

# Research on Vocal Performance Art and Its Aesthetic Features Based on Music Feature Matching Algorithm

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**Abstract:** With the continuous growth of the national economy and the continuous improvement of people's living standards, people's demand for spiritual culture has also become greater and greater. Vocal performance art is one of the earliest artistic forms born in the history of human society, which is constantly corrected and improved in the process of social development. Vocal music is one of the most distinctive performing arts. It is not only the ingenious cooperation between performers and vocal instruments, but also the organic combination of music and literature. Vocal music has a very unique charm and a wide audience. Although there are diversified forms of entertainment in the field of spiritual culture in modern society, the sensory experience, psychological resonance and spiritual touch brought by vocal performance are still irreplaceable. This paper takes reception aesthetics as the breakthrough point, studies vocal music art, and analyzes the performance, audience psychology and audience acceptance process of vocal music art based on music feature matching algorithm, so as to deepen the study of vocal music art and promote the development of vocal music art.

**Keywords:** Vocal performance art; reception aesthetics; music characteristics

## 1. Introduction

Vocal music performance art is an ancient art category common to human beings. In the development of human civilization in different regions, many vocal music works with different styles, rich ideological connotation and high artistic appreciation value have been produced, which play a role in expressing feelings, exchanging emotions and meeting people's aesthetic taste in social and cultural life [1]. As an indelible part of the process of human social and cultural development, music performance art has infinite aesthetic charm and is loved and sought after by people at different levels [2]. Vocal performance art is one of many forms of artistic expression, people need to have a certain aesthetic ability when appreciating vocal performance art [3]. From this point of view, people need to analyze the characteristics of music in the process of learning. Music performances often invite some performing artists or organize ordinary art performers to carry out live music performance activities [4]. This kind of short-lived performance form can not be permanently preserved for others to enjoy and study like fine arts and painting art [5]. There is a close relationship among the creation, performance and appreciation of vocal music performing arts. Performers have the dual identity of audience and secondary creator. It is necessary to analyze the aesthetic characteristics of vocal performance art by using the theory of reception aesthetics, and clarify the role of creation, deduction and audience in the whole life cycle of vocal art works [6]. In the art of vocal music performance, as a creative form in the field of aesthetics, only by organically combining vocal music with performance can the aesthetic characteristics of vocal music performance be fully reflected [7].

Only through music performance can people turn the silent music score into a beautiful song, and interpret the musical into a moving real picture, which can fully reflect the value of music aesthetics. Performance is an important hub between the communication of music works and appreciation, and the key to the success or failure of the creation and performance of music works of art [8]. Vocal music performance art is the combination of human voice and musical instrument,

not only that, but also the integration of music and literature, which has unique charm [9]. Therefore, there is a broad mass base in China, which is an art form loved by the people. The theory of reception aesthetics is a very important research achievement in the field of literature, which has great guiding value for the development of vocal music performance and promotes the development and progress of vocal music performance [10]. This paper studies the art of vocal music from the perspective of reception aesthetics. Based on the music feature matching algorithm, it analyzes the performance of vocal music, audience psychology, and audience acceptance process, so as to deepen the research of vocal music and promote the development of vocal music.

## 2. The significance of reception aesthetics theory in vocal music performing art

### 2.1. The necessity of introducing receptive aesthetics into vocal performance art

Reception aesthetics was first applied in the field of literature and art, and its application is very successful. There is a close relationship between vocal music performing art and literature art. The subject of aesthetic acceptance is human, and they have the same aesthetic acceptance activities. With the improvement and development of vocal performance art, its artistic charm in the field of art, and in the art system, it shows the integrity and independence different from other forms of artistic expression. Reception aesthetics reception aesthetics was first applied in the field of literature, and it played a positive role in promoting the development of literature. There are some similarities between literature and vocal performance. Vocal performance art is an art that integrates melody and lyrics, and is an organic combination of music and culture. It pays more attention to the transmission of performers' thoughts and emotions [11]. In the process of music performance, it needs the participation of different characters. These performers present the music works in the form of perfect stage performance. Literary and artistic works, their creators and audiences belong to the research category of reception aesthetics. Vocal music performance involves the understanding of the creative intention of the works, the application of music art language and performance skills, and the analysis of the audience's aesthetic orientation and consumption psychology. from

From the perspective of reception aesthetics theory, the audience's experience, psychological acceptance and understanding process occupy a very important position in the vocal performance art. According to the basic features and complex features of music, the overall features of music are identified. The composition of music form is shown in Figure 1.

