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On the Influence of Piano Technique on Timbre

LI Wei[a],*

[a]College of Music, China West Normal University, Nanchong, China.
*Corresponding author.

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Abstract

The past 300 odd years since the emergence of piano, numerous excellent piano compositions of different styles and types have been created. With the emergence of these works, piano performing becomes more demanding in modern times. Piano technique is the core of piano performing, which determines the expression of music and performer's emotion. In this paper, discussions will be made on how different piano techniques are employed on the basis of different music compositions.

In the process of piano performance, many factors will affect the change of timbre. Thus, performers are required to intend proper timbre according to the style, content and emotion of composition. Of course, performers should have high performance skills, such as difficult piano techniques and performance modes. Hence, if proper piano techniques are employed, both timbre and tone quality will be improved.

Key words: Piano performance; Touch key method; Touch key technique; ToneOver

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1. CLASSIFICATION OF PIANO TECHNIQUE

Music is an art of sound. Besides piano and objective factors, the produced sound depends on performer's piano technique. By the part of force application, piano technique is classified into four types, as follows.

1.1 Fingertip Touch

For this technique, teachers should teach students to relax the wrist, concentrate the force of knuckles and hand joints on fingers, and produce bright and grain-like sound with the force fingers touching the keys. Fingertip touch is usually employed to play quickly-moving single note or leaps. Bach is a representative of fingertip touch pianists. He mainly posed his hands naturally when performing, fingers slightly shaking, and other parts remaining still. This technique was mainly employed in the Baroque Period and Clavichord Music Period, and is called "school of fingertip touch".

1.2 Wrist Force Application

The key is the process of hands moving downwards, for which the wrist force is applied. Many teachers will teach this technique to students at entry level as primary training, to temper students' finger strength and explosive force. In piano composition performance, wrist force application is mainly employed to perform the climax or sections to express which large strength is required. Wrist force application is employed most frequently, usually to perform leaps, octaves, and chords.

1.3 Elbow Force Application (Forearm)

The key is that when the elbow force application is employed, the sound is produced by pushing the keys at the time of the forearm and wrist dropping, and elbow joint is the point at which the force is applied. This technique is usually employed to play leaps, octaves and chords. Arpeggio exercise means an exercise of combining wrist and elbow force application. In piano teaching, arpeggio exercise is also indispensable. The person who combined wrist and elbow force application first is Beethoven who created most excellent classic music compositions and started romanticism. In practice

and teaching, the force of fingers or wrists is insufficient to express the intense emotion of music works. If the elbow force is added, deeper and brighter sound can be produced. This is because the explosive force of the arm is much stronger than that of the finger.

1.4 Arm Power Application (Big Arm)

This technique requires closely combining fingers, wrist, forearm and big arm. In other words, the force of the whole big arm should be applied, and the force comes from the shoulder joint. This technique is mainly employed to play melodies by singing or sections of play which large strength is required, such as Chopin's Revolutionary Etude. In fact, it seldom happens that only one of the four techniques is employed in performance. The works of romantic composer Chopin can be performed well only by subtly combining the techniques.

It can be said that fingertip touch is for performing soft and gentle accompaniments; wrist force application is for performing musical scale or arpeggio, column type chord and complicated period; elbow force application is for performing octave scales or legatos for its strong adhesive force; and arm power application is for performing romantic music compositions, such as Chopin's, Liszt's, etc..

