Beethoven's Path Toward Large-Scale Rhythmic Development: The Exposition of the First Movement of Opus 18, no. 1

MICHAEL D. GREEN

In a footnote in his book Explaining Music, Leonard B. Meyer has written "if theories can explain why a composer made the changes he did--or in an ideal case, even predict from a sketch or autograph what changes seem likely, and check these with a score--then our theories would have received a kind of objective confirmation." By looking at the sketches for the exposition of the first movement of Beethoven's String Quartet Op. 18 no. 1, I hope to first, give a degree of objective confirmation to my exploration of what for Beethoven might have constituted a "viable rhythmic framework," through analyzing the large-scale operations of meter and grouping; and second, give some credi-

2Sketches are found in five sources: two are located in the Deutsche Staatsbibliothek in East Berlin, namely Grasnick 1 and Artaria 166, and three in the Staatsbibliothek Preussicher Kulturbesitz in West Berlin, namely Grasnick 2, autograph 19e, and Landsberg 7. Sketches specifically for the first movement occur extensively in Grasnick 1 and Grasnick 2. Grasnick 2 is published with a transcription by William Virneisel, Beethoven: Ein Skizzenbuch zu Streichquartetten aus op. 18, Bonn 1874.
bility to a theoretical discussion of these two facets of rhythm, proposing two hypotheses which could form the basis for further study. The exploration of the Beethoven sketches will take us through two continuity drafts (found on pp. 1 and 2 of the sketchbook Grasnick 2), the first version which Beethoven handed to his friend Karl Amenda, and the final version. To this extent I intend to expand upon the work on the first and final versions already undertaken by Janet Levy in her valuable book Beethoven's Compositional Choices: The Two Versions of Opus 18, No. 1, First Movement. The analytical representation of grouping and meter that I will employ derives from the first two components described in Lerdahl and Jackendoff's recent book A Generative Theory of Tonal Music, in that I use brackets for groups and dots for beats.

I will look at just three of a number of problems with which Beethoven evidently struggled. The first problem relates to the transition to the second subject: the second, to the close of the first key area before this transition, and the last, to the measures immediately following the statement of the second subject. These areas show that Beethoven was not solely troubled with the material and its melodic or harmonic configuration, but, in adding or subtracting measures from one draft to another, he was consciously molding the subject matter into a comprehensible rhythmic framework. In many cases we shall see that sequences of groups containing three, five, or seven measures are altered to conform to a more regular two, four, or eight measure sequence of groups. In describing these changes I

3The facts determining that the quartet referred to in the letter is op. 18 no. 1 are related by Ludwig Nohl in the Neue Zeitschrift fuer Musik, vol. lxvii, pp. 46, 55 and 66 (reprinted in Beethoven, Liszt, Wagner Vienna 1874, pp. 89-95). In this article Nohl states that he has seen the parts which Beethoven handed to Amenda on the latter's departure from Vienna on June 25th, 1799, for the parts still belong to the Amenda family. Publication of these parts was slow, excerpts appearing in 1904 (Carl Waack, "Beethovens F-dur Streichquartett Op. 18 no. 1 in seiner ursprunglich Fassung," Die Musik, iii, pp. 418-420), and the first version not published in its entirety until 1922 (H. J. Wedig, "Beethovens Streichquartett Op. 18 no. 1 und seine erste Fassung," Veroffentlichungen des Beethovenhauses, ii, Bonn 1922).


do not wish to suggest that no deviation from what has been called a quadratic syntax is desirable; on the contrary, rhythmic boredom would soon be apparent if such were the case. Rhythmic interest is generated by deviations in what would otherwise be an unblemished hierarchy, but these deviations must be set against a regular rhythmic framework for them to have meaning.

Examples 1, 2, and 3 relate to the first problem of the transition between the first and second subject areas. Each example is a transcription of the sketches covering a similar portion of the exposition, from the last four measures of the opening twenty-measure period in the tonic key to the first measure of the second subject. Example 1 is part of the first continuity draft on p. 1 of Grasnick 2, Example 2 is from a revision on the bottom of this page, and example 3 is from the second continuity draft on page 2.

