

Analysis of Motivic Transformation in Beethoven's Sonata no. 31 in A-Flat Major, Op. 110 Resulting in Logical Structural Coherence

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Abstract

The legacy of Ludwig van Beethoven and his unparalleled 32 piano sonatas had become the cornerstone for nineteenth century composers that many of them were challenged to write piano sonatas of their own while simultaneously almost impossible for them to succeed unless they re-invented their works beyond traditionalism (for example Franz Liszt and his Sonata in B minor). It is almost unimaginable what nineteenth century would have been like without Beethoven's 32 piano sonatas. In those influential works, one of the most important highlights is how Beethoven was being an economical and effective composer by writing his music with one or a few numbers of motive (usually less than five) and transforming the motive(s) into various and endless variations that resulted in such logical structural coherence. The purpose of the writing is to provide a prescriptive analysis of the motivic transformation in Beethoven's piano sonata no. 31 in A-flat major, Op. 110, in which the whole sonata is essentially based on three motives presented in the first four measures in the first movement; the result is a 19-minute sonata, which movements are cyclic into one coherence that should be performed continuously without traditional breaks among the movements.

Keywords: Beethoven, Sonata, Op, 110, Motivic Transformation, Structural Coherence

Introduction

When Ludwig van Beethoven (1770-1827) went to Vienna in 1787 for the first time, Wolfgang Amadeus Mozart (1756-1791) stated the following statement after listening to Beethoven, "keep an eye on him; he will make a noise in the world." (Matthews, 168). In Vienna, Beethoven quickly established himself as a great composer, a formidable improviser, and an impressive performer. Unlike Joseph Haydn (1732-1809) and Mozart, Beethoven put emphasis on piano works, especially the piano sonatas; William Drabkin, an English musicologist, stated the following:

"Virtually all of Beethoven's early music was written for the piano, alone or with other instruments. Beethoven's creativity as a composer was a creativity nurtured at the keyboard, pointing the way to new means of expression to be developed more broadly after 1800." (Drabkin, 394).

Frank Eugene Kirby, an American music scholar, adds the following:

“Beethoven experimented with and worked out new ideas and methods at the piano and presented the results first in the piano sonata before extending them to other categories of composition.” (Kirby, 208).

In expressing his genius, Beethoven wrote the unparalleled 32 piano sonatas that became pathbreaking compositions especially for nineteenth century composers; they were Beethoven's invention before writing other musical genres. The 32 works were the musical tool for Beethoven's continual growth toward life – his realization of suffer and triumph. They are considered as seminal works in Western music history, in which they “represent, perhaps more clearly than any other body of works, the innovative processes that are at the core of Beethoven's creativity.” (Gordon, 144). The constant innovations in these works put them into a new height of composition:

1. These works were prepared for the concert hall; unlike the sonatas of Joseph Haydn (1732-1809) and Mozart, which main purpose of piano sonata was primarily for pedagogical use.
2. These works are equal with the timescale of a symphony.
3. These works are technically/artistically/emotionally demanding compared to any sonatas from the previous historical eras.
4. These works went through such rapid evolution in defining the maximum capacity of a piano sonata.
5. These works became important models for what sonata would have become in the next century.
6. These works went through constant experimentation of musical elements, including descriptive music, varied musical forms (for example, Op. 26, which has not sonata form at all in the four movements), *quasi una fantasia* [a fantasy-like], cyclic idea, fugue, imaginative orchestral writing, extended cadenza writing, *attaca* [to attack], apotheosis (the overall weight of the sonata being shifted to the last movement).

Considering the six points above, the 32 piano sonatas were composed for first-rank performers as stated by Robert Levin (born 1947), an American pianist and musicologist,

“With Beethoven, the sonata as a vehicle for amateurs and a source of income for composers, had begun to yield to a more ambitious genre destined for first-rank performers, transforming it into a peer of the quartet and the symphony.” (Gillespie, 183).

