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Trumpet Articulation Technique in Classical Works

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Abstract: This study focuses on the classification of tonguing techniques in trumpet performance and their artistic practices and stylistic expressions within the Classical period. Technically, tonguing is systematically categorized into four types: single tonguing, double tonguing, triple tonguing, and rolling tongue. The physiological basis and performance logic of each type are elaborated: Single tonguing uses the tongue tip to block airflow to create a crisp timbre; Double tonguing achieves rapid note transitions through alternating "tu-ku" syllables; Triple tonguing combines single and double modes to adapt to triplet rhythms; Rolling tongue utilizes high-frequency tongue vibrations to produce dense staccato effects, particularly challenging breath control. The study further examines score markings (e.g., staccato " ·", staccato " ▾ ", sustained "-"). During the Classical period (as exemplified by Haydn's and Hummel's concertos), tonguing pursued rigor and balance-articulating notes clearly yet naturally, emphasizing lightness in staccato passages and musical continuity, embodying the refined elegance of court music. The research ultimately demonstrates that the evolution of tonguing techniques remains rooted in the era's musical demands, serving both as an innovation product and carrier of artistic philosophy, validating the symbiotic relationship between instrumental expressiveness and musical historical development.

1. Types of trumpet articulation techniques

1.1 Single venting

The single tonguing technique stands as the cornerstone of trumpet training, with its mastery spanning an artist's entire career. The evolution of this articulation has mirrored musical trends across different eras. As the name suggests-a single airstream release-this method is particularly effective for quarter and eighth notes. It enhances articulation clarity by functioning as a biological airflow switch: pressing the tongue against the palate near the upper teeth (closing) and releasing (opening)[1]. This process, denoted by "tu," "ta," or "ti," depends on precise tongue movement and airflow control. Before discussing these techniques, we must address notation symbols for staccato (staccato), staccato (staccato), staccato (staccato), staccato (staccato), staccato (staccato), staccato (staccato), staccato (staccato), and staccato (staccato).

Skip note: the notation is marked with a " ·" on the note, and the actual performance value is about half of the note value.

Donkey note: The notation is marked with a " ▾ " on the note, and the actual performance of the note is about a quarter of the value of the note.

Emphasis: The notation is marked with a ">" on the note. This note requires the onset of the note to be sharp and then gradually fade, in order to highlight the note with the accent mark. It is usually used for a phrase that is passionate and needs a sense of power.

Maintain the tone: the notation sign is marked with a "-" on the note, and the actual performance of the note value is 100 percent of the note value.

Semi-sharp: The sharp is written on the score as a sharp note with a connecting line. Such notes need to be sung while keeping them apart, without losing the cheerful and lively sound.

Semi-legato: written on the score as a sustained note with a line connecting it. This kind of note emphasizes the singing quality more than a half-dotted note, weakens the distance between notes, and makes the interval between notes appear and disappear, commonly known as "soft spit".

Staccato: A staccato is written on the score as a staccato accent. It is played harder than a staccato but shorter than an accent.

1.2 Double vomiting

Double Tui is a rapid articulation technique. It develops from the single "tu" sound by adding the "ku" component. The complete sequence consists of two sounds: the initial "tu" followed by the final "ku", forming the syllable "tuku". The pronunciation of "ku" involves the tongue's base striking the palate to create airflow obstruction. When the tongue base presses against the palate, it creates a "closed" state; when released, it forms an "open" state.

1.3 Triple vomiting

San-tu (three-tongue articulation) is an articulation technique created specifically for triplet notes, combining the "tu" of single tonguing with the "tuku" of double tonguing. The principle involves linking these two techniques to form the "tutuku" sound.

2. Tonal techniques for trumpets in the Classical period

2.1 Features of trumpet articulation in the Classical period

Classical music is typically characterized by "rigorous elegance, simple solemnity, and precise execution." Works by Viennese School masters like Haydn and Mozart, created for aristocratic courts, exemplify this period's serious and dignified style that demanded accurate rhythm and refined timbre. For trumpeters, classical compositions require a rich, full tone with precise rhythmic execution-each note must be delivered with controlled articulation, avoiding overly heavy or abrupt stops. The instrument's tonal quality relies on the musician's breath control and oral technique. When performing classical works, performers must maintain sufficient breath support to sustain the rich tone while achieving dignified and elegant articulation.

