



Honors College Theses

4-20-2015

Beethoven Ahead of His Time: Sonata in C major No. 21 Op. 53

Carolina E. Perez Ms.
Georgia Southern University

Follow this and additional works at: <https://digitalcommons.georgiasouthern.edu/honors-theses>



Part of the [Composition Commons](#), [Music Performance Commons](#), [Music Practice Commons](#), and the [Music Theory Commons](#)

Recommended Citation

Perez, Carolina E. Ms., "Beethoven Ahead of His Time: Sonata in C major No. 21 Op. 53" (2015). *Honors College Theses*. 58.

<https://digitalcommons.georgiasouthern.edu/honors-theses/58>

This thesis (open access) is brought to you for free and open access by Georgia Southern Commons. It has been accepted for inclusion in Honors College Theses by an authorized administrator of Georgia Southern Commons. For more information, please contact digitalcommons@georgiasouthern.edu.

Beethoven Ahead of His Time: *Sonata in C major No. 21 Op. 53*

An Honors Thesis submitted in partial fulfillment of the requirements for Honors in
Music Department

By

Carolina Pérez

Under the mentorship of Dr. David Murray

This research looks at the work of Ludwig van Beethoven's *Sonata in C major No. 21 Op. 53*. A historical, theoretical, and technical analysis helps set a foundation for a better comprehension of the work and influence the overall performance.

Thesis Mentor: _____

Dr. David Murray

Honors Director: _____

Dr. Steven Engel

December 2014
Music Department
University Honors Program
Georgia Southern University

Ludwig van Beethoven's piano works revolutionized the way composers and performers viewed the piano. Beethoven is a transitional composer that paved the way for later composers to experiment and expand the limits of sonority, texture, and technique. A majority of Beethoven's compositions are for piano, and his thirty-two piano sonatas are essential milestones in the evolution of piano literature. Beethoven began the exploration of the piano and the maximalization of the sonata. The sonatas exemplify Beethoven's compositional periods and the evolution of the sonata form and the piano technique. Sonatas like *Sonata No. 21 in C major Op. 53*, also known as the Waldstein Sonata, are very important due to their innovation in texture, form, sonority, and techniques.

The form of the sonata developed from Domenico Scarlatti's one-movement sonatas to C.P.E. Bach and Johann Christian Bach's three-movement sonatas, with fast-slow-fast movements.¹ C.P.E. Bach and J.C. Bach might have set a clear form with most of the prominent features of a sonata, but they still maintained some of the Baroque style characteristics such as phrasing, sequencing, and repeating.² As Serhii Morozov states in his dissertation,

[I]t remained for Joseph Haydn and Wolfgang Amadeus Mozart to refine the genre to the highest point of crystallization. Along with exact repetitions, Haydn and Mozart used the principle of motivic development, in which a phrase is altered melodically and/or harmonically every time it

¹ Serhii Morozov, "The evolution of the genres of classical piano sonata and piano concerto in the works of D. Scarlatti, C. P. E. Bach, J. C. Bach, J. Haydn, W. A. Mozart and L. V. Beethoven." (PhD diss., University of Maryland, 2003), 3

² Morozov, "The evolution of the genres of classical piano sonata and piano concerto in the works of ... and L. V. Beethoven," 5

appears. This principle allows exploration of the potential of every musical idea.³

By the time Beethoven came into the scene, the structure of the classical sonata was already formed. There had been exceptions like Haydn's two-movement sonata, but a standard structure had been set.

Beethoven's piano sonatas are usually divided into three periods, as it is seen in Jin Hye Choi's dissertation, "Performance Practice Issues in Beethoven's 'Waldstein' Sonata, Op. 53.," but even then she subdivides the middle period.⁴ Others may argue that there is enough difference in the sonatas to create more than three periods. In fact, there are really five periods: early period, first transitional period, middle period, second transitional period, and late period.⁵ Beethoven's early sonatas have traces of a more traditional sonata form. Morozov states that Beethoven's early sonatas keep "the formal structure of a mature classical sonata [...]."⁶ However, moving on to the middle period, Beethoven begins to expand and the features of a traditional sonata. Jin Hye Choi provides general characteristics as a guideline in understanding the change from the three periods and the alterations the sonata form was going through at this point.

