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Spiral time and the paradigm of persuasion: recontextualising Beethoven's String Quartet

op.127

[The environment] [...] forces us to adopt a new mode of description designated as complementary in the sense that any given application of classical concepts precludes the simultaneous use of other classical concepts.¹

ON 9 MAY 1822 Prince Nicolas Galitzin, a wealthy Russian nobleman and ardent admirer of Beethoven's music, writes to him from St Petersburg asking Beethoven to compose new string quartets for him, and letting him name his own price.

Monsieur!

Aussi passion amateur de musique que grand admirateur de votre talent, je prens la liberté de vous écrire Si vous ne [pas] Consentiere pas a Composer un, deux ou trois Nouveaux Quatours, dont je me ferais un plaisir de vous payer la peine [ce] que vous jugerez a propos demarquez... j'attends vôtre reponse avec la plus vive impatience.

[Sir!

As a passionate amateur of music with great admiration for your talent, I take the liberty of writing to you, to ask if you would [not] consent to compose one, two or three new quartets, for which work I will gladly pay what you deem proper... I await your reply with the liveliest impatience.]²

After the two single middle-period quartets, the E \flat major quartet op.74 ('Harp', 1809), and the intense F minor quartet op.95 ('quartetto serioso', 1810), Beethoven evidently wanted to return to the genre, but his attempts to attract commissions had not been successful. In one of his forays with publishers, he writes to Peters in Leipzig proposing a new string quartet for the fee of 50 ducats, a considerable sum of money.³ Peters are wary about putting such a large amount upfront, since they would probably have to wait a long time to get the new quartet given Beethoven's frequent delays in finishing works – the two-year overrun for the completion of the *Missa solemnis* in 1822 being a case in point. Peters write back to Beethoven saying that while they understand him asking a fee of 50 ducats, they cannot pay it as they already have quartets from Romberg and Spohr, 'excellent works', at a lower price.⁴

Prince Galitzin's commission provided the opportunity for Beethoven to return to writing string quartets and at the same time alleviate his chronic money worries. On 25 January 1823 he replies to the prince, asking for 50

1. Niels Bohr: *Atomic theory and the description of nature* (Cambridge, 1934), p.10.

2. Beethoven: *Briefwechsel*, 7 vols, ed. Sieghard Brandenburg (Munich & Bonn, 1996–98), vol.4, no.1508, author's translation.

3. *ibid.*, vol.4, no.1468.

4. *ibid.*, vol.4, no.1480.

ducats for each work (the amount Peters had refused), giving a commitment to completing the first quartet by the end of February or by mid-March at the latest: 'Je m'oblige d'achever le imier quatuor a la fin du mois de Février, ou au plus tard à la mis-mars'.⁵

Even without any other commitments, six weeks was still a highly unrealistic timeframe for completing a major new work in the 'connoisseur's form' that would require intensive work on both overall conception and detailed realisation. But in 1823 the most important compositional project was the Ninth Symphony. So despite some initial sketching following Prince Galitzin's commission, serious work on the op.127 quartet was effectively deferred for well over a year until the Ninth Symphony was completed in February 1824, followed by its premiere in a 'grand concert' or 'Akademie' on 7 May 1824.⁶

The 'grand concert' presented important new works, either complete or in substantial part, including the Kyrie, Credo and Agnus Dei from the *Missa sollemnis*, the overture *Die Weihe des Hauses*, and the first performance of the Ninth Symphony. Whether by coincidence or design, the programme recalls Beethoven's celebrated 'Akademie' in 1808, which also contained three movements from his earlier mass, the Mass in C op.86; a major symphonic premiere with the first performance of the Fifth and Sixth symphonies; and, even closer to the Ninth Symphony, the *Choral fantasia*, a set of variations for chorus and orchestra on the theme of heroic aspiration, with Beethoven improvising at the piano. With its heroic theme, 'Fried und Freude', and variation form, the *Choral fantasia* looks like a trial run for the finale of the Ninth Symphony, a view Beethoven endorsed in 1824 when he described the *Choral fantasia* as a precedent for the last movement of the Ninth Symphony, except the symphonic finale was written on 'a much grander scale'.⁷

The Ninth Symphony can be seen as a two-way point of reference: on the one hand, it connects back to earlier works, such as the 'conflict/resolution' trajectory in the Fifth Symphony and the double variation finale in the 'Eroica' symphony; and on the other hand, it points forward to the late quartets. The finale's array of forms, from learned to popular, will return in the movement plans of the quartets as fugue, dance and arioso. But in style, by contrast with the symphony's strongly profiled rhythmic motifs as impetus of action, lyricism, contrapuntal textures and expressive variants in the late quartets characterise a new kind of 'musical speaking', described here as the paradigm of persuasion.

In addition to precedents of form, the Ninth Symphony may also be seen as a tonal model, with its alternate key centre, B \flat major, that plays out on a range of fronts – as second subject in the D minor first movement; as strategic intersections in the D major finale in the Allegro assai vivace, alla

5. *ibid.*, vol.5, no.1535.

6. In their discussion of Landsberg 8 Bundle 2, the sketchbook used between from about May 1823 until June 1824 substantially for the last three movements of the Ninth Symphony, Douglas Johnson, Alan Tyson and Robert Winter (*The Beethoven sketchbooks: history, construction, inventory*, Berkeley, 1985, pp.294–95) propose that the last sketches, approximately the last ten pages of the sketchbook, were not made until after the symphony was completed in February 1824. Extensive preparations for the premiere in May 1824 may have caused Beethoven to leave aside the sketchbook until after the concert was over, only resuming use in June to sketch part of the first movement of op.127.