2.1.1 Haydn's Concerto for trumpet in E-flat major

Haydn's compositions predominantly feature homophonic music, emphasizing functional harmony while avoiding complex modulations. His harmonic language remains concise and clear, embodying the characteristics of the Classical period. Created in 1796, his "Trumpet Concerto in E-flat Major" stands as one of his late-period masterpieces, specifically composed for the newly invented keyed trumpet. The work follows the classic three-movement structure typical of Classical concertos, blending rigorous formal logic with a lively melodic style.

For instance, the opening three notes of Haydn's "Trumpet Concerto in E-flat Major" serve a clear

exposition function, employing the "tenuto" articulation technique. As shown in Figure 1, the required dynamics is marked as "strong". The execution of these three notes demands a firm attack without emphasizing the "staccato" quality, and their connection should not be treated as a "staccato legato" (a semi-legato technique). They lack both the emphatic onset of staccato notes and the gradual softening of legato notes, nor the blurred articulation of staccato. Instead, they require a more pronounced attack than standard tenuto notes while maintaining the legato tail. The entire note should be played smoothly with no excessive dynamic changes, ensuring complete musical integrity.

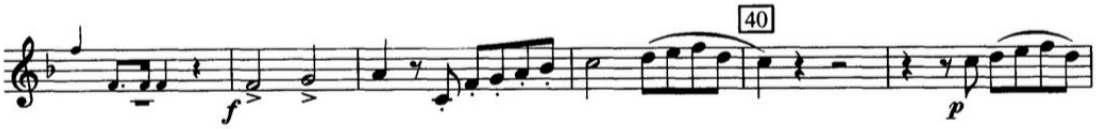

Figure 1: The first movement of Haydn's Concerto for trumpet in E-flat major

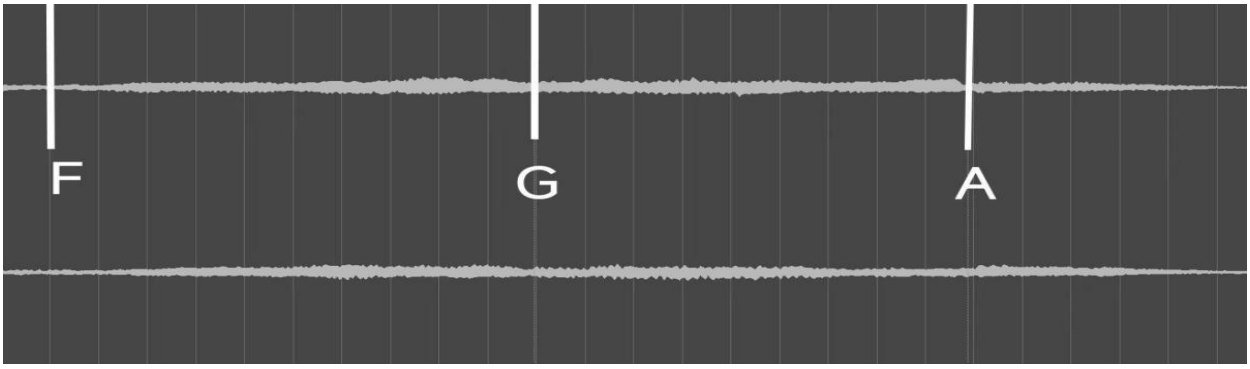

Figure 2: Allison Balson plays

Figure 2 shows the first three notes of the opening section from Alison Balson's decoded analysis of Haydn's Concerto in E-flat Major, Op. 5. Visually, the piece appears steady with minimal emphasis, yet even when accompanied by instrumental textures, the position of the leading tone remains clearly discernible.

