

COMPARISON OF THREE CHINESE TRADITIONAL PIPA MUSIC SCHOOLS WITH THE AID OF SOUND ANALYSIS

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ABSTRACT

The Pipa [1] is a short-necked lute and one of the oldest and most important solo instruments in China. Because of its complicated technique and wide range of expressive musical forms and styles, the Pipa is an instrument which is popular not only in China, but also in Western culture. The traditional Pipa schools were formed in Shanghai, the most prosperous place, in the middle of the nineteenth century. Each Pipa School had its own special music collections, notations, techniques, styles, different ornaments, performance aesthetics and representative Pipa teachers [2]. For this study, recordings of three representative Pipa Masters were used to analyse the same civil piece Yue er gao (The Moon on High) [3], [4] [5] [6] instead of simply analysing the musical score, using the computer program SNDAN developed by Rob Maher and James Beauchamp [7]. This paper explores the way the masters used to perform the same core melody but embellished it in various ways, which were governed by the different aesthetic principles of the respective school. In addition, this paper examines how various playing techniques produce different sound effects regarding pitch variation and tremolo [8].

1. INTRODUCTION

The aesthetic of the ornamental parts of a piece shows which school it was performed by, as the pupils always learnt how to embellish a piece from their masters. Pudong Master Lin Shicheng refers to the adornment of a piece as a symbol of mastery:

“How to embellish a piece is a masters art, and the masters always play without a score. The Pipa score merely helps the student memorise the music more easily, as the traditional score is not very complex and usually notes the core melody only” [9], [10].

In my Pipa lecture with master Lin, he told me that at the beginning his teacher had only noted down the Gongchi score (core melody) for him so that he was able to memorise the music more easily, but that he had not written down the ornamental parts, as he, the pupil, was expected to develop his own creative style of interpretation [11] p. 79, [12].

2. OBJECTIVE AND METHODOLOGY

The history of the traditional Pipa Schools shows us that the Wang School derives from the Pudong School; as former stu-

dents of the Pudong School, the Wang masters display a greater Pudong influence than those of the Pinghu School. The aim of this paper is to identify this phenomenon in their musical interpretation and examine how the music principles of both schools stand in a reciprocal relationship with one another, paying particular attention to the parallels and contrasts, freedoms, continuity and discontinuity - such as technique and the melody line and how they embellish the melody line. A further focus is the uniqueness of the musical interpretation by the master of the Pinghu School. In order to achieve this objective, the main motif of the piece The Moon on High as performed by three different Pipa masters of the said schools were compared using the computer sound analysis program SNDAN [7]. The recordings were obtained from a private collection. The masters that played were Wei Zhongle (1909-1998, Wang School) [13], [14]; Lin Shicheng (1922-2006, Pudong School) [15] and Yang Shaoyi (1913-1974, Pinghu School) [16]. The following aspects were compared: 1. The melody line, and 2. The playing techniques used to embellish the music. Analysing the melody lines proved helpful in comparing the different ways in which the masters used to interpret the ornamental parts of the piece. The notes that were played using ornamental techniques were selected for further analysis, e.g. the extent of the frequency modulation. The techniques that were analysed are: 1. the most important and typical two techniques on the left hand called Yin (vibrato) and La (glissando) of the left hand, and 2. how these two techniques are combined with the right hand technique called Lun (tremolo).

2.1. Description of the Pipa techniques which were used in this study

• Right Hand:

- Tan: The nail of the index finger strikes a single string using a down stroke from right to left.
- Tiao: The nail of the thumb strikes a single string using an up stroke from left to right.
- Lun (*): The five fingers of the right hand should first be round and then open gradually, beginning with the index finger, the second, third and fourth fingers and ending with the thumb. The movement of this technique is very fast and should not be interrupted as its function is to produce and sustain a long note.
- Fen (F): The nail of the index finger and the nail of the thumb both strike different strings, moving