7. Lewis Lockwood: *Beethoven: the music and the life* (New York, 2003), p.424.

Marcia and the Adagio ma non troppo, ma divoto; and as the key of the slow movement in the work's macrostructure. The E \flat major quartet similarly has an alternate tonal centre of A \flat – in the first movement Maestoso and coda; as part of the prime material in the finale and as the key of an extended section in the development (bars 145–76); and A \flat major is also the key of the variation slow movement. The tonal pattern of E \flat /A \flat is presented right at the beginning of the work in the opening Maestoso (ex.1a).

The Maestoso opening frame is a strongly articulated gesture with repeated E \flat major triads, *sf* in all four instruments. Although the repeated opening chords lead to the subdominant A \flat , the only *sf* on A \flat is in the first violin, as if the harmony is receding from E \flat while the melodic line is advancing towards it, as can be seen in ex.1a. This subtle divergence of function can also be seen in the displacement between metre and rhythm. The downbeat E \flat major 'sforzandi', on odd-numbered bars, are followed by dominant 7th inversion 'sforzandi' on the second quaver of even-numbered bars as implicative upbeats, creating a play between upbeat and downbeat that will characterise the entire movement.

From the point of view of opening conventions, the Maestoso as antecedent, followed by the Allegro as consequent, is like the slow introductions leading to Allegro in the first movements of Haydn's symphonies. In Haydn's 'Farewell' Symphony, James Webster describes how the slow introduction ending on the dominant is followed by the Allegro, which is not merely a local resolution but large-scale consequent for the first theme or even the entire first group.⁸

8. James Webster: *Haydn's 'Farewell' Symphony and the idea of classical style: through composition and cyclic integration in his instrumental music* (Cambridge, 1991), pp.163–64. See also Karl Marx: 'Über thematische Beziehungen in Haydns Londoner Sinfonien', in *Haydn-Sinfonien* vol.4 no.1 (1976), pp.1–20.

Ex.1a: Beethoven: String Quartet in E \flat major op.127, first movement, bars 1–6

Maestoso

The musical score for Ex. 1a shows the beginning of the first movement of Beethoven's String Quartet in E \flat major, op. 127. The tempo is marked 'Maestoso'. The score is written for four parts: Violin 1, Violin 2, Viola, and Violoncello. The key signature has two flats (B \flat and E \flat), and the time signature is 2/4. The music consists of six bars. In bars 1 through 5, all four instruments play repeated E \flat major triads. The first violin part has a melodic line that moves from the root of the triad in bar 1 to the fifth in bar 2, and continues to rise through bars 3, 4, and 5. Dynamics are marked as *f* (forte) in bar 1, *sf* (sforzando) in bars 2, 3, 4, and 5, and *p* (piano) in bar 6. A sixteenth-note figure in the first violin part of bar 6 is marked with a '6' above it. The Viola and Violoncello parts have a long note in bar 6, marked *p*.

The *Maestoso* is similarly antecedent, conceivably not just to the *Allegro* first theme but to the whole first movement, even to the entire work. This multilevelled consequent can be traced through functions of $A\flat$ in the first movement, as structural marker to the coda (from bar 240), whose proportions in the movement are similar to the 'nested' proportions in the *Maestoso*, and at the level of the work, as the key of the variation movement. In addition, the *Maestoso* contour $E\flat$ - $A\flat$ returns in the finale's first theme, playfully recast as $E\flat$ - $A\flat$ / $A\sharp$ (ex.1b) – a motif in search of resolution, which ultimately occurs when the $A\sharp$ rises to $B\flat$ and closes on $E\flat$ at the end of the work (ex.1c).

Ex.1b: Beethoven: String Quartet in $E\flat$ major op.127, Finale, bars 1–12

The musical score for Ex. 1b consists of two systems of four staves each. The first system covers bars 1 to 6, and the second system covers bars 7 to 12. The key signature is one flat (B-flat), and the time signature is 3/4. The first system begins with a *Finale* marking and dynamic markings of *f*, *sf*, and *p*. The second system includes a *sul G* instruction for the strings. The score shows the interplay of the four string parts, with various melodic lines and harmonic textures.

Ex. 1c: Beethoven: String Quartet in E♭ major op.127, Finale, bars 294–end

The musical score is presented in two systems, each with four staves. The first system (bars 294-300) features the following dynamics: *sempre pp* (Violin I), *sempre pp* with a triplet of 3 (Violin II), *sempre pp* (Viola), and *pp* (Cello/Bass). The second system (bars 301-306) shows a dynamic progression: *pp* (Violin II), *pp* (Viola), and *pp* (Cello/Bass) in the first two bars, followed by a *cresc.* leading to *f* and *ff* in the final two bars across all staves.

But is the opening *Maestoso* an introduction? Wilhelm von Lenz noted that introducing a movement or work, as frames of different kinds, was a way of modifying conventions.⁹ On the one hand, one or more aspects of the opening frame were retained, while on the other, the convention was transformed in a distinctive but recognisable way – a sophisticated procedure appropriate to knowledgeable listeners of the string quartet. The normative character of introduction/*allegro* is ambiguity to definition, while in rhythm it is like a large-scale upbeat/downbeat, born out by introductions ending on the dominant, which are in turn resolved on the tonic by the *allegro*. Sometimes, but not always, the introduction is tonally ambiguous with soft dynamics, like the opening of Mozart’s String Quartet

9. Wilhelm von Lenz: *Beethoven: eine Kunst-Studie*, 5 vols (Hamburg, 1855–60), vol.4, p.168.

in C major K.465 ('Dissonance'), or the recitative-like ambiguity in the opening of Beethoven's Piano Sonata in D minor op.31 no.2 ('Tempest'). With both works, the undefined/less defined opening resolves *forte*, like a downbeat, with strong rhythmic articulation in the Allegro.

