
Cultivation of Polyphonic Thinking in Polyphonic Music Teaching

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Abstract

Based on the author's experience and feelings in the teaching of polyphonic music writing for many years, this article discusses polyphonic thinking, polyphonic writing techniques and the application of stylistic forms peculiar to polyphonic music, which must be gradually cultivated and mastered in learning polyphonic music writing on macroscopic and microscopic teaching contents.

"Polyphonic thinking" is a professional term often mentioned in the teaching of composition and technical theory of composition. It is the ability to write and perform in multiple voices. For students majoring in music, it is crucial to establish polyphonic thinking as early as possible, which is also a first necessary step for learning polyphonic music writing, to cultivate students' ability to master counterpoint technology and use polyphonic writing skills to create music. The training and cultivation of polyphonic thinking should complete through three processes: training of cognitive ability, perceptual ability and writing ability.

The establishment and cultivation of polyphonic thinking is to enable students of music major to construct and perform music with multi-voice thinking. become more skilled in polyphonic music counterpoint writing skills to create and analyse music works with more comprehensive and systematic use of polyphonic music writing ability.

Keywords: Polyphony Thinking, Polyphony Writing Technique, Polyphony Teaching

1. Introduction

For its exceptionally unique worth, music has, and continues to be part of the curriculum in every society where quality education is valued. Otchere, E. D. (2015) . With the wide popularization of music education and the deepening of music professional discipline construction in colleges and universities of China, at present, music colleges and universities in China have established polyphony courses for the specialty of musicology and music performance. As one of the "four major parts of composition", the polyphony course, which has been introduced from the composition major to the major

of music performance. In addition, in recent years, normal universities are faced with objective problems such as poor writing foundation of the students of music majors and obviously reduced class hours.

At present, normal universities in China are faced with the following problems:

1. Teachers in the music theory major of normal universities are of different levels. Teachers in the normal universities in developed cities are of high level, while teachers in the normal universities in less developed cities are of low level.
2. The version, method and concept of polyphonic textbooks used are aging.
3. Normal university students' music professional level and music theoretical knowledge are quite uneven.

After several years' efforts, the teachers in the Theory Teaching and Research Office of School of National Arts, normal University have made a series of teaching and research achievements in polyphonic course teaching. In our school, the teaching objects of the common course of polyphony include musicology major, music performance major and original ecology music major in one- year period. The teaching objectives include introducing the basic knowledge of various related subjects to polyphony, the development and evolution of polyphony, understanding various contrapuntal textures, etc. The main line of all of them is to cultivate students' "polyphony thinking" as to improve students' overall sense of polyphony music and to help professional performance.

Cultivating the students' "polyphonic thinking" enables the students of music major to construct the melody writing skills with multi-angle and multi-part thinking, and to improve the performance interpretation ability and analysis and creation ability of music works. In this way, the music works will no longer be "flat" lines, but into a "three-dimensional" symphony.

"Polyphonic thinking" is professional term often mentioned in the teaching of composition and technical theory of composition. However, few people have carefully considered the exact definition of "polyphonic thinking" and the guiding significance of "polyphonic thinking" in modern music creation.

The so-called polyphonic thinking refers to the ability to control two or more parts at the same time. Here "control", for a solo multi-part instrument, means to control each part at the same time; for an instrument in ensemble, it means maintaining a timely interactive relationship with other parts while clearly expressing its own parts. In either case, players are required to have a good sense of integrity, and timbre and volume must be changed in time when the composition of the performance changes. This kind of good coordination ability is not only necessary for the performance of polyphonic works, but also essential for the self-cultivation of thematic works.

We might as well review the development of western music. Then it is easy to find that although the European composers in different eras have different way of thinking in the music creation, Webster, P. R. (2016). They placed the encouragement of creative

thinking and entrepreneurship at the centre. their music creation "thinking" in essence does not have evident "evolution", and there are only changes of music language style and the way of expression of the composers in various historical periods. When we read the music score of the European and American composers of the 20th century, although what presented in front of us is the diversity of modern forms of writing, it is not hard for us to find the important organization and structure effect are more changes of polyphonic factors with careful observation and analysis. The growing emergence of this phenomenon makes people more and more strongly identify with the idea that modern music is but the return of polyphonic music.

