

The Relationship between Grace Note or Cadenza in Vocal Music and Upper Abdominal Bouncing Ability

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Abstract: *The practice of grace note and Cadenza is essential in vocal music. Therefore, it is important to learn about the relationship between grace note or Cadenza and upper abdominal bouncing ability, clarify the role and the principle of upper abdominal bouncing, more scientifically and objectively combine the operation mode of the muscle system and respiratory system, analyse in detail its application technique in each grace note. A clearer direction for practice and explanation of the relationship is provided about the use of the long breath in Cadenza and the upper abdominal bouncing. The practice of vocal techniques is a long and arduous journey, while each technique can be practiced and mastered more scientifically and quickly through the method shown in this article, in order to present a more shocking overall effect on stage.*

Keywords: *Vocal music; Grace Note; Cadenza; Upper abdominal bouncing ability*

1. Introduction

In vocal learning, each vocal part will encounter grace note when singing. As a highly challenging singing technique in vocal music, how to perform grace note flexibly and comfortably is one of the problems that vocal learners strive to overcome. This article mainly takes soprano as an example to analyze the relationship between singing grace notes or Cadenza and upper abdominal bouncing ability.

2. Grace Note

Grace note is a temporary note used to decorate a melody, or a note with a special mark indicating that the note should be played for some decorative purpose, also known as floral note. Grace notes are often used to enrich the melody and add features and effects to the music. The grace notes we commonly use include vibrato, jump, and leaning notes, which are widely used in local folk songs in China. In Western music, grace notes were also an important feature of melody style.^[1]

3. Cadenza

Cadenza is originally referred to a paragraph improvised by a soloist at the end of an aria in an Italian opera. Later on, there were often such passages at the end of the concerto movement. The band usually pauses their performance, while the singer or soloist maximize their professional skills, to enhance the overall effect of the music furthermore.

3.1. Treble

In vocal music scores, tremolo is commonly referred to as a trembling sound, which is also known as a sound that alternates between strong and weak in a regular manner, as shown in Figure 1.



Figure 1: Mozart's "Exsultate, jubilate" K165

Firstly, the maintenance of breath is important. The most important part in maintaining breath is the movement of the diaphragm and abdominal muscles. The diaphragm adheres to the bottom of the lungs, and is attached to the ribs, sternum, and lumbar spine, resembling an inverted basin with a slight inclination. It can regulate the movement of the lungs, with the diaphragm moving downwards during inhalation and upwards during exhalation. The abdominal muscles connect the sternum above and the pubic bone below, with four layers of muscles, each with its own direction of movement. The muscle located at the innermost part of the abdomen, the transverse abdominal muscle, has a transverse texture; The lower half of the rectus abdominis muscle, located in the center of the abdomen, is inserted into the transverse abdominal muscle, with a vertical texture from the end of the sternum to the pubic bone. The rectus abdominis has four parts that can be exercised separately or simultaneously. The texture of the medial oblique muscle is oblique. The position of the external oblique muscle is relatively high, connecting from the ribs to the pelvis, and its texture is opposite to that of the internal oblique muscle. When inhaling during the singing of ligaments, the external intercostal muscles cause the ribs to move upwards and outwards, while the contraction of the abdominal muscles can cause the chest to move downwards and inward, creating a sense of opposition. The abdominal muscles connect the ribs to the pelvis, so when the abdomen contracts, this force creates a feeling of inward confrontation with the internal organs, including the diaphragm and lungs. We need to note that when singing trills, both breathing and muscle movements are not mechanically stiff, but rather a gentle outward and inward balanced force, in order to produce a natural and sustained sound.

3.2. Ornamental Arpeggios

Fast ornamental arpeggios are a vocal technique that involves rendering chord notes melodically. These arpeggios ascend and descend rapidly from low to high and then from high to low as shown in Figure 2. Performing fast ornamental arpeggios demands a high degree of flexibility in the vocal apparatus, featuring a wide and varied vocal range with leaps. Consequently, it places greater demands on respiratory support, muscular control, and diaphragmatic flexibility. It is crucial to note that during the execution of ornamental arpeggios, the upper abdomen should move in coordination with the vocal cords. Singers should avoid relying solely on their vocal cords for these maneuvers, as this can result in tension, dryness, and clumsy vocal production.



Figure 2: Scale Notation

From this melody, we can observe that the music's mood is exhilarating, and the melodic notes primarily convey a sense of joy as shown in Figure 3. For performers, this passage presents significant challenges, featuring large leaps and a rapid succession of notes leads up to a climax. Different note durations are interspersed throughout the melody. Therefore, during performance, it is essential to flexibly employ the diaphragm and abdominal muscles to control breath and sound production.

In complex ornamental sections like this, a lack of flexibility in using upper abdominal strength can lead to several issues. Firstly, the breath may not be sufficient, causing vocal tension and inefficient

breath control, making it challenging to complete a sentence in a single breath. Secondly, without the flexible use of upper abdominal strength, the melody may become unclear and lack precision, passing by without distinct pitch clarity.

