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## POST-TONAL PHENOMENA IN MOZART'S LATE MUSIC

In a provocative study of Allen Forte's article "*Generative Chromaticism in Mozart's Music: The Rondo in A Minor, K.511*", which describes chromatic generative elements, unfolding from a smaller musical unit into a larger organic whole, I hereby elaborate the analytical account of Mozart's late works, including K. 550, K. 511, K. 626, and K. 574, by means of post-tonal analysis. In some passages of these works 12-tone aggregates and various post-tonal set-classes [014], [015], and [016] are generatively produced. Moreover, ic1 and ic5 are the cores for unifying various prominent thematic materials and apparent musical gesture in an organizational manner, serving as excellent examples manifesting Mozart's use of contrasting elements for forging a distinctive sound in his late works. This interesting analytical offer deepens the intriguing nature of Mozart's music as it foreshadows the emergence of atonality and serialism in the early twentieth century.

**Keywords:** Mozart, set-classes, hexatonic collection, 12-tone aggregate, interval classes

A post-tonal theorist observed some non-trivial phenomena that emerge in Mozart's late works; Allen Forte's article "*Generative Chromaticism in Mozart's Music: The Rondo in A Minor, K.511*", which describes chromatic generative elements, unfolding from a smaller musical unit into a larger organic whole, definitely offers interesting insights on delineating the pitch-class formation of the piece. Forte said

Mozart's Rondo in A minor for piano, K. 511, has long been regarded as an unusual composition, both within Mozart's oeuvre and within the repertory of tonal music. Many musicians who have experienced this elegant and mysterious work seem to have acquired a special appreciation of the music. (Forte 1980, 459)

Allen Forte's analytical account of K. 511 is more or less similar to the way he analyses post-tonal repertoires, segmentation analysis focusing on intervallic gesture<sup>2</sup>, in this case, semitonal motions that expressed in the detail of melodic lines and in their interaction (Forte 459). I elaborate the analytical account of Mozart's K. 511 along with Mozart's other late works by using post-tonal analysis—set-class analysis, while terminologies such as interval class and pitch-class would be adopted throughout my analysis. This inter-

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<sup>2</sup> As Allen Forte is one of the most prominent set-theory music theorists, and I contend that his analytical approach of K. 511 is based on his knowledge of set-theory.

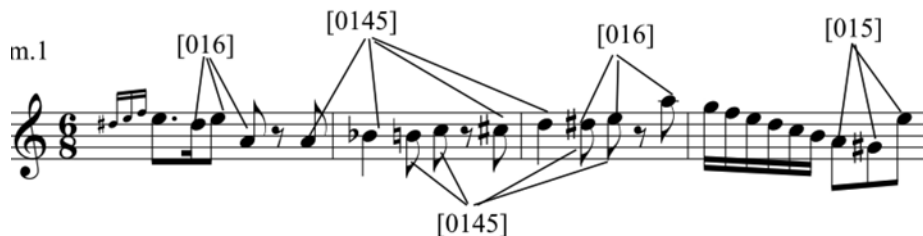
esting analytical offer deepens the intriguing nature of the pieces as these foreshadow the emergence of atonality and serialism in the early twentieth century in which set theory is the prominent analytical methodology. More importantly, while traditional analytical methods—Rameau Roman Numerical Analysis and Schenkerian Analysis—have overwhelmed over a century for most of the tonal repertoires, set—class theory has seldom been used for delineating tonal repertoires in the classical period. This interesting perspective would illuminate the significance of the pieces within the repertory of tonal music, and one could generalize that Mozart's creative process might not be confined to traditional harmonic and tonal realms, but, rather, forging and refining musical ideas by using atonal and chromatic linear materials as building blocks for constructing some passages

In Mozart's late works, semitonal ic1 and consonant ic5<sup>3</sup>, are the cores for unifying various prominent thematic materials and apparent musical gesture in an organizational manner<sup>4</sup>, serving as intervallic nucleuses for synthesizing the pitch-class materials of those works. Moreover, various post-tonal set-classes, including scs [014], [015], and [016], are generatively produced in some passages in which chromaticism is saturated. Even more strikingly, a complete 12-tone aggregate is nearly formed, and this predicts the emergence of serial techniques adopted by the second Viennese school almost more than a century later. In this paper, I am going to address those post-tonal phenomena in his late works by focusing on both the small-scale and large-scale organizational levels.

