

A RHYTHMIC ANALYSIS OF THE ALLEGRO
MOVEMENT FROM BEETHOVEN'S SONATA OP. 2. NO. 3.

by 1264

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CHAPTER I

INTRODUCTION

Purpose of This Study. The Allegro movement of Beethoven's Sonata Op. 2, No. 3 is a good example of the growth of rhythmic intensity. In this sonata, the rhythmic intensity is sensed from the beginning to the end. Its continuity is difficult to explain. In other works by Beethoven, it has been explained on the basis of the growth of rhythmic activity from section to section, ever-changing patterns of sonority values, and dynamic levels.¹

The primary purpose of this study was to analyze the rhythmic organization of the Allegro movement. The other factors studied were the effect of the dynamic markings on the rhythmic continuity and how the sonority was affected.

Methods of Study. The Sonata Allegro movement was analyzed in several ways. The complete movement was analyzed for the key areas and the harmonic progressions. All cadences and phrases were marked. The Form Units were marked within the movement, and each Form Unit was broken into stages. The stages are the small sections of different rhythmic ideas. The cumulative rhythm was used in the analyzing of the

¹Paul Kelly, "A Rhythmic Analysis of the Allegretto Movement from Beethoven's Seventh Symphony" (unpublished Master's report, Kansas State University, Manhattan, Kansas, 1965), p. 1.

rhythmic activity of the complete movement, and the cumulative rhythm note impulses were placed on a graph. The sonorities and dynamic levels were then analyzed in relation to the rhythmic activity.

Definition of Terms.

1. Form Unit. The term, form unit, denotes a complete theme or idea within the movement. For example, the First Form Unit is the first theme in measures 1 through 12. The Second Form Unit IIa begins in measure 13, which is the first episode, and ends in measure 26.
2. Stage. The term, stage, denotes a small section of the form unit that breaks into a separate rhythmic idea.
3. Metrical Relocation. This term refers to dynamic markings, especially the sforzando, being placed at the point in the rhythm of a measure to give the feeling of the accent being in an unusual place. A good example of the accent being in an unusual place is measure 116.
4. Cumulative Rhythm. The term, cumulative rhythm, refers to the total number of rhythmic note impulses of all voices within a given measure. For example, if, in a measure, the soprano voice had eight eighth notes and the bass voice had one whole note the cumulative rhythm of these two voices would be eight eighth notes. A good example would be measure 47.
5. Note Impulse. A note impulse exists whenever one or more notes are sounded simultaneously within the course of a beat.² For example, in example one, measure 2, the simultaneous sounding of the notes of the two lines on the first beat yields one note impulse.
6. Ceiling. The term, ceiling, refers to a series of notes of the same value. For example, a sixteenth note ceiling is sixteen sixteenth notes per measure for several measures. A good example would be measure 13.
7. Background Rhythm. This term refers to the rhythm

²Ibid. p. 3.

caused by the sub-beats, or note impulses.

The Whole Form. This movement is a Sonata Allegro form. The exposition ends in measure 90; its development ends in measure 138, and its recapitulation ends in measure 257. A closing theme and coda are included between measures 212 to 257.

The First Form Unit, mm. 1 to 12, is the first theme section. The material stated in the First Form Unit is theme a. It ends on a perfect authentic cadence with an elision moving to the next form unit.

The Second Form Unit is divided into two sections. These sections are referred to as Form Unit IIa and Form Unit IIb. The Form Unit IIa, mm. 12 to 26, Episode I, states theme b. In mm. 21 to 26 the transition material begins to develop. The form unit ends on a half cadence. The Form Unit IIb, mm. 27 to 46, is the beginning of Episode II. It states theme c. The transition material ends in measure 46 on a perfect authentic cadence with an elision leading to Form Unit IIIa.

The Third Form Unit is divided into two sections. These sections are referred to as Form Unit IIIa and Form Unit IIIb. Form Unit IIIa, mm. 47 to 54, states the second theme. A variation of theme b is repeated in mm. 61 to 76 and ends on a perfect authentic cadence. Form Unit IIIb, mm. 77 to 90, is the closing theme. Theme d is stated in mm. 77 to 84. The codetta to the closing theme begins in measure 85 and ends on a perfect authentic cadence.

The Fourth Form Unit, mm. 90 to 138, is the development section. Theme d is restated in mm. 90 to 96. The developmental Group I is from mm. 97 to 108. Theme a, mm. 109 to 112, is restated as the developmental Group II. There is more of the developmental Group II in mm. 113 to 128. In mm. 129 to 138 the preparation for departure is stated and it ends on an inverted cadence with an elision moving into the next form unit.

The Fifth Form Unit, mm. 139 to 154, is a very short form unit containing four stages. It is the beginning of the recapitulation. The first theme begins by using theme a again. It ends on a cadence with an elision moving into the next section. A switch is found in mm. 147 to 154. It moves to the next form unit by a harmonic progression.

The Sixth Form Unit, mm. 155 to 160, Episode I, is a short section containing three stages. It is a continuation of theme b and ends on a half cadence.

The Seventh Form Unit contains two sections. The sections are referred to as Form Unit VIIa and Form Unit VIIb. Form Unit VIIa, mm. 161 to 180, Episode II, is theme c. The transition is in mm. 173 to 180. It ends on a perfect authentic cadence with an elision moving into the next form unit. Form Unit VIIb, mm. 181 to 210, is the second theme and is repeated in mm. 189 to 194. In mm. 195 to 210 the theme b is repeated and ends on a perfect authentic cadence.

The Eighth Form Unit, mm. 211 to 257 is long. Included in

this unit is the closing theme with a coda and cadenza. The closing theme begins in measure 211 with an anchor. The coda begins in measure 218 and moves into the cadenza in measure 232. Measure 233 returns to a tempo and is like the first theme for four measures. Measures 238 to 252 are like the development in Group II, mm. 116 to 117. Measures 252 to 257 are the same as measures 85 to 90. The entire Allegro movement of the Sonata ends in measure 257 on a perfect authentic cadence.

CHAPTER II

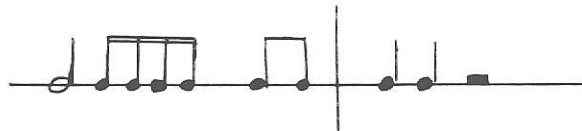
THE MAIN THEME

The First Form Unit. The First Form Unit, mm. 1 to 12, states the background rhythmic pattern. This pattern is used at various times throughout the complete Allegro movement of the Sonata. The background rhythm pattern is introduced in the first two measures of the first stage and is repeated in mm. 3 and 4.

Ex. 1

1st. Stage

mm. 1-4

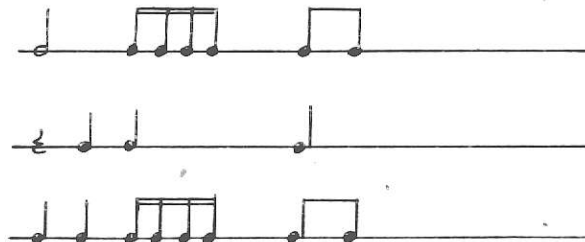


In the second stage, mm. 5 to 6, the rhythmic activity shows a slight increase. This increase in activity is achieved by placing the background rhythm pattern over a steady one, two, three, four rhythm. This combination of rhythmic patterns gives eight note impulses to a measure.

Ex. 2

2nd. Stage

mm. 5-6

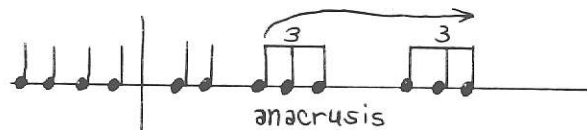


The activity slows to four note impulses to a measure in the third stage, measure 7. It is noticed that more notes are sounded simultaneously as the activity slows. The return to activity begins with an anacrusis in measure eight.

Ex. 3

3rd. Stage

mm. 7-8

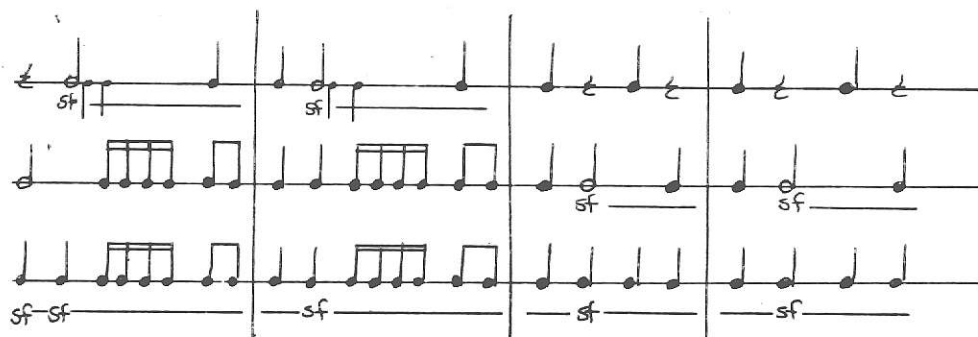


The activity in the fourth stage, mm. 9 to 12, is the same activity that is stated in the second stage. A new rhythmic idea is the metrical relocation in the placing of the dynamic markings. The accenting of the second count of each measure with the sforzando gives the fourth stage new rhythmic interest.

Ex. 4

4th. Stage

mm. 9-12



The Second Form Unit. Form Unit II is a long form unit. It contains two sections. These sections are referred to as Form Unit IIa and Form Unit IIb.

Form Unit IIa, mm. 13 to 26, is faster in rhythmic

activity. In this form unit, except for mm. 22, 24, and 26, all of the background rhythmic interest is placed under a ceiling of sixteen sixteenth note impulses per measure. Six background note impulses are found per measure in mm. 13 and 14. Eight background note impulses are found per measure in mm. 15 and 16. The complete pattern is repeated in mm. 17 to 20. The dynamic marking for this entire span of measures is fortissimo.

Ex. 5 1st. Stage mm. 13-20

In the second stage, mm. 21 and 22, new background rhythmic activity and interest are found. The background rhythm slows to two note impulses in measure 21 and surges ahead for nine note impulses in measure 22. The total number of note impulses for measure 22 is eighteen. The dynamic marking in mm. 21 and 22 is sforzando.

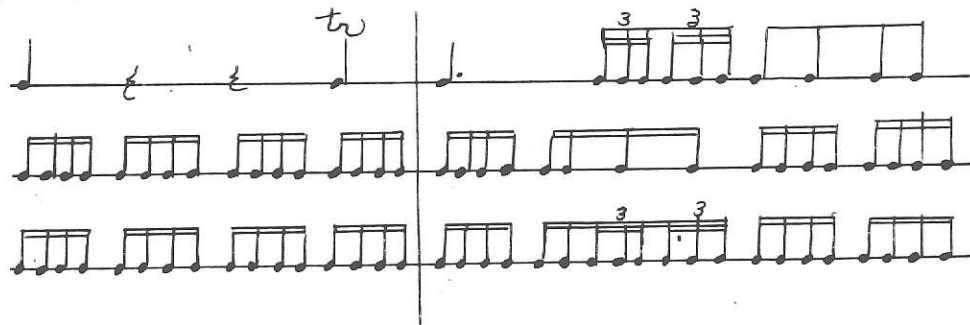
Ex. 6 2nd. Stage mm. 21-22

In the third stage, mm. 23 to 24, the background rhythmic activity slows to two note impulses in measure 23. In measure 24 the rhythmic activity surges ahead again for eleven background note impulses. This gives a total of twenty note impulses in measure 24. The dynamic marking for mm. 23 and 24 remains at *sforzando*.

Ex. 7

3rd. Stage

mm. 23-24



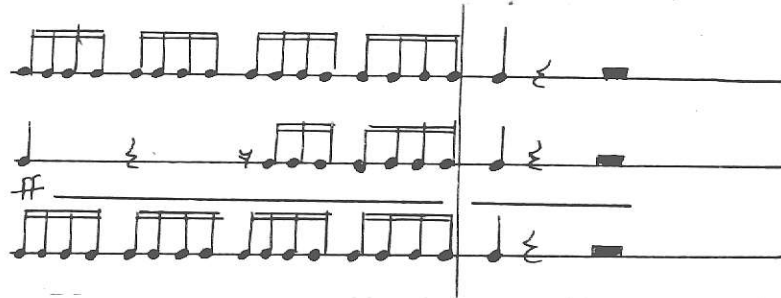
The note impulses slowing down and then the fast surge ahead in mm. 21 to 24 gives new rhythmic interest to stages two and three.

In the fourth stage, mm. 25 to 26, the background rhythmic pattern is slowed. In measure 25 the background rhythm has only eight note impulses and the dynamic markings have dropped to *fortissimo*. In measure 26 there is a quick decrease in activity for the entire measure. The measure has only one note impulse. The new form unit shows the reason for the drop in activity as well as the drop in dynamics.

Ex. 8

4th. Stage

mm. 25-26



It was found that usually when the activity is very fast, few notes sound simultaneously. It was also found that few dynamic markings are used when the rhythmic activity is fast.

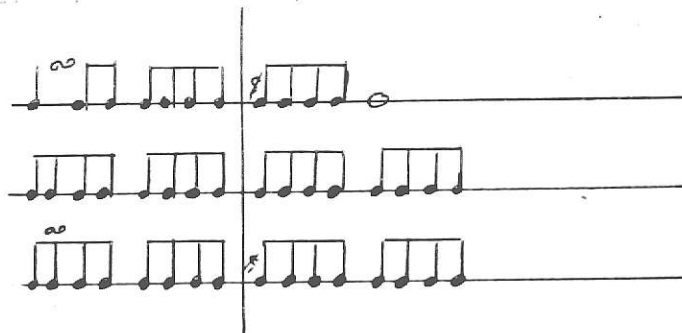
Form Unit IIb has a slower rhythmic ceiling than Form Unit IIa. All of the background rhythmic interest is under a ceiling of eighth notes. Eight note impulses are found in all mm. 27 to 40 except for mm. 39, 41, 43, and 44.

