Dirasat, Human and Social Sciences, Volume **46**, No. **2**, Supplement **1**, 2019

Mode Mixture and Tonal Relations in Beethoven's Late String Quartets

Iyad Abdelhafeez Mohammad *

ABSTRACT

The research analyzes the late string quartets of Beethoven and describes, through the lens of late style, the innovative tonal relations derived directly or indirectly from the principles of mode mixture. To achieve this aim a complex method of systematic tonal, harmonic, formal, and stylistic analyses is undertaken, with special focus on inner- and inter-movement tonal relations. Harmonic analysis in conducted with special attention to its connection to other aspects of musical composition, mainly polyphonic technique and formal structure. The field of examination consists of Beethoven's last six string quartets Op. 127, 130, 131, 132, 133, 135.

Beethoven's late string quartets exhibit a wide range of tonal relations, be it within a single movement or between the movements a quartet as a whole. These relations spread from traditional tonic-dominant relations, across tonic- mediant and submediant relations, and leading to relation of the tonic to the lowered sixth, the lowered seventh, the lowered third, and the Neapolitan lowered second degrees.

Keywords: Beethoven; String Quartet; Late Style; Harmony; Tonal Relations; Mode Mixture.

Introduction

Theodor W. Adorno[1], one of the principle figures associated with the Frankfurt School[2] and the founding of the Critical Theory, uses the term "late style" in his short essay entitled "Spätstil Beethovens" (The Late Style of Beethoven) written in 1937 and included in his 1964 collection of musical essays *Moments musicaux*. According to Adorno's classification, Beethoven's last works, or what is known as the composer's third period, include the last five piano sonatas, the Ninth Symphony, the *Missa Solemnis*, the last six string quartets, and the seventeen bagatelles for piano. In his essay Adorno analyses the main qualities of these last compositions, the coexistence of objective and subjective traits that have perplexed historians and theoreticians alike. It is subjectivity, Adorno writes, "that forcibly brings the extremes together in the moment, fills the dense polyphony with its tensions, breaks it apart with the *unison*, and disengages itself, leaving the naked tone behind; that sets the mere phrase as a monument to what has been, marking a subjectivity turned to stone. The caesuras, the sudden discontinuities that are more than anything else characterizing the very late Beethoven, are those moments of breaking away; the work is silent at the instant when it is left behind and turns its emptiness outwards" (Adorno 2009, 567).

Thus, it is discontinuity, the lack of contemplated and procedural development so characteristic of the composer's second period, in his *Eroica* and *Appassionata*, that occupies Adorno most of all. The crux in Adorno's essay is, as always, the question of what holds a work together? "Objective is the fractured landscape, subjective the light in which

1 Theodor Ludwig Wiesengrund Adorno (1903-1969) was a German philosopher, sociologist and cultural critic. A leading member of the *Frankfurt School*. He advanced a primarily dialectical and largely leftist tradition of socio-cultural thought. Adorno is the author of numerous writings on music the most fundamental of which is *The Philosophy of New Music* (1947).

2 The *Frankfurt School* was a school of social and cultural theory and critic, the ideas of which were mainly based on Marxist and psychoanalytic foundations, and critical towards capitalistic, as well as communist and fascist regimes. Its leading representatives were Th. Adorno, E. Bloch, W. Benjamin, M. Horkheimer, and H. Marcuse.

* Faculty of Fine Arts, Yarmouk University, Jordan. Received on 16/10/2017 and Accepted for Publication on 16/12/2018.

- alone – it glows into life. He does not bring about their harmonious synthesis. As the power of dissociation, he tears them apart in time, perhaps, to preserve them for the eternal. In the history of art late works are the catastrophes" (Adorno 2009, 567). It is then a negativity that unites the work. Specifically that lack is what ties the parts to each other, the invoking of "the figure they create together".

Edward Said[3] in his book *On Late Style* sees in Beethoven's late work an example of "lateness not as harmony and resolution but as intransigence, difficulty, and unresolved contradiction, <....> that involves a nonharmonious, nonserene tension, and above all, a sort of deliberately unproductive productiveness going *against*…" (Said 2007, 7). He writes that these works "constitute an event in the history of modern culture: a moment when the artist who is fully in command of his medium nevertheless abandons communication with the established social order of which he is a part and achieves a contradictory, alienated relationship with it. His late works constitute a form of exile" (Said 2007, 7-8). For Said the works remain "unreconciled, uncoopted by a higher synthesis: they do not fit any scheme, and they cannot be reconciled or resolved, since their irresolution and unsynthesized fragmentariness are constitutive, neither ornamental nor symbolic of anything else". Beethoven's late compositions are in fact about "lost totality," and are therefore catastrophic (Said 2007, 12-13).

It is the purpose of the current research to analyze and define, through the lens of lateness, the innovative tonal relations in the late string quartets of Beethoven derived directly or indirectly from the principles of mode mixture. To achieve this aim a complex method of systematic tonal, harmonic, formal, and stylistic analysis is undertaken, with special focus on inner- and inter-movement tonal relations. Harmonic analysis in conducted with special attention to its connection to other aspects of musical composition, mainly polyphonic technique and formal structure. The field of examination consists of Beethoven's last six string quartets: Op. 127 in E flat major, Op. 130 in B flat major, Op. 131 in C sharp minor, Op. 132 in A minor, Op. 133 in B flat major, and Op. 135 in F major.

The significance of the string quartet as a genre lies in the fact that it is one of two genres that have accompanied Beethoven throughout all of his creative life; the second being the piano sonata. The Piano Sonatas Op. 2 are dated 1795 while the String Quartets Op. 18 were completed in 1800. The last Piano Sonata Op. 111 was finished in 1822 and the last String Quartet Op. 135 in 1826. Consequently, the evolution of Beethoven's style is in its most detailed features reflected in these two genres. The advantage of the string quartets in this respect, apart from being the composer's true "last works", lies in them embodying the unity of polyphonic writing and the four-voice harmonic essence of music. The significance of the string quartets of the Viennese Classics in general is also related to the genre's great influence on the genesis and further development of the sonata form and the forms of the sonata cycle as a whole.

The importance of this research arises from the lack of comprehensive analytic literature regarding the tonal relations and harmonic language of Beethoven's late string quartets, despite the abundance of material concerning his late works in general. In Robert S. Hatten's book *Musical Meaning in Beethoven: Markedness, correlation, and Interpretation* many references are made to the composer's late string quartets. It includes a chapter on the "Thematic Markedness" in the first movements of Op. 130 and Op. 131, as well as a chapter on the *Cavatina* from Op. 130. Yet, as the title of the book indicates, the main focus of analysis is the hermeneutic aspect of the compositions in relation to their interpretation, with little attention paid to harmonic and tonal structure and relations.

The collection of articles *The String Quartets of Beethoven*, edited by William Kinderman, includes several essays concerning the late string quartets. Brigit Lodes's article *"So träumte mir, ich reiste... nach Indien": Temporality and Mythology in Op, 127 / I* investigates Beethoven's interest in Greek as well as Indian and Brahman mythologies and their possible influence on the structuring of time in the composer's late works, and in Op. 127 specifically, as what the

3 Edward Said (1935-2003) was an American-Palestinian cultural philosopher and critic, founder of postcolonial studies and author of *Orientalism* and *Culture and Imperialism* as well as many books on the Palestinian cause. He has several writing on music. "Said focuses on the interrelation of power and knowledge, and on the ways in which power relations are constitutive parts of practices and forms of representation (Al-Kassasbeh 2016, 637).

author calls "mythic time" (Kinderman 2006, 168-213).

Robert Hatten's contribution *Plenitude and Fulfillment* is dedicated to the third movement of String Quartet Op. 130 and addresses the "expressive motivations behind atypical structural and formal events, <… and> helps explain why Beethoven might have departed from sonata form so radically in this movement" (Kinderman 2006, 214). The article is mainly concerned with the formal relation between movements and questions of tropology.

In his essay *Op. 131 and the Uncanny* Joseph Kerman disputes Theodor W. Adorno's classification of the Finale of Op. 131, together with the whole of *Missa Solmenis* and other works, as "late work without late style". Kerman attempts to find an interpretation that would accommodate the Finale within the "late style" as Adorno conceived it.

William Kinderman, in his article *Beethoven's Last String Quartets: Threshold to a Fourth Creative Period?* examines the String Quartets Op. 130, 131, and 132 from the view point of their internal unity, for which he uses the term *Kunstvereinigung* (artistic unification) coined by Beethoven himself.

