

SOME FORMAL AND RHYTHMIC FEATURES OF THE SLOW
MOVEMENTS FOUND IN BEETHOVEN'S PIANO
SONATAS OP. 10 NO. 3 AND OP. 79

by

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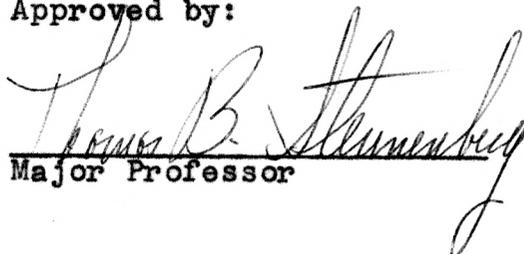

Major Professor

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INTRODUCTION

The purpose of this report is to show in part the formal and rhythmic features of two slow movements of Beethoven's Piano Sonatas, Op. 10 No. 3, and Op. 79. A study of this kind was done because of an interest in how a composer makes a composition progress from beginning to end, holding the listener's interest all the way. Also, a question to be studied is whether the rhythmic development compliments the harmonic development. These particular sonatas were chosen because they contain a great deal of rhythmic variety, are of reasonable length, and contain contrasting slow movements.

Sonata Op. 10 No. 3 was written between 1796 and 1798, and Sonata Op. 79 was written in 1809.¹

METHODS USED IN ANALYSIS

The first procedure was the formal analysis. Every phrase was marked in the music, and each cadence was identified. The phrases were grouped together to find the themes and theme groups. This, in turn, helped to determine the general form of the movements such as sonata allegro, rondo, and so forth. A harmonic analysis as to key centers was also made. Material used in the movements was also identified and marked.

Attention was next turned to rhythm. With the use of a

¹Grove's Dictionary of Music and Musicians, Vol. I, pp. 586-588.

graph, a rhythmic chart was devised to show the number of rhythmic impulses per measure.¹ A rhythmic impulse occurs each time a sound or combination of sounds occurring simultaneously is produced within the measure. For instance, the first measure of the Largo of Sonata, Op. 10 No. 3, contains six rhythmic impulses. Each horizontal space in the graph represents a certain measure in the music and is numbered at the base of the chart. Each vertical space represents one note impulse in that particular measure. Therefore the six note impulses occurring in the Largo of Op. 10 No. 3 are indicated by the number 6 on the left-hand margin, and the measure is indicated by the number 1 at the base of the graph. Two kinds of rhythmic impulses were recorded. The total number of rhythmic impulses per measure is referred to as the accumulative rhythm, and is shown on the chart with a solid line. The total number of rhythmic impulses in the melodic line is referred to as melodic rhythm, and is recorded on the chart with a broken line.

The main features of the harmonic progressions, the themes and material used, and the form are shown at the top of the graph. All of these are necessary to give a clear picture of what is being done. However, the story of the graph is not enough, because it is not possible to record anything. The intensifications of a dotted rhythm cannot be shown on the chart. For instance, two eighth notes ($\text{D} \text{D}$) would be recorded on the graph as two impulses, yet a dotted eighth note followed by a

¹See Appendix, Chart III.

sixteenth note () would also be recorded as two impulses. While both of these examples contain two impulses, the dotted eighth and sixteenth note combination is more intense rhythmically than the two eighth notes. Because of this, the graph and the music must be used together to make a meaningful study.

DEFINITION OF TERMS

Some of the terminology in this report may need clarification.

- Phrase. A phrase may be considered as a segment of variable length which may or may not terminate with a cadence. Its length, though variable, should be sufficient to establish the segment as a well-defined unit preoccupied with its own thematic material.
- Phase. A phase is any section of the piece that takes on a special character, state, or function.
- Anchor. An anchor is a small harmonic and melodic division, maybe V-I, which is immediately repeated, sometimes in embellished form, to confirm the feeling of the key.
- Ceiling. Ceiling is the term used to denote an area of rhythmic intensity which is remaining the same in each measure for a period of time. For example, mm. 1-9 in chart IV shows the same level of rhythmic intensity, so it is defined as a ceiling.¹

MATERIALS

The works referred to for supplemental help were Grove's

¹See Appendix, Chart IV.

Dictionary of Music and Musicians; The Larger Forms of Musical Composition, by Percy Goetschius; Companion to Beethoven's Pianoforte Sonatas, by Donald Francis Tovey; and The Harvard Dictionary of Music.

The scores used in this study were Beethoven Sonatas for the Piano, Volume I, Kalmus edition, and Sonata Album for the Piano, Book I, Volume 329, G. Schirmer edition.

A FORMAL AND RHYTHMIC ANALYSIS OF THE SECOND
MOVEMENT (*largo e mesto*) OF BEETHOVEN'S
SONATA, OP. 10 NO. 3

The Largo e mesto in Sonata, Op. 10 No. 3 which is in D minor, is discussed by Goetschius in his book, The Larger Forms of Musical Composition, under the section entitled, "A Sonata-Allegro Form with a Middle Theme Instead of a Development." He says that in this movement "a light double-bar (without repetition) marks the end of the Exposition; instead of a Development, an entirely new melodic sentence is announced, which with its extension, leads to the recapitulation."¹

Tovey, in his Companion to Beethoven's Pianoforte Sonatas, calls it a sonata form with an episodic development.²

¹Percy Goetschius, The Larger Forms of Musical Composition, p. 115.

²Donald Francis Tovey, Companion to Beethoven's Pianoforte Sonatas, p. 194.

HARMONIC AND THEMATIC ANALYSIS

Exposition

The exposition is divided into a first theme group, mm. 1-17, a second theme group, mm. 18-26, and a closing theme group, mm. 27-29.

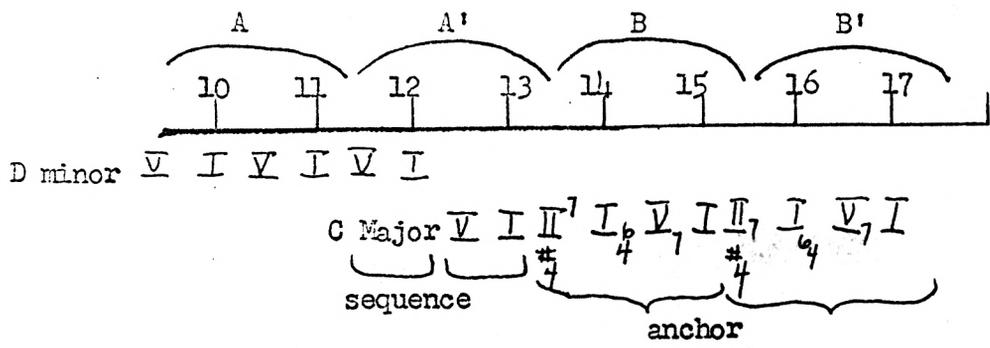
First Theme Group. The first member of the first theme group, mm. 1-9, (labeled material A on Chart I) contains two phrases, the first a five-measure phrase, mm. 1-5, ending on the subdominant, and the other a four-measure phrase, mm. 6-9, ending in a perfect authentic cadence in D minor.¹

A transitional theme, mm. 10-17, (labeled material B on Chart II) leads from D minor to the key of C Major, but unlike such transitional themes in general, it ends on a perfect authentic cadence. Because of its closed form, it assumes a high degree of independence. Its plan is illustrated in Ex. 1.