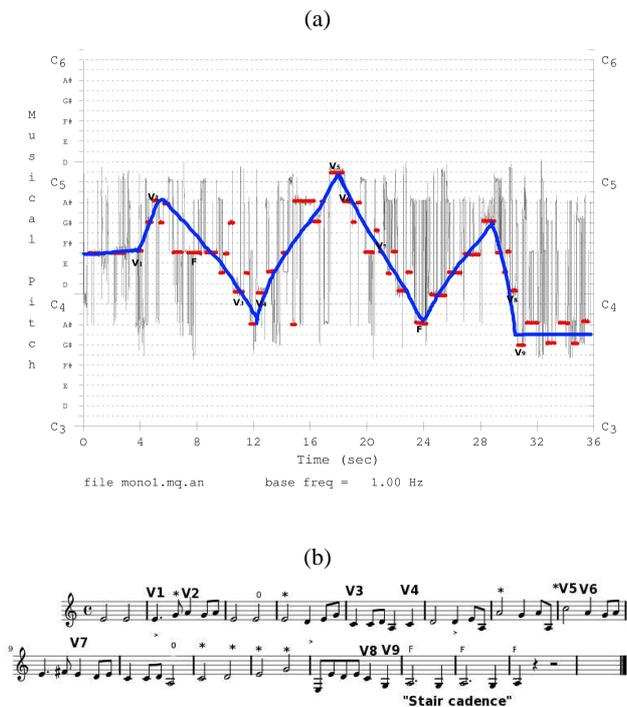


Figure 1: Wang School (a) Melody line and (b) Score (transcription by authors)

from inside to outside at the same time. R1, R2 and R3: Tan+Lun+Tan+Tiao

- Left Hand: Mostly combine with Tan and Tiao
 - Yin: the string is pushed up and down, or left to right, by the left hand several times, and the movement is similar to western vibrato, but not so regular.
 - La: the string is pushed to the left by the left hand, normally changing the pitch e.g. interval small second to fourth and then back to the initial note. The effect is similar to western glissando except for the return to the initial note.
 - Da: the index finger of the left hand strikes the string, without involving any techniques of the right hand.
 - The natural flageolets (0): the left hand is put softly on the fret, without pressing the fret, producing a flageolet note. This is combined with the right hand Tan or Tiao.

3. MELODY LINE

The difference between the melody lines of Wang and Pudong School lies in the ways the two schools use the technique Yin and La to draw their melody lines. The melody line of the Wang School (see Figure 3) shows us that it has more small ornamental notes, repeated notes or small leaps by using more techniques La and Yin than the Pudong School. By contrast, the melody line of the Pudong School (see Figure 3) is straighter, more direct, less use of La and Yin techniques and without any “stair cadence” at the end (see Figure 3 (a), 32- 36 seconds or (b) bars 14-16). But still through the thick melody line we can see the major trend: both schools are very similar. The difference

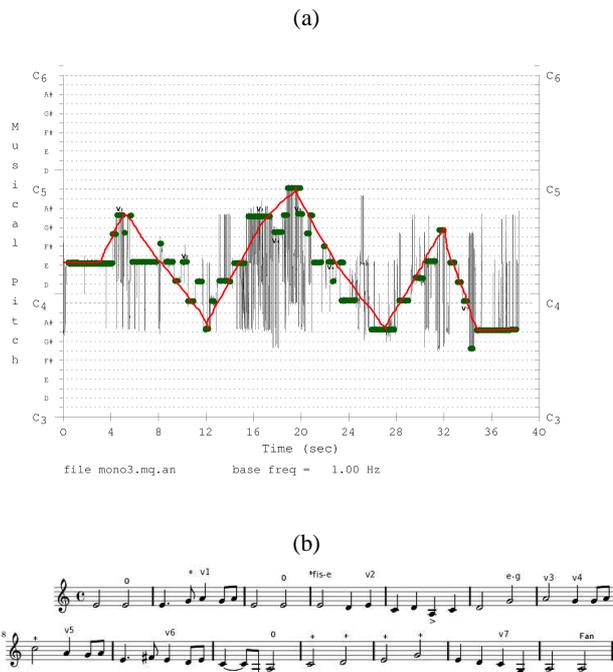


Figure 2: Pudong School (a) Melody line and (b) Score (transcription by authors)