Janet Bourne, in her article *Perceiving Irony in Music: The Problem in Beethoven's String Quartets* investigates whether there is something systematic that prompts listeners to interpret musical "inappropriateness" as ironic. Building upon Hatten's work, this article explores "how a listener might infer irony in Beethoven's music by drawing on cognitive principles and analogies shared by music and language" (Bourne 2016, 1). She creates an analytic framework that draws conditions from language psychologists' empirical studies of verbal and situational irony.

Finally, Twila Bekker's essay *Tied Up With Strings: Untangling the Rhythmic Complexities of the Second Movement of Beethoven's String Quartet No. 16, Op. 135* aims at aiding the listener and performer in unwinding some of the rhythmic complexities of the second movement of Beethoven's String Quartet through the lens of metrical dissonance, as pioneered by Harald Krebs in *Fantasy Pieces: Metrical Dissonance in the Music of Robert Schumann* (1999).

The individual character of each of the Beethoven quartets in truly astonishing. Already in the Quartets Op. 18 (1798-1800), especially the quartets in F major, C minor, and B flat major, Beethoven's personal character and individual treatment of the genre are clearly tangible. This trend continues in the three Quartets Op. 59 (1805-1806), which are so different that the single opus number can only be explained by them being commissioned by one person, Count Andrey Razumovsky, the then Russian ambassador in Vienna. Not less different in character are the String Quartets Op. 74 (1809) and Op. 95 (1810).

Beethoven's last string quartets form very diverse attempts to rethink and reinterpret the whole concept of the sonata cycle. Only two of them have the same number of movements and are formally conformant with the traditional four-movement cycle. But how different they are! Op. 127 is an enormous composition; everything about it is broad and monumental, while Op. 135 is compact, tending towards laconism, even miniaturism. Each of the other quartets gives its own interpretation of the concept of a cycle; Op. 132 has five movements, Op. 133 has six, while Op. 131 consists of seven movements. These diverse attempts of rethinking and reinterpretation lead, as their natural consequence, to parallel explorations in the field of harmony and tonal relations within musical structures. In this essay we will analyze and contextualize these new features in the composer's harmonic and tonal tactics through the prism of mode mixture, in order to deduce the underlying general tendencies of Beethoven's late harmonic language. *Mode mixture* here is understood as the interpolation into a tonality chords and chord progressions belonging in origin to other tonalities that lie in specific relation to the main tonality. Mode mixture often serves an expressive purpose and is a frequently encountered source of *altered chords* also known as *borrowed chords* or *mutation* (Kostka & Payne 1995, 355).

Experimenting with Anti-relatives

Already in the first of the so called "late string quartets", the Op. 127, Beethoven uses a rather unconventional tonal relation between the first movement's main and secondary themes. In Brigit Lodes's opinion, already the quartet's first movement "expresses that floating, tensionless, utopian state" that follows music depicting the struggling self. She

argues that Beethoven "undercut the directional, dynamic qualities of a sonata-form Allegro, which is such a suitable form for telling a unique teleological story, and he instead sought to convey what we might deem 'mythic time'" (Kindermann 2006, 168). With the main theme in the quartet's home key of E flat major, the secondary theme is in G minor, i.e. III. It might well be that such an unusual choice of secondary key is designed to compensate the weak thematic contrast offered by the secondary theme. But the secondary key of G minor makes it possible for another key to be introduced, namely that of C major, i.e. its major VI. We have, then, a combination of two anti-relative keys to E flat major; those of C major (the relative but in the major mode), and G minor (a minor but that of the mediant rather than the submediant).

The movement opens with a strongly contrasting two-part idea consisting of a six-measure majestic chordal Maestoso (2/4), which is followed by a more subjective and flowing Allegro (3/4). The ascending *forte* energy of the Maestoso contrasts with the descending piano Allegro theme. Throughout this movement we thrice hear the thick opening chords, standing as if outside the sonata allegro, a form already familiar from the composer's Sonata "Pathétique". After sounding in E flat major in the opening, they return in G major, the major III, just before the beginning of the development, in close juxtaposition with the exposition's end in G minor, and again in C major during the development. The chords, however, never return in the home key. The solemn character of this episode, contrasting with the movement's other themes, makes it easy to associate them with each other and perceive this juxtaposition across a relatively long distance.

Also noteworthy is the lack of emphasis on the moment of recapitulation, the precise location and harmonization of which is, on the contrary, blurred, with the main theme starting smoothly on the second degree. The composer also throughout the movement avoids the dominant, which is the key component of tonal contrast and structuring in the sonata-form of the Viennese Classics. Brigit Lodes in this relation suggests that Beethoven's choices had to do with a "desired artistic effect. He weakened some of the most striking characteristics of sonata-form dynamics in order to create a movement that was as undynamic and unidirectional as possible, and in so doing he created a piece of music that displays a temporal structure remarkably different from his middle-period works" (Kindermann 2006, 171).

C major will also plays an important role in the development of the secondary theme of the Finale. After sounding in B flat major in the exposition, the secondary theme appears in the development in C major; and the Coda, after an E flat major recapitulation, begins in C major as well, introducing both a new time-signature and a new texture. Thus C major keeps reappearing as a shadow, a *doppelgänger*, of the home key.

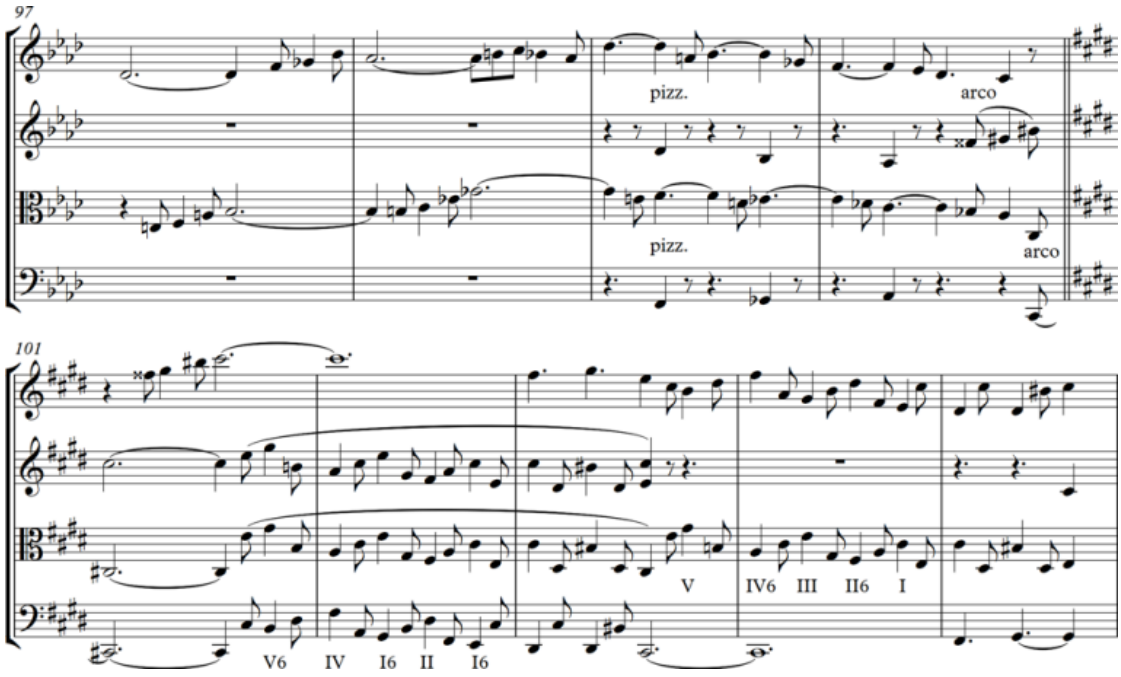
The first movement of String Quartet Op. 132 in A minor is unique in that has two consecutive recapitulations. The exposition has the tonal structure E♭/g from the previous example inverted, with the main theme in A minor and the secondary theme in F major, i.e. VI. In the first recapitulation, which can be formally considered a "false" recapitulation, these keys are transposed to their dominants, presenting the main theme in E minor and the secondary theme in C major, while the second recapitulation has the main theme back to A minor and the secondary in A major. Again, we have a case of choosing an anti-key. A minor is contrasted with a major key, but neither of the two that could be expected, neither with C major nor with E major, but rather with the major submediant. The same is true for the key-elation in the first (false?) recapitulation.