In the first movement of op.127, this relationship is reversed, not to say upended, with the opening Maestoso ending on the subdominant rather than the dominant, and strong rhythmic articulation is in the antecedent rather than the consequent. The decisive opening frame of the Maestoso leads to a lyrical descending melodic line in the Allegro, *piano*, curving back on itself as it descends. Overlapping entries above the viola repeat of the first subject material opens up the musical space for a decisive second theme in Eb, *forte*, in contrast to the prime material (ex.1d).

Ex.1d: Beethoven: String Quartet in Eb major op.127, first movement, bars 7–32

Allegro
teneramente

sempre p e dolce

sempre p e dolce

sempre p e dolce

sempre p e dolce

p *cresc.*

p *cresc.*

cresc.

cresc.

cresc.

Ex. 1d continued

The image displays two systems of musical notation. The first system consists of four staves: Violin I (top), Violin II, Piano (middle), and Cello/Bass (bottom). The key signature is three flats (B-flat major/C minor). The first system shows a melodic line in the Violin I part with a forte (*f*) dynamic marking. The Piano part features a rhythmic accompaniment of eighth notes. The Cello/Bass part has a melodic line with a forte (*f*) dynamic marking. The second system continues the same parts, with the Violin I part marked *sf* (sforzando) and the Piano part marked *sf*. The Cello/Bass part also has *sf* markings. The notation includes various note values, rests, and dynamic markings.

The work's first important harmony after the reiterated E \flat major triads, A \flat , defines two sets of relationships: one is closing and opening, between the Maestoso and the beginning of the Allegro, and the other is departure and return. During the course of the first movement, the point of departure is the beginning of the Allegro, as in ex. 1d. There are two places of return in the last section of the sonata design where both material and tonal referents are brought back – at the recapitulation (bar 167, the first violin rescored to the octave above), and the coda (bar 240). In addition to these functions of recognition and reciprocity within the first movement, they are reinterpreted at a larger level between the first and second movements, where E \flat , as tonic, closes the first movement and, as dominant seventh,

opens the second. Like the multiple roles of B \flat in D minor/major in the Ninth Symphony, in op.127, A \flat , as the secondary tonal centre 'seeded' in the Maestoso similarly functions within and between movements; and as the key of the variation slow movement, is large-scale subdominant in the work's macrostructure.

Variation movements had long been used to demonstrate creativity and 'fantasy' as imagination, revealing new dimensions of the theme through varied rhythmic patterns and textural diversity. In 1803, the 'Eroica' year, CF Michaelis wrote 'Die Variation beweist Freiheit der Phantasie in Behandlung des Gegenstandes, erregt angenehmen Verwunderung, in neuen Formen die schon bekannte Schönheit, Anmuth oder Erhabenheit zu erkennen' ('Variation shows freedom of imagination in handling the subject, arouses pleasant amazement in recognising already known beauty, charm or the sublime in new forms').¹⁰

In addition to variations with richly scored figuration in different tessituras, the variation movement of op.127 shows a striking innovation that 'arouses pleasant amazement'. Twice during the movement a different strand of time and expressive characterisation is interpolated into the action, a technique of switching temporal strands that Jonathan Kramer has described as temporal multi-linearity.¹¹ In the variation movement, there are two such interpolations in keys remote from A \flat major, inserted episodes as 'time out' from the main narrative. One is in a contemplative E major Adagio molto espressivo, the other a free meditative development in C \sharp minor. Despite the remoteness of E major from movement's key of A \flat major, its melodic line (ex.2) precisely replicates the contour of the opening Maestoso (ex.1a): 'time out' is also 'time replayed'. The Maestoso inflects the work, not only as tonal pattern but as strategic contour.

10. CF Michaelis: 'Ueber die musikalische Wiederholung und Veränderung', in *Allgemeine Musikalische Zeitung* no.13 (1803): cols.197–200, author's translation. For variation technique in the second movement of op.127, see Elaine Sisman: *Haydn and the classical variation* (Cambridge, MA, 1993), pp.235–62.

11. Jonathan D. Kramer: *The time of music: new meanings, new temporalities, new listening strategies* (New York & London, 1988), and idem: *Postmodern music, postmodern listening*, ed. Robert Carl (New York & London, 2016). See also Kevin Korsyn: 'Towards a new poetics of musical influence', in *Music Analysis* vol.10 nos.1–2 (1991), pp.3–72.

Ex.2: Beethoven: String Quartet in E \flat major op.127, second movement, E major section

Adagio molto espressivo

Ex.2 continued

The musical score consists of two systems, each with four staves. The first system is marked *cantabile* and includes dynamics such as *cresc.*, *f*, *p*, and *cresc. p*. The second system is marked *espressivo* and includes dynamics such as *cresc.*, *f*, *p*, and *cresc.*. The notation includes various musical symbols like slurs, accents, and dynamic markings.

