CREATING A NEW INTERPRETATION OF CHOPIN'S PIANO MUSIC USING A COMPARISON OF MODERN AND HISTORICAL INSTRUMENTS THROUGH THE PERFORMANCE OF THE SECOND PIANO SONATA

Jun Ishimura

PhD in Creative Practice [Music]

City, University of London

Trinity Laban Conservatoire of Music and Dance

June 2020

Table of Contents

25435 words in the main text

List of Figures

List of recorded materials (CD recordings)

Recordings:	Contents:	Pages:
CD 1 The 2nd Subject from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement on the Pleyel 1842 fortepiano at Finchcocks Museum on my first visit	Each note of the melody is pronounced more clearly compared to the CD 2 performance on the Pleyel fortepiano 1848 at the Cobbe Collection	28
CD 2 The 2nd Subject from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement on the Pleyel 1848 fortepiano at Cobbe Collection on my first visit	The melody line has seamless gaps between the notes and smoother legato compared to the CD 1 performance on the Pleyel fortepiano 1842 at Finchcocks Museum	29
CD 3 The 2nd Subject from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement on the Erard 1845 fortepiano at Cobbe Collection	One can hear bumps caused by each note of the melody line (due to the swift motion of the hammer hitting the strings as explained in DVD 1)	47
CD 4 The 2nd Subject from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement on the Pleyel 1848 fortepiano at Cobbe Collection	One can hear smoother legato lines (because of the slower motion of the hammers as explained in DVD 2)	47
CD 5 illusion of portamento effect on the Pleyel 1848 fortepiano	Creating an impression that resembles an effect of portamento in the melody	55, 63
CD 6 The 1st Subject from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement on the modern piano before commencing the research	Played clearly; it is rhythmically stricter and more straightforward compared to the performance in CD 7	60, 61, 63,
CD 7 The 1st Subject from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement on the modern piano after the research	More varieties in the dynamics than CD 6 even in this agitated section at a fast tempo	61,
CD 8 Straight approach on the Pleyel fortepiano	legato by the straight approach on the Pleyel fortepiano (Unwanted accent on each chord can be found as explained in the main text)	67

CD 9 Elastic approach on the Pleyel fortepiano	legato by the elastic approach on the Pleyel fortepiano (Carefully gauging the dynamics of each chord)	68
CD 10 Straight approach on the modern piano	legato by the straight approach on the modern piano (Listening to the sound between the two notes which had the same volume level)	68, 69
CD 11 Elastic approach on the modern piano	legato by the elastic approach on the modern piano (Listening to the sound through the elastic approach)	69,
CD 12 The Development section from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement on the Pleyel 1848 fortepiano before the research	In this performance, I am trying to bring out the motif played by the right hand by playing the left hand octaves softer, and putting more weight into the right hand in the high register	73
CD 13 The Development section from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement on the Pleyel 1848 fortepiano after the research	In this performance, I am allowing the sound of both low and high registers to resonate without trying to adjust the natural balance of the instrument	73
CD 14 The Development section from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement on the Erard 1845 fortepiano before the research	The approach before the research is applied (the same approach as CD 12)	75
CD 15 The Development section from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement on the Erard 1845 fortepiano after the research	The new approach after the research is applied (the same approach as CD 13)	75
CD 16 The Development section from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement on the modern piano before the research	The approach before the research is applied (the same approach as CD 12)	72, 75

CD 17 The Development section from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement on the modern piano after the research	The new approach after the research is applied (the same approach as CD 13)	75
CD 18 Frequent pedal changes on the Erard 1845 fortepiano in the 1st Subject from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement	The bass note of the left hand, where the pedal is changed, sounds more obvious each time. One can hear the bass notes of B2 flat and C3 more distinctly in every minim beat.	81
CD 19 The original long pedalling on the Erard 1845 fortepiano in the 1st Subject from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement	The bass notes, where the original pedalling is applied, are more harmonised within the melody and the harmony. The original longer pedalling supports the creation of longer phrases.	81
CD 20 Pedalling, articulation and phrasing in the 1st Subject from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement	Following the long and short pedalling marked in the score, the articulation and the phrasing can be recognised more clearly.	82
CD 21 Articulation and pedalling in the Development section from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement	The different pedal markings create different articulations in the first phrase of bars 153 to 156 and the second phrase of bars 157 to 160 in the same passages	87
CD 22 The 4th movement using the sustaining pedal on the Erard 1866 fortepiano	Performance of the 4th movement using the sustaining pedal	89
CD 23 The 4th movement without using the sustaining pedal on the Erard 1866 fortepiano	The 4th movement without using the sustaining pedal (except the pedal sign marked in the last bar)	89
CD 24 The 4th movement without using the sustaining pedal on the Pleyel 1842 fortepiano	The 4th movement without using the sustaining pedal (except the pedal sign marked in the last bar)	89
CD 25 Faster tempo before the research on the modern piano in the 1st Subject from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement	Faster tempo for the 1st subject of the 1st movement was in used before commencing the research	94, 98

CD 26 The 3rd Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 on the Pleyel 1848 fortepiano at Cobbe Collection	Full recording of the 3rd Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 on the Pleyel 1848 recorded at earlier stage of the research in 2016. Since a further access to the Pleyel 1848 fortepiano at Hatchlands was refused at late stage in May 2018, the earlier recordings performed on the Pleyel at Cobbe Collection is used.	98
CD 27 The 4th Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 on the Pleyel 1848 fortepiano at Cobbe Collection	Full recording of the 4th Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 on the Pleyel 1848 recorded at earlier stage of the research in 2016.	98
CD 28 The 1st Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 on the Pleyel 1848 fortepiano at Cobbe Collection	Full recording of the 1st Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 on the Pleyel 1848 in 2018. It was previously intended to return to make a complete recording on the Pleyel fortepiano at Cobbe Collection in summer 2018, however further access to the Pleyel was refused at late stage in May 2018. Further information is in the main text.	98

List of recorded materials (DVD recordings)

Recordings:	Contents:	Pages:
DVD 1 The action of the hammer on the Erard 1845 fortepiano	The first stroke is hit fast to produce a *forte* sound. In this video, the feature of double escapement can also be recognised. The second stroke demonstrates how the Erard fortepiano reacts to a soft *p* sound played with a slow movement of touch. One can see that the hammer does not get enough power to come up to hit the string, and cannot produce a sound. The third stroke in the video is much softer than the first stroke, to create a *p* dynamic, but does not change the speed of attack in comparison to the first stroke.	46, 47
DVD 2 The action of the hammer on the Pleyel fortepiano	The first stroke is played at fast speed, which is the same speed as the first and third stroke of the Erard's video (DVD 1), giving a moderate *mf* sound. The second stroke demonstrates how the Pleyel reacts to a gentle and slow touch played on the keyboard. As the keyboard is pressed slowly at the same speed as the second stroke of the Erard's video (DVD 1), the hammer also comes up slowly and synchronises the movement with the touch on the keyboard.	47
DVD 3 The action of the hammer on the modern Steinway piano (fast attack)	The motion of the hammer when the note is played in a *mf* sound at fast speed. The hammer is raised swiftly with momentum, similar to what one could find in the video of the Erard's	48
DVD 4 The action of the hammer on the modern Steinway piano (slow attack)	The motion of the hammer when the note is played in a *p* at slow speed. The hammer's motion is adjusted according to the touch on the keyboard	48

DVD 5 Sound projection under the same condition as DVD 6	Penetrating tone in the melody in a slow and calm section (under the same conditions as DVD 6)	53
DVD 6 Sound projection under the same condition as DVD 5	Mellower sound in the melody in a slow and calm section (under the same conditions as DVD 5)	53
DVD 7 The touch on the modern piano in the 1st Subject from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement before the research on the Pleyel 1848 fortepiano	The motion of the right hand wrist is more vertical and the hand jumps up from the keyboard	54, 55, 61, 63, 64, 65
DVD 8 The touch on the modern piano in the 1st Subject from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement before after the research on the Pleyel 1848 fortepiano	The motion of the wrist is circling and the hand is staying closer to the keyboard	54, 55, 61, 64,
DVD 9 The motion of the wrists in the 2nd Subject from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement before the research	The motion of the wrist is vertical, and the hands stay close to the keyboard most of the time	71
DVD 10 The motion of the wrists in the 2nd Subject from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement after the research	The motion of the wrist is circling and more flexible than one in DVD 9. This motion is influenced by the way of listening to the sound mentioned in the main text, and one can see the strong connection between the way I listen and the way I physically play.	71
DVD 11 Long pedal on the modern piano in the 1st Subject from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement	The performance with the marked long pedalling in the score. It can sound muddy and too loud if the damper pedal is sustained for a long time on the modern piano.	81
DVD 12 Long pedal on the Erard 1866 fortepiano in the 1st Subject from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement	The performance with the marked long pedalling in the score. It does not give an impression of too heavy a sound, or of the pedal being too long.	81

DVD 13 Long pedal on the Pleyel 1848 fortepiano in the 1st Subject from Chopin's Piano Sonata No. 2 in B flat minor, op. 35, 1st movement	The performance with the marked long pedalling in the score. It does not give an impression of too heavy a sound, or of the pedal being too long	81
DVD 14 The 1st Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the Pleyel fortepiano (1848)	Full recording of the 1st Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 on the Pleyel 1848 in 2018. It was previously intended to return to make a complete recording on the Pleyel fortepiano at Cobbe collection in summer 2018, however further access to the Pleyel was refused at late stage in May 2018. Further information is in the main text.	98
DVD 15 The 1st Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the Pleyel fortepiano (1842)	Full recording of the 1st Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research. Since a further access to the Pleyel 1848 fortepiano at Cobe Collection was refused at late stage in May 2018, a slightly earlier Pleyel grand fortepiano (1842) at The Richard Burnett Heritage Collection at The Finchcocks Charity in a different acoustic is used for a fuller recording to submit with this thesis.	98
DVD 16 The 2nd Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the Pleyel fortepiano (1842)	Full recording of the 2nd Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research.	98
DVD 17 The 3rd Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the Pleyel fortepiano (1842)	Full recording of the 3rd Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research.	98, 99
DVD 18 The 4th Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the Pleyel fortepiano (1842)	Full recording of the 4th Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research.	98

DVD 19 The 1st Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the Erard fortepiano (1845)	Full recording of the 1st Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research. It was previously intended to return to make a complete recording on the Erard 1845 fortepiano at Cobbe collection in summer 2018, however strict restrictions on access to the instrument was made at late stage in May 2018. Further information is in the main text.	99
DVD 20 The 2nd Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the Erard fortepiano (1845)	Full recording of the 2nd Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research.	99
DVD 21 The 3rd Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the Erard fortepiano (1845)	Full recording of the 3rd Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research to represent the result of the research.	99
DVD 22 The 4th Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the Erard fortepiano (1845)	Full recording of the 4th Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research.	99
DVD 23 The 1st Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the Erard fortepiano (1866)	Full recording of the 1st Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research. Since strict restrictions on access to the Erard 1845 at Cobbe Collection was made at late stage in May 2018, a later Erard grand fortepiano (1866) at The Richard Burnett Heritage Collection at The Finchcocks Charity in a different acoustic is used for a fuller recording to submit with this thesis.	99
DVD 24 The 2nd Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the Erard fortepiano (1866)	Full recording of the 2nd Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research.	99

DVD 25 The 3rd Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the Erard fortepiano (1866)	Full recording of the 3rd Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research.	99
DVD 26 The 4th Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the Erard fortepiano (1866)	Full recording of the 4th Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research.	99
DVD 27 The 1st Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the modern Steinway Model B piano	Full recording of the 1st Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research. The recording is edited with a slight reverb to be as close as possible to the recording setting of the fortepianos to make adjustments	99
DVD 28 The 2nd Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the modern Steinway Model B piano	Full recording of the 2nd Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research.	99
DVD 29 The 3rd Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the modern Steinway Model B piano	Full recording of the 3rd Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research.	99
DVD 30 The 4th Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the modern Steinway Model B piano	Full recording of the 4th Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research.	99

DVD 31 The 1st Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the modern Steinway Model D piano	Full recording of the 1st Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research. As the recording on the Erard fortepiano was made on two different types and sizes, the recording on the modern grand piano was also made on two different types for reference. Since the use of the recording environment was restricted when making the recordings of the performance on the Pleyel 1848 fortepiano and the Erard 1845 fortepiano, this recording was made to be as close as possible to the recording setting of the fortepianos to make adjustments.	99
DVD 32 The 2nd Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the modern Steinway Model D piano	Full recording of the 2nd Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research.	99
DVD 33 The 3rd Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the modern Steinway Model D piano	Full recording of the 3rd Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research.	99
DVD 34 The 4th Movement of Chopin's Piano Sonata no. 2 in B flat minor, op. 35 on the modern Steinway Model D piano	Full recording of the 4th Movement of Chopin's Piano Sonata No. 2 in B flat minor, op. 35 to represent the result of the research.	99

Acknowledgements

Many thanks:

- To my supervisors John Irving and Aleksander Szram
- To all the members of the Research Degree Department at Trinity Laban Conservatoire of Music and Dance
- To Rohm Music Foundation, for generously funding my PhD research
- To all the people who supported my visits to the Cobbe Collection in Hatchlands
- To Katrina and Dick Burnett at the Richard Burnett Heritage Collection, the Finchcocks Charity and their curator Ben Marks
- To my piano professor Dina Parakhina
- To my late piano professor Yuko Yamaoka

I dedicate this work to the memory of my piano professor Elena Ashkenazy, who inspired my pursuit of the aesthetic quality in music.

Abstract

In this research project, new approaches to performing Chopin's Second Piano Sonata are explored by using the experiences of two period instruments: a Pleyel original grand fortepiano (1848 - known to have been played by Chopin) and an Erard original grand fortepiano (1845). I researched how my experience of these instruments led to the creation of new knowledge that then informed my approach to performing the piece on the modern piano.

Through comparative analysis of the mechanical features of these instruments, their influence on the pianist's touch, and further consequences for the management of dimensions such as articulation, dynamics, use of pedal, texture balance and tempo, I established myself as an artist-researcher reflecting upon my performance preparations towards recordings of this piece on all three instruments.

I documented my discoveries, reflected on the knowledge gained from documentary evidence, and exemplified how this was applied on the modern instrument in text and audio/video. The research is an account of how the instruments teach me how to play this work. Performance of the Sonata on the Pleyel and the Erard fortepianos can be creatively reproduced to a great extent on the modern instrument, suggesting, in turn, that modern piano pedagogy might benefit from insights gained from this work.

Chapter I

1.1. Methodology

In this research project, I explored different approaches to performing Chopin's Second Piano Sonata using the experiences of two period instruments: a Pleyel original grand fortepiano (No. 13819, Paris, 1848, Cobbe Collection Catalogue No. 33) - known to have been played by Chopin - and an Erard original grand fortepiano (No.16994, Paris, 1845, Cobbe Collection Catalogue No. 32) located at the Cobbe Collection in Hatchlands (Cobbe and Nobbs 2014, pp. 48-51, 60-62).[1] I researched how my experience of these instruments led to the creation of new knowledge that then informed my approach to performing the piece on the modern piano.

This project considers aspects of sound production and its role in the interpretation of Chopin's Second Sonata from a dual perspective: that of the Pleyel and the Erard grand fortepianos introduced above, and the modern Steinway grand piano.[2] Through comparative analysis of the mechanical features of these instruments, their influence on the pianist's touch, and further consequences for the management of dimensions such as dynamic, articulation, tempo, use of pedal, colour contrast, and their creative combination, I established myself as an artist-researcher reflecting upon my performance preparations towards recordings of this piece on all three instruments.[3]

---

[1] In acknowledgment of receiving permitted access to the Pleyel and the Erard fortepianos from Mr Alec Cobbe and support from the Cobbe Collection and National Trust staffs for the period of May 2015 to May 2018.