Some general characteristics can be identified in the middle period sonatas. In the first movements, sonata-allegro form is employed, along with all the dramatic and virtuosic characteristics usually associated with Beethoven's piano music. The reduction in the number of movements found in all but one of these sonatas has drastic consequences for the

³ Morozov, 5-6

⁴ Jin Hye Choi. "Performance Practice Issues in Beethoven's "Waldstein" Sonata, Op. 53." (California State University, 1998.), 2

⁵ David Murray. "Beethoven." (lecture, Georgia Southern University, Statesboro, GA, October, 2013).

⁶ Morozov, 7

minuet or scherzo movement, which had normally been the second or third movement. In most of these sonatas, it is this dance movement that is cut out. In the finale, Beethoven uses both sonata-allegro and rondo forms, although the former is the more common of the two. Other general traits include more explicit directions to the performer, especially concerning the tempo at the beginning of movements and the frequent changes of mood. Beethoven seems to be exploiting the technical improvements that had been made to the piano. He uses great contrasts, subito dynamics, virtuosic passage work, and creates orchestral textures on the piano.⁷

Beethoven's third period contains a characteristic not seen before in his sonatas, the fugue and the theme and variations.⁸ However, this characteristic is seen in earlier sonatas by C.P.E. Bach, Haydn, and Mozart.

Beethoven's *Sonata No. 21 in C major Op. 53*, also known as the Waldstein Sonata, was composed in 1803. The Waldstein Sonata falls under the middle period, the heroic period. The Waldstein Sonata, also given the name *Grande Sonate pour le Pianoforte*, was dedicated to Count Ferdinand Gabriel von Waldstein.⁹ The sonatas during this time period of 1802 to 1809 are known for their big "dramatic qualities" such as extreme dynamics and virtuosic passages.¹⁰ Beethoven's focus starts to shift: the development becomes the emphasis and the focus of the first movement shifts to the third

⁷ Jin Hye Choi. "Performance Practice Issues in Beethoven's "Waldstein" Sonata, Op. 53." (California State University, 1998.), 2-3

⁸ Jin Hye Choi, 3

⁹ Jin Hye Choi. "Performance Practice Issues in Beethoven's "Waldstein" Sonata, Op. 53." (California State University, 1998.), 7

¹⁰ Jin Hye Choi, 7

movement. Due to his exploration of the capacity and limits of the piano, Beethoven begins to maximalize the sonata in its form, structure, texture, and sonority.

Sonata No.21 Op. 53 is made up of three movements: *Allegro con brio*, *Adagio molto*, *Allegretto moderato*. The first movement is in sonata form. Jin Hye Choi provides a summary of form of the first movement seen in Example 1.

Example 1¹¹

Summary of Form

A summary of the formal structure follows:

I. Allegro con brio, 4/4 meter, C major, Sonata Form

Exposition

Theme 1	C major	(m. 1)
Theme 2	E major	(m. 35)
Closing	E major	(m. 74)

Development Various harmonies (m. 90)

Recapitulation

Theme 1	C major	(m. 156)
Theme 2	A major	(m. 196)
Coda	D-flat major	(m. 249)

The sonata begins with repeated chords in the home key of C major in the lower part of the register. Up to this time, composers did not commonly use the extreme low or extreme high registers of the piano due to the limitation of the instrument. The evolution of the instrument enabled Beethoven to makes use of this exploration of registers to

¹¹ Jin Hye Choi, 8

create his motivic phrases and develop them. Beethoven does not make use of long, flowing, creative melody lines, but rather uses short motives. Once the motives are stated, they are quickly developed and expanded. Example 2A demonstrates the opening motive from measures 1 to 4 and Example 2B shows the expansion and variation of the motive in the rhythm while keeping the same harmonic progression from measures 14 through 17.