The Lowered Sixth Degree (♭VI)

The lowered VI as a degree in major keys is, of course, one of the earliest forms of mode mixture after the *Picardy third*. Its influence as part of the harmonic major mode was usually restricted to the chords of the II, IV, and VII_7. As we shall see, however, in Beethoven's late string quartets we can find several examples of the use of the *key* of the ♭VI.

In the *Adagio* of String Quartet Op. 127, a set of theme and variations, after the long sustained A flat major of the theme and first two variations, the third variation shifts to E major, the enharmonic key of F flat major, the major ♭VI of the main key. The modulation is executed quite simply with a melodic shift doubled by all instruments from C to C#. The contrast is also strengthened by a particularly tranquil texture and a slower tempo.

Between the fourth and fifth variations of the same *Adagio*, both in A flat major, Beethoven inserts a short seven-measure transition in C sharp minor, the inharmonic key of D flat minor, the minor subdominant key. Thus the ♭VI (F♭) emerges once more, this time as part of the subdominant function. The key of C sharp minor is especially expressive because it is framed by two large variations in the main key of A flat major, and because it is directly preceded by four measures in D flat major. This expressiveness is also heightened by the inclusion in the transition of two consecutive diatonic sequences of plagal progressions that touch upon the V, IV, III, II, and I natural degrees of C sharp minor (Example 1).

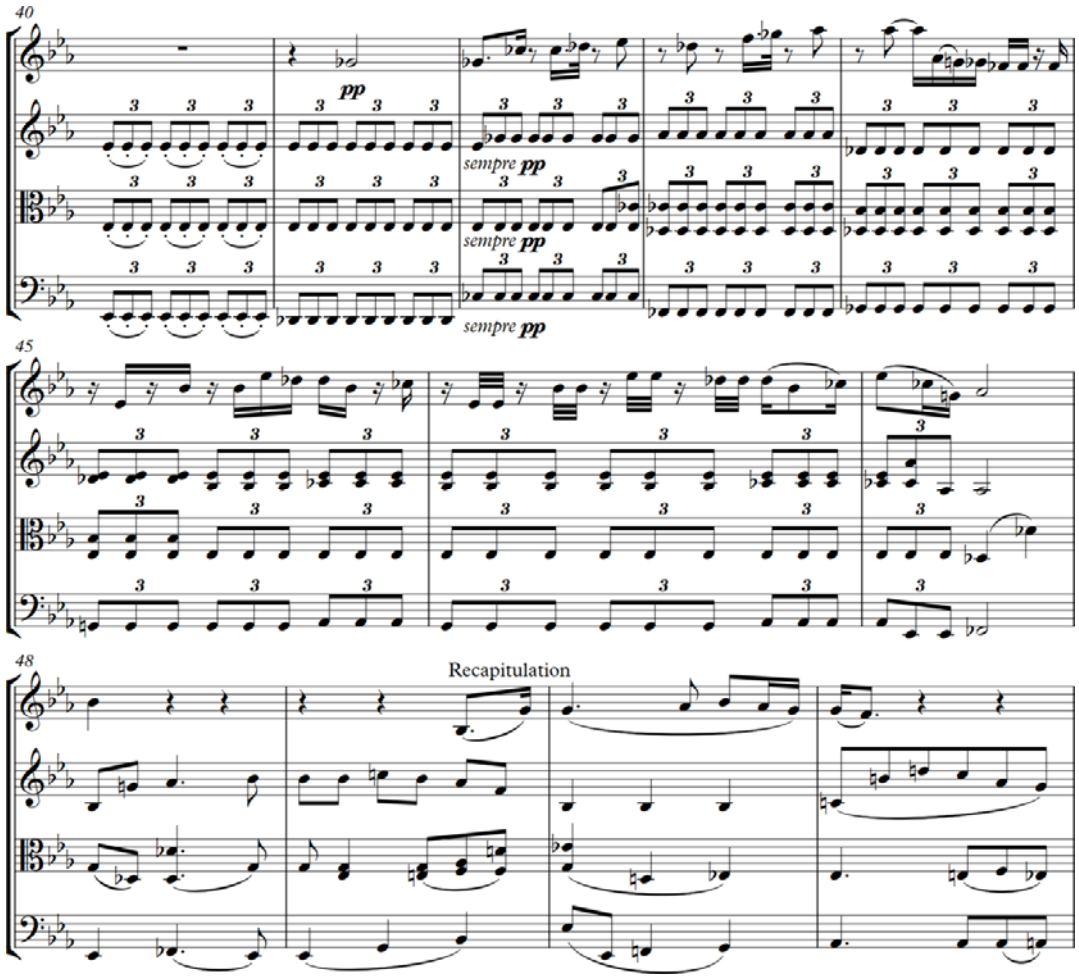


Example 1: String Quartet Op. 127, Adagio: transition between fourth and fifth variations

The sonata structure of the first movement of String Quartet Op. 130 is interpreted by Janet Bourne as *ironic*. In her article on irony in music she writes that the irony in this movement "stems from transformations of normative sonata-form principles: both the exposition and recapitulation are fragmentary, tonally unstable, and restless, while the development is static and serene. In other words, Beethoven turns the traditional section roles upside-down. He creates a sonata in which each section accomplishes not only the opposite of its expected rhetorical goal but also the goal of a different section. The exposition and recapitulation achieve the goals of a development, while the development achieves that of an exposition or recapitulation. Therefore, all rhetorical goals are present in the sonata; however, they are in the wrong sections and the wrong order" (Bourne 2016, 13). The tonal relations within this movement doubtlessly reflect this irony and paradox in a highly unusual correlation between the main and the secondary keys as B flat major to G flat major (♭VI). The development moves from G flat major to D major, i.e. the major III degree, through F sharp minor (the enharmonic key of G flat minor!). In the recapitulation the secondary theme starts in D flat major as a reminder of the secondary key of the exposition, G flat major, and only later moves to the home key of B flat major. D flat major here plays the double role of the lowered third degree (♭III) of the home key and the dominant of the original secondary key.

In the fifth movement of Op. 130, the famous *Cavatina* we find the juxtaposition between the home key of E flat major and C flat major (♭VI) in the last section of the middle part, later modulating to its relative, A flat minor. This

nine-measure *Interlude*, using Robert Hutten's term, is rather ambivalent both formally and functionally. As he writes, it "is not a straightforward B (or C) section, but more like a suspension of time <…>, cued by a recitative that itself appears to be in a different time from that of its background accompaniment" (Hatten 2004, 208). E flat major dominates the movement for its first 39 measures, only once modulating to C minor. After the *Interlude* the home key returns for the final 18 measures. The key of C flat major, of course, stands in direct relation to the C minor modulation of the movement's second phrase as a half-tone shift, while the A flat minor is related to the home key as its tonic. The latter relation is reflected in the Phrygian cadence at the end of the *Interlude*, the dominant of which is reinterpreted as the recapitulation tonic. The *Interlude* then dramatically stands out from the natural and even flow of the movement. This contrast is due not only to the tonal shift, but also to its polyrhythmic texture and extraordinary "gasping bits of melodic utterance" in the part of the first violin (Hatten 2004, 219). The role of rhythm here is decisive, in the sense the it is rhythm that "unifies and organizes the relation between material, form and expression, <…> to achieve a psychological and modal unity in accordance with an aesthetic dimension dictated by the material itself" (Mallah 2016, 1584). Example 2 shows the complete *Interlude* and the beginning of the recapitulation.



Example 2: String Quartet Op. 130, Cavatina: Interlude and beginning of recapitulation

In String Quartet Op. 135 the first, second, and fourth movements are in the F major. This stability is compensated by the original choice of key for the slow third movement and by rather vibrant tonal relations within the movements

themselves, which will be discussed below. The key of the third movement, a set of Theme and variations, is D flat major, the key of the major ♭VI degree. This key is sustained throughout the movement with the exception of a shift to the enharmonic minor key of C sharp minor in the second variation.