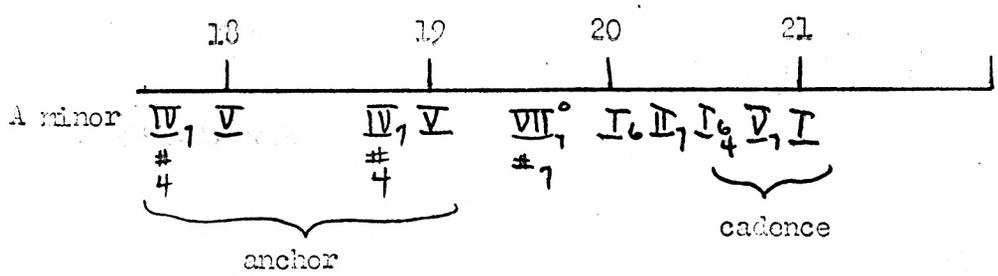
Phases A and A' are thematically parallel, with the modulation by sequence occurring in A'; so also are phases B and B' which form an anchor confirming the key of C Major. This transition modulation to C Major is a rather unusual practice since the second theme immediately makes a modulation to A minor. Also, the strong authentic cadence, giving it a high degree of independence, is unusual; transition sections usually end in the dominant of the new key.

¹See Appendix, Chart I.

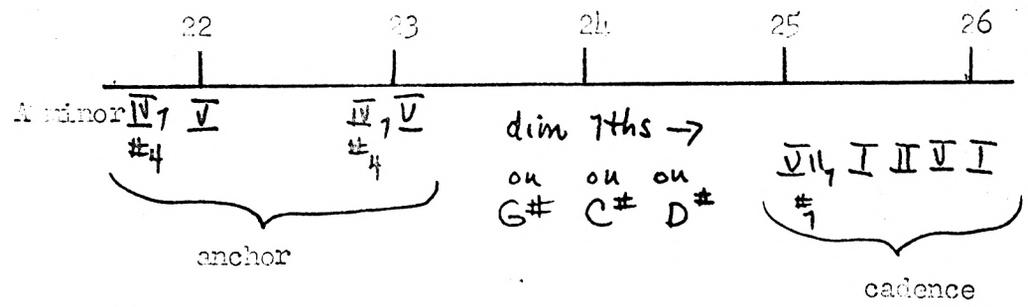
Ex. 1.



Ex. 2. Phase I (material C_1 on Chart I) mm. 17-21.



Phase II (material C_2 on Chart I) mm. 22-26



Second Theme Group. The first member of the second theme group, mm. 17-26, is built upon a plan which is basically simple. It is illustrated in Ex. 2.

Basically built in the key of A minor, it opens uniquely with an anchor presenting the progression IV (German Sixth) -V, which leads by progressing harmony into a perfect authentic cadence. The second part of this member is a modified repetition of the first part, extended by a series of diminished 7th chords between the opening anchor and the cadence, which is more developed than formerly.

The closing theme, mm. 27-29 (labeled material B' on Chart I), has a harmonic plan of I-IV-I₆⁴-V₇-I in the key of A minor for the conclusion of the exposition.¹ It develops material from m. 14 of the transition, mm. 10-17. A sequence occurs in mm. 27-28.

Middle Theme

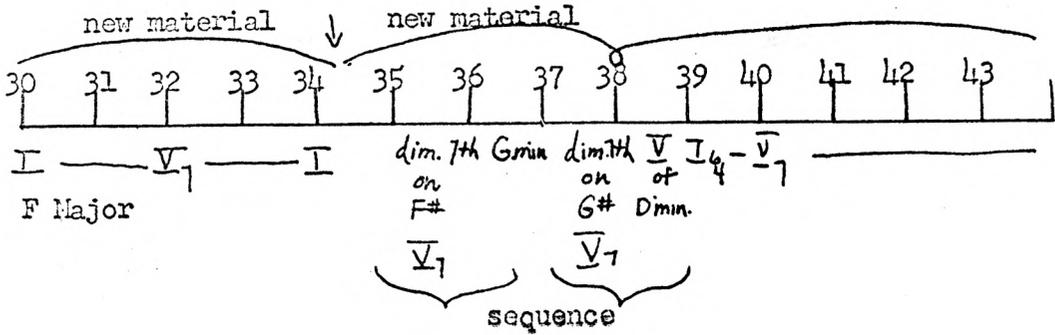
The middle theme, mm. 30-43, presenting new material, opens in the key of F Major, but closes on the V of the key of D minor; it may therefore be thought of as a bridge theme carrying out the same harmonic function as does a development section.

Its function in advancing continuity within the movement is especially well emphasized by the fact that it is the only theme within the movement which does not end on a complete authentic

¹See Appendix, Chart I.

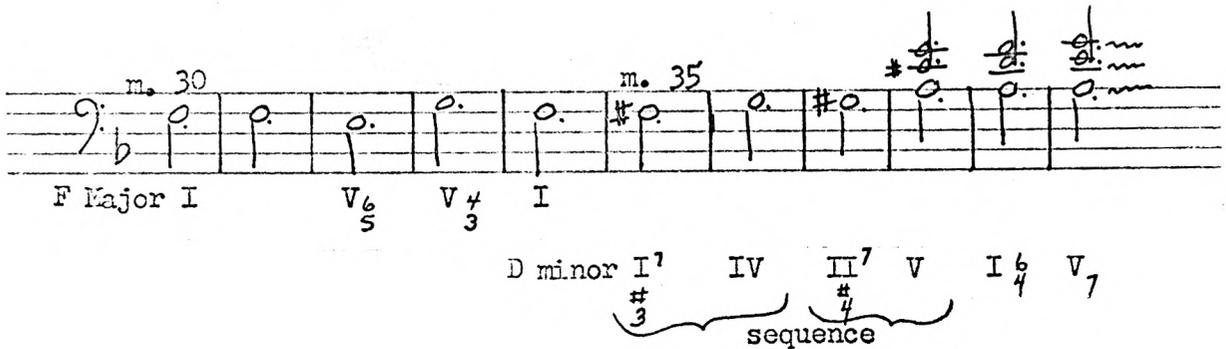
cadence.

Example 3 illustrates its harmonic plan.



The movement of the bass underlying the progression is simple and direct when, after changing notes around f, it follows a chromatic scale line. Example 4 illustrates this.