Example 2

Example 2 consists of two musical excerpts, A and B, in piano accompaniment. Example A, titled "Allegro con brio." and marked *pp*, shows the first four measures of a piece. The right hand features a melodic line with a prominent eighth-note motif, while the left hand provides a steady eighth-note accompaniment. Example B, also marked *pp*, shows measures 14 through 17. It demonstrates a variation of the eighth-note motif from Example A, with the right hand playing a more complex rhythmic pattern while the left hand maintains the same harmonic progression.

After finishing the first theme in C, Beethoven goes into a chorale-like section, *dolce e molto legato* (Example 3).

Example 3

Example 3 is a musical excerpt in piano accompaniment, marked *dolce e molto legato.* The score features a series of chords in the right hand, with a melodic line that is highly legato. The left hand provides a steady accompaniment. The dynamics range from *cresc.* (crescendo) to *f* (forte) and *p* (piano). The piece concludes with a final chord marked *cresc.*

In the eighth measure (measure 42) the development of this motif is led by ascending triplets in the right hand. Eight measures later (measure 49) there is another transition with triplet figures in the right hand. The next section is highlighted by turbulent triplets

for eight measures and then Beethoven creates an agitated feeling by augmenting the rhythmic value to sixteenth notes. One can easily see how Beethoven maximizes using rhythm and dynamics. He starts with quarter notes, then triplets, and finally with sixteenth notes. The dynamics grow from *p*, to *f*, to *ff*. In his dissertation, John Craig Cannon incorporates a summary of rhythms from this passage, which clearly depicts the maximalization of rhythms in this section.

Example 4¹²

The image displays eight musical notation examples arranged in two columns. The left column shows measures 35-41, 42-49, 50-53, and 54-57. The right column shows measures 58-61, 62-65, 66-71, and 72-73. The notation illustrates a progression of rhythmic complexity: starting with quarter notes (mm. 35-41), moving to eighth notes (mm. 42-49), then sixteenth notes (mm. 50-53), and finally dense sixteenth-note patterns (mm. 54-57, 58-61, 62-65, 66-71, 72-73). The notation for mm. 58-61, 62-65, 66-71, and 72-73 shows increasingly dense sixteenth-note runs, with mm. 72-73 featuring a particularly dense and rapid sixteenth-note passage.

The development expands the motives while using the technique of call and respond. Beethoven goes back to the turbulent triplets, but he uses them now to modulate and keep changing the tonal centers that begin to build up to the recapitulation on measure 158. He stays in C major for the beginning of the recapitulation, but then he modulates to A major instead of E major for the chorale-like section. He does not resolve to C and therefore, proceeds in adding a coda. This coda is larger than those traditionally seen in sonatas and starts on a Db major chord, emphasizing the constant shift of tonal

¹² Steven Craig Cannon, "Register, Sonority, and Structure in Beethoven's Piano Sonata Op. 53." (Mount Allison University, 1999). 78

centers. It starts on measure 251 with the call and response phrases from the development. Beethoven brings back in the coda material from the exposition as well such as the choral-like passage and the opening theme. In her dissertation, Margarita Rodriguez refers to Warren Darcy and James Hepokoski terminology in defining the coda of *Op. 53*, first movement.

