense of closure.

The Semi-tremolo technique is employed twice in this section, primarily serving as an ornamental device. Its combination of rapid sliding and plucking introduces delicate variations into the melodic line, enriching its expressive texture without altering the fundamental pitch content. Tremolo appears only once, continuing its function of sustaining longer tones. Through evenly paced, rapid plucking, it extends the duration of specific notes and fills them with a saturated sonority, stabilizing the phrase's internal focal point.

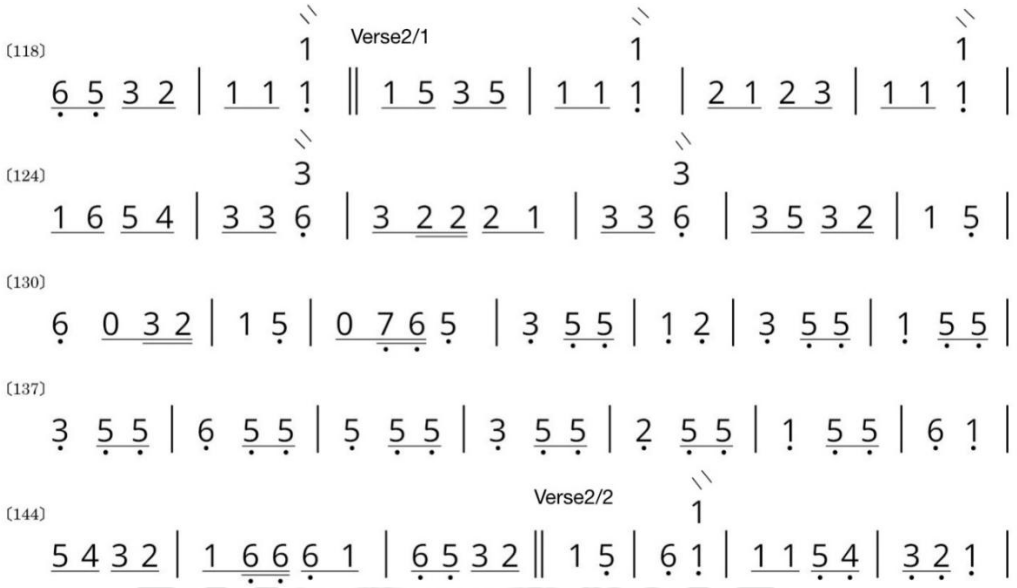
Most notably, rolls are used with high frequency—11 times in total—mostly placed on longer note values within phrases. Through a sequence of dense and rapid plucking, rolls intensify the rhythmic density at moments of structural pause or relaxation, serving both to maintain the passage's internal tension and to drive emotional progression. Their concentrated use not only creates auditory contrast but also injects momentum into the inner rhythmic movement of the passage.

Additionally, the Strumming technique is applied six times throughout the section, predominantly mid-phrase, marking a significant sonic expansion compared to the first section. In Pipa performance, Strumming often conveys breadth, elaboration, or emphasis. Its open, forceful execution makes it an effective amplifier of musical expression. Strategically placed within phrases, Strumming adds dynamic force and a spatial dimension to the melodic line while maintaining the rhythmic grammar of the original, enhancing the theatrical and expressive potential of the music.

Overall, the fingering design in this second section builds upon the rhythmic characteristics of the first while increasing the density of Rolls and Strumming, carefully balancing sustain, ornamentation, and accentuation. It reflects the Pipa' s capacity to reinterpret and recontextualize the melodic logic of traditional Thai music through a Chinese instrumental vocabulary.

The Second Phrase, The First Part

1.Music Score



2.Mode

Consists of 1, 2, 3, 4, 5 and 6,7 seven notes.

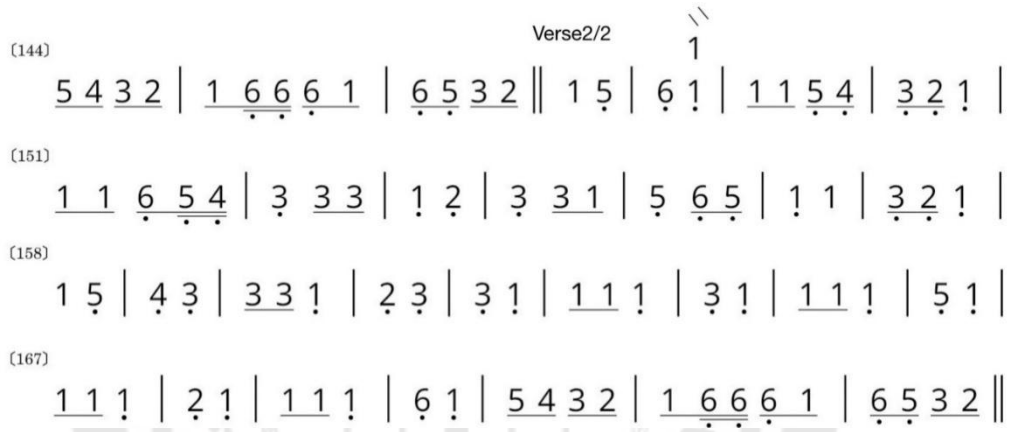
3. Analysis of Pipa Techniques

In the process of adapting Chin Khim Yai into a Pipa score, the first part of the second section demonstrates a clear continuity and logic in the application of fingering techniques. According to statistical analysis, this passage begins with four instances of Double plucking, two of which share the same rhythmic and melodic placement as those in the first section, reflecting a conscious reinforcement and echoing of the melodic motif structure during the adaptation. The remaining notes are performed entirely with single plucking, which maintains the clarity and fluidity of the melodic line. Overall, this arrangement—highlighting key rhythmic points with Double

plucking and sustaining linear motion with single plucking—not only aligns with the idiomatic characteristics of Pipa performance, but also effectively conveys the traditional phrase structure logic of the original piece, marked by " emphasis at the phrase opening and stability within the phrase."

The Second Phrase, The Second Part

1.Music Score



2.Mode

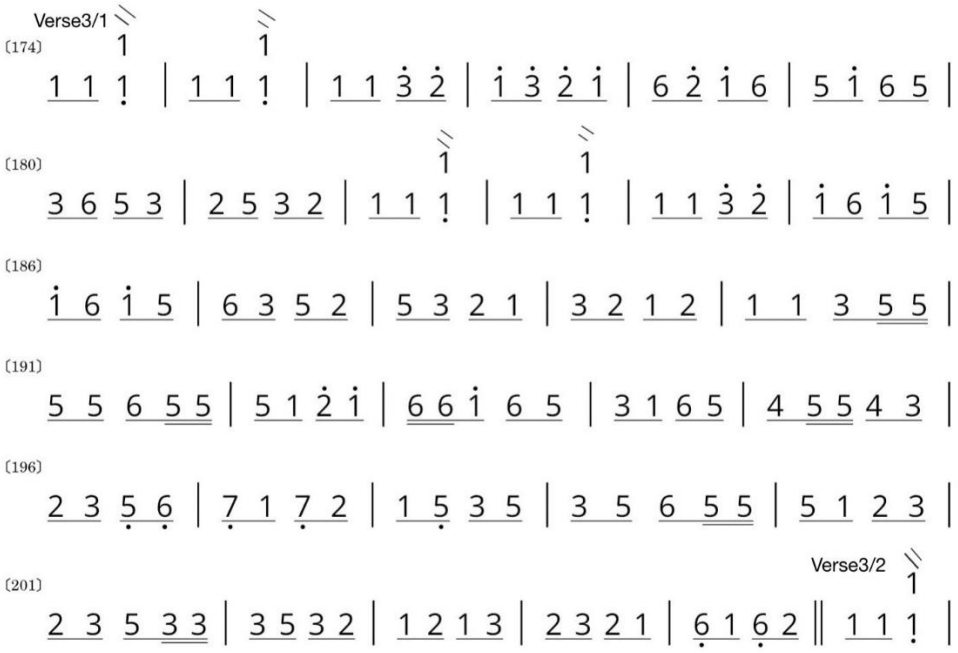
Consists of 1, 2, 3, 4, 5 and 6 six notes.