To illuminate Allen Forte's important observation on K. 511, I focus on some semitonal-oriented passages that Forte has mentioned in his article. As shown in below example 1, the main thematic idea is introduced right at the beginning in m.1. In the passage, the first phrase from mm.1-4 is saturated with scs [0145], [015], and [016]. Those subsets can be traced from different successive pitches. The motivic material in m.1 is made of sc [016], becoming the nucleus of the whole piece as it comprises the contrasting ic 1 and ic 5. Here the ic 5 is crucial as it characterizes the interval of the motive and this interval serves as transpositional agent for unifying different materials during the course of the piece. Following the motive from mm. 2-3 is a sequential figure characterized by sc [0145], a subset of the hexatonic collection with sc [014589]. Most importantly, the chromatic sequential pattern is formed by ascending chromatic ic1 intervals, initiating from pc 9 to pc 4. In other words, four pairs of ic1 are framed by the ic5 formed between pc 9 and pc 4. It is interesting that Mozart crafts the main theme by using the chromatic quality of hexatonic materials, and without the harmonic accompaniment, the melodic line is more or less atonal in character.

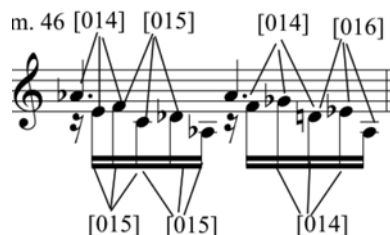
3 The interaction of ic5 and ic1 has been benchmarked in many twentieth century music, including the music of Shostakovich and Bartok; this feature dominates the pitch organization of their works from small-scale to large scale organizations.

4 Allen Forte noted the importance of these two intervallic structures that govern the pitch-materials of Mozart's Rondo K. 511, in which the chromatic-oriented thematic materials are framed by a perfect 5<sup>th</sup>.



Example 1: Subsets of [014579] transverse almost every pitch-class in the first phrase

In the central development section, starting from mm. 46–47 as illustrated in example 2, the chromatic configuration dominates the passage and it is saturated with overlapping scs [014], [015], and [016]. The culminated and organizational occurrences of the set-classes refine the melodic shape and contribute to the chromatic and atonal quality of the passage. Furthermore, ic 1 and ic 5 systematically dominates the intervallic gestures (pcs 4, 5, 0, 1, and 8). The resulting intervallic pattern is the sequence of ic 1 and ic 5 pattern, ie. ic 1-ic5-ic1-ic5. This pattern reemerges in his K. 550 which will be addressed in the ensuing observation. (See example 11)



Example 2: Hexatonic elements occur in an organizational manner

In the below passage from mm. 125–126 as shown in example 3, a chain of scs [014], [015], and [016] emerge successively in an apparent trichordal configuration, and without any harmonic accompaniment, they tend to weaken the tonal center of the passage. Most importantly, a complete hexatonic collection with sc [014589] can be traced, and the resulting sound is quite distinctive. Moreover, ic 1 and ic 5 dominates most of the pitch materials in the passage as they are the intervallic cores of the mentioned set-classes. In example 3b, transformations<sup>5</sup> (indicated by arrows) take place between two pcs in scs [015] and [016] and that they are governed by ic5---pcs 10 and 11 transformed into

<sup>5</sup> Transformations between trichordal set-classes have been addressed in my other paper “Transformations of Diatonic Materials and Tonal Procedures in Ligeti’s *White on White*” (New Sound, 41); in these circumstances, transformation takes place by mapping relevant pitches between trichords, and this event can also be reflected in K. 574.

pcs 3 and 4. The transformations of trichords display their maximum occurrences in his later K. 574 and the relevant processes will be discussed.

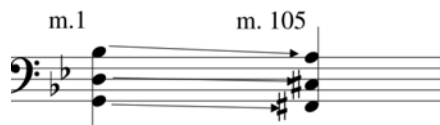
Example 3: Chain of [014] and [015] from mm. 125-126.