Ex. 4.



Recapitulation

The recapitulation follows about the same plan as the exposition, but there are some key changes and some deletion of material.

A return to material A from the first theme group of the exposition is made in m. 44. The first phrase, mm. 44-48, is basically the same harmonically as mm. 1-5 in the exposition, but with intensifications. A kind of imitative treatment occurs in this section and is illustrated in Ex. 5.

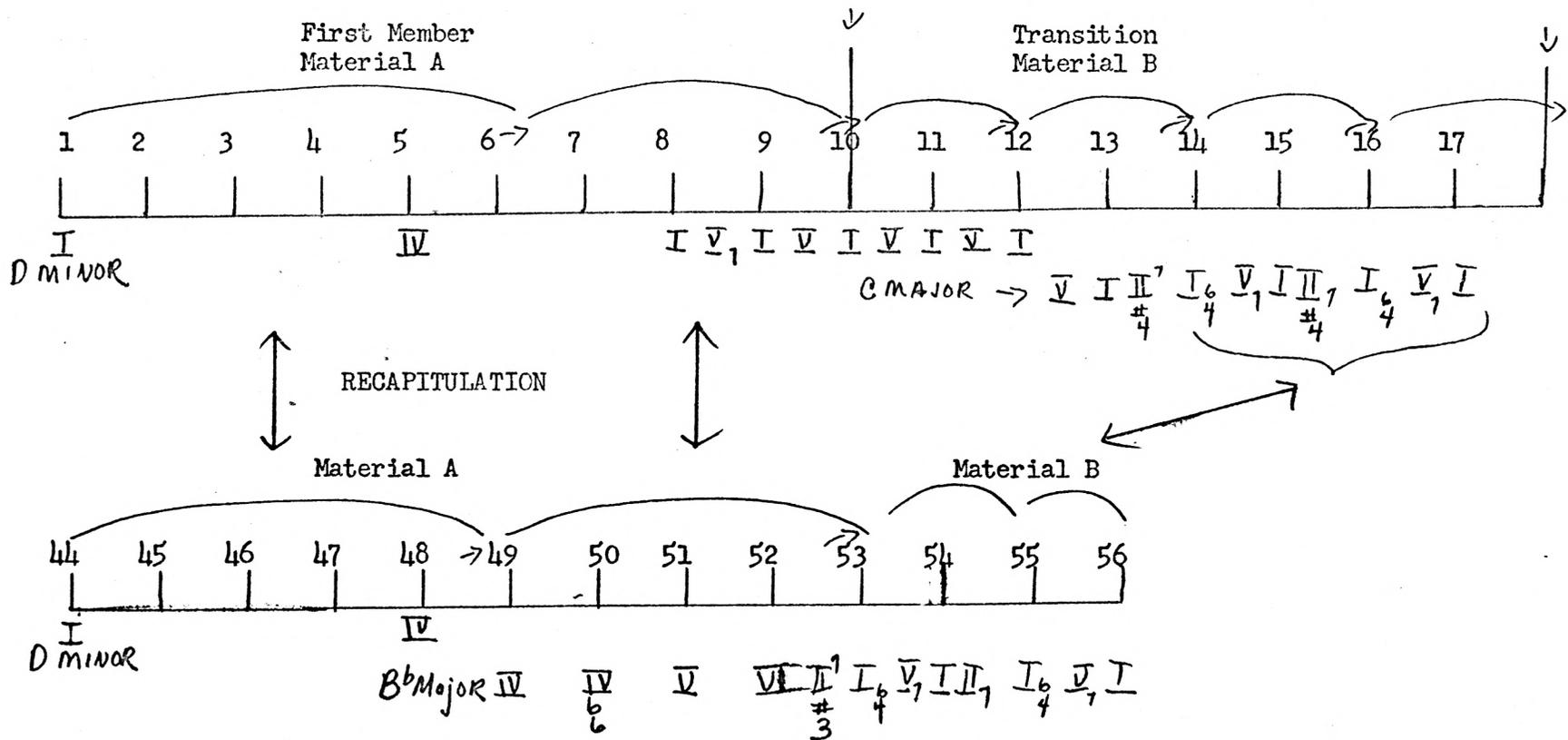
Ex. 5.

m. 44 imitative treatment

This takes the form of a development of the same material used in the exposition. In m. 49 a switch is made to an E Flat chord which functions as a IV chord for the new key in B Flat Major. Material from the beginning of the transition theme stated in the exposition, mm. 10-13, is omitted from the recapitulation, but material from the last two phrases, mm. 14-17, is used in the new key. A comparison thus far may be made with Ex. 6.

Ex. 6

EXPOSITION (First Theme Group)



It is seen, then, that the materials from two separate themes in the exposition are amalgamated into a single theme in the recapitulation. It is further seen that the particular section which is so amalgamated serves the same function in both the exposition and the recapitulation--to prepare for the first member of the second theme group.

The second theme in the recapitulation is a literal transposition except that an elision is used in the cadence measure to promote continuous rhythmic movement. There is no counterpart to the closing theme in the exposition.

Chart II further compares the exposition and recapitulation in material, plan, and key structure.¹ As can be seen, the recapitulation key areas are D minor and B Flat Major with a return to D minor which is made forceful through the addition of G# to the B Flat Chord (German Sixth) in m. 56. The key areas in the exposition are D minor, C Major, and A minor. The closing theme of the exposition is not repeated.

The coda, mm. 65-87, falls in three phases. The coda binds material from the first theme with that of the last phase of the middle theme.

The first phase, mm. 65-71, uses material A from the first theme group of the exposition for the melody which occurs in the bass line, and an accompaniment of repeated broken arpeggios is furnished. This section is held together harmonically by the use of an ascending chromatic scale in the bass, mm. 68-70. The

¹See Appendix, Chart II.

harmony is functional from mm. 71-76. Example 7 illustrates this.

Ex. 7.

The image shows a handwritten musical score for Example 7, consisting of two staves. The top staff is in bass clef and contains measures 65 through 70. The bottom staff is also in bass clef and contains measures 71 through 76. The notation includes various chords and melodic lines with accidentals and dynamics.

The second phase, mm. 72-76, is held together by alternating tonic and dominant harmony and uses material labeled D_2 from the middle theme. Measures 74 and 75 are a literal restatement of mm. 72 and 73 only occurring an octave lower.

The third phase, mm. 77-87, develops the second beat of the first theme of material A from the exposition and closes the composition. By manipulating this material in many ways, a long prolongation occurs and helps to avoid the monotonous V-I progression.

Ex. 8.

Exposition (1st member)

The image shows two staves of musical notation. The top staff, labeled 'Exposition (1st member)', contains measures m1 and m2. The bottom staff, labeled 'Coda', contains measures m. 76 and m. 77. Both staves are in a key signature of two flats (B-flat and E-flat) and a time signature of 8/8. The notation includes stems, beams, and notes, with some notes circled and marked with 'x' or '#x'. Arrows point from the circled notes in the Exposition to the corresponding circled notes in the Coda, indicating a rhythmic relationship or transformation between the two sections.