To address pitch issues while singing this ornamental passage, it is crucial to focus on the first note of each small group, which requires strong abdominal support and proper closure of the glottis and vocal cords with each bounce. Breath should flow through the vocal cords, resonate in the vocal tract, and then produce sound. This approach ensures accurate, precise, and comfortable sound production during this ornamental section.

In terms of practice, it is advisable to begin with slow and steady exercises. Due to the wide vocal range in the arpeggios, initial practice should prioritize stability. Divide the entire ornamental passage into smaller groups and practice these groups separately. After some time of practice, gradually connect these groups to sing the complete passage. For example, when starting, you might only be able to sing two groups of notes in one breath. After practice, you'll be able to sing three or four groups consecutively. Then, progressively increase the speed and volume while maintaining the flexibility and activity of the abdominal muscles, diaphragm, and throat muscles. Mastering the ornamental arpeggios will allow you to sing captivating melodic lines, enhancing the expressiveness and vocal quality of your performance.

The image displays a musical score for Handel's 'Messiah'. It consists of two systems of music. The first system shows a vocal line in treble clef with lyrics 're-joice' and a piano accompaniment in grand staff (treble and bass clefs) with a dynamic marking of 'p'. The second system shows a vocal line with lyrics 'great-ly,' and 'O daugh-ter of' and a piano accompaniment with dynamic markings of 'mf' and 'p'. The piano part features arpeggiated figures that mirror the vocal line's structure.

Figure 3: Handel's "Messiah"

3.3. Leaps

The term 'leaps' meaning bounds signifies their flexibility, demanding stricter control over breath and upper abdominal bouncing. The key lies in the rapid and precise coordination of sound and breath, necessitating more agile responses.^[2]

Although each sound is separate, it should not feel deliberate, and breath support should remain stable. It's important to minimize excessive involvement of the vocal apparatus muscles, reducing the use of force from the vocal cords that results in a dry sound. Instead, there should be a sense of sound being bounced out by breath. For leaps, the bouncing in the upper abdomen is crucial, as illustrated in Figure 4.

When singing leaps, each time you leap in pitch, the upper abdomen should also leap. If only the throat is active while the upper abdomen remains still, pitch accuracy can be challenging to maintain, often resulting in notes being too low. Additionally, lacking flexibility and relying solely on the vocal cords can make the sound heavy and unclear. In addition to this, it's essential to pay attention to the excitement of the posterior pharyngeal wall and the raised position of the soft palate while singing leaps. Changes in the shape of the throat due to vocalization should be avoided.

Leaps require a precise combination of the diaphragm, abdominal muscles, breath, and resonance to produce accurate, light, and agile sounds, akin to a skipping stone touching the water's surface and stopping abruptly. Generally, leaps don't encompass the entirety of a note's duration; they are brief and fleeting. When practicing, it's crucial to focus on pitch accuracy.^[3]

Leaps are often employed in lively songs and in highly ornamented vocal techniques, particularly in songs that convey exuberance or extreme emotions as shown in Figure 4.

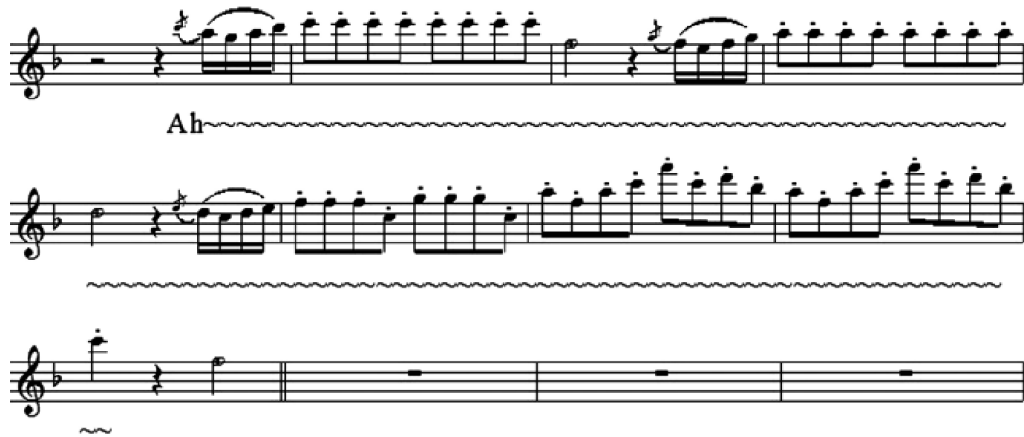


Figure 4: Mozart's "The Magic Flute"

3.4. Glissandi

Glissandi are a decorative vocal technique frequently used in song performances, characterized by smooth upward and downward slides in pitch, creating a continuous, flowing connection between notes or phrases. It's important to note that the key to performing glissandi effectively lies in maintaining the engagement of the diaphragm and abdominal muscles.^[4]

Additionally, during practice, special attention should be given to maintaining a consistent and pure tone quality. It's also crucial to focus on pitch accuracy when transitioning between the two notes during the sliding movement.

3.5. Trills

Trills can be categorized into upper trills and lower trills. The former involves rapidly singing the note a second above the fundamental note and returning to the fundamental note. The latter starts with the fundamental note and then sings the note a second below it, following the same rhythm as upper trills. Both upper and lower trills occupy the same duration of the main note, which is one-quarter of the total duration.