In stage one, mm. 27 to 28, the background rhythm pattern is stated. The background rhythm pattern in measure 27 is seven note impulses. In measure 28 only five note impulses are found. The turn in measure 27 and the appoggiatura in measure 28 give interest to the background rhythm.

Ex. 9

1st. Stage

mm. 27-28

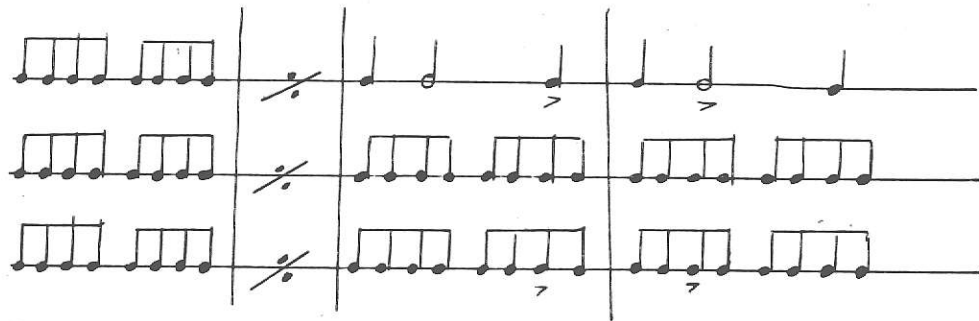


The second stage, mm. 29 to 30; activity is building slightly and in mm. 31 to 32 the activity decreases. The accent on the beat of four in measure 31 and the accent on the beat of two in measure 32 give new interest to the slow activity. Only two notes are sounding at one time. The total rhythmic activity continues to be relatively fast.

Ex. 10

2nd. Stage

mm. 29-32

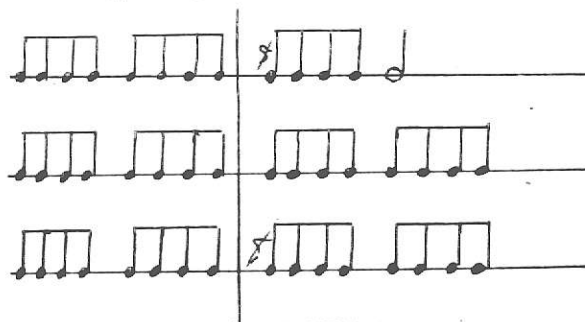


The third stage, mm. 33 to 34, begins like the background rhythmic activity of mm. 29 to 30. In measure 33 the background rhythmic activity is eight note impulses per measure. In measure 34 the activity decreases to five note impulses like measure 28 in the first stage. The appoggiatura gives added interest to the rhythmic activity.

Ex. 11

3rd. Stage

mm. 33-34

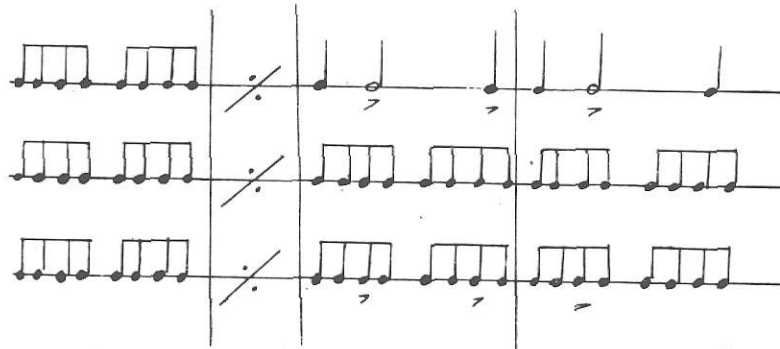


The fourth stage, mm. 35 to 38, is the same background rhythmic activity that is found in mm. 29 to 32. The rhythmic accents on beats two and four in measure 37 and the accent on two in measure 38 give the added interest for stage four.

Ex. 12

4th. Stage

mm. 35-38

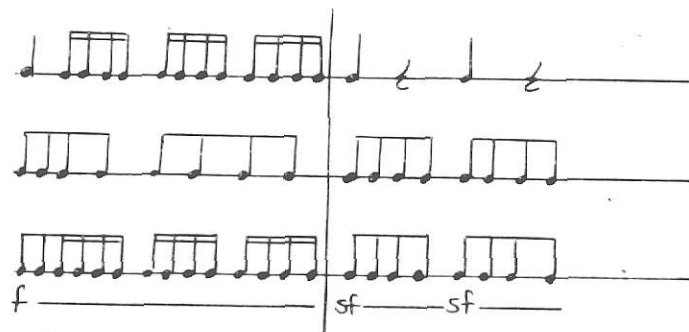


In the fifth stage, mm. 39 to 42, background rhythmic activity and the dynamic activity begins to pick up in interest. In measure 39 the background rhythmic pattern is thirteen note impulses. In measure 40 the background rhythm decreases to two note impulses; however, as in the other stages of Form Unit IIb, all of the background rhythmic activity is over a running eighth note ceiling.

Ex. 13

5th. Stage

mm. 39-42

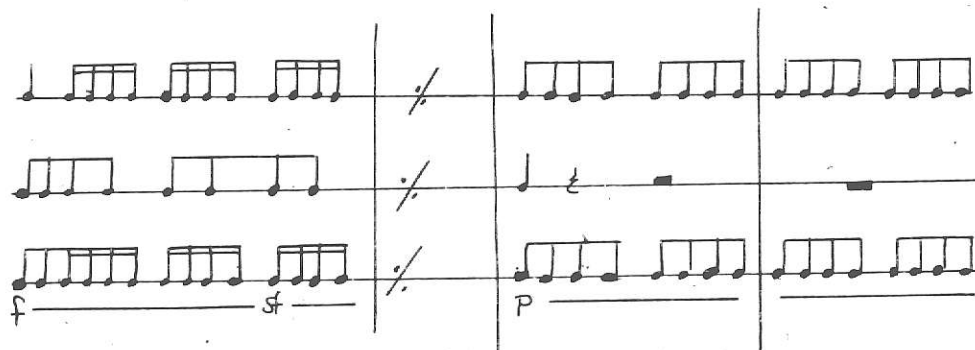


The background rhythmic activity has reached its saturation point for Form Unit IIb. The dynamic markings now begin to bring in new rhythmic interest by accenting beats one and three in mm. 39 to 42 and accenting beats one and four in mm. 43 to 44. The dynamic interest drops to soft in mm. 45 to 46. The soft run of eighth notes in mm. 45 to 46 is leading into the next form unit.

Ex. 14

6th. Stage

mm. 43-46



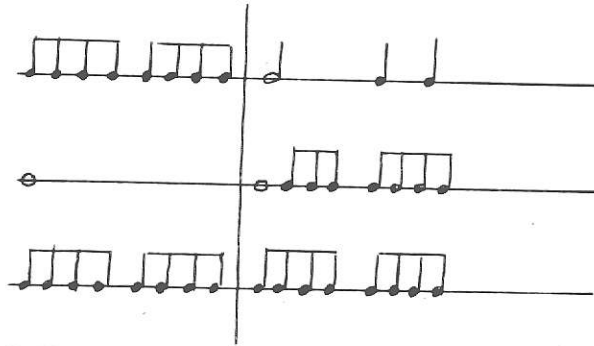
The Third Form Unit. The Third Form Unit is divided into two sections. These sections are referred to as Form Unit IIIa and Form Unit IIIb.

Form Unit IIIa, mm. 47 to 60, is under a ceiling of eighth notes. In stage one, mm. 47 to 48, the background rhythmic pattern begins and the same pattern is repeated in mm. 50 to 51. In measure 47 the background rhythm pattern of the eighth note run gives eight note impulses. The background rhythmic activity slows to three note impulses in measure 48. The rhythm pattern is first in the upper voice in mm. 47 and 48, next in the lower voice in mm. 48 to 49 and again in the upper voice of mm. 49 to 50.

Ex. 15

1st. Stage

mm. 47-50

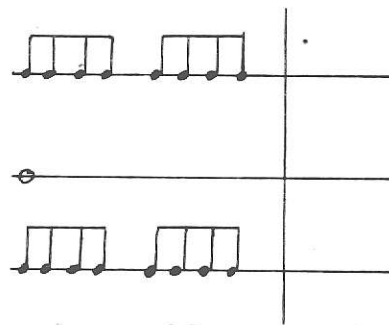


Stage two, mm. 51 to 55, has the same rhythmic activity of eight note impulses per measure as in measure 47. The expanding to an eighth note background activity adds the new interest.

Ex. 16

2nd. Stage

mm. 51-55

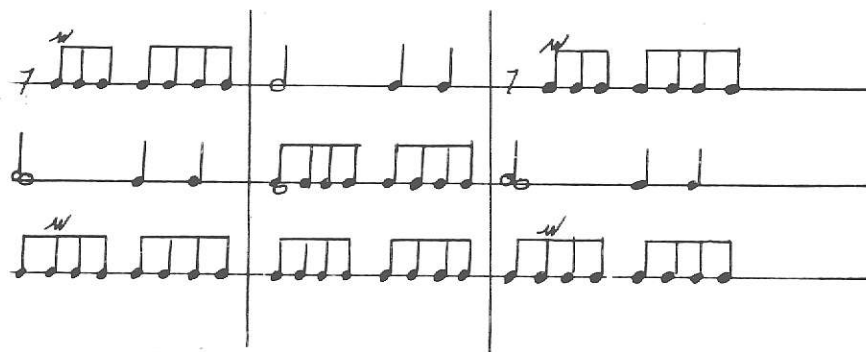


Stage three, mm. 56 to 60, has the same background rhythmic activity as that of mm. 48 to 54. The added interest is the inverted mordent on the last half of count one in mm. 56 and 58.

Ex. 17

3rd. Stage

mm. 56-58

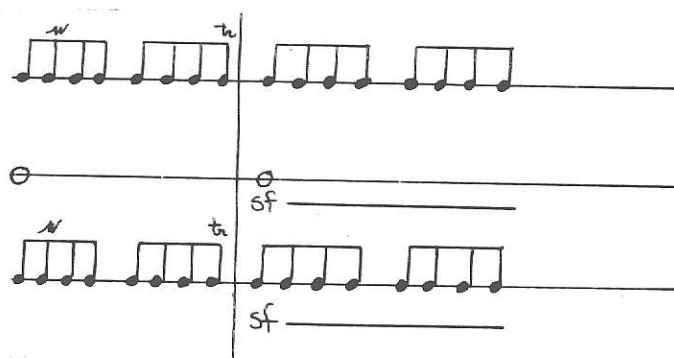


Stage four, mm. 59 to 60, has the same background activity as is found in mm. 51 to 54. The rhythmic interest is the inverted mordent on the last half of count one and the trill on the last half of count four in measure 59. In measure 60 the dynamic marking of sforzando allows more interest. The eighth notes at sforzando marking are leading into a passage of fast sixteenth notes at forte dynamic level.

Ex. 18

4th Stage

mm. 59-60



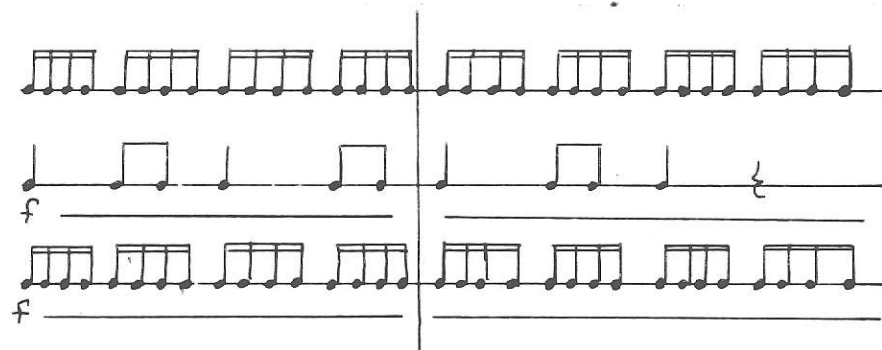
In stage five, mm. 61 to 64, the ceiling of eighth notes changes to a ceiling of sixteenth notes. Measure 61 is a previous background idea that is introduced in measures 13 and 14, Form Unit IIa. This rhythmic idea is repeated two times

from mm. 61 to 64. The added interest to the previous idea is the dynamic markings. In measure 61 the forte dynamic marking is placed on the count of one and is repeated in mm. 63 and 65.

Ex. 19

5th. Stage

mm. 61-64

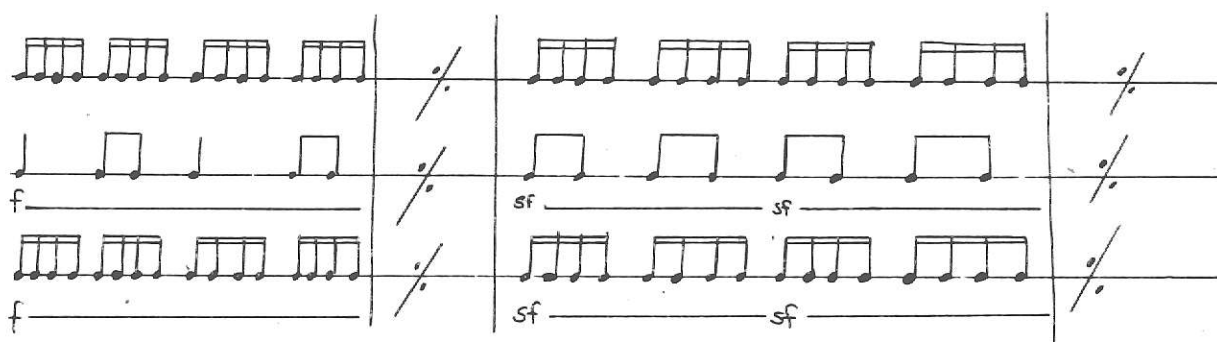


In stage six, mm. 65 to 68, the rhythmic idea is introduced in measure 15, Form Unit IIa, and is used again in mm. 67 and 68. This time it is adding the sforzando dynamic markings on counts one and three in mm. 67 and 68 to give new interest.