“Periodization” of Beethoven’s 32 Piano Sonatas

In 1852 in St. Petersburg, Russia, Wilhelm von Lenz (1803-1883) wrote a book entitled *Beethoven et ses trois styles* [Beethoven and His Three Styles], which divides the 32 sonatas into three periods:

1. First period (spans to 1802), from Op. 2/1 to Op. 28 (total of 15 sonatas).
2. Second period (1803-1814), from Op. 31 to Op. 90 (total of 12 sonatas).
3. Third period (1815-1822), from Op. 101 to Op. 111 (total of 5 sonatas).

He was not the first to suggest this division, but rather François-Joseph Fétis (1784-1871), who made this supposed discovery.

The piano sonatas that Beethoven wrote during the first period not only showed the mastery and craftsmanship of writing in a high classic style of Haydn and Mozart but also he already experimented and expressed many new directions: the treatment of the form was already expansive; the exposition of the first movement was usually long and multi-thematic; the slow movements were typically long while avoiding cantabile writing (more motivic with many rest signs); most third movements remained true to the minuet origins, although often time disturbed by contrast dynamics and unexpected modulation; and the last movements were typically set to be longer than the first movements.

The year of 1802 marked the beginning of Beethoven's deafness, which influenced his personal and social life considerably. The sonatas of the second period reflected Beethoven who “worked on the metamorphosis of sonata form, to create a sonata of vaster dimensions.” (Gillespie, 183). Beethoven started composing and expanding sonata into such liberty rather than a framework; the exposition of the first movement was usually shorter while extending the development part more dramatically along with longer coda; the slow movements became shorter and more motivic; the third movement now became more scherzo in style; and the last movement was set to be the climax of the entire sonata. Also, during this period, there were mechanical developments for the piano instrument when John Broadwood (1732-1812) from England sent the new larger piano.

Piano sonatas during the last period reflected on Beethoven who was conscious of taking a new direction in his music, declaring that it had nothing at all to do with what he had previously composed. It seems like the less he was able to hear, the more anxious he became to tell the performers how he wanted his music to sound. An Italian American musicologist, Pierro Weiss (1928-2011), described Beethoven's late style as follows,

“Beethoven's late style is perfectly congruous in its own terms; it is the distillation of a lifetime's experience in music. Even if one hesitates to use religious or spiritual analogies in the description of music, in the last works of Beethoven such descriptions are inescapable. His prolonged suffering and isolation had led to an eventual transcendence, producing music that must be described as spiritual, even mystical.” (Gerber, 2012).

Alfred Brendel, an Austrian concert pianist, also suggested the following statement,

“Beethoven's late music involves a general expansion – a synthesis of the means of expression, whereby opposites are often juxtaposed, with every new complexity of style seeming to parallel, as its antithesis, a childlike simplicity.” (Kindermann, 72).

Beethoven's illness and struggle with deafness resulted in a new manner of writing expression, including operatic writing; elaboration with counterpoint and other polyphonic texture (especially fugue); multi-movement unification; unpredictable changes in mood and temperament in an even more abrupt manner; increasingly wider range of harmony and texture; long and continuous sparkling trills in the high register; various range of personal expression and mood; the writing of variation form that became his attention; slow movements became the focal point of the whole work; and the sense and realm of spirituality.

Piano Sonata No. 31 in A-flat major, Op. 110

In 1821, Beethoven completed only a single work during that year, which is the Sonata, Op. 110, dated on Christmas Day; the reason to it was the completion of the Missa Solemnis, Op. 123 and the ninth symphony, Op. 125. Beethoven did not indicate any dedicatee; at first, he planned to dedicate the sonata to Ferdinand Ries (1784-1838), his long friend and pupil, who was indispensable to Beethoven that he helped Beethoven with publishing his music, supporting his life, and taking care of him.