RHYTHMIC ANALYSIS

Exposition

First Theme Group. The first member of the first theme group has a comparatively low level of rhythmic activity with no noteworthy contrasts in intensity from measure to measure. This can be seen on Chart III.¹ However, a closer look at the music indicates that the interest lies in the gradual rise of the melodic contour to a climax, mm. 6-7, and in the quick fall of the melodic contour ending on a perfect authentic cadence in D minor. The series of repeated B Flats in m. 5, merely keeping the movement going, gives a strong sense of anticipation to the beginning of a new phrase in m. 6.

The transition of the first theme group shows a sudden

¹See Appendix, Chart III.

increase in the number of notes per measure with the use of sixteenth notes in contrast to the eighth notes used in the first member. The chart at this point shows fluctuations in the rhythmic content, and the use of a dynamic reinforcement rf also creates more rhythmic interest.¹ Nearly every phrase in this section begins with a long anacrusis which strongly anticipates the beat to follow. A climax is reached in m. 16 with a high point in the melody which descends rapidly with thirty-second notes with a $I_4^6 - V_7 - I$ progression.

Second Theme Group. In phase one of the second theme, mm. 17-21, the rhythm starts with very little activity in m. 17 but in m. 18 there is a rhythmic embellishment of the same harmonic progression, resulting in an anchor, which results in a rhythmic intensification as well as a harmonic intensification. The height of rhythmic activity occurs in m. 18, and each measure shows a decrease until the cadence in A minor is reached in m. 21.

In phase two, mm. 22-26, the same type of rhythmic activity is developed because as was seen in the harmonic analysis, these two phases correspond closely to each other. The dim. 7th chords in mm. 23-24 are made stronger rhythmically by being reinforced with ffp markings.

The closing group, mm. 27-29, indicates an intensification of rhythmic material.

¹See Appendix, Chart III.

Middle Theme

The chart shows the middle theme beginning with less rhythmic activity, but there is a rise in m. 36 to a level above anything reached in the exposition.¹

The symbol fp used several times in mm. 38-40 gives a better feeling of the harmonic changes as well as reinforcing the rhythm. A kind of rhythmic and thematic disintegration occurs from mm. 38-42. Measure 41 shows a decrease in rhythmic activity and a further decrease occurs in m. 42. Measure 43 immediately takes on new life by a sudden increase of rhythmic activity in a descending scale passage, partly chromatic and moving rapidly. It is illustrated in Ex. 9.

Recapitulation

The rhythmic treatment of the material in the recapitulation is basically the same as in the exposition. There are some differences of minor importance.

The imitative treatment as discussed earlier in mm. 44-47 creates rhythmic tension. In the second measure of the recapitulation there is a rf (reinforcement) on the first beat and another one on the second beat in m. 46. This is stronger rhythmically than in the exposition. A turn () in m. 50 which did not occur in the exposition creates more rhythmic tension.

¹See Appendix, Chart III.

Ex. 9.

m. 40

m. 41 *fp* (disintegration)

m. 42 (further disintegration) *pp*

m. 43 (new rhythmic life) *f*

The score is written in a grand staff with two systems. The first system (measures 40-42) features a treble clef with a key signature of one flat and a 7/8 time signature. Measure 40 contains a complex chordal texture with multiple notes per stem. Measure 41 is marked *fp* and labeled '(disintegration)'. Measure 42 is marked *pp* and labeled '(further disintegration)'. The second system (measure 43) is marked *f* and labeled '(new rhythmic life)'. The bass clef parts in measures 41 and 42 are mostly rests, while measure 43 has a single note in the bass line.

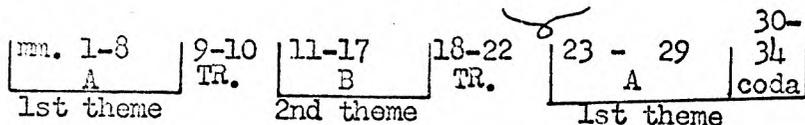
The largest area of rhythmic activity occurs in the coda. Beginning with an area of much higher rhythmic concentration before attained, a rhythmic climax is achieved in m. 71 where there are 48 note impulses per measure. In the following mm. 72-75, there is a decrease to 24 rhythmic impulses, and in m. 76 there are only four rhythmic impulses. The last phase, mm. 77-87, which develops the second beat of the first theme group of the exposition, shows the least amount of activity in the whole composition.

A FORMAL AND RHYTHMIC ANALYSIS OF THE SECOND
MOVEMENT (ANDANTE) OF BEETHOVEN'S
SONATA, OP. 79

The Andante to Sonata, Op. 79, which is in G minor, is described by Goetschius as a "genuine, though small, First Rondo form,"¹ and Tovey simply calls it an ABA form without any further explanation.²

The plan for this movement is shown on the diagram of
Ex. 10.

Ex. 10.

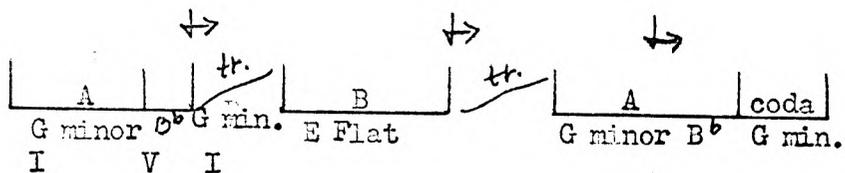


¹Percy Goetschius, The Larger Forms of Musical Composition, p. 115.

²Donald Francis Tovey, Companion to Beethoven's Pianoforte Sonatas, p. 194.

The key relationships are planned in third relationships. Section A begins in G minor and modulates to B Flat Major, a third higher. A return to G minor, a third below, is made, and another modulation a third lower to E Flat Major is made for section B. With the return of Section A, m. 22 in G minor, a third above the former key and another third above to B Flat Major, the conclusion comes in the Coda in G minor, a third below the former key. The key relationships are illustrated in Ex. 11.

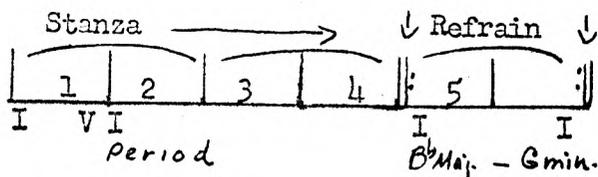
Ex. 11.



A HARMONIC AND THEMATIC ANALYSIS

Theme A. Theme A, a four-phrase theme, mm. 1-8, is a song-like period with a repeated refrain. It takes the form shown in Ex. 12.

Ex. 12.