Ex. 20

6th. Stage

mm. 65-68



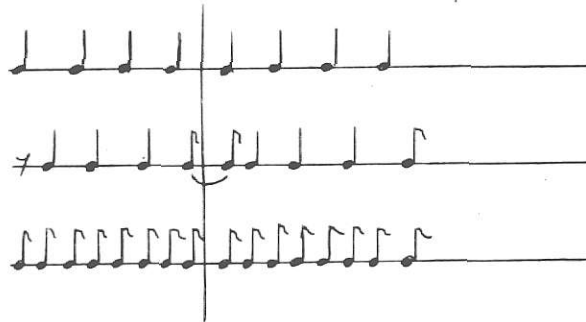
In stage seven, mm. 69 to 72, new rhythmic interest is introduced. This passage is in octaves. The background rhythm for the entire stage is eight eighth notes per measure with

eight note impulses per measure.

Ex. 21

7th. Stage

mm. 69-72

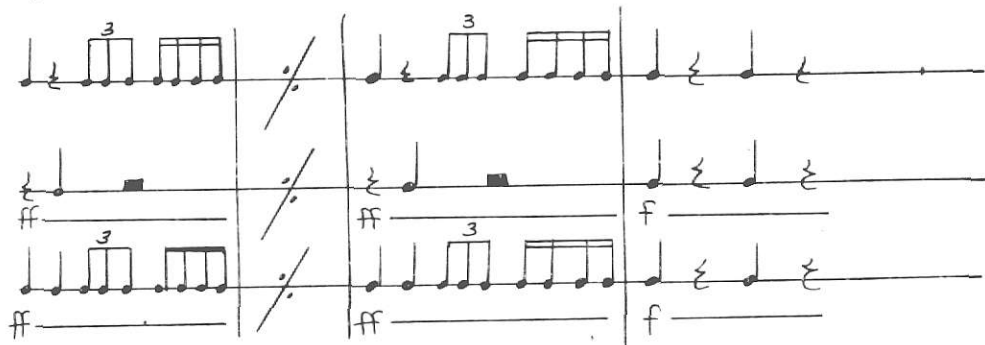


In stage eight, mm. 73 to 76, new rhythmic activity continues to build. The new background activity gives eight note impulses per measure in mm. 73 to 75. The total note impulses to a measure is nine. The dynamic markings of fortissimo add to the rhythmic interest in this stage. In measure 76 the activity drops to two note impulses and the dynamics decrease to forte. A new form unit is approaching; therefore, the dynamics and rhythmic activities diminish.

Ex. 22

8th. Stage

mm. 73-76



Form Unit IIIb, mm. 77 to 90, has a large amount of rhythmic activity. In the form unit more than two notes seldom sound at one time. The note impulse activity per measure is not

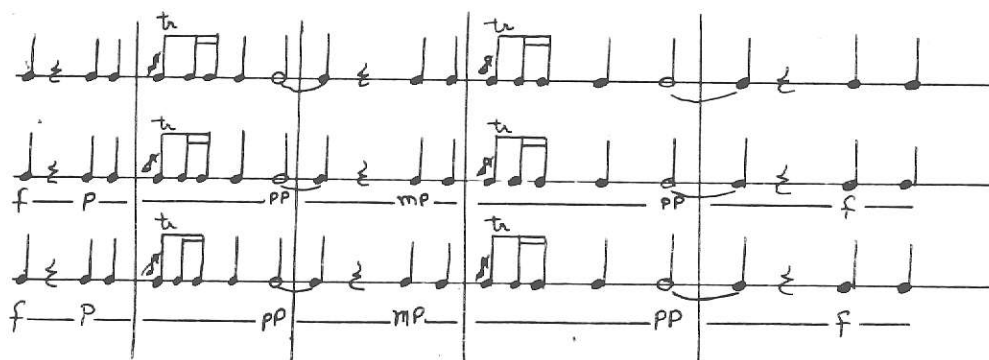
as stationary as it is in previous form units. The rhythmic activity surges up and decreases several times.

Stage one, mm. 77 to 81, states a new rhythmic idea. The complete idea is stated in mm. 77 to 78, and it is repeated in mm. 79 to 80. The rhythmic activity of the dynamic markings is interesting. In mm. 77 to 81 the dynamic markings fall on the counts of three. The accenting is done with piano, pianissimo, mezzo piano, pianissimo and forte. This is different from previous dynamic accenting. This type of accenting as well as the trills and appoggiaturas add new interest to stage one. In every other measure the rhythm is slow with three note impulses. It then speeds up to five note impulses and then decreases back to three note impulses.

Ex. 23

1st. Stage

mm. 77-81



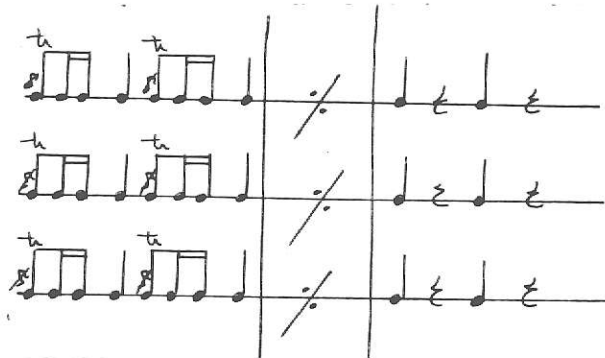
In stage two, mm. 82 to 84, the rhythmic and dynamic marking activity speeds up. The activity in measure 82 is repeated in measure 83. The activity is speeded up by repeating the same figure two times per measure. This gives eight note impulses per measure. The trills and appoggiaturas also give

mm. 82 and 83 interest. In measure 84 the rhythmic activity decreases to two note impulses.

Ex. 24

2nd. Stage

mm. 82-84

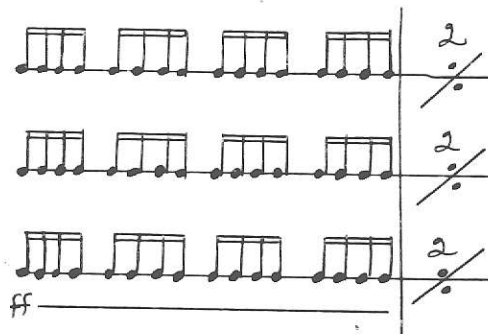


Stage three, mm. 85 to 87, is a series of fast running sixteenth notes with sixteen note impulses per measure. The dynamic marking for the entire stage is fortissimo. This stage is in octaves.

Ex. 25

3rd. Stage

mm. 85-87

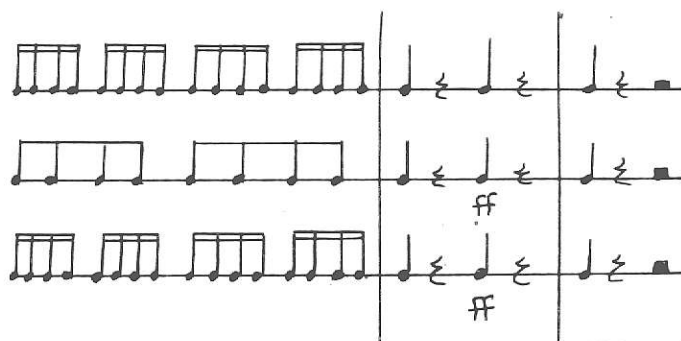


The fourth stage, mm. 88 to 90, is bringing the complete Form Unit IIIb to a close. In measure 88 the sixteenth note background rhythmic activity drops to eight eighth notes. In measure 89 the activity drops to a two note impulse with an accent on count three by the fortissimo marking. In measure 90 the form comes to a close with a one note impulse in the measure.

Ex. 26

4th. Stage

mm. 88-90



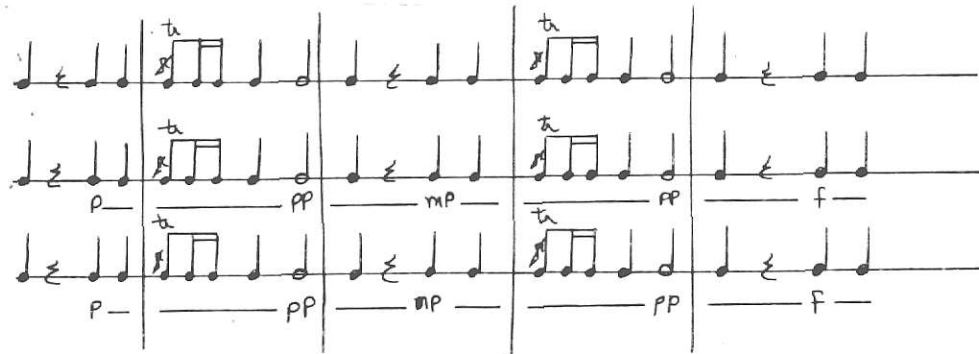
CHAPTER III

DEVELOPMENT

The Fourth Form Unit. Form Unit IV, mm. 90 to 138, is a long section. This Form Unit is made up of eight stage units. It is the development section of the Sonata.

Stage unit one, mm. 90 to 94, is the rhythm pattern that is found in mm. 77 to 81 of Form Unit IIIb. The dynamic markings are the same and fall on the count of three. The accenting is done with piano, pianissimo, mezzo piano, pianissimo, and forte markings. In every other measure the rhythm is slow with three note impulses and then speeds up to five note impulses.

Ex. 27 1st. Stage , mm. 90-94

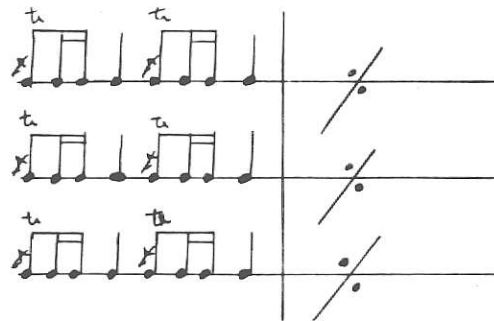


Stage unit two, mm. 95 to 96, is exactly the same as found in Form Unit IIIb, mm. 82 to 83. The activity is speeded up by repeating the same figures two times per measure giving eight note impulses per measure. The trill and appoggiatura also give interest.

Ex. 28

2nd. Stage

mm. 95-96

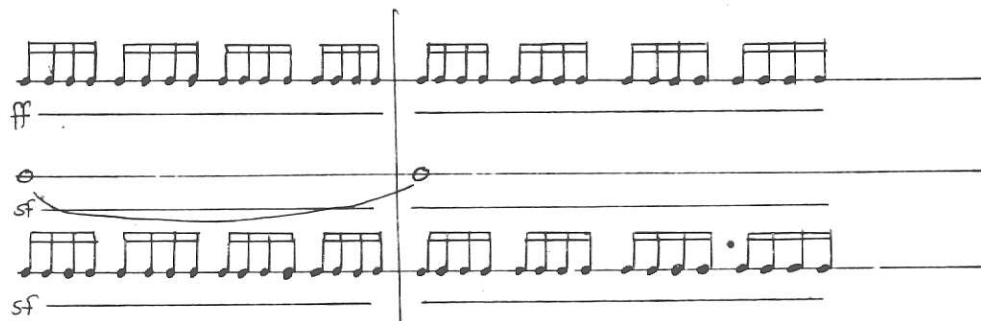


Stage unit three, mm. 97 to 108, has new rhythmic interest. The rhythmic activity is a fast sixteenth note ceiling and loud in dynamics. The sixteen sixteenth notes in the upper voice are placed over one long full chord changing ever two measures. The dynamics expands louder to sforzando and then decreases to pianissimo in measure 108.

Ex. 29

3rd. Stage

mm. 97-108



Stage unit four, mm. 109 to 112, is a repetition of the background rhythm pattern of mm. 1 to 4 of Form Unit I. The only difference is the dynamics.

Ex. 30

4th. Stage

mm. 109-112

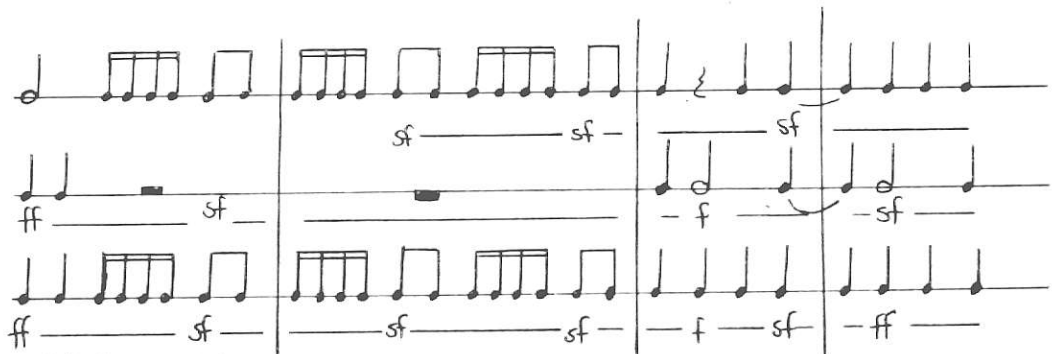


Stage unit five, mm. 113 to 124, is a new exciting rhythmic idea. The main rhythmic pattern is in measure 113. In measure 114 the last half of the main idea is repeated two times. It is four sixteenth notes followed by two eighth notes and is a single note melody. The sforzando dynamic markings are accenting counts two and four. In mm. 115 and 116 the rhythm is a simple one, two, three, four rhythm. The dynamic marking keeps the interest up by accenting counts two and four. The tied note on counts four and one also adds interest to the rhythm. It is noteworthy that more notes are sounding simultaneously in octaves. This idea is repeated two more times.