2. INFLUENCE OF PIANO TECHNIQUE ON TIMBRE

2.1 Influence of Touch Angle on Timbre

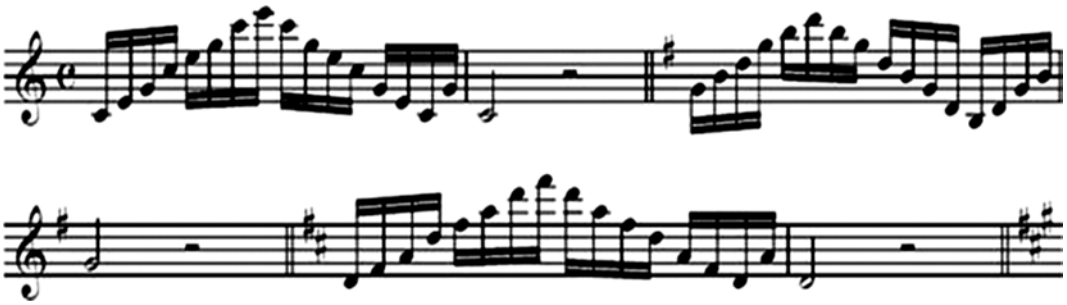
According to the physics knowledge we learned in middle school, we know that if the contact areas are different, the same force may generate different pressures. The same is true of piano performance. The larger the area of fingers touching the keys is, the smaller the angle between fingers and keys, and the softer and gentler the sound is. On the contrary, the smaller the area of fingers touching the keys is, the larger the angle between fingers and keys is, and the more intense and stronger the sound is. By the angle of key touch, piano technique is classified into the following types.

2.1.1 Wide Angle

2.1.1.1 Wide Angle With Upward Fingers

The sound produced with this technique is strong and expressive in respect of theatricality. Since the distance between fingers and keys is long, the sound is more transparent. Wide angle with upward fingers is for performing sections to play which a large strength is required or quickly-moving period marked with accent. For example, in scale exercise (Composition I), this technique can be employed.

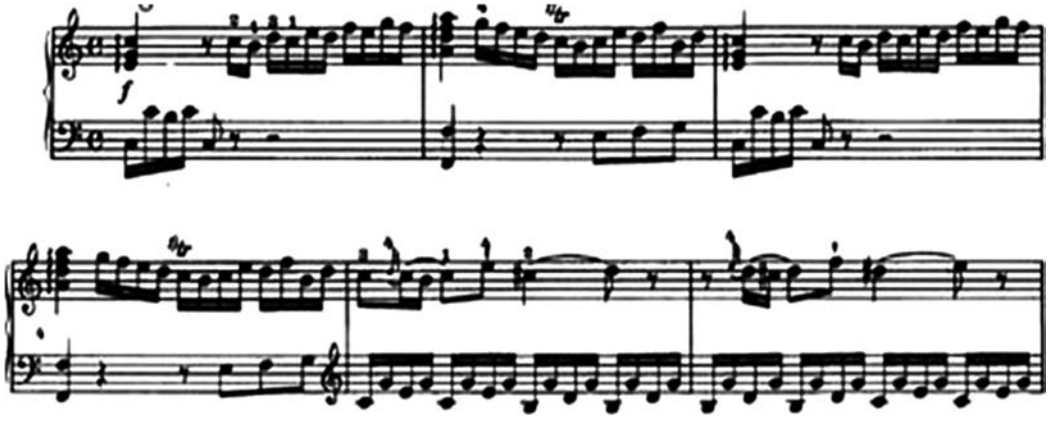
Composition I



2.1.1.2 Wide Angle With Semi-Upward Fingers

This technique refers to lifting fingers halfway and touching the keys with a maximum angle. The sound produced with this technique is clear and bright. This technique is usually employed to perform works of the Classical Period, of which the representatives include Haydn, Mozart, etc.. For example, the flowing melody in Mozart's Piano Concerto K.279 (Composition II) can be played with this technique.