The first phrase, mm. 1-2, begins in G minor and reaches a half cadence (Phrygian) on the dominant in m. 2. A responding phrase, mm. 3-4, begins in G minor, and reaches a perfect authentic cadence in B Flat Major to complete the period which gives a feeling of a stanza.

The third phrase, beginning in B Flat Major, mm. 5-6, is repeated and concludes with a perfect authentic cadence in m. 8, giving a feeling of a repeated refrain.

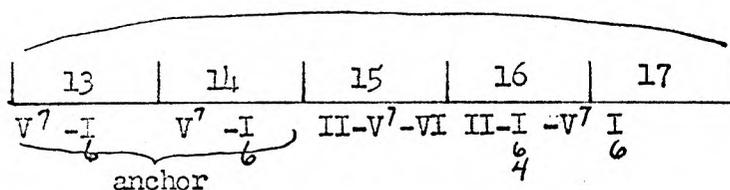
A short transition, mm. 9-10, serves as a modulation to Theme B in the key of E Flat Major.

Theme B. Theme B shows a variety of phrase length. An anacrusis in m. 10 leads to the beginning of the first phrase, mm. 11-12, which is two measures in length, and the second phrase, mm. 13-17, which is five measures in length.

The harmony in the first phrase, a I-V₇-I progression, supports a descending scalewise melody in m. 11, and is followed by a sequence in m. 12.

The second phrase is begun with an anchor mm. 13-14. The harmonic plan for this phrase is shown in Ex. 13.

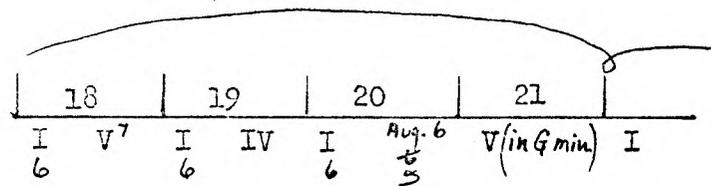
Ex. 13.



It will be noticed that a deceptive resolution (V-VI) in m. 15 extends the phrase, and a perfect authentic cadence is reached in m. 17.

A transition, mm. 18-22, uses material from Theme A. The plan for the transition is illustrated in Ex. 14.

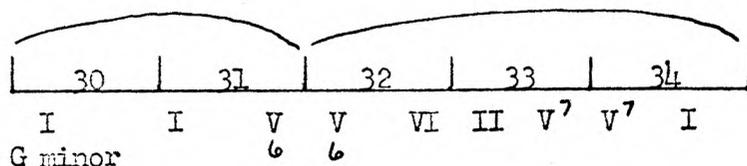
Ex. 14.



The transition serves as a modulation to G minor accomplished through an Aug. 6th (German Sixth) which resolves to the dominant of the home key (G minor) for a return to Theme A, mm. 22-29, which is a literal restatement of the First Theme.

A coda, mm. 30-34, is a combination of material from Section A and Section B. The melodic line uses material from Section A and the accompaniment is based on the accompaniment figure from Section B. The accompaniment with a reoccurring G on each beat gives the feeling of a G Pedal Point. The harmonic plan is illustrated in Ex. 15.

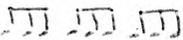
Ex. 15.



RHYTHMIC ANALYSIS

The entire movement is poised on a sort of off-center rhythmic scheme in which cadences (called feminine cadences) frequently fall on weak metrical beats. This is true throughout the first theme. It gives the melody proper more beats than is common in such short spans. In fact, the first regularly placed cadence chord occurs in m. 17 at the end of the Second Theme.

The Andante, written in 9/8 meter, does not contain as great a variety of rhythm as is usual in a slow movement. The rhythmic chart, No. IV for Op. 79, shows several areas under a rhythmic ceiling, but a look at the music may often show other rhythmic devices.¹

Theme A. Theme A shows a continuous rhythmic pattern ($\frac{9}{8}$ ) in the accompaniment for the entire theme, and the chart from mm. 1-8 reveals this, but a closer look at the music shows some interesting rhythmic groupings that occur in this ceiling of rhythm (Ex. 16).

Ex. 16.



As can be seen, there is a feeling of grouping by twos in the harmonic rhythm, in contrast to the regular grouping of threes.

¹See Appendix, Chart IV.

As shown on Chart IV, there is an increase in notes per measure in the melodic rhythm.¹

In Theme A, there is a delay of the cadence chord until the last beat of the cadence measure and this results in a weaker cadence.

Another point of interest is the anacrusis in m. 6 which leads into a stronger beat in m. 7.

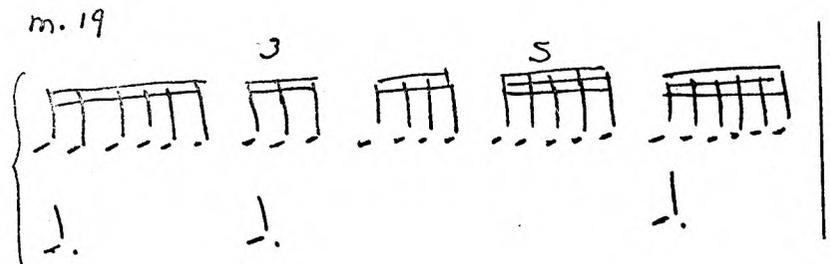
The transition, mm. 9-10, shows a sudden decrease in rhythmic activity.

Theme B. A look at the chart shows a rhythmic ceiling in the accumulative rhythm, while the melodic rhythm shows several areas of increased activity which reaches a high point in mm. 13-14, and then the chart shows a decrease in the melodic rhythm.

The rhythm pattern used in mm. 13-14 is: 

The transition, m. 17-21, shows the greatest rhythmic variety throughout the entire movement. Measure 19 is climactic both melodically and rhythmically. The melody moves up scalewise to reach a climax on the note "F" and the rhythm likewise builds up to this point by increasing the number of notes for each beat, using this combination (Ex. 17).

Ex. 17.



¹See Appendix

While all of this activity takes place in the melodic line, the accompaniment keeps a constant sixteenth-note pattern. After the high point in m. 19, there is an abrupt tapering off in rhythmic activity as shown on the chart for a return to Theme A.

Theme A. Since this has been discussed earlier, there will be nothing added.

Coda. A coda mm. 30-34, as shown on Chart IV, contains another rhythmic ceiling with the use of sixteenth notes in the accompaniment from Section B.¹ There is a sudden decrease in mm. 33 and 34 which closes the movement. With a suspension of the V₇ chord in m. 34 on the first beat, the I chord is reached on a weak beat (feminine cadence) to close the composition.

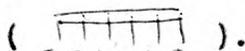
SUMMARY

To conclude this formal and rhythmic study, it might be well to take a look at the sub-beat patterns used in the two sonatas.