[2] For the research process, Steinway grand pianos model B and D, and a Yamaha grand piano C3 are used. For the recording of the modern piano, Steinway grand piano B model no. 463100 and D model no. 534141 D are used.

[3] It was previously intended to return to make recordings on both the Pleyel and the Erard fortepianos at Cobbe collection in summer 2018, however further access to the Pleyel was refused and restrictions on access to the Erard were made at that stage in May 2018. This necessitated (i) the use of the earlier recordings performed on the Pleyel and the Erard at Cobbe; and (ii) the use of a slightly earlier Pleyel grand fortepiano (1842) and a later Erard grand fortepiano (1866) at The Richard Burnett Heritage Collection at The Finchcocks Charity in a different acoustic for a fuller recording to submit with this thesis.
I would like to thank Katrina and Dick Burnett for giving kind support and access to their instruments, and Ben Marks for conditioning the instruments.

Comparative analysis of the mechanical features of the three instruments, such as the mechanism, the action, the technical features and how the hammer reacts to the pianist's touch is also explained through video and audio recordings as well as pictures outlining the details. While the primary motivation for my research was my experience as a player encountering the fascinatingly different sound world of mid-nineteenth-century instruments for the first time, my embodied knowledge of Chopin's sonatas as a performer has been influenced in parallel by a variety of sources, including written reports of Chopin's own playing, for example, Chopin's documentary evidence and the recollections of his pupils, along with close study of early editions, and detailed investigation of commercially available recordings stretching throughout much of the twentieth century.

The methodology of this research project refines existing scholarship making a comparison between historical and modern instruments, such as Malcolm Bilson (2005), Daniel Walden (2010) and Donna Louise Gunn (2016).[4] This research is not intended to encourage the imitating or copying of the performance on historical instruments when pianists perform on modern instruments. It is not about 'going back', but about 're-discovering' period instruments in a new context and developing the ideas and perception gained from them to transform approaches towards interpretation on modern pianos.

Taking all aspects discovered in this research collectively, I have developed a reflective account of my practice in text, audio and video. I documented my discoveries, reflected on the knowledge gained, and exemplified how this was applied on the modern instrument. My developing interpretations of Chopin's Second Sonata are profoundly influenced by the instrument technology. In a sense, the research is an account of how the instruments teach me how to play this work. Performance of this piece on the Pleyel and the Erard fortepiano can be creatively reproduced to a great extent on the modern instrument, suggesting, in turn, that modern piano pedagogy might benefit from insights gained from this project.

[4] 'Knowing the Score' by Bilson (2005), 'PianoFortePiano: Exploring The Use Of Historical Keyboards As A Heuristic Guide To Performance On The Modern Piano' by Walden (2010) and 'Discoveries from the Fortepiano: A Manual for Beginning and Seasoned Performers' by Gunn (2015). These three writers make comparisons between historical and modern instruments; however, the main focus of their research is on earlier instruments and/or repertoires from the eighteenth century.

Unfortunately, some of the recordings submitted with this thesis contain background noise, which was unavoidable due to the restrictions of the recording places, the instruments and the equipment. However, the restricted conditions are insignificant to the research itself and this had not affected the quality or the outcome of the research project. Readers are referred to the footnotes on the pages where relevant recordings are introduced later in this thesis for more details.

1.2. Research question

Why do I need to use historical instruments? This question might come first in one's mind as the central aim of this research is to inform performance approaches on the modern piano, not on period instruments. One of the main reasons, and the origin of this research project, comes from my experiences on historical instruments since encountering them during my study at the Royal College of Music (RCM) in London. In comparison to my experience with modern pianos, which I started to play from the age of four, the amount of time that I have spent with fortepianos is shorter. However, encountering the fortepiano and having performance experiences on these instruments opened to me a new world of tone colours which I had not experienced on the modern piano. Since then, I have gained a lot of new ideas and approaches that were useful for performance on the modern piano, yet which would not have been apparent through working with modern instruments alone.

In this research, the historical instruments are used not just as an 'experience' for a modern pianist to get a feeling for the instruments from the period in which Chopin lived, but are examined in great detail so that the instruments become tools that 'teach' us. I had fruitful experiences on period instruments before starting this research, but felt that there was considerable room for greater practical investigation to support and refine knowledge from existing scholarship. This research project discusses the differences between the Pleyel and the Erard fortepianos, and seeks to answer: What can the Pleyel and the Erard fortepianos teach us? How can the performance skills and the knowledge gained on the two historical instruments be transferred to performance on a modern

instrument? And how can the consequences for the management of the various dimensions be applied to the interpretation and performance of Chopin's Second Piano Sonata? I believe that exploring approaches on historical instruments has expanded my view and opened up new possibilities of interpretation as will be shown later.

1.3. Existing scholarship

While significant historical and analytical studies,[5] as well as performance studies already exist in the Chopin literature,[6] these would be enhanced through specific practical experiments with period instruments. Practical exploration of Chopin's works on two instruments he is known to have played would refine existing research, contextualising its effects and results more firmly by investigating the actual physical means of controlling keyboard touch - and consequently, sound production - on these instruments. By applying scholarly knowledge to the practical sessions, we can explore how it works practically on the instrument. Applying the composer's comment documented in the literature on fortepianos, it may be possible to inspect their effect and meaning closely, and experiment with how they actually work on the early instrument by 'sensory-auditory pianistic thinking' (Ekier, 1986). Significantly different technical and musical outcomes between the historical and modern instruments could be examined further for application on the modern piano.

There are a lot of important sources in Eigeldinger (1986) providing Chopin's and his pupils' quotations, but more detailed meaning of these comments can be explored further in practical research. For example, there is the famous statement by Chopin making a comparison between Pleyel and Erard fortepianos (Eigeldinger 1986),[7] but I was not able to fully understand the context just through the text. As a reader, I appreciated that

[5] Such as Reti (1951, pp. 298-309); Samson (1985); Leikin (1992); Rink (1994, pp. 214-244); Rosen (1996, pp. 279-347); Damschroder (2015)

[6] e.g. Walker (1966); Methuen-Campbell (1981); Eigeldinger (1986, p. 42-59); Rowland (1994, pp. 199-213); Colombati (2005, pp. 39-55); Morski (2005, pp. 153-167); Rink (2005, pp. 225-237)

[7] 'When I feel out of sorts, I play on an Erard piano where I easily find a ready-made tone. When I feel in good form and strong enough to find my own individual sound, then I need a Pleyel piano' in Karasowski (1869, p. 96) cited in Eigeldinger (1986, p. 26)

Chopin felt the differences of the two instruments and how the differences between the Erard and Pleyel illustrated the characteristics of Chopin's performance to people at that time (Eigeldinger 2001),[8] but there were no means of appreciating the sensation more practically. It is possible to obtain recordings performed on Pleyel and Erard pianos,[9] and some of these recordings present both Pleyel and Erard fortepianos in one CD recording, but a different piece of music is chosen for each instrument and the contrast between the two instruments is not fully explored.[10] Moreover, one cannot get the sensation of the touch on the instruments only by listening to the recordings or reading the literature. Therefore, there is scope for further examination to illustrate the contrast of the two instruments more clearly.

Once I started this research, and experiencing both the Pleyel and the Erard fortepianos at the same time, the significant differences were noticeable, and Chopin's statement describing the two instruments began to make more sense. Before commencing this research, I was not sure how much I would be able to understand his statement or notice the differences that he was describing. However, surprisingly, I had a similar impression as Chopin concerning the two instruments (Eigeldinger 1986, pp. 26 and 91)[11] on many perspectives. In my research, why these differences occur, how they affect performers, and how they can be considered when interpreting Chopin's piano music is explained, and the quotations from Eigeldinger (1986) are inspected further.

Jim Samson (2001) writes about the use of historical instruments for Chopin's performance in his article, 'Chopin, Past and Present'. He appreciates the excitement of experiencing the Pleyel fortepianos, but at the same time addresses the issues and limitations of using historical instruments. He questions 'how does this [fortepiano] sound-world sit with today's culture, to which it must now belong?' (Samson 2001, p. 382). He continues

[8] '"Erard-Pleyel! - Liszt-Chopin!" These two oppositions, in circulation in Paris from the mid 1830s, firmly place the notions of concert and salon at two extremes' in Eigeldinger (2001, p. 391)

[9] Such as: Dan Thai Son et al. (2006); Daniel Grimwood (2008); Daniel Grimwood (2010); Edna Stern (2010)

[10] Howard Shelley (2009) and Makoto Ueno (2013)

[11] See pages 20 and 27

> Even the most perfectly restored instruments will not produce that ringing top f"" we are all used to in the D flat major Scherzo, Op. 31, nor the smooth joined-up line of the late E major Nocturne, op. 62, no. 2; more generally, the voicing of the early instruments is often uneven, their mechanisms can be unpredictable, and their tuning tends to be volatile when compared to the modern concert grand.
>
> Samson (2001, p. 382)

Having carried out practical research on the fortepianos at the Cobbe Collection, I would argue against Samson's opinion on fortepianos. Of course, compared to the standard of modern concert grand pianos, the condition of fortepianos is less stable, but the point in this research is not the condition of the instrument but how to interpret the music by using the historical instruments. I believe that this does not affect or limit the performance on these instruments as much as he suggests.

At the start of my research, I was faced with the issues that Samson listed above. I also used to think, before commencing this research, that the possibilities and capabilities of fortepianos were more limited compared to modern pianos, so that the variety of the repertoire in Chopin's music for playing on early instruments would sometimes have to be restrained.

However, through my exploration on the two fortepianos, I realised that all the 'problems' Samson points out can be transformed as a key to 'resolve' these issues of performing Chopin on the fortepianos. The issues he raises can be seen as factors preventing a player from presenting the same kind of performance quality on a fortepiano as on a modern piano. However, by not treating these issues as failings on fortepianos, but instead by searching for how to overcome the challenges that fortepianos present, the player can develop a better understanding of how to communicate and deal with this kind of instrument. For example, the 'ringing top f"'' sound and the 'smooth joined-up line', which Samson claims is not available on fortepianos, can be achieved on the fortepianos in effective ways as my practical research shows, and these effective ways on period instruments are also able to be transformed for the performance techniques on modern pianos as I explain in the next chapters. The iconic image of Chopin tends to be that he was a salon composer (Samson 1994, pp. 2-4), very sensitive and reserved; however, he

includes a lot of contrasting dynamics and dramatic expressions in his works, and these can be conveyed not only by modern pianos but also by historical instruments which Chopin was working on when he composed his music.

There is an interesting lecture by Malcolm Bilson (Cornell SCE, 2016) in which he examines aspects of notation in early Classical and Romantic music in front of a live audience, and plays various excerpts both on a five-octave eighteenth-century Viennese piano and a modern Steinway. Bilson demonstrates notions of articulation, tempo, and pedalling and how they work differently on period and modern instruments. This unique presentation gives clear comparisons between the two instruments on the stage, and the differences and the effects of both instruments are carefully outlined. He explains the cause of the differences on the two instruments from different periods, and demonstrates how composers such as Beethoven and Mozart intended or heard the particular notes and articulations on their pianos, and how these can be interpreted for performance on a modern piano. He describes how historical instruments can enhance pianists' understanding of performance directions such as articulation, tempo and dynamics.

He appreciates the differences in the outcome of performance on period and modern instruments. However, in some cases his view does not allow modern pianos to make use of their newer features. For example, he uses Beethoven's Piano Sonata Op. 26 to show the interpretation of the tempo and the articulations such as *legato* and *staccato* in the score. He plays excerpts from the recordings of three pianists performing the piece.[12] Two pianists ignore the subtle differences of the signs, and I agree with Bilson that the piece should not be performed this way. In contrast, the third pianist performs with the sense of tempo that Bilson suggested, and with the feeling of carefully articulated *legato* and *staccato.* Bilson, however, is not satisfied, because the notes are played using the pedal and a lack of silence between the *staccato* notes, although we can hear the *staccato* effect even over the pedalling. I would say that, on this occasion, the interpretation of

[12] Three recordings were picked up randomly from a selection of the following performers. Bilson intentionally didn't name the performer of each performance to avoid criticising particular pianists.: Claudio Arrau, Alfred Brendel, Richard Goode, Friedrich Gulda, Wilhelm Kempf, Anton Kuerti, John O'Conor, Maurizio Pollini, Bernard Roberts, Artur Schunabel and Gerard Willems.

the pianist works effectively on the modern piano even if it does not on a historical instrument, or if Bilson believes that it is not acceptable. I think that on some occasions the interpretation can be more flexible by recognising the different natures and effects of the instruments.

Bilson also picks up the upbeat note at the start of Sonata Op. 26 and argues that it is impossible to play the light upbeat using a Steinway grand piano. He says that the damper of the Steinway comes down while the sound is developing, therefore it cuts the sound off and sounds chopped. He demonstrates by using the Steinway (with some exaggerations) to show how it is not realistic. However, on this point I would argue with him, and suggest that it is possible, even on the modern grand piano, if the performance technique and the understanding of the instrument that the performer possesses meet a sufficient level of intellectual and artistic sophistication. In my research, I demonstrate and explain how performance effects that are easily found on the fortepianos, but which seem to be difficult on modern pianos, can be achieved in performances on modern grand pianos. My research does not simply compare and contrast the instruments from the two different periods, but works intensively on both historical and modern pianos to find ways of combining interpretations that seem to be suggested by the mechanics of the fortepianos, with the different mechanics of the modern grand. These outcomes cannot be gained instantly, but regular practice and examination are essential to evaluating and monitoring achievement of my aims. My research is intensively focused on a number of key issues of touch and sound management; essential approaches on both historical and modern grand pianos are carefully examined throughout.

While Bilson's focus is on the comparison between the eighteenth-century Viennese piano and a modern Steinway piano, which he describes as 'complete opposites' in his talk, I examine and demonstrate with fortepianos from the nineteenth century which, while closer to the modern grand, still retain a sound quality that is recognisably similar to that of the fortepianos of Beethoven's day. My research applies some of Bilson's ideas to repertoire and pianos from the period immediately following Beethoven, addressing a chronological gap that Bilson's work leaves out of consideration. Considering that from around 1860 pianos are essentially the same as those used on concert platforms today (Rowland 1998, p. 40), the fortepianos that I use for this research (Erard 1845, 1866 and Pleyel 1842, 1848) represent one of the last forms of the fortepiano manufactured in the

nineteenth century. Since the two fortepianos were manufactured in the period of transition in piano making technique, they have features that are common to both fortepianos and modern pianos.

Anatole Leikin (1992)'s essay on Chopin's sonatas addresses the structure of the Second Sonata. Leikin (1992, p. 161) raises the question of why the slow movement (the funeral march) in the Sonata follows the scherzo movement as the usual order of movements in a sonata cycle is the opposite. In Leikin's opinion, 'the simplest and most compelling reason is that the plan of (Chopin's Second Sonata) Op. 35 follows that of Beethoven's Piano Sonata Op. 26' (Leikin 1992, p. 161). This Beethoven Sonata, which also has a funeral march in the third movement, was Chopin's favourite piece and Chopin often played, taught and analysed it for his pupils (Eigeldinger 1986, pp. 59, 61). Leikin (1992) compares the first movement of the two sonatas by Beethoven and Chopin, and mentions the differences in tempo between the two, describing the first movement of Op. 26 as relatively slow. In Malcolm Bilson's view (Cornell SCE, 2016), this movement is not especially slow but light and flowing faster because the piece is written in three eight-time not three four-time. If we follow Bilson's interpretation, we can interpret both first movements as having the nature of flow and momentum.