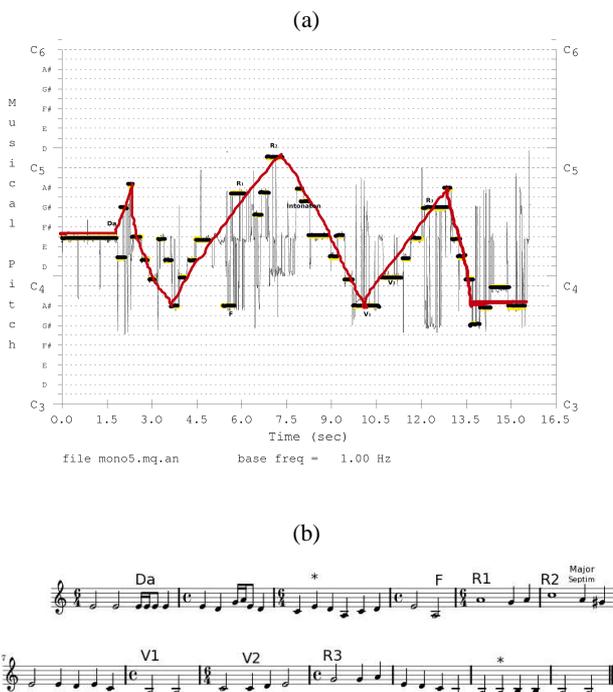


Figure 3: Pinghu School (a) Melody line and (b) Score (transcription by authors) V1=La, V2=Yin

Sample	Wang School				Pudong School			
	2/3	8/3	9/3	13/3	2/3	8/3	9/3	13/3
Where the technique was used ¹								
Technique used ²	V2: La	V6: La	V7: La	V8: Yin	V1: La	V5: La	V6: La	V7: Yin
Note that was embellished ³	A ₄ [#]	A ₄ [#]	F ₄	C ₄ [#]	A ₄	A ₄	E ₄	C ₄
Frequency Modulation (cents)	↑ +50 ↓ +30	↑ +60 ↓ 0	↑ +80 ↓ 0	↑↓ ±30	↑ +60 ↓ 0	↑ +140 ↓ +40	↑ +80 ↓ 0	↑↓ ±30

¹ Format is bar/beat

² see Figures 3 (b) and 3 (b) for the labels Vx

³ Actually, both schools embellish the same notes, the differences noted in the table are due to the fact that the instrument on the Wang School was tuned a semitone higher than that of the Pudong School

Table 1: Comparison of playing techniques between Wang and Pudong Schools

between both schools is that the Wang School used more La and Yin techniques to draw their melody line, and repeated notes, whereas the Pudong School used more major second intervals to draw their melody line.

The melody line of the Pinghu School (see Figure 3) shows that it was performed at a very fast tempo and with a changed beat (6/4-4/4). Compared to Wang School and Pudong School this piece has its own character, for instance with regard to tempo and technique. It is very interesting to see the musical principle of the Pinghu school in that the techniques were used on the first, second and third beat. It is remarkable that in this piece, the master of the Pinghu School used an old instrument, and due to the smaller number of frets and the different tuning system one can observe a special pitch and interval such as on beat 6 A and G[#] (major seventh), which in the Wang School and Pudong School were not used. Such special pitch and intervals give this piece a totally different character, and today this kind of interpretation is very rare, as is its performance.