Major difficulties arise in the first continuity draft (Example 1) concerning its length (54 measures, compared to the slighter 20-measure opening period), its retention of the tonic at m. 44 (uncharacteristic of a transition), and its irregular and ambiguous rhythmic structure, which is my primary concern. Example 1 illustrates, by means of a metric and grouping analysis, the lack of rhythmic regularity in this section. Above each system is presented a possible metric analysis on three levels, the lowest being the beat perceived at the beginning of each measure. Each beat at each level is represented by a dot. Hence, the second level shows the beat at the two-measure level, and the third the beat at the four-measure level. Irregularities in the structure are understood through the lack of arrival on a beat when expected at its respective level as determined by the content of the music, e.g. at the two-measure level, a beat is expected after two measures. Lack of a beat arrival is shown by a circle and an arrow indicating where the beat expected actually arrives, whether it is delayed or anticipated. Below each system is presented a possible grouping analysis on just two levels: the first representing two-

---

6Notes on my transcriptions: figures within square boxes represent the line of the respective page of the sketchbook. Measure numbers are included in the examples, but are merely for easy reference. Anything within brackets, particularly accidentals, is what I believe is implied by Beethoven, but which he omitted. For easier reference, I have normally placed the sketches on two staves, treble and bass, either when Beethoven has specifically notated the clef, or when he has not. Stems of notes have been adjusted to conform to normal notation. A question mark indicates a problem in realizing the sketch on my part.
Example 1: Transition to the Second Subject
First Continuity Draft (p.1), line 2 m.1 -- line 6 m.3
Example 1 (continued)
measure groups, or their expansion or contraction, and similarly for the second level, four-measure groups.

I can explain the irregular rhythmic structure through consideration of either the grouping or metric structures, for they are unquestionably connected, although each has its individual functions. The grouping structure, for instance, is infiltrated by three and five-measure groups, creating syntactical problems with respect to levels, for an acceptance of the hierarchical nature of grouping implies the incorporation of, for example, groups at the two-measure level into those at the four-measure level without ambiguity. Are mm. 10-11, therefore, to be part of the preceding five-measure group at the four-measure level, or the following five-measure group? In each case, a seven-measure group is created, further establishing a highly irregular rhythmic framework. Similar difficulties of grouping at the four-measure level arise at mm. 26-27 and mm. 45-47. When considering the meter of this passage, there are two possible arrangements, either the first beats of each group are accented and so there is no regular alternation of strong-weak beats established, or metric regularity is preserved and the groups become an unsettling succession of beginning, middle and end-accented groups. I adversely criticize this highly irregular rhythmic structure because it is not set against a regular framework.

Example 2 shows the radical revision made by Beethoven to the first continuity draft, in which he begins to tighten the rhythmic structure. For example, the cut in length and the pervading rhythmic regularity give much power to the anticipation in m. 12. This anticipation is generated by the elision of the resolution of the two-measure cello motive set up from m. 5, and the immediate repetition of the motive shifted up a semitone to C#.

Two major difficulties present themselves in this example, first, the irregular five-measure approach to the second subject entry, mm. 24-28, and second, the perception of mm. 20-23 at the eight-measure level. On the one hand, if these measures are incorporated into the previous eight measures then the eight-measure beat expected in m. 20 is delayed until m. 24 (as shown), adding strength to the V/V preparation beginning at m. 24, but retaining mm. 24-28 as a five-measure group at the eight-measure grouping level. On the other hand, the addition of mm. 20-23 to mm. 24-28 merely retains an irregular approach to the second subject at the eight-measure level.

With Example 3, the second continuity draft, these difficulties are neatly solved. The V/V preparation to the second subject is expanded to eight measures, mm. 28-35, preparing the entry of the subject by rhythmic regularity. The downbeat now falls on the first beat of m. 36, as is
Example 2: Transition to the Second Subject
Revision to the first continuity draft (p.1), line 13 m. 18
-- lines 15/16 m. 23 and line 5 m. 13 -- line 6 m. 3
Example 3: Transition to the Second Subject
Second continuity draft (p.2), line 5 m. 17 -- line 8 m. 9
expected up to the sixteen-measure level of the metrical hierarchy, and the transition is now rhythmically as it will be in the remaining versions. Unfortunately however, the second continuity draft is not completely trouble free. Mysteriously, Beethoven has inserted an additional four-measure group, mm. 5-8, with a further implied full cadence in F major prior to the transition and after the opening 20-measure first key area. This leads to an investigation of another difficult problem, the second of three.