3. Analysis of Pipa Techniques

In the process of adapting Chin Khim Yai into a Pipa score, the second part of the second section exhibits a clear tendency toward simplification in fingering application. The entire passage features only one instance of Double plucking at the beginning, while the remaining notes are performed using the single plucking technique. The placement of Double plucking serves a distinct structural marking function, emphasizing the phrase's initial downbeat, whereas single plucking maintains the continuity and flow of the melodic line. This approach creates a progression in fingering from " weight" to " lightness," and from " emphasis" to " elaboration," highlighting the section's transitional role within the overall structure. At the same time, it preserves the original melody's natural and unforced sonic character.

The Third Phrase, The First Part

1.Music Score



2.Mode

Consists of 1, 2, 3, 4, 5 and 6, 7 seven notes.

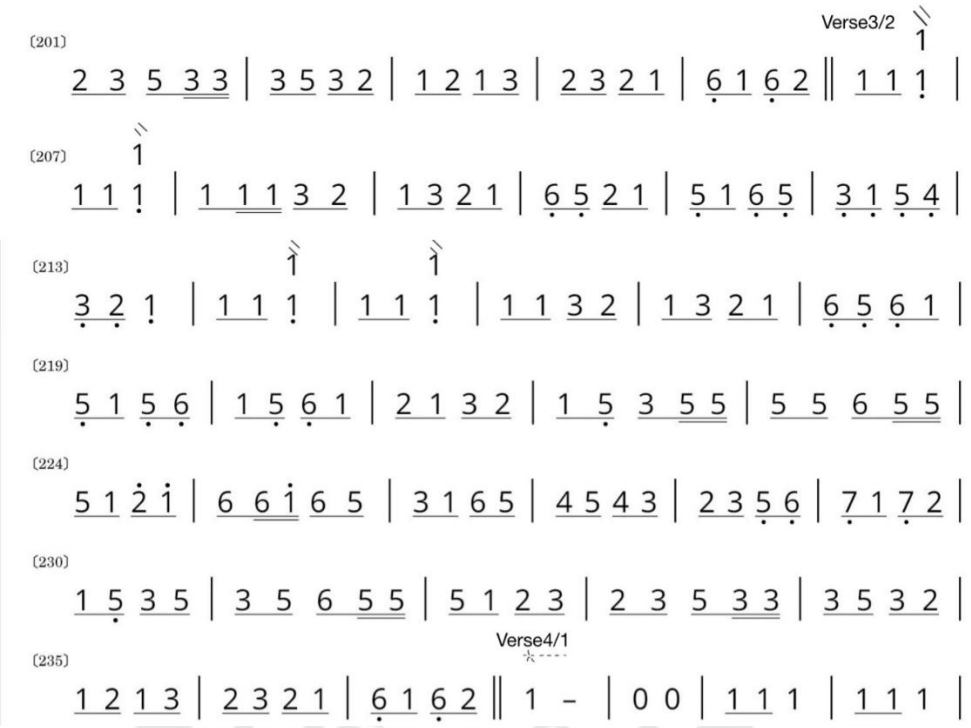
3. Analysis of Pipa Techniques

In the process of adapting Chin Khim Yai into a Pipa score, the first part of the third section continues the technical characteristics established in the previous two sections. This part features four instances of Double plucking, all occurring in the opening phrase. The rhythmic patterns of these Double plucking techniques are consistent with those used in the first and second sections, highlighting the structural and thematic continuity across sections. The use of Double plucking emphasizes the beginning of the passage, reinforcing both its rhythmic clarity and formal articulation. The remaining notes are performed using the single plucking technique, which contributes to a smoother melodic line while preserving the rhythmic and kinetic qualities of the original composition. Overall, the strategic placement of Double plucking

underscores the opening, while single plucking ensures stability and cohesion, effectively setting the stage for the subsequent development of the piece.

The Third Phrase, The Second Part

1.Music Score



2.Mode

Consists of 1, 2, 3, 4, 5 and 6, 7 seven notes.

3. Analysis of Pipa Techniques

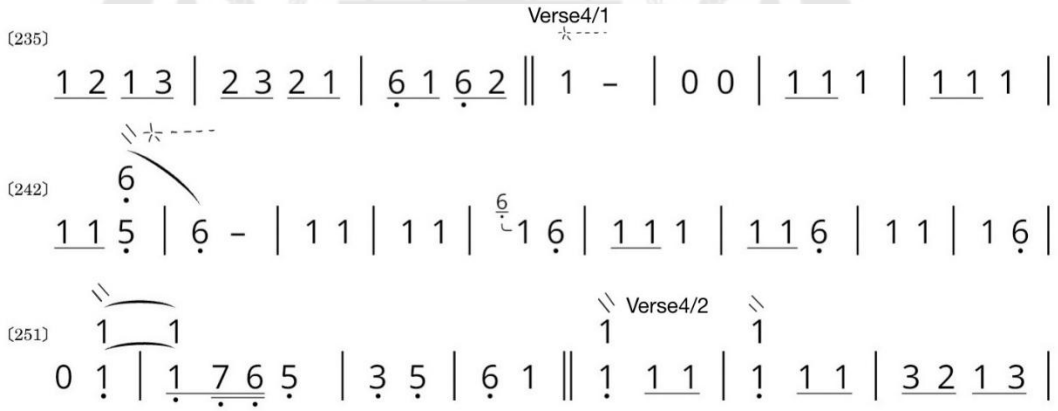
In the second part of the third section of Chin Khim Yai, a variation-form composition, the use of Double plucking plays a significant structural and expressive role. This section employs four instances of Double plucking in the opening phrase. While the rhythmic patterns of these notes are similar to those in the previous two sections, the melodic contour of the first phrase largely mirrors that of the preceding part, though with altered pitch. This approach reflects the core principle of variation form—melodic transformation—preserving the recognizability of the theme while avoiding redundancy through pitch variation, thus enhancing auditory freshness.

The application of Double plucking at the beginning of the section reinforces the rhythmic character and provides a distinct launching point for the melodic development. The inherent rapid repetition of this technique enriches the sonic texture of the passage. Following the Double plucking, the rest of the notes are played with single plucking, allowing the melodic line to unfold with greater smoothness and fluency, creating a dynamic contrast between rhythm and melody.

Overall, the alternation between Double plucking and single plucking strengthens both the contrast and continuity inherent to variation form. It preserves thematic material from the previous section while introducing new pitch content and technical variation, providing structural transition and emotional progression toward the subsequent sections.

The Forth Phrase, The First Part

1.Music Score



2.Mode

Consists of 1, 3, 5, 6 and 7 five notes.

3. Analysis of Pipa Techniques

In the first part of the fourth section, the use of Pipa techniques demonstrates a meticulous structural arrangement and a nuanced emotional unfolding. The opening phrase begins with Lunzhi, a technique characterized by its smooth and continuous sequence of notes, which sets a gentle and flowing tone for the section. The function of Lunzhi extends beyond simple note prolongation; its sustained string

vibration creates a sense of enveloping resonance, giving the following melodic and rhythmic developments a deeper textural and dynamic foundation.