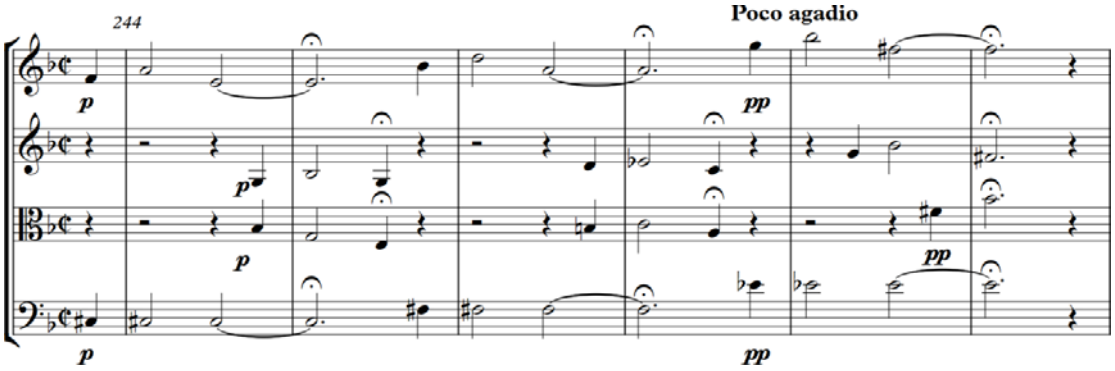
The Lowered Seventh Degree (♭VII)

Tonal relations within the remaining three movements of Op. 135 are rather unconventional, yet quite expressive. In the first movement, the main key of which is F major, the secondary theme begins in the key of the major II degree (G major), here functioning as the dominant key to the expected C major, which is reached only in the second phrase four measures later.

In the second movement, the Scherzo, after the first 16-measure period in F major, a sudden shift occurs to E♭, the ♭VII degree, which is sustained for seven measures. This highly unusual choice for the Viennese Classics of the ♭VII degree will be deepened and intensified, as we shall see, at the end of the Finale. It also supports a highly *rhythmically dissonant* texture as described by Twaila Bekker: "It is arguably one of the most metrically dissonant movements included by Beethoven in any of his quartets. This saturation of dissonance is purposeful, as it is used as a principal instrument of organization. In order to highlight the idea of dissonance as an organizational tool, Beethoven takes three rhythmically dissonant ideas and ties them together in innovative and unusual ways" (Bekker 2011, 41).

The least traditional tonal relation in the quartet is, however, that of the Finale's main theme key of F major and its secondary key of A major, the major III degree. This rare tonal relation in the exposition leads in the recapitulation, where both themes appear in F major, to a transition in D major, the major VI degree of the home key. All these modulations are, however, done very eloquently, and with a refinement that reflects a new sense of style in the last compositions of Beethoven.

One final moment we would like to draw attention to in the Finale of quartet Op. 135 is the E flat minor chord at the beginning of the Coda (Example 3). This chord is sustained for two measures, and prolonged by a fermata. Is it a reference to the shift to Eb in the Scherzo? Or was that shift a preparation for this chord? Sounding rather *Wagner-like* in the surrounding of F major, and after two diminished 7th chords acquiring a tonic function, this *minor* ♭VII degree might be the first occurrence of this harmony in the history of music.



Example 3: String Quartet Op. 135, Finale: Coda, mm. 244-249

The Lowered Third Degree (♭III)

A less frequently encountered tonal relation is that of the tonic to the ♭III degree. We have already mentioned this relation in the recapitulation of the first movement of Op. 130. It also appears, for example, in the Coda of the fourth movement of Op. 131, the set of Theme and variation. Here a small developmental section in A major, the home key of the movement, leads to a short episode in C major, the major key of the ♭III degree. This is followed by another section

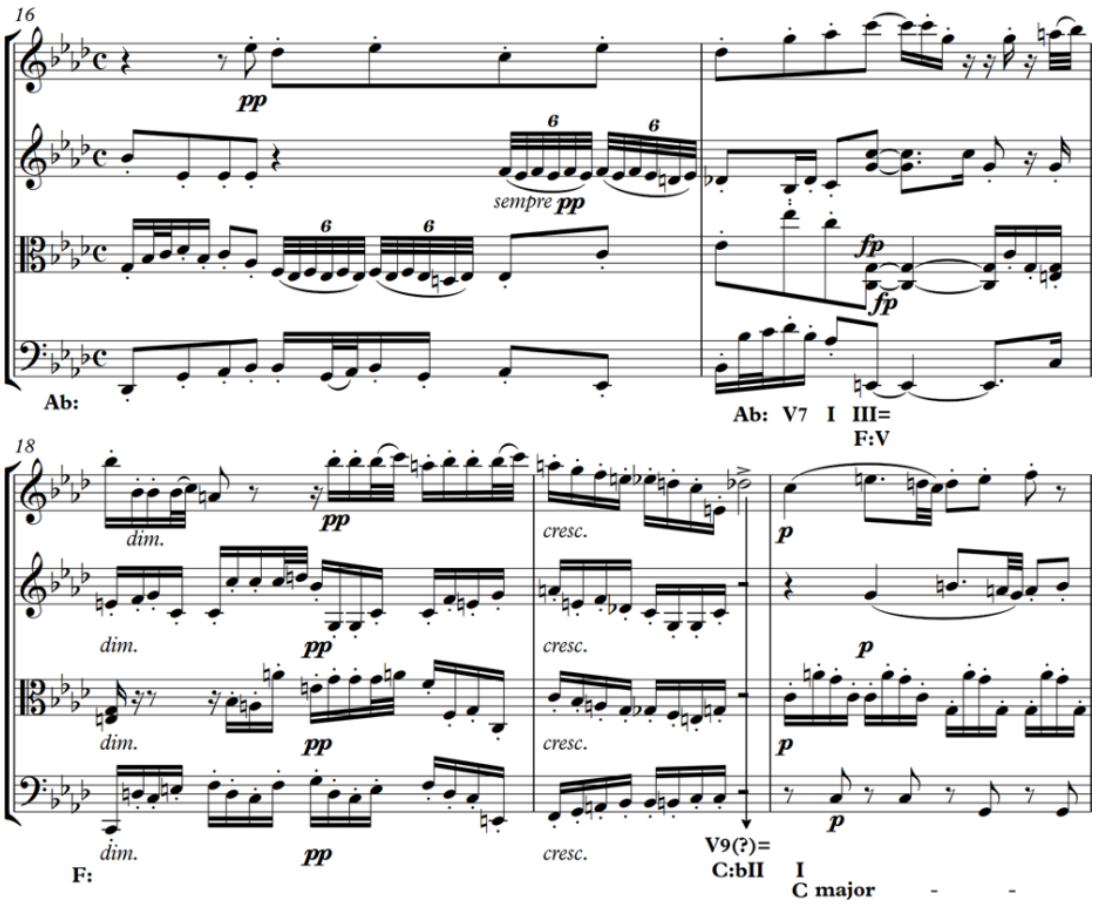
in A major leading to the same previous episode, this time transposed to F major, the already familiar ♭VI degree. A final return to A major ends the movement. It is noteworthy that this tonal scheme A-C-A-F-A to a large extent reproduces the relation of the same keys in Beethoven's Symphony No. 7 in A major, where the Scherzo is in F major, not to mention the numerous cross-references made between the three keys, especially in the development sections of the first and last movements.

Traditional Relations but …

In some movements the basic tonal relations are more conventional, as is the case in the third movement of Quartet Op. 130 (*Andante con moto, ma non troppo*), where the main and secondary themes stand in a classical tonic-dominant relation. This is, however, accompanied by a diversity and intricacy in the internal phases of development that leads us to conduct a more detailed analysis of this movement. Regarding the Andante's genre, Robert Hatten writes that "the Andante third movement of op. 130 <...> might be viewed as a trope at the level of genre, in that it creatively fuses the playfulness and rhythmic drive of a scherzo [*Poco scherzoso*] with the tunefulness of an Andante [*dolce*]" (Kinderman 2006, 216).