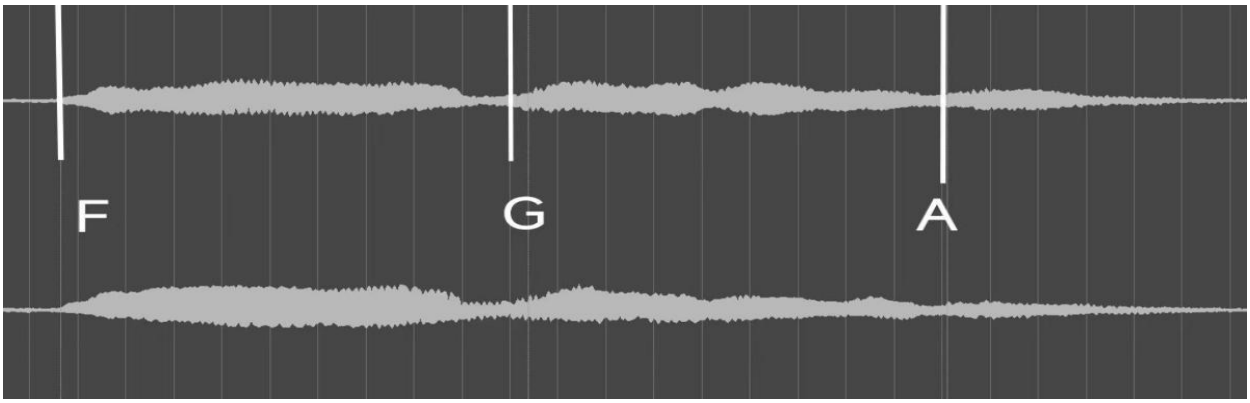

Figure 3: Performance by Matthias Hofs

Matthias Hofs 'performance style equally emphasizes maintaining clear articulation at the onset and sustaining precise tone development at the conclusion. The three notes depicted in Figure 3 exemplify his signature approach to interpreting most syncopated notes in Haydn's "Trumpet Concerto in E-flat Major". His analysis reveals that authentic execution of syncopated notes in this concerto requires achieving both crisp articulation at the beginning and smooth transition at the end through sustained tones.

Let's explore other articulation techniques in Haydn's "Trumpet Concerto in E-flat Major". As shown in Figure 1, the piece features five consecutive eighth-note single tongues. In Classical works, these relatively rapid and leaping notes should neither be played as "staccato" (staccato) nor treated as standard staccato.

My interpretation involves using "staccato" techniques with subtle "accent marks". This approach ensures each note remains crisp and agile, while the decays of notes extend slightly longer than standard staccato. By gradually softening the decays between notes, it enhances musical phrasing fluidity and creates a more lyrical, melodious sound.

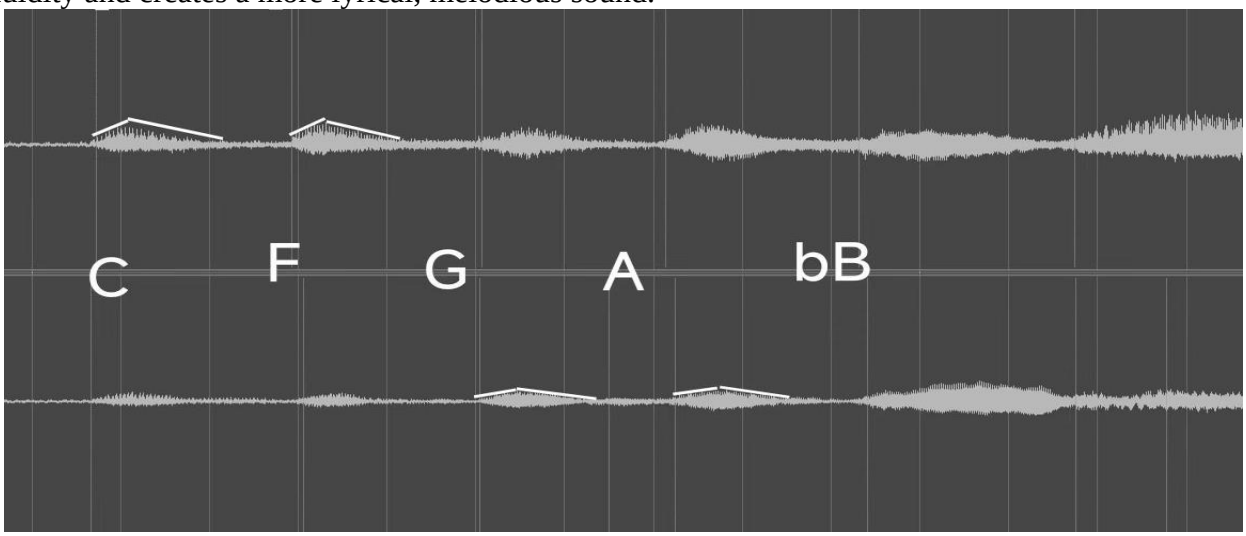

Figure 4: Top: Matthias Hofs Bottom: Allison Barson

Figure 4 displays the audio decoding images of two performers playing these five eighth notes. As observed in the audio recordings of Matthias Hofs and Allison Balson, each note exhibits a steeper onset waveform slope compared to the decay slope. This characteristic results in pronounced attack phases while maintaining a gradual fade-out during the decay phase. Such tonal dynamics allow the notes to achieve both smooth articulation and a lively musical character.