Another source also indicated that Beethoven planned to dedicate this sonata to the wife of Ries, an Englishwoman Harriet Mangeon (1796-1863), whom Beethoven seemed to have liked her as expressed in the letter to Ries on April 3, 1816,

“All my good wishes, my dear R, and my kindest regards to your dear wife and also to all those beautiful Englishwomen to whom my greetings may give pleasure. . . the only thing I will accept is a kiss, which I am to receive when I come to London.” (MacArdle, 1965).

Beethoven then intended to dedicate the sonata to Antonia Brentano, perhaps his immortal beloved woman, but it somewhat never reached any publishers. As a result, the sonata was published with no indicated dedicatee.

The sonata is an important model for nineteenth century composers since the 19-minute work is based on the three motives presented in the first four measures of the first movement, resulting in a logical structural coherence. Although the sonata is cast in three movements, however, they are thematically connected and unified. There are six features in this sonata:

1. Highly personal markings: *amabilità* [very lovingly], *sanft* [tenderly], *klagender gesang* [mournful song], *ermattet klagend* [mournfully exhausted], *nach und nach wieder aufleben* [gradually comeback to life]. All these personal ideas make this sonata in a world of his own.
2. Structural coherence through three different ways:
 - a. The three motives in the beginning four measures.
 - b. The last pitch of each movement becomes the new pitch in the next movement.
 - c. Harmonic relationship: A-flat major to F minor, to F major and B-flat minor, then back to A-flat major.



Figure 1. Beethoven Sonata Op. 110, 1st mvt., mm. 1-3

The first motive (brown color): the intervallic relationship of the third and fourth intervals.

The second motive (blue color): the descending line.

The third motive (green color): the repetitive and triadic figures.

3. Various extreme emotional richness, from beautifully delicate feeling (first movement), country humor folk songs (second movement), absolute depths of despair and end with triumphant close (third movement).
4. Cyclic idea, in which Beethoven already used this device since the first sonata; however, in this sonata, Beethoven went even further by unifying multi-movement work that it became an inspirative model to nineteenth century composers, including Franz Liszt in his Sonata in B minor and Johannes Brahms's Sonata in F minor – both incorporating the technique of thematic transformation.
5. Full fugue writing that features baroque writing.
6. Possibility of program music due to two reasons: various personal markings throughout the entire work (especially the third movement) and the use of two folk songs in the second movement.

Descriptive Analysis of the First Movement, “Moderato cantabile, molto espressivo”

The first movement is filled with lyric and beauty that gives a placid, uninterrupted exquisiteness of sound throughout; Beethoven asked for this movement to be songful and expressive with overall character of lovingly (*con amabilità*). The wholeness of this movement flows together so smoothly and coherently that the changes of distinct themes/sections are not easily observed. Although the whole sonata is unified thematically and hence has liberty in structure, Beethoven wrote the first movement in a traditional classical sonata allegro form: exposition (mm. 1-38), development (mm. 39-55), recapitulation (mm. 56-104), and coda (mm. 105-116).

Table 1
The Sonata Structure of the First Movement

Exposition (mm. 1-38)	Development (mm. 39-55)	Recapitulation (mm. 56-104)	Coda (mm. 105-116)
Theme #1 = mm. 1-19; string quartet-like writing; very simple texture Motives #1 and #3	Begins with parallel eight descending line, creating mysterious atmosphere	T1 combined between the 1/8 and 1/32 rhythms	Rhythmic retrograde when compared to T1 in the exposition
T1 has 3 sub-themes that are interconnected through the key signature (A-flat); the difference locates in the rhythmic figure → mm. 1-4, 5-11, 12-19	Simple and short development section, unlike the typical development in the earlier sonatas, which is long and dramatic	The recapitulation seems more like a development section due to the following notable differences: 1. M. 58 chromatic 2. M. 60 invertible counterpoint 3. M. 63 modulates to D-flat → then enharmonic to c-sharp in 67 4. M. 69 with tonic in E 5. mm. 77-78 extreme modulation back to A-flat	The last pitch "C" becomes the beginning pitch of the second movement
Transition = mm. 20-27; E-flat preceded by its dominant, A-flat			
Theme #2 = mm. 28-35 Motive #2	4 sequences: f → D-flat → b-flat		
Closing theme: mm. 36-38 No repeat; leads directly to the development	All developing T1 and M1; polyphonic		