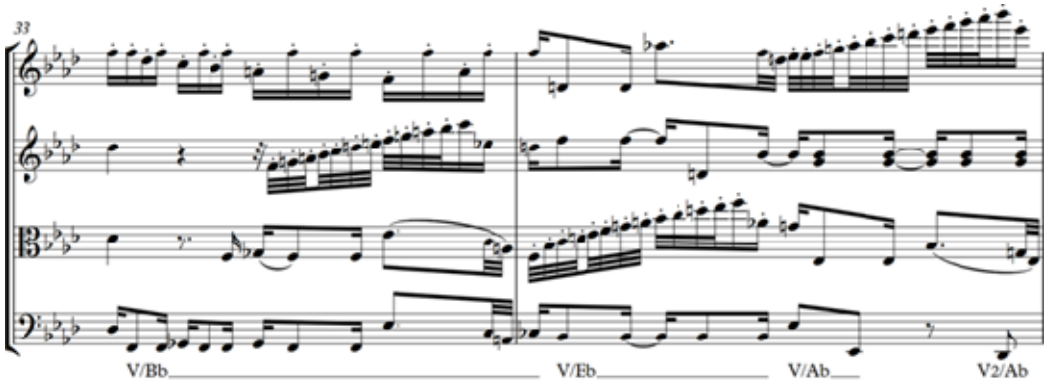
The *Andante* is written in D flat major, the ♭III degree of the work's main key of B flat major and the relative major of the previous movement's key of B flat minor. The movement opens with two measures in B flat minor that could be interpreted as a transition. However, no *attacca* is indicated at the end of the previous movement, which characterizes the two measures more as an introduction in a secondary key. Hatten described the opening as following: "With its initial gesture in the first violin, the Andante alludes to the lament opening of the first movement, and it also appears to respond, speculatively, to the B flat minor of the Presto before shifting gears tonally and rhythmically into D♭ for a first-theme group" (Kinderman 2006, 216).

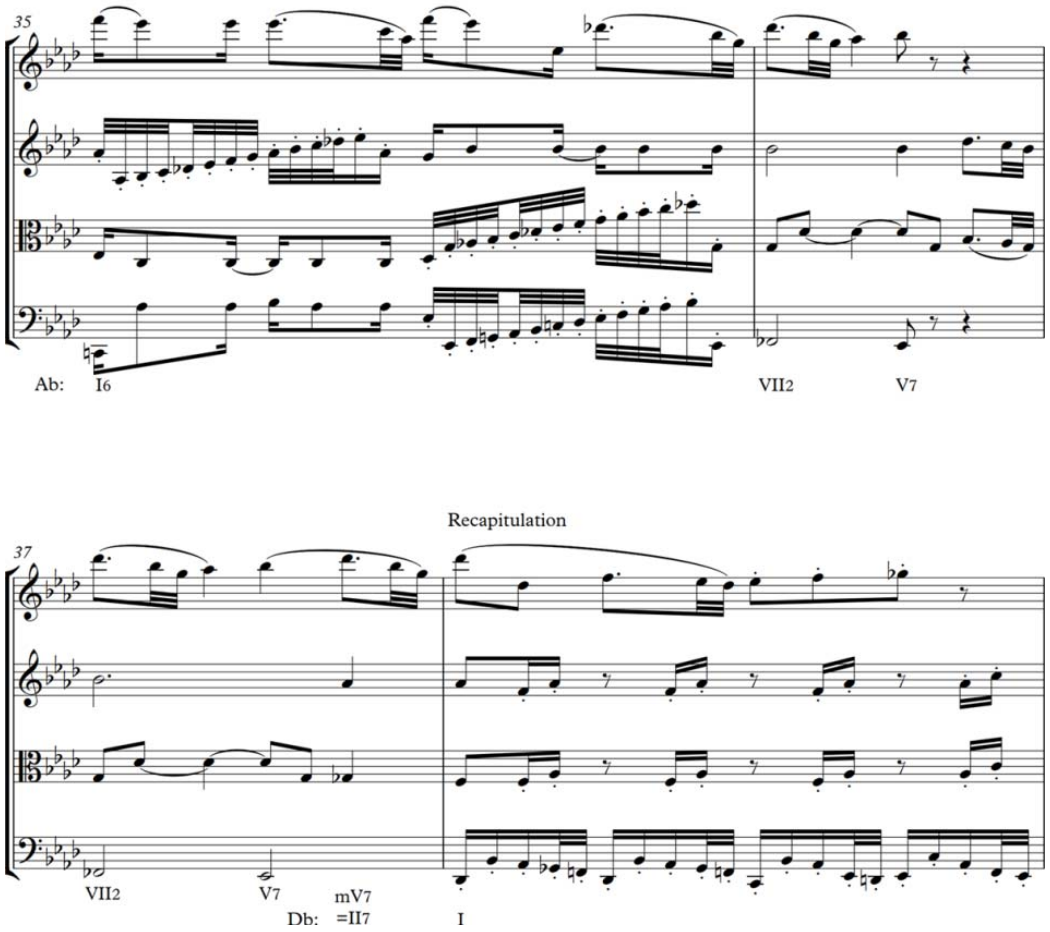
The form of the *Andante* is best described as a sonata form without a development section. Robert Hatten sees that "the form of this movement may owe much to sonata, but these unusual features suggest that an expressive interpretation may be more to the point in capturing the relevant dramatic trajectory" (Kinderman 2006, 228). The movement includes several harmonic and tonal features that can be examined from the viewpoint of mode mixture. It opens with a short seven-measure main theme in D flat major that several times touches on the dominant key, the last time being the minor dominant. Thus the home key is destabilized and the dominant key anticipated long before the secondary theme appears. The following four-measure transition starts directly in the dominant key of A flat major, but soon returns to the home key and ends on its dominant 7^{th} chord, forming a half cadence. The secondary theme enters, as expected, in A flat major, but after a perfect cadence in measure 17 the most intense coloristic phase of the exposition begins. Beethoven makes a sudden tonal shift that anticipates the harmony of Schubert, and in the farther distance that of Prokofiev, and introduces the first inversion of a C major chord, the key of the major III. The latter is then reinterpreted as the dominant of F major, the key of the major VI, which follows in a short two-measure episode. This ends on a single D flat note in the part of the first violin, which is first heard as the ninth of a dominant chord to F, but leads instead to a three-measure development of the secondary theme in C major, the key of the major III (the D♭ being interpreted as the ♭II). After that the secondary key of A flat major is reestablished through F major and its minor subdominant, leading directly to the closing theme in measure 26. Example 4 shows the sequence of modulations in measures 16-20.



Example 4: String Quartet Op. 130, *Andante*: mm. 16-20

The closing theme *cantabile* begins in A flat major in measure 26. It modulates for four measures to D flat major and returns to the secondary key through an intricate chromatic sequence that includes the dominants to B flat, E flat, and A flat majors. The last two measures of the exposition are based on the diminished VII_7 chord to A flat major in its third inversion with F♭ in the bass, followed by the dominant. The second dominant chord, however, is turned into a minor 7th chord, reinterpreted as the II_7 of D flat major. The recapitulation is thus reached through a plagal progression II_7-I (Example 5).





Example 5: String Quartet Op. 130, *Andante*: mm. 33-38

Thus the following tonal scheme is established in the exposition:

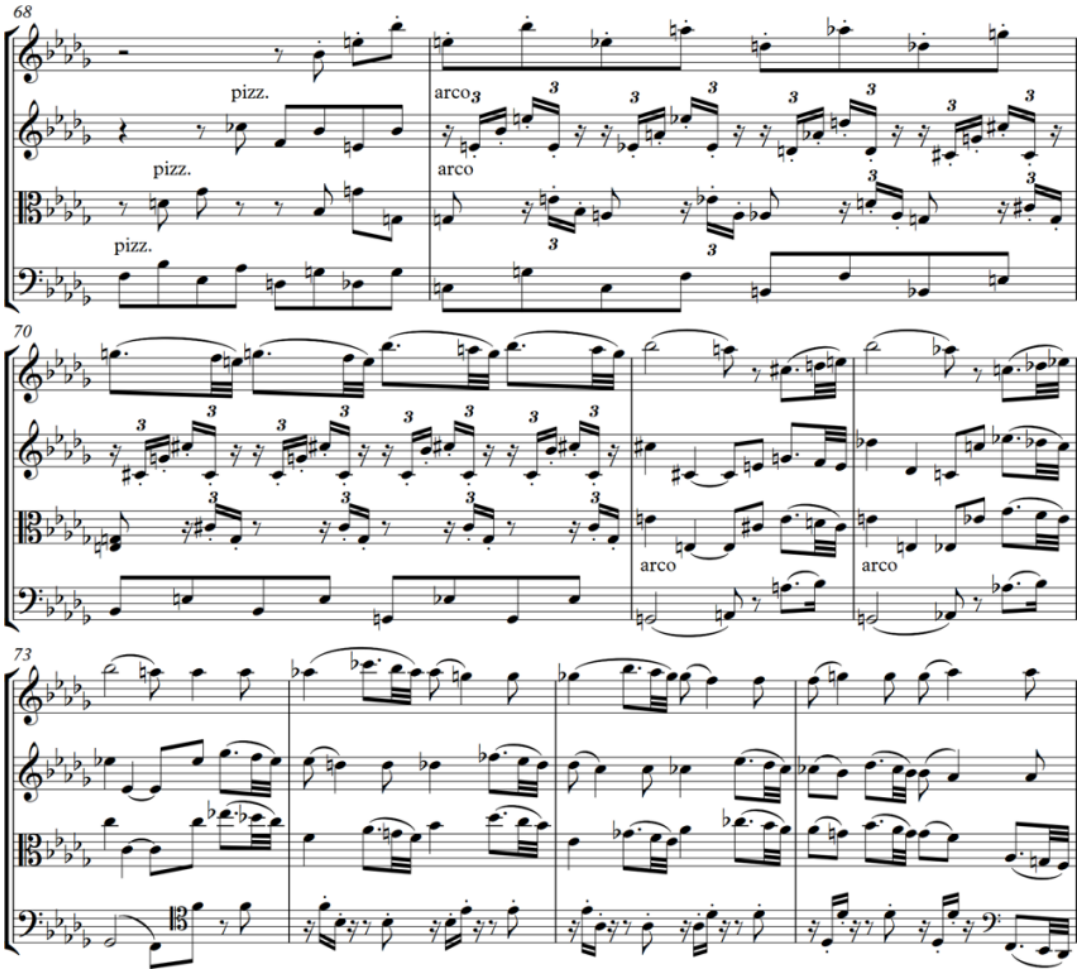
Db	Ab	C	F	C	Ab	Ab	Db	V/Bb	V/Eb	V/Ab…
Main theme	Secondary theme					Closing theme				

The secondary theme is then the main center of harmonic and tonal events of the movement. Of course, while C and F stand in the relation of the major keys of the mediant and submediant of A flat major respectively, they also have an obvious relation to the home key of D flat major. F major is, again, the major key of D flat's mediant degree, while C major its major VII degree *and* the dominant of that same mediant. So, as D♭ and A♭ stand in a dominant-tonic relation, so do C and F. The closing theme, in comparison, is much more traditionally structured in accordance with the formula I-IV-II-V-I.

In the Recapitulation the (Ab - C – F – C - Ab) keys of the secondary theme are transposed down a perfect fifth and replaced by (Db - F - Bb – F - Db), while the subsidiary keys of the closing theme are omitted altogether.

Both the main and the closing themes receive further development in the movement's Coda. Here a tonal shift occurs to G flat major, a key which has not hitherto appeared in the movement, and which, as the major IV, belongs to the plagal spectrum of tonalities in relation to the home key. This is followed by an unexpected and unusual for a coda sequential fall into D minor, which can only be interpreted as the minor key of the ♭VI of G flat major (enharmonically

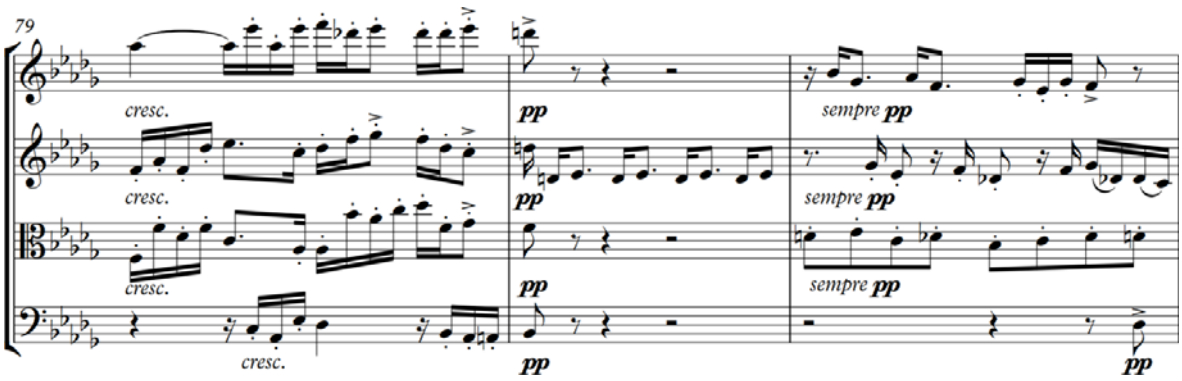
equivalent to E double flat minor), and can hardly be related to the home key. G flat major is, however, soon reestablished and a canonic sequence between the first and second violins (mm. 73-75) returns us to D flat major (Example 6).



Example 6: String Quartet Op. 130, *Andante*: Coda mm. 68-76

Another moment that deserves our attention is the unforeseen B flat major chord in measure 80 (Example 7) introduced by a sixteenth note diminished 7th chord. The B flat major chord, of course, figures as a reminder of the quartet's home key. But at the same time it functions within its surrounding tonal context as the major key of the mediant of G flat major, as well as the major key of the submediant of D flat major. Thus it mirrors, in a quaint and whimsical way, the relations of each of C major and F major to A flat major in the exposition.

Exposition		**Recapitulation**	
In Ab major: F major = major VI		Bb major = major VI in Db major	
C major = major III	V - I	= major III in Gb major	V - I



Example 7: String Quartet Op. 130, *Andante*: Coda mm. 79-81

Such are then the fascinating harmonic delicacies hidden under the seemingly conventional tonal relations between the exposition themes of this movement. These harmonic and tonal effects, of course, undermine any directionality a sonata form could possibly offer, leading to the "unusual features" referred to by Robert Hatten.

The Neapolitan harmony (N_6)

Another harmonic function that is crucial for Beethoven's late string quartets is that of the Neapolitan chord and the key of the ♭II degree. This tonal relation can be best illustrated on the example of String Quartet Op. 131. Joseph Kerman writes about this seven-movement quartet that it is a "unique piece. It begins with an Adagio. It begins with a fugue. Its movements run continuously, from the controversially labeled No. 1 to No. 7, a condition that encourages explicit, egregious echoes between them. <....> This is a minor-mode composition destined to end unassertively <....>. Most commentators say it ends tragically. Most seem to sense a deep sadness in the opening fugue – 'the saddest thing ever said in notes,' according to Wagner - and then a kaleidoscope of lighter experiences in major keys, some of them not only light but humorous and quirky. Then sadness deepens into tragedy when the piece reverts at last to the minor." (Kinderman 2006, 275).

The first movement of this string quartet is, as said, a fugue in C sharp minor. Its exposition is plagal with both answers being in the subdominant key of F sharp minor (IV). Plagal expositions were rare in the music of the Baroque, but are still less characteristic of the tonal structuring of the Viennese Classics. The subject and its answers enter consecutively descending from the first violin to the cello, producing a feeling of gradual subsidence into the depth of the subdominant sphere.

Altogether the fugue has nine entries of the subject: four in the exposition, three in the development, and two stretti in the recapitulation.