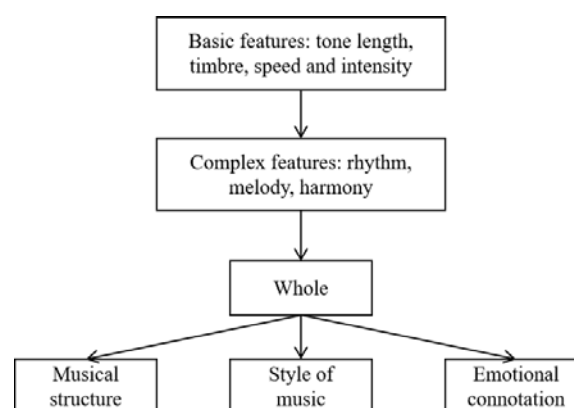


Figure 1 Composition of music form

In the vocal performance art, performers should first understand the rich connotations and emotions expressed in the works, and then pass on the performers' superb vocal skills to deliver the works to the audience through performing and singing. Music is a very abstract art, which cannot be expressed clearly in words. Therefore, compared with its literature and art appreciation activities, vocal performance art is more abstract. Appreciators should rely more on their own subjective experience and inner feelings in the process of appreciating vocal performance art, and their initiative in vocal performance art should be stronger. The appreciation ability and aesthetic demand

of recipients are also influenced by personal life experience, education level, aesthetic practice and other factors [12]. In addition, aesthetic acceptance is also restricted by aesthetic preparation psychology. Therefore, creators need to consider the psychological characteristics of aesthetic recipients before creating, and regard aesthetic audience as a reference for artistic creation.

## **2.2. The feasibility of introducing reception aesthetics theory into vocal performance art**

Music works do not have any feelings in themselves, so it is necessary for performers to deeply interpret the works, fully grasp the creators' own intentions, and then devote themselves to rich thoughts and feelings, presenting the best live performance stage in various performance forms, bringing an audio-visual feast to the audience and feeling the infinite charm from music performances. The theory of vocal performance art has a strong impetus, which not only promotes the healthy and orderly development of vocal performance art, but also improves the shortcomings of vocal performance art to a certain extent. In the stage performance of musical works, the audience can not only enjoy the beautiful singing, but also clearly see the various facial performances and body movements of the performers, and feel the emotions conveyed by the performers. Therefore, one of the aesthetic characteristics of music performance is the beauty of emotional integration of performance characters. Audiences only need to devote themselves to live performances, listen carefully to the sound of music, and watch performers' stage movements and facial expressions, so that they can truly feel the emotional beauty brought by music performances [13]. Audiences always make aesthetic preparations before performing artistic activities. Before performing artistic activities, they have a certain appreciation level and understanding ability for vocal music performances, and at the same time, they also have an active desire to support them in appreciating vocal music performances.

The singer of vocal performance art bears the dual identity of appreciator and creator, and is the link between vocal works and other appreciators. Through the singer's performance, the aesthetic audience can experience unique emotions and produce emotional resonance, get emotional or psychological satisfaction, and complete the aesthetic acceptance of vocal performance art. Vocal performance and literature and art share a high degree of commonality. Since reception aesthetics was born in the field of literature and art research and has been successfully applied, it is completely feasible and necessary to introduce it into the field of vocal performance art research. The introduction of reception aesthetics theory into vocal performance art can not only integrate music and literature, but also lay a solid foundation for the application of reception aesthetics theory in vocal performance art. Reception aesthetics originates from literature and art, and the elements of literature and art are mainly authors, works and readers. When music art lovers watch and appreciate music performances in different art forms, they should look at live performances from different perspectives and appreciation attitudes, and find different aesthetic characteristics of music performance art.

## **3. The aesthetic characteristics of vocal performance art from the perspective of Reception Aesthetics**

### **3.1. Aesthetic experience has the characteristics of individuality**

After the introduction of the theory of reception aesthetics, in order to show its artistic charm better, the singer should strengthen the interaction with the audience, and leave imagination space for the audience in the performance process. In the process of appreciating vocal music art, the appreciator will imagine through vocal music art. When appreciating music works, the appreciator can feel life, emotions and even some emotions or contradictions that can't be experienced in real life. This imagination and artistic experience can arouse the resonance of aesthetic audience to a great extent. To analyze vocal performance art from the perspective of reception aesthetics, we must take the audience's psychological and behavioral characteristics in the process of enjoying the performance as one of the main research objects, and use the theory of reception aesthetics to explain the law of its reception activities. Singers in vocal performance should have good artistic

accomplishment, singing level and rich stage experience, so as to better interact and communicate with audience in stage performance. Because the art of dialogue can promote the audience to actively participate in the performance of vocal music works. The aesthetic experience brought by vocal performance activities to the audience depends not only on the subjective aesthetic ideas and objective deductive effects of the creators and performers, but also on the aesthetic expectation, value orientation, situation and mentality of the appreciators. The performance of vocal music art can bring spiritual and spiritual resonance to the appreciator and infect the appreciator. This kind of resonance and feeling will not disappear immediately, but will exist for a long time, gradually forming an aesthetic aftertaste for the appreciator.