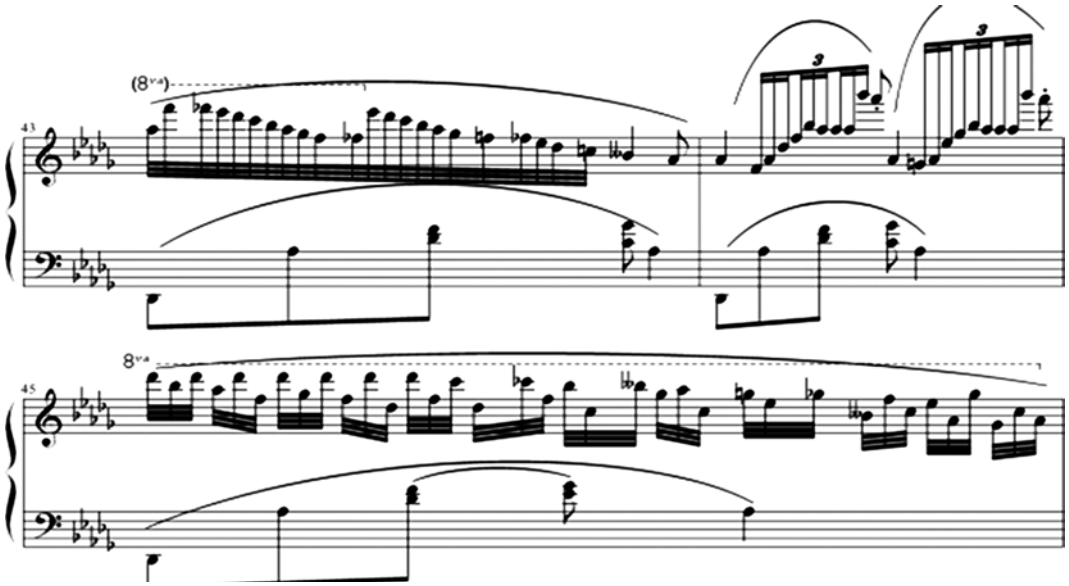
Composition II



2.1.1.3 Wide Angle With Finger Touch

This technique was usually employed in the Romantic Period and Impressionism Period. This technique refers to that performer's fingers don't keys, but slightly move towards his body by the force of the carpometacarpal joint. This technique is demanding for stable carpometacarpal joints, flexible knuckles, etc.. This technique is useful to make timbre and tone qualities have wonderful changes, and improve performance fluency. The sound produced with this technique is as bright, colorful, and clear as glinting water surface. For example, the cadenza of Chopin's Berceuse Op.57 (Composition III) should be performed with this technique.

Composition III

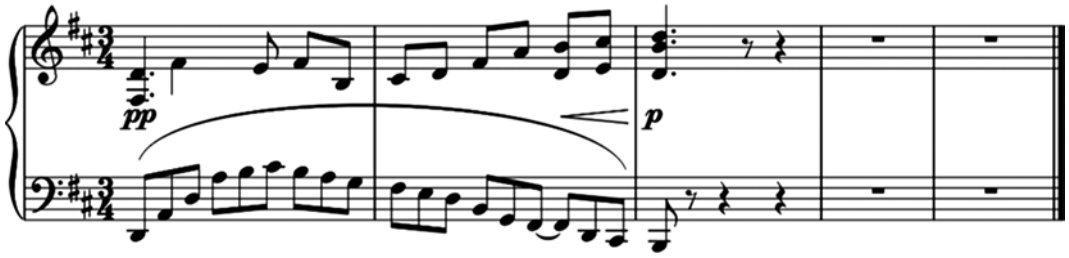


2.1.2 Small Angle

2.1.2.1 Small Angle With Upward Fingers

This technique refers to that the angle between fingers and keys that is formed by performers lifting fingers is less than 90 degrees, and performers should minimize the angle as far as possible. It is mainly employed to perform melodic works, because it is useful to show the melodic contour and works the trend. It prevailed in the Romantic Period, such as Mendelsohn, Chopin, Berlioz, and Schubert. For example, No.4 section of Rachmaninoff's Prelude Op.23 should be performed with this technique to show the flowing of melodic contour (Composition IV).