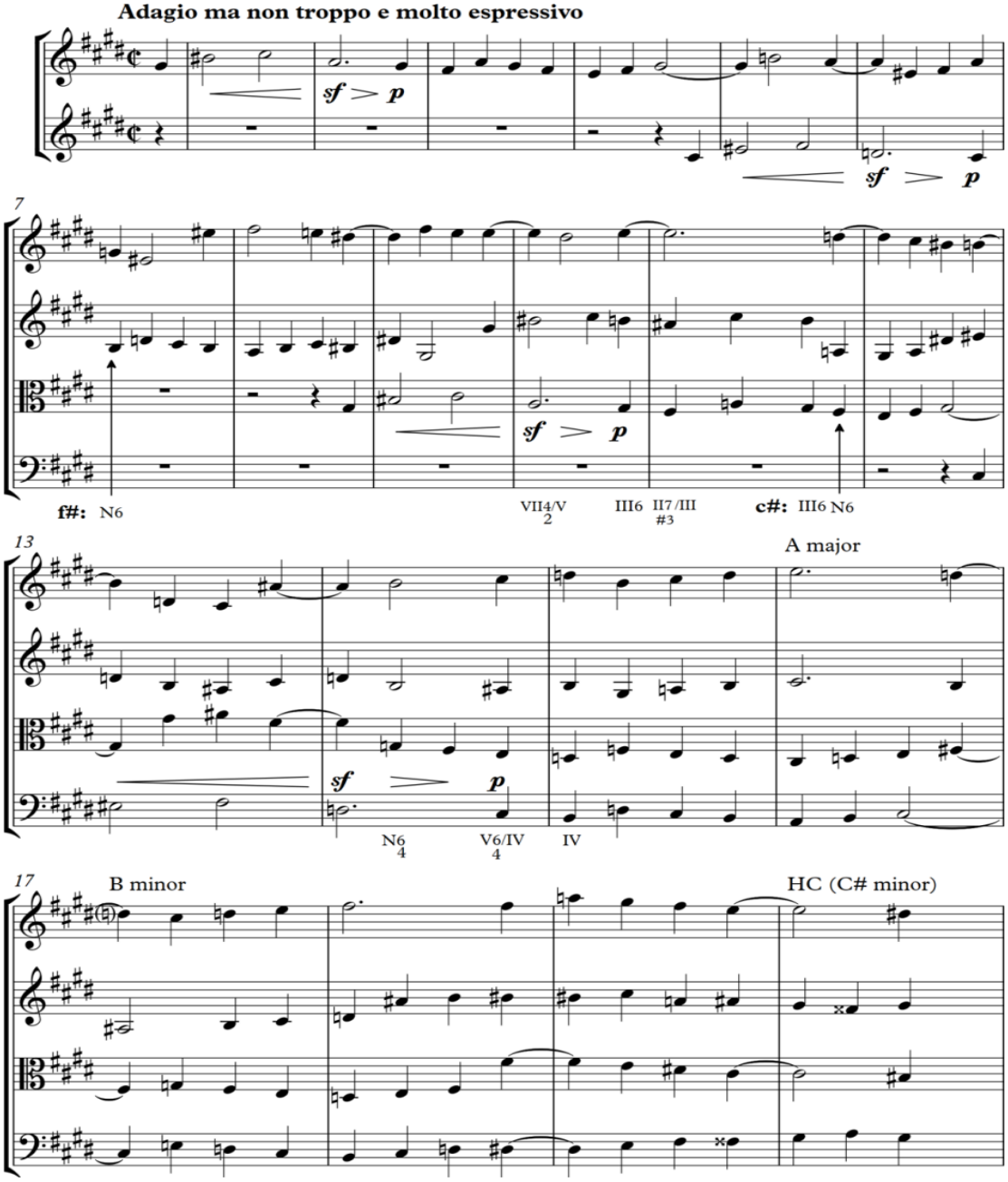
Exposition	Development	Recapitulation
c# ; f# ; c# ; f# →A	g# → B ; B ; A	c#/f# ; f#/c#

Already in the exposition does Beethoven use harmonic variation to enrich the subject with elements of mode mixture. Thus, while the first answer in F sharp minor retains the pure harmonies of that key, the third appearance of the subject (in C sharp minor) includes the chords of the dominant to III, i.e. E major (a diminished 7th chord in m. 10), and even the dominant of the dominant to that degree (a dominant 7th chord in m. 11). The fourth entry of the subject in F sharp minor in the cello part, besides a secondary dominant to the minor IV, i.e. B minor (m. 14), leads to a full modulation to A major, the key of the major VI, in which this last entry of the exposition ends. After the A major a return to B minor is made, which easily leads to a half cadence in the home key of C sharp minor (Example 8).

Another noteworthy feature of Beethoven's harmonic treatment of the subject is the recurring Neapolitan chord in each entrance of the subject after the first. It occurs for the first time in the two-voice texture on the first beat of measure 7 in the form of the interval B-G (here the Neapolitan of F sharp minor). A D major triad in the first inversion,

the Neapolitan of the home key, appears on the last beat of measure 11. In the last answer in the part of the cello the Neapolitan chord appears in the unusual second inversion on the second beat of measure 14, just before the secondary dominant to B minor mentioned earlier.

Robert Hatten makes an interesting link between Beethoven's choice of subdominant trends, specifically the subdominant answers of the exposition, and the significance of the Neapolitan chord. He assumes that "as Beethoven explored submediant and Neapolitan relationships, it appears that he realized the strategic potential for incorporating these relationships in the exposition itself. Thus, for the original dominant answer on D# Beethoven eventually substituted a subdominant answer featuring D at the *sforzando* (m. 6). In that way, a Neapolitan lowered 2nd answers the lowered 6th of the subject" (Hatten 2004, 150).



Example 8: String Quartet Op. 131, first movement: exposition, mm. 1-20

Thus Beethoven has provided us in the exposition with several versions of the subject. We have heard a monadic one as well as a two-voice real subdominant answer with no secondary dominants or references to any other key. The third version had strong allusions to the home key's relative major (E major) through both its diminished 7th and the dominant 7th chord to its dominant. The fourth and last version altogether modulates to the relative A major after touching upon the answer's subdominant key of B minor. It is important to point out that the Neapolitan chord appears at a different point of the subject each time. This, together with the previous remarks concerning the variations in the harmonization of the subject in its consecutive entrances indicate Beethoven's unmistakable trend to harmonically reinterpret the subject in each of its appearances. This tendency will continue and even strengthen as the fugue unfolds.

The development section includes three entrances of the subject. The first begins in G sharp minor but on its fourth note modulates to B major through the new key's diminished 7th chord. Thus, like the exposition's last answer of the subject, it modulates to its relative major, though by different means than in the exposition. Simultaneously a *dominant* pedal point is introduced in the part of the cello, which is sustained till the end of the subject.

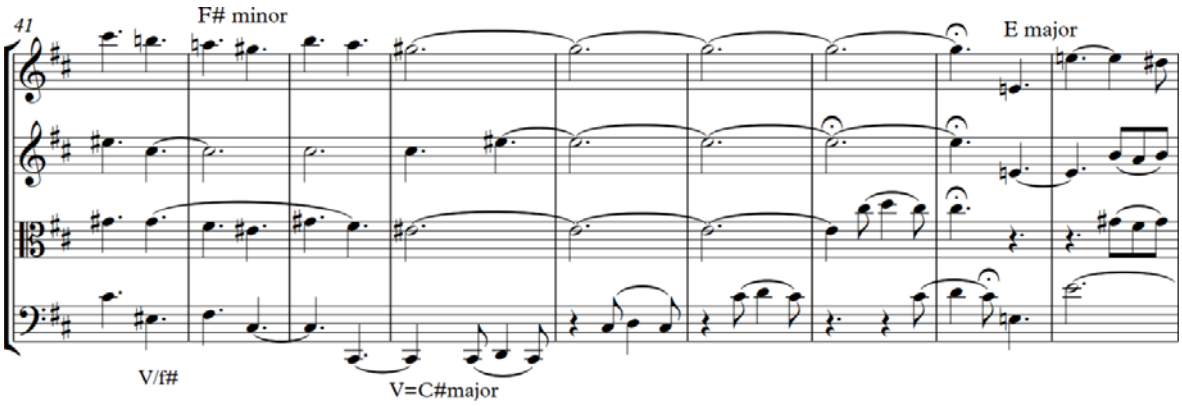
The development's third entrance is played by the first violin in the high, Lohengrin-like register, with the subject starting on the second beat instead of the up-beat. It is played over a *tonic* pedal point, which this time starts before the subject enters and lasts till its end as well. The introduction of the diminished 7th chord to A major's dominant in the subject's third measure leads to the alteration of its supposed pitch *d* to *d#*, which is altered back in the following measure.

Of special interest is the second appearance of the subject in the development. It is in the key of B major and in diminution. It is noteworthy that even in such a short duration of the subject Beethoven embeds a secondary dominant to the second degree, which happens to be the home key of C sharp minor, and is done by ways of its dominant 7th's third inversion.

The recapitulation includes two stretti. In the first stretto the viola enters in C sharp minor and is answered by the second violin in F sharp minor, which lead to the appearance of *e#* in the viola part and an overall modulation to F sharp minor. The second stretto deserves more thorough examination. The first violin enters in F sharp minor and is answered by the cello in C sharp minor and in augmentation. The latter key dominates and leads to the appearance of *d#* and *b#* in the violin part. The cello's answer starts with the rather awkward triton leap *f# - b#* but then continues with no alteration to the exposition's version of the C sharp minor subject. Only at the end of the subject does a harmonic change occur, when instead of the expected *g#* the cello reaches a *g*. This is interpreted as the seventh of the dominant 7th chord in its third inversion to the Neapolitan chord in its first inversion; a strong reminder of the three Neapolitan chord of the exposition.