Analytical research on the Second Sonata, such as by Reti (1951, pp. 298-309), Samson (1985, 1996) and Rosen (1996, pp. 279-347) raise theoretical issues about the piece including the structure of the development section and the need for the repeat mark in the first movement. How these analyses and interpretations affect the practical performance, and how they differ from a performance that does not consider these analyses, is examined in my research. In this project, I take the view that I must demonstrate not only an understanding of the analysis, but also of how to apply the knowledge gained, and how to document effectively the process of applying it.[13]

[13] Jan Ekier (1986), cited in Skowron (2010, p. 9) states that 'research should be based on all types of reasonably reliable and mutually corroborative sources, and should encompass historical, psychological and also strictly musical methods, as well as, in particular, sensory-auditory pianistic thinking'.

1.4. Instruments

Although there are many scholarly studies relating to Chopin and his music, there are few recordings of Chopin's sonatas on the fortepiano, especially in comparison to the number of recordings on the modern piano. Listening to existing period piano performances, it is apparent that there is scope for further recordings and a more detailed practical examination that explores this repertoire on historical pianos. While some of Chopin's smaller works, including the popular mazurkas, waltzes and nocturnes have been widely explored using early pianos or modern copies, his larger-scale works - and especially the piano sonatas - have not. These works, and particularly the Second Sonata Op.35, have been in my repertoire for 16 years, and the choice of these works for my project with the Pleyel and Erard instruments was intended to extend the sophistication of my understanding of repertoire with which I already have a deep familiarity, and which I have performed many times on the modern piano.

I believe that fortepianos are one of the most useful tools for researching the work of earlier composers. Playing the type of instrument the composer was using is an important source for researching the experience of the composer as they created their compositions. As the composer was using different instruments from those of today when they composed and performed the piece, as well as when they were listening to performances, a different impression would have resulted in comparison to our modern experiences created by modern instruments. Historical instruments give us the possibility to follow what the composers were listening to at the time of composition.

While Chopin knew a variety of piano types current in the first half of the nineteenth century, I have decided to restrict my study to two early models with which he was especially familiar: Pleyel and Erard. Notably, the Pleyel fortepiano from 1848, which is used for this research, is the one that Chopin selected himself and specially brought from Paris for his visit to England. The Erard fortepiano chosen for this research is from 1845. Although the Erard is slightly earlier in date than the Pleyel, it has a more 'advanced' mechanism, incorporating the double escapement action which was first patented by the Erard company in 1821. I selected the Steinway for a modern piano model because the

manufacturer is one of the dominant companies in the present day, in the same way that Erard and Pleyel were dominant in the nineteenth century.

Chopin played both Pleyel and Erard pianos during his lifetime, and although the Pleyel fortepiano tends to be seen as the iconic instrument for Chopin, with the Erard placed in opposition, Chopin actually did not dislike the Erard. Chopin stated that the purpose of the two instruments were different for him, and that he preferred to use each instrument in different contexts (Eigeldinger 1986, p. 26; Wada, 2014). Understanding the differences between the two instruments can help us to understand Chopin's views, as well as how he built his relationship with each instrument and how he dealt with each during performance. Experiencing the differences between the two instruments helps us to understand the process by which Chopin found different aspects of his music more effective or less effective on each fortepiano.

By using the two selected instruments for practical research, I have been able to better understand Chopin's documented thoughts, interpretations and ideas from the literature and recollections of his pupils and other contemporaries. The practical research I have conducted has aimed to find what works most effectively on each instrument, and has created the possibility to experience and understand Chopin's statement describing the character of the two instruments, as reported by Marmontel,[14] a pianist, teacher and writer on music who lived close to Chopin from 1832:

> If I am not feeling on top form, if my fingers are less than completely supple or agile, if I am not feeling strong enough to mould the keyboard to my will, to control the action of keys and hammers as I wish it, then I prefer an Erard with its limpidly bright, ready-made tone.
> But if I feel alert, ready to make my fingers without fatigue, then I prefer a Pleyel. The enunciation of my inmost thought and feeling is more direct, more personal. My fingers feel in more immediate contact with the hammers, which then translate precisely and faithfully the feeling I want to produce, the effect I want to obtain.
>
> (Marmontel 1885, cited in Eigeldinger 1986, p. 91)

[14] Eigeldinger 1986, pp. 130-131

While I cannot experience an exact replica of the fortepiano (nor how Chopin performed on them), by examining and finding out features of the two instruments and what works effectively on each, I can at least re-enact a similar process of discovery. This process has helped me to develop my interpretation and performance techniques for playing Chopin's music on the modern piano, as will be shown later.

In this research, I use the instrument which Chopin selected himself and performed on during his concerts in England, as mentioned earlier, so that the sound ~~and tone colours~~ that Chopin actually heard during his lifetime can be examined. As it has been more than a hundred years since the Pleyel fortepiano was manufactured, we cannot guarantee that the condition of the instrument has remained the same from the time the composer was performing on it. However, it can still provide us with the tones and the action, which are extremely close to the sensations that the composer felt. This means that what Chopin liked and how he responded to these types of instrument can be explored practically, and helps pianists to experience the sensations that the composer possibly experienced. Without using these instruments, we can only estimate, imagine and guess how the composer evaluated the instrument, using scholarly evidence; but by using the actual instruments practically, 'second-hand' descriptions of these instruments in the scholarly literature become more convincing and the pianist is able to establish ideas more firmly.

There are various Pleyel fortepianos available, but I believe that using this particular 1848 Pleyel is an important source for this research. At a late stage in the research, I was fortunate to be able to access an 1842 Pleyel in the Finchcocks Collection, and I was very surprised with the differences between the two Pleyel fortepianos, an 1842 model Pleyel grand fortepiano (Richard Burnett Heritage Collection , n.d.) which was previously available at Finchcocks museum and the 1848 model Pleyel grand fortepiano which I use for this research. One may point out that the differences were not solely because of the instruments but could include other factors such as the condition and location of the instruments. It is true, however, that I still noticed significant differences even considering possibilities of other causes. The differences include the tones and the keyboards' responses. The Pleyel at Finchcocks provided the characteristic action of the Pleyel's mechanism, but the tone was different from the Pleyel at the Cobbe Collection. For example, the recording of a performance on the Pleyel at Finchcocks (CD 1) illustrates the

melody line of the second subject of the first movement of the Second Sonata (Figure 1).[15]

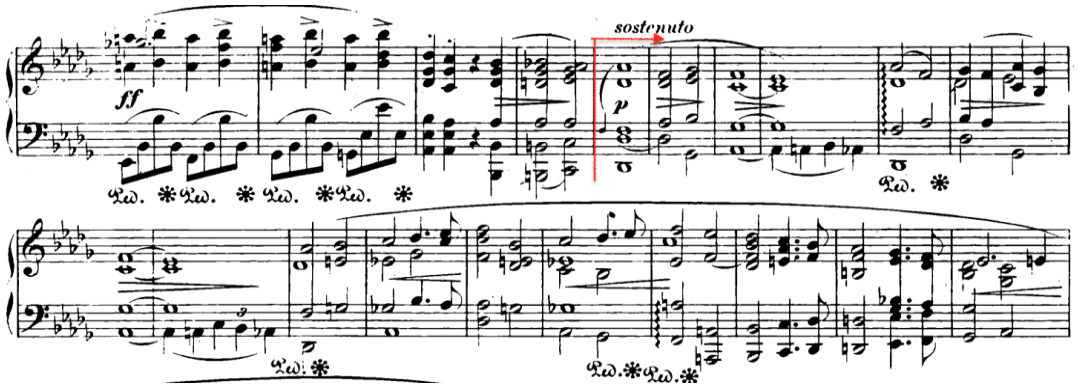

Figure 1. The second subject from the first movement of the Second Sonata (Breitkopf und Härtel edition edited by Brahms, p. 3)

Comparing this recording to the recording of the Pleyel at the Cobbe Collection (CD 2), the Pleyel at Finchcocks pronounces the individual notes of the melody very clearly, while the Pleyel at the Cobbe Collection creates the melody line more seamlessly and allows for a smoother *legato* in this lyrical section.[16] The keyboard action was also different in the two instruments. It was more difficult for me to control relatively soft sounds with the Pleyel at Finchcocks as the action of the hammers had more resistance, and the key action was firmer compared to the instrument at the Cobbe Collection. The hammer did not hit the strings when I touched the keys softly so that several notes in the left hand accompaniment cannot be heard in the recording at Finchcocks. Although the venue and the condition of the recordings are different, these recordings illustrate an example of varieties in Pleyel's fortepianos.[17] Christopher Nobbs (2010, p. 40) writes, in his article 'Chopin's Piano

[15] The recording of CD 1 was made at Finchcocks Museum on the last opening day and contains a large amount of background noise. Since the Museum was closing down at the start of this research, this was the only opportunity to play and make a recording on the instrument at that point. The purpose of presenting CD 1 is to introduce general differences between the Pleyel 1842 and 1848 fortepianos and my impressions playing the instruments for the very first time. It is not used for demonstrating scientific analysis so the background noise is not an issue here.

[16] The recording of CD 2 contains background noise as the recording was made while the museum was open to the public. This recording is to introduce general differences between the Pleyel 1842 and 1848 and how I reacted to the instruments when playing on them for the very first time. Therefore, the background noise is insignificant here.

[17] These two recordings were recorded on my first visit to each place.

Actions', that Pleyel models are varied even if they are manufactured in the same year. Therefore, it is important and meaningful to use this particular instrument that Chopin selected for himself for this research.

The availability for detailed study of a particular instrument chosen by Chopin for his recitals offers a unique opportunity to explore which of its mechanical features may have appealed to his touch, and consequently his musical imagination. This knowledge, captured through my playing of Chopin's sonatas on the instrument, has the potential to deepen our understanding of Chopin as an artist inspired by mechanical responses in the various fields of touch, sound, dynamic, texture, phrasing, tempo – features explored in more depth in Chapter Three.

It would also help us in surmising how Chopin performed and how Chopin came to particularly like the Pleyel pianos. There was a strong connection between the Pleyel fortepiano and Chopin as we can see from the research of scholars such as Eigeldinger (1986, pp. 25-26) and Vogel (2005, p. 70) so that knowing the instrument in detail could suggest the way in which Chopin performed and his preferences. There should be reasons why Chopin chose this instrument, and finding out the reasons by means of a practical approach would lead us to what was important for Chopin himself when he performed on the piano.

Therefore, I believe that we should not neglect the relation between the composer and his pianos. I think that the sensitivity, the action and the tone ~~colours~~ of the Pleyel, which will be explained in detail in the second and third chapters, must have supported and inspired Chopin to express his musicality on the piano. Although Chopin was already a talented composer and pianist when he came to Paris, I think that his encounter with the Pleyel piano inspired him and broadened his view of composing piano works. The hammer action and characteristic tone produced by the Pleyel is significantly different from other fortepianos in Paris at that time, such as the Erard instruments. It is possible to say that the mechanics of the Pleyel have enabled the technique and the sound that Chopin required for his music and his musical expression. Therefore, the relations between the composers and their instruments can have very important ramifications for how particular works are interpreted.

As well as the importance of the relationship between the composer and the instruments, it is also important to recognise that the player herself needs to develop and establish a way in which to communicate with the instrument. The communication with the instrument I perform on is essential - how the piano reacts to my touch, what the sonorous quality is, what works most effectively on the instrument in question. Fortepianos are more sensitive instruments compared to modern pianos because of the smaller scale of the size, how the instrument is built with a simpler structure, so searching for what works most effectively on the instrument and adjusting performance techniques for the instrument is essential when dealing with them. I used to think that I was careful enough in adjusting my touch for each particular instrument even before encountering fortepianos, but I realised that this was not sufficient, as on some occasions I found difficulties in controlling the touch and the sound, and I was not very sure what to do to solve the issue with the modern instrument. Since I began performing on fortepianos, however, I have become better at communicating with modern pianos as well, and am able to try various approaches. I became more sensitive to differences, even subtle ones, and how the instrument reacts to my touch on the keyboard. As fortepianos are more delicate and sensitive, I got used to feeling the differences more sensitively so that it helps when I perform on modern pianos. I am now more capable of spotting subtle differences of the instrument's reactions. I became more careful with dealing with the instruments. This led me to resolve the issues that I was having at an earlier stage in my piano studies, which I will recount in the next section.

1.5. My background

> When Paderewski felt he was performing under par, his first worry was not producing too many wrong notes (these were merely "uninvited guests", in Rubinstein's terminology) or failing to elucidate the formal structure of the work, but not being able to produce "the tone".
>
> (Hamilton 2008, p. 142)

Philip (2004, p. 239) points out that there is a growing demand for accuracy, clarity, and rhythmic control of performance over the period of recording in the modern era.

Following such tendencies, I was taught by some of my Japanese piano teachers in my early years that the first priority of the performance was the accuracy of each passage and minimising accidental wrong notes. When I was experimenting with various tones and touches in detail, I was told to put it aside to focus on accomplishing the quality of accuracy first as the teachers were concerned that my view of the music could be limited by looking into too much small detail, and the sensitivity to the interpretation might outweigh accuracy. Of course, the accuracy of the notes and fidelity to the score that the composer marked are one of the most important and vital issues. However, focusing and being too nervous about accuracy and not making mistakes sometimes takes away opportunities for experimental exploration of the work, or looking at the piece from various aspects. Although the accuracy is important, we always need to expand the view of the work and look for new ideas and ways of performing the piece, and look into very fine details of the piece, like the tone colours at particular places. It is sometimes too late to start exploring the details of the music after completing and memorising the work as the approach and interpretation of the piece may be too fixed by that time.[18] If the greatest importance within the performance is given to accuracy, it may diminish the opportunities for considering detailed touches and tones in the process of working on the piece. I think that exploration is more effective if a player is encouraged to experiment at the same time as working on the piece for accuracy.

Some of my teachers in Japan placed an importance on accuracy because my playing contained quite a few subtle inconsistencies of tone and also occasional wrong notes. They were pointing out that the sound projection of my performance was too delicate and sensitive, and that I should be producing a more resonant sound by putting more weight of the body on the keyboard. This might have led to physical problems with using my body, which started to appear at a later stage, and the quality of my *forte* sound. Fortunately, at the earlier stage of learning the piano, I had several piano teachers in the school, and one of them, pianist Shinji Urakabe, was very careful in teaching me how to listen to the sound and how to use my body to produce the sound that I wanted.

[18] Sandor (1981, p. 194-195) proposes that there are four ingredients in the process of memorisation and one of them is 'motoric or kinetic memory'. He says that the 'Motoric memory is of utmost significance especially for instrumentalists'.

I studied with him for about five years, but since he left the music school when I was about twelve, the use of my body and the way of projecting sound started to change gradually. I recollect that I was not careful enough to self-control my performance technique at that time and was not able to maintain the use of body learnt from him. I did not realise at that time that the way in which one listens to the sound, and that one uses the body, could change the performance significantly. I was not conscious about the change during those few years but by the time I started to receive critical comments by the age of about fifteen, I could see that my performance was completely different from the one around the age of eleven and before by means of the body language as well as the quality of the produced sound. For example, while subtle differences of dynamics and detailed articulations are demonstrated with a flexibility of the wrist movements and the body posture in the performance at the age of nine, the nuances of these expressions look much restricted by the stiff posture and hand motions in the performances recorded around the age of fourteen and onwards. The other teachers at that time had their specific techniques of touch and use of body which restrict the movement of arms and upper body, though they did not force me to use the body in the same way that they did, I believe that I was copying their styles unconsciously through the learning process.

Because of the demands of performing in big concert halls, I was told that the sound should be penetrating enough to be heard even in large concert halls. I was performing with orchestras on some occasions so a penetrating sound was essential. I knew the importance of sound quality, but I was not sure how to create the quality of sound, and this led me to develop bad habits of uncomfortable and stiff postures in performance.