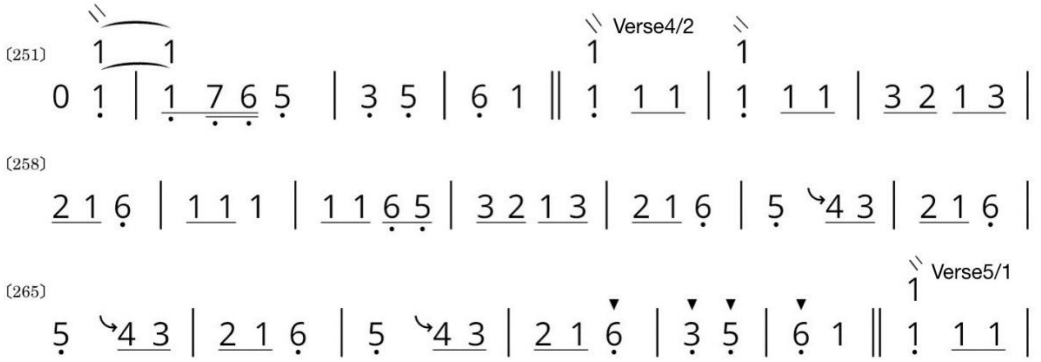
Immediately following, the introduction of Double plucking enhances the rhythm and injects movement into the melody. This technique, known for its rapid and distinct dual-tone effect, strengthens the structural clarity of the melodic line while imparting a pronounced rhythmic character. Here, the alternation between Lunzhi and Double plucking balances fluidity with rhythmic sharpness, producing a dynamic interplay between contrasting technical elements.

At the end of the phrase, a Double plucking on a longer rhythmic value serves as a conclusive gesture. Positioned at the phrase' s closing point, this sustained Double plucking provides a strong sonic anchor, reinforcing the melodic weight and emotional finality of the section. It also smooths the transition into the upcoming section, ensuring structural cohesion across the movement.

Taken together, the interplay of Lunzhi and Double plucking not only creates a dynamic contrast between motion and stillness but also enhances the emotional depth and structural clarity of the section. Through the thoughtful combination of these techniques, the first part of the fourth section, adapted for the Pipa, vividly showcases the expressive and technical diversity of traditional Thai instrumental music while contributing to the broader emotional arc of the piece.

The Forth Phrase, The Second Part

1.Music Score



2.Mode

Consists of 1, 2, 3, 4, 5 and 6 six notes.

3. Analysis of Pipa Techniques

In the second part of the fourth section, the arrangement of performance techniques reflects a clear sense of rhythmic variation and emotional progression. The opening phrase introduces two Double plucking rhythmic patterns that differ from those in the previous three sections. This deliberate break from rhythmic uniformity establishes a fresh auditory contrast and marks a rhythmic renewal that enhances the recognizability and appeal of the section's entry. These variant Double plucking figures expand the rhythmic vocabulary while signaling a structural transition and pivot in the musical narrative.

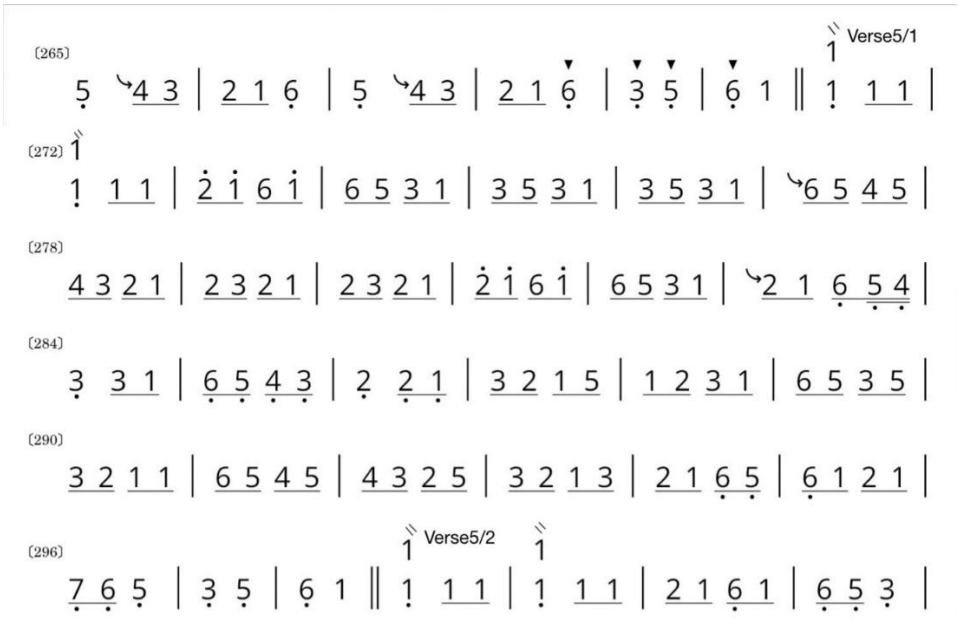
Toward the end of the section, Push-pull string (Tui-la xian) emerge as the dominant expressive form. In the final phrase, three instances of Push-pull string are employed to emphasize the smooth, connected motion between pitches, enriching the melody's flexibility and expressive tension. This linear sonic motion imbues the melodic line with greater fluidity and lyricism, while also injecting a sense of suspension and openness into the segment's closure.

Following the Push-pull string, four accented tones are used to conclude the section. The concentrated application of accents significantly heightens the rhythmic drive and strength of the closing phrase. These accents not only provide a clear sense of cadential finality but also articulate structural punctuation within the phrasing, culminating in a strong rhythmic landing. The contrast between the soft fluidity of sliding and the sharp impact of accentuation embodies a dynamic arc from " softening" to " strengthening" to " closure."

Overall, the use of techniques in this section illustrates a complete transition from rhythmic innovation to structural resolution. It underscores the idea that playing techniques are not merely decorative or mechanical tools, but essential structural elements that guide the logic of the section and advance the expressive trajectory of the music.

The Fifth Phrase, The First Part

1.Music Score



2.Mode

Consists of 1, 2, 3, 4, 5 and 6, 7 seven notes.

3. Analysis of Pipa Techniques

In the first part of the fifth section of Chin Khim Yai, the use of techniques reflects a clear continuation and development of the preceding section. The opening phrase employs the same Double plucking rhythmic pattern as in the fourth section. This repetition not only reinforces structural coherence between sections but also creates a cyclical auditory effect that sets a unified and stable tone as the piece approaches its conclusion. By reusing an existing rhythmic motif, the composer achieves a dual function within the variation structure—namely, a " thematic recurrence" and a " motivic response."