This contour, Eb-G-C, appears in one other context in the first movement. While the Maestoso's tonal outline is Eb-Ab, its melodic line is built on 'cluster' thirds around Eb, lateralised in the opening. These thirds become in turn the keys of the Maestoso return during the movement: G major at the beginning of the development, and C major as intersection at its midpoint. Accordingly, both dimensions of the Maestoso are replayed during the movement. The thirds as the Maestoso revisited, and Ab, as subdominant secondary tonal centre, initiate the coda.

The Maestoso, then, becomes the point of reference in more than one sense: as well as defining Eb-Ab tonal relationships within the work, it shows Beethoven's skill in transforming conventions of introduction and frame when compared to important Eb major works by Mozart and Haydn.¹² The

12. Elaine Sisman (*Haydn*, p.257) notes that Haydn's variation techniques provided Beethoven with models for works in the same key, although this may not necessarily be limited to variation.

Mozart example, K. 543, similarly has an incisive rhythmic opening followed by a more lyrical allegro. Leonard Meyer observes how such conventions are modified and transformed in Mozart's works: 'Sometimes, however, an established process is not only modified, but is replaced by a *different kind of patterning* or progression'.¹³

Mozart's Symphony no.39 in E \flat K.543, the first of the last trilogy, was completed on 26 June 1788.¹⁴ After Mozart's death in 1791, his widow Constanza promoted the symphonies, which gained considerable popularity in Vienna after 1800.¹⁵ Mozart's E \flat symphony opens with an expansive Adagio introduction, spacious tonic grounding, fully scored *forte*, in duple time (cut common) with double dotted French 'ouverture' rhythm (ex.3a). It ends on the dominant, leading to the subtly phrased Allegro, *piano* in triple time, a fairly unusual time signature for a first movement (ex.3b). Strongly articulated introductions were devices to capture the audience's attention, and, by contrast, enabled the defined opening to be followed by a more lyrical *piano* main theme. While the strong, rhythmic opening leads into the softer first theme of the Allegro, it is not as upbeat/downbeat but opening frame as rhetorical gesture.¹⁶

As in K.543, the first movement of op.127 is framed by strong tonic grounding, and the openings of both works are space-opening gestures filled in by the opening of the Allegro (ex.4). The Maestoso, though, has two distinctive features: one is that it ends on the subdominant, not the dominant, which, as noted previously, plays strategic roles in the first movement, in the principal material of the finale and at the large-scale

13. Leonard B. Meyer: 'Process and morphology in the music of Mozart', in *The Journal of Musicology* vol.1 no.1 (January 1982), pp.67–94, at p.69, emphasis added.

14. Neue Mozart-Ausgabe, Serie IV, Werkgruppe II, Sinfonien, Band 9 (Kassel, 1957).

15. Neal Zaslaw: *Mozart's symphonies: context, performance practice, reception* (Oxford, 1991).

16. Elaine Sisman: 'Genre, gesture and meaning in Mozart's "Prague" Symphony', in *Mozart studies* 2, ed. Cliff Eisen (Oxford, 1997), pp.27–84, especially pp.34–35.

Ex.3a: Mozart: Symphony in E \flat major K.543, first movement, opening, first part of 'Adagio' (piano transcription)

Adagio

The image shows a piano transcription of the opening of Mozart's Symphony in E-flat major, K.543, first movement, first part of the 'Adagio' section. The score is written for piano and consists of two systems of music. The first system has two staves (treble and bass clef) and a key signature of two flats. It begins with a forte (f) dynamic, followed by a piano (p) dynamic section. The second system continues the piano (p) dynamic section, showing a transition to a different time signature (triple time) and a change in dynamics.

Ex.3b: Mozart: Symphony in E \flat major K.543, first movement, end of 'Adagio' and opening of 'Allegro'

[Adagio]

ff

8^{va}---1

Allegro

p

Ex.4: Beethoven op.127 and Mozart K.543, openings superimposed

Allegro teneramente

Violin I

Beethoven

Allegro

Violin I

Mozart

p

Cellos and basses

Horns in E \flat

Bassoons

17. Yoel Greenberg: 'Minding a gap: "active transitions" from the slow introduction to the fast section in Haydn's symphonies', in *The Journal of Musicology* vol.29 no.3 (Summer 2012), pp.292–322. See also Peter Benary: 'Die langsamer Einleitungen in Joseph Haydns Londoner Sinfonien', in *Studien zur Instrumentalmusik: Lothar Hoffman-Erbrecht zum 60 Geburtstag*, edd. Anke Bingham, Klaus Hortschansky & Winfried Kirsch (Tutzing, 1988), pp.239–51.

level of the whole work. The other feature is that the frame will return as structural articulation during the first movement, at the beginning of the development in G major and at the midpoint of the development in C major, creating 'cluster' thirds around the tonic E \flat .