Below is the excerpt example of the first movement on how Beethoven wrote the three main motives as already mentioned above:

1. The introduction of the three motives in the first four measures.
2. The first and the third motives are constantly used in the first theme.
3. The second motive is used mostly in the second theme.

EXPOSITION

1

SONATE.

577

L. van Beethoven, Op. 110
am 25. Dezember 1821

Moderato cantabile molto espressivo.

31. *p con amabilità (sanft)*

T1

2

p leggiermente

10

15

cresc.

Figure 2. Sonata Op. 110, 1st mvt., mm. 1-17

578

3

TRANSITION
TO T2

A-flat, NOT
as tonic;
but as the
dominant
to T2

The musical score is for the first movement of Beethoven's Sonata Op. 110, measures 18-37. It is in A-flat major and 3/4 time. The score is divided into two main sections: a piano (p) section and a forte (f) section. The piano section includes a 'molto legato' marking and a 'cresc.' marking. The forte section includes a 'sf' marking and a 'dim.' marking. The score is annotated with various musical notations, including fingerings, dynamics, and articulations. A red box highlights a specific passage in the piano section, and a green box highlights a passage in the forte section. A yellow box labeled 'T2' is also present.

Figure 3. Sonata Op. 110, 1st mvt., mm. 18-37

DEVELOPMENT

579

RECAPITULATION

Figure 4. Sonata Op. 110, 1st mvt., mm. 38-57

Descriptive Analysis of the Second Movement, “Allegro molto”

The characters of the second movement, unlike the first movement, is abrupt, witty, and sharp-tempered; the movement suddenly “shattered” the serenity of the earlier mood. In this movement, Beethoven arguably incorporated two old German songs: *Das liebe Kätzchen* [Our Cat has had Kittens] and *Ich bin lüderlich, du bist lüderlich* [I am Down and Out; You are Down and Out]. These are examples of humorous folk songs and one can observe the “scherzo” writing quality of this movement, including constant dynamic changes; constant and abrupt key changes; and hemiola through sforzando accentuation and syncopation.

Munter

Un sa Kätz had Ka - z'ln g'habt drai und sex si nai - ni

5 van's häd a - Aeu - gerl af däs is schön das mai - ni

This block contains a musical score for a vocal melody in 2/4 time. The first system is highlighted with a red box. The melody is in A-flat major. The lyrics are in German. The second system starts with a measure rest and then continues the melody.



Allegro Molto

p *f* *sf*

This block contains a piano accompaniment in 2/4 time. The first system is highlighted with a red box. The music is in A-flat major. Dynamics include piano (*p*), forte (*f*), and sforzando (*sf*).

Ich bin lü - der - lich, du bist lü - der - lich, Wir sind al - le lü - der - lich

This block contains a vocal melody in 2/4 time. The first system is highlighted with a green box. The melody is in A-flat major. The lyrics are in German.



p

This block contains a piano accompaniment in 2/4 time. The first system is highlighted with a green box. The music is in A-flat major. Dynamics include piano (*p*).