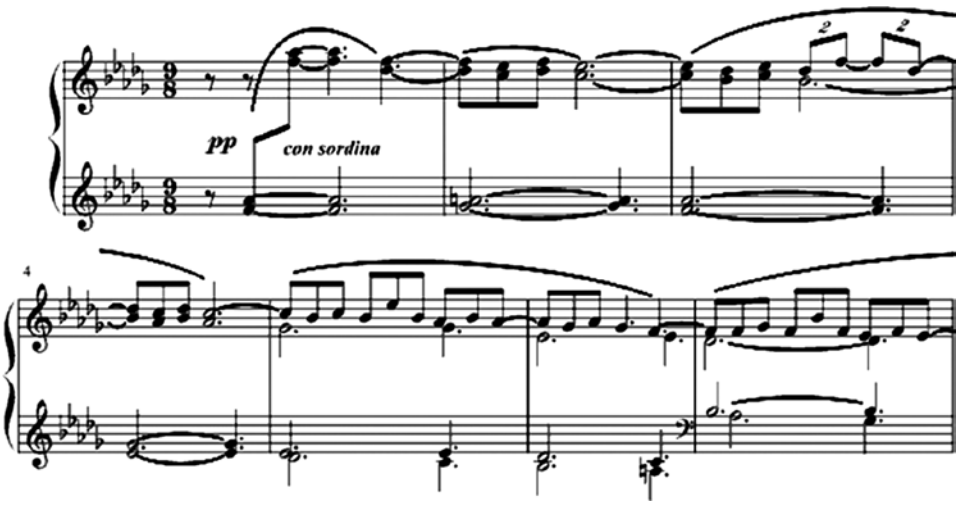
Composition IV



2.1.2.2 Small Angle With Finger Touch

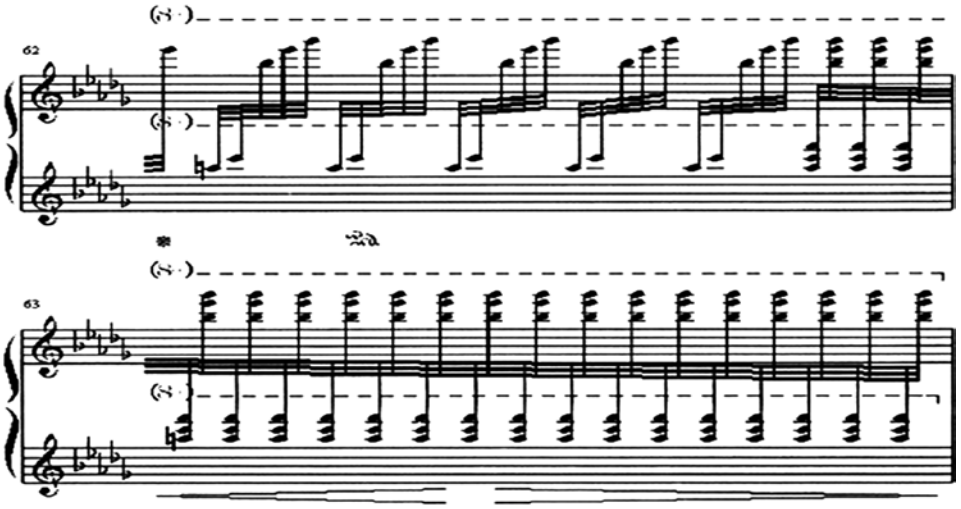
This technique refers to that performers don't lift fingers but apply force with knuckles. The sound produced with this technique is soft and gentle, and has the effect of long resonance. This technique prevailed in the Romantic Period and Impressionism Period. For example, many slurs of Debussy's Moonlight (Composition V) should be performed with this technique to show the scene and picture of tranquil moonlight night.

Composition V



This technique is also employed to perform works to play which weak finger force is required or it is hard to control with fingers. Take the example of Balakirev's revised Skylark (Composition VI), for which this technique should be employed to show the timbre effect of softness, lightness, visionary.