When singing trills, the bouncing in the upper abdomen is concentrated on the first note or the second note of each unit. It's essential to note that in trills, the upper abdomen should move only once per unit, not with each individual note. If the upper abdomen moves with each note, it may sound more like leaps as shown in Figure 5.



Figure 5: Trill Notation

4. The characteristics and differences of decorative notes in opera arias of different periods

The Baroque period, approximately 150 years from the 17th century to the first half of the 18th century, is known as the Baroque period in Western music history. The artistic characteristic of this period was that people emphasized decorative notes and improvised singing, and in the ABA structure of opera arias, improvised "decorative notes" were habitually added to the repeated segments. These improvised parts were freely added by the singer after they had a certain understanding of the plot, characters, melody, and harmony. Therefore, Baroque singers had to possess high artistic literacy and musical imagination.

The "decorative notes" in the classical era of aria are more rational than those in the Baroque era, often expressing simple and sincere emotions in a rigorous and harmonious form. Composers gradually

marked leaning notes, echoes, tremolo notes, ripples, and other notes, and decorative notes were directly marked with musical symbols. Therefore, the "decorative sound" of this period was widely used and spread. Enable singers to accurately grasp their singing style based on spectral markings.

The Romantic period usually refers to music from the 19th century. This period was the golden age in the field of opera, and most of its works were decorated with gorgeous floral accents and scales. Compared to the classical period, the rational use of decorative notes makes the melody more linear and sounds smoother. At this time, the colorful part also has a super high difficulty coefficient and a beautiful melody. Singers can showcase their wonderful timbre and superb singing skills to the extreme through these colorful performances.

In the late Romanticism and Impressionism, the use of decorative notes in music works during this period was relatively less frequent, and the frequency of using leaning notes was relatively more frequent compared to other decorative notes.

5. Significance of Abdominal Bouncing

Bel Canto singing places a significant emphasis on breath control as it forms the foundation for producing beautiful sounds. Students need to learn how to employ diaphragmatic breathing, which evenly transfers the majority of the breath from the abdomen to the vocal cords. Controlling the speed and force of both exhalation and inhalation is essential, as it governs the tone quality and volume. Abdominal bouncing is a typical method of controlling breath, using the varying motion and strength of the diaphragm and abdominal muscles to regulate the airflow speed and pressure through the vocal cords. Precisely controlling the speed and strength of abdominal bouncing is crucial for the accuracy of embellishments.

When singing vibrato, a smooth and consistent sound production is required, which necessitates an even and steady motion in the upper abdomen. For embellishments like coloratura scales and trills, it's advisable to break them down into smaller sections or phrases, with a focus on the initial note's motion. When singing trills, each note should be approached with a unit of abdominal motion, demanding flexibility and explosiveness in the upper abdominal muscles. The movements should be swift and precise to produce clean and bright trills.

For glissandi, the emphasis should also be on the first note, with the abdominal power primarily directed towards it. The remaining power can be applied to the subsequent notes in a flowing manner. The respiratory movement for each type of grace note is closely related to the motion in the upper abdomen. Recognizing the significance and role of abdominal bouncing can significantly assist singers in performing embellishments effectively.

6. The Significance of Studying the Relationship Between Grace Note or Cadenza and Upper Abdominal Bouncing Ability

The practice of vocal techniques is a lengthy and challenging journey. Every aspiring student hopes to master each technique more scientifically and swiftly to deliver a stunning overall performance on stage. The significance of studying the relationship between grace note or Cadenza and upper abdominal bouncing ability lies in our ability to genuinely understand the most objective and scientific ways of producing sound and the underlying muscle dynamics. With a clear understanding at its core, students can establish a precise direction when practicing, enabling them to formulate practice plans with a clear mind and, consequently, achieve more efficient results.

7. Conclusion

When practice grace note, it is essential not to rush; the intensity and speed of training should progress gradually. Accuracy in grace note is one of the ways in which performers demonstrate their precision and mastery. Precise and meticulous renditions can significantly enhance the audience's sensory experience and show respect for the composer's artistic intentions during composition. In the initial stages of practice, focus on correcting any pitch or stability issues at the slowest speed, diligently seeking the most precise and comfortable state of vocalization and breath coordination, and establish good habits through consistent practice. Once you make sure the accuracy, then you can gradually increase the tempo. Ultimately, you will achieve a fluent, precise, and intricate performance of grace

note.

When practicing extended coloratura sections, consider breaking them down into smaller segments or phrases for training. Once each segment is mastered with precision, gradually introduce additional measures or note groups, building up your practice incrementally. Extended coloratura passages not only demand precise pitch accuracy but also require extended breath support. Therefore, you need to train your abdominal muscles for continuous support and bouncing ability progressively.

Whether singing grace note or longer coloratura passages, the flexible application of the upper abdomen plays a crucial role in breath control and support. Mastering the scientific, skillful, and rational use of upper abdominal bouncing skills enables singers to expedite their technical training and present a more complete stage performance.

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