Another important instance in which intervallic nucleuses, ic 1 and ic 5, can be sought in mm. 50-51. As shown in example 4, in m. 50 the chromatic lines spanning an ic5 from pc 0 to pc 7 fuse with an ic 5 bass line manifesting the contrasting sound of the two intervals. While it is undeniable that this ic 5 outlining the bass is governed by the traditional functional progression, a plagal cadence IV-I, however, its emergence is distinctive when combining with the chromatic descending scale, providing a contrasting character to the passage. Furthermore, the chromatic segment spanning from pc 7 to pc 0 in m. 51 is in a T5I relationship with the chromatic segment in m. 50, and T5 not only interacts with chromatic elements, but it also governs the transpositional inversional relationship between different chromatic segments. From mm. 52-53, the chromatic segments are in ic 5 and ic1 relationships with each other, and those two intervals even govern the transpositional level of the chromatic materials.

Example 4: Interaction and governance of ic1 and ic5 in mm. 50-53

As we can realize that Mozart's K. 511 contains numerous post-tonal elements, including hexatonic collection and set-classes [014], [015], and [016] in which ic1 and ic5 are presented in an interesting and a coherent manner. These elements serve as major building blocks for synthesizing some chromatic passages. After K. 511, those elements become even crucial as they even play significant role in forming 12-tone aggregates, and this important phenomenon deserves our attention.

As if in Mozart's K. 511, his frequent use of ic1 has been manifested in his *Symphony No. 40* K. 550 and *Requiem* K. 626. In those works, chromatic semitonal motion takes place at various organizational levels ranging from large-scale to foreground levels. Large-scale organizational event governed by ic1 semitonal shifts is more often manifested in between sections whereas foreground organizational event takes place between successive harmonies. More often than not, the semitonal-oriented harmonic progression is maximally smooth<sup>6</sup> as it involves minimum distances for facilitating the progression between successive harmonies.



Example 5: Large-scale tonal motion in Mozart's *Symphony No. 40*, K. 550, 1<sup>st</sup> movement

Example 5 shows that in Mozart's *Symphony no. 40*, K.550, 1<sup>st</sup> movement, G minor tonality dominates the exposition in m.1 whereas F# minor tonality dominates the development in m.105. The two different tonal centers are linked by semitonal shifts, and this uncommon use of semitonal relationship on a large-scale level can also be manifested in the materials of the microscopic foreground level as previously mentioned in K. 511. Nonetheless, this T1-related pairing provides dramatic emotional contrasts to the tonality of the movement.

Example 6: Chords in four cadential points governed by semitonal slides from mm. 29 to 39.

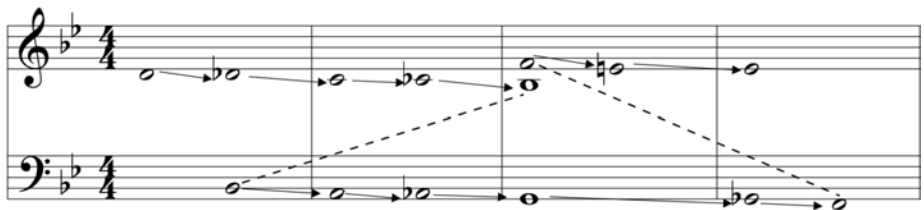
<sup>6</sup> The concept of maximally smooth is originated by Richard Cohn for characterizing the crucial feature of Neo-Riemannian Operation; two harmonies are transformed into one another by means of using the minimum number of semitones. As in the example 1 shown, sliding (S) occurs as it involves three semitonal shifts between two harmonies.

Example 6 illustrates another passage in *Confutatis* from mm. 29 to 39 where each cadential point is emphasized in mm. 29, 33, 35, and 30 respectively. Three semitonal shifts emerged in the passage are Ab-/G-, G-/Gb-, and Gb-/F+. All three pcs in each chordal pair are transformed by means of ic1. The massive semitonal transfers in this passage weaken the tonality to some extent until the final F+ confirms in m. 39.

From the above examples, Mozart's use of ic 1 semitonal shift is evident at larger surface levels, and the exclusive use of this intervallic cell can also be reflected at foreground levels; some passages become more set-classes oriented and less tonal-oriented, generating serial materials in various manners and dimensions. The governance of ic1 and ic5 could also be realized by the amalgamation of tonal and atonal procedures. Tonal procedure is reflected on the progression confined to the traditional functional progression whereas atonal procedure is based on the linear motion of the chromatic materials per se and the systematic organization of set-classes.