During the Classical period, trumpet works predominantly adopted a three-movement structure following the fast-slow-fast pattern. Haydn's E-flat Major Horn Concerto features an Andante (Andante) in its second movement, which extensively employs "staccato" techniques-specifically "soft tonguing." Unlike the crisp articulation seen in the first and third movements, this section emphasizes lyrical staccato phrasing where each note's attack becomes subtly connected. The second movement's character blends serene tranquility with graceful composure, creating a harmonious blend of musicality and emotional subtlety. As show figure 5.

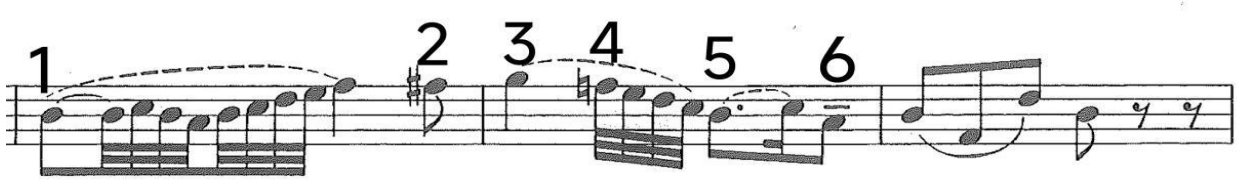

Figure 5: Taken from the second movement of Haydn's Concerto for trumpet in E-flat major (G alto, Bb major, 86 beats)

In the diagram above, while some performers might play all three notes as "soft tonguing" in the final measure, the connected lines (including dashed ones) generally indicate legato passages. I've clearly marked the articulation positions for the first two measures. Notably, these three measures

require "hiding" the note heads. However, to distinguish them from connected notes, each note should retain slight head separation-so subtle that listeners can barely detect the articulation, making it almost imperceptible.

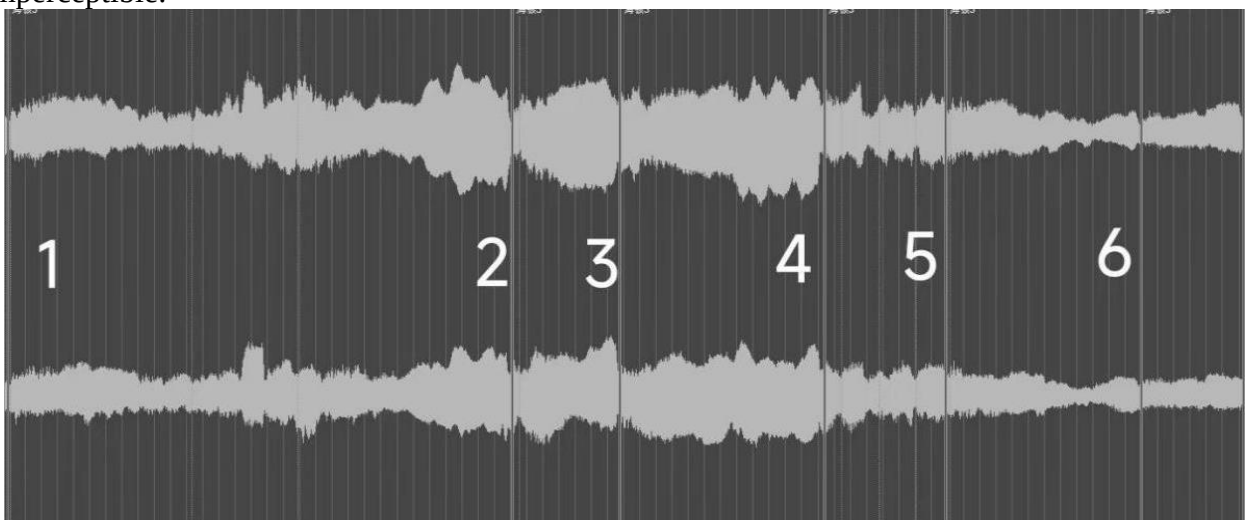

Figure 6: Gabor Tarkovi performs

As shown in Figure 6, the notes of the first two measures of the upper part of the second movement of Gabor Tarkovi's Concerto for trumpet in E-flat major by Haydn are shown. It can be seen that the six notes requiring articulation are well connected with the preceding and following legato notes, with only slight changes in intensity.