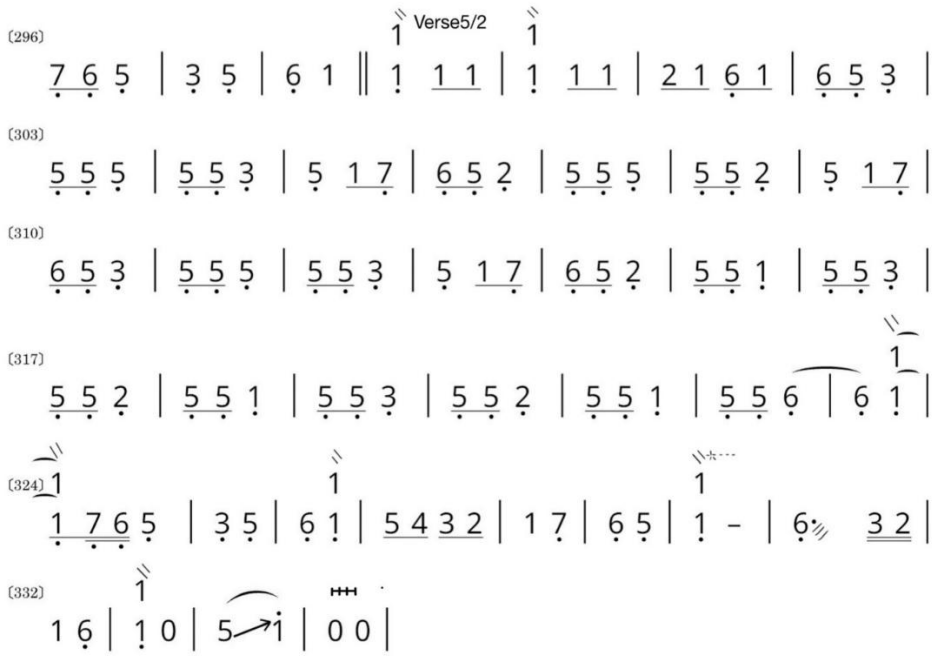
In the subsequent phrase, the addition of two Push-pull string serves to embellish the melodic line and enhance its emotional coloration. As a technique

known for its fluidity and expressive capacity, sliding allows the melody to temporarily break away from the rhythmic center, creating a sense of linear suspension. This flexible technique adds expressive nuance, allowing the fifth section to maintain a stable structure while also introducing subtle dynamic variation that prepares emotional tension for the following part.

Overall, the technical design of this section preserves rhythmic consistency with the previous segment while enriching melodic expression through well-placed sliding techniques. This balance between structural logic and emotional flow allows the section to function as both a continuation and a transitional point, anchoring the music while leaving space for further development.

The Fifth Phrase, The Second Part

1.Music Score



2.Mode

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3. Analysis of Pipa Techniques

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Summary Table

Table 4 Summary Table of fingering techniques used in each part of Pipa solo

Section	Semi-Tremolo	Tremolo	Double Plucking	Roll	Strum	Push-Pull String	Slide
1st Section, Part 1	2	3	2	4	0	0	0
1st Section, Part 2	2	1	3	11	6	0	0
2nd Section, Part 1	0	0	4	0	0	0	0
2nd Section, Part 2	0	0	1	0	0	0	0
3rd Section, Part 1	0	0	4	0	0	0	0
3rd Section, Part 2	0	0	4	0	0	0	0
4th Section, Part 1	0	2	2	0	0	0	0
4th Section, Part 2	0	0	2	0	0	3	0
5th Section, Part 1	0	0	2	0	0	2	0

5th Section, Part 2	0	1	7	1	0	0	1

4.2.3 Similarity and difference between Pipa and Jakhey

The Pipa and the Thai instrument Jakhey are both plucked string instruments. While they share similarities in plucking techniques and the use of ornamentation, they differ significantly in terms of fingering complexity, playing posture, and expressive style. The Pipa emphasizes a wide variety of techniques and emotional depth, while the Jakhey uses simple and smooth techniques to highlight melody and rhythmic elegance. These similarities and differences reflect the unique cultural roles and functions of each instrument. The similarities and differences between the two instruments can be summarized as follows:

4.2.3.1 Similarities

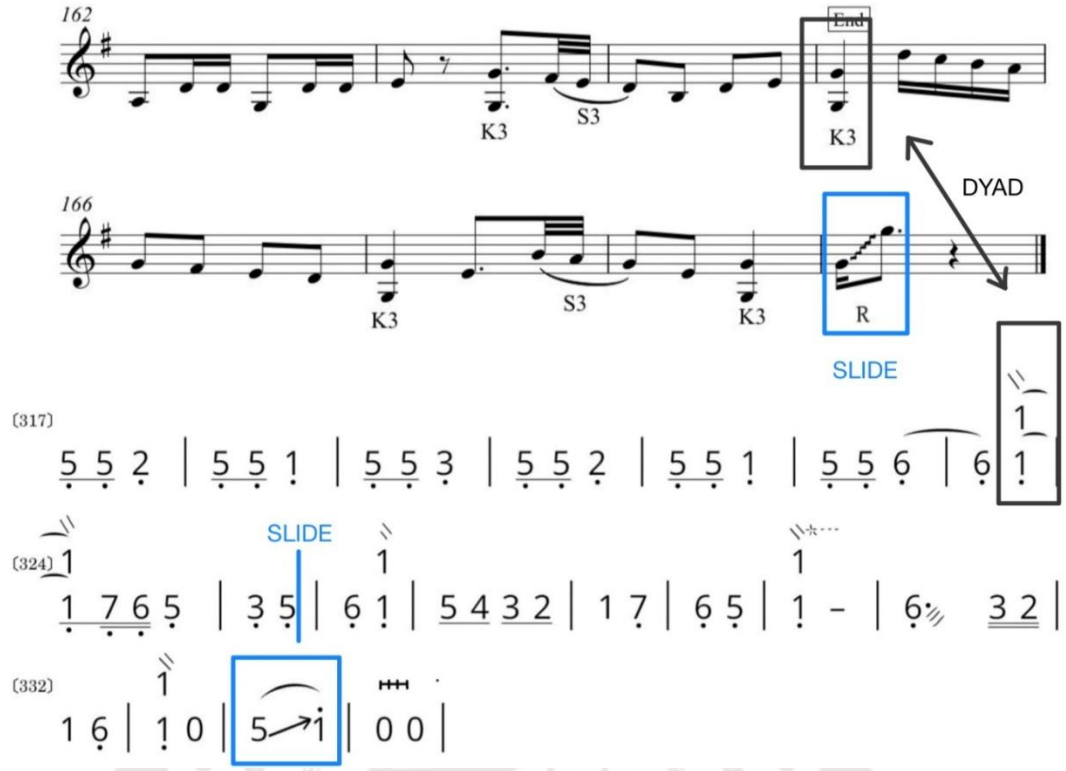
1. Plucking Technique

Both instruments rely on plucking to produce sound, with players using their fingers or a plectrum to pluck the strings.

Both employ intricate right-hand techniques, such as the Pipa's "lunzhi" (Rolling finger technique) and the Jakhey's Sabat, to create rich rhythms and textures.

2.Use of Ornamentation

Both the Pipa and Jakhey extensively utilize ornaments like Slide and dyad (like K2 and Shuang Tan), enhancing the expressiveness of the music.



• In melodic passages, both instruments employ quick ornamentation to enrich musical expression.

3. Improvisational Freedom

• Both instruments allow players to incorporate improvisational elements into traditional music, adding personal character to their performances.

4.2.3.2 Differences

1. Strings and Fingering Techniques

• Pipa: Typically has 4 to 5 strings with narrower spacing. The left hand employs diverse techniques such as Tui and La the strings, while the right hand uses fingernails for plucking, with complex techniques like rolling fingers and sweeping strings.

• Jakhey: Usually has 3 strings with wider spacing. The left hand mainly presses the strings, while the right hand holds a plectrum for plucking, with simpler fingering techniques.

2. Playing Posture

• Pipa: The instrument is held vertically against the chest. The left hand moves up and down the fretboard to press the strings, while the right hand plucks the strings with flexible finger movements.

•Jakhey: The instrument is placed horizontally on the lap or the floor. The left hand moves horizontally to press the strings, while the right hand uses a plectrum for plucking, with movements closer to smooth strokes.

Figure 16 Jakhey playing posture

Note.Copyright 2023 by center for world music. https://centerforworldmusic.org/2016/11/jakhee

Figure 17 Pipa playing posture

Note. Photos of Pipa's performance taken in Shawan Ancient Town, Guangdong on 2021.Own work.