Composition VI

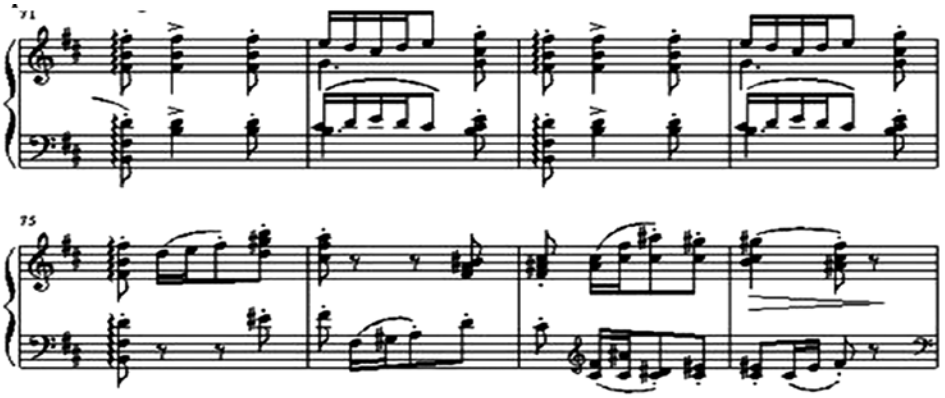


2.2 Influence of Touch Force on Timbre

2.2.1 Light Touch

The sound produced by light touch is soft, beautiful and clear. Light touch is usually employed for rapid performance. Usually, it is inappropriate to heavily touch keys when playing short or periodic music, because such music is featured by lightness, brightness and melodiousness. For example, Debussy's Lar Mer (Composition VII) should be played with light touch.

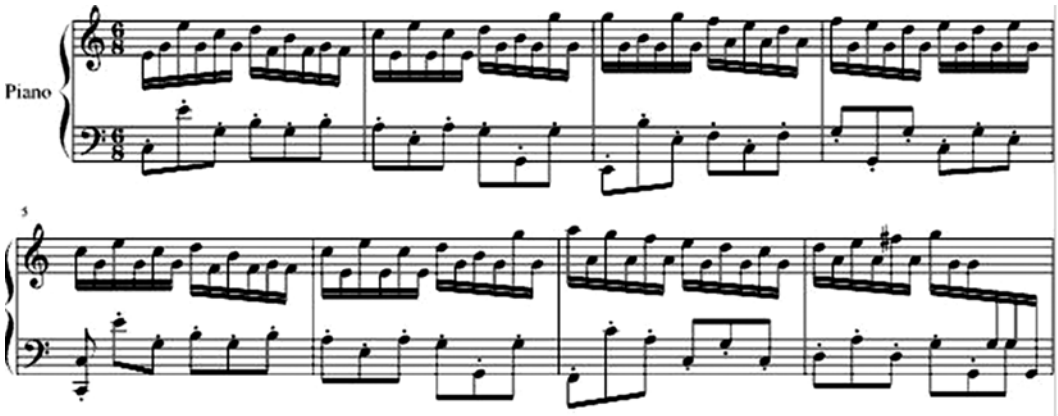
Composition VII



2.2.2 Heavy Touch

Heavy touch is mainly used for performing soft, gentle and slow music works for singing. For this technique, besides the finger force, arm force and even body force should be applied. With heavy touch, the sound is hierarchical, full and heavy, and the melodic contour is more coherent and clearer. For example, Bach's Prelude and Fugue in C Major (Composition VIII) is highly demanding for the force of key touch to show the theme of music. During the Baroque Period when pure, elegant, clear, and bright grain-like sound was sought, heavy touch and movement were not necessary. Besides, the organ has no pedal. Therefore, it is unnecessary to trample the pedal for hold when performing Bach's works. To achieve a full and heavy effect, performers must touch keys heavily, to produce full and strong sound.

Composition VIII



In teaching and performance, the heavier the touch is, the fuller and stronger the sound is, and vice versa.