The frame as punctuation is the distinctive characteristic of the other E \flat precedent, the celebrated beginning of Haydn's 'Drumroll' Symphony, where the Adagio timpani roll and low strings return at the coda as part of the movement's closing frame. Semitones thread through the introduction, and in both prime and inversion, comprise the main Allegro material.¹⁷ Instead of ending on the dominant, the introduction closes on an unharmonised unison and octave G that increases the sense of expectancy for the Allegro (ex.5). As well as the 'London' symphonies' enthusiastic reception in the London concerts that were widely reported in the musical press, Vienna performances between 1795–99 at the Kleiner Redutensaal included three

Ex.5: Haydn: Symphony no.103 ('Drumroll'), first movement, end of 'Adagio' and opening of 'Allegro'

The musical score consists of two staves, treble and bass clef. The first section is in 3/4 time and ends with a double bar line. The second section is in 6/8 time and begins with a new key signature of two flats. Dynamic markings include *p*, *sf*, *p*, *sf*, *p*, *sf*, *p*, *dimin.*, *pp*, and *pp*.

of the 'London' symphonies as well as Beethoven's First Piano Concerto. As Jan LaRue notes, 'there can be no doubt that Beethoven constantly heard the music of Europe's most famous instrumental composer'.¹⁸

In op.127 the Maestoso returns twice in the movement, in G major and C major, 'cluster' thirds to E \flat that are part of intrinsic third relationships in the movement and work. The third is the interval of connection between the first movement's first subject in E \flat major and G minor second subject, with two pitches in common between the tonic triads; and as the interval of contrast in the Adagio, *ma non troppo e molto cantabile* variation movement, between A \flat major, the key of the movement and E major (enharmonically F \flat), the 'out of time' Adagio molto espressivo. In the scherzo, thirds are the main interval of the legato conversation (bars 10–11, violin 2 and cello) and the forceful dotted rhythmic material in all four instruments, highlighted *fortissimo* (bar 60), as part of oppositional discourse in the Scherzando vivace. But as well as its play with thirds, the scherzo shows other dimensions of play, as contrasted discourse. The movement switches on a knife edge between oppositions of texture, such as melody and accompaniment, contrapuntal alternations and vertical stacks in all four instruments; between dynamic alternations and switches in tessitura; between the dotted figure as upbeat in contrapuntal exchanges and as downbeat verticalisation; and between E \flat major outer sections as action and E \flat minor trio as compression. The scherzo, part of the quartet's network of thirds, also shows every aspect double-sided, as incisive opposition and virtuoso play.

As part of that network of thirds, the finale begins off-centre on the pitch G, winding round to the tonic E \flat major, a digressive gambit that recalls the opening of the 'Eroica' finale, and will be replayed, as ascending rather than descending third, in both finales of op.130. Replay also occurs in op.127 between first movement and finale. Like the Maestoso, which returns at the beginning (and middle) of the development but not the recapitulation, so the finale's off-centre opening returns similarly at the beginning of the development but not the recapitulation. But there is an even closer parallel in the replaying of first movement features in the finale. The G-E \flat opening

18. Jan LaRue: 'Multistage variance: Haydn's legacy to Beethoven', in *The Journal of Musicology* vol.18 no.2 (Spring 2001), pp.344–60, at pp.355–56.

is part of a permutation of the Maestoso contour, Eb-G-C, which appears in the finale as G-Eb-C. As in the first movement, these contour pitches are structural markers in the design of the movement, the first two linked together in the finale's off-centre opening. The final pitch of this contour, C, initiates the coda. In a wrap-up of extraordinary lightness and dexterity, the coda references the Maestoso contour thirds as imaginative return. Instead of 'cluster' thirds around Eb, the keys of the coda open out as a line of chain or 'axial' thirds – C major, Ab major (enharmonically G#), to E major. As the line falls to Eb major, it is both tonal resolution of the movement and work, and closure of its design plan (ex.6).

Beethoven's interest in his predecessors' works was not limited to re-crafting the opening and how it will play out in the work overall. Reworking strategic features in models provided powerful incentives for compositional

Ex.6: Beethoven: String Quartet in Eb major op.127, finale, end

Allegro con moto

The musical score is presented in two systems, each with four staves. The first system begins with the tempo marking 'Allegro con moto'. The music is in 6/8 time and starts in Eb major. The first two staves of each system contain complex triplet patterns, while the third and fourth staves provide a more rhythmic accompaniment. The second system concludes with a key signature change to Cb major and ends with a final cadence in Eb major.

Ex.6 continued

The musical score for Ex.6 continued is presented in three systems, each consisting of four staves. The first system shows the initial part of the piece, with the first three staves (Violin I, Violin II, and Viola) featuring intricate rhythmic patterns of triplets and sixteenth notes. The fourth staff (Cello/Double Bass) has a simpler, more melodic line. The second system continues the complex rhythmic textures in the upper staves, with the lower staves providing harmonic support. The third system concludes the excerpt, showing a change in the rhythmic intensity and the use of rests in the lower staves.

Ex.6 continued

The first system of the musical score consists of three staves. The top staff is in treble clef and begins with a *pp* dynamic marking. It features a melodic line with a long slur over the first two measures and a triplet of eighth notes in the third measure. The middle staff is in treble clef and contains a continuous triplet of eighth notes. The bottom staff is in bass clef and also features a continuous triplet of eighth notes. The system concludes with a *cresc.* marking in each of the three staves.

The second system of the musical score consists of three staves. The top staff is in treble clef and continues the melodic line with various intervals and slurs. The middle staff is in treble clef and continues the triplet of eighth notes. The bottom staff is in bass clef and continues the triplet of eighth notes. The system concludes with a *cresc.* marking in each of the three staves.

The third system of the musical score consists of three staves. The top staff is in treble clef and features a melodic line with a *ff* dynamic marking in the third measure. The middle staff is in treble clef and continues the triplet of eighth notes. The bottom staff is in bass clef and continues the triplet of eighth notes. The system concludes with a *ff* marking in the top and middle staves, and a *ff* marking in the bottom staff. There are also *sf* markings in the top and middle staves.