Warren Darcy and James Hepokoski expand on Kerman's ideas and describe the lengthier and complex Beethoven codas as descriptive coda In the author's terminology, these codas often lose the tonic confirmed by the Essential Structural Closure; instead, the codas develop material in non-tonic keys before closing the tonic. [...] these discursive codas give 'the impression of a removal of difficulties or obstacles set up earlier in the movement.'¹³

Beethoven also uses other techniques in the coda to create a larger sense of closure. He uses "the technique of composed-out deceleration, which typically occurs just before a cadence," and "the technique of expansion with repetition."¹⁴

The second movement of the *Sonata No. 21 Op. 53* proved to be at first too long to an already lengthy sonata. The movement was later published in 1806 as a separate work called *Andante favori*, and the *Introduzione* substituted it as the introductory second movement to the sonata. This movement, *Adagio molto*, is an extreme contrast to the first movement. Beethoven uses this movement as an introduction to the brilliant rondo. Its dreamlike character provides a contrast to the heroic character of the other movements. It starts in the lower register of the piano like the first movement. Beethoven slowly makes

¹³ Margarita Rodriguez. "Aspects of completion in Beethoven's middle period codas." (Michigan State University, 2012), 5

¹⁴ Margarita Rodriguez, 10

his way up the piano registers while at the same time creating tension in the texture and harmony as seen in Example 5.

Example 5

Margarita Rodriguez explains the second movement as , “A sense of inner voices reaching up out of the texture, climbing over one another, as it were, is especially important to this passage.”¹⁵ Beethoven leaves no space between the *Introduzione* and the rondo. The *Introduzione* starts in F major, but the harmony is a bit more ambiguous than that of the other two movements. It goes back to F at the end before modulating to C. As seen in Example 6, there are not many cadences and a solid resolution is felt until the very end when it sustains the G, the dominant of C, which is the home key of the rondo.

¹⁵ Margarita Rodriguez. “Aspects of completion in Beethoven’s middle period codas,” 113

Example 6

C: V

RONDO.
Allegretto moderato.

pp

attacca subito il Rondo.

sempre pianissimo.

I

The rondo, *Allegretto moderato*, is the focus of the entire sonata. Not only does Beethoven surpass prior schemes of sonata in length but in other various aspects such as register, texture, development of ideas, and techniques. The rondo is in ABACABA form with a coda, and the home key of C is predominant throughout the movement.¹⁶ The opening starts with a short melodic phrase in the left hand played in the high register of the piano. Meanwhile, the right hand creates a delicate air with a flowing, legato, sixteenth note accompaniment. Unlike the other two movements, the rondo starts in the high register of the piano.¹⁷ Example 7 shows the opening first measures of the three movements highlighting the difference in registers.

¹⁶ Jin Hye Choi. "Performance Practice Issues in Beethoven's "Waldstein" Sonata, Op. 53." (California State University, 1998.), 13

¹⁷ Steven Craig Cannon, "Register, Sonority, and Structure in Beethoven's Piano Sonata Op. 53," 66

Example 7

The image displays three staves of musical notation for a piano sonata movement. The first staff is titled "Allegro con brio." and features a piano (*pp*) dynamic. The second staff is titled "Adagio molto." and includes *pp* dynamics and *ten.* (tension) markings. The third staff is titled "Allegretto moderato." and is marked "sempre pianissimo." and "c.w." (coda). Red boxes highlight the beginning of the first and second movements, while a blue box highlights the beginning of the third movement.

The structure of this third movement is one of the most expanded structures in any of his sonatas and includes a massive coda. According to Margarita Rodriguez, the coda marked *Prestissimo*, “exemplifies reinstatement of missing materials.”¹⁸ It restores “music appearing early in the movement, but [that] is absent from subsequent restatements.”¹⁹ The coda of the third movement beats the coda of the first movement in length. The coda takes up three pages, a big part of the movement. The grandness of the coda concludes and resolves the entire sonata.