As many college professors of music are aware, the "polyphony writing technique" or "polyphony teaching" course for non-majors is one of the most challenging courses for an instructor to teach and often a very problematic humanities course for the undergraduates who enrol in it. Archetto, M. (2017). Therefore, in teaching, we should first make students fully understand the importance of "polyphonic thinking". At the same time, it must be clear that the establishment of "polyphonic thinking" is gradually in the competition with the mode of thinking of the theme. Since learning music, many students who learn composition have been exposed to the music mainly in the form of homophony, and the writing training they received when they began to learn composition in the form of homophony. For those students who have learned piano since their childhood, although they have played some Bach works and have some perceptual understandings of polyphony music, they still cannot fully understand the true meaning of polyphony music, and they just "know it without knowing why". Therefore, the mono part writing habit and the homophony creation thought must be the preconceived way, moreover, must instil it deeply into the composition study of the specialized student's mind, and makes the melody writing be closer to the homophony. Therefore, it is very important for students to establish polyphonic thinking as soon and early as possible, which is a first necessary step for learning polyphonic music writing. Of course, some necessary teaching links are also very important. For example, it is the first step to change thematic thinking into polyphonic thinking to ask students to rewrite typical thematic melodies into polyphonic melodies. Then, how the second, third or more steps to be taken and how to cultivate polyphonic thinking is the first problem that must be solved in polyphonic music writing course.

This article believes that there are three main steps concerning how to cultivate students' polyphonic thinking:

1. Cultivation of cognitive ability. Let students understand the concept and types of counterpoint and imitation, have ability to analyse works of polyphony genre, and understand the styles and characteristics of different times.
2. Cultivation of perceptual ability. Let the students clearly understand the difference between homophony and polyphonic music in morphology, writing and structure.
3. Strengthen the training of writing. Students are required to complete enough counterpoint training, including the training of classified counterpoint, the writing

of all techniques of contrastive polyphony and imitation polyphony, and the writing training of polyphonic music genre. Therefore, in the teaching practice of polyphony, attention should be paid to cultivating students' polyphony thinking, and the cultivation of students' polyphony thinking should be taken as an important part of teaching to enhance students' understanding of the essential characteristics of polyphony music and the importance of polyphony thinking in music creation.

2. Cultivation of cognitive ability

Individuals differ in musical competence, which we defined as the ability to perceive, remember, and discriminate sequences of tones or beats. Swaminathan, S., & Schellenberg, E. G. (2018). Musical engagement is widespread, yet individuals vary in musical ability. Some of this variance stems from learning by way of music listening and formal training in music.

Many people think that music is emotional, and it is an expression of emotion. This kind of expression needs to realize through the performance skill, but not seem to need the rational thinking to grasp. The author thinks that learning and playing music works is the fusion process of sense and sensibility. The initial practice needs to rely on "experience" (commonly known as the feeling, is also general characteristics) and the play symbols lined out by the composer for processing, and then to analyse the whole work rationally to find out the characteristics of the work combining with the instant burst of inspiration to achieve excellent effects. Therefore, the conceptual and knowledge-based education for students is also a very important part in developing their performance ability.

For example, when playing fugue, careful analysis of each appearance and deformation of the theme of the work is made and it is helpful to clearly understand the potential of its own morphological development, as well as the ability to constantly switch positions in different parts, namely in time and space. The theme may not be always the loudest when it is together with another antithesis. It also depends on the harmony and tonality environment at this moment and considers whether other parts have more interesting motives or tones at the same time. However, in a contrapuntal texture, each part must maintain its own line integrity and clarity. In addition, the analysis of the works is an important basis for the division of phrases and the judgment of the strength. For example, it is known that in the first divertimento of 21st Fugue in the first volume of Bach's Well-Tempered Clavichord, the material comes from the first three sounds of the theme, namely the contraction of the theme. Therefore, when playing, the strength judgment should be like this:

Example 1:

The image shows a musical score for a piano piece, labeled 'Example 1'. It consists of two staves: a treble clef (piano) and a bass clef (bass). The key signature has two flats (B-flat and E-flat), and the time signature is 4/4. The score is divided into three measures. In the first measure, the piano part has a dynamic marking of *p* (piano) and the bass part has *mf* (mezzo-forte). In the second measure, the piano part has *mf* and the bass part has *p*. In the third measure, the piano part has *p* and the bass part has *mf*. The piano part features a melodic line with eighth and sixteenth notes, while the bass part has a more rhythmic accompaniment with eighth and sixteenth notes.