Ex. 31

5th. Stage

mm. 113-124

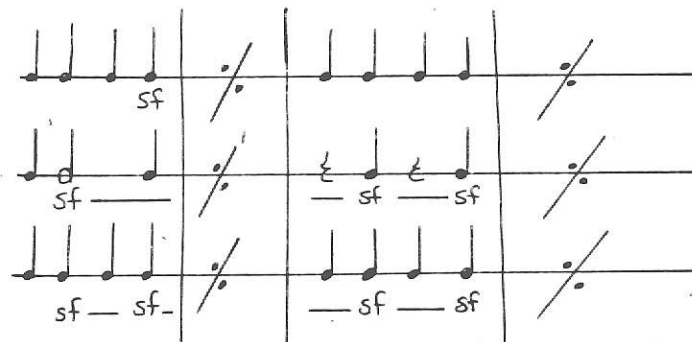


Stage six, mm. 125 to 126, has the same rhythmic activity that is found in mm. 123 and 124. The dynamics are still loud. The last two measures are still slow with four note impulses per measure but more notes are added that sound simultaneously. In mm. 127 to 128 the accenting remains on counts two and four.

Ex. 32

6th. Stage

mm. 125-128

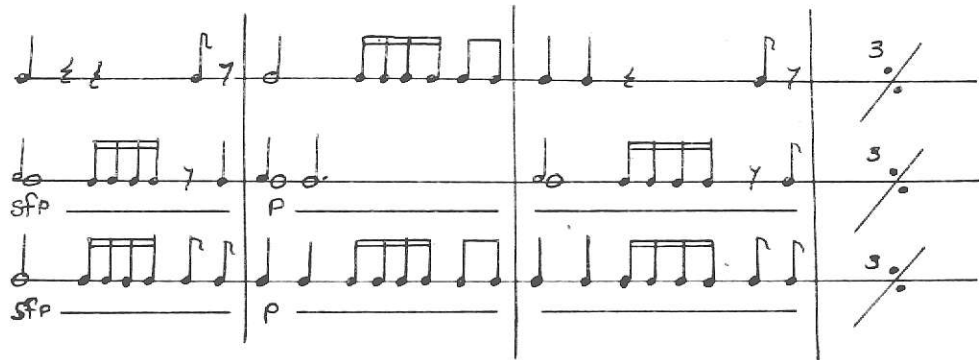


Stage unit seven, mm. 129 to 134, repeats the main background rhythm idea of mm. 1 to 2 several times. To keep the interest going it is first in the upper voice and in the next measure it is in the lower voice. This is the case for six measures. It has eight note impulses per measure from 130 to 134.

Ex. 33

7th. Stage

mm. 129-134

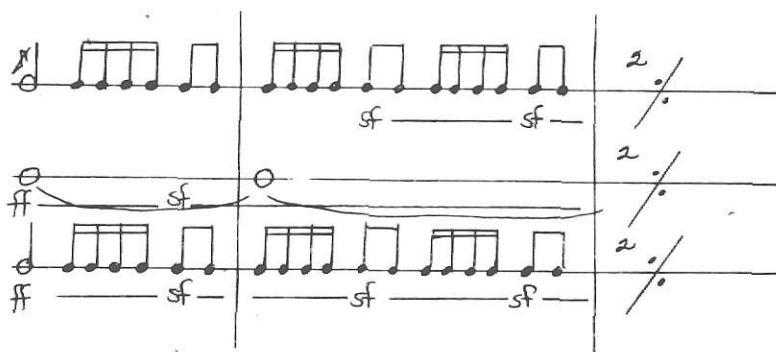


Stage unit eight, measure 135, uses the complete background rhythmic idea of measure one. Then in mm. 136 to 138 the rhythmic interest is the same as the last half of measure ones rhythm pattern and is repeated several times. The dynamics accents the counts two and four. This stage unit is placed over one full chord tied for four measures.

Ex. 34

8th. Stage

mm. 135-138



The main theme background rhythmic ideas were repeated several times throughout the development section. Some of the rhythmic ideas are modified slightly and others are left unchanged.

CHAPTER IV

RECAPITULATION

The Fifth Form Unit. Form Unit V, mm. 139 to 154, is not very long. It has many short stage units. This form unit begins the recapitulation section of the Sonata.

Stage unit one, mm. 139 to 142, is the background rhythmic idea stated in mm. 1 to 4 of Form Unit I. The rhythmic idea is seven note impulses followed by two note impulses per measure.

Ex. 35

1st. Stage

mm. 139-142

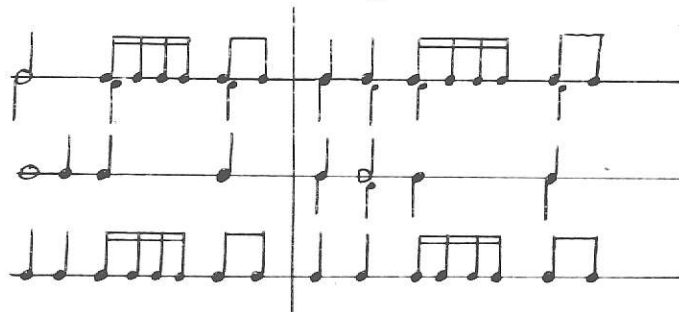


Stage unit two, mm. 143 to 144, is a copy of the background rhythmic pattern of mm. 5 and 6. The rhythmic activity increases slightly and gives eight note impulses per measure.

Ex. 36

2nd. Stage

mm. 143-144

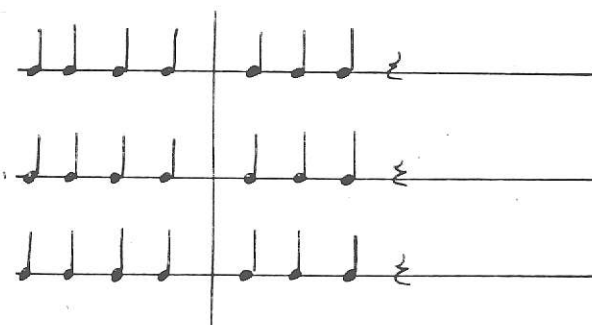


Stage unit three, mm. 145 to 146, is a restating of the rhythmic pattern of mm. 7 to 8 in Form Unit I. The rhythm slows to four note impulses and then to three note impulses per measure.

Ex. 37

3rd. Stage

mm. 145-146

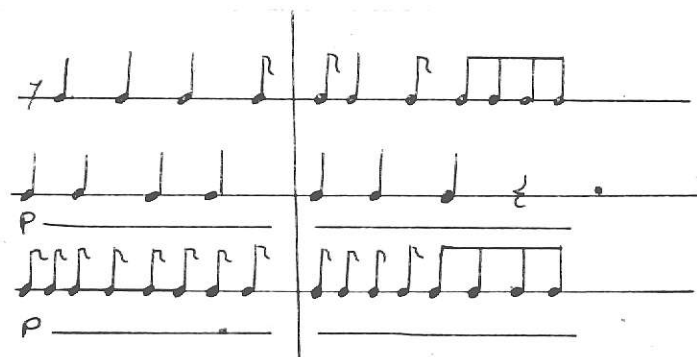


In stage unit four, mm. 147 to 149, the interest begins to build. It starts soft and is in eighth notes. It gradually becomes louder with octaves in both voices. This building of activity is done by placing eight note impulses per measure. First the eighth notes in the upper voice and then they are in the lower voice.

Ex. 38

4th. Stage

mm. 147-154



The Sixth Form Unit. Form Unit VI, mm. 155 to 160, is

a very short section. It is only three stage units long.

Stage unit one, mm. 155 to 156, is the rhythmic idea of mm. 21 to 22 of Form Unit II. The rhythmic interest is the same and is placed over sixteen sixteenth note ceiling. Few notes sound simultaneously in this stage. In measure 155 the interest is added to by a trill on the last count. In measure 156 the new interest is the four thirty-second notes placed on the last half of count two.

Ex. 39

1st. Stage

mm. 155-156

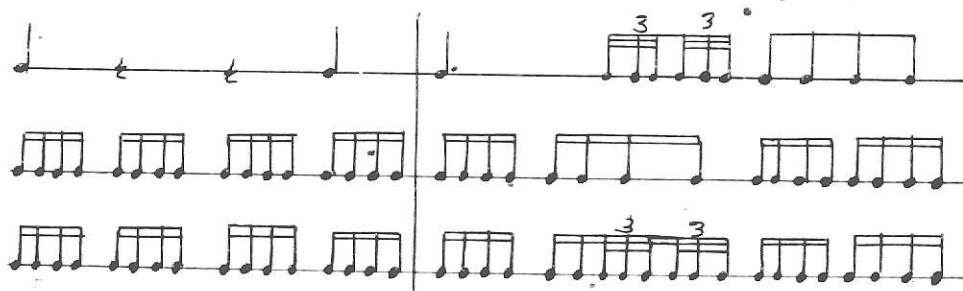


In stage unit two, mm. 157 to 158, the trill on the last half of count two measure 157 keeps the interest moving. In measure 158 there are two groups of thirty-second note triplets on the last half of count two which give twenty note impulses per measure.

Ex. 40

2nd. Stage

mm. 157-158

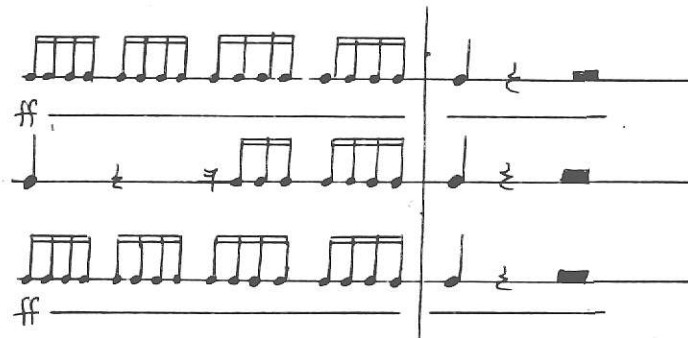


In stage unit three, mm. 159 to 160, the sixteenth note activity continues until measure 160 and decreases to one note impulse with a three count rest before entering the new form unit. The dynamic activity is forte through the complete form unit until measure 159 and then it becomes fortissimo.

Ex. 41

3rd. Stage

mm. 159-160



The Seventh Form Unit. Form Unit VII, mm. 161 to 194 is like Form Unit III. Form Unit VII contains two groups which are called Form Unit VIIa and Form Unit VIIb.

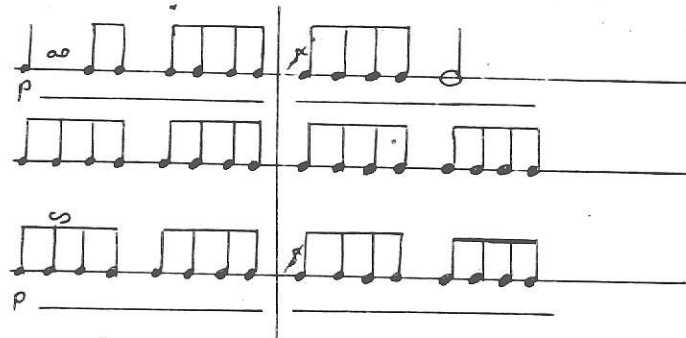
Form Unit VIIa begins with a ceiling of eighth notes. The eight note impulses per measure are found in all of the Form Unit VIIa, mm. 161 to 180, except for mm. 173, 176, 177, and 178.

Stage unit one, mm. 161 to 162, is the same rhythmic pattern as mm. 27 to 28, Form Unit IIIa. The background rhythm pattern in measure 161 is seven note impulses followed by five note impulses in measure 162. The turn in measure 161 and the appoggiatura in measure 162 give the added interest. The dynamic marking is piano.

Ex. 42

1st. Stage

mm. 161-162

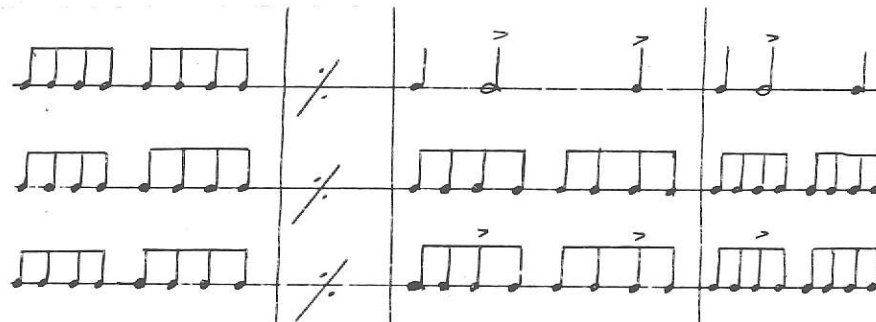


In the second stage, mm. 163 to 166, the activity builds slightly through mm. 163 and 164 and then decreases to three background note impulses for mm. 165 and 166. The accents on counts two and four in measure 165 and on count two in measure 166 keeps the rhythmic interest moving. The dynamic marking is piano.