A standard device for increasing rhythmic activity from section to section is that of increasing the number of note impulses in the steady rhythmic progression of the phrases or underlying accompaniment figures. For instance, in a study of sub-beat patterns in Op. 10 No. 3, the first theme is basically

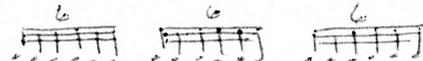


or three rhythmic impulses per beat. But the rhythmic activity in the transition section is increased by the accompanying figure being assigned six note impulses per beat

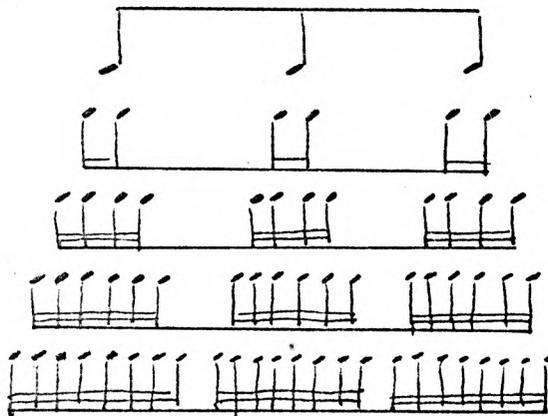


¹See Appendix, Chart IV.

In the middle theme, the background beat, after starting on a figure containing three note impulses per measure, is finally raised to twelve note impulses per beat (). This not only creates an area of rhythmic tension in the theme itself; it also transcends in activity any other preceding area.

Though the recapitulation contains the same sub-beat pattern as in the exposition, a high level of 18 impulses per beat is reached in the coda, (), and is retained until the last phase of the coda where there is an increase to twenty-four note impulses per beat, (). This shows a steady growth as illustrated in Ex. 18.

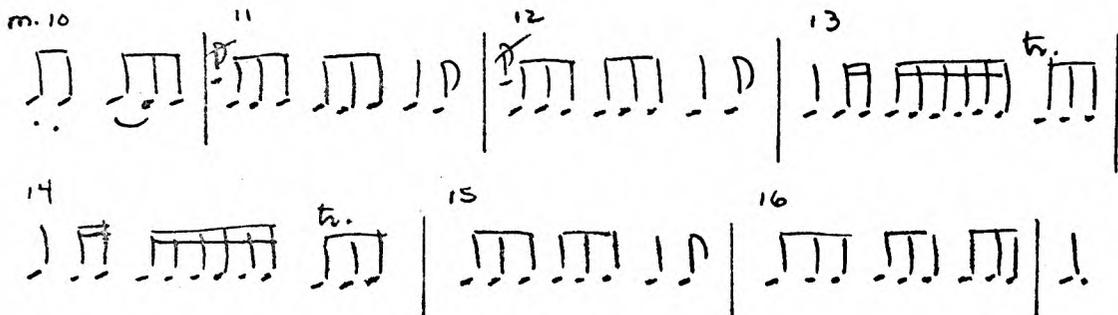
Ex. 18. Rhythmic growth in Op. 10 No. 3 (slow movement).



Interpolated in this plan of intensifying sub-beat patterns is the second theme, in which a different kind of rhythmic growth is found. In contrast to the other themes, there is no continuously even sub-beat pattern. But it has been pointed out that the theme is characterized by a series of anchors. Rhythmic intensification is achieved by the use of thematic variation techniques in the reiterated parts of the anchor forms. In addition, the rhythmic figure  which on its first occurrence is isolated, is finally used to build rhythmic intensity by being placed in a sequential chain, .

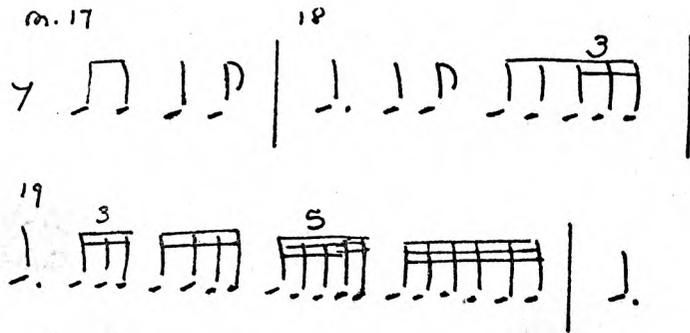
The sub-beat pattern in the Andante in Op. 79 following something like this: Section A contains three impulses per beat, or . In Section B, the sub-beat pattern is six impulses per beat or twice as much as Section A (). In Section B, a definite thrust forward occurs in the melodic rhythm while the accompaniment figure  is kept steady. This movement forward, rhythmically, takes this form beginning in m. 10, shown in Ex. 19. As can be seen, the

Ex. 19.



greatest intensity of rhythm occurs in mm. 12 and 13. The highest point of rhythmic activity reached in the entire piece occurs in the transition, mm. 18-22, with the rhythmic progression forward, beginning in m. 17 with more activity in m. 18 and a rhythmic climax is reached in m. 19. It takes the form illustrated in Ex. 20.

Ex. 20.



A return to section A is the same as before. The coda takes the same form rhythmically as section B.

In this slow movement, Beethoven alternated sections whose sub-beat is three per beat, with sections whose sub-beat is six per beat. In this very short lyrical movement, there is no extensive development of rhythmic intensity in the sub-beat material. Nevertheless, the movement from sub-beat material with lower rhythmic intensity to that of higher order gives a definite feeling of forward movement. As it was shown above, the development of rhythmic intensity occurred in the melodic line and not the accompaniment figure.

From both movements, it can be seen that while a steady sub-beat is occurring in the accompaniment, these even rhythmic

figures give rise to much rhythmic freedom in the melodic line, the result being a very jagged melodic rhythm.

Another point to consider is that harmonic and rhythmic intensity correlate some of the time. At times when the rhythm is moving ahead or is becoming more intense, the harmonies are likewise changing quickly or are making progress forward. This can be seen in the coda of Op. 10 No. 3, mm. 68-72, where an ascending bass line is moving in half steps with a chord change on each beat. It can also work just the opposite way. Sometimes the rhythm is very intense, but the harmonies are moving slowly so as to stabilize a certain area harmonically in anticipation of the return of a former key. This occurs in the middle theme of Op. 10 No. 3, mm. 36-44. In this phase, there are twelve impulses per beat, but the harmony is becoming stabilized by alternating tonic and dominant harmony.

Another conclusion is that each major division of the composition rhythmically intensifies to a certain point and is brought to a close by the release of the rhythmic activity. A look at Sonata Op. 79 will confirm this point. In section A and section B, a certain rhythmic high point was reached but is decreased to a low level of activity at the conclusion of those sections. This also occurred in the major divisions of Sonata Op. 10 No. 3.