The fugue's closing section includes a triple stretto of incomplete subjects consisting of one entry in the home key, played by the second violin, answered twice in the subdominant key by the cello and the first violin respectively. This leads twice to a VII_7 chord with a lowered 3rd, both times resolving into the major tonic, a *tierce de Picardie*, which ultimately is also a form of mode mixture.

Considering the role of Neapolitan harmonies in the quartet as a whole, it is important to note that the work's second movement is altogether in the key of D major, i.e. that of the major ♭II degree. Apart from that, this movement has a very unusual modulation leading to the main theme's return in E major. The latter is, of course, D major's major II degree, but it is how it is approached that is interesting. Within the transitional section between the two appearances of the theme the first modulation leads to A major. After that a temporary modulation through the secondary dominant introduces F sharp minor directly followed by its dominant chord C sharp major, which is sustained for five measure. After a fermata E major enters as a very fresh key. To E major C sharp major is the key of the major VI degree, a highly unusual relation for the Viennese Classics and a very romantic harmony reminding us of Liszt and Wagner (Example 9).



Example 9: String Quartet Op. 131, second movement, mm. 41-49

The Neapolitan chord and its key play a constructive role in the quartet's finale as well. The movement is best described as a sonata-rondo that forms a framing arch with the works opening movement, thanks to its active developmental character, the abundance of polyphonic episodes, strong trends towards the subdominant key in its overall tonal plan, and to the special role played by the Neapolitan harmony. Following is the formal scheme of the movement:

Main subject	trans.	Secondary subject	Main subject	Development	Main subject	trans.	Secondary subject	Coda
1-52	53-55	56-77	78-93	94-159	160-169	170-215	216-263	264-388
c#	c# - E	E	f#	f# … D, e, D, c#	c#	c# - D	D, C# - c#	c#, C#

It is clear from the table above that the Neapolitan key D major has been assigned a special formal role in the recapitulation, replacing the dominant key of the exposition. This role is already anticipated at the end of the development section and is part of a general trend towards the subdominant key, with the first return of the main theme being in F sharp minor, which mirrors a similar tendency in the quartet's first movement with its subdominant answers in the fugue's exposition.

As was the case in the work's fugue, the Neapolitan harmony is a recurring phenomenon throughout the Finale. It first appears in the main theme of the exposition, where the ♭II degree is reinterpreted as the lowered 5th of a dominant chord. It then reappears at the final section of the development before the dominant pedal point leading up to the recapitulation. Then, after its rather blatant appearance as a replacement for the exposition's dominant key at the beginning of the secondary theme's recapitulation, the Neapolitan harmony appears twice in the Coda. The first is in the form of a deceptive cadence to the ♭II degree with D major scales leading up to an authentic cadence in C sharp minor. Joseph Kerman writes in his article *Opus 131 and the Uncanny* about this place in the Coda that "The following cadential action includes another famous unisono, of rushing D major scales - an uncanny feature if ever there was one. No doubt this passage confirms the Neapolitan thrust of the work as a whole, if anyone still feels a need for confirmation, but it does little to settle the finale" (Kinderman 2006, 274). In the second case the ♭II has a more ambivalent subdominant function as both the VI of F sharp minor and the Neapolitan of C sharp minor.

Conclusion

The late string quartets of Beethoven exhibit a wide range of tonal relations, be it within a single movement or between the movements of a whole quartet. These relations spread from traditional tonic-dominant relations, across

tonic- mediant and submediant relations, and leading to relations of the tonic to the lowered sixth, the lowered seventh, the lowered third, and the Neapolitan lowered second degrees. In the case of traditional tonic-dominant relations the conventionality of tonal relations is compensated by intricate tonal relations within the development and coda, as well as other harmonic methods such as the early destabilization of the tonic, the use of chromatic sequences, sudden shifts to farther tonalities, and the introduction of new keys in the Coda. We have also illustrated how the Neapolitan harmony played an overall unifying role in the quartet Op. 131 in C sharp minor within movements, as was the case in the opening fugue and in the Finale, as well as between movements, with the Neapolitan D major being the key of the second movement altogether, thus becoming a unifying factor of the cycle as a whole. We have also found that the use of the lowered sixth degree frequently plays an important role in the structuring of the string quartets under consideration, while the keys of the lowered third and seventh degrees appear less often, as is the case in String Quartets Op. 131 and 135 respectively. We also must separately note the strengthening of plagal tendencies in the harmony of Beethoven's late string quartets, culminating in the dominating role of subdominant harmonies throughout String Quartet Op. 131. All these features taken together clearly anticipate the harmony of the Romantics, that of Schubert, Schumann, and Brahms.

REFERENCES

Adorno, T. W., & Leppert, R. D. (2009). *Essays on Music: Theodor W. Adorno; selected with introduction, commentary, and notes by Richard Leppert; new translation by Susan H. Gillespie.* Berkeley, Calif.: University of California Press.

Al-Kassasbeh R. T. (2016) Visual Autoethnography: Reconstructing the "Other" in Edward Said's *After the Last Sky*. *Dirasat*, Human and Social Sciences, Vol. 43, Sup 1.

Bekker T. (2011) Tied Up With Strings: Untangling the Rhythmic Complexities of the Second Movement of Beethoven's String Quartet No. 16, Op. 135. *Musicological Explorations*, 1241-75.

Bourne J. (2016) Perceiving Irony in Music: The Problem in Beethoven's String Quartets. *Music Theory Online*, 22(3), 1-26.

Hatten R. S. (2004) *Musical Meaning in Beethoven. Markedness, Correlation, and Interpretation*. Bloomington: Indiana University Press.

Kinderman W. (Ed.) (2006) *The String Quartets of Beethoven*. Urbana and Chicago: University of Illinois Press.

Kostka S., Payne D. (1995) *Tonal Harmony with an Introduction to Twentieth-Century Harmony*. McGraw-Hill, Inc.

Mallah M., Alrefai M., Tubaishat T., Madi A., Al Bakri T. (2016) The Natural Experience of the Visual and Auditory Performances, in Addition to their Relationship and Implementation with the Musical Rhythm. *Dirasat*, Human and Social Sciences, Vol. 43, Sup 3.

Said, E. W. (2007). *On Late Style: Music and Literature Against the Grain*. London: Bloomsbury Publishing.

التداخل المودالي والعلاقات المقامية في الرباعيات الوترية المتأخرة لبيتهوفن

اياد عبدالحفيظ محمد*

ملخص

يحلل هذا البحث، من وجهة نظر أسلوب التأليف المتأخر، الرباعيات الوترية الأخيرة لبيتهوفن من حيث العلاقات المقامية المستنبطة بشكل مباشر أو غير مباشر من مبادئ التداخل المودالي بين السلالم المجور والمينور. ولتحقيق هذه الغاية تم استخدام منهج مركب من التحليل المقامي، والهارموني، وتحليل القالب ، مع التركيز بشكل خاص على العلاقات المقامية داخل وبين الحركات. وقد تم التحليل الهارموني مع الاهتمام بعلاقة الهارموني بالعناصرالأخرى للتأليف الموسيقي، خاصة التقنية البوليفونية والبنية العامة للقالب. ويضم حقل البحث الرباعيات الستة الأخيرة لبيتهوفن تصنيف 127، 130، 131، 132، 133، 135.

ويخلص البحث إلى أن الرباعيات الوترية المتأخرة لبيتهوفن تستعرض مساحة واسعة من أشكال العلاقات المقامية، سواء كان ذلك داخل كل حركة أم بين حركات الرباعي الواحد. وتمتد هذه العلاقات ابتداءً من علاقات التونيك– الدومينانت، مرورا بعلاقات التونيك بالدرجات الثالثة والسادسة، وصولا إلى علاقات التونيك بالدرجات السادسة المخفوضة، والثالثة المخفوضة، والسابعة المخفوضة، والثانية المخفوضة والمعروفة بتآلف النيابوليتان.

الكلمات الدالة: بيتهوفن، الرباعي الوتري، الأسلوب المتأخر، الهارموني، العلاقات المقامية، التداخل المودالي.

* كلية الفنون، جامعة اليرموك، الأردن. تاريخ استلام البحث 2017/10/16، وتاريخ قبوله 2018/12/16.