Ex. 43

2nd. Stage

mm. 163-166

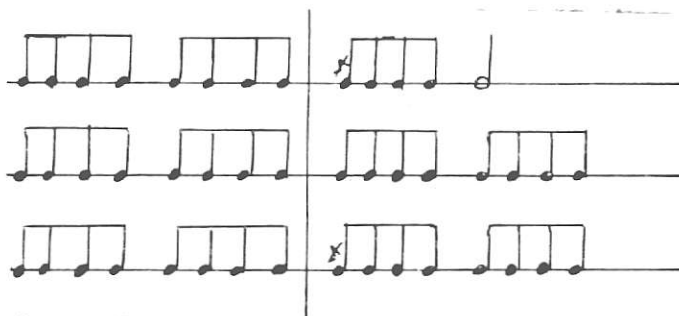


The third stage, mm. 167 to 168, is the same activity as the measure 161; however, instead of using a J an a turn, it uses two J on the first beat. In measure 168 it is like measure 162.

Ex. 44

3rd. Stage

mm. 167-168



The fourth stage, mm. 169 to 172, is the same rhythmic activity as mm. 163 to 166. The only differences are the accents. In measure 166 there is an accent on count two but in measure 172 on count two there is no accent. In this way interest is kept moving.

Ex. 45

4th. Stage

mm. 169-172

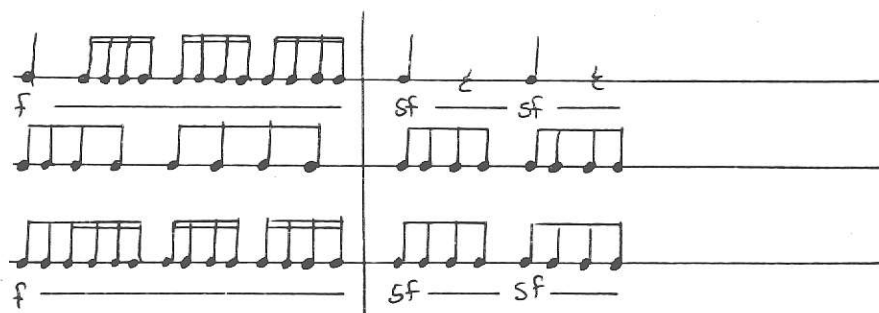


Stage unit five, mm. 173 to 176, the same eighth note ceiling is kept but the background rhythm expands to thirteen note impulses for measure 173. This is developing interest. Then in measure 174 the background rhythm drops to two note impulses. This pattern is repeated again in mm. 175 to 176. The dynamics begin to show rhythmic interest again with forte, sforzando, sforzando, forte, sforzando and sforzando.

Ex. 46

5th. Stage

mm. 173-176

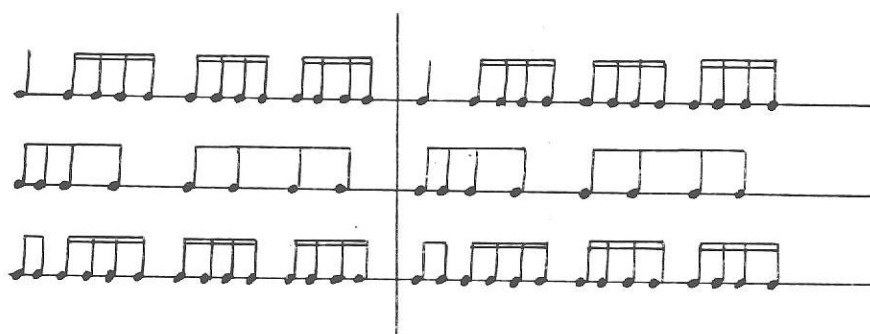


In stage unit six, mm. 177 to 178, the rhythmic activity is heightened by thirteen note impulses for both measures over the eighth note ceiling. The dynamic markings are forte, sforzando and sforzando.

Ex. 47

6th. Stage

mm. 177-178

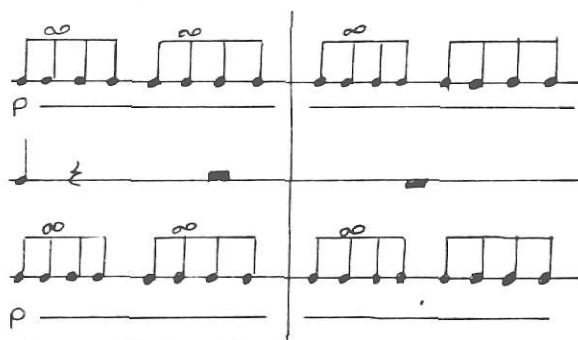


Stage unit seven, mm. 179 to 180, reaches its limits of interest and begins slowing down to eight background note impulses to a measure. It has a turn on the last half of counts one and three of measure 179 and count one of measure 180. The dynamics decrease to piano. This slowing of activity is leading into the next form unit.

Ex. 48

7th. Stage

mm. 179-180



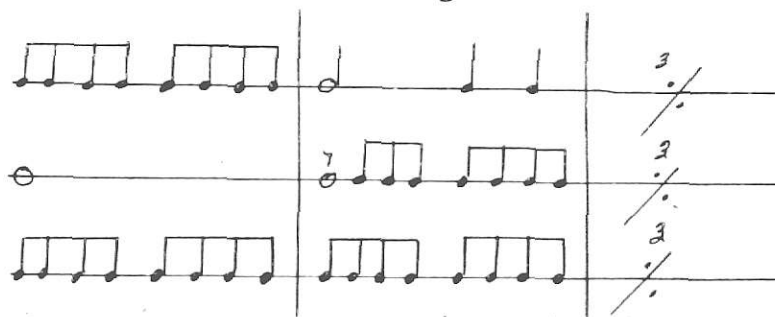
Form Unit VIIb, mm. 181 to 217, is very similar to Form Unit IIIb with the exception of measures 211 and 217. Form Unit VIIb, mm. 181 to 194, is under a ceiling of eighth notes.

In stage one, mm. 181 to 185, the background rhythm pattern is stated in mm. 181 and 182 and then repeated two times. The rhythmic pattern is first in the upper voice in mm. 181 and 182 and then in the lower voice in mm. 182 and 183. This process continues in this way through measure 185. The background note impulses are eight in measure 181 and three note impulses in measure 182. This variation of impulses continues through to measure 185.

Ex. 49

1st. Stage

mm. 181-185

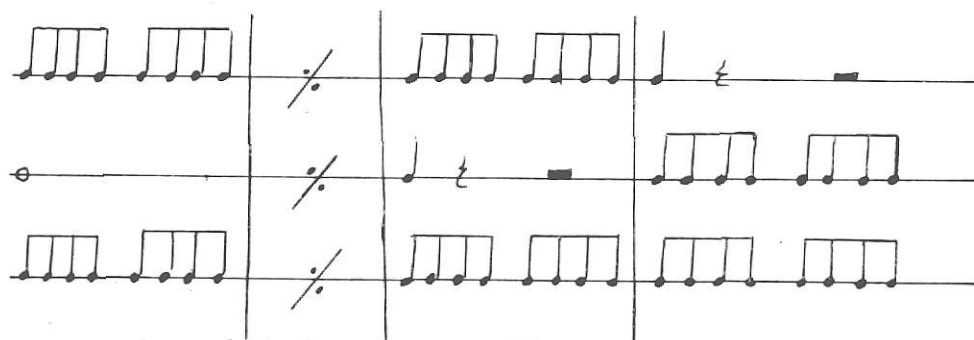


In stage unit two, mm. 186 to 189, the eighth note background rhythm of measure 181 is repeated in each of mm. 186 to 189. This rhythm gives eight background note impulses per measure.

Ex. 50

2nd. Stage

mm. 186-189

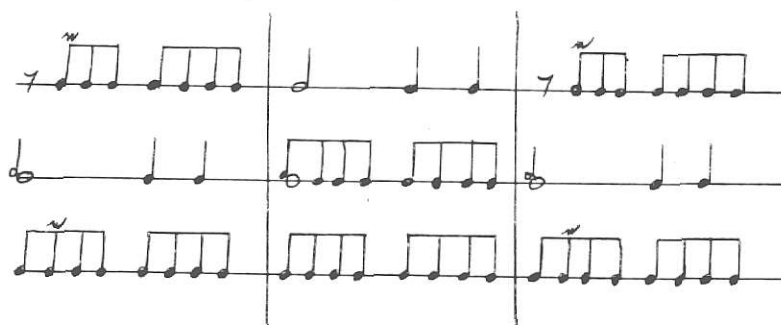


In stage unit three, mm. 190 to 192, the rhythmic activity of mm. 181 to 182 is repeated. The added interest is the trill on the last half of count one in mm. 190 and 192. Nothing is happening in the dynamics.

Ex. 51

3rd. Stage

mm. 190-192



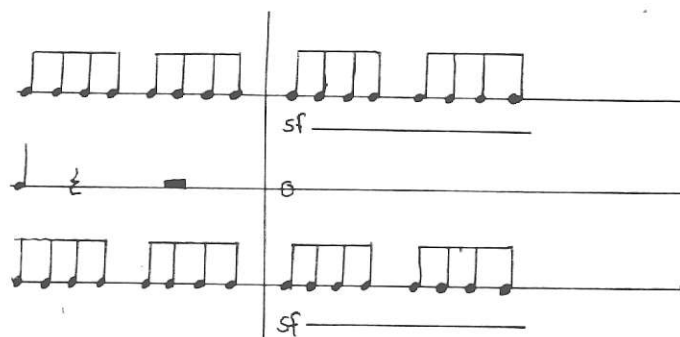
Stage unit four, mm. 193 to 194, is the same background rhythm of mm. 186 and 187. The exceptions are the trill on the last half of count one in measure 193 and sforzando on count

one of measure 194. The sforzando in measure 194 gives interest as the eighth notes lead into the next stage unit.

Ex. 52

4th. Stage

mm. 193-194

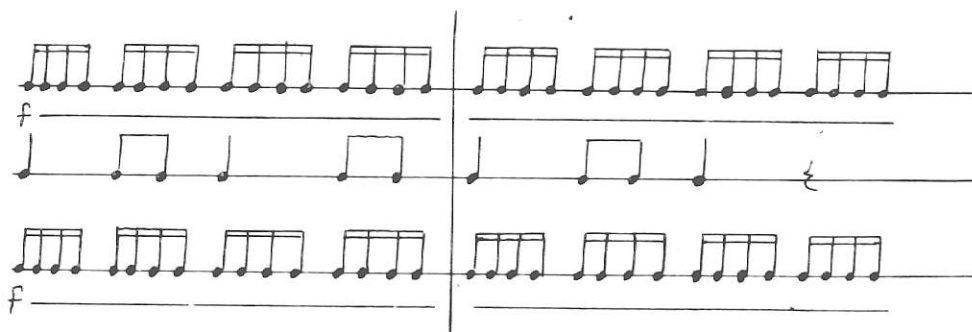


Stage units five and six, mm. 195 to 202, are under a ceiling of running sixteenth notes. In stage unit five, mm. 195 to 198, the background rhythm pattern is stated in mm. 195 to 196 and then repeated in mm. 197 to 198. This background idea of mm. 195 to 196 is stated in Form Unit II, measure 13 and in Form Unit IIIa, mm. 61 and 62. The background rhythmic pattern is six note impulses in measure 195 and four note impulses in measure 196.

Ex. 53

5th. Stage

mm. 195-198



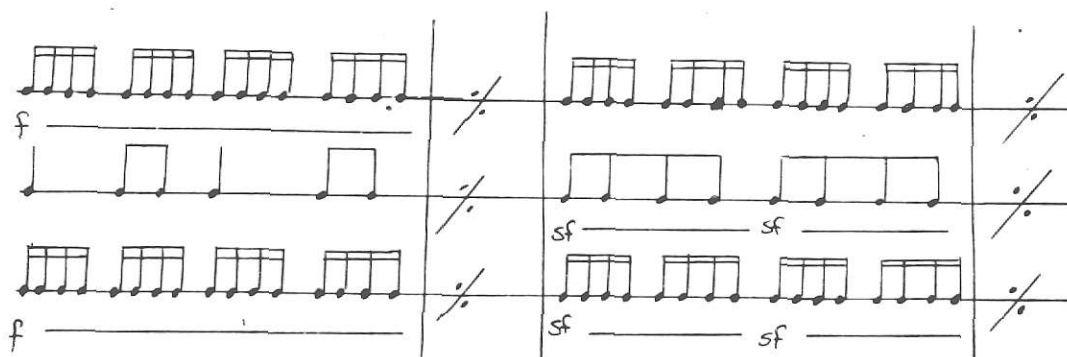
In stage unit six, mm. 199 to 202, the rhythmic idea of measure 195 is used in mm. 199 to 202. This has been used

before in mm. 13 to 16 and in mm. 65 to 68. The dynamics again give the new interest.

Ex. 54

6th. Stage

mm. 199-202

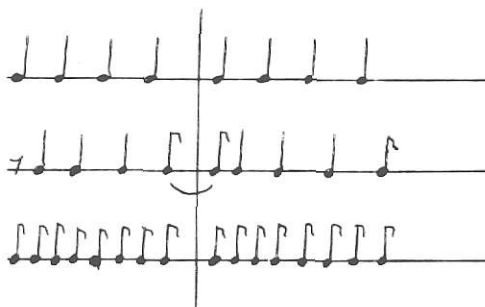


Stage unit seven, mm. 203 to 206, is like mm. 69 to 72. The octave runs in eighth notes give the new interest.