Both movements seem to have rather unique key relationships. As will be seen, Beethoven develops interest in the many keys used and in the manipulation of the keys. In Op. 10 No. 3, the key centers used in the exposition were D minor for the first

theme, C Major for the transition, and A minor for the second theme. In the middle theme F Major was used. The recapitulation used D minor for the first theme, B Flat Major for the transition and D minor for the second theme and the coda in D minor. The usual practice of the second theme being in the relative major key is not used at that point but saved for use in the middle theme which is in F Major. Quite an impact is made when the second theme in the exposition immediately modulates to A minor after C Major has been confirmed so definitely in the transition theme. This happens in the recapitulation when the transition confirms the feeling of B Flat Major and second theme immediately returns to D minor.

The key plan for Op. 79 has been referred to earlier. It used the relationships of thirds in setting up all the keys. Each time a new key was used it was either a third above or a third below the former key.

The study of these two contrasting slow movements brings the realization that in Op. 10 No. 3, a long form, and in Op. 79, a short form, quite different techniques are in order. It is especially important that the rhythmic growth referred to in the first example be much more dramatically shown, for it is a force which helps to bring together the many diverse thematic elements characteristic of this movement in a continuous flow. But in the second, a very simple ABA form cast in lyrical style, such treatment, if possible, would be extreme. The longer the movement, the more complex it becomes in thematic development and rhythmic development.

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APPENDIX

CHART I THEMATIC CHART

Sonata Op. 10 No. 3 (Second Movement) Beethoven

EXPOSITION					MIDDLE THEME		RECAPITULATION				CODA		
first theme group		second theme					first theme group		second theme				
lst. member	transition	lst. member											
material A	B	C ₁	C ₂	B	D ₁	D ₂	A	B	C ₁	C ₂	A	D ₂	A
mm. 1-9	10-17	17-21	22-26	27-29	30-34	35-43	44-52	53-56	56-60	61-64	65-71	72-76	77-87
d minor	C Major	a minor			F Major		d minor	B Flat Major	d minor		d		d minor

scale 1/8 in. = 1 measure

CHART II

THEMATIC COMPARISON OF EXPOSITION AND DEVELOPMENT
Sonata Op. 10 No. 3

Exposition (mm. 1-29)

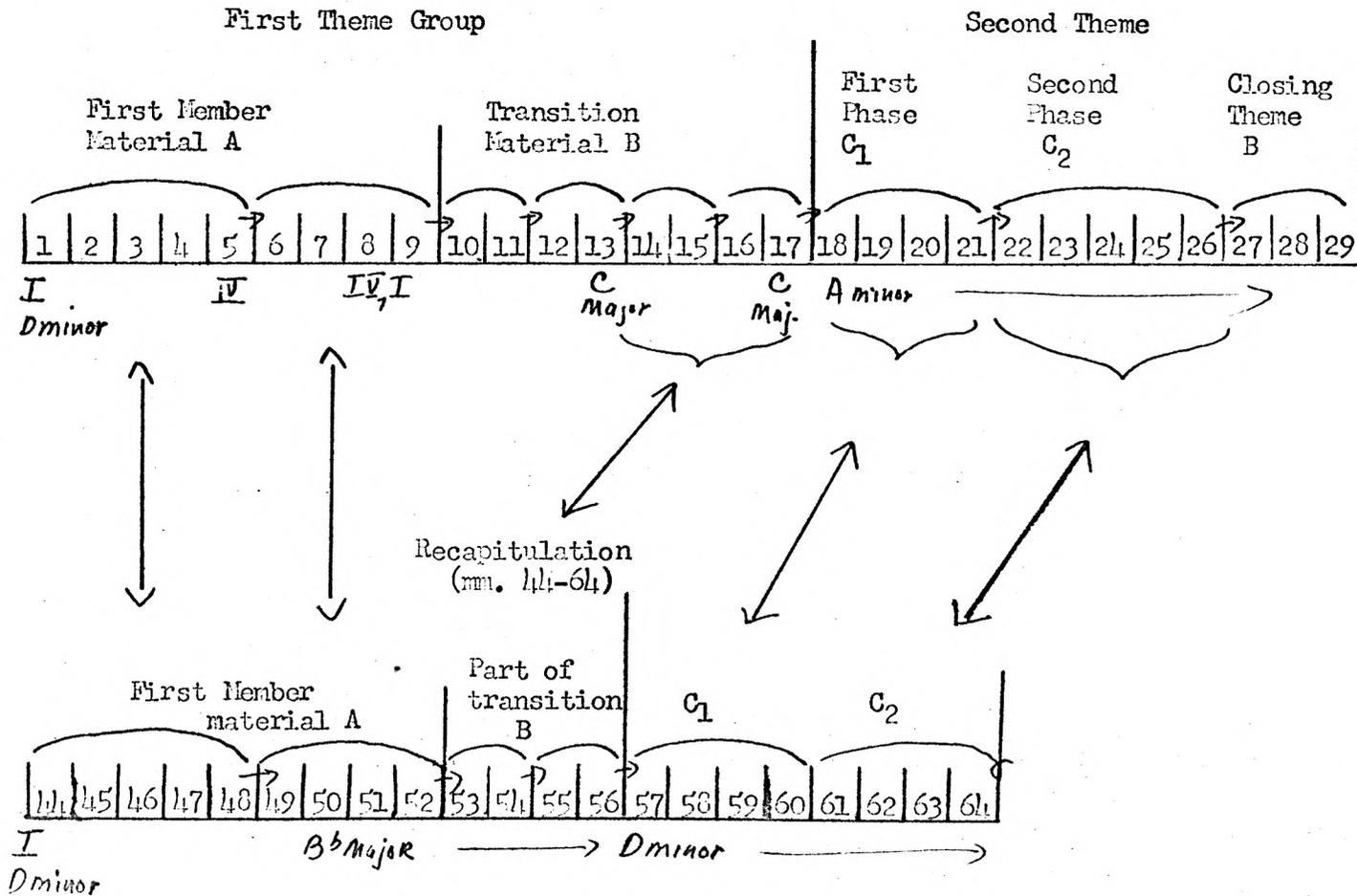
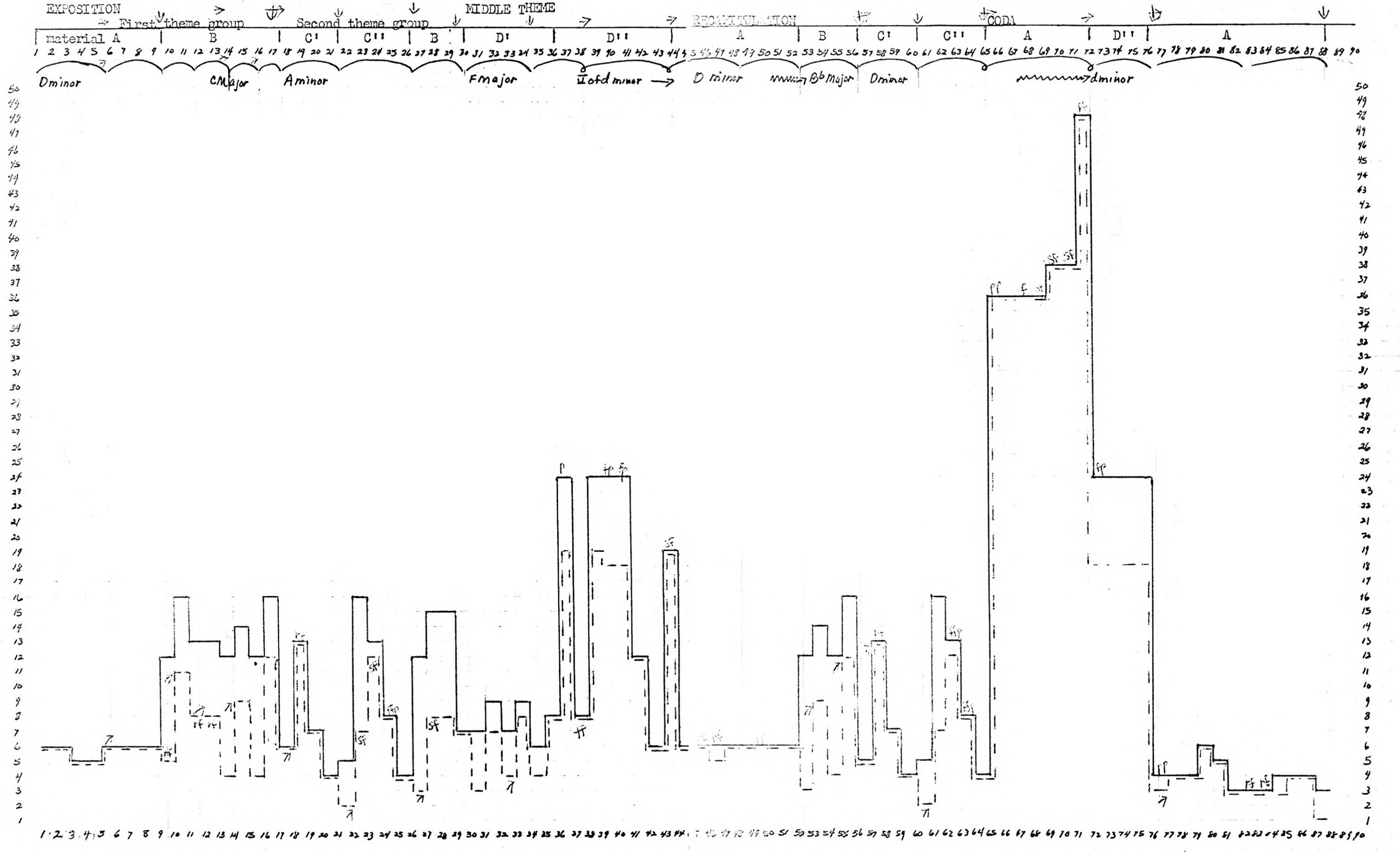