The most captivating section of Haydn's Concerto for Horn in E-flat Major resides in its third movement, a fast-paced rondo sonata form featuring numerous chromatic leaps. The main theme, centered around a lively rondo motif in E-flat major, maintains a brisk tempo characteristic of folk dance rhythms. The interludes transition between B-flat major and C minor, where tonal contrasts and thematic development intensify the musical drive. A particularly noteworthy element is the melodic passage marked with staccato notation, offering listeners an exquisite opportunity to savor the work's technical brilliance.

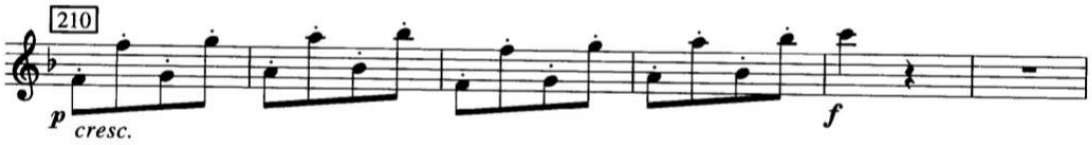

Figure 7: Taken from the third movement of Haydn's Concerto for trumpet in E-flat major (G alto, F major key signature, 42 bars)

As shown in Figure 7, these four measures employ a sequence technique where every note is a "staccato" (staccato note). However, in the Classical period, trumpet staccato notes were not truly brief but rather produced a "staccato" effect. The score's marked "piano" indicates that this phrase should not be played heavily but rather with lightness, akin to tiptoeing while performing rapid dance steps.

As shown in Figure 8, each note must be played with "elasticity" akin to plucked string instruments. In this phrase, we need to mimic the timbre of plucked instruments by producing delicate articulations. Through contrast with the final C note, it becomes evident that the volume of the middle eighth-note performance is at least half of that in the C note. While visually similar to regular staccato notes, the actual articulation here requires heavier pressure to achieve clearer definition. To avoid stiffness from exaggerated articulation, this phrase demands delicate yet fluid execution. Each note should maintain

continuity with preceding and following notes, sustained by continuous breath support-never focusing solely on articulation at the expense of legato flow.

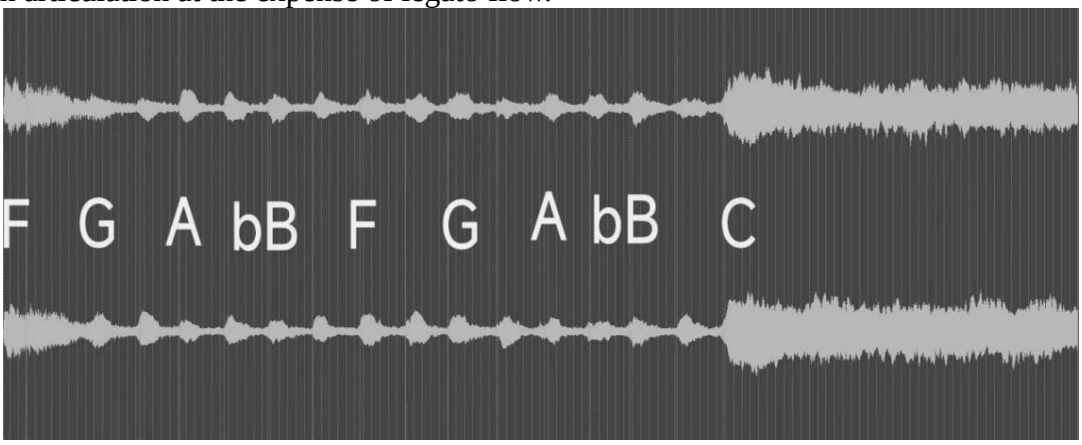

Figure 8: Helmut Fuchs in action

The first movement of Haydn's "Concerto for Horn in E-flat Major" employs two articulation techniques, while the second movement utilizes one additional technique. These three articulation methods share a common principle: maintaining an elegant and solemn tone throughout. Performers must clearly distinguish between connected and separated notes while ensuring neither the initial attack nor the final decrescendo is overly forceful. Even in lively rhythms, musicians should preserve the joyful and rhythmic essence without abrupt transitions between notes, instead carefully phrasing each note's decrescendo. For lyrical passages, the technique demands utmost precision-allowing subtle glissandos to achieve vocal-like fluidity. When interpreting solemn or dignified sections, performers must maintain consistent articulation with controlled dynamics, never letting the initial attack become overly pronounced while preserving the final decrescendo.