Ex. 55

7th. Stage

mm. 203-206

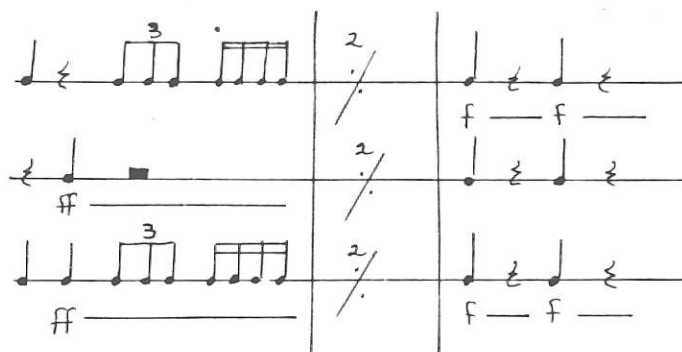


Stage unit eight, mm. 207 to 210, is like mm. 73 to 76. The interest in the rhythmic activity is building. The two quarter notes, the triplet group, and the sixteenth note group along with the sforzandos creates the interest. In mm. 207 to 209 the note impulses per measure are nine. In measure 210 the activity drops to two note impulses and the dynamics decrease to forte. A new form unit is approaching as it did in Form Unit IIIb.

Ex. 56

8th. Stage

mm. 209-210

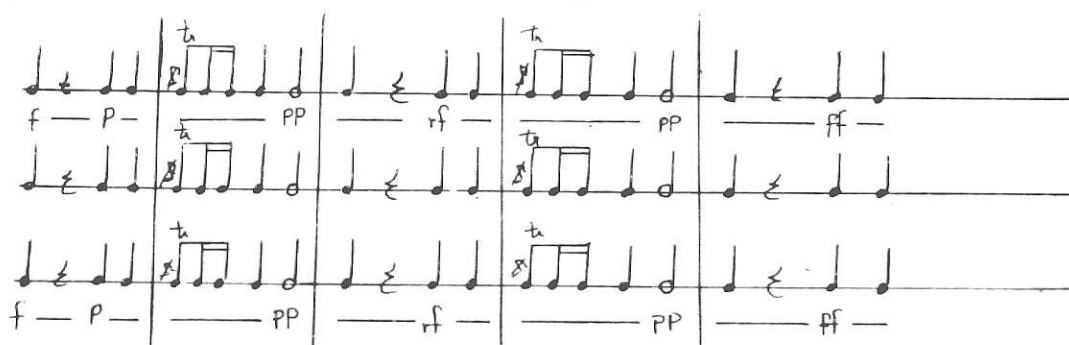


The Eighth Form Unit. Form Unit VIII, mm. 211 to 257, is very long. It contains several stage units. Stage unit one, mm. 211 to 215, is the beginning of the closing theme. The rhythmic idea has been used before in mm. 77 to 83, Form Unit IIIb and mm. 90 to 96, Form Unit IV. The rhythmic idea here is three note impulses to five note impulses to a measure. The appoggiatura and the trill give added interest to stage one. The dynamic accents are pianissimo, rinforzando, pianissimo, and fortissimo. This is different from the two previous statements of the same activity. The dynamic markings keep interest up by accenting the count of three.

Ex. 57

1st. Stage

mm. 211-215

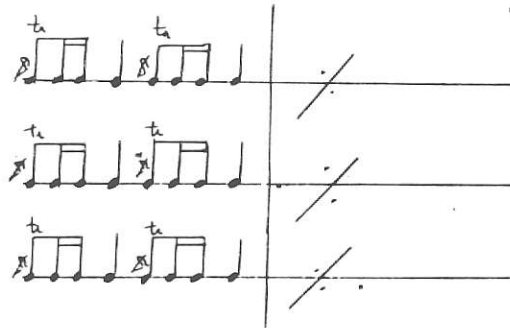


In stage unit two, mm. 216 to 217, the activity is stated two times previous in Form Unit IIIb, mm. 82 to 83, and Form Unit IV, mm. 95 to 96. Once again the activity is speeded up by having eight note impulses per measure.

Ex. 58

2nd. Stage

mm. 216-217

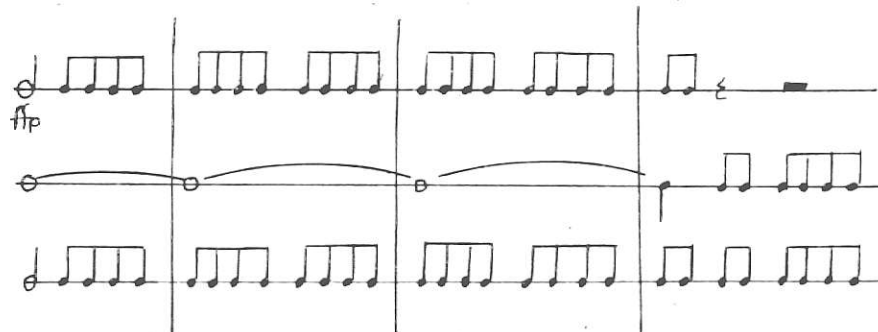


Stage unit three, mm. 218 to 221, is the rhythmic statement of the Coda. It begins in measure 218 with an eighth note ceiling placed over one chord that is tied for thirteen counts. It starts at fortissimo and immediately decreases to piano in measure 218 on counts one and two. The eighth note ceiling continues through measure 221.

Ex. 59

3rd. Stage

mm. 218-221



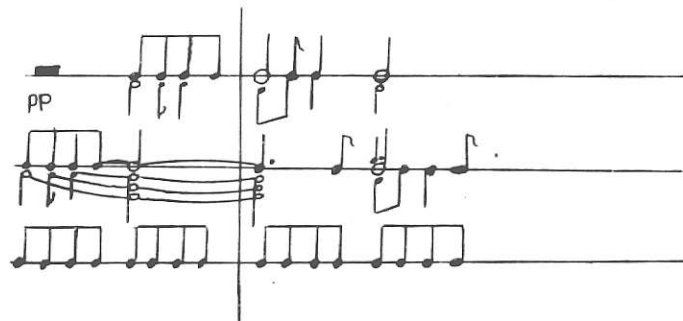
Stage unit four, mm. 222 to 227, is still under the eighth note ceiling. The rhythmic activity begins to build up

by placing the eighth notes in the upper voice and tying them into the next measure. This same procedure is repeated two more times; however, it is still eight background note impulses per measure. The dynamic markings are pianissimo.

Ex. 60

4th. Stage

mm. 222-227

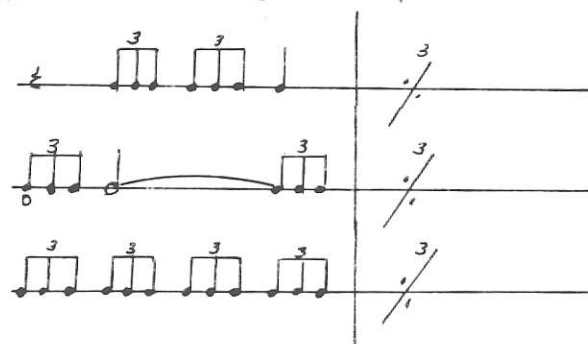


Stage unit five, mm. 228 to 231, is changed to four groups of triplets which adds new rhythmic interest. This gives twelve background note impulses per measure. This idea is repeated three more times.

Ex. 61

5th. Stage

mm. 228-231



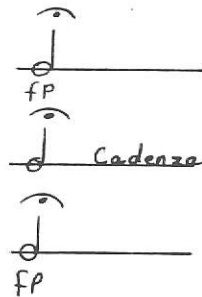
Stage unit six, measure 232, is the cadenza measure. It begins with a chord of seven notes on a forte-piano dynamic marking. Immediately following the chord the cadenza of sixteenth notes begins. It pauses on another large chord and

finishes by moving into the first theme rhythm statement.

Ex. 62

6th. Stage

mm. 232

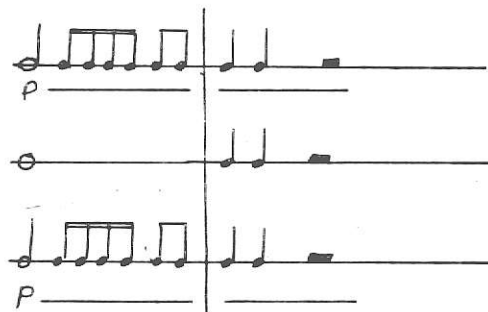


Stage unit seven, mm. 233 to 236, is the statement again of the background rhythmic idea in mm. 1 to 4 in Form Unit I; Form Unit IV, mm. 109 to 113; and Form Unit V, mm. 139 to 142.

Ex. 63

7th. Stage

mm. 233-236



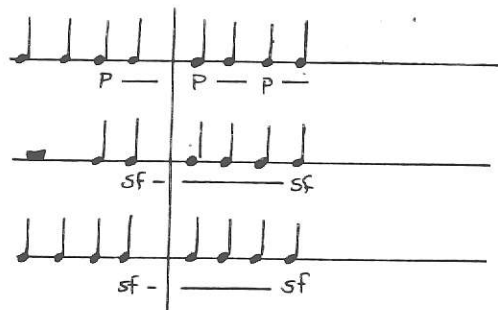
Stage unit eight, mm. 237 to 240, is the same rhythmic idea found in Form Unit IV, mm. 115 to 116 and mm. 123 to 126. The rhythmic idea is the simple one, two, three, four idea. The dynamic markings are the interest in this section and it is different from the previous times the rhythm was stated. The sforzando which is the accenting figure falls on the fourth count for the entire stage. It has four note impulses per

measure. The tied notes of count two to three and four to one give more interest. This unit is in octaves in the lower voice and a simple one line melody in the upper voice.

Ex. 64

8th. Stage

mm. 237-240

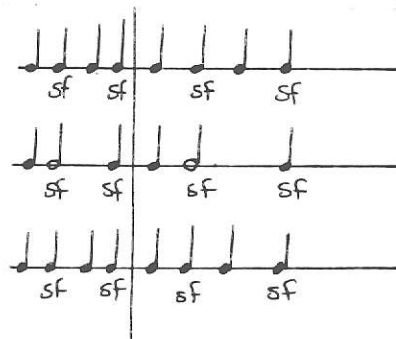


The stage unit nine, mm. 241 to 242, idea is stated previously in mm. 237 to 240. The rhythmic pattern is the same except for the dynamic markings. The dynamic markings of sforzando for this stage fall on counts two and four. The upper voice in this stage is in octaves.

Ex. 65

9th. Stage

mm. 241-242

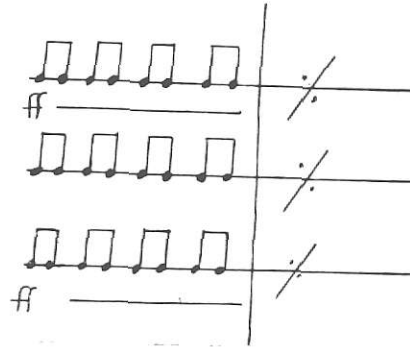


Stage unit ten, mm. 243 to 244, changes to an eighth note run in both the upper and lower voices. This new rhythmic interest gives eight note impulses per measure. The dynamic marking for this stage is fortissimo.

Ex. 66

10th. Stage

mm. 243-244

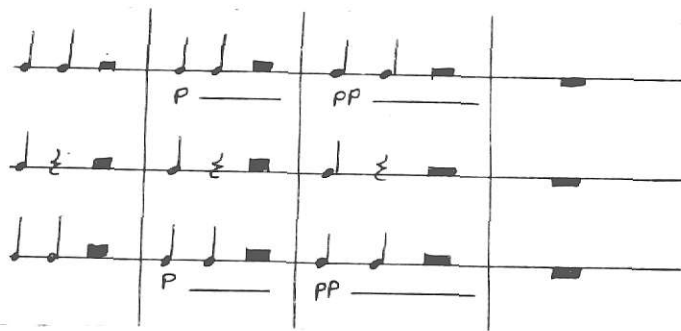


Stage unit eleven, mm. 245 to 248, is a new rhythmic idea. The pattern slows to two note impulses per measure. It decreases the dynamics to piano and pianissimo. In measure 248 the impulses decrease to complete silence.

Ex. 67

11th. Stage

mm. 245-248

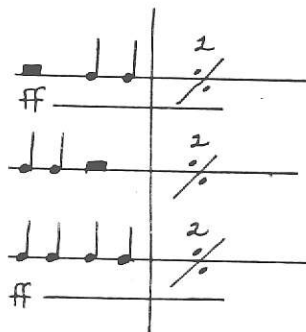


Stage unit twelve, mm. 249 to 251, is fortissimo. The four note impulses per measure are the new interest. The full chords and the speeding up also give new interest.

Ex. 68

12th. Stage

mm. 249-251

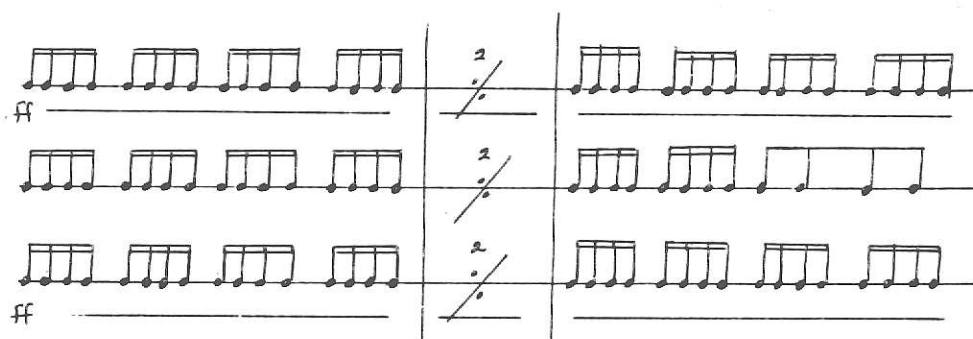


Stage unit thirteen, mm. 252 to 255, is like mm. 85 to 88 of Form Unit IIIb. The rhythmic activity is made up of sixteen sixteenth notes per measure at fortissimo and in octaves. In measure 255 the activity decreases to twelve note impulses in the lower voice but keeps the sixteen impulses in the upper voice. This is to keep the interest and activity going to the very end.