In addition, the enhancement of cognitive ability is also conducive to recite music score. The author once gave a questionnaire survey to the students in the same class, and 93% of them said that one of the difficulties of playing polyphony lies in memorizing music score, and once broken, it is difficult to continue. Therefore, in the undergraduate study stage, it is more important to cultivate students' rational cognitive ability to develop their memory ability in this aspect.

3. Cultivation of perceptual ability

Leman, M., Maes, P. J., Nijs, L., & Van Dyck, E. (2018). Music cognition is strongly determined by corporeally mediated interactions with music. In the teaching process, the author designs some exercises on multimedia software to cultivate and train students' polyphonic sensibility. The reason for the adoption of multimedia software improvisation training is to train the students' reaction speed so that practice can make perfect. As in Zemtsovsky, Article "Polyphony as a Way of Creating and Thinking: The Musical Identity of Homo Polyphonicus" in Mentioned. Zemtsovsky, I. I. (2003). "We see now, that to sing polyphonically means to think musically together and therefore to proceed musically together, i.e., to improvise collectively in order to "lift the song up" as Russian peasants say. Part-singing not only requires a polyphonic" score," but also polyphonic inner auditory perception on the part of everyone". Students should do exercises without thinking, to form polyphonic intuition.

The use of multimedia software for the cultivation of students' perceptual ability does not need very high technical requirements of the piano, and it can also be mastered by non-piano students. The exercises include counterpoint and imitation, in which the counterpoint exercises are the evolution of the first four categories of the counterpoint taxonomy. Although the classified counterpoint summarizes the polyphonic music style in the Renaissance represented by Palestrina, it still plays an important role in the polyphonic music teaching in Europe, which shows its irreplaceable teaching effect.

Through years of practice, the author has found that the training of classification system can help students establish the concept of harmony rhythm, and thus develop the ability to judge the freshness of chords. At the same time, students can be very sensitive to the intervals, rhythms, melody trends, ups and downs, periodic high notes and other sounds formed between the parts. Because the class hour is limited, the polyphony common class in our art school only teaches three parts is also the base of improvises.

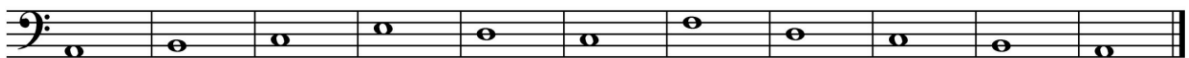
The classified counterpoint method has more proportion and content in the polyphony teaching, this article only summarizes the two parts one-to-one writing as the teaching examples.

Fux was an Austrian music theorist and composer in the 16th century. He created a polyphonic teaching system, which was initially only reflected in the multi-part religious music performed by choir. When Fox gradually improved this method into the teaching system, its specific writing rules, methods, and various counterpoint techniques became the technical specifications for polyphonic music writing at that time.

The important part of Fox's teaching method is the strict training of classified counterpoint. From one to one, one to two, one to four, one to one syncopation to one-to-one freedom, the most effective method to develop polyphonic thinking through systematic and progressive polyphonic music writing training was established. This teaching method is to take a single line as the basic expression form of music and gradually transform it into two, three or even more parts. Through the contrast of different rhythms, different entry time and different movement directions, it forms an organic combination and deduces the whole process of the formation of counterpoint melody under the polyphonic thinking.

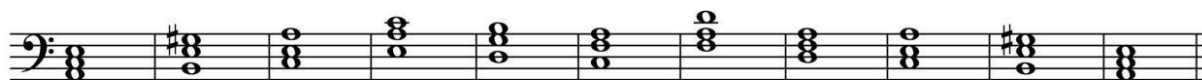
The previous teaching of classified counterpoint always took interval as the object of special attention so that only the knowledge of music theory could be used to solve the problem. It is true that T-S-D was not considered at the age when functional harmony was not yet sound. But it is difficult for students in the 21st century to return to the pure Renaissance period of Palestrina's creation. Therefore, in this case, if the function and progression of harmony are not emphasized, the exercises produced will often inevitably have a noncoherent effect. Thus, when contacting the theme, it is necessary to analyze the tonality and harmonic vocabulary of the subject at the beginning, especially with a clear ending, for example, the fixed melody (C.F.) as follows:

Example 2:



Place the C.F. on bass and play a chord above it.

