

Analysis on the Function of Dulcimer in the National Orchestra

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Abstract: Dulcimer is a kind of national musical instrument in China. Because of its unique performance form and timbre melody, it has played a great role in the development and inheritance of music in China. With the continuous progress of the times, the performance form of music has also been continuously developed and innovated. The application of dulcimer in National Symphony Orchestra has also been gradually developed and innovated. The musical form of the National Symphony Orchestra enables the dulcimer not only to carry forward its unique timbre, but also to integrate with modern music and become a new musical interpretation. This shows that dulcimer plays a very important role in the band. Therefore, this paper starts with the arrangement of dulcimer in the musical instrument group, analyzes the arrangement of dulcimer in the musical instrument group, and on this basis, puts forward the relevant strategies for the effective training of dulcimer parts in the band, hoping that the dulcimer art of our country can shine in the future development.

1. Introduction

Dulcimer, as the main instrument of plucked instruments in the National Orchestra, has a variety of performance techniques, complete semitones, convenient transfer, wide range and rich timbre changes. In the National Orchestra, dulcimer is usually used together with other plucked instruments to form a group of sound groups, which plays the role of coordinating and even directing the whole orchestra. Plucked music in the National Orchestra is the biggest feature different from Western orchestras, and it is also a voice part with the most Chinese national characteristics. It has rich and colorful timbre performance and unique performance methods.

2. The Arrangement of Dulcimer in Musical Instrument Group

Dulcimer has a very strong integration in timbre. In terms of sound transmission, it is vertical up and down, and then spherical diffusion. This feature can make the dulcimer better echo with other musical instruments, and also increase the possibility of band arrangement.

2.1. Treble

In the high range, the volume of dulcimer is relatively small, and the timbre is very similar to that of Liuqin, which has a strong penetrability. When dulcimer is combined with other musical instruments, it is often used as timbre accompaniment or long note accompaniment. At the same time, the frequency of the combination of dulcimer and Pipa is also relatively high. In the process of the combination with Pipa, the tone of dulcimer will be more flexible, and dulcimer can react on the Pipa and polish it. The octave combination of dulcimer, Liuqin and Pipa can not only increase the sense of musical hierarchy, but also make its sound effect more three-dimensional.

2.2. Alto Section

The timbre of dulcimer' alto section is bright and mellow, which is often used in bands. And dulcimer is most suitable for playing chords in instrument groups. Chords of various long tones, rhythms and various types of tones are very common.

2.3. Bass Area

Dulcimer has the characteristics of thick and long aftersound in the bass area, so it is only occasionally used in combination with Da Ruan. For example, in *Damdān*, Pipa, Zhongruan and Sanxian played a particularly melodious melody in alto section, dulcimer played a accompaniment tone in the timbre, and Da Ruan played a foil in the bass area. In this way, the sound effect is both clear and particularly soft, showing the timbre characteristics of different musical instruments very well.

The dulcimer can be combined with other musical instruments to achieve very good results, whether in the high, middle or low range. For example, there is a passage in Guannaizhong's *Taiwan Customs* (see Figure 1). The dulcimer uses the triplet of multiple changing tones to fluctuate up and down in different sound areas, and uses the dulcimer's softer timbre to coordinate and integrate other voices, which fully demonstrates the advantages of the dulcimer's wide range and complete semitones.



Figure 1 Example of *Taiwan Customs*.

3. Combination of Dulcimer and Musical Instrument Group

3.1. The Combination of Dulcimer and Stringed Instruments

During the performance of the dulcimer, the stringed instrument plays on each note, which is like adding accents to each note, making the melody clearer and better setting off the granular feeling of the dulcimer. The round sound of dulcimer can be combined with the continuous playing of stringed instruments. In this way, the sound effect will be more coherent and smooth. The combination of the dulcimer played at different times with the continuous stringed instrument performance can make

the instrument both linear and jumping, which is also the most common method used by folk silk and bamboo and opera bands.

3.2. The Combination of Dulcimer and Wind Instruments

Wind instruments have bright and penetrating tones. Wind instruments are mainly responsible for the melody performance in the band, and can also play the harmony and long notes in the band texture. Due to the sound characteristics of wind instruments and dulcimer, there are great differences in timbre, volume and pronunciation between them. Therefore, they are very difficult to integrate under normal circumstances. The two often produce mixed timbre, which is usually unique to Chinese folk music. However, the difficulty of integration does not mean that it cannot be integrated. It is because the dulcimer has certain compatibility that it makes it possible to effectively combine wind instruments with other instruments. Bangdi's articulation technique is very similar to the rapid jump sound and dulcimer sound, so the two can be well integrated. In addition, dulcimer and Sheng have similar functions and are very suitable for playing chords. In this way, the combination of the two can produce very good sound effects.