Table 2
The Scherzo & Trio Structure of the Second Movement

A (mm. 1-40)	B (mm. 41-95)	A (mm. 96-143)	Coda (mm. 144-158)
Begins directly from the first movement with no pause	Abruptly modulated to D-flat	Exact presentation with the beginning A, with one difference – the “a” section is fully written with ritardando → suggesting the humorous nature	Formed merely of minim chords intersected by minim rests → even the last cadence is a humor
The presentation of two folk songs			
Expressing metric ambiguity due to hemiola	M1		Again, the last pitch “F” becomes the beginning pitch to the next movement
Rounded binary form: :a: :b: a = Fm – CM b = A-flat – Fm	Overall, there is no melody; rather mere harmony with disintegrated figure, chromaticism, and syncopated left hand		
M2			

Below is the excerpt example on how Beethoven wrote the second movement using the three main motives as already mentioned above:

1. The constant use of the second motive in A section.
2. The variations of using third and fourth intervals in B section.
3. The use of two folk songs.
4. Highly contrasting dynamic markings reflecting *sturm und drang* [storm and stress].

A **1** **3**

Allegro molto.

Figure 6. Sonata Op. 110, 2nd mvt., mm. 1-40

B **2**

The musical score is presented in a single system with a key signature of two flats (B-flat major) and a 3/4 time signature. The score is divided into systems of four measures each, with measure numbers 45, 50, 55, 60, 65, 70, 75, 80, 85, and 90 marked. A red box highlights the first system (measures 41-44). The right hand plays a continuous melody with various ornaments and trills, while the left hand provides a harmonic accompaniment. The score includes dynamic markings such as *p* (piano), *f* (forte), *ff* (fortissimo), and *pp* (pianissimo), as well as articulation marks like asterisks and slurs. The notation includes various ornaments and trills, particularly in the right hand.

Figure 7. Sonata Op. 110, 2nd mvt., mm. 41-90

Descriptive Analysis of the Third Movement, “Adagio, ma non troppo; allegro, ma non troppo”

The form of this movement is a highly original form that is unobserved in previous historical eras. Connected by a fermata from the second movement, the final movement was composed in the unique way by pairing the *arioso dolente* [mournful song] and pairs of fugue. Vincent d'Indy (1851-1931), a French composer, refers to this movement as follows,

“Arioso is one of the most poignant expression of grief conceivable to man. . . . and the fugue is an effort of will shake off suffering, with the latter is stronger; the return of the fugue is a will asserting itself against the forces of annihilation, the resurrection!” (Gerber, 1971)

There are three features in this section: first, the recitative-like and aria form; second, improvisatory-like passages and series of repeated notes that suggest the technical device *bebung* used in clavichord; third, many personal markings that epitomizes such deep contemplation.

What follows the *arioso dolente* is a three-voice fugue in a typical baroque style. The form is complex: first fugue – *arioso dolente* that cyclic from the earlier one – second fugue (inverted) – and homophonic figuration as the triumphant ending.

Table 3
The Sectional Structure of the Third Movement

Introduction (mm. 1-3)	Recitative (mm. 4-6)	Arioso (mm. 7-25)	Fugue 1 (mm. 26-110)	Arioso (mm. 111-136)	Fugue 2 (mm. 137-213)
b-flat; highly chromatic and dramatic	“recitative” and the <i>bebung</i>	In a-flat; it contains instructions in both German and Italian	three-voice fugue; the countersubject is even quavers (the smallest note value here) → <i>ricercare</i> -like fugue	Returns unexpectedly (cyclicism) in such a collapse	<i>Poi a poi di nuovo vivente</i> → little by little with renewed vigor <i>Wieder auflebend</i> → again reviving/gathering confidence after despair
M3		<i>Arioso dolente</i> – song of lament	M1 and M2		
A lot of harmonic, tempo, dynamic, and articulation changes for 10 measures – all in <i>una corda</i>	<i>Bebung</i> → vibrato executed on the clavichord due to its tangent action	<i>Klagender Gesang</i> – he had been very ill and deaf prior to this sonata; this lament song is expressing his sadness The quotation from Bach’s <i>St. John Passion</i> “ <i>es ist Vollbracht</i> ” at the end → it is finished	Beethoven seemed to reach such conclusion as the “organ” bass approaching the triumph, ONLY to collapse immediately	In G minor (semitone lowered from the first arioso) – even more exhausted “ <i>ermattet klagend</i> ” Along with it, the melody is curiously broken, as though it had gone through a shattering emotional experience	G major with the subject is written upside down; followed by series of diminution and augmentation in the theme – astonishingly complex
	Very detail in markings	M2 and M3			In 168 → slowing down the pace “ <i>meno allegro, et was langsamer</i> ” → at the same time, double diminution to build final excitement