3. Range and Expressive Capability

• Pipa: Offers a wider tonal range and more complex techniques, capable of expressing a wide variety of emotions, from urgency and intensity to subtlety and delicacy.

• Jakhey: Has a relatively limited range, mainly focusing on the gentle, elegant, and rhythmic qualities typical of Thai traditional music.

4. Style and Cultural Background

•Pipa: As a traditional Chinese instrument, it is widely used in solo and ensemble performances, with a diverse repertoire ranging from lyrical to dramatic themes.

•Jakhey: As a traditional Thai instrument, it is primarily used in royal court or folk music, emphasizing the unique rhythms and graceful melodies of Thai music.

5.Rhythm and Speed

• Pipa: Generally speaking, in traditional Chinese instrumental music, quarter notes and eighth notes are the most common. In order to better complete the performance, the rhythm pattern of the adapted Pipa music has been changed.

• Jakhey: The rhythm pattern used in Jakhey solo music is usually more intensive, mostly using 16th and 32nd notes.

• For the same music with a tempo of 60, due to the complexity of the Thai instrument rhythm pattern, the playing speed of Jakhey is faster than that of Pipa.

4.3 To analyze the combination of playing techniques between the Jakhey and the Pipa in Chin Khim Yai..

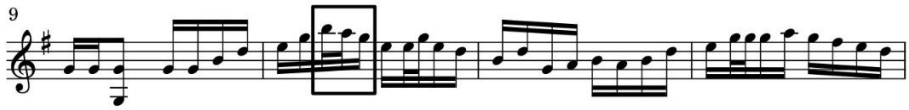
Thai traditional music is famous for its complex rhythms, unique melodies and profound cultural symbolism. Pipa is a traditional Chinese plucked instrument, famous for its rich expressiveness and wide range of sounds, and is very suitable for adapting Thai traditional music.

This chapter will explore the integration of music and culture from three aspects: fingering adaptability research, image retention and transformation, and acceptance and response after the integration of music and culture.

4.3.1 Fingering adaptability research

The core melodic features of Chin Khim Yai are its smooth and elegant lines, rich in decorative details. The Pipa can effectively reproduce the Sabat and Deed Rood typical of traditional Thai music by using Semi-Tremolo and Roll techniques. These techniques enable the Pipa to mimic the fluidity of the Jakhey while retaining the original flavor of the piece.

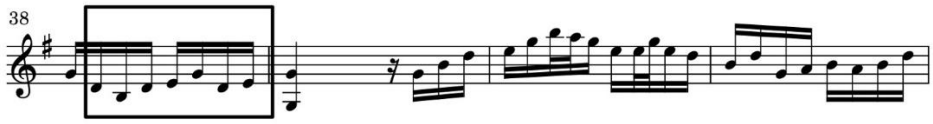
Jakhey:



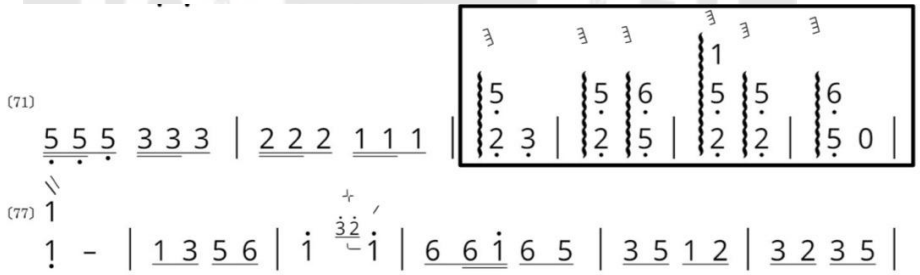
Pipa:

Jakhey's original melody often uses fast finger picking to show rhythm and technique. Pipa's adaptation uses Ban-Lun (Semi-Tremolo) as the fingering technique in these rhythmic patterns, which not only helps to accurately complete complex musical patterns, but also quickly connects the previous and next sentences to avoid timbre breaks or rhythm disconnections in difficult passages. It can also enhance the beauty of musical expression in a more delicate way.

Jakhey:



Pipa:

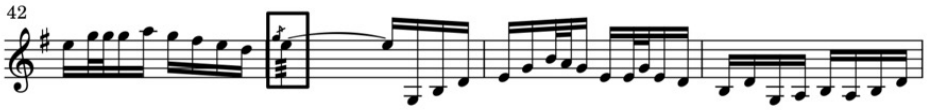


Traditional Thai music focuses on rhythmic patterns and complex textures. However, there is no particularly rich harmonic melody in Jakhey's solo, so the addition of Pipa's Sao (Strum) is used to enhance the vitality of the rhythm and enrich the layers of the music. Sao (Strum), as a fast string-picking technique, can increase the richness of the sound and the sense of rhythm.

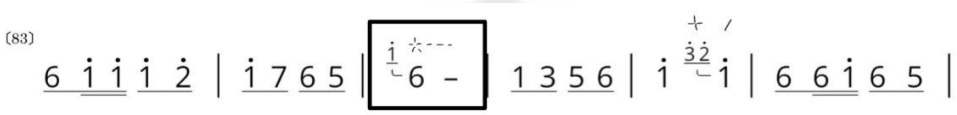
This melody is located at the half-stop of Verse 1/2. Sao (Strum) makes the end of the phrase more smooth, avoids a sudden stop, and makes the music more

coherent. Pipa's flexible transition between melody and harmonic accompaniment also brings a fuller interpretation to the music.

Jakhey:

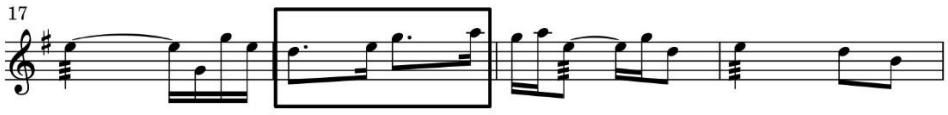


Pipa:

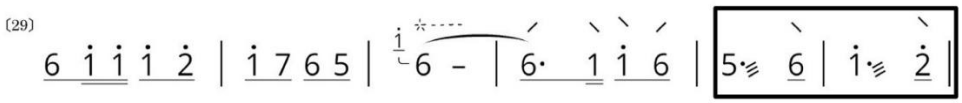


Lun (Tremolo) is an important technique in Pipa, which can make the extended sound more decorative and rhythmic. Through Lun, the extended sound is not only a single continuous sound, but also has dynamic changes and rich timbre layers, which enhances the expressiveness of the melody and the auditory appeal.

Jakhey:



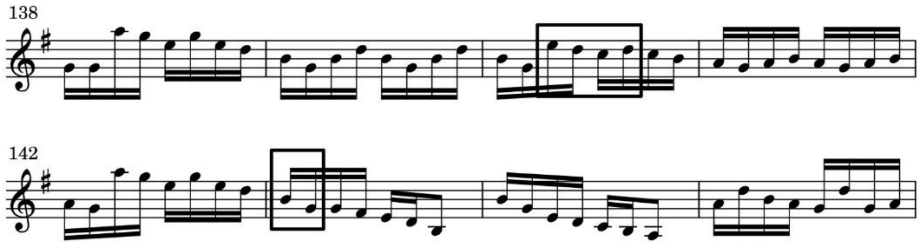
Pipa:



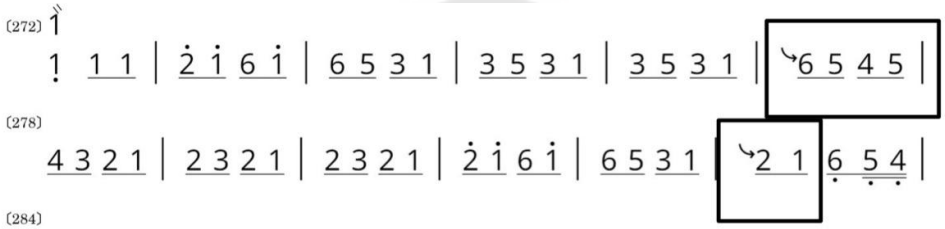
Pipa's wide range and delicate timbre enhance the emotional depth of Chin Khim Yai. In the melody, dotted notes often have a rhythmic effect of jumping and emphasizing, and Gun (Roll) can create a subtle sense of fluctuation based on this rhythm, making the music more expressive and delicate.