I received an ABRSM International Scholarship which covered all tuition fees for the four-year undergraduate course at the Royal College of Music and supported my living expenses, and I was able to come to London to study at the RCM from 2007. My piano professor, Dina Parakhina, recognised the issue of the use of my body once she listened to my performance, but she explained that it would not be solved by changing the posture and the use of my body, but by changing how I listen to the tones and what tones I look for. She told me that if I listened carefully to the quality of the sound that I wanted to produce, then the body movement would naturally follow. Before this, I was putting the cart before the horse by thinking that if I concentrated on a correct and flexible use of the

body, then an effective sound would be produced. If I concentrated on changing and improving the posture as the first priority, my performance could look visually better as well as sounding slightly better than before. However, this would not improve the issue fundamentally but only cover the surface of the issues. This temporary measure is not able to resolve the core issues behind bad posture, as this is merely a symptom of a more fundamental underlying issue to do with sound quality. As a result, paying attention to how to listen to the sound, a better quality of the sound could be found, for example, in a *forte* sound. My *forte* sound used to be more percussive but changed quality to become less strident. The voicing of *forte* chords was also clearer. The sound of my performances gradually improved and the use of my body naturally changed. Watching my performances during my studies in London, I am very surprised at how I use my body and arms very flexibly.

Along with my study with Professor Parakhina, my performance experience on the fortepiano started in my first undergraduate year at the RCM as a part of the compulsory principal study. My study on fortepianos also helped me a lot with improving my performances on modern piano. Encountering the fortepiano was, at first, a surprise. It opened for me a new door into the tone colours which I did not meet on the modern piano. Soon after I was intrigued by my experiences on period instruments, and continued practising and performing the instruments in concerts even after finishing the course. I struggled at the beginning with how to deal with the instrument, as the touch and the action of the historical and modern pianos were very different though their appearances are similar. But I had lessons on fortepianos with David Ward as well as occasional masterclasses with leading fortepianists such as Melvyn Tan and Malcom Bilson, and these experiences widened the possibilities for exploring performance skills on historical instruments. They taught me the gentle touch and subtle movements of the wrists that particularly suit period instruments, along with analysis and interpretations of the music I was playing such as Beethoven's Piano Sonata op. 109.

Through my experiences on period instruments during my study at the RCM, my interpretation, thoughts and ideas on performing Chopin's music, which I learnt only on the modern pianos, have all been broadened, and my view has expanded. I encountered new tone colours which I was not able to find on modern pianos, and which also suggested to me ways of dealing with pianos when I perform. Through the experiences of touching and

playing fortepianos, which are more sensitive and delicate instruments compared to the modern piano, I discovered how I should carefully listen to the sound and approach the instruments even when playing on more developed modern pianos.

1.6. Outline of the remainder of this thesis

• What are the differences between the Pleyel and the Erard fortepianos?

The second chapter gives a comparative analysis of the mechanical features of the three instruments (Pleyel 1848, Erard 1845 and a modern Steinway grand piano model D), such as the mechanism, the action and the technical features, and explains how these can be instructive for performance on modern piano. Detailed examination is described in texts along with video illustrating the movement of the hammers by slow motion videos and audio recordings showing how it affects the sound and the touch.

• How can the performance skills and the knowledge gained on the two historical instruments be transferred to performance on a modern instrument?

The consequences for the management of various dimensions are explained in Chapter Three and divided into four main sections, each focusing on a different aspect such as touch, dynamics and pedalling. These are explained by video and audio recordings along with text and charts illustrating the details.
Each section examines how the effects gained on the fortepianos can be applied on modern piano and the path towards the new interpretation is monitored and described by recordings of my performance along with documented records.

• How can the consequences for the management of the various dimensions explained in Chapter Two be applied to the interpretation and performance of Chopin's Second Piano Sonata?

In Chapter Three, creative combinations of the consequences mentioned in the second chapter are explained. Close study of early editions including the manuscript copy where available, gives possibilities of different interpretations in certain places. The

examples include the use of sustaining pedal and the interpretation of the dynamics marking and voicing in various places.

Commercially available recordings of pianists performing Chopin's piano sonatas are also investigated in this chapter. These recordings include the performance from the early 20th century played by pianists such as Sergey Rachmaninov, the later 20th century such as the performances by Vladimir Ashkenazy and Martha Argerich, and up to latest ones like the recordings of recent laureates of Chopin Competition and pianists of younger generations such as Yundi Li and Yulianna Avdeeva. Recordings performed on fortepianos, such as by Howard Shelley and Makoto Ueno are also discussed.

- How did my performance of the Second Piano Sonata develop after completing this research?

The fourth chapter takes all the aspects explained in the earlier chapters collectively and illustrates the conclusions of this research along with audio and video recordings of my performance of Chopin's Second Piano Sonata on three manufacturers' instruments - the Pleyel 1842 and 1848, the Erard 1845 and 1866, and on the Steinway model B and D modern pianos. The performance on the Pleyel 1848 and the Erard 1845 was recorded at the Cobbe Collection in Hatchlands, however, due to a withdrawal of the access to the Pleyel and a limited access to the Erard made at the late stage in Summer 2018, the performance on the Pleyel 1848 is available in an earlier audio recording only and contains the first, third and fourth movements of the Second Sonata (the second movement is not included). The slightly earlier model of Pleyel 1842 at Finchcocks Museum in Tunbridge Wells was used for the performance of the complete sonata in audio and video recordings. The performance on the later model of the Erard 1866 was also recorded at Finchcocks. The performance on the modern Steinway pianos was recorded in the Recording Studio and the Peacock Room in the music faculty of Trinity Laban Conservatoire of Music and Dance, illustrating a reflective account of my praxis, practice and research.

- How can this research lead to further research and contribute to scholarship pertaining to Chopin's music?

The final chapter explains that the performance of this Chopin's sonata on the Pleyel and the Erard fortepianos can be creatively reproduced to a great extent on the modern instrument, suggesting, in turn, that modern piano pedagogy might benefit from insights gained from this method of working. Also, this research illustrates the effectiveness of historical instruments for the purposes of developing performance approaches on the modern piano. This can open up more opportunities for pianists playing both historical and modern instruments and open up the possibilities of researching the music of Chopin further through practical means.

Chapter II

2.1. Introduction

This second chapter gives a comparative analysis of the mechanical features of the three instruments (Pleyel 1848, Erard 1845 and modern Steinway piano) and shows how such an analysis can lead to a reconsideration of options for performance on modern piano. The mechanism shows how the instruments are structured, and illustrates the differences of the hammers' and the dampers' actions. How these differences affect the tone, and the technical features, are explained with audio and video recordings. The consequences for the management of various dimensions are also explained later in the third chapter, in four main sections - each focusing on a different aspect.

I was interested in performing on historical instruments right from the beginning of my study at the RCM in London and they have inspired me ever since, especially regarding the beautiful mellow tone which I have never heard on modern pianos. However, it is important to note that I was not originally intending to connect the performance skills of historical instruments with those of modern instruments at the start of my research. Through my experiences on the fortepianos before this research, what I thought would be useful for the performance on modern piano was an 'imagination' of ideas for tone colours; it was not to learn practical 'performance skills' for the modern piano from the historical instruments. Before starting this research, I hesitated to combine the performance skills of historical instruments and modern instruments because I had some concerns as follows.

My first concern was that I did not want to imitate the sound of the historical instruments. My experiences on the fortepianos were definitely valuable and helpful for me to get new ideas and creative imagination of tone colours, but I did not want to simply 'copy and paste' by applying historical performance skills to the modern piano. The sizes of the instruments are different and the nature of the sound is also different. Because of the development of the instrument, while they are both pianos, the features of the two are very different. For instance, I did not think that it would be useful to have the performing style of the 'old instrument' on the 'new instrument' as it felt, to me, like installing a 1990s

computer programme onto a 2020 computer. Instead, I was trying to learn from the historical performance but not to combine the ideas of historical and modern performance.

Secondly, I was worried that getting into historical performance too closely might narrow my view of my performance on modern piano. As the size of period instruments are much smaller compared to modern pianos, I thought that my performance and the sound volume would have been minimised accordingly.

Thirdly, I thought that the techniques of performing on the fortepiano and on the modern piano were so different that they couldn't possibly be mixed up. There are pianists who have specialised in performing on fortepianos, and others (so called 'concert pianists') who play basically only on modern pianos except for a few occasions. It is quite common for fortepianists to perform on both historical and modern pianos, but not many modern pianists perform on fortepianos. It is noticeable, when examining the discography, that 'concert pianists' tend to perform on period instruments in the manner of the modern instrument. This leads to the distinctive timbres of the historical instruments not always being conveyed in the most effective ways. Some of these performances occur when historical instruments are used to experiment for special occasions, either for a new experience or for commercial reasons. Modern pianists are sometimes invited to perform on period instruments from the composer's lifetime for music festivals, for examples the ones organised by The Fryderyk Chopin Institute.[19] The National Institute of Fryderyk Chopin also produced CD recordings 'The Real Chopin - Complete Works', which offers the complete works of Chopin performed on period instruments by the laureates of the Chopin Competition,[20] including those who have contact with historical instruments only on rare occasions. If modern pianists perform on historical instruments at music festivals, or to show the performance on the instrument that the composer was using, this offers wonderful opportunities for the performers as well as the audience. However, I doubt if these experiments would be worth demonstrating on the professional stage without the performers having had considerable experience and preparation on historical instruments. Therefore, I used to think that I should draw a clear line between the performance of historical and modern instruments.

---

[19] The Fryderyk Chopin Institute (n.d.) *Chopin and his Europe* [Online]. Available at http://en.chopin.nifc.pl/festival/edition2012/info

[20] SKLEP NARODOWEGO INSTYTUTU FRYDERYKA CHOPINA (n.d.) *The Real Chopin* [Online]. Available at https://sklep.nifc.pl/index.php?podk=1

However, as I started my research, the fortepianos changed my views and dispelled the concerns that I had as above. At the start of this research, I was not intending to apply the technique gained on fortepianos to modern pianos, but the consequences for the management of dimensions such as articulation, touch and dynamics on the fortepianos were interesting, so I tried applying similar approaches on the modern piano. Surprisingly, it worked effectively on the modern piano as well and I continued to research how the consequences would help my performances on the modern piano. These details will be explained later in the chapter, but they include how I touch the keyboard, how I articulate the sound and how I control the textural balance.

Once I started performing the Second Sonata on the Pleyel and the Erard fortepianos at the Cobbe Collection in Hatchlands, I immediately noticed the differences between the two instruments, and wondered how they could prompt such significant differences in the touch, tones and performance effects. I stopped playing through the piece, and examined short sections, phrases and single bars. In order to look into more details, and to find out the cause of the differences, I pressed just one key to observe the hammer's action inside the instrument and found clear contrasts in their appearances as well as very subtle differences such as the shape of the hammer's felt.

In this chapter, I will first examine the differences between the Pleyel and the Erard fortepianos, such as the mechanics and hammer actions, and see how they are designed differently in order to react and respond to the pianist's touch.

2.2. Mechanism

The Pleyel and Erard firms, two of the leading manufacturers in the nineteenth century in Paris, had a variety of models, each with different actions. Although the two companies were producing pianos at the same time, they had different origins and the tonal character of their instruments varied substantially. Due to Erard's invention of the double escapement in 1821, their instruments gained a reputation as the most radical of their time. On the other hand, it did not simply mean that the mechanics of Pleyel pianos

were technically behind the Erard. Many pianists also liked and preferred the simpler and classical actions of the Pleyel (Nobbs 2010, pp. 39-40).

The Pleyel piano more closely resembles the English fortepianos (Clarke 2005, p. 36), such as manufactured by Broadwood in the eighteenth century.[21] The structure of the piano is closer to the English fortepianos from the eighteenth century rather than the modern piano. The Pleyel has a much simpler action compared to the Erard, but enables more direct contact between the performer and the instrument. Christopher Nobbs (2010, p. 39) describes that 'the action's particular virtue was an intimacy of sensation - subliminal perhaps, yet significant - where the player is aware of the sequence of engagement, acceleration, and release in each descent of a key'. Also, Christopher Clarke (2005) comments on the Pleyel's approach to this action as follows.:

> Pleyel remained ever faithful to the concept of the English grand action . . . All of Pleyel's actions share the same preoccupation with comfort and silent operation; every moving part is cushioned, and the hammer-notches garnished with twice as much soft leather and cloth as their London-made equivalents. Pleyel's action, whatever their design, are direct, supple and agreeable to the touch, and permit a precise control of dynamics. Some designs give a light touch; others are surprisingly heavy to play.
>
> (Clarke 2005, p. 36 cited in Nobbs 2010, p. 43)

On the other hand, the Erard has a more complicated mechanism and the structure is very much closer to the modern piano that is commonly used today. The differences between Pleyel's and Erard's instruments are very clear, as can be seen in the pictures of the mechanism (Figures 2 and 3). Pierre Erard compares his family's piano with English pianos, which are known to have similar actions to Pleyel as mentioned earlier, in his letter to his uncle Sébastien Erard in 1824: 'since I saw that the Liszts wished to see pianos made by an English maker, I took them to see Broadwood in order to prove that I had no bias. . . The sound of English pianos is beautiful, but heavy and thick, that of your piano is direct and seductive' (Adelson et al. 2015b, p. 816). He was admitting the beautiful tone produced by the English fortepianos, but claiming the heavy touch, while the Erard

[21] Chopin described Broadwood fortepianos as 'real [London] Pleyel'. (Eigeldinger 1986, p. 26)

fortepianos had a swifter, lighter touch.

Also, it is notable that the mechanism of the Erard is very similar to the modern piano mechanism, demonstrated by the pictures (Figures 2 and 4). Through these two instruments, we can see one of the routes that have been developed from the nineteenth century to the present day and how the transition was made.