2.3 Influence of Finger Height on Timbre

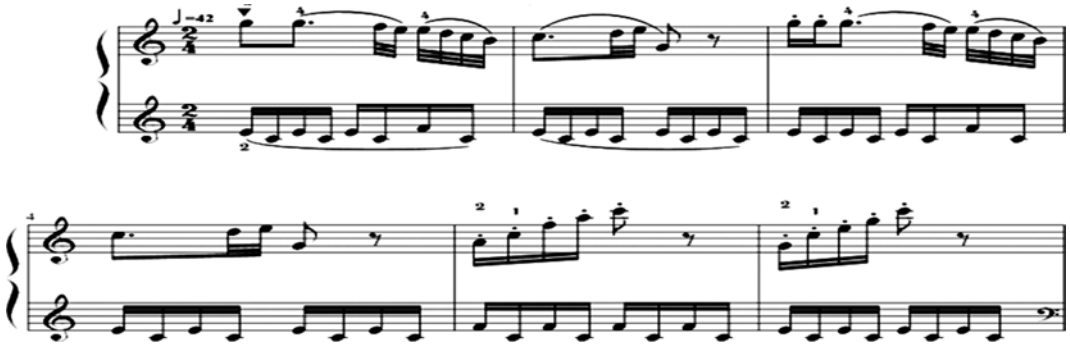
Finger height refers to the height difference between fingers and keys. There are two opposite academic viewpoints. One side holds that the timbre is better f performers employ the technique of finger touch, and the other side holds that the technique of upward fingers should be a technique that learners must master, so that they can perform clean and not laggard music. The technique of upward fingers mentioned herein refers to keep fingertip moving up and down in vertical direction with keys to concentrate the force of the whole finger and the weight of other hand parts on keys. In the elementary learning phase, learners usually will be taught to exercise fingers. Thus, in piano teaching, most teachers tend to start with this technique. In piano teaching, teachers should teach students to learn to keep their wrists stable, and lift a finger without moving other fingers. In other words, learners must learn to hold before the second key is pressed. Take the example of Khanun. Teachers should teach learners to practice lifting fingers first, so that learners can play melodious and clean sound. After this, the technique of finger touch should be taught. This technique is for enhancing performance coherence and performing full and smooth sound. In a word, with the technique of upward fingers, clear, bright and grain-like sound can be produced; and with other techniques, relatively quiet, light and soft sound can be produced.

2.4 Influence of Force on Timbre

Touch force refers to the force of fingers at the time of touching keys. Piano learners all know that touch force is a common knowledge. The heavier the touch force is, the louder the sound is, and vice versa. As mentioned before, the parts generating force includes finger, hand, arm, and full arm. Besides, the representative works that are suitable for techniques with force of different parts also have been set forth.

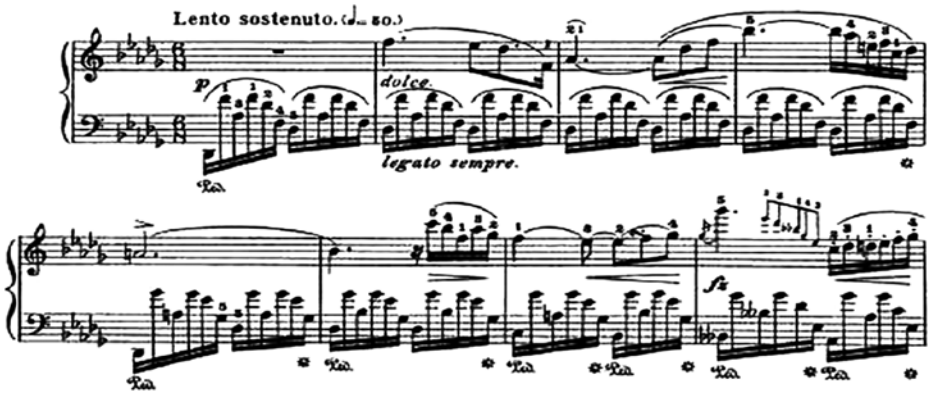
Take the example of Mozart's Piano Sonata K.330 (Composition IX). Mozart is a pianist in the Classical Period, and his works most should be played with pp-f force, which is strict with the touch part. Usually, fingertip touch is used to play Mozart's works. As shown in Composition IX, his works are featured by the bright and clear melodic contour, lively rhythm, and the presence of leaps. Hence, attention should be paid to force control when performing his works, so that the timbre effect and characteristics of his works can be completely showed.

Composition IX



As to Chopin's works, the timbre effect is more colorful, which requires performers to make full use of finger height, touch force and direction. For example, the previous section of Chopin's Op.27 No.2 D Flat Major (Composition X) should be performed by pushing downwards to achieve the effect of clearness and brightness, while the sixth section should be played by pressing backwards to achieve the effect of gentleness and sweetness.