Ex.6 continued

The first system of the musical score consists of four staves. The first staff (Violin I) begins with a *ff* dynamic and a series of sixteenth-note runs. The second staff (Violin II) starts with *ff* and *sf* dynamics, featuring a sixteenth-note pattern. The third staff (Viola) also begins with *ff* and *sf*, with a similar sixteenth-note texture. The fourth staff (Cello/Double Bass) starts with *sf* and provides a harmonic foundation with chords and a triplet of eighth notes. Dynamics include *ff*, *sf*, *p*, and *cresc.* throughout the system.

The second system continues the musical texture. The first staff features a melodic line with a *f* dynamic. The second and third staves maintain their sixteenth-note patterns with *f* dynamics. The fourth staff continues with chords and a *f* dynamic. The system concludes with a *p* dynamic in the first staff and rests in the others.

The third system shows a change in texture. The first staff has a melodic line with a *ff non ligato* dynamic. The second, third, and fourth staves feature sixteenth-note patterns with *cresc.* dynamics. The system ends with a *ff* dynamic and triplet markings in the first three staves.

Ex.6 continued

The first system of the musical score consists of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The key signature has two flats. The first two measures show a melodic line in the upper staves and a rhythmic accompaniment in the lower staves. The third measure is a rest for all parts. The fourth measure features a dense, sixteenth-note texture in the upper staves, marked *pp*. The lower staves continue with a rhythmic accompaniment, also marked *pp*. The word *non legato* is written below the first two staves.

The second system of the musical score consists of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The key signature has two flats. The first two measures show a melodic line in the upper staves and a rhythmic accompaniment in the lower staves. The third measure is a rest for all parts. The fourth measure features a dense, sixteenth-note texture in the upper staves, marked *pp*. The lower staves continue with a rhythmic accompaniment, also marked *pp*. The word *sempre pp* is written below the first two staves.

The third system of the musical score consists of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The key signature has two flats. The first two measures show a melodic line in the upper staves and a rhythmic accompaniment in the lower staves. The third measure is a rest for all parts. The fourth measure features a dense, sixteenth-note texture in the upper staves, marked *pp*. The lower staves continue with a rhythmic accompaniment, also marked *pp*. The word *cresc.* is written below the first two staves, and the dynamic markings *f* and *ff* are written below the third and fourth measures.

19. Beethoven: *Briefwechsel*, vol.2, p.72.

20. James Webster: 'The falling-out between Beethoven and Haydn: the evidence of the sources', in *Beethoven essays: studies in honor of Elliot Forbes*, ed. Lewis Lockwood & Phyllis Benjamin (Cambridge, MA, 1984), pp.3–45.

21. It is possible that more than a general stylistic character can be found in the E♭ major works. The movements of the op.70 no.2 piano trio are E♭ major, C major, A♭ major, and finale in E♭ major, as a series of chain thirds. The coda of the finale of the op.127 quartet replicates these keys: from the movement's E♭ major to C major, A♭ major and, via E major, back to E♭ major. The coda is evidently the transformed closing of the movement, and opening out its axial thirds in a strand of axial thirds: but there may be a temporal recollection, an implicit spiral return, of the E♭ tonal network in op.70 no.2.

22. Seow-Chin Ong ('Aspects of the genesis of Beethoven's string quartet in F minor, op.95', in *The string quartets of Beethoven*, ed. William Kinderman, Urbana, 2006), pp.132–67, especially pp.135–37) notes that both works were both sketched in the Landsberg 11 sketchbook, showing proximity not only of compositional period but tonal framing. Dislocation in the F minor quartet is also discussed in Nancy November: *Beethoven's theatrical quartets: opp.59, 74 and 95* (Cambridge, 2013), p.203.

innovation. One instance of this search can be found in a fascinating letter to the publishers Breitkopf & Härtel in 1809. Beethoven writes: 'I should be delighted if you would send me by degrees most of the scores you have, I mean, those of Haydn, Mozart, Johann Sebastian Bach, Emmanuel Bach and so forth.'¹⁹ He is evidently not just building a library. Behind him are six years of outstanding achievement in the major instrumental genres since the 'Eroica' Symphony, including the 'Razumovsky' string quartets, the Violin Concerto and the Fourth Piano concerto.

Was this request for scores consciously positioning himself in the line of the great composers? And/or at the second stage of his great middle-period creative momentum, was he reinforcing that positioning by looking for new models and techniques in the works of Haydn and Mozart as patterns of emulation and transformation? In 1809 Haydn dies, so closing out, as physical presence, the contested relationship of the former student's rivalry with, and emulation of, the older master.²⁰

The period around 1809 sees a virtual obsession with the key of E♭ major: the Piano Trio op.70 no.2 the previous year,²¹ Piano Concerto no.5 ('Emperor'), Piano Sonata op.81a ('Lebewohl'), and String Quartet op.74 ('Harp') – works that are either programmatic in title and/or recreate their genre. In addition, the 'Emperor' can be seen as an E♭ tonal platform or 'heralding' work for F major and minor works as contrasted expressive characterisation that followed in close proximity: concision and dramatic conflict in the F minor *Egmont* Overture op.84 in 1809–10 and the F minor String Quartet op.95 ('quartetto serioso') in 1810; and F major openness in the Eighth Symphony op.93 in 1812. F minor also appears as the counterpart to F major: the F minor overture to *Egmont* ends with the triumphant F major 'Siegessinfonie', while the finale of the dark, intense F minor quartet ends in F major.²²

Models can be identified not only in redefining conventions and structural procedures in Haydn and Mozart but reworking precedents in Beethoven's own compositions. The grouping of the 'Emperor' as E♭ major 'heralding' composition to F major or minor works recasts the salient pattern from the 'Eroica' Symphony in 1803. The 'Eroica' is followed by the Piano Sonata in F major op.54 in 1804; the Piano Sonata in F minor op.57 ('Appassionata') in 1805; the String Quartet in F major op.59 no.1 ('Razumovsky') in 1806; and the 'Pastoral' Symphony, also in F major op.68 in 1808. In turn, the pattern is subsequently reworked in op.127 and the late quartets.