Example 3:

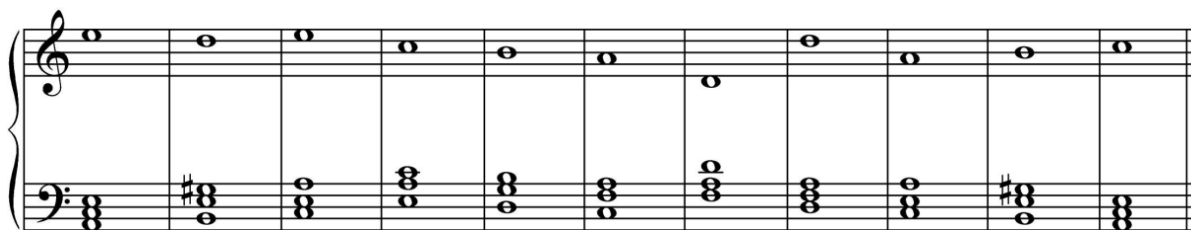


a: I V I I II VI IV IV I V I

At this time, students have a three-dimensional understanding of C.F. Then we can introduce the contrapuntal part. The contrapuntal part is written on another line of the staff. Several points should be noted. One. The chord notes with the chord markers must be written. Two. Try to keep the opposite direction from the bass part. Three.

Avoid the progression of horizontal increase of four, decrease of five, seven, or nine degrees. Four. Grading and jump, ascending and descending should complement each other, and the melody should have ups and downs. At this point, the student will obviously slow down and keep making mistakes. That means that the chords have not yet penetrated the consciousness of their brain. Students must first be able to simultaneously use the right and left hands as one, that is, to express the same chord with both hands to further pay attention to the horizontal melody progression.

Example 4:



a: I V I I II VI IV IV I V I

In the whole process of writing, some rules can be less restricted. For instance, three-dimensional sound can be repeated, a voice surpassing can be in the same direction but not more than three times. After practicing, students can stagger the two outer parts and the inner part of, which can make the melody of the two outer parts clearer.

Example 5 :

The image shows a musical exercise on a grand staff. The treble clef staff contains a sequence of whole notes: C4, D4, E4, F4, G4, A4, B4, C5, B4, A4, G4, F4, E4, D4, C4. The bass clef staff contains a sequence of chords: C2, D2, E2, F2, G2, A2, B2, C3, B2, A2, G2, F2, E2, D2, C2. Below the bass staff, the Roman numerals are: a: I V I I II VI IV IV I V I.

The above exercises are fast and effective in cultivating students' perceptual ability, which also meet the active character of the students of music performance major, and they have achieved good results in the author's teaching practice.

4. Strengthen the writing training

What does this mean for music teaching today? Winters, M. (2012). It means that as practitioners we need to be clear about our learning objectives in relation to music technology and its place in the lives of young people. Andrade, P. E., Vanzella, P., Andrade, O. V., & Schellenberg, E. G. (2017). Music can induce emotions and influence moods. Accordingly, people listen to music to change how they feel. Musical characteristics such as tempo, mode, consonance, pitch register, loudness, and complexity have systematic associations with specific emotions.

In the teaching of polyphony, the teaching of classified counterpoint is an important part of teaching. Wang, D. P. C. (2019). Both Duan Pingtai's Polyphonic Music Writing and Yu Suxian's Polyphonic Music Course have the contents of classified counterpoint training, which occupies a certain space, which shows the importance of classified counterpoint in polyphony teaching. However, in the actual teaching process, due to the monotonous training method, too many rules and regulations, and the lack of changes in rhythm, most of the students are not very careful and interested in the classified counterpoint training, but just finish the homework.

Through many years of teaching exploration, the author has found out a set of simple and easy method five- step method. Take the example of one to four writing of three parts.

Step 1: Analyse the mode tonality of C.F. and note the harmonic sequence, for example:

Example 6:

G: I V I II I III IV V II II VI V I

By analyzing the fixed melody (C.F.), it can be judged that the fixed melody (C.F.) is in G Major; the position in the second part requires us to write two contrapuntal melodies of the external part, one with full notes and the other with quarter notes. The ending of the harmony is arranged in the last two measures of the melody.