4. PLAYING TECHNIQUE

Table 1 shows the similarity between Wang School and Pudong School, with regard to e.g. on which beat they use the same techniques in the same notes, and the acoustic phenomena (Frequency Modulation). This comparison shows an interesting phenomenon, i.e. that the techniques La and Yin are used ornamentally on the third beat. The difference lies in the ways the two schools use the techniques Yin and La and how they draw their melody lines. Figures 4 and 6 show the techniques of the left hand (frequency modulation) from the acoustic measurement: the Pudong master played the Yin (like Vibrato) and La (like Glissando) techniques more intensively than the Wang master. This acoustic phenomenon reflects the typical style of the Pudong School: my Pudong master Lin Shicheng once told me during my private Pipa lecture with him that these intensity effects on the Yin and La techniques are used in order to express the emotion of the music and that this is also typical performance style of the Pudong School. However, the RMS measurement on the Lun technique (see Figure 5) reveals that the Wang School plucked the string more often with the right hand than the Pudong School.

Through this analysis we can see the influence of the Pudong School on the Wang School in the way the major thick melody line tends to be similar. We can see how the masters of both schools were closely related to each other, and how this relationship influenced their musical interpretation.

The comparison shows that both Schools also have a greater similarity with each other than with the Pinghu School: Because of the fast tempo of the latter there is almost no long notes apart from the notes A, C and G. Therefore in these three long notes

the master used the technique of the right hand R1, R2 and R3 (Tan+Lun+Tiao) so that it can be played faster. The techniques such as Yin (vibrato) or La (glissando) were used sparingly, in the notes marked V1 and V2 respectively (see Figure 3 (b)).

5. CONCLUSIONS

A comparison between the recordings from the Wang and Pudong Schools reveals not only the interpretations by the different schools but also 1. how the same technique was used in the same note, 2. how intensively the techniques Yin and La were played in the same note, and 3. the musical function of these techniques. We can also determine how each master decided which ornamental note, interval, technique and beat to use to draw their melody line. Their similarity in the musical interpretation, as well as the techniques they have in common, prove the strong link between the Wang and Pudong Schools, while the Pinghu School is less influenced by the others. The Master Yang Shaoyi of the Pinghu School provided a new definition of the tempo (fast tempo) for the civil style of the Pipa.

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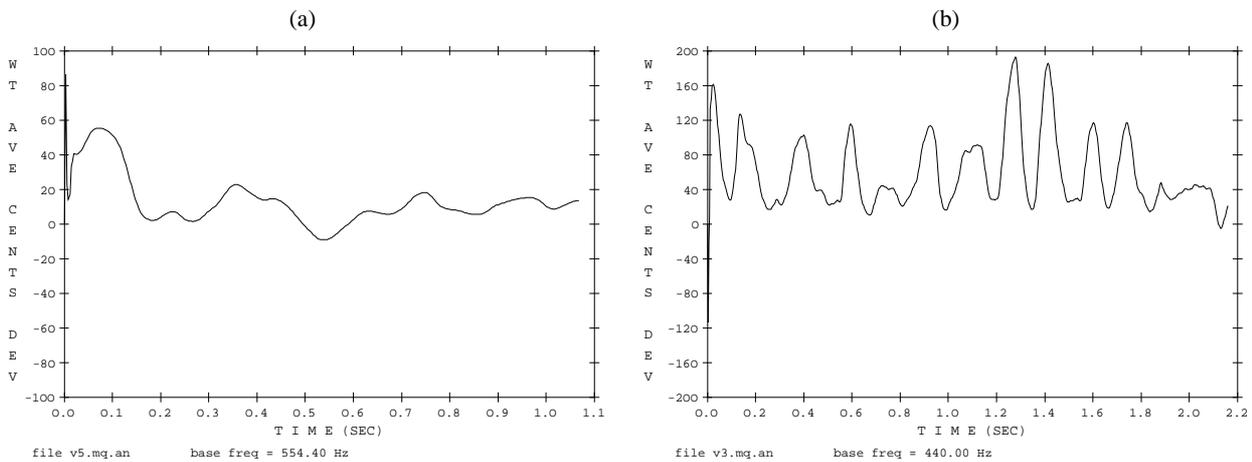