When patterns of structural features and tonal characterisation recur in modified or transformed ways, they can be described as spiral time. Rather than considering works as linear succession that emphasises evolving processes of change, spiral time considers how patterns recur at subsequent periods, like the loops of a spiral. When features recur at the next turn of the

spiral, though, they do not return exactly but are modified in two ways. One is the ‘internal’ perspective of musical context and genre, how the composer recasts those patterns in new expressive characters at a different stage of compositional development; and the other is the ‘external’ perspective, as the perceptual understanding that we, the listeners, bring to bear at a later point of time and experience. Just as patterns are inflected by style and perception at later positions in spiral time, so the same principle of modified perception occurs in a sonata movement. When the prime material returns at the recapitulation, it is both identity as recognition, and identity affected by what has happened in the interim. Just as in human affairs, where patterns of relationships often have core features that reappear in modified ways at different times of life, so musical patterns recur as transformed identity in spiral time.

These patterns can be seen as problem-solving strategies – how to construct distinctive structural parameters that can, in turn, be applied in different genres and adapted at different periods of compositional output. If E \flat major precedents in spiral time can provide insight into compositional technique in op.127, then the precedent for working out such constructional issues can be traced in the ‘Eroica’ sketchbook.²³ The sketchbook shows how the prime material’s strongly defined triadic contour is realised in two ways in the intra- and inter-movement plan: firstly, deployed across the large-scale sonata first movement, it defines tactics of action, as contrast, variety and digression, as well as points of reference; and, secondly, how individually characterised movements could be integrated into the larger whole as coherent design – core procedures that become the model for transformation in future works.

As striking concept plan, the simpler the material’s basic shape – triadic or linear – the greater is the potential for incisive profile, identifiable variants and expressive delineation.²⁴ Earlier works, like the first movement of the ‘Pathétique’ Sonata op.13, had shown how defined rhythmic motifs drive momentum as energy across the movement. These motifs are ‘fleshed out’ as strongly incisive contour that define the movement’s expressive character and impels momentum.

The ‘Eroica’ marks the exponential advance of such strongly profiled ‘cell-based’ construction on two fronts: in the movement’s extended proportions using motivic derivations in both proximate positions and in the long-range design; and in the range of structural functions – as extension (first movement, fig.B, bars 65–71), development (first movement, bars 178–85) and at two superimposed levels (fig.F, bars 186–206).²⁵ In addition, motivic units are used to switch functions from foreground to background. The new E minor development theme (four after fig.I, bars 284–99) is underpinned by the same triadic contour as the movement’s first subject, as

23. Lewis Lockwood & Alan Gosman: *Beethoven’s ‘Eroica’ sketchbook: a critical edition* (Illinois, 2013).

24. For a transcription of the relevant sketches see *ibid.*, vol.1, pp.16ff.

25. It is especially interesting that on p.17, at the precise place where Beethoven explores triadic variants in prime, inversion and diminution, he notates three intriguing marks above line 1. In his commentary on the sketchbook (vol.1, p.20), Lewis Lockwood included a suggestion I made that these marks may be understood as Masonic symbols for apprentice, journeyman and master, with stronger pressure on the paper for the last of these. The command of technique, as worked out in the ‘Eroica’ sketchbook, shows indubitably the compositional level of master.

innovative dimension of the retention/transformation dialectic. In addition to network relationships within the first movement, strongly profiled triadic material also defines the finale theme (ex.7), bonding the powerful connection between first movement and finale.

The inter- and intra-movement connections between first movement and finale can accordingly be seen as mobile models of place, where basic cells are redesigned as 'developing variations' at different junctures in the movement; and as perspectives of time, emergent from what has preceded referential points of identity and forward-directed to what will follow. Problem-solving tactics in the 'Eroica' also provided plans of action for other works in the sketchbook: Fourth Piano Concerto, Piano Sonata op.53 ('Waldstein'), *Leonore* Overture op.72, and the Fifth and Sixth symphonies – some in preliminary stages, others more fully worked out – as mnemonics to which he could return later at a later point in time.

Characterising core cells into larger sections of sonata movements effectively becomes compositional strategy in subsequent works, both those in the sketchbook and later in Beethoven's output. Problem-solving issues are realised as tactics of counter-tension: between expressive/dramatic narrative, at times waylaid by fierce energy at the brink of chaos, versus order as design. As the E \flat major/F major and minor pattern of spiral time repeats in 1809, the fierce energy of F minor acquires its most radical realisation in the op.95 'quartetto serioso'. Its taut first movement underpins a musical surface of extreme disjunction and tonal dislocation, with the Neapolitan supertonic as 'agent provocateur'. The Neapolitan supertonic, which had featured in the 'Appassionata' Sonata and the E minor 'Razumovsky' Quartet as chromatic opposition to the tonic, now confronts the diatonic supertonic as radical intrusion. Disjunctive techniques deflect goals and threaten to derail narrative continuity. Op. 95 essentially deconstructs sonata design in what Maynard Solomon has called 'Beethoven's attraction to chaos'.²⁶ The last of the F minor works that began with the First Piano Sonata op.2 no.1, dedicated (no doubt defiantly) to Haydn, to the 'Appassionata' Sonata and *Egmont* Overture, op.95 projects radical dislocation and, via its D major episodes, the interpolation of opposites.