At the time Beethoven was composing and revolutionizing the piano sonatas, the instrument was evolving itself as well. Beethoven had many different pianos throughout his lifetime. During the early 1800s, Beethoven had in possession an Erard piano from Paris. This piano was important in the composition of the Waldstein Sonata due to its

¹⁸ Margarita Rodriguez. “Aspects of completion in Beethoven’s middle period codas,” 36

¹⁹ Margarita Rodriguez, 6

innovative qualities and features. It had four pedals: “. . . the lute stop (with leather thongs), damper (sustaining pedal, as on today’s piano), dampening (*sourdine*, with a cloth fringe), and action-shifting (*una corda*, as on today’s grand piano).”²⁰ Beethoven was an innovator in the use of the pedal. He uses these pedals to create different effects. Earlier pianos did not have the piano pedals on the ground like the Erard did. Jin Hye Choi refers to Newman’s statement on Beethoven’s use of pedal.

[Beethoven] used the damper pedal markings in the autograph score and showed clearly where to release [...] he only used this pedal [damper pedal] for special effect. Newman classifies Beethoven’s use of the damper pedal for seven different effects: sustaining the bass, improving legato, creating a combined sound, helping dynamic contrasts, connecting sections, blurring the sound through harmonics dissonances, and aiding thematic structure.²¹

He takes advantage of not just the pedals but also of the new registers. The range of the piano also grew, allowing Beethoven a greater variety of register colors and textures. However, there are issues when performing this piece in a modern piano due to the modern piano’s capacity of sustaining the sound and resonating longer. With this new instrument in his hands, Beethoven was eager to explore its limits as well as the performer’s limits.

Beethoven incorporated many technical innovations into this sonata. He included many ornaments and lengthy trills that had not been seen before this time. The rondo

²⁰ Jin Hye Choi. "Performance Practice Issues in Beethoven's "Waldstein" Sonata, Op. 53." (California State University, 1998.), 16

²¹ Jin Hye Choi. "Performance Practice Issues in Beethoven's "Waldstein" Sonata, Op. 53." (California State University, 1998.), 26

contains many long trills that are sustained for numerous measures while bringing out the singing melody with the same hand. Beethoven integrated passages of running octaves that are intended to sound like glissandos. These are challenges that a performer faces when performing this sonata.

When performing a Beethoven work, one must take into consideration who Beethoven was as a performer. Beethoven is an interesting and temperamental character; he was a strong and willful person. In his early years, Beethoven strove to make a living from performing. However, at the end of the early period, he began to lose his hearing. This truncated his aspiration as a performer and, therefore, focused his efforts in composition. Due to his loss of hearing, Beethoven could not fully appreciate the evolution the instrument was undergoing. He went through many pianos favoring some and disliking others. For years, Beethoven composed on a Stein piano of six octaves. But, as Alfred Dolge notes in his book, “[. . .] Beethoven still wanted more. Six octaves were too small a compass for the symphonic tone pictures which raved in his soul, and his admiring friend Nannette Stein-Streicher had to build for him a six and one-half octave grand piano.”²² Reginald Gerig writes about Beethoven’s performances and the reception of his contemporaries to his performances. Gerig quotes Czerny’s realization “[. . .] that both [Beethoven’s] playing and his compositions were far ahead of his time, and that the pianos before 1810, ‘. . . still extremely weak and imperfect, could not endure his gigantic style of performance [. . .].’”²³ The pieces Beethoven composed were bigger, grander, and full of excitement. Beethoven had a reputation as a performer; he always tried to be

²² Alfred Dolge. *Pianos and their makers : a comprehensive history*. New York : Dover Publications, 1972 387-388

²³ Reginald R. Gerig. *Famous pianists & their technique* .Bloomington,IN : Indiana University Press, 2007, 85-86

as expressive and true to the music. To him a good performance was one that was able to transmit true emotions not just playing the right notes. However, he did focus on technique in order to achieve the desired touch at the piano. As Gerig notes in his book, Beethoven wrote numerous exercises for finger technique in specific musical passages.