### 3.2. The influence of performance activities has continuity

Audiences of vocal performance activities will accept new ideas and meet spiritual and cultural consumption needs in the process of emotional interaction with performers and vocal works. At the end of the acceptance activities, the thinking activities and emotional changes around the performance activities will not disappear instantly. Music performance activities can not only help people maintain a harmonious and happy attitude towards life and work, but also constantly improve people's awareness of music art cultivation, learn to be good at discovering the beauty of music art and improve their comprehensive knowledge of music [14]. Different audiences have great differences in values, so it is difficult for audiences to form a unified and objective evaluation standard for vocal music works when appreciating vocal music performance art. Audiences all appreciate vocal music works with their own inherent cognition, so when performing vocal music, singers should pay comprehensive attention to vocal music art from subjective and objective angles.

The emotional experience and psychological changes of different audiences have obvious individualized characteristics. In order to make vocal music produce the expected educational function or realize the entertainment function, performers are required to accurately grasp the characteristics of the target audience and the changes of emotions and moods, and flexibly use performance skills to mobilize the appreciators' thinking and emotions. The flow chart of pitch time value feature extraction in vocal music performance is shown in Figure 2.

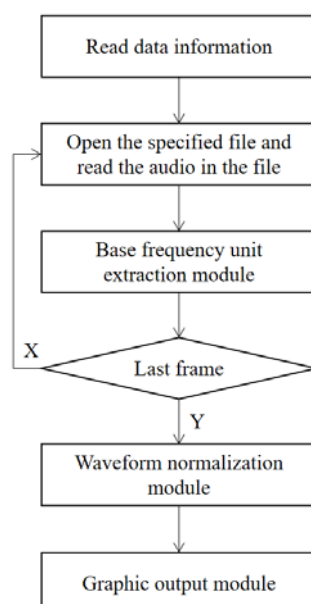


Figure 2 The process of extracting features of pitch and time value of vocal music performance

The energy of the audio signal changes significantly over time, and its short-term energy analysis gives an appropriate description method to reflect these amplitude changes. For signal  $x(n)$ , the short-term energy is defined as follows:

$$E_n = \sum_{m=-\infty}^{\infty} [x(m)w(n-m)]^2 = \sum_{m=-\infty}^{\infty} x^2(m)h(n-m) = x^2(n) \times h(n) \quad (1)$$

Among them,  $h(n) = w^2(n)$ . Equation (1) represents the short-term energy when the window function is started at the  $n$ th point of the signal. The short-term energy can be regarded as the output of the square of the audio signal through a linear filter, and the unit impulse response of the linear filter is  $h(n)$ , as shown in Figure 3.

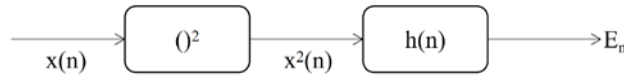


Figure 3 Graph of short-term energy

If  $x_w(n)$  is used to represent the signal of  $x(n)$  after being windowed, the length of the window function is  $N$ , and the short-term energy is expressed as:

$$E_n = \sum_{m=n}^{n+N-1} x_w^2(m) \quad (2)$$

A true music and art performer must have good aesthetic quality and performance professional ethics. He must not only have superb stage performance skills and performance experience, but also be full of performance self-confidence, and be able to integrate his own emotions and performance styles into music performance activities, so as to show the beauty of music performance art. In vocal performance activities, performers use their own professional knowledge and artistic accomplishment to interpret vocal music works, and determine how to present the works to the audience by identifying music creation symbols, understanding the text content, and combining personal aesthetic ideas and singing styles. If music performers want to meet the aesthetic needs of music and art lovers to the greatest extent, they must keep up with the pulse of the times and the aesthetic emotions of modern audiences, and ensure that their music performances become more unique, novel, rich and vivid. With the increase of aesthetic activities and practices of the appreciators, this kind of aesthetic aftertaste will always accumulate, and will have a silent influence on the appreciators in daily life. This kind of influence will nourish and enrich the spiritual world of appreciators for a long time, and constantly change people's spiritual world and bring spiritual strength to people.

#### 4. Conclusions

Vocal performance occupies a very important position in modern people's spiritual and cultural life. It is necessary to deepen theoretical research along with the practice of vocal performance art, and constantly introduce new artistic research theories to analyze the creation and deduction rules of vocal performance art. As an elegant artistic activity, vocal music performance requires people to appreciate the performance with correct aesthetic concepts. If the audience wants to truly understand the deep spiritual thoughts contained in music works, they must learn professional music knowledge and understand the background story, performance style and content of the works. From the perspective of reception aesthetics, vocal performance art not only has strong coordination and unity, but also can improve the audience's aesthetic taste and appreciation ability in various ways. This can not only inherit and develop vocal performance art, but also promote the integration of vocal performance art and Chinese traditional national culture, thus improving the overall level of vocal performance art in China. The application practice of reception aesthetics proves that it is helpful to explore how to enhance the artistic value of vocal music works and its influence on individual, social and cultural life, and promote creators and performers to improve their artistic attainments. Today, with the development of vocal art, it is of great guiding significance to combine vocal performance art with reception aesthetics, so as to realize the historical value in vocal performance art activities.

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