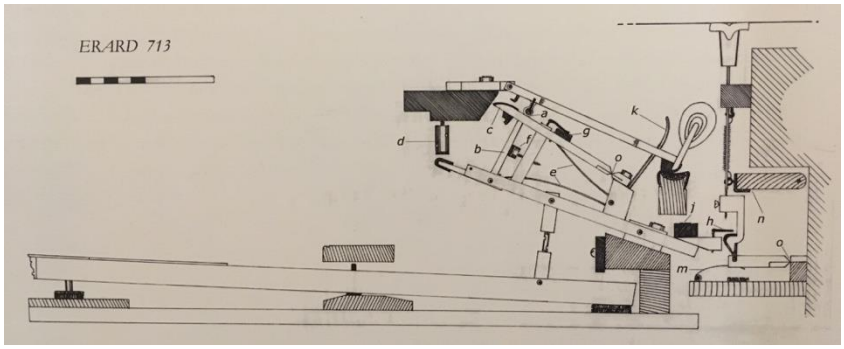

Figure 2. The action of Erard no. 713 from 1843 (Nobbs 2010, p. 42)

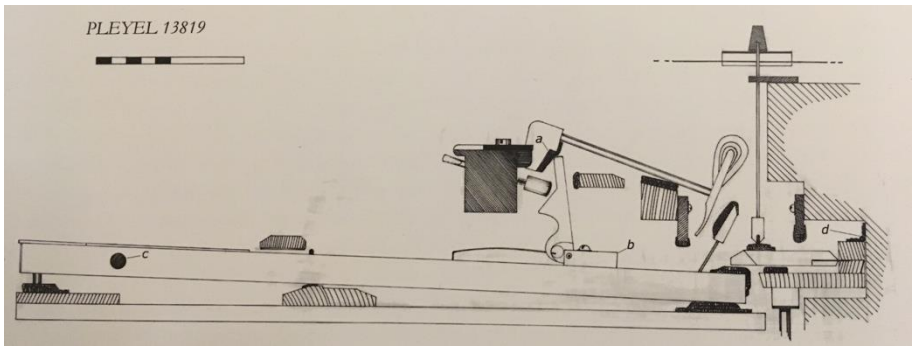

Figure 3. The action of Pleyel no. 13819 from 1848 (Nobbs 2010, p. 42)

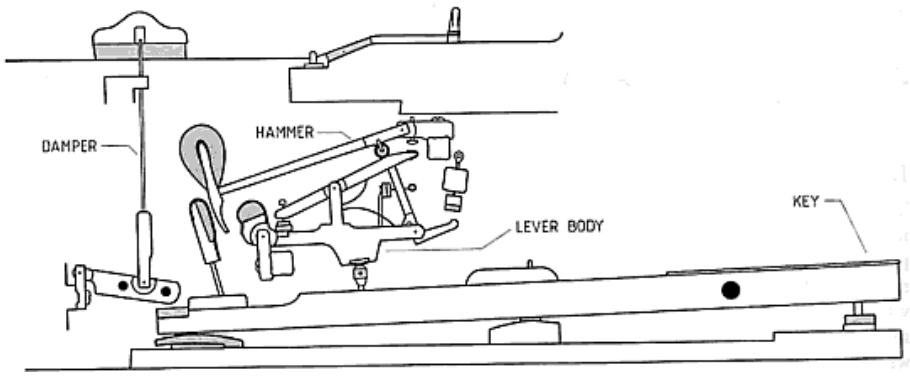

Figure 4. The action of a modern grand piano (Askenfelt and Janson, 1990)

Figure 3 demonstrates that the Pleyel has a much simpler action than the Erard (which approaches that of the modern piano in complexity). The Erard has a double escapement, and it has a different function from the Pleyel piano. A single escapement action, which was originally designed by Cristofori, is what allows hammers to be released (escape) from the influence of the key and the rest of the action.[22] That means the hammers strike the strings and fall back even if the keys are still depressed. The double escapement action occurs when the jack is reset beneath the hammer as the key is partially released. This means that it allows the note to be repeated quickly without the action parts returning to their original at-rest positions, and enables pianists to play trills and fast, repeating notes more effectively. Although the Erard no. 16994 was manufactured three years earlier than the Pleyel no. 13819 in the picture, this Erard has a more advanced action. The new mechanism invented by Erard was sensational at that time as one can see in Pierre Erard's letter in 1824 sent to his father Jean-Baptiste Erard; 'The pianos are very successful, their strength and brilliance of sound eclipse all the Broadwoods, etc. . . . there is no doubt about its superiority and no doubt about its success' (Adelson et al. 2015b, p. 819). Also Mendelssohn wrote a letter to Erard in 1838 praising their instrument as 'It is only on your pianos that I have been able to feel the confidence to express with my fingers what I am feeling in my heart' (Grönke and Staub 2012, p. 179 cited in Addison et al. 2015a, p. 35).

Two modern grand pianos were used for recordings in this project – a Steinway model B and a Steinway model D. Considering the significant difference of size between the concert modern grand pianos (model D: 274 cm length)[23] and the fortepianos used for this project (Pleyel: 247 cm length, Erard: 238 cm length),[24] I also used a 'room size' modern grand piano (model B: 211 cm length)[25] to prevent discrepancies caused by size. In the early twentieth century, Steinway still faced fierce competition from Erard and Pleyel (Adelson et al. 2015a, p. 35). However, the use of the cast-iron frame for grand pianos,

[22] This Cristofori action is demonstrated in Kazutaka Tsutsui (2011) *Cristofori action - Escapement action for earliest fortepiano by Bartolomeo Cristofori, 1726* [Video]. Available at https://www.youtube.com/watch?v=uZjcV3_0PqQ (Accessed 1 September 2017)
[23] Steinway & Sons. (n.d.) *Steinway & Sons.* [Online]. Available at https://www.steinway.com/pianos/steinway/grand (Accessed 1 June 2018)
[24] Cobbe and Nobbs (2014, pp. 50, 60)
[25] Steinway & Sons. (n.d.) *Steinway & Sons.* [Online]. Available at https://www.steinway.com/pianos/steinway/grand (Accessed 1 June 2018)

which was patented in 1843 by Jonas Chickering in Boston, produced a significant change that took the initiative in piano development away from Europe and gradually to the United States (Rowland 1998, p. 44). Another development associated with the American grand piano was cross-stringing, where the bass strings pass either over or under the remaining strings. Since the late nineteenth century, a machine covering process for making hammers was adopted in America and Germany, while each hammer from the Erard factory was still being covered by hand individually. This process increased costs and Erard 's company started to go into sharp decline (Rowland 1998, p. 48). In the twentieth century and onwards, Steinway developed prominence in the product's manufacture as well as their industrial practices and marketing processes (Rowland 1998, p. 48). I used Steinway's grand piano for the modern piano because the Pleyel and the Erard were two of the most dominant piano manufactures in the nineteenth century and the one in this century is Steinway.

The use of thicker strings at high tensions and heavier hammers created a heavier action on modern pianos. For example, while the weight of the note A2 on the Pleyel is around 30 grams, the one on the Erard is about 50 grams, and the modern Steinway model D is about 60 grams – double that of the Pleyel's key weight.

2.3. Hammers

The shape and the size of the hammers' felts are also different between the two instruments. From the pictures of the mechanism (Figure 2-3 and 5-6), one can see that the size of the Erard's hammer is slightly bigger and rounder compared to that of the Pleyel; the hammer of the Pleyel is slightly smaller and has a sharper shape. Also, the distance between the hammer's rest position and the strings differs. The Erard fortepiano has more distance between the two positions, which creates a strong swing motion from the rest position, as well as the stop position at the halfway point for repeating notes. As the Erard has a bigger and faster motion to the hammer's swing, and the felt is slightly bigger than the Pleyel, this creates a difference in the motion of the hammer and in the resulting timbre.

As can be seen in the video, the mechanism of the Erard has a fast attack (DVD 1). At the same time, it always has the same speed regardless of whether the key is struck to make the sound loud or soft. In DVD 1, the slow-motion video demonstrates the motion of the Erard's hammer. The first stroke is hit fast to produce a *forte* sound. In this video, the feature of double escapement can also be recognised. When the hammer returns to the original position after holding the note, the hammer has a subtle movement of shifting up before returning to the original position. This motion is prepared for possible repeating notes after releasing the holding note.

The second stroke demonstrates how the Erard fortepiano reacts to a soft *p* sound played with a slow movement of touch. One can observe that the hammer does not get enough power to come up to hit the string, and cannot produce a sound. Since the second stroke did not produce a sound, the third stroke was made to produce *p* sound on the Erard.

The third stroke in the video is much softer than the first stroke, to create a *p* dynamic, but does not APPEAR TO change the speed of attack in comparison to the first stroke. The video demonstrates that the change of the dynamics controlled by fingers from the first stroke and the third stroke does not create much difference to the speed of the hammer's movement. The hammer bounces after each strike, and this shows the fast speed and the power of the hammer's motion regardless the dynamics. This relates to what Chopin remarked about the two instruments (Erard and Pleyel). Chopin described that 'I prefer an Erard with its limpidly bright, ready-made tone if I am not feeling strong enough to control the action of keys and hammers as I wish it' (Eigeldinger 1986, p. 91), and this

impression can emanate from how the Erard's hammer reacts to a player's touch, as demonstrated in the DVD 1.

On the contrary, Chopin commented that 'I prefer a Pleyel if I feel alert, ready to make my fingers work without fatigue' as 'my fingers feel in more immediate contact with the hammers, which then translate precisely and faithfully the feeling I want to produce and the effect I want to obtain' (Eigeldinger 1986, p. 91). The sensitive and precise actions of Pleyel's hammers demonstrated in DVD 2 suggest how the instrument enabled Chopin to 'translate precisely and faithfully the feeling' he wanted. On the Pleyel, the distance between the hammer and the strings is much closer; the hammer is able to react to the speed of the touch on the keyboard - it moves slowly if the keyboard is pressed slowly, and swiftly if the keyboard is struck quickly (DVD 2). The hammer motion of the Pleyel fortepiano can be found in DVD 2. The first stroke is played at fast speed, which is the same speed as the first and third stroke of the Erard's video (DVD 1), giving a moderate *mf* sound. The second stroke demonstrates how the Pleyel reacts to a gentle and slow touch played on the keyboard. As the keyboard is pressed slowly (at the same speed as the second stroke of the Erard's video DVD 1), the hammer also comes up slowly and synchronises the movement with the touch on the keyboard. While the Erard fortepiano was not able to hit the string when the slow touch was applied on the keyboard as shown in the second stroke of DVD 1, the Pleyel fortepiano was able to hit the string even with the slow touch as shown in DVD 2.

These differences can cause differences in the performance, especially in slow and quiet sections. Listening to the performance of the second subject of the Sonata's first movement on the Erard fortepiano (CD 3), one can hear bumps caused by each note of the melody line. This is due to the swift motion of the hammer hitting the strings, which occurs even when played with quiet *p* sound as shown in the slow-motion video of DVD 1. Subtle differences of the touches' speed controlled by the performer cannot be precisely reflected to the hammer motions on the Erard compared to the Pleyel so that the intention of the performer does not always affect the instrument. On the other hand, it is possible on the Pleyel to create a *p* sound smoothly if the player is successful in controlling touches on the instrument as found in CD 4.

Although the Erard mechanism does not react to slow touches as much as the Pleyel mechanism and does not allow the same variety of soft touches, this swift motion of the hammer on the Erard has the effect of producing a more sonorous sound than the Pleyel. One can see that the double escapement action, where the hammer hits the strings very swiftly and moves back quickly to the halfway point, also enables to produce bigger sounds.

DVD 3 and DVD 4 shows the slow motion video of the hammer on the modern Steinway model D grand piano. The first video (DVD 3) shows the motion of the hammer when the note is played in a *mf* sound at fast speed and the second one (DVD 4) when it is in a *p* sound at slow speed. In the first video in DVD 3, the hammer is raised swiftly with momentum, similar to what one could find in the video of the Erard's. When the keyboard is hit very softly and slowly in the second video in DVD 4, the speed of the hammer's motion is adjusted according to the touch on the keyboard yet a momentum to the hammer can be recognised by the bounce of the hammer after hitting the string. The hammer of the modern piano has a similar motion to that found on the Erard, but the speed and release of the motion is more controlled, and adjusted to react to various touches on the keyboard without losing the momentum of the striking hammer.

Also, when comparing the Pleyel and the Erard, the hammers of the Pleyel rest closer to the strings than the Erard's so that the Pleyel's hammers can react more sensitively to subtle differences of the touch on the keyboard. This enables the player to produce clear notes even in a soft *pianissimo* sound. On the contrary, the position of the Erard's hammers are located further from the strings to gain more powerful momentum than Pleyel's. It enables the player to create a bigger *forte* sound than on the Pleyel, although the player has less control over the motion of the hammers. The feature of producing more sonorous sound was essential for those performing piano recitals for larger audiences in a public concert hall setting – a mode of presentation that became gradually more popular during the nineteenth century. The progressive use of thicker strings at higher tensions demanded heavier hammers (Rowland 1998, p. 44). One could also point out that the shape of the hammers from the latest modern pianos (Figure 7) are similar to the one by Erard (Figure 6), in even bigger and thicker sizes.

Figure 5. The striking area of the Pleyel's hammer is relatively small (Nobbs 2010, p. 42)

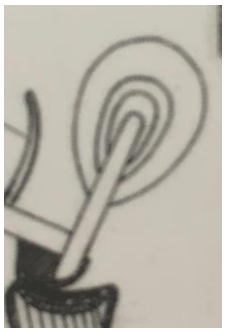

Figure 6. The rounded shape of the hammer on the Erard (Nobbs 2010, p. 42)

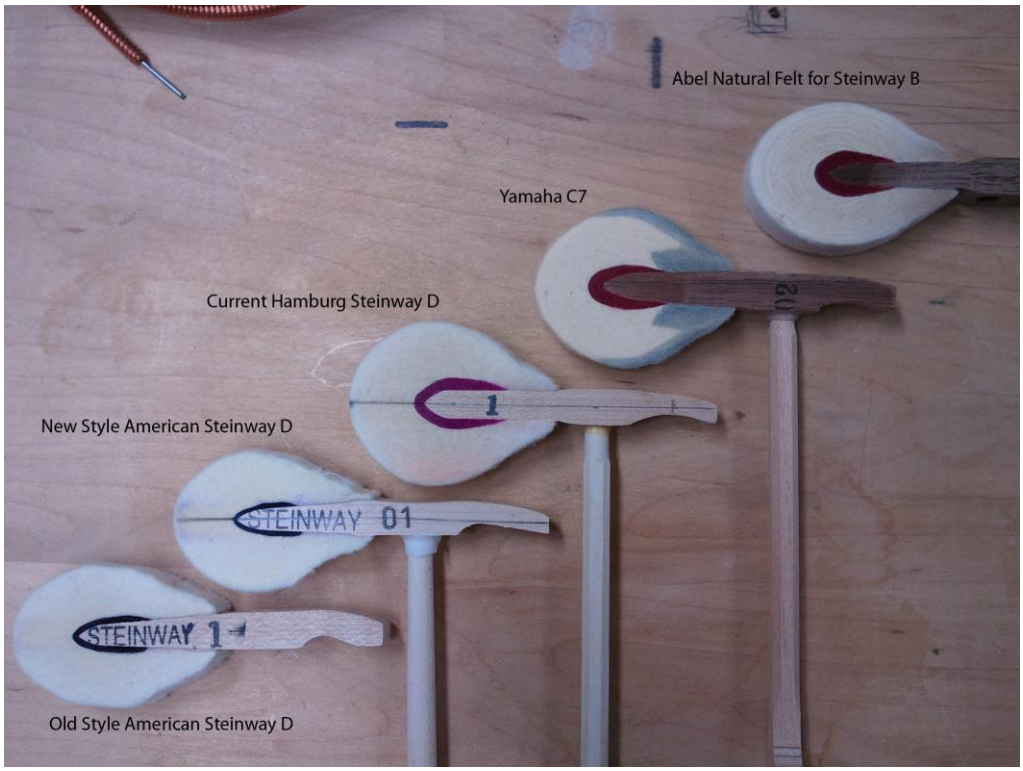

Figure 7. Comparing the hammers of the modern pianos (Huneycutt, 2011)

2.4. Damper

The dampers of the Erard and the Pleyel are likewise different. The Erard has dampers underneath the strings and the Pleyel has the dampers above the strings, as can be seen in the mechanism pictures of Figure 2 and 3 as well as the pictures below (Figure 8 and 9). As the damper of the Pleyel is placed above the strings, the damper comes back on the strings slightly earlier than the Erard because of the effect of gravity. This creates a clearer sound when the pedal is taken off. In contrast, as the damper of the Erard is set underneath the strings, it leaves a slightly more resonant sound even after taking off the pedal. As with the Playel, the dampers of the modern Steinway piano are located above the strings.