2.1.2 Hummel's Concerto for trumpet in E-flat major

Johann Nepomuk Hummel (1778–1837), a composer of the late Classical period, created his trumpet concerto "Concerto in E-flat Major for Trumpet" that masterfully blends classical formal structures with the lyrical essence of early Romanticism, achieving a harmonious balance between technical rigor and lyrical expressiveness. Composed specifically for the keyed trumpet (also known as a buttoned trumpet) invented by Anton Weidinger, this work overcame the range limitations of the natural trumpet (Baroque trumpet), showcasing groundbreaking possibilities in chromatic scale development.

The first movement of Hummel's Concerto for trumpet in E-flat major is more lively than the first movement of Haydn's Concerto for trumpet in E-flat major.

Figure 9: Taken from the first movement of Hummel's Concerto for trumpet in E-flat major (G alto, F major signature, 4/4 time)

As shown in Figure 9, the first three measures of the first movement from Hummel's "Trumpet Concerto in E-flat Major" reveal a striking contrast to Haydn's use of semitones for solemn beginnings. Here, the composer opens with eighth-note triplet rhythms that create a lively and vibrant atmosphere. Even before the trumpet enters the melody, the accompaniment section features string passages filled with staccato notes that build up cheerfulness. The trumpet's playing technique mirrors the eighth-note patterns in Figure 1, maintaining crisp articulation and fluidity while demonstrating equal agility. However, given their role as exposition motifs, these three notes must convey substantial intensity rather than softness. This explains why the intensity of the notes in Figure 7 surpasses that of Haydn's "Trumpet Concerto in E-flat Major" depicted in Figure 1.

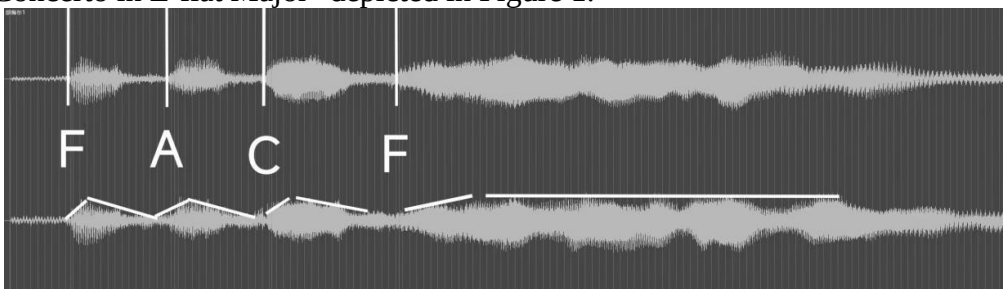

Figure 10: Wynton Marsalis plays

Figure 10 captures the opening four notes from the first movement of Hummel's "Trumpet Concerto in E-flat Major" performed by Wynton Marsalis. The articulation demonstrates crisp onset and gradual decrescendo at the end, ensuring seamless flow. In contrast, the notes in Figure 4 feature stronger dynamics to emphasize presentation. This section creates a striking contrast with the preceding accompaniment, where the trumpet's performance builds solemnity over its lively and fluid execution, signaling the formal entry of the musical theme.

In the second movement, Humer also follows the "fast-slow-fast" rule, and the second movement enters into a lyrical section.

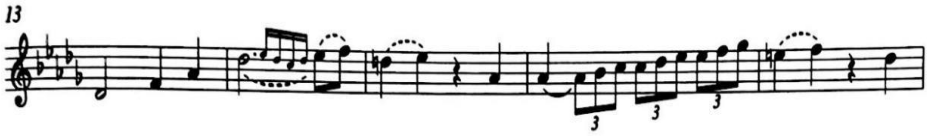

Figure 11: From the second movement of Hummel's Concerto for trumpet in E-flat major

As shown in Figure 11, the second movement of Hummel's Concerto for trumpet in E-flat major is also in the style of andante. The second movement of Hummel's composition does not use too many compact notes, but is slow and easy.

Similarly, the half note and quarter note in Figure 11 all require a "soft spit".