Example 7: Passage reveals semitonal-oriented progression in K.550 from mm. 95-98



Example 8: The formation of a 12-tone aggregate

In Mozart's *Symphony No. 40* K.550, numerous passages reveal saturated chromaticism and it is governed by semitonal ic 1. In the above example 7 from mm. 95 to 98, tonal motions are all achieved by means of semitonal T1 descending lines which occurred at various layers. First, a Bb major chord (Bb+) and a Bb minor chord (Bb-) in m. 95 generates a modal harmonic shift through the operation from pc2 to pc1, a semitonal motion, while at the same

time holding two common tones, pc10 and pc 5. The bipolar<sup>7</sup> Bb+/Bb- tonality is temporarily reached and confirmed by their V chord in m. 96. More importantly, the bipolar tonality between Bb+ and Bb- of the passage assures tonal instability, and each tends to compete for a stable tonality. The tonality finally resolves on Bb+ after m. 98. Additionally, two unresolved diminished triads in mm. 96 and 97 proceeded by a T1 motion, generating tonal ambiguity until landing at the Eb- chord in m. 98, which confirms its relationship with Bb+ and Bb-. The confirmation of the Bb+ tonal center in m. 99 is finally achieved by means of a series ic 1 chromatic descending lines presented at all different voices in different layers starting from m. 95. The triadic chain: Bb major-Bb minor-F major-dim on Ab-dim.on G-Eb minor triad generate a series of harmonic progression governed by ic1.

Even more strikingly, a complete 12-tone aggregate<sup>8</sup> can be formed. (See example 8) when combining three layers of chromatic segment together. (The most upper first layer starts with pc 5, the second layer begins with pc 2, and the third layer initiates with pc 10.) Another interesting phenomenon is that, pc 10, being the last lowest pc at the second layer, becomes the first pc at the lower layer; pc 5, being the last lowest pc at the third player, becomes the first pc at the first upper layer. These common tones pc 5 and pc 10, being in an ic5 relationship, which is the tonic and dominant pitches of the movement, serve as connective agents unifying three layers for generating the 12-tone scale. The prominent ic1 semitonal motion along with the ic 5 between the common pcs 5 and 10 highlights the significance of these two intervals occurring in Mozart's late works.

Another important instance in which a 12-tone aggregate can be found is right at the beginning of the development section from mm. 126-132 in the last movement of K. 550, the relevant pitches are shown as below example 9. In the below passage all the successive pitches generate a 12-tone scale except pc 0, and in the absence of any harmonic implication, one can generalize that the passage is nearly made up of consecutive different pitches, implicating an atonal sound and yet diminishing the tonality of the piece to some extent. Moreover, an ic1-oriented segment with sc [0134] is formed in m. 128 which is definitely audible as an octatonic element without any pronounced harmonic direction and implication. These four notes are distinct from the other pitches in the passage in that they are made up of a faster rhythmic configuration. Furthermore, four different triads, E+, Eb-, Gb+/F#+, and Db+/C#+ can be formed in subsequent to the combination of several successive pitches, and that they have an interesting intervallic relationships which totally manifests the prominence of ic1 and ic5. Pcs 4 and 11 of the E+ triad are in an ic1 relationship with pcs 3 and 10 of the Eb- triad. The Gb+/F#+ triad, being formed by pcs 1, 6, 11, is in an ic5 relationship with the Db+/C#+ triad. This interaction takes place within a short duration in which different triads are intercon-

7 Here "bipolar" refers to the simultaneous occurrences of two tonalities in a passage before arriving at a definite tonal point.

8 Here the aggregate and most of the other aggregates that I mentioned are formed by the trichordal sc [012], as they are more often presented as chromatic configurations.

nected by ic 1 and ic 5, and that common tones, pcs 6 and 10, are responsible for transforming pc 3 into pc 1 in order to have the ic 5 process taken place between the last two triads.

mm. 126-132

sc[0134]

ic1

ic5

E+ → Eb-

Gb+/F#+ → Db+/C#+

Example 9: Interaction of ic1 and ic5 in the serial passage

Example 10 reveals another crucial moment in which nearly a complete 12-tone aggregate is synthesized. In the first movement of K. 550, m. 48 shows the successive motions between ic1, displaying at the uppermost voice, and ic 5, outlining the bass line. The motion of ic5 at the bass line is governed by the tonal procedure—the traditional functional progression pattern of the interval cycle of 5<sup>th</sup>, whereas the uppermost layer is itself governed by the atonal procedure of semitonal descending ic1, being framed within an ic 5 interval from pc 7 to pc 2. Interaction of ic1 and ic5 takes place between the inner descending semitonal pitches pcs 3,4,5,6 and the first pc 7 with the last pc 2. More interestingly, closer inspection reveals that a complete 12-tone aggregate is nearly constructed when combining all the pcs in the upper layer with all the pcs in the middle layer in m. 49, forming sc [012345789A] with the exception of pcs 1 and 8. These two pitches are of significance as they are the two extra pitches that contribute to the pronounced accidental flattened pitches in m. 58. (see example 10) These two pcs also form an ic5, reinforcing the importance of this intervallic structure for contributing to the interaction with ic1 from mm. 48-49.