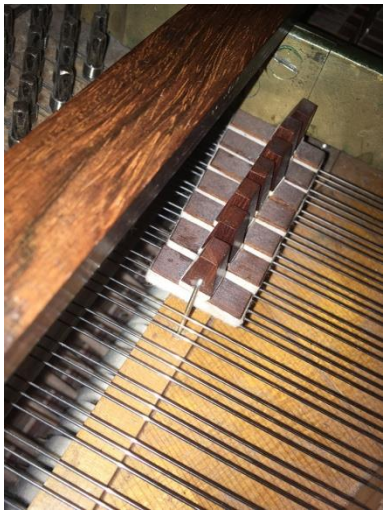

Figure 8. The dampers of the Pleyel 1848 fortepiano

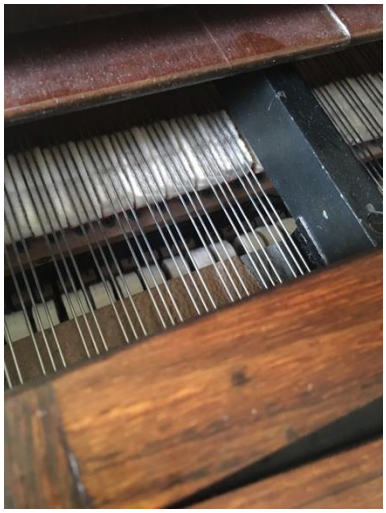

Figure 9. The dampers of the Erard 1845 fortepiano

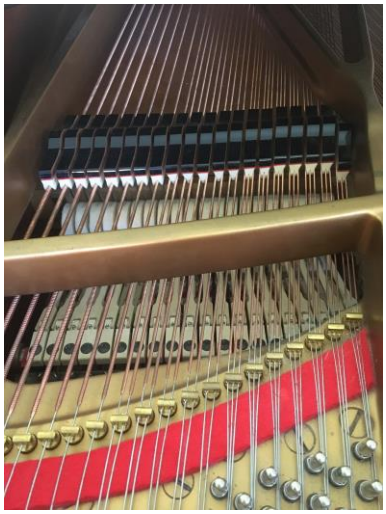

Figure 10. Damper of the modern Steinway model D grand piano

In the third chapter, we will look at creative applications of the consequences discussed above. I found that my way of listening to the sound has changed since commencing this research and by making comparisons between the Pleyel and Erard fortepianos as explored in this second chapter, and this has led to various outcomes affecting articulations, dynamics and tempo. These will be explained, along with close study of editions and commercially available recordings of pianists as well as my audio and video recordings.

Chapter III

3.1. Consequences of the management of dimensions and how they help performance on modern piano

It is important to stress that this project is not about 'going back' to using historical instruments, but about 're-discovering' them in the new context provided by modern instruments. From a modern perspective, historical instruments might seem to be simpler and more limited in function, but in their own time, they were radical, and made with the latest technology. Besides, the pianists and composers of the time, including Chopin and his pupils, were amazed by the capability of the new technology of the instrument, and surprised at how such a percussive instrument could create a 'singing' tone (Hamilton 1998, pp. 69). Therefore, we should not neglect this point, that, for Chopin, the Pleyel fortepiano and the Erard fortepianos were innovative and one of the latest instruments he encountered. These instruments should not be seen merely as antiques or as old-fashioned models, but as an important means to get closer to Chopin.

I use both historical and modern instruments for this project, but this research is not to 'imitate' or 'copy' the performance on historical instruments when I perform on modern pianos; it is to 'develop' the ideas gained on historical instruments and transform my technical approach on the modern piano. I believe that this project can provide a chance to bridge the gap between historical and modern performances as well as to develop the ideas obtained from both instruments.

Because of the development of the piano since the mid-nineteenth century, modern pianos are now well-equipped to accommodate various approaches and to enable pianists to achieve what was not possible on fortepianos in past centuries. On the other hand, there are fewer opportunities for pianists to consider whether what they do is effective or not, as modern pianos are more capable of concealing less effective touches compared to fortepianos. The results of different touches are more obvious on historical instruments as they react more directly, honestly and sensitively because of the simpler mechanism; this states more clearly what works and what does not work on the instrument. Chopin also alerted his pupils that they should not rely too much on instruments with a beautiful ready-

made tone; Gretsch recollects Chopin's comments: 'You can thump it and bash it, it makes no difference: the sound is always beautiful and the ear doesn't ask for anything more since it hears a full, resonant tone' (Grewingk 1928, p.15 cited in Eigeldinger 1986, p. 26).

I share this view regarding different pianists' attitude towards the tone and the touch on the piano. For example, Webmaster GPIPL (2014a) included in DVD 5 shows a performance of Chopin's Prelude in D flat major opus 28, no. 15 in bars 1 to 8 by a pianist. The next DVD 6 taken from Webmaster GPIPL (2014b) shows myself performing Chopin's Nocturne in B major opus 62, no. 1 in bars 1 to 10. These two performances were recorded at the same place on the same date using the same piano and the same recording equipment, but they capture different approaches to performance and demonstrate how these approaches affect the sound projection of the instrument. The sound projection of the melody line in the Prelude in DVD 5 has a strong penetrating tone, while the melody line in the Nocturne in DVD 6 presents a mellower sound. Both extracts consist of slow and calm sections, but the way the melody line is played is clearly audibly different. The sound in the Prelude has what I would describe as a more straight and edgy sound in the melody, while the Nocturne has a more vocal quality. These two recordings show how the same instrument can react in various ways according to the different approaches taken by the performer.

Through this research project, I have realised that these different approaches fundamentally originate from how the performer listens to the sound production. Experimenting with the Pleyel and Erard fortepianos has expanded my view of how to listen to the sound, and this has led to consequences for the management of specific dimensions and how this contributes to my approach on the modern piano. Pianists tend to focus on analysing differences of the touch, the tone or the performing style of the performances when making comparisons of performances, but these are judged by appearances. I believe, as a result of this research, that the fundamental differences stem from how one *listens* to the sound. This listening skill spreads to various outcomes such as differences of touch and tone - to be explained in this chapter.

3.2. Listening

3.2.1. Listening - portamento approach -

To begin with, I would like to present a change in my performance found in the first subject of the first movement from the Second Piano Sonata (Figure 11). In this first subject, the way in which I play the melody in the right hand's part has altered significantly by this research. The two video recordings, one showing the approach before the research (DVD 7) and the other after the research (DVD 8), demonstrate the differences in the sound as well as how the finger movements and the uses of the body have changed.

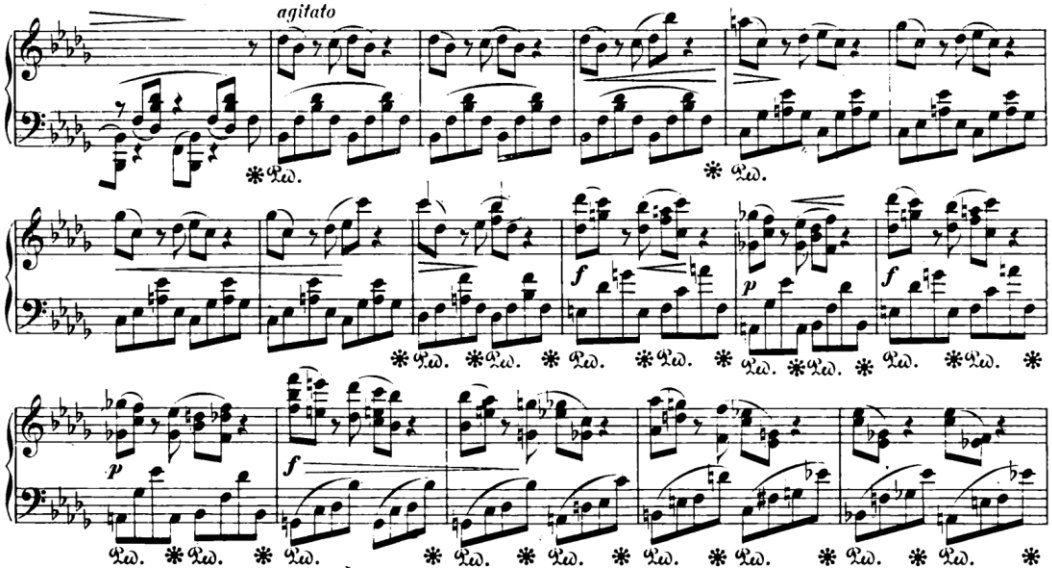

Figure 11. The first subject from the first movement of the Second Sonata, bars 9-24 (Breitkopf und Härtel edition edited by Brahms, p. 2)

When I came back to the modern piano from the Pleyel fortepiano, at first, I wasn't specifically or consciously aware of anything being different in terms of my touch and technical approach on the modern piano. I was aware, to some extent, of the differences in the tone, but was not sure of the cause as I had adapted my performance to the modern piano instinctively through a feedback loop created by my listening and my feeling of touch on the Pleyel. I was applying the feeling of the touch gained on the Pleyel to the modern piano, but was not specifically aiming to change my way of performance on the modern piano. However, when I looked back on the video, I saw that I was indeed playing

differently. For example, in DVD 7, the motion of the right hand wrist is more vertical and the hand jumps up from the keyboard as shown in DVD 7 (the touch before the research) while the motion of the wrist is circling and the hand is staying closer to the keyboard in DVD 8 (the touch after the research).[26] I then scrutinised why this had happened, and how it had happened.

Although there is an obvious change in the touch and the motion of the hands, these physical differences occurred as a result of the change in how I listened to the sound of this passage. In fact, although I realised a change in my performance, I did not notice that there was such a big difference from my previous performance in the appearance and the use of my hands until after having observed a video recording. Therefore, the starting point of the change was in the approach to listening to the sound. The way in which I listened to the melody line changed, and as a result, the finger movement for playing this passage also changed accordingly. The two fortepianos that I used in this research, especially the Pleyel, led me to a different approach towards listening to the sound on the modern piano.

Another example is the melody line of the first subject shown in Figure 12. On the Pleyel fortepiano, I was able to imagine a '*portamento*' effect between intervals, especially in the sixth interval, akin to the rhythmic distortion often found in performances of romantic repertoire by string players or singers. This effect, demonstrated on CD 5 was an unexpected discovery during the course of playing on the Pleyel fortepiano to examine the features of the tone, and to explore effective ways of performing on the instrument. It was a surprise to me that I experienced an allusion of a *portamento* when I played this passage in the first subject. Although I could also hear this '*portamento*' between paired notes on the Erard fortepiano, the Pleyel gave a clearer and more obvious effect. The Pleyel fortepiano taught me to recognise this *portamento* effect as being a natural feature in the musical continuity. What caused me to recognise this effect and to notice the distinct difference from what I used to hear on the modern piano will be explained later in this chapter.

[26] The details will be discussed later in this section and in the later 3.2.4. section.

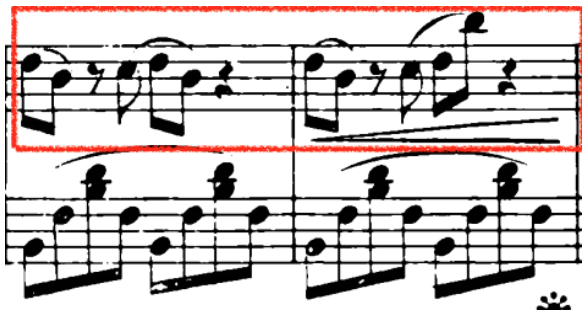

Figure 12. The motif of the 1st subject, bars 10-11

Technically speaking, the *portamento* effect discussed here is not the same *portamento* effect as that used by singers or string players. Obviously, the mechanism of the piano is a percussive action, and it is physically not possible to do a sliding technique of string instruments or singers on a specific note, like a *portamento,* on the piano.

However, even if it is not possible for the piano to do *portamento* physically, it is possible for the piano to create an impression that resembles the effect of another instrument. Barenboim says in his interview that:

> 'In itself the piano cannot seduce by virtue of its sound alone. The listener can be seduced by the lovely sound of, for example, a violin or an oboe. The piano, on the other hand, is a neutral instrument, and the art of playing it involves a sleight of hand. It is possible to create the illusion of a legato on the piano although, in the physical sense, it is impossible. But it is possible to create the illusion of sustained sound similar to that of a string instrument.' (Barenboim 2008, p. 162)

Coincidentally (and surprisingly to me) this *portamento*, that I found and learnt during the course of the examination and the experience of playing on Chopin's Pleyel fortepiano, was an effect that Chopin was teaching and seeking in his piano playing. Karasowski (1823 - 92), who was a cellist, musical writer and one of the leading Polish music critics in the nineteenth century, states that 'He [Chopin] loved to find in piano playing what we understand by *portamento* in singing' (Karasowski 1877, p. 94 cited in Eigeldinger 1986, p. 45).

In this chapter, I suggest techniques and approaches that stems from *portamento* found on the fortepianos. The importance discussed here is not whether the melody played on the piano can be heard as *portamento* or not, but rather what performance techniques inspired by the *portamento* are found on the fortepiano and how pianists can learn from this approach.

One might argue that it is not possible to imagine a *portamento* between two different notes on the piano given the percussive mechanism of the instrument, but understanding the nature of the fortepiano can unveil the cause of this effect. The sound produced by fortepianos has a much shorter decay compared to that produced by modern pianos, and the sound decay produced on the fortepiano sharply falls down immediately after pressing the key. From one perspective, this means that it is more difficult to play *legato*, especially when the notes have longer values, as there is virtually no resonance left by the time the next note is played.

However, at the same time, this short decay of the sound enables the fortepiano to create the *'portamento'* effect. When doing a *portamento*, the singer or string player will decrease the volume of the tone during the slide.[27] It is important to have this decreased volume of the sound for a *portamento*. When the piano is played, to achieve an effect that relates to the *portamento* approach, it is important that the decrease in sound is closely observed, as this enables the imagining of a similar *portamento* sound; on fortepianos, especially on the Pleyel, the shape of the decay makes this easier because of the nature of the instrument. As the sound starts to fade away immediately after playing the note on the fortepiano, it naturally promotes the creation of a *portamento* effect on the instrument. On the fortepiano, as the sound decay is much quicker, there is a sudden fall of the sound's volume while on the modern piano the first note is well sustained and the volume of the sound does not change suddenly (see Figure 13).[28]

[27] An example of singing can be found in Daniel Shigo (2014) *No 5 The Portamento* [Video]. Available at https://youtu.be/VzUABTP0pvAand an example of string instruments can be found in professorV (2009, 00:00:34-00:00:36) *Violin Lesson #56; The Portamento/Slide* [Video]. Available at https://youtu.be/OYTQIIXDrwI?t=34s

[28] Comparing the decay of the sound from each instrument (modern and historical pianos) with the listener at the same distance from each, and the key being struck at the same velocity.

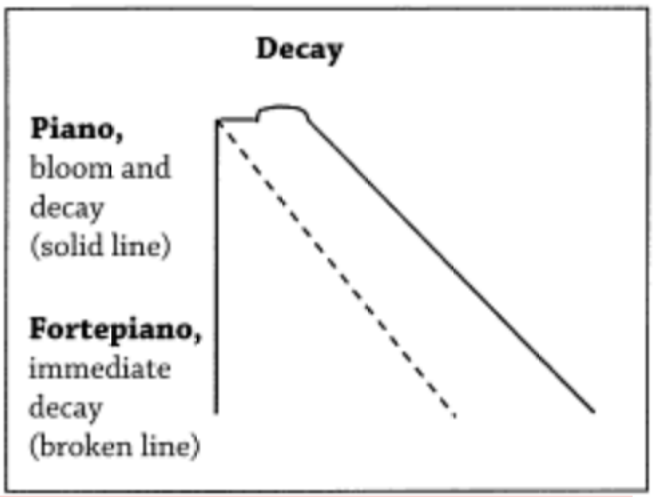

Figure 13. Modern piano and Fortepiano decay (Gunn 2016, p.19, Diagram 1.1)

The Figure 13 from Gunn (2016, p.19) shows the typical sound decays of modern pianos and fortepianos.[29] On the modern piano, after the first phase of the decay, the rate of which is high, the sound in the second phase decays more gradually and slowly, maintaining its sound for longer than the fortepiano. The sound decay of modern pianos shown here has a longer and slower decay, which means that one hears a longer lasting note on a modern piano and that the note has a more continuous sound.