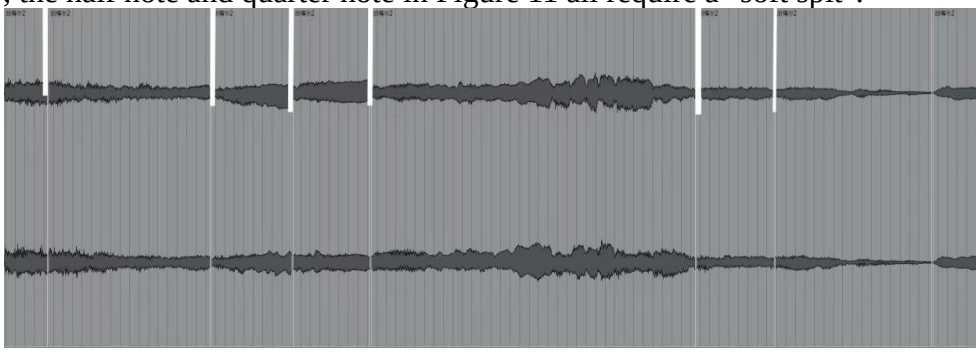

Figure 12: Played by Wynton Marsalis, the white line is the articulation mark

As shown in Figure 12, Wynton Marsalis also plays the articulation of the second movement of

this piece faintly. The articulation of the head is the same as that of Gabor Tarkovi in Haydn's Concerto in E-flat major, so I will not elaborate on it here.

The most brilliant composition in Hummel's "Trumpet Concerto in E-flat Major" resides in its third movement, which is both the most beloved by performers and widely recognized by trumpet players. This lively and dynamic movement, structured as a virtuoso rondo, features the main theme characterized by double tonguing and triplet leaps that showcase the trumpet's agility and crystalline clarity. The interlude's legato passages highlight its lyrical qualities. The cadenza frequently employs rapid high-register scales and broken chords, transcending the natural trumpet's range to emphasize the chromatic advantages of keyed trumpets. Throughout the movement, ornaments like trills and grace notes are skillfully employed, adding a touch of elegance to the melody.

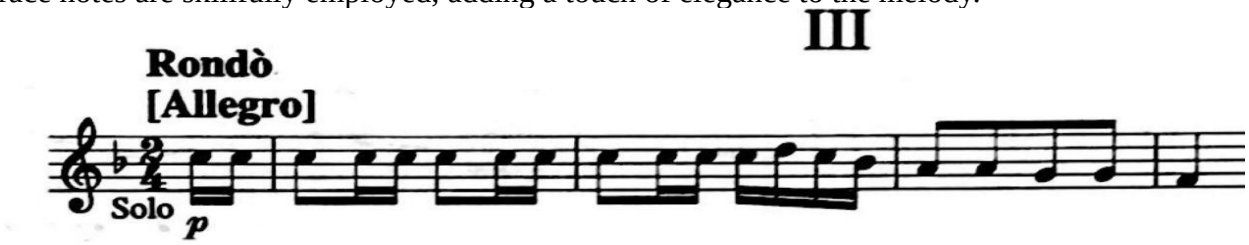

Figure 13: Taken from the Third Movement of Hummel's Concerto for Trumpet in E-flat Major

As shown in Figure 13, this phrase at the beginning of the third movement serves as a presentation that directly leads to the main theme. It employs the second trumpet articulation technique: "double articulation" mentioned earlier. Unlike the rapid staccato and virtuosic staccato of the Romantic era, the Classical period's double articulation emphasized precise control over each note. The articulation here mirrors the staccato in Haydn's "Violin Concerto in E-flat Major": both require clear articulation at the start while maintaining breath support to sustain the final notes without abrupt termination.

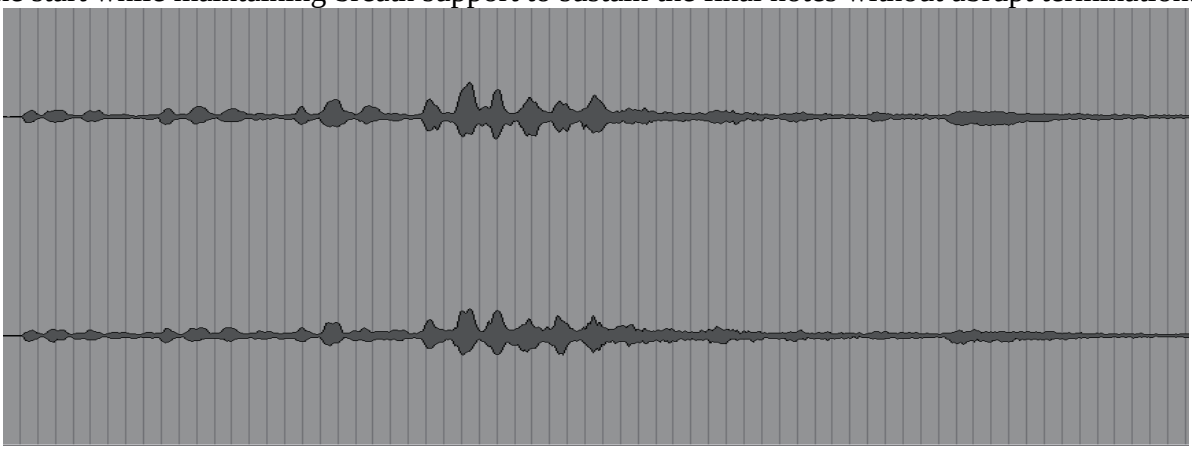

Figure 14: Wynton Marsalis plays

As shown in Figure 14, each note used by Wynton Marsalis in the "double spit" is clearly visible, elastic and connected, while the volume is small and the intensity of the notes is relatively low.