4. Effective Training of Dulcimer Part in National Orchestra

Whether the dulcimer can play the best effect in the band, the skill of dulcimer performers is very important. If the dulcimer performer can clearly define the best position of his voice part in the performance of his works, and grasp the method of interpreting and deducting the composer's intention, he can better play the role of dulcimer in the National Orchestra.

4.1. Paying Attention to the Training of Basic Performance Skills

First of all, in order to play the role of dulcimer part in the band, the performer must master solid basic skills, and the flexibility of the wrist directly affects the performer's performance level. Therefore, it is very important to enhance the flexibility of the performer's wrist. In daily training, performers can be required to complete the hitting training with a practice mallet. At the beginning, they should hit with both hands at a uniform speed, and then gradually add rhythm and sound patterns. The duration should also adhere to the principle of increasing from short to long. In the process of performance, the movements of the performer's hands should be coordinated and uniform with even force. In addition, usually, the left hand of the performer needs to act as the melody part. However, most people are used to using the right hand in daily life, so the training of the left hand becomes more important.

Secondly, performers should pay attention to the comprehensive use of fingers and wrists. When playing delicate and singing melodies, the coordination of the performer's fingers and wrists plays a key role. Therefore, the performer must pay attention to the training of related aspects. The specific training methods are as follows. The performer's palm is half grasped, and then the thumb and index finger are used as fulcrums. The first and second joints of the middle finger hold the piano and bamboo. The training is mainly based on the movement of the middle finger, and then the coordination of fingers and wrists.

Finally, the accuracy of the performer's striking point should be enhanced. As we all know, dulcimer has a relatively large number of strings, and each string has the best striking point. In the process of training, performers can first repeat up and down movements at the same point, and then require performers to complete string striking training of different pitches, so as to ensure the accuracy of different phonemes and excellent sound quality.

4.2. Strengthening the Grasp of Timbre and Strength

In a band, the harmony of the overall timbre is an important standard to measure the band's ability. Each performer and each voice part needs to adjust their own timbre and strength by listening during the performance, so that their instruments can match the timbre of other voices as much as possible on the basis of retaining their own characteristics, so as to achieve the best sound effect of the band. The inherent pronunciation of musical instruments is fixed and can not be

changed. Therefore, in training, it is necessary to find the best timbre in the existing pronunciation. During the training, the performer must establish the correct concept of timbre. Moreover, different music styles also have different standards for timbre. The performer should be as familiar with the sound production principle of dulcimer as possible, master reasonable skills to improve the quality of dulcimer pronunciation, so as to meet the needs of music performance.

4.3. Strengthening the Control of Residual Sound

The dulcimer's timbre is clear, bright and melodious, playing a role of neutralization in the band. dulcimer can integrate the timbre of other plucked instruments, and its melodious after-sound can best show the personality of dulcimer. However, it is easy to make the band's sound turbid if there are redundant after-tones. In order to meet the needs of music expression of modern works, the effective use and processing of after-tones become more and more important in band performance. Therefore, for the dulcimer performers in the band, strengthening their own control over the after-sound has become the most critical issue. The emergence and application of the sound damper has solved this problem to the greatest extent. The control of residual sound can be divided into "hand stop" and "pedal stop", and the pedal stop can be divided into full stop, half stop and continuous sound. In the specific performance of dulcimer, the performer must be familiar with the sound control device and master the method of using the sound control device skillfully, and organically combine the "hand stop" to better control the residual sound.

4.4. Focusing on "Lasting Appeal"

The so-called lasting appeal actually refers to the characteristics of music styles in various places. In order to show and carry forward the performing art of the dulcimer, generations of dulcimer artists have paid special attention to the processing of melody, and specifically demonstrated the lasting appeal of the music through the use of performance skills such as trembling bamboo, sliding and rubbing strings. In the long run, a dulcimer vocabulary that can adapt to the style and characteristics of different places has naturally formed. Although there are many similarities between dulcimer and piano in the aspects of pronunciation principle, creative technique and texture application, there is still a very big gap between the piano performers' control and mastery of keyboard and dulcimer performers' grasp of bamboo string. Dulcimer can show the unique charm of Chinese national music.

At this stage, many national orchestral music has absorbed the essence of folk opera and traditional music and retained its unique national charm. Therefore, when encountering such music works, if the performer uses western ideas to play, the music will lack its verve. Therefore, the dulcimer performer must master the ability to use the dulcimer expression language and performance techniques to highlight the charm according to the specific style of the work, which is the ultimate goal of the dulcimer performer.

5. Conclusion

Up to now, dulcimer has been introduced into China for less than 600 years. Compared with other traditional instruments, dulcimer is very young, but it has more room for development. At this stage, dulcimer plays its own advantages in the band and occupies a key position. Therefore, the state must pay attention to the rational and effective use of the dulcimer in the band, and integrate the personality of the dulcimer into it, effectively promote the development of the performance of national bands, so that the dulcimer can be reasonably used in the band for a longer time.

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