Below is the excerpt example on how Beethoven wrote the third movement using the three main motives as already mentioned above:

1. Notice the constant tempo changes and personal markings.
2. The instability of harmony in lieu to *klagender gesang*.

3. The use of the second and third motives in this section.
4. Immediately go to the fugue with the first and the second motives.
5. Cyclicism of the *arioso dolente*.
6. Inverted fugue.
7. The "triumph."

386

1

Adagio ma non troppo.

una corda

Recitativo. *più adagio*

andante

cresc

Bebung

adagio

p

tutte le corde

dim.

cantabile

una corda

sempre tenuto

meno adagio

cresc.

adagio

dim. smorzando

Adagio ma non troppo.

p

tutte le corde

(Klagender Gesang.)

Arioso dolente.

p

cresc. - dim.

10

Figure 8. Sonata Op. 110, 3rd mvt., mm. 1-10

EXPOSITION

Allegro ma non troppo. 4

The musical score is presented in a standard format with a grand staff (treble and bass clefs). The key signature is two flats (B-flat and E-flat), and the time signature is 6/8. The tempo marking is 'Allegro ma non troppo.' The score is divided into three main sections: Exposition (mm. 26-34), Middle Section (mm. 35-57), and a final section (mm. 58-65). The score includes various musical notations such as dynamics (p, f, cresc., dim.), articulation (accents), and fingerings. A red box highlights measures 26-34, and a blue box highlights measures 35-41. A yellow box highlights measures 42-57. The score is written for piano and includes a small inset at the bottom left showing a detail of the final measure.

Figure 9. Sonata Op. 110, 3rd mvt., mm. 26-57

Figure 10. Sonata Op. 110, 3rd mvt. mm. 88-118

6

Inverted subject

592 *L'istesso tempo della Fuga.*
poi a poi di nuovo vivente
Nach und nach wieder auflebend.

sempre una corda
L'inversione della Fuga. (Die Umkehrung der Fuge)

140 145 150 155 160 165

poi a poi tutte le corde.

Meno allegro. Etwas langsamer.

p m.d.

Double diminution to get the excitement toward triumphant

Figure 11. Sonata Op. 110, 3rd mvt., mm. 136-169

Figure 12. Sonata Op. 110, 3rd mvt., mm. 169-188

Conclusion

In conclusion, Piano Sonata in A-flat major, Op. 110 is perhaps Beethoven's most expressive and personal work. Although the musical weight shifts to the last movement – the fugue (apotheosis) – nevertheless, the first movement contains a wealth of interesting features as well as anticipating the whole structure of the whole piece. Also in this sonata, Beethoven essentially did not reject the classical style, but he elaborated his thought and imagination rather than writing his music based on great classicists like Haydn and Mozart; as a result, Beethoven framed his piano sonatas within the classical tradition while at the same time adding his personal ways to make them progressive as well.

It is unique that Beethoven wrote this movement in simplicity compared to his earlier first movement works; based on the three motives, the entire sonata is unified thematically based on the three motives introduced in the beginning four measures of the first movement. The sonata reflects on Beethoven as an economical composer who transforms small motivic materials into one large work that exemplifies logical structural coherence. The sonata also shows Beethoven's most personal writing by indicating his passionate markings. The transition between movements is particularly interesting since there is no distinction of the beginnings and endings of each individual movement. Liberty in form is an example of a thematically unified multi-movement work that illustrates the new dimension, progressive sonata in contrary to the conservative work.

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