For singers and instrumentalists such as strings and woodwind players, it is a common performance technique to intentionally reduce the volume of the first note before proceeding to the next note, or to experience the first note fading away before the next note according to the length of the breath or bow. However, for pianists playing modern pianos, these points are not always noticeable as the sound on the piano generally sustains well while the finger is held down on the keyboard or is sustained by the damper pedal. Of course, the sound on the modern piano decays, but it fades away slowly so that the notes can generally sustain a certain volume of the sound when the note value is relatively short like a quaver, crotchet or minim note. This means that pianists can tend to have less attention to the sound already produced compared to other instrumentalists or singers. Charles Rosen (2002, p. 36) has noted in his book Piano Notes that 'Although string and

[29] I am using this information solely to demonstrate that the decay of the sound on a historical piano is faster than the decay of the sound on a modern piano.

wind players are used to listening to themselves from the moment they take up their instruments, and the effort to listen becomes unconscious and second nature, pianists forget to do so and have to be reminded'.

Considering the fact that Chopin was an admirer of *bel canto* singing and taught his pupils the importance of listening to songs for their performance skills on the piano (Eigeldinger 1986, p. 44), it is reasonable to speculate that how Chopin came to be particularly fond of the action of the Pleyel, which helps the performer to think and play with a singing approach like a *portamento*. Lenz, who lived in 1809-83 and was a pupil of Chopin and formerly of Liszt, states that 'one should follow the style of Pasta, of the great Italian school of singing' (Lenz 1872, p. 297). He repeated the observation with regards to cantilena passages of the third movement of this Second Sonata (Eigeldinger 1986, p. 111). Gretsch (1821-77), who had lessons with Chopin, recollects that 'His [Chopin's] playing is entirely based on the vocal style of Rubini, Malibran and Grisi, etc.' (Grewingk 1928, p.9) and a Polish pianist, composer, teacher and musical author Kleczyński (1837-95), likewise a pupil of Chopin's pupils, also recollects that 'Chopin's advice was, that this theory [of musical declamation] should be grounded upon the rules which guide vocalists, and that it should be perfected by hearing good singers' (Kleczyński 1913, p. 55). Eigeldinger suggests that singing formed the basis of Chopin's music and performance techniques, and 'the more piano playing drew its inspiration from vocal models, the more convincing it became' in Chopin's art (Eigeldinger 1986, pp. 14-15). There is also a quotation attributed to Leschetizky by Potocka (1903), cited in Hamilton (1998, p. 69), shows how he was amazed by the new approach, after listening to a performance by Julius Schulhoff, another of Chopin's pupils: 'That cantabile, a legato such as I had not dreamed possible on the piano, a human voice rising above the sustaining harmonies!' (Potocka 1903, cited in Hamilton 1998, p. 69).

If the player does not investigate this singing approach on the Pleyel, the instrument will not reveal its features, but when one communicates with the instrument and controls one's touch enough, with consideration, it enables the pianist to incorporate these vocal affects. Working on the Pleyel naturally led me to the path to consider the singing tone and technique.

The longer decay of the sound on the modern piano helps pianists to hear longer tones

and to maintain the sound for longer even in soft dynamics. There are benefits to these tones, such as maintaining a sufficient volume of the sound and enabling to create *legato* lines of the tone even with notes in longer values. On the other hand, it is more difficult to create the *portamento* effect found on the fortepiano when one plays on a modern piano. Because of its longer decay, the sound sustains for longer in a louder volume, so the instrument does not, by its nature, assist the player in hearing the *portamento* effect.

Because the sustain of the first note on the modern piano is longer, performers do not have the same feeling on the modern piano as on the fortepiano in terms of the connection between the notes. One may speculate that the first note can be played quieter on the modern piano in order to have a shorter decay of the sound, but that will not result in the same effect as that found on the fortepiano. I will demonstrate through recordings and diagrams in this chapter how the experience of listening carefully to the natural sound production of the fortepiano – and the resulting consequences for the management of issues such as timing, touch and dynamics - can be effectively adapted on the modern piano.

I have observed that the way in which I listen to the melody line has changed since I discovered the illusion of *portamento* effect in this passage. In my performance in CD 6 recorded on a modern piano before commencing this research, the melody of the first subject in the first movement is played clearly; it is rhythmically more strict and straightforward rather than applying the detailed dynamics markings in the score (Figure 11, p. 54) to create more varieties. The interpretation that I used to apply for the melody in this passage was not in a singing style as I thought that the motif, which is used throughout the piece, needed to be heard clearly with a rather *marcato* approach. Also, my interpretation was that the melody needed to be rhythmically precise and strictly accurate, rather than leaving freedom for a singing quality, because the agitated fast tempo would not provide a rhythmical freedom or enough time and space to 'sing' the melody line. The approach to agogic manipulation concerning this particular motif has been very wide-ranging when looking at the discography. This interpretation of playing the motif rhythmically strict is relatively common among pianists and similar interpretations can be found by pianists such as Vladimir Ashkenazy (1992) and Howard Shelley (1987).

However, since my experience of performing this passage on the Pleyel fortepiano, new interpretive possibilities have suggested themselves. Initially, I thought that this *portamento* was more effective in slower sections such as the second subject of the first movement (which I talk about later in this chapter), but found that it also worked effectively in this fast passage in the first subject. Through performing on the Pleyel fortepiano, the instrument responded to my touch in a different way and I realised that it was possible to maintain a singing style even in this agitated section at a fast tempo on the modern piano as demonstrated in CD 7. This performance presents more varieties in the dynamics and more clearly shows the hairpin *crescendo* and *diminuendo* written in the score (Figure 11, p. 54) in detail so that it has more singing quality than the previous performance in CD 6.

Through analysing the cause of this *portamento* effect, which comes from the shorter decay of each note on the fortepiano, I have identified the cause of the change in my hand movements. As each note on the Pleyel fortepiano lasts a shorter time than on the modern piano, I was unconsciously trying to hold the keyboard longer to cover the shorter decay. To hold the notes longer, I shifted the use of my hands, again unconsciously by instinct, from a more rounded shape of the palm (Figure 14 and DVD 7) to flatter fingers (Figure 15 and DVD 8), which helped to hold the notes longer.

Figure 14. Right hand's position before starting the research

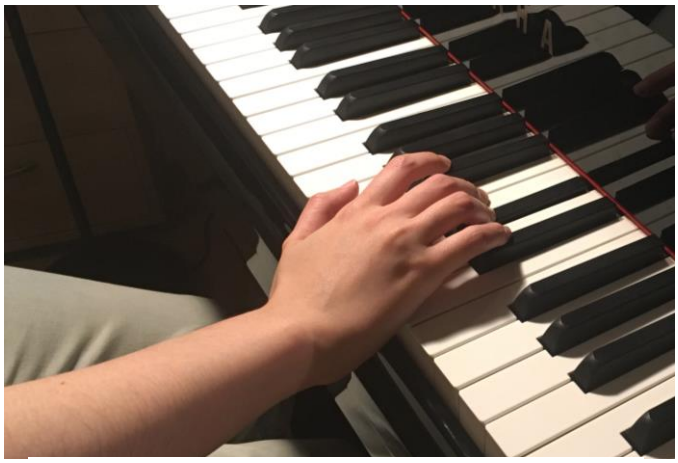

Figure 15. Right hand's position after the research

This flat finger approach caused two things as a result. The first is that I now hold the quavers on down-beats in the right hand's part, such as D5 flat before B4 flat and B5 flat in bars 9 to 11, with the finger slightly longer (highlighted in Figure 16). This is in order to maintain a stronger *legato* by overlapping the second note with the first. This did not occur when I was playing with the rounded shape of the hand shown above in Figure 14, as I was playing the passage more with the fingertips for a *marcato* effect rather than to create a smooth *legato*.

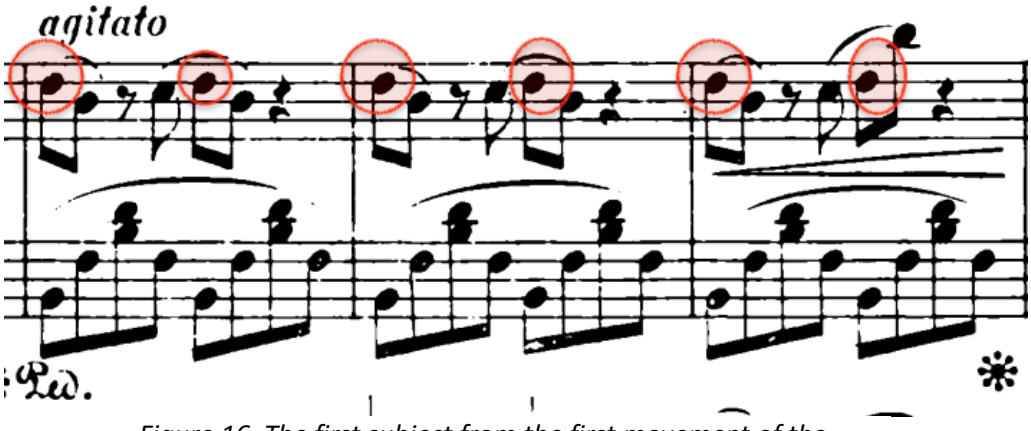

Figure 16. The first subject from the first movement of the Second Sonata, bars 9-11

The second outcome is that this stronger *legato* (holding the first quavers for slightly longer) slightly expanded the time taken to prepare and reach the ascending interval of the sixth - for example, from D5 flat played by the second finger to B5 flat played by the fifth finger (the third bar in Figure 16) than the interval of the third down from D5 flat played by the fourth finger to B4 flat played by the second finger (the first and second bars in Figure 16). Because of this, the *portamento* effect is more obvious for the interval of the sixth as it takes a slightly longer time, and the short decay of the sound on the D5 flat is more clearly heard. By listening to the previously introduced CD 5, the *portamento* effect can be heard more clearly where the interval of the sixth is played.

In general, when I play a passage containing wide intervals, such as the sixth and wider, I take a little more time and play the two notes slightly slower than the notes in smaller intervals. This is to imitate the performance of singers, who need to take more time over wider intervals. I was applying this technique regularly on the modern piano even before starting this research, but not for this passage in the first subject of the Sonata, as I had thought that this passage should have been played *marcato*; it was only through my investigation of the passage on the Pleyel fortepiano in this research that I reconsidered my approach. The fortepiano told me that it is possible to have a singing approach in this passage, even at the fast tempo, by changing the way of listening to the sound and subsequently, the touch.

In the previous performance I played the melody shown in Figure 17 (the upper staves of right hand's part) with a different articulation. The DVD 7 shows the motion of the fingers used previously. The motion of the wrist tends to draw a vertical, straight line. This up and down fast motion is causing a slight accent on the quaver notes of C5 in bars 9 to 11 and D6 flat in bars 13 to 15 (highlighted in Figure 17) in the DVD 7, as well as in CD 6 which was introduced earlier in this chapter.

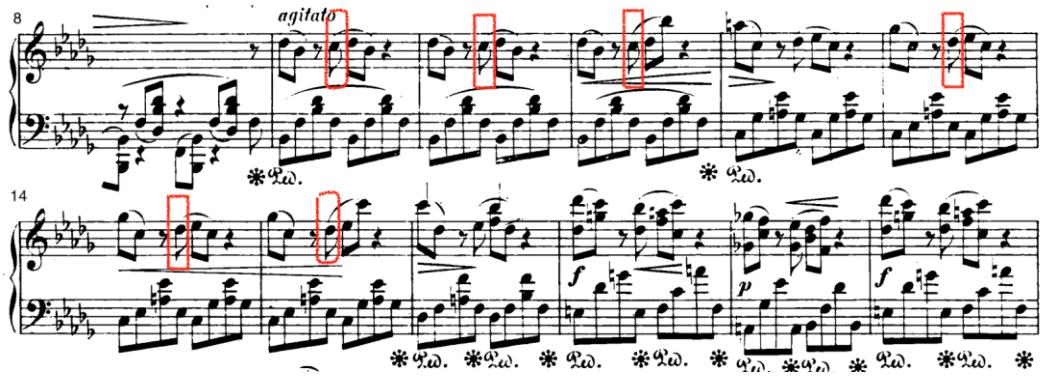

Figure 17. The first subject of the Second Sonata, bars 8-19

In contrast to the previous recording of DVD 7, DVD 8 shows the finger motions after the research indicating significant differences in the hand motion and the position of the right hand. The palm is flatter compared to the performance in DVD 7, and has more wrist motion. The motion of the hand of this performance in DVD 8 has greater flexibility and it draws a circling motion rather than a straight vertical line found in DVD 7. The sound gives more fluidity and flexibility and creates a flowing melodic line. The accent on the quaver notes C5 is also removed according to the change of the hand motion.

Chopin was teaching his pupils the importance of the use of flexible wrist motion as found in his statement 'The wrist: respiration in the voice' (Chopin, *Project de Méthode* cited in Eigeldinger 1986, p. 45). Also, according to the recollections of his pupils, it can be seen that Chopin treated the motion of the wrist as to help the performer imitate a singing approach. Gretsch described how Chopin was teaching as 'Chopin drew from the instrument the secret of how to express breathing. At every point where a singer would take a breath, the accomplished pianist [. . .] should take care to raise the wrist so as to let it fall again on the singing note with the greatest suppleness imaginable' (Grewingk 1928, pp. 9-10 cited in Eigeldinger 1986, p. 45).

The opening of the Second Piano Sonata was used to play with a fixed wrist, but in response to the instrument, Chopin's statement and the *portamento* approach I found on the instrument, I changed to the different wrist movement, which now enables me to understand, as a pianist, what Chopin was talking about and teaching his pupils. This lower wrist position that can be found in the Figure 15 and the DVD 8 is helping the wrist to have a 'breath' by lifting up the wrist. It is difficult to achieve this flexible motion of the

wrist lifting up in case the original position of the wrist is placed already at the higher position as found in the old performance in Figure 14 and in DVD 7 shown earlier.

As previously mentioned, it is difficult for modern pianists to imagine a *portamento* between the two intervals on modern pianos as the volume of the sound usually lasts until the next note to be played. On fortepianos, the sound - once played - immediately fades away or at least lasts much shorter than on a modern piano. On the fortepiano, as the sound decays more rapidly, pianists need to keep listening to and imagine the sound sustained for longer after the sound is produced. As the sound fades away immediately, it is vital to keep imagining how the sound continues to create a *legato* line. This leads pianists to listen to their sound more carefully with more attention. To summarise, it requires more careful listening skills to perform with this *portamento* approach for creating effective *legato* and *cantabile,* and this leads to the suppleness of the wrists.

3.2.2. Listening - Straight and Elastic approaches -

In my opinion, modern pianos and the custom of performance on the modern piano tend to encourage pianists to imagine a more straight and horizontal line to the sound, and not to allow any 'bumps' to emerge in the *legato* line. It is important to listen to the sound carefully, but I think that *how* pianists listen to their sound matters more and can make even more differences than often identified. I was also taught that I should listen to the sound that I produce, and that I should keep listening to not only the sound I am going to play next but also the sound that has already been played and is sustaining. This approach means that performers need to listen to the sustaining sound between two notes. I was aware of the importance of this approach, given the percussive nature of the piano in comparison to string instruments or singers. However, when I was playing only on modern pianos, the way in which I listened to the sound was more limited compared to my approach as a result of this research using fortepianos. As the sound lasts longer on modern pianos, I was listening to the sound between the two notes which had the same volume level. I am going to refer to this as a 'straight approach'. The volume of the sound of course gets weaker once the key has been struck, but it is difficult to sense this on a modern piano due to the slower decay of the sound.

As the Graph in Figure 18 indicates, the notes of the modern piano last longer and one can overlap the sounds to produce a *legato* effect easily just with the fingers, as a note played at a *mf* dynamic lasts longer than fortepianos without much change in the original volume. Of course, the line of the sound decay is not flat, however, the sound decay has fewer dynamic differences compared to the fortepiano and does not fall down sharply so that pianists can hear the sound in a flatter and straighter line.