m.48

m. 58

ic5

sc [012345789A]

ic5

ic5

ic5

ic5

Example 10: sc [012345789A] with pcs 1 and 6 as serial material



Example 11 demonstrates two similar passages, the chromatic thematic statement established right at the beginning and its eventual reiteration at the coda of the exposition. The passages show interconnected relationship in which ic5 and ic1 emerge alternatively in each statement. From mm. 1-3, the bass outlines an ic5 arpeggiating from pc 3 to pc 8 which reinforced on the downbeat, following which is a series of ic1 motions governing m.2 until ic 5 returns for the confirmation of the tonal arrival from pc 11 to pc 3. Thus the overall motion outlines the intervallic pattern, ic5-ic1-ic5, which is a symmetrical pattern. From mm. 43-48, the bassline reiterates the first statement by modifying the sequence of the intervallic patterns as ic1-ic5-ic1-ic5. The last two intervallic sequences are characterized by expanding the harmonic rhythm of the first statement's ic1 and ic 5 motions from mm.2-3. More importantly, the first pc 8 that initiates the chromatic statement in m. 2 is in an ic5 relationship with the first pc3 initiating the chain of ic1 motions. Combining all the pitches in m.2 and mm. 44-47, a nearly 12-tone aggregate is generated with the exception of pcs 0,1, and 2, whose emergence is delayed at the opening bassline from mm. 57-59 in the prominent development section. (See example 11) Again, ic 5 frames the inner semitonal motions from mm. 55-60 from pc 0 to pc 5, and the final arrival pitch pc 7 forms another ic 5 with the pc 0 in m. 55. Thus, the emergence of ic5 in the development section is twofolds.

The image displays three musical staves in bass clef, illustrating the intervallic patterns discussed in the text. The first staff, labeled 'mm. 1-3', shows a sequence of notes with brackets indicating an 'ic5' relationship between the first and third notes, and 'ic1 motions' between the second and third notes. The second staff, labeled 'mm. 43-48', shows a more complex sequence with multiple 'ic5' and 'ic1 motions' brackets. The third staff, labeled 'mm. 55-61', shows a dense sequence of notes with a large 'ic5' bracket spanning the entire passage and 'ic1 motions' brackets within it.

Example 11: chains of ic1 and ic5 statement at the beginning, the end of the exposition, and the development of the K. 550, 2<sup>nd</sup> movement

The interaction of ic1 and ic5 also emerges in Mozart's *Requiem K.626 Domine Jesu*. As shown in example 12 from mm. 50-53, the soprano part outlines three pairs of semitonal dyads, initiating from pc 7 and terminating at pc 2, and the ic1 motions that contained within are framed by ic5. The alto part begins with pc 0 in m. 50 and terminates at pc 9 in m. 51. Ic5 relationships

transverse in a diagonal manner (see example 12). There are nine pairs of ic5 linked between the two parts; pc 0 at the alto part links with the pc 7 and pc 5 at the soprano part; pc 11 links with pc 6 and pc 4; pc 10 links with pc 5 and pc 3; and lastly pc 9 links with pc 4 and pc 2. In this passage Mozart fully explores these two intervals along with their interactions in-between, forging distinctive chromatic sound by intermixing tonal and atonal realms. Moreover, a nearly complete 12-tone row with the exception of pc 1 and pc 8 is formed by combining all the pitches in the two layers. Pc1 and pc8, being in an ic5 relationship, form a semitonal relationship with the functional tonalities, tonic and dominant, of the movement, ie. pc 2 and pc 7.

The image shows a musical score for two staves, both in 4/4 time. The key signature has two flats. The score is labeled 'm.50'. Brackets above the top staff indicate 'ic1' intervals between notes. Brackets below the bottom staff indicate 'ic5' intervals between notes. Diagonal lines connect notes between the two staves, illustrating the interaction between the two parts.