Step 2: Select chord notes according to the marked chords and write one of the parts with whole notes. Students are required to write this voice part with chord sound as much as possible, the phenomenon of the same direction, repeated three tones, voice exceeding and continuous third and sixth are allowable, and there is the need to avoid dissonant interval jump and parallel five octave, reverse five octaves, hidden five octave etc:

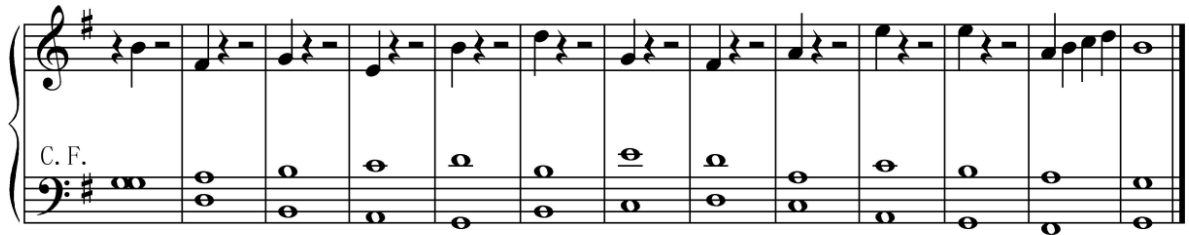
Example 7 :

G: I V I II I III IV V II II VI V I

One part written with chords as shown in the example, as opposed to the fixed melody (C.F.).

Step 3: Write another part with quarter notes according to the chord notes marked. Ask the students to write this part: 1. Fill in the notes with the strong beats in the first place with the chord notes (in principle, fill in the missing notes); 2. As far as possible, the notes on the two overbeats are in the opposite direction from the low part; 3. Take a rest to enter; 4. Arrange the last two sections (terminate):

Example 8 :

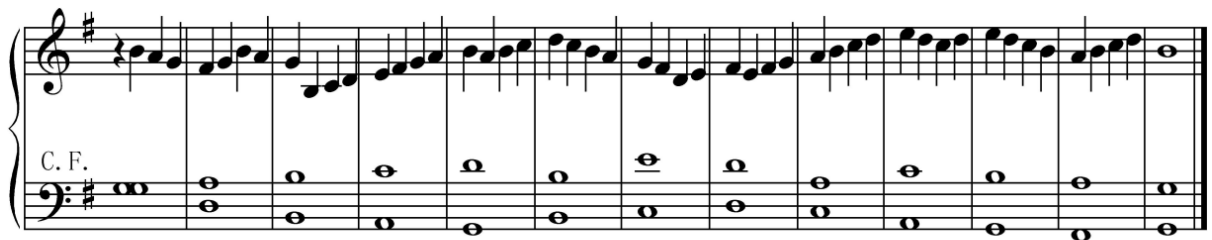


G: I V I II I III IV V II II VI V I

Example Eight shows that: One. The high-pitched part in the first measure enters one beat later than the other two parts, which is the aesthetic requirement of polyphonic music. Two. The first beat of each measure is an absolute strong beat, and the melody direction between the two strong beats should be opposite to the bass as far as possible. Three. The last two sections for $V_{(7)}$ - I is authentic cadence.

Make morphological connections according to the polyphonic melodies learned, such as the connection of transients, double transients, tone changes, superfluous sound, and auxiliary sounds.

Example 9 :

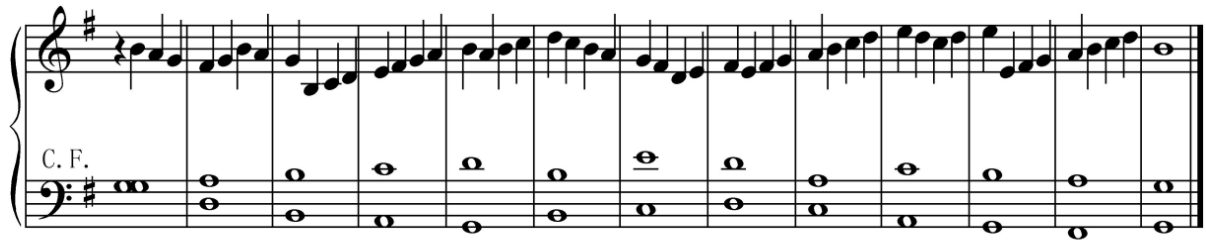


G: I V I II I III IV V II II VI V I

Skilled writing may help master some writing skills. The same degree between strong beats can reverse with the passing tone. The second degree can be converted with the passing tone and the same chord, the third degree with the auxiliary tone and the passing tone, the fourth degree and the fifth degree with the double passing tone.