Few clues lead me to understand what Beethoven is searching for through this insertion. One clue may be the change of register of mm. 1-4 in Examples 2 and 3, for is Beethoven worrying about the manner in which he will provide continuity into the transition? He is caught, I suggest, between picking up the register of the beginning of the transition, or resolving the opening tonic period satisfactorily. The solution that is provided in the first (and final) version (Example 5, mm. 21-29) is to lengthen the insertion to nine measures, which, first, accommodates the eight-measure grouping level, and second, resolves the ascending implications of the opening measures stepwise to f. The second violin and viola then provide the accompaniment that allows continuity into the transition. The irregular nine measures may be explained by considering the extra measure here as balancing the elided measure between m. 36 and m. 37 in the transition, where the succession of two-measure cello motives is broken. The result is to create a type of rhythmic arch-form (Example 4). The revision to the close of the first key area may also be accounted for by considering the second subject, where the resolution to C major is suspended until its conclusion. As a result, strong tonal-arrivals now characterize the end of the first and second subject areas.

Example 4: Rhythmic Arch

<table>
<thead>
<tr>
<th></th>
<th>1st key area</th>
<th>transition</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm.</td>
<td>1 - 8</td>
<td>30 - 36</td>
</tr>
<tr>
<td>9 - 20</td>
<td>12</td>
<td>37 - 48</td>
</tr>
<tr>
<td>21 - 29</td>
<td>9</td>
<td>49 - 56</td>
</tr>
<tr>
<td>16</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>
L. van Beethoven, Op. 18 No. 1
(1770 - 1827)

Example 4: Opus 18, No. 1; Final Version, mm 1-29
The third and final problem, concerning the measures from the resolution to C at the close of the second subject, is the most complex. Examples 6 and 7 are transcriptions of the first and second continuity drafts, respectively, and Example 8 is the closing section of the final version. The difficulties in Example 6 are similar to those in Example 1, relating to rhythmic irregularity and ambiguity. Specific difficulties are the three-measure groups at mm. 18–20 and mm. 26–27, the five-measure group at mm. 21–25, and the thirteen measures, mm. 29–41. Even the replacement of five measures for two measures indicated by Beethoven by "Vi-de" on p. 1 of Grasnick 2 does not solve any of these problems, but only creates a seven-measure group (Example 6).

The solutions to many of these difficulties are found in the second continuity draft (Example 7). For example, if the last measure of Beethoven's replacement in Example 6 is compared to mm. 19–20 in Example 7, the pitches g¹ and d² have been expanded to fill two measures, and thus an original seven-measure group has become eight measures. At m. 25 and m. 34 in Example 7 one-measure rests are inserted, and as a result previous three-measure groups become four measures in length. However, difficulties still remain, one being the series of dotted half-notes from m. 35. A brief look at the final version (Example 8) shows how these particular difficulties are resolved. The five-measure group from m. 26 in Example 7 is amended so that it is now a four-measure group, mm. 89–92, and the dotted half-notes are compressed from twelve measures to just four, mm. 97–100.

One final difficulty that remains is the nature of the final measure of the second subject, i.e. the first measure of Examples 6 and 7, and m. 72 of Example 8. In Example 6 I have assumed the measure, even with the turn motive, not to precipitate a beat anticipation, which would imply the elision of one measure. The lack of metric deviation seems to be confirmed in Example 7 where the motive is omitted and replaced by rests. However, the first and final versions reintroduce the turn motive in m. 72 of Example 8, creating some rhythmic ambiguity. The essential problem is whether a metric jolt is perceived at m.72 of Example 8, i.e. do we sense an elision, or does the measure resolve the previous passage and simultaneously initiate a new group without metric deviation? My preference in the final version is for the latter. This is based not solely on my intuition, but also viewing the passage as a whole, since if the alternation of strong-weak beats is preserved, four-measure level beats occur when expected from m. 73 through m. 109.

At three points within the exposition I have traced Beethoven's struggle to produce what is, finally, part of a vital and arresting movement. In the large part he has
Example 6: End of exposition from the end of second subject
First continuity draft (p.1) line 7 m. 5 -- line 11 m. 9
Example 7: End of exposition from the end of second subject
Second continuity draft (p. 2), line 10 m. 3 -- line 15 m. 1
molded his subject matter into, at the four-measure level, regular groups, articulated by definite boundary breaks, such as cadences, or by major structural articulation, such as the harmonic arrival at V/V in the transition. However, the question remains, can we define what, for Beethoven, constituted a viable rhythmic framework for a large structure?

To some facets of rhythm Beethoven is evidently very sensitive, in particular to the first beats of measures alternating strong-weak, as shown in terms of a metrical structure in Example 9. As has been noted by many commenta-

Example 9

1m. • • • • • etc.

m. 1 2 3 + 5 6

tors, including Joseph Kerman, this movement is permeated throughout by the two-measure turn motive first presented at the opening. The rhythmic structure incorporating two-measure beginning-accented groups is therefore established from m. 1 (Example 10), and once the norm has been set up,

Example 10

2m. • • • • • etc.