Composition X



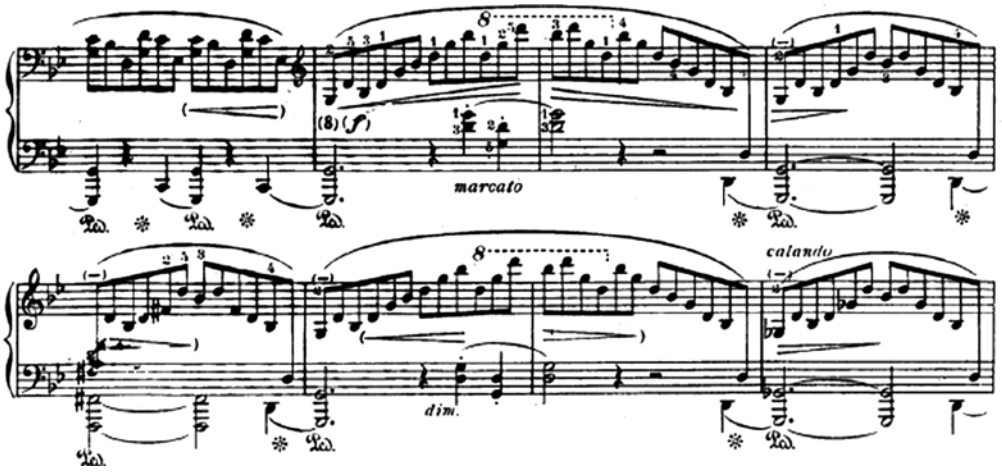
Chopin sought development of personality, and is famous for timbre control ability, finger sensitivity, and finger flexibility. To perform his works, performers should produce light but not weak sound and achieve penetrability.

2.5 Influence of Touch Speed on Timbre

Touch speed refers to the time taken by fingers to reach the bottom of keys since touching keys. By the touch speed, piano technique can be classified into rapid touch and slow touch. Different touch speeds lead to different timbre effects.

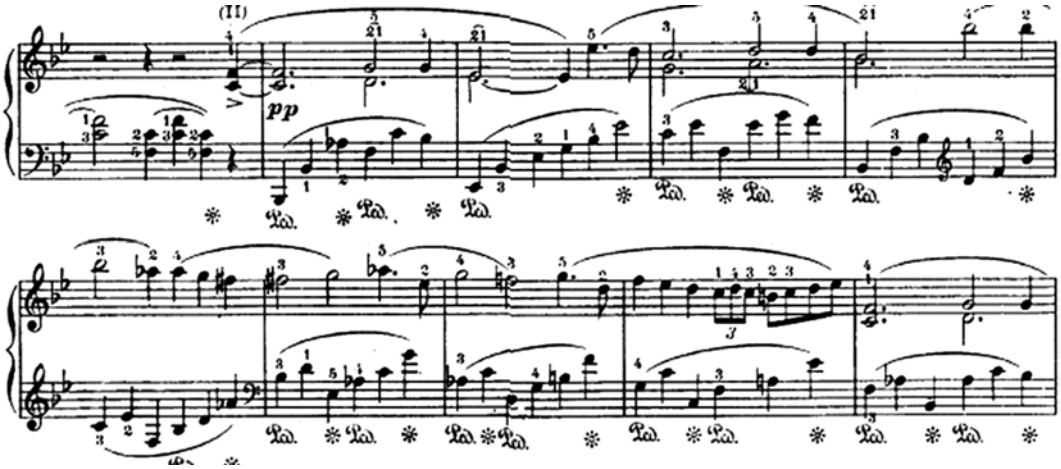
Generally, rapid touch brings an agile and bright feeling, and produces an intense sound effect. Touching keys horizontally at a high speed can create an effect of coupling toughness with softness, and give a special charm to piano performance. For example, Chopin's Ballade No.1 in G minor Op.23 (Composition XI) requires finger touch with the force of wrist.

Composition XI



As to slow touch, the slower the touch speed is, the softer and deeper the sound is. Hence, slow touch is usually employed to perform romantic or impressionism works. For example, Chopin's Ballade No.1 in G minor Op.23 (Composition XII) also requires slow touch to produce cello timbre effect.

Composition XII



CONCLUSION

All in all, piano performers must make analysis from the following aspects before performance: emotion, gist, and artistic value of works. For music compositions of different styles and characteristics, different techniques should be employed, to present the works perfectly, make proper sound and timbre, show charming creative conception, and strike a chord among audiences.

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