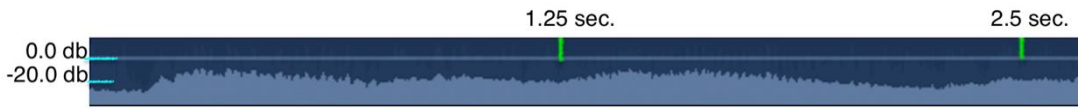

Figure 18. The sound decay of the modern piano from the third movement

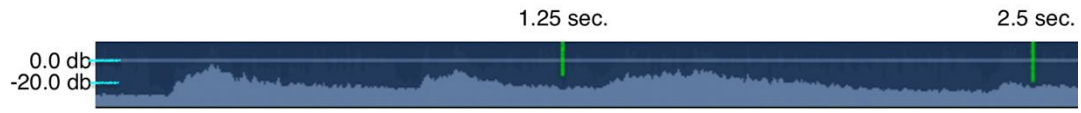

Figure 19. The sound decay of the Pleyel fortepiano from the third movement

In contrast, as shown in Figure 19, each note decays quicker, lasting for a shorter length of time on fortepianos.[30] Therefore, instead of overlapping, it is vital to carefully gauge the relative dynamics of each note; I am going to refer to this as an 'elastic approach'. The overlapping straight approach does not work on the fortepiano, because the notes do not last long enough to sustain a constant dynamic. If one plays a *legato* line on the Pleyel without listening to the sound carefully, the line will not be articulated smoothly. As the sound decays more sharply and quickly, it produces less effective legato on the fortepiano if it is played simply without listening carefully.

For instance, we can find an example in the second subject from the first movement of Chopin's second piano sonata (Figure 20, bars 49 to 53). On the Pleyel fortepiano, if I apply a straight approach to create a flatter and straighter line of the melody, it does not work well because by the time I need to play the next chord, the first chord has already decayed to a point at which playing the next chord at the same volume will produce an unwanted accent. An example can be found in CD 8.

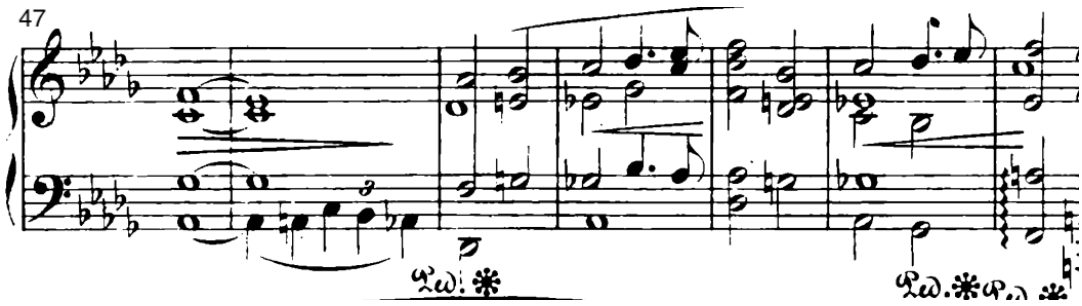

Figure 20. The second subject of the first movement, bars 47-53 (Breitkopf und Härtel edition edited by Brahms, p. 3)

[30] The sound decay of Figure 18 and 19 is taken from the third movement of Chopin's Second Piano Sonata, bar 61. The recording equipment was located at about 2 meters away from the instruments and standing 110 centimetres above the floor fixed by tripod. Since the use of the recording environment was restricted to this setting when making the recording on the Pleyel fortepiano, the other recording on the modern piano was made to be as close as possible to this setting to make adjustments. These figures are not used to demonstrate scientific analysis but used solely to introduce the general differences of the sound decay between the fortepiano and the modern piano.

If I apply an elastic approach and carefully gauge the dynamics of each note when playing the chords in the second subject (Figure 20, bars 49 to 53) on the Pleyel fortepiano, there are more varieties of the dynamics in the tones as demonstrated in CD 9. Each individual note varies in dynamic more noticeably and this creates more variety of individual sounds as well as preventing the melody line from becoming monotonous, and I refer to this as the effective result of an elastic approach.

In comparison to the fortepiano, the sustain of the sound on the modern piano is more consistent, and the straight approach on the modern piano can create less variety of the dynamics as demonstrated in the performance of CD 10 from the second subject of the sonata in the first movement (Figure 21). Because of the lesser difference between the loudest and quietest moments compared to the fortepiano, the modern piano does not naturally enable the performer to feel the rapid decay of the tone.

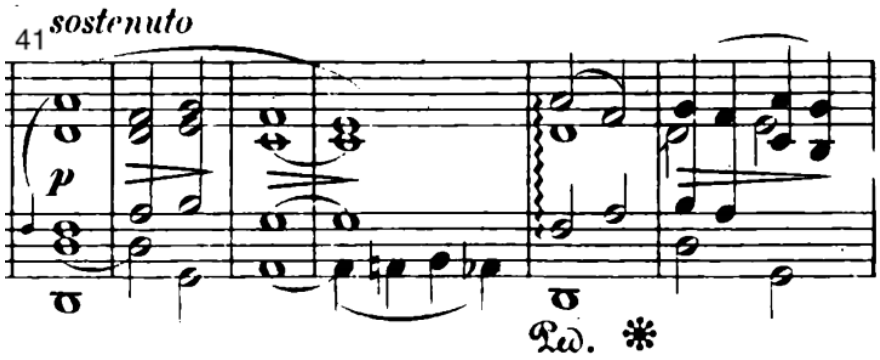

Figure 21. The second subject of the first movement, bars 41-46(Breitkopf und Härtel edition edited by Brahms, p. 3)

However, through imagining and feeling the shorter decay of the sound on the Pleyel fortepiano while playing the modern piano, one can create more variety in the dynamics of each tone. One could think that this approach might create a 'bump' after every note, but in my experience it does not. If one plays with a flatter line of the dynamics for the melody line to be heard as a smooth *legato* line, any slight changes to the dynamic level of the notes become too noticeable, and these 'bumps' will become exaggerated. If one instead plays each note with more varieties of the dynamic levels referring to the faster decay of the sound on the Pleyel fortepiano and the phrasings, it can create more flexible

ranges of the dynamics in the tones. Listening to the sound through the elastic approach enables the performer to feel, recognise and be conscious about adjusting the volume of each tone more carefully. A successful example of the elastic approach is demonstrated in CD 11 (in contrast to the previous CD 10 demonstrating the straight approach).

3.2.3. Listening - Long phrasing -

By understanding the *portamento* approach and the differences between the straight and elastic approaches of the sound, the quality of *legato* on both the fortepianos and modern pianos can be addressed in more effective ways at various places in this piece as well as in other works. This technique for *legato* is an important aspect for playing Chopin's music as he often puts very long phrases for melody lines, for example, the second subject of the first movement from the Second Sonata (Figure 22) and the 'Rain Drop' Prelude from Opus 28 (Figure 23).

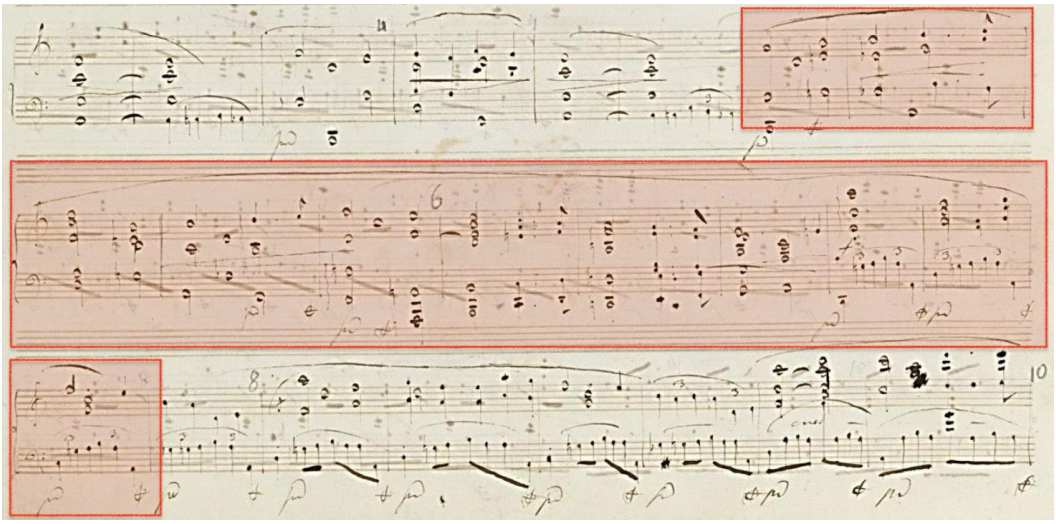

Figure 22. The manuscript copy by Gutman of the second subject in the first movement (Online Chopin Variorum Edition, n.d.). A long single phrase is highlighted in red

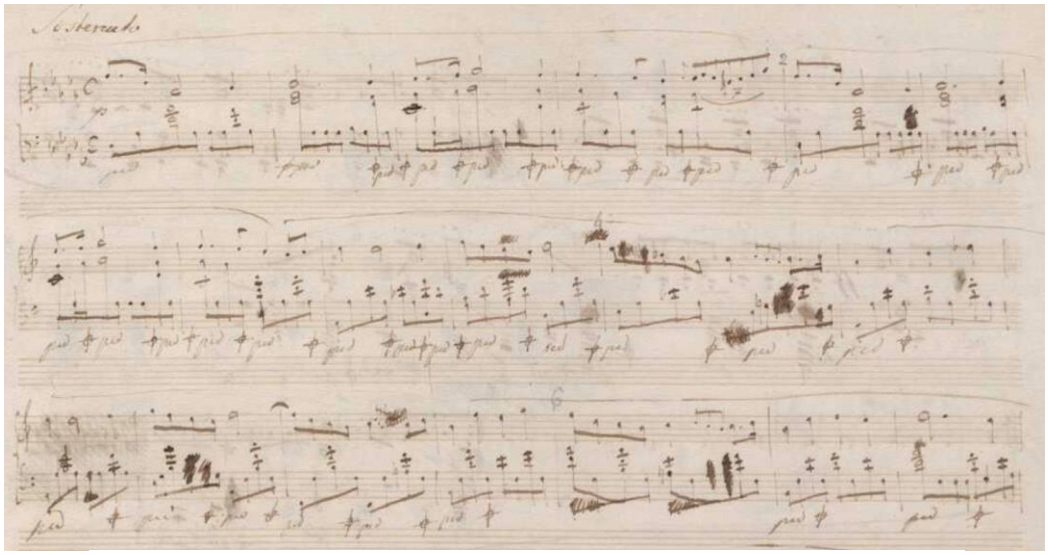

Figure 23. Chopin's manuscript copy, Prelude no. 15 from Preludes, Op. 28 (Online Chopin Variorum Edition, n.d.)

As can be seen from these long phrase marks, Chopin was asking for a long melodic line, never to be interrupted, and this can be effectively achieved by the vertical approach of the *legato* gained from the *portamento* effect. If one plays these passages with the horizontal approach, though it would still create a *legato*, a very long horizontal line could make it sound duller and more monotonous. Also, it is difficult to sustain the long line over so many bars (sometimes more than twelve bars) as it is not clear to see where the melody leads to and ends. It also gives a feeling of 'tension', like a very long rope kept tight and straight or holding one's breath for a long time. When I was playing these passages before this research, I was actually not sure how to sustain a line for a such a long time and keep the line flowing over more than eight bars.

The elastic approach of listening to the melody line gave me one answer, as it leads to a concept of articulation and the dynamics of the tone that is more flexible. The flexibility of the dynamic level in the melody line can result in giving an impression of more variety and elasticity in the melody for the listeners and it does not give an impression that the line is being straightened or strained with force, as the straight approach would do. By recognising the shape of the sound decay, described earlier, performers would be able to realise an elasticity of *legato* lines. The *legato* of 'smooth joined-up line', which Samson (2001, pp. 381-387) claims is not possible on fortepianos, is, in my opinion, made possible by this approach.

3.2.4. Listening - The hand motion -

On the Pleyel, I found that I needed to completely relax the hands in order to perform effectively. It took me longer to get used to the Pleyel fortepiano to make recordings, while I could accommodate differences and play almost straight away on the Erard fortepiano. Even if I played with a flexible hand motion, it was not enough on the Pleyel fortepiano, and this experience trained me to completely relax the hands and to put the focus of my arm weight on the fingertips.

The state of the completely relaxed wrist is important and sometimes shows significant differences in resulting performances. For example, looking at the second subject of the first movement in the Second Piano Sonata, there is a chordal melody in this section (Figure 24). The performance with fixed wrists and elbows makes this passage sound more homogenous, as can be found in mariacanalsbarcelona (2009, 00:01:00-00:01:24) included in DVD 9. In DVD 9, the motion of the wrist is vertical, and the hands stay close to the keyboard most of the time. On the other hand, the relaxed state and the circling motion of the wrists help the performer to play the chordal passages with more control in order to create detailed articulations and more varieties in the dynamics as marked in the score (Figure 24) and an example of this hand motion can be found in DVD 10. This motion is influenced by the way of listening to the sound (because of the short decay of the fortepiano sounds) mentioned earlier, and one can see the strong connection between the way I listen and the way I physically play.[31]

[31] See Figures 14-15 and chapter 3.2.1. 'Listening - *portamento* approach -'.

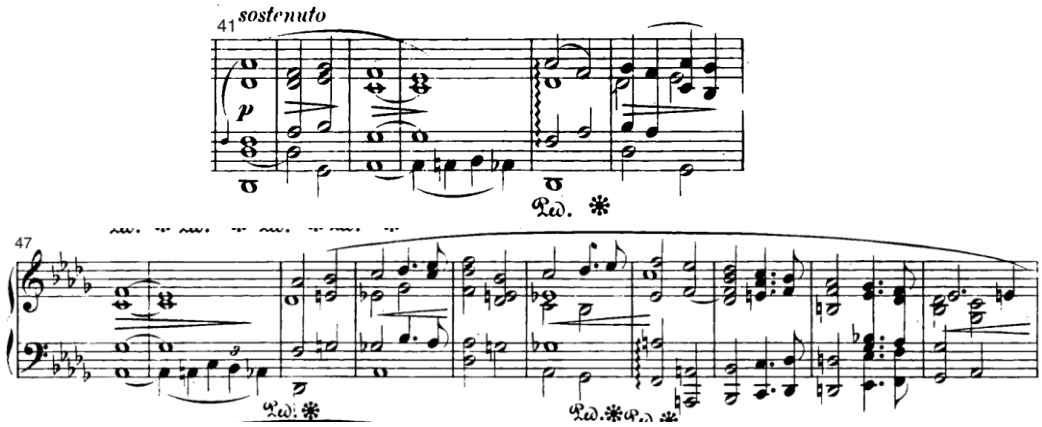

Figure 24. The second subject of the first movement, bars 41-56 (Breitkopf und Härtel edition edited by Brahms, p. 3)

3.2.5. Listening - dynamics and textural balance

Hipkins (1937, p. 5) writes that '[Chopin's] *fortissimo* was the full pure tone without noise, a harsh inelastic note being to him painful'. In this citation, one can see that Chopin's concept of *fortissimo* related not only to the volume of the note but also its timbral qualities. Hipkins describes the sound Chopin disliked as 'inelastic', so we can assume that Chopin instead wanted to have an 'elastic' tone. This refers to my earlier observations in this chapter regarding the '*portamento*' approach and straight/elastic approaches to the *legato*.

Changing my way of listening to the sound has given me new approaches and an opportunity to see this Sonata - which I have been playing for a long time - from new perspectives, including the climax of the development section of the first movement