Beethoven was working for the fullness of tone and was concerned that the power of the arm should back up the fingers. Schindler, [. . .] said that the library of Beethoven contained a numerous of works by Bach [. . .] Great emphasis was placed upon a complete and thorough legato. At one point, Beethoven gave these directions for the execution of a figured sixteenth notes sequence: ‘To obtain the strictest legato, the finger must not be lifted off the first note of each group until the fourth note is to be struck.’ He also stressed varying rhythmic accent patterns. He approved of the C.P.E. Bach and Clementi method books [. . .] but shook his head over Hummel’s bulky volume.²⁴

Beethoven insisted on the performance of scales with the correct position of hands, fingers, and the use of the thumb, legato technique, and the use of the pedal. These are all essential in performing Beethoven’s works.

In performing the *Sonata No. 21 in C major Op. 53* one must take into consideration every detail. The dynamics are crucial. Beethoven wanted huge contrasts and achieved them not only by writing in the extremities of the piano’s registers, but through the use of dynamics. Voicing is also extremely important in the execution of the piece. For example, in sections such as the melodic chorale-like section in the first movement, it is important to voice and bring out the important notes of the melody.

²⁴ Reginald R. Gerig. *Famous pianists*, 91

Phrasing goes hand in hand with voicing, especially in the more melodic sections and second movement. This sonata is composed for piano but it has an orchestral effect, a very heroic effect. This piece is technically and musically challenging, but if well executed, the performance of this sonata has an impressive effect.

The first movement has certain passages that require specific technique in order to perform them properly. For example, in measure 14, one can easily disregard the difficult technicality of this passage. The notes are very simple and the rhythm straightforward, but it is deceptive. Due to the fast speed and the repetition of this passage throughout the first movement, the hand can suffer from tension if the passage is not executed correctly. The hands must remain very light and loose. If played with a heavy hand and tight wrist, the hands can tire and hurt. The motion must be like the turning of a doorknob and have a feeling of loose rotation of the hand from one side to the other. At first, one may feel like there is no control, but eventually this will produce the light, fast sound needed for this passage. The accompaniment is not the main focus, but the ascending melody. Therefore, the left hand must remain quiet and underneath the right hand. Keeping the left hand quite will also help produce the light sound. In his sketchbooks Beethoven wrote a similar passage that resembles this one for the sole purpose of focusing on the rotation of the wrist technique seen in Example 8.

Example 8

Sonata in C major No. 21 Op. 53 m. 14-15



The image shows a musical score for two staves. The top staff is the right hand, and the bottom staff is the left hand. The music is in C major and 2/4 time. The right hand plays a rapid ascending eighth-note pattern, and the left hand plays a similar pattern. The dynamic marking 'pp' is visible in the first measure of the right hand.

For the contraction of the hand²⁵



Beethoven frequently employs legato technique throughout the sonata. Certain passages in the first movement, such as the chorale-like passage that starts on measure 35 and the majority of the second movement, use legato. The use of legato emphasizes the layers of the choral-like passage. The chorale-like passage is to be executed with a light touch and the melody should be brought out. At the same time that one needs to be connecting and playing, one must also pay attention to the dynamics. The opening of the second movement also requires legato. Example 9 demonstrates two legato passages from the sonata and Beethoven's legato exercise from his sketchbooks. It exemplifies not only the importance of melody but phrasing with a legato technique. One can easily assume that legato is just sustaining the pedal. However, the technique focuses on holding the note down with the finger until it is replaced by another one. This is critical in order to be able to attain a legato sound.

²⁵ Reginald R. Gerig. *Famous pianists*, 93

Example 9

First movement

dolce e molto legato.

cresc.

sf

Second movement

cresc.

sf

p

decresc.

pp *rin.*

For Beethoven's special kind of legato and legatissimo²⁶

The hand contracted as much as possible

pp strictest legato

Andante

p

sf

Here the 3rd finger must cross over the 4th and remain above it until the 4th withdraws and the third assumes its place.