Figure 4: Yin technique in (a) Wang School and (b) Pudong School

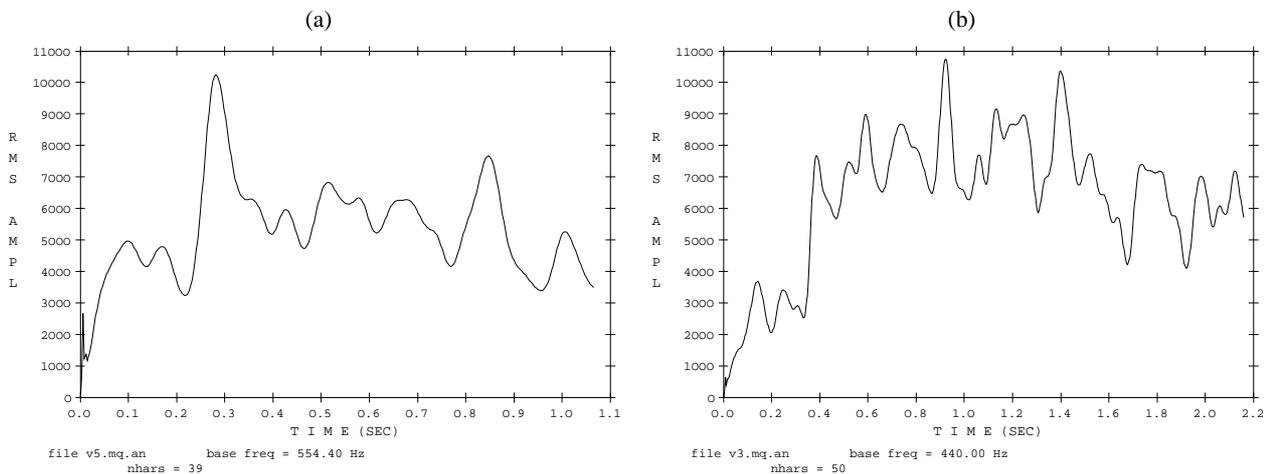


Figure 5: Lun technique in (a) Wang School and (b) Pudong School

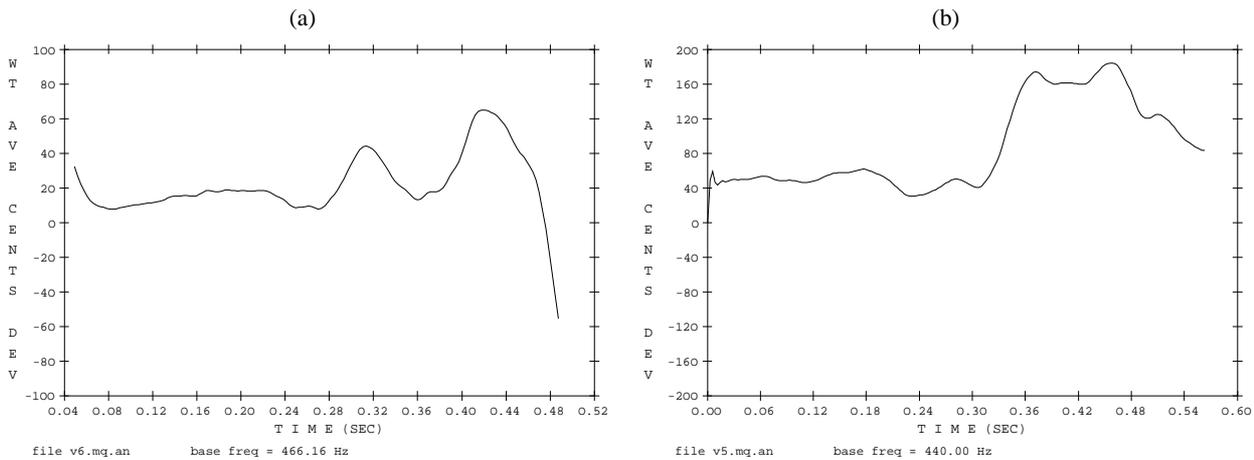


Figure 6: La technique in (a) Wang School and (b) Pudong School