Ex. 69

13th. Stage

mm. 252-255



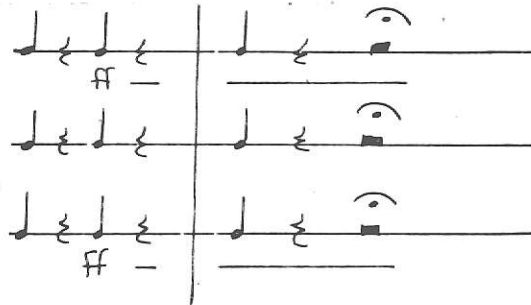
Stage unit fourteen, mm. 256 to 257, is like mm. 89 to 90. The rhythmic activity decreases to a two note impulse in measure 256 and then to a one note impulse in measure 257. To keep the interest up the last two measures are at fortissimo and the chords are very full. The second chord from the end

has nine notes sounding simultaneously and the last chord has eight notes sounding. The rhythmic interest and activity was carried to the very last note of the first movement of this sonata.

Ex. 70

14th. Stage

mm. 256-257



CHAPTER V

CONCLUSIONS

From the examples and graphs shown the following conclusions seem to be warranted:

1. A study of the stages shows the growth of rhythmic intensity. If the examples showing the stages of increasing rhythmic intensity are compared to the corresponding measures in the graph, it will show how areas of much intensity develop in the form unit itself. It is also shown how rhythmic interest is maintained in areas of lesser intensity in the cadence region by the use of rhythmic displacements marked by dynamic markings.

2. It was found that the anacrusis passages plays an important part in building intensity. A study of the graph, measure 8, reveals the anacrusis and the beginning of the growth of activity towards the peak in measure 13. The level of activity at the peak progresses at the same rate for 9 measures. Another anacrusis in measure 21 leads towards a higher rate of activity that peaks at 20 impulses per measure which is the highest rhythmic activity for the entire statement section.

The anacrusis leading into the closing theme in measure 77 begins at a slow rate of rhythmic intensity which leads to

another anacrusis. The second anacrusis in measure 81 is building in intensity which leads to the peak of activity in measure 85.

The graph also shows the development section begins with an anacrusis which leads to another one which leads to more activity. The second anacrusis begins to lead to the climax of rhythmic activity in measure 97. This is the climax point for the entire development section.

The graph reveals that the recapitulation section begins to build in rhythmic activity. The rhythmic activity is added to by the switch section. The anacrusis in measure 155 leads to the climax of rhythmic activity in measures 158. This climax is the highest rate of note impulses for the entire recapitulation section.

In the graph, measure 211, which is another anacrusis, begins to build rhythmic activity for the closing theme. The following anacrusis leads into more rhythmic activity for the coda. This rhythmic activity begins the climb upward. The big sweep of rhythmic activity that begins by the first anacrusis in measure 211 ends in a great cadenza. The cadenza is the climax for the entire work.

3. The graph shows how areas of relative degrees of intensity are distributed through the time field. A study of the graph reveals in measure 1 that the rhythmic intensity begins fairly slow for twelve measures and then the intensity

is high for nine measures. The peak of intensity is reached in measure 24 and then drops to a one note impulse. The intensity once more begins to build and peaks in measure 39. It drops back and builds up to a peak in measure 61 and decreases again.

The graph reveals in measure 85 that the intensity peaks and drops in the closing theme of the statement. The intensity rises to peak and falls four times in the statement section.

The development section of the graph, measure 90, reveals that the intensity begins to climb and in a short time peaks in measure 97 for its climax of that section. In the graph the intensity falls and soon rises for four measures beginning in measure 109 and then gradually climbs for ten more measures before it falls. Its final peak of intensity is in measure 136. The development section rises to peak in intensity and falls back again three times.

In the recapitulation section of the graph, measure 139, the intensity begins to rise and builds for twenty measures. It peaks in measure 158 and falls. The intensity peaks again in measure 173 and then it rises to peak higher in measure 195. Then it begins to decline. The building of intensity once again begins in measure 211 and builds for twenty-one measures before it peaks at the cadenza. The cadenza is the climatic point of the entire work. The intensity falls and peaks slightly in measure 243 and then drops to nothing. In the closing theme the intensity peaks in measure 252 and falls

away to the final note of the complete work.

The building of intensity to the peaks until the climax of the cadenza and the drop to the end shows how rhythmic intensity is spread through the field of time.

4. It was found that when rhythmic activity decreases, sonority tends to increase. Two good examples are Form Unit I and Form Unit II. In Form Unit I the number of notes sounding at one time is quite high. In some places, as many as four and five notes sound at one time. This large number of notes sounding at one time is due to slow rhythmic activity.

In Form Unit II the rhythmic activity is much faster; however, due to this rapid rhythmic activity, seldom more than two notes sound at one time. An exception to this is found within measures 39 through 44.

In the measures with whole, half, and quarter notes, the rate of voices sounding at one time is much higher than in measures with several eighth notes and especially with triplets and sixteenth note groups.

5. It was found that dynamics work under the ceiling of rhythmic intensity. The dynamics give the accented or unaccented rhythmic parts interest which could otherwise be uninteresting and monotonous. The dynamic markings also break up the steady flow of notes. Measures 237 through 242 are good examples of dynamics working under a ceiling of rhythmic intensity.

In review, the rhythmic intensity seems to grow within each stage, form unit, and section. The anacrusis passage plays an important part in preparing for this growth of rhythmic intensity which leads to peaks and climax points within the statement, development, and recapitulation sections. The rhythmic intensity is distributed throughout the field of time in varying degrees in the complete movement. The rhythmic intensity tends to affect the sonority levels. The number of voices sounding simultaneously tends to increase when rhythmic intensity is at its low levels. The dynamics work under the ceiling of rhythmic intensity to give added interest to the rhythmic patterns. The sonorities, dynamics, and the growth of rhythmic intensity all working together give the Allegro movement a sense of rhythmic continuity.

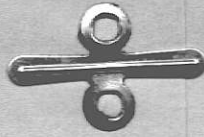
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R. Adams

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APPENDIX

OVERSIZED DOCUMENT

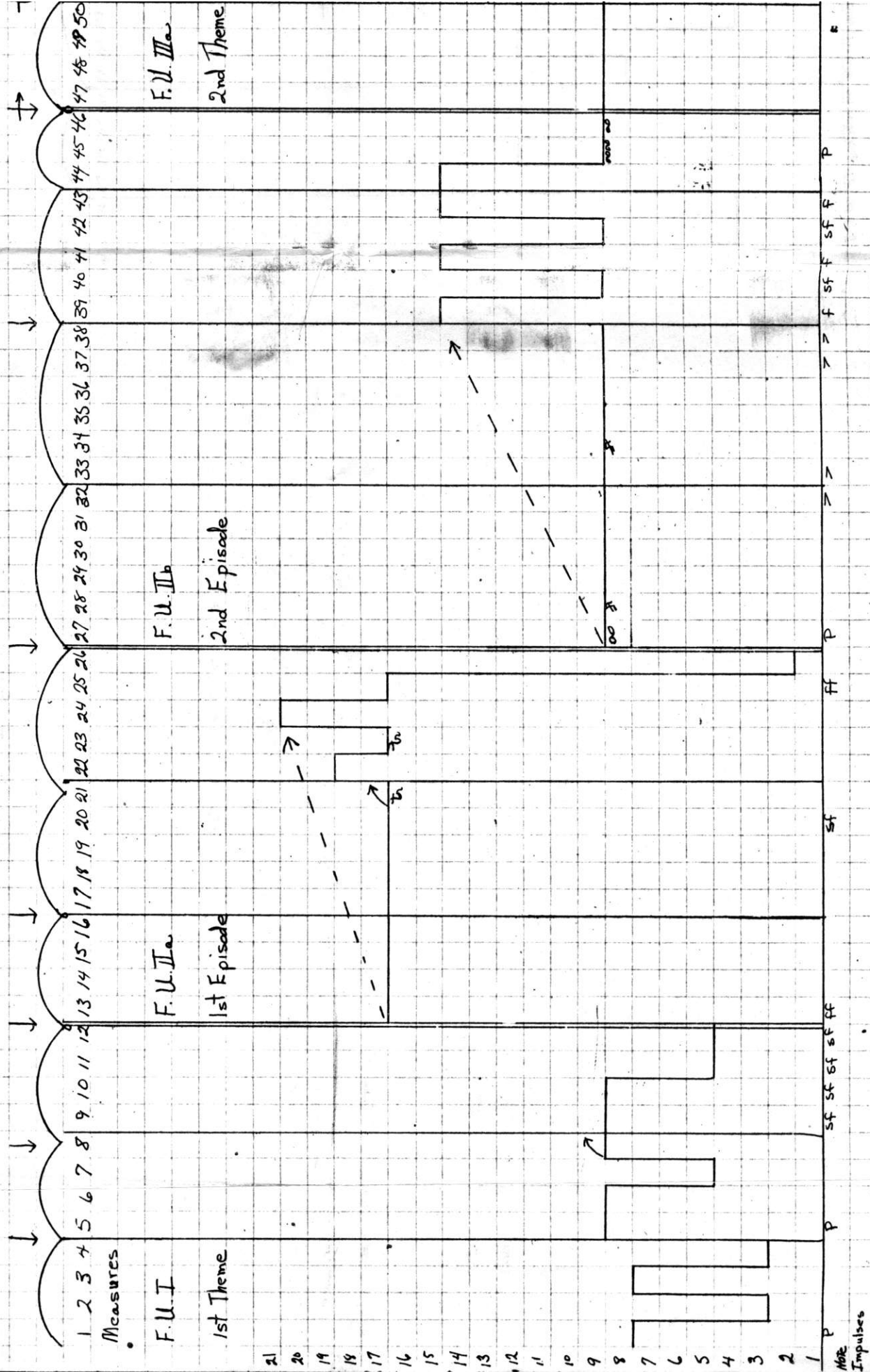
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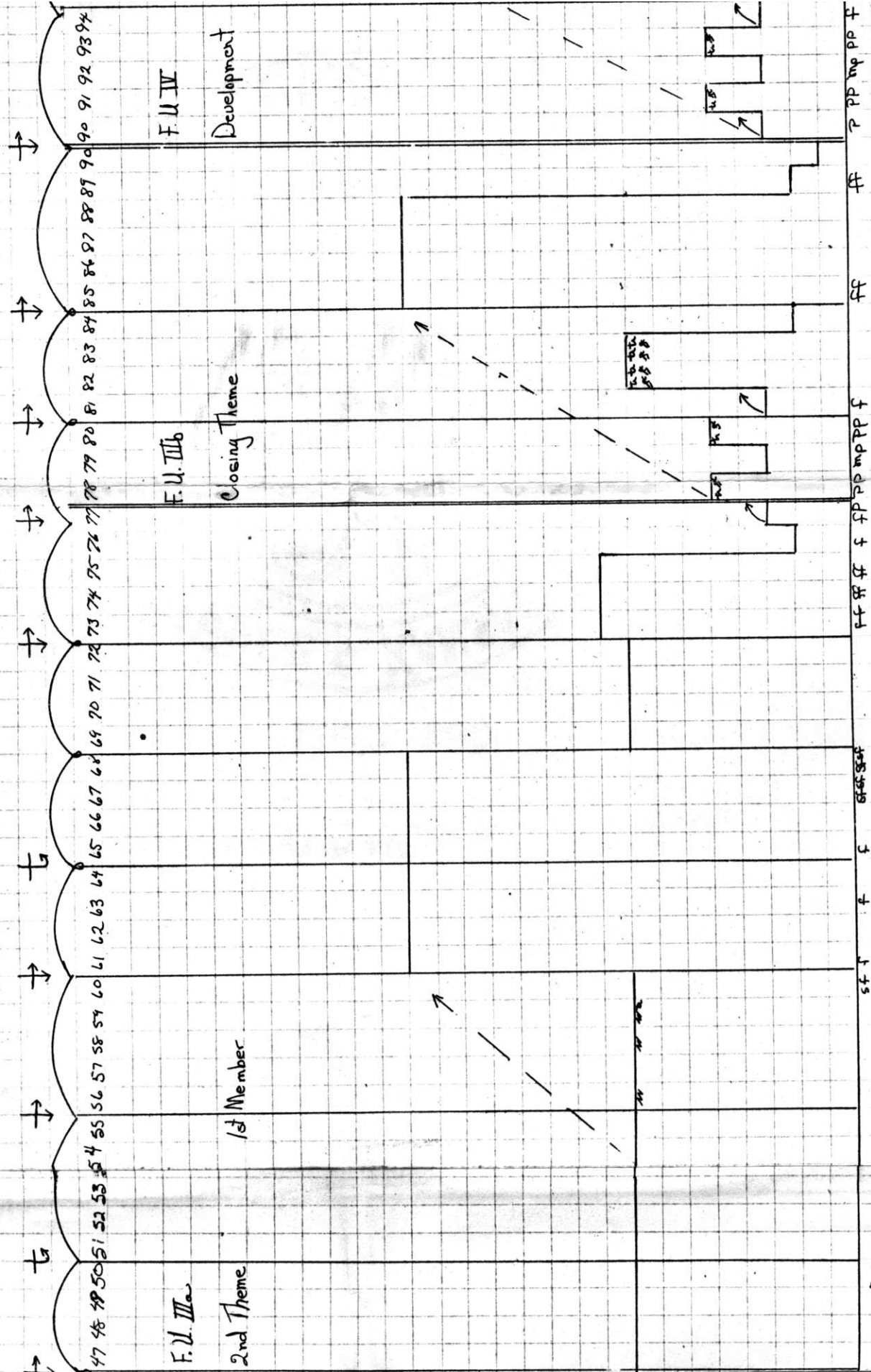
**THE FOLLOWING IMAGES WILL BE TAKEN
FROM LEFT TO RIGHT, TOP TO BOTTOM.
SEE EXAMPLE BELOW:**