This combination makes the rhythm both powerful and soft, enhancing the expressiveness of the melody while keeping the notes sustained, maintaining the melody's fluidity and echoing the resonant characteristics of the Jakhey.

Jakhey:

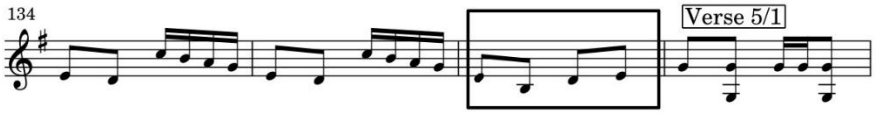


Pipa:

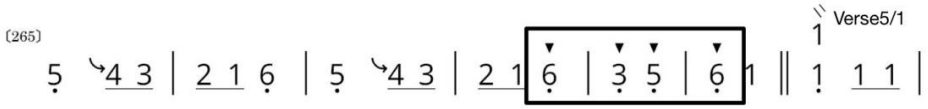


(Tui-La xian) Push-Pull String is a unique technique of Pipa, which shows the unique timbre and expressiveness of Pipa. Jakhey does not have this fingering. This fingering is often used to enhance the emotional expression of the melody. Putting it at the beginning of a phrase can better introduce the phrase, create a sense of "breathing" and emotional foreshadowing, and enhance the audience's sense of substitution.

Jakhey:



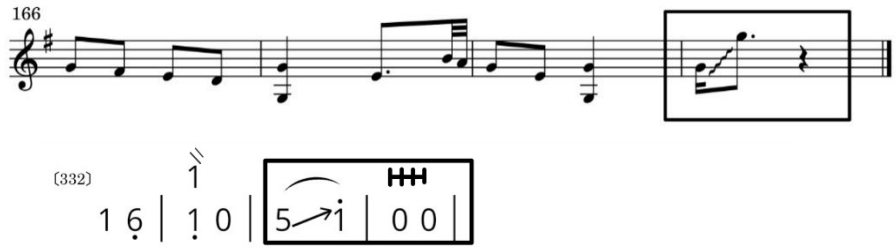
Pipa:



Adding a dynamic accent with left-hand press or right-hand stroke at the end of Verse 4/2 can make the ending more sentence-like and help the audience perceive the paragraph division. Verse 4/2 strengthens the ending center of gravity,

indicating that the ending paragraph is about to begin. At the same time, it provides support for the symmetry and ups and downs of the form, making the whole work more structurally beautiful.

Jakhey:



Pipa:

Slide allows the pitch to change continuously, while Fu (Mute) uses fingers to lightly press the strings without fully pressing them, creating a subtle resonance and lingering sound. The combination of the two ending techniques not only makes the music gradually dissipate in sound, creating an endless aftertaste, but also reflects the convergence and relaxation of musical emotions, bringing the audience a peaceful and profound feeling.

Range and Tonality

•Range: The Pipa's tonal range, spanning A to g3, provides a significant advantage for performing Thai melodies, especially in pieces requiring frequent octave leaps or larger intervals. This makes it possible for the Pipa to imitate the tonal qualities of the Jakhey with ease.

•Tonality: Thai music often uses non-Western tonal systems, such as a seven-tone scale with equidistant intervals, which differ from the Pipa' s traditional twelve-tone equal temperament. In " Chin Khim Yai," for example, the Pipa employs transposition techniques to maintain tonal consistency with the Jakhey, ensuring a similar tonal quality while adapting to its unique tuning system.

4.3.2 Retention and transformation of images

When adapting Thai traditional music, the Pipa achieves a delicate balance between preserving the original melodies, timbres, and cultural imagery while leveraging its unique expressiveness and technical versatility to create a renewed artistic interpretation. This process breathes new life into traditional pieces and imbues them with contemporary relevance. The analysis can be divided into two aspects: preservation and transformation.

4.3.2.1. Preservation

• Melody: Recreating Core Melodic Lines：The melodies of Thai traditional music are characterized by their smooth, graceful, and highly ornamented nature. The Pipa, with its techniques such as tremolo and cascading arpeggios, can accurately replicate these features. For instance, in Chin Khim Yai, the Pipa retains the elegant and distinctively Chinese melodic elements of the original composition while seamlessly incorporating Thai rhythmic patterns, ensuring the melody flows naturally and fluently.

•Simulation of Instrument Timbre：As a traditional Thai instrument, the Jakhey possesses a unique, elastic timbre. The Pipa, through transposition, dynamic control, and variation in plucking positions, can mimic the tonal qualities of the Jakhey to a significant extent, achieving a sound closer to the original piece.

• Retention of techniques: Deed Rood, Krathob Sam Sai and Sabat, which are commonly used in Thai traditional music, have been retained in the adaptation through the flexible playing techniques of the pipa, ensuring the exquisite expressiveness of Thai traditional music.

• Emotional Expression：The emotional imagery of Thai traditional music—ranging from tender nostalgia to joyful celebration—is effectively conveyed through the Pipa. Its profound expressive capabilities allow it to closely align with the emotional nuances of the original piece, while also capturing the cultural ambiance of Thai music.

4.3.2.2 Transformation

• Performance Techniques ： Certain rhythmic patterns in Thai music, being highly intricate, are not entirely suited to the Pipa's repertoire. During adaptation, these rhythms may be appropriately simplified or redesigned, integrating unique Pipa techniques (such as Tremolo) to preserve the original rhythmic essence while showcasing the Pipa's distinctive rhythmic expressiveness.

•Ornamentation Modifications ： While ornamentation is largely retained, subtle adjustments are also made. Thai music often employs rapid and densely packed ornamentation. In the adaptation of Chin Khim Yai, some of these ornaments have been transformed into clearer rhythmic patterns, aligning with the Pipa's emphasis on note clarity and articulation.

•Enriched Expressiveness ： Thai traditional music emphasizes melody and rhythm. In the adaptation of Chin Khim Yai, the Pipa adds variations in dynamics, tempo, timbre, and phrasing, enriching the emotional expression and overall texture of the piece.

•Integration of Chinese Cultural Elements ： The Pipa naturally brings a distinct Chinese classical aesthetic to its interpretations. Techniques like tremolo to evoke imagery of flowing water or strumming to convey dramatic emotional tension infuse Thai traditional music with a renewed artistic vitality, blending the cultural essence of both traditions.

4.3.3 Acceptance and response after the integration of music and culture

As cultural exchanges between China and Thailand deepen, music, with its powerful inclusiveness, has become an important medium for cultural integration between the two countries. Through musical dialogue and fusion, not only has the profound historical connection between the two nations been highlighted, but entirely new forms of artistic expression have also been created. In practices such as adapting traditional Thai music for the Pipa, this cultural integration has demonstrated broad acceptance and far-reaching impact.