The F minor quartet marks the extreme point of confrontation with/in form in Beethoven's string quartets and works overall, in what can be seen as the trajectory of deconstruction/reconstruction in the late quartets, with their reinvention of style and form through creative imagination. Nelson

26. Maynard Solomon: *Late Beethoven: music, thought, imagination* (Berkeley, 2003), p.39.

Ex.7: Beethoven: 'Eroica' sketchbook, vol.1, p.74, line 4



Goodman calls this ‘world-making’ in works of art ‘composing wholes and kinds out of parts and members and subclasses’.²⁷ The abrasive juxtapositions and abrupt dislocations of texture in op.95 are like Schubert’s *Quartettsatz*, an experiment of similarly radical confrontation. The experimental deconstruction in the *Quartettsatz* is followed by reconstruction in Schubert’s late quartets and String Quintet, which show a new assurance of structural technique and stylistic range in the ‘Death and the maiden’ Quartet and the C major String Quintet op.163. The F minor Quartet op.95, stands at the interface of linear time and spiral time: the last quartet prior to the late quartets in linear succession and the ‘outpost’ of F minor confrontation in the second turn of spiral time. With the redesign of style and concept in the late quartets, after op.95, F minor, as the key of confrontation in sonata movements, effectively disappears.

The E♭ major Quartet op.127, with its four movements – lyrical first movement, inward slow variation movement, spiky scherzo with pizzicato throwaway opening leading to a virtuoso counterpoint of incisive rhythmic figures against lyrical falling thirds, and finale as play – appears to return to more normative modes. Prince Galitzin evidently didn’t think so; and despite his loyal support including enduring the delays in receiving his quartets, he may have expected works closer to the famous C minor style in op.18 no.4 or the heroic character of the first ‘Razumovsky’ Quartet op.59 no.1. The late quartets were perceived initially as difficult music, not for the broad public and appreciated only by small groups of dedicated listeners.²⁸ Reception history of early performances shows only cautious appreciation, warm approval for the ‘Alla danza tedesca’ in op.130 and outrage at the ‘Grosse Fuge’.

This view of the late quartets as ‘difficult music’ was not limited to its initial reception. Daniel Chua sees op.127 less as active reconstruction of structural design and lyrical paradigm shift than an esoteric ‘music about music’.²⁹ But this diminishes the quartet’s essential vitality, and how we understand musical works as active engagement, with a two-fold relationship between the work as concept that ‘reaches out’ to us, and the listeners as percept who engage with it. This relationship is predicated on frames of reference that enable us to recognise appropriate style features and, as Nelson Goodman has noted, identify modification of those procedures in imaginative and innovative ways.³⁰

Models accordingly provide an essential part of identity and engagement. This discussion considered two of those predicates as conceptual frames of reference for the E♭ major Quartet. The first viewed the recasting of introduction/opening frame in Mozart and Haydn, and how precedents in the same key offer salient patterns of transformation through partial retention/partial transformation. Unlike normative practice where the opening ends

27. Nelson Goodman: *Ways of worldmaking* (Indianapolis, 1978), p.7.

28. William Kinderman: *Beethoven* (Berkeley, Los Angeles & London, 1995), p.295.

29. Daniel KL Chua: *The ‘Galitzin’ quartets of Beethoven: opp.127, 132, 130* (Princeton, 1995), p.8.

30. Goodman: *Ways*, p.39.

on the dominant, the *Maestoso* in op.127 ends on the subdominant that will play out across the entire work, as secondary key within the primary tonal network, recalling the tonal design of the Ninth Symphony with its multiple roles of B \flat in the work's D minor and major tonal centre. The use of a second tonal centre is replayed in op.127, op.132 and, in a sophisticated variant, in op.130, where the work's B \flat major tonality is impacted by both the diatonic submediant, G major, and the chromatic submediant, G \flat major.

The second frame of reference is Beethoven's problem-solving approach, where prime motifs are varied and repositioned as agents of construction; and in different works, genres and contexts, its units are shaped as expressive characterisation, 'fleshed out' by texture, rhythmic contour, tessitura and dynamics. The E \flat major composition in turn provides a tonal platform, 'heralding' F major and minor works that rework design procedures in striking ways like 'developing variations'. These conceptual patterns of precedence from the 'Eroica' group recur in spiral time, first in 1809, headed by the 'Emperor', and then, in the op.127 quartet, replayed in the paradigm of persuasion.

RECOGNITION and modification in musical works depend on psychological processes of discrimination and pattern-making. Time, identity and memory are how we recognise and remember musical works and, more broadly, how we locate ourselves in the world. Learning and engagement are the means through which we identify events and create plans of action. Musical memory structures time by identifiable markers, which are specific to the work and also part of larger contexts that comprise frames of reference and contours of experience. The op.127 quartet is seen here as a case study in conceptual models located in two temporal perspectives: on the one hand, in linear time as retrenchment from the extreme dislocation of op.95; and, on the other, in spiral time as replaying patterns of transformation. These modes of description, in Niels Bohr's terms, provide complementary models for recontextualising style and design in the op.127 Quartet.