Example 12: ic 1 and ic5 interaction in *Requiem K626 Domine Jesu*

The image shows a single staff of music in bass clef. It features a sequence of chords with moving bass lines. An annotation 'sc[012345789A]' is placed below the staff, with lines pointing to specific notes in the sequence.

Example 13: Sequences reveal modal shifts from mm. 9-12 and semitonal motion pitches with sc [012345789A]

Example 13 reveals a chain of semitonal ic 1 shifts in Mozart's *Requiem's Confutatis* from mm. 10-12. Each triadic major third transforms into a triadic minor third by means of ic1. Starting from m. 10, the lowest bass line begins with a C major triad (C+) on the third beat and it proceeds to C minor (C-) on the fourth beat; in m. 11 the passage begins with a G major triad (G+) and it proceeds to G minor (G-) on the second beat by means of an ic 1 semitonal descending shift from pc 11 to pc 10; similarly the D+ on the third beat proceeds to D- by means of ic1 from pc 6 to pc 5 and so forth. The passage triggers a series of modal shifts between major and minor modes. Tracing all the thirds from all the triads in the passage generates a sort of serial material with sc [012345789A], and the relevant pitches include all 12 pcs with the exception of pcs 2 and 9, ie. A and D, the tonic and dominant of the whole piece's tonality. Furthermore, the functional progress of the passage is governed by the cycle of 5<sup>th</sup>, and the interaction between ic1 and ic5 is reflected between successive pairs of semitonal third.

The use of  $ic1$  and  $ic5$  along with particular set-classes including  $[014]$  and  $[016]$  become even more explorative and generative in K. 574; they systematically and coherently refine the melodic shape of the piece, yet generating serial materials to some extent. Some of the set-classes even exhibit transformations in which  $ic1$  and  $ic5$  govern the transformational processes.

Example 14: Various set-classes condensed at the beginning of K. 574

Example 14 reveals a systematic presentation of various set-classes. Pcs 6 and 7 in m.1 and pcs 4 and 5 in m.2 form sc  $[0123]$ , a set-class characterized by semitones, however, it is counterbalanced by the  $ic5$  relationship between pcs 1 and 2 in m.1 and pcs 8 and 9 in m.2, and each pair is made up of  $ic1$ , two pairs forming sc  $[0156]$ . Moreover, two different octatonic segments with sc  $[0134]$ , being again in an  $ic5$  relationship, are formed. The manifestation of the interaction between  $ic1$  and  $ic5$  is evident inside and in-between the set-classes. Subsets  $[014]$ ,  $[015]$  and  $[016]$  continue unfolding in various manners during the course of the piece. More importantly, the ten pitches emerge successively without any repetition, forming a serial-like material with sc  $[012345789A]$  with the exception of pcs 3 and 10, which are the essential pitches of G minor. Obviously, these two pitches are absent right at the beginning of the piece for saving later use.

Example 15: Networks of  $ic1$  together with the transformation of  $ic1$  and  $ic5$  between trichords

Example 15 reveals an even more intriguing passage in which it exhibits pcs transformations (indicated by arrows). Two trichords made up of ic5 in m.13 dominate the upper layer, reinforcing the open 5<sup>th</sup> sounds until one of its pc 4 transforms into pc 3 by ic1 in m.14 whereas pc 9 transforms into pc 10 by ic1. At the bottom layer, ic1 transformation takes place between different voices, and some pcs are transformed over a larger distance rather than just neighboring motion. For instance, pc 5 is transformed into pc 6 in m. 14. In m. 13 sc [015] is transformed into sc [014] by offsetting pc 1 a semitone becoming pc 0, while preserving two common pcs 8 and 9. A transformation of ic5 is also displayed between D- in m. 13 and G- in m. 14 and thus the ic 5 transformation is exhibited by means of the inner ic1 transformation between scs [015] and [014] as well as various ic1 semitonal motions between different pitches at the bottom layer. True, one might argue that the passage is just no more than a functional progression, however, due to the smooth semitonal voice-leading of pcs between different trichords and the pronounced trichordal gesture for set-classes, the passage itself is governed by linear net semitonal motions rather than functional progressions.