CHART III RHYTHMIC DEVELOPMENT
 OF SONATA, OP. 10 No. 3 BEETHOVEN

Each horizontal space equals one measure.
 Each vertical space represents one note impulse.
 A solid graph line represents the accumulative rhythm.
 A broken graph line represents the melodic rhythm.



SOME FORMAL AND RHYTHMIC FEATURES OF THE
SLOW MOVEMENTS FOUND IN BEETHOVEN'S PIANO
SONATAS OP. 10 NO. 3 AND OP. 79

by

KAY L. REBOUL

B. S., Kansas State University, 1959

AN ABSTRACT OF
A MASTER'S REPORT

submitted in partial fulfillment of the
requirements for the degree

MASTER OF SCIENCE

Department of Music

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Manhattan, Kansas

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In order to judge a composition critically, it is necessary to use more than emotional appeal as the basis of criteria. It is necessary to study the composition through an intellectual approach. Music, as everything else, takes on some characteristic form or plan. Form in music takes on such qualities as musical figures, phrases, sentences, themes, movements, harmonic features, all being shaped or organized by rhythm. To illustrate this, a report will show some formal and rhythmic features of two slow movements of Beethoven's Piano Sonatas, Op. 10 No. 3 and Op. 79. This study intends to show how a composer makes a composition progress from beginning to end holding the listener's interest all the way. Also, a question to be studied is whether the rhythmic developments compliment the harmonic development.

The first step was the formal analysis. Every phrase was marked in the music, and each cadence was identified. The phrases were grouped together to find the themes and theme groups. This in turn helped determine the general form of the movements such as sonata-allegro, rondo, and so forth. A harmonic analysis as to key centers was also made. Material used in the movements was also identified and marked.

Attention was next turned to rhythm. With the use of a graph, a rhythmic chart was devised to show the number of rhythmic impulses per measure. A rhythmic impulse occurs each time a sound or combination of sounds occurring simultaneously is produced within the measure. Each horizontal space in the graph represents a certain measure in the music and is numbered at the base of the chart. Each vertical space represents one note

impulse in that particular measure. Two kinds of rhythmic impulses were recorded. The total number of rhythmic impulses per measure is referred to as the accumulative rhythm, and is shown on the chart with a solid line. The total number of rhythmic impulses in the melodic line is referred to as melodic rhythm, and is recorded on the chart with a broken line. The intensifications of a dotted rhythm cannot be shown on the chart. For instance, two eighth notes () would be recorded on the graphs as two impulses, yet a dotted eighth note followed by a sixteenth note () would also be recorded on the graph as two impulses, yet the dotted eighth and sixteenth note combination is more intense rhythmically than the two eighth notes.

Many interesting observations and several conclusions were the result of this study. A standard device for increasing rhythmic activity from section to section is that of increasing the number of note impulses in the steady rhythmic progression of the phrases or underlying accompaniment figures, such as eighth notes to sixteenth notes to thirty-second notes. When there is no continuously even sub-beat pattern, rhythmic intensification is achieved by the use of thematic variation techniques on the reiterated parts of the anchor forms.

From both movements, it can be seen that while a steady sub-beat is occurring in the accompaniment, these even rhythmic figures give rise to much rhythmic freedom in the melodic line, the result being a very jagged melodic rhythm.

Another point to consider is the harmonic and rhythmic correlation. At times when the rhythm is moving ahead or is becoming

more intense, the harmonies are likewise changing quickly or are making progress forward. Sometimes the rhythm is very intense, but the harmonies are moving slowly so as to stabilize a certain area harmonically.

As can be seen, the interest is held to a certain extent with the use of rather unique key relationships. The usual practice of the key relationships in a sonata-allegro form is not used in Op. 10 No. 3. In Op. 79 the keys are all related by the relationship of a third.

In the study of these two contrasting movements, it is realized that different treatment is required by both. The first being a long form would naturally show more rhythmic harmonic development, and more rhythmic harmonic devices than in the second example, a short form. Such treatment, if possible, would be extreme in such simple a form.