Musical works that blend Chinese and Thai elements have garnered significant attention and acclaim in both countries. These pieces balance tradition and innovation, preserving the graceful melodies and unique qualities of Thai traditional music while infusing them with the Pipa's refined techniques and expressive potential. For example, the adaptation of Chin Khim Yai retains the core characteristics of Thai traditional music and incorporates the Pipa' s distinctive ornamentations and performance techniques, offering audiences a fresh auditory experience. This artistic recreation not only meets the aesthetic expectations of traditional music enthusiasts but also attracts a broader audience, including younger generations curious about foreign cultures.

At the same time, the integration of Chinese and Thai music has received enthusiastic responses in music education. By studying works that merge these two traditions, students not only master traditional performance techniques but also gain deeper insights into the ideas and emotions underlying both cultures. In terms of the reception of this cultural fusion, both countries have actively promoted its development. For instance, the fusion of Chinese and Thai music has demonstrated strong appeal in various performances and cultural exchange events. Many music festivals and cultural projects have highlighted this theme, showcasing collaborative performances of the Pipa and traditional Thai instruments. Each performance has been met with warm reception, particularly from audiences encountering this fusion for the first time, who are often struck by the unique charm and cultural depth of the music.

The media has also given positive evaluations of this cross-cultural musical expression, viewing it not only as an artistic innovation but also as a significant achievement in cultural exchange. The integration of Chinese and Thai music has drawn considerable academic attention, with researchers praising it as a successful example of traditional music's adaptation and dissemination in a globalized world.

This musical integration has further enhanced mutual understanding and appreciation between the two peoples. Music, as a form of expression that transcends language, showcases the similarities and complementarities of the two cultures, allowing

audiences to intuitively experience the unique charm of each tradition. For younger generations, this fusion serves as a bridge to study and understand the cultures of China and Thailand, inspiring their interest in traditional arts.

Moreover, the success of Chinese-Thai musical integration provides valuable insights and inspiration for cultural cooperation between China and other Southeast Asian countries. Increasingly, musicians are drawing on this model of fusion, exploring innovative combinations of different cultural elements and creating works with an international character. Such collaborations undoubtedly inject new vitality into the development of global music.

The integration of Chinese and Thai music has not only achieved widespread acceptance and enthusiastic responses in the arts but also advanced cultural exchange and understanding between the two nations. Through music, this cross-cultural dialogue highlights the enduring charm and innovative potential of traditional arts, offering new inspiration for cultural cooperation on a global scale. The success of this fusion not only enriches the expressive power of music but also paves the way for future explorations in cross-cultural art.

CHAPTER 5

5.1 Brief Summary of the Study

The dissertation " An implemented the Jakhey playing techniques in the Chin Khim Yai song for Pipa." is based on the traditional Chinese and Thai instrumental culture.

The following three objectives:

1.To study Jakhey playing techniques in Chin Khim Yai.

2.To apply Jakhey playing techniques from Chin Khim Yai for a solo Pipa.

3.To analyze the combination of playing techniques between the Jakhey and the Pipa in Chin Khim Yai.

For the first objective, the researchers selected the traditional Thai music Chin Khim Yai, in which the "Jakhey" solo technique is representative. In the study, through the study of the melody, form structure and Jakhey solo technique of the Chin Khim Yai piece, the following points can be summarized: The song adopts the "Song Chan" structure, which is a medium-speed instrumental work with a score speed of 60. The beat structure is "---- / ---ching / ---ching / ---chap", which is a clear rhythm used in the title of the music. It starts with the word "Chin" and has a Chinese music style tone, showing a light and elastic music atmosphere.

The melody is constructed with a pentatonic scale, focusing on the gradual and symmetrical structure of the sound pattern, and often uses a descending convergence to reflect the end of the paragraph. The melody is rich in emotion and has a distinct Chinese music style.

The researchers found that in the song Chin Khim Yai, Jakhey used a lot of techniques such as Sabat, Krathob Sam Sai, Deed Rood, etc., especially Sabat, which was frequently used in the first two Bots to enhance the fluidity and tension of the melody.

For the second objective, the researchers proposed that the adaptation of Chin Khim Yai should not only change the playing techniques of Jakhey, but should also incorporate Pipa's unique playing techniques while retaining the original Jakhey techniques to enhance the musical expression of the work.

In the adaptation of Jakhey techniques to Pipa solo, this study found the following problems: Pipa and Jakhey have different playing postures, so the playing methods of the right hand are also different. The range of Pipa is larger than that of Jakhey in terms of breadth. In addition, the rhythm patterns used in Jakhey solos are usually denser, with 16th and 32nd notes. Generally speaking, in traditional Chinese instrumental works, the most common ones are 4th notes and 8th notes, so Jakhey is faster than Pipa in actual performance. In view of the above problems, these differences need to be noted when adapting.

The techniques used in Pipa in the changed Chin Khin Yai include: Tan-Tiao, Lun, Banlun, Gun-Zou,Sao, Tui-La Xian, Fu, Hua Xian, Shuang-Tan and other traditional techniques. Among them, the researchers found that Deed Rood in Jakhey and Hua Xian in Pipa are the same left-hand techniques, and Krathob Sam Sai and Shuang-Tan are similar right-hand techniques, so the original Jakhey fingering can be retained.

However, due to the different plucking methods used by the right hand, Sabat in Jakhey is also used to strengthen the rhythm density. Therefore, Sabat in Jakhey fingering is replaced by Banlun in Pipa in addition to the unique basic fingering Tan-Tiao.

For the third objective, the study focuses on analyzing the adaptability after the adaptation. In the Pipa adaptation of "Chin Khim Yai", it not only shows how Pipa uses its unique fingering techniques to enrich the melody of this song, but also reflects the achievements and challenges of the integration of Chinese and Thai music cultures.

Extended Pipa techniques: In the adaptation process, in order to be closer to Jakhey's decorative style, Pipa players expanded the use of techniques such as Lun (Tremolo), Banlun (Semi-Tremolo), Gun-Zou (Roll), Sao (Strum), Tui-La Xian (Push-Pull String), Fu (Mute), etc., forming a "Chinese expression" with Thai style.

There are also some difficulties in the integration, such as the difference in the center of gravity. Jakhey performance pays more attention to rhythmic decoration, while Pipa emphasizes the changes in techniques and melody. After overcoming difficulties, this research also brought some integrated results, such as successfully retaining the rhythm and rhyme of Jakhey, expanding the expressiveness of Pipa, and strengthening the interaction between Chinese and Thai traditional music, providing methodological support and practical templates for subsequent integration research.

5.2 Discussion of the Results

Through reviewing the literature, we understand that cultural exchanges between China and Thailand have a long history of cross-cultural interaction. The literature mentions that after Chinese people migrated to Thailand, various aspects of Chinese culture gradually permeated Thai society, including religious culture, Chinese festival rituals, culinary culture, and traditional customs in daily life. Chinese literary and artistic works, which embody Confucian and Taoist philosophies, also played an influential role. Many philosophical classics rooted in China gradually took root and flourished in Thailand.

Research on historical documents and archaeological materials indicates that the introduction of Pipa culture into Thailand can be traced back to the long history of cultural exchanges between China and Thailand. Particularly through trade and diplomatic relations in the Southeast Asian region, the Pipa, as part of Chinese traditional instruments, was gradually introduced to Thailand. Historically, China and Thailand (formerly known as Siam) maintained frequent trade and diplomatic exchanges via both land and maritime Silk Roads. From the Tang and Song Dynasties to the Ming and Qing Dynasties, cultural exchanges between the two nations became increasingly close.