Step 5: According to Western music theory, there may be more than one appropriate harmonization of a melody. Trainor, L. J., & Trehub, S. E. (1994). As polyphony music is an art combining multiple tunes and melodies, the melody of each part is relatively independent, and we finally need to polyphony some parts.

Example 10 :



G: I V I II I III IV V II II VI V I

In Example Ten, the melody of the Soprano voice in bars 10 -- 11 is plain and lack of independence. After the polyphonic treatment of the melody, the octave jumps contrasts with the grading in the lower part, changing the direction of the melody and forming a contrast with the melody form of the lower part. Trainor, L. J., & Trehub, S. E. (1994). A simple, well-structured melody would be expected to have an obvious, or prototypical, implied harmony, although other harmonisations would be possible in principle. Indeed, good agreement is evident among music experts for simple, well-structured melodies, and variations in harmonization increase as melodies deviate from the rules of Western tonal structure.

5. Conclusions

To sum up, the establishment and cultivation of polyphonic thinking is to use polyphonic thinking to structure music. The importance of polyphonic thinking lies in the appreciation of the polyphonic and multi-line texture form of music writing. Learning the strict counterpoint technique is to master the counterpoint writing ability, which the polyphony music manifests through these necessary training. The purpose of learning polyphonic music genre form is to write music works with the polyphonic music writing ability mastered in a more comprehensive and systematic way.

References:

- Andrade, P. E., Vanzella, P., Andrade, O. V., & Schellenberg, E. G. (2017). "Associating Emotions with Wagner's Music: A developmental Perspective". *Psychology of Music*, 45(5), pp.752-760.
- Archetto, M. (2017). "Interdisciplinary Approaches to the Introduction to Music Course". *Teaching Music History*, pp. 69-76.
- Leman, M., Maes, P. J., Nijs, L., & Van Dyck, E. (2018). "What Is Embodied Music Eognition?". *Springer Handbook of Systematic Musicology*, pp.747-760. Springer, Berlin, Heidelberg.
- Otchere, E. D. (2015). "Music Teaching And the Process of Enculturation: A cultural dilemma". *British Journal of Music Education*, 32(3), pp.291-297.
- Parncutt, R., Reisinger, D., Fuchs, A., & Kaiser, F. (2019). "Consonance And Prevalence of Sonorities in Western Polyphony: Roughness, Harmonicity, Fmiliarity, Evenness, Diatonicity". *Journal of New Music Research*, 48(1), pp. 1-20.
- Pellegrino, K., Beavers, J. P., & Dill, S. (2019). "Working With College Students to Improve Their Improvisation and Composition Skills: A Self-study with Music Teacher Educators And a Music Theorist". *Journal of Music Teacher Education*, 28(2), pp. 28-42.
- Rydén, J. (2019). "On Fatures of Fugue Subjects. A Comparison of JS Bach and Later Composers". *Journal of Mathematics and Music*, pp. 1-20.
- Swaminathan, S., & Schellenberg, E. G. (2018). "Musical Competence is Predicted by Music Training, Cognitive Abilities, and Personality". *Scientific Reports*, 8(1), pp. 9223.
- Trainor, L. J., & Trehub, S. E. (1994). "Key Membership and Implied Harmony in Western Tonal Music: Developmental Perspectives". *Perception & Psychophysics*, 56(2), pp.125-132.
- Winters, M. (2012). "The Challenges of TeachingCcomposing". *British Journal of Music Education*, 29(1), pp.19-24.
- Webster, P. R. (2016). "Creative Thinking in Music, Twenty-five Years on". *Music Educators Journal*, 102(3), pp.26-32.
- Zemtsovsky, I. I. (2003). "Polyphony as a Way of Creating and Thinking: The Musical Identity of Homo Polyphonicus". *The First International Symposium on Traditional Polyphony*, pp.33-54