²⁶ Reginald R. Gerig. *Famous pianists*, 93

The third movement is the most virtuosic. Beethoven incorporates the use of legato, staccato, and loose wrist motion, from the previous movements and adds the octave glissandi. The glissandi need to sound effortless, but it is easier said than done. The glissandi are soft which means that they should not be played by digging into the keys and make each note of the octave glissando come out. The glissandi should be led by the thumb and the little finger should just follow. In the midst of this, one needs to keep in mind to bring out the melody. Another interesting technique he uses is the trilling and playing the melody with the same hand. The trills should be very light and in the background while the melody should be brought out but in a singing-like manner.

The use of pedal in this sonata is always up for discussion. Some performers tend to use too much pedal while others prefer less. The argument is always how would have Beethoven performed it or how to make it sound like it used to back in Beethoven's time. Gerig states that according to Czerny, "[Beethoven] made frequent use of the pedals, much more frequent than is indicated in his works."²⁷ However, one must take into consideration the evolution of the piano and that the modern day piano is different than Beethoven's pianos. The main objective is to perform the work as true as possible while still being able to be expressive and free. Gerig quotes pianist Erns Pauer summarization of Beethoven's playing.

They say that his performance was not so much 'playing' as 'painting with tones,' while others expressed it as recalling the effect of 'reciting,' all of which are attempts to state the fact that in his playing, the means, —the passages, the execution, the technical appliances, —disappeared before the transcendent effect and meaning of music. . . . He was not particular in

²⁷ Reginald R. Gerig. *Famous pianists*, 90

polishing and refining his performance, as were Hummel, Wolffl, Kalkbrenner, and others: indeed, such ‘special’ artists he satirically calls ‘gymnasts,’ and expresses the opinion that ‘the increasing mechanism of pianoforte playing would in the end destroy all truth of expression in music.’²⁸

Beethoven transmitted his inability to hear to the ability to break through what were considered normal standards and exploring new sounds that paved the way for later composers to experiment with new ideas. Gerig states that “Beethoven desired above all else to set the nineteenth century piano technique upon a course of complete naturalness and freedom, totally serving the spiritual depths of the worthiest of the keyboard literature.”²⁹ *Sonata in C major No. 21 Op. 53* broke through normal standards and became an innovation musically, technically, and structurally and an inspiration and foundation for future composers and performers.

²⁸ Reginald R. Gerig. *Famous pianists*, 98

²⁹ Reginald R. Gerig, 100

Works Cited

- Beethoven, Ludwig van. *Sonata in C major No. 21 Op 53*. Leipzig: Breitkopf & Härtel, 1862-90
- Cannon, Steven Craig. "Register, Sonority, and Structure in Beethoven's Piano Sonata Op. 53." Mount Allison University, 1999.
- Choi, Jin Hye. "Performance Practice Issues in Beethoven's "Waldstein" Sonata, Op. 53." California State University, 1998.
- Dolge, Alfred. *Pianos and their makers : a comprehensive history of the development of the piano from the monochord to the concert grand player piano*. New York : Dover Publications, 1972
- Gerig, Reginald R. *Famous pianists & their technique / Reginald R. Gerig*. Bloomington,IN : Indiana University Press, 2007.
- Gilbert, John V. "E85.2073: Music Literature: The Classical Period Beethoven's Heiligenstädt Testament, 1802"
<http://www.nyu.edu/classes/gilbert/classic/heiligenstadt.html> (accessed October 13, 2014).
- Morozov, Serhii. "The evolution of the genres of classical piano sonata and piano concerto in the works of D. Scarlatti, C. P. E. Bach, J. C. Bach, J. Haydn, W. A. Mozart and L. V. Beethoven." PhD diss., University of Maryland, 2003.
- Moss, Quinn. Schenkerian analysis of first movement of Beethoven's Sonata in C Major No. 21 Op. 53, Georgia Southern University, Statesboro, Georgia, 2014.
- Murray, David. "Beethoven." Class lecture, Piano Literature I, Georgia Southern University, Statesboro, Georgia, October, 2013.

Rodriguez, Margarita. "Aspects of completion in Beethoven's middle period codas."

Michigan State University, 2012.