This analysis examines several articulation techniques in Hummel's "Trumpet Concerto in E-flat Major", particularly the use of eighth notes and the "soft articulation" in the second movement, which closely resemble those in Haydn's "Trumpet Concerto in E-flat Major". The "double articulation" technique in Hummel's work should produce an effect equivalent to eighth-note staccato. Through comparative analysis of these two compositions, we observe that Classical period works pursued perfect balance: accents should not be overly emphasized while maintaining essential tonal richness through breath control; staccato passages require controlled articulation with fluidity, typically marked "piano" on scores, emphasizing delicate articulation over rapid tempos; staccato accents

achieve perfect balance by combining lightness with clear articulation to highlight themes; the "staccato" in the second movement's adagio section should produce subtle articulations to create a hazy timbre and enhance fluidity.

3. Articulation exercises for classical period works

The solemn style of Classical period works necessitates restrained articulation, requiring performers to exercise "cautiousness" in their playing. Emphases should avoid excessive exaggeration, with the initial airstream needing gradual slowing and deceleration during the final decay. For "staccato" passages, vocal expressiveness must be fully realized. Compared to regular staccato, the tongue should lightly touch teeth and palate while retracting slowly to preserve oral and lip integrity. Staccato notes shouldn 't be overly brief but should maintain tonal flexibility, shifting focus from tongue control to breath management. The tongue's contraction at the onset shouldn't be abrupt[2].

In his work "The Musical Structure, Performance Techniques, and Artistic Features of Haydn's Concerto for Horn in E-flat Major", Wang Hengwu discusses single and double tonguing techniques[3]. The concerto showcases two primary tonguing methods: single tonguing and double tonguing. Single tonguing requires precise articulation through the tongue's strength synchronized with breath flow, while double tonguing allows performers to achieve the work's tempo demands. When executing double tonguing, musicians must ensure each note is clearly articulated and precisely placed on its beat. Additionally, the dynamics should remain consistent across all notes, avoiding both excessive force and insufficiency. The author emphasizes that classical period tonguing techniques must preserve tonal clarity and musical flow. Regardless of technique, performers should maintain steady breath control, allowing the tongue to glide smoothly like a surfboard through the airstream-moving with natural fluidity rather than forced effort.

4. Conclusion

As one of the core techniques to shape musical expressiveness, the technique of small diction is systematically reviewed in this study, which reveals the dynamic interaction between technical form and artistic concept through the physiological mechanism, performance logic and practical application in music history.

The application of trumpet articulation techniques profoundly reflects the evolving musical aesthetic demands across different eras. During the Classical period, trumpet articulation primarily served the elegance and rigor of court music. In Haydn's "Trumpet Concerto in E-flat Major", the "tenuto" of half notes requires a firm yet unobtrusive attack, while the deceleration of staccato notes maintains solemnity through subtle diminuendos. The Hummel Concerto, though adhering to Classical frameworks, demonstrates early Romantic explorations of technical expressiveness through flexible use of triplets and double articulations. From Classical equilibrium to Romantic free expression, and then to Neoclassical experimental breakthroughs, articulation has consistently served as a bridge connecting instrument characteristics with the spirit of the times.

Every technical refinement---whether controlling embouchure sharpness, managing decrescendo dynamics, or coordinating breath control with tongue placement-represents not just innovations in performance techniques but also microcosms of musical aesthetic evolution. The study of trumpet articulation during the Classical period established both technical benchmarks and stylistic foundations for the instrument's artistry. This research provides dual pathways for analyzing performance styles across eras through technical analysis and stylistic interpretation, while offering theoretical frameworks for reconstructing historical contexts and enabling personalized interpretations in musical practice. The Classical era's trumpet articulation methods and stylistic

evolution stand as a pivotal milestone in the history of trumpet performance, whose significance remains indispensable to understanding this instrument's development.

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