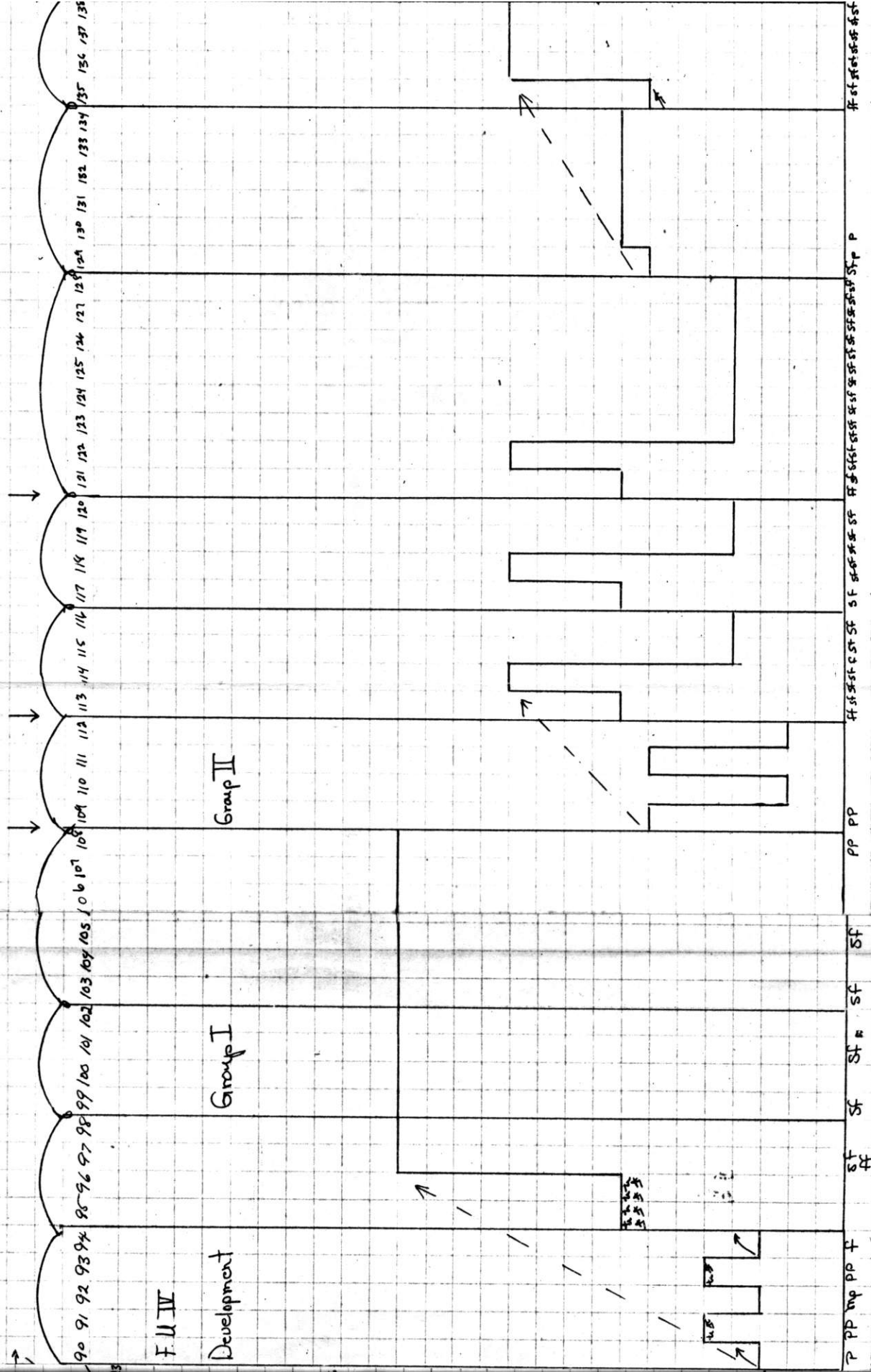
1	2	3
4	5	6
7	8	9

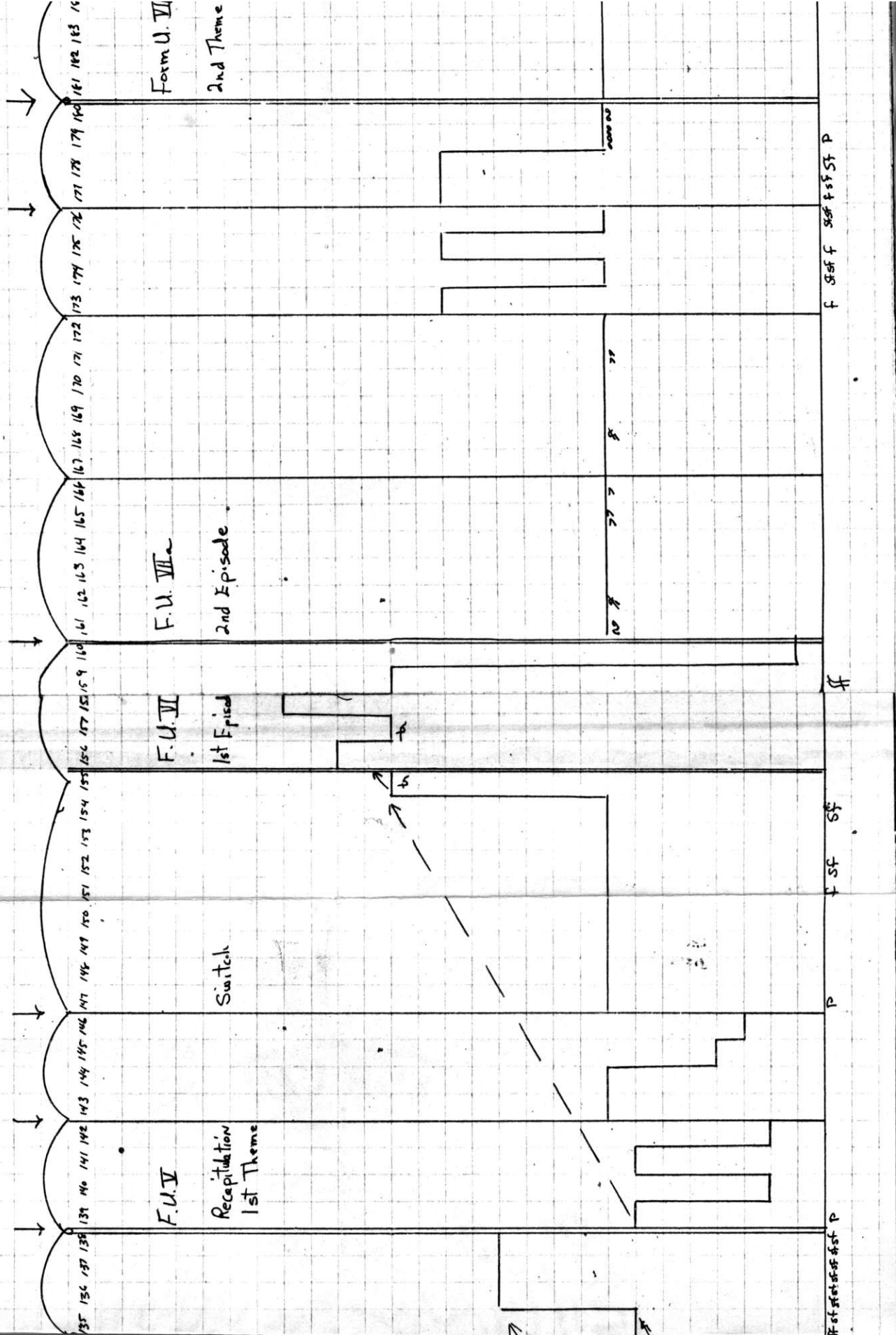
Graph of Rhythmic Activity

1st Movement, of Beethoven's Op. 2 No. 3





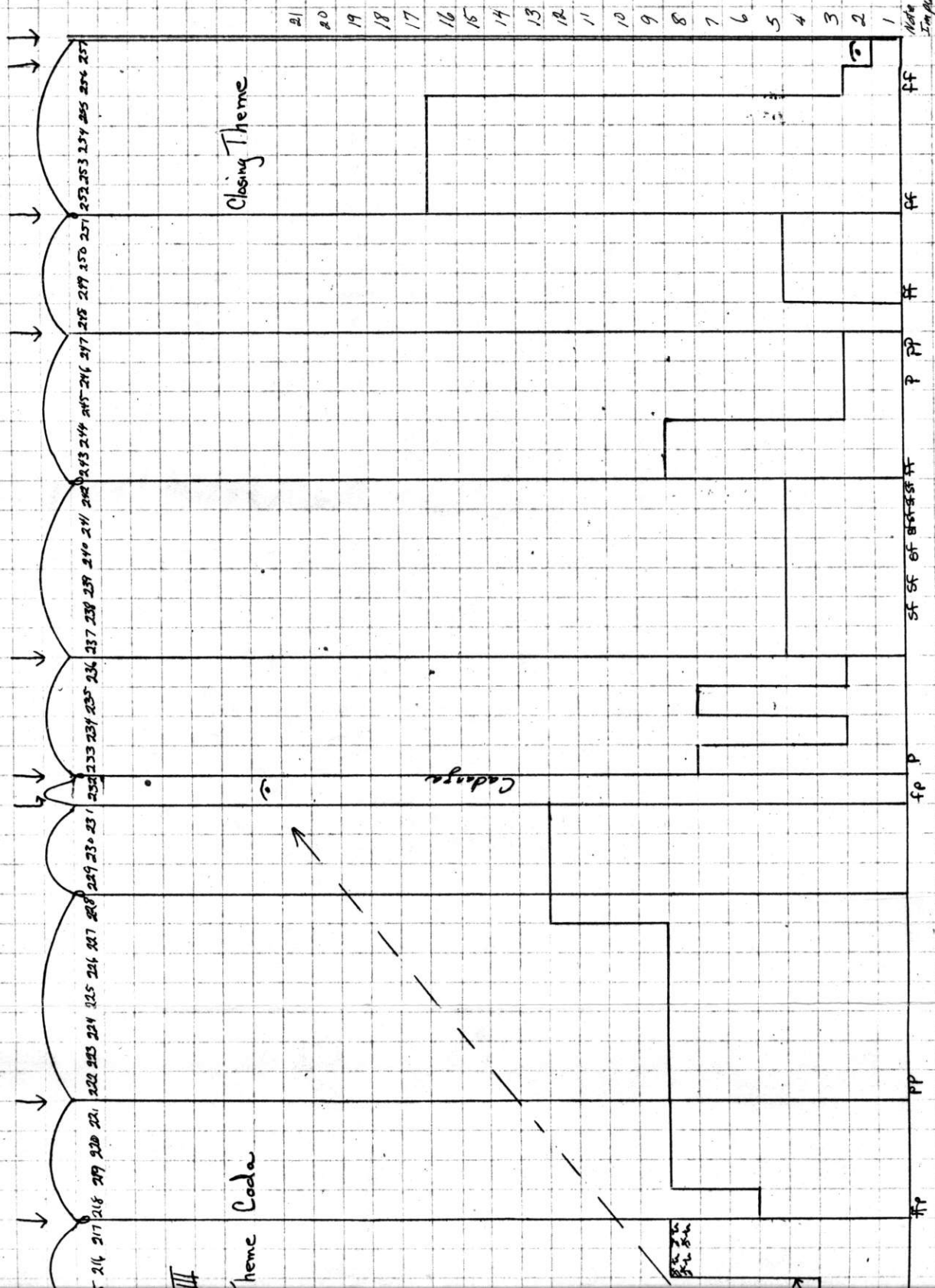




2nd Theme	1st Member
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Closing Theme	Coda
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1



END

OF

OVERSIZE

DOCUMENT(S)

A RHYTHMIC ANALYSIS OF THE ALLEGRO
MOVEMENT FROM BEETHOVEN'S SONATA OP. 2. NO. 3.

by

ROMONA JEAN ADAMS

B. M. E., Panhandle State College, 1964

AN ABSTRACT OF A MASTER'S REPORT

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requirements for the degree

MASTER OF SCIENCE

Department of Music

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Manhattan, Kansas

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The Allegro movement of Beethoven's Sonata Op. 2, No. 3 is a good example of the growth of rhythmic intensity. In this sonata, the rhythmic intensity is sensed from the beginning to the end. Its continuity is difficult to explain.

The primary purpose of this study was to analyze the rhythmic organization of the Allegro movement. The other factors studied were the effect of the dynamic markings on the rhythmic continuity and how the sonority was affected.

The Sonata Allegro movement was analyzed in several ways. The complete movement was analyzed for the key areas and the harmonic progressions. All cadences and phrases were marked. The Form Units were marked within the movement, and each Form Unit was broken into stages. The stages are the small sections of different rhythmic ideas. The cumulative rhythm was used in the analyzing the rhythmic activity of the complete movement, and the cumulative rhythm note impulses were placed on a graph. The sonorities and dynamic levels were then analyzed in relation to the rhythmic activity.

It was found that the rhythmic intensity seems to grow within each stage, form unit, and section. The anacrusis passage plays an important part in preparing for this growth of rhythmic intensity which leads to peaks and climax points within the statement, development, and recapitulation sections. The rhythmic intensity is distributed throughout the field of time in varying degrees in the complete movement. The rhythmic

intensity tends to affect the sonority levels. The number of voices sounding simultaneously tends to increase when rhythmic intensity is at its low levels. The dynamics work under the ceiling of rhythmic intensity to give added interest to the rhythmic patterns. The sonorities, dynamics, and the growth of rhythmic intensity all working together give the Allegro movement a sense of rhythmic continuity.