The image shows a musical score for Example 16, consisting of two staves: a treble clef staff on top and a bass clef staff on the bottom. The key signature has one sharp (F#). The score is labeled 'm. 20' at the beginning. The treble staff contains a sequence of notes: F#4, G4, A4, B4, C5, D5, E5, F#5, G5, A5, B5, C6. The bass staff contains a sequence of notes: F#3, G3, A3, B3, C4, D4, E4, F#4, G4, A4, B4, C5. Above the treble staff, brackets group the notes into set-classes: [014] (F#4, G4, A4), [016] (B4, C5, D5), [016] (E5, F#5, G5), [016] (A5, B5, C6), and [016] (F#5, G5, A5). Below the bass staff, brackets group the notes into set-classes: [014] (F#3, G3, A3), [016] (B3, C4, D4), [016] (E4, F#4, G4), and [016] (A4, B4, C5). Arrows indicate transformations: from F#4 in the treble to F#3 in the bass; from G4 in the treble to G3 in the bass; from A4 in the treble to A3 in the bass; from B4 in the treble to B3 in the bass; from C5 in the treble to C4 in the bass; from D5 in the treble to D4 in the bass; from E5 in the treble to E4 in the bass; from F#5 in the treble to F#4 in the bass; from G5 in the treble to G4 in the bass; from A5 in the treble to A4 in the bass; from B5 in the treble to B4 in the bass; from C6 in the treble to C5 in the bass.

Example 16: Saturation of overlapping scs [014], [015], and [016]

Example 16 shows that the trichord materials at the beginning unfold extensively in an overlapping manner. Set-classes [014] in m. 20 undergoes transformations (indicated by arrows) by ic1 and ic5 generating the other sc [014] at the bottom layer in m. 21. At the upper layer sc [016] transforms exclusively by ic5 and in the example, each arrow indicates the transformational direction between relevant pitches. However, in m. 22, ic 1 transformations take place between two voices in which descending semitonal motion governs the transformation. At the bottom layer, exclusive ic5 transformations govern different scs [016] in downward and upward directions. Most importantly, a complete 12-tone aggregate is generated as shown in below example 17. It is made up of four successive non-overlapping sc [016] in different transpositional levels. Such phenomenon foreshadows the emergence of the Second

Viennese School in which trichordal set-classes are building blocks for constructing 12-tone aggregate. It is noteworthy that scs [014], [015], and [016] are prominent trichords serving as building blocks for pitch-class formations in the music of Webern and Schoenberg. As we can see, there is a substantial linkage between the music of the First Viennese Classic School and the Second Viennese School.



Example 17: A complete 12-tone aggregate formed from sc [016]

Mozart's exploitation of ic 1 and ic 5 along with set-classes [014], [015], and [016] are evident in his late works. Frequent and coherent appearance of the particular set-classes in some passages reveals its significance for exploring less diatonic-oriented and chromatic syntaxes, forming a linkage with the music in the romantic period and even in the twentieth century era. Furthermore, governances and interactions of ic1 and ic5 can be sought in the works, and those passages serve as excellent examples manifesting Mozart's use of contrasting elements for generating stylistic sound despite the fact in some circumstances ic 5 is s governed by traditional functional progressions. Due to the saturated evidences of the particular set-classes in the piece, the functional analytical model of Roman Numeral Analysis might not totally reflect the pitch-class organization of those chromatic passages. Applying post-tonal analysis to those passages gives us more insights on Mozart's musical uniqueness and illuminates the significance of Mozart's stylistic changes in his later years, hailing him as a foremost innovator in the classical era.

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## **ПОСТ-ТОНАЛНИ ФЕНОМЕНИ У МОЦАРТОВОЈ ПОЗНОЈ МУЗИЦИ**

Резиме

У раду се, путем посттоналне анализе, разматрају Моцартова позна дела, укључујући и К. 550, К. 511, К. 626 и К. 574. У неким од ових дела, дванаесто-тонски агрегати и пост-тоналне сет анализе [014], [015] и [016] генеративно су продуковани. Штавише, ic1 и ic5 су језгра која унификују и организују разне проминентне тематске материјале и музичке гестове, што демонстрира Моцартову употребу контрастних елемената ради стварања дистинктивног звука у позним делима. Овај интересантни аналитички приступ продубљује интригантну природу Моцартове музике која представља претечу атоналности и серијализма у раном двадесетом веку.

**Кључне речи:** Моцарт, сет анализа, хексатонска збирка, дванаесто-тонски агрегати, интервалска анализа

*Примљен априла 2013.*

*Прихваћен маја 2013.*