As a significant symbol of Chinese culture, the Pipa may have been brought to Thai courts or communities through envoys, merchants, or immigrants. During the Ayutthaya Kingdom period (1351–1767), when Thailand and China had close relations,

Chinese musical instruments and forms gradually influenced Thai music culture. It is believed that the Pipa was first used in Thai court music as part of aristocratic and court banquets. Due to its beautiful timbre, well-suited for lyrical and narrative compositions, the Pipa's playing styles and techniques were studied by Thai musicians, leaving an imprint on the evolution of Thai traditional instruments, such as the Jakhey.

Since the 20th century, cultural exchanges between China and Thailand have strengthened, and Pipa culture has gained wider recognition in Thailand. In modern concerts and cultural events, the Pipa is often featured in joint performances as a symbol of Sino-Thai friendship. Thai musicians have also learned Pipa

5.3 Recommendation for Future Studies

Research on Pipa adaptations of Thai traditional music not only highlights the potential for cross-cultural exchange between Chinese and Thai musical traditions but also offers valuable insights into the innovation and preservation of traditional music. To further develop this field, future research can explore the following areas, deepening theoretical understanding and fostering practical innovation.

Firstly, future studies could systematically analyze the similarities and differences between Chinese and Thai musical systems, focusing on scales, modes, melodic styles, and rhythmic patterns. Establishing such theoretical models would not only deepen understanding of the two musical cultures but also guide more cross-cultural adaptations and creations. Beyond the integration of the Pipa and the Thai Jakhey, researchers could explore combining other Chinese traditional instruments (e.g., guzheng, erhu) with Thai traditional instruments (e.g., saw sam sai, ranad). The interplay of timbre and techniques between different instruments could further enrich the artistic and expressive value of cross-cultural music. Second, research could expand the range of adapted compositions. While current studies focus on traditional repertoire, future work could explore adaptations of Thai folk music, contemporary popular music, or even religious ceremonial music. Such diversification would showcase the versatility of Chinese-Thai musical fusion and attract audiences from various cultural backgrounds.

Simultaneously, innovations in performance styles, such as stage collaborations, multimedia interactions, and film scoring, could enhance the expressive power of adapted works. Leveraging social media platforms through short videos or live-streamed performances could further engage younger audiences and amplify the music's reach and influence. Third, future research could incorporate technology and interdisciplinary collaboration. Artificial intelligence and digital music tools could analyze melodic and rhythmic patterns in Chinese and Thai music, supporting the adaptation and creation processes. Additionally, integrating perspectives from cultural anthropology and sociology could explore the impact of musical fusion on cultural identity and social interaction, enriching the academic and practical significance of the research. Furthermore, promoting international collaboration and educational outreach will be critical for advancing this field. By inviting musicians, composers, and scholars from both countries to participate in joint creations and research, deeper cultural exchanges can be facilitated. In the educational domain, music institutions or cultural organizations could introduce courses or workshops on Chinese-Thai musical fusion, encouraging students and enthusiasts to actively engage in spreading this cultural exchange. Lastly, future studies should focus on the reception and dissemination of music. Through surveys and interviews, researchers could assess audience reactions and levels of acceptance toward Chinese-Thai musical fusion, providing targeted recommendations for future creations and enhancing the appeal and impact of adapted works.

In summary, future research should balance theory and practice, leveraging technological advancements, international collaboration, and educational outreach to promote innovation and exchange between Chinese and Thai musical cultures. As a universal art form, music will continue to serve as a bridge for cultural integration, contributing to the coexistence of traditions and the revitalization of the arts in a globalized world.

REFERENCES

Barton, J. (2008). The khim in Thai culture: Adoption and adaptation. Thammasat University Journal of Liberal Arts, 8(2), 15–34.

Chaipanya, S. (2007). History of Thai Music. Bangkok: Silpakorn University Press.

Chen, J. (2015). A Historical Study of Musical Cultural Exchanges in Southeast Asia. Kunming: Yunnan University Press. CNKI. https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CJFDLAST2015&filename=ODYX201501023

Chanthapanya, K. (2020). A study of Jakhe techniques in Thai classical music performance [Master's thesis, Silpakorn University, Bangkok, Thailand].

Chaiyaphum, P & Srisuphan, A. (2015). Emotional Characteristics of Thai Traditional Music: A Case Study on Classical Thai Music Genres. International Journal of Musicology, 22(3), 45-60.

Henan Museum. (2014, June). Huaxia Ancient Music Ensemble performs at Suan Sunandha Rajabhat University. https://www.chnmus.net/sitesources/hnsbwy/page_pc/wbzx/yndt/articlee86537b65c3845ffbc05440ed95a4a62.html

Lu, J. (2021). Research on the Cultural Transmission of the Pipa (Master's thesis, Shanghai Conservatory of Music). CNKI. https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD2021&filename=2021.nh

Li, Y. (1983). A Brief Record of Siam (Xianluo Zhilue). In Collected Historical Materials on China's Foreign Relations. Beijing: Zhonghua Book Company. (Original work published during the Qing dynasty)

Morton, D. (2001) Music in Thailand: Experiencing music, Experiencing culture.

Morton, D. (1980). Musics of many cultures: An introduction. Berkeley, CA: University of California Press.

Morton, D. (1960). Thai traditional music: Hot-house plant or sturdy stock. Journal of the

Siam Society, 48(2), 121–128.

Morton, D. (1976). The Traditional Music of Thailand. Berkeley, CA: University of California Press.

Meyer, L. B. (1956). Emotion and Meaning in Music. University of Chicago Press.

Srisakul, P. (2017). "Traditional Thai musical instruments: An overview and instructional guide" [Thai and English bilingual guide]. Silpakorn University Press.

Su, M. (2018). Research on the Spread of Chinese Opera in Thailand. Bangkok: Thai Institute of Chinese Culture. CNKI. https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD2018&filename=TIJY2018xxxxx

Sirindhorn, M. C. (2019). Cultural memory of Chinese instruments. Speech presented at the China-Thailand Cultural Forum, Bangkok, Thailand.

She, D. (2023). Ornament techniques of the pipa [Unpublished article].

The Fine Arts Department. (2021). Project for recording gong patterns, notation, and song history of Khru Montri Tramote. Bangkok: Department of Music, Fine Arts Department. Retrieved from https://anyflip.com/lkkpl/zsle/basic/151-200?utm_source

Tramote, M. (1954). The Evolution of Thai Music. Thai Culture Journal, 2(1), 6–11.

The Fine Arts Department. (2015). Thai music (7th ed.). Bangkok, Thailand: The Fine Arts Department.

Tian, W. (2014). Discussing the Development History of Pipa CNKI. https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CJFD2014&filename=YINY201401005 https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CJFD2012&filename=ZYWH201201015

Wisuttipat, M. (n.d.). The theoretical concepts on Thai classical music.

Wong, D. (1989/1990). Thai Cassettes and their Covers: Two Case Histories. Asian Music, 21(1), 78–104.

Xinhua Silk Road. (2023, October 25). Chinese traditional music resonates in Thai

universities: "Silk Road Flying Songs" promotes mutual understanding. https://www.imsilkroad.com/news/p/521371.html

Yupho, D. (1960). Thai Musical Instruments. Bangkok: Department of Fine Arts.

Zhuang, Y. (2001). Pipa Manual, Shanghai Music Press. CNKI. https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=KJFD2001&filename=YINY200101010

Zhang, Y. (2012). A Study on Sino-Thai Musical and Cultural Exchanges. Beijing: Central University for Nationalities Press. CNKI.

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