1m. • • • • • • • etc.

m. 1 2 3 + 5 6

2m. • • • • • • • • etc.

then Beethoven can play with it at will, e.g. the expanded nine-measure insertion, mm. 21-29 (Example 11).


Example 11 describes one possible interpretation of mm. 21-29, where one is never quite sure where the shift in accent occurs, largely due to the sf signs; yet with the arrival of m. 29 comes the knowledge that some shift has taken place. This play is at the two-measure level (the one-measure beat is unaffected), and occurs within the understanding of a larger four-measure unit (Example 12).

Thus our expectation of larger structural boundaries is not substantially altered, since the time-span between beats at the four and eight-measure levels is expanded not by beat deviations at those levels, but by intervening lower level deviations. As a result, lower level deviations may affect higher levels indirectly. This is not the case, however, with the elision in the transition (Example 13). The elision carries more significance precisely because beats at the two, four and eight-measure levels are affected. Either directly, as here, or indirectly, therefore, grouping and meter evolve from simply denoting the first beat of measures to marking the perceived divisions of the form.
What may be more questionable than Beethoven’s rhythmic sensitivity to relatively low levels of meter and grouping is his sensitivity to higher levels. That Beethoven, whether consciously or unconsciously, is as sensitive can be interpreted from further analysis. Implicit within the function of these hierarchies is an understanding that a group at one level comprises a part of a larger group at the next higher level. In this way, individual levels of the hierarchy are not purely discrete, but are viewed as being integrated within the framework of the piece. Thus, the four measures inserted by Beethoven in the second continuity draft (Example 3, mm. 5-8) do not form part of a rhythmically viable framework, since, although they are comprehensible up to the four-measure grouping level, the structural syntax is weak at the eight-measure level.

Examples 14a and 14b illustrate two possible analyses of these measures (Example 3, mm. 5-8 and Example 14, mm. 21-24), the first questioning their amalgamation with the preceding group at the eight-measure level, the second showing their retention as a discrete group at the eight-measure level. In either example, the incongruity of either a four-
measure or a sixteen-measure group at the eight-measure level results in the perception of mm. 21-24 as merely an unbalanced insertion, not relating coherently to the preceding measures.

Example 15 describes the larger-scale rhythm of mm. 1-38 of the first (and final) version. With the expansion of the four-measure insertion to nine measures from m. 21 there is now no problem in the grouping structure. There is even created a parallelism between the ternary rhythmic construction of the twelve-measure group from m. 9, and that of the whole first key area, mm. 1-29.

Example 16 views the larger rhythmic structure of the entire exposition of the final version, describing its relative stability through the lack of excessive deviations in either the metrical or grouping structures. The interest lies in the dualistic nature of expectation: while major boundaries, i.e. between the first key area and the transition, and between the transition and the second subject, occur at the four- and eight-measure levels with regular preparation, expectation is heightened through beat delays
at higher levels, these arising from the ternary construction of many of the groups.

Example 16

Underlying this conception of a rhythmic hierarchy is the idea of low levels that correspond to our normal understanding of meter and phrases, and of higher levels that equate with our perception of form. Thus, while the eight-measure grouping level in Example 16 conforms to our perception of phrases, the sixteen-measure level follows our understanding of form. This idea explains the incongruous length of the transition in the first continuity draft. There, two sixteen-measure level groups would have to occur where only one formal division is evident.

It appears therefore that two, or at most three, groups should be combined together to create the next higher level, and that each level must be associated with a particular level of the structure in order for the structure to be syntactically well-formed in this piece by Beethoven. Two hypotheses may follow: one, that for a well-formed grouping structure, a group should contain two, or at most, three groups at the next lower level, and two, that the length of a group at one level is limited by the designated length of adjacent levels, e.g. at an eight-measure level the limits are from five measures to fifteen measures. Deviation from the mean, e.g. eight measures at an eight-measure level, defines a certain degree of instability, the degree dependent upon the amount of deviation, e.g. a fourteen-measure group is more unstable at an eight-measure level than a nine-measure group. This would explain my unease with the four-measure insertion in the second continuity draft, Exam-
ple 3, and strengthen my argument concerned with the same measures in Examples 14a and 14b.

On the one hand, therefore, these sketches and versions of this exposition give a valuable insight into Beethoven's compositional process, while on the other, they provide the basis for a study into what constitutes a well-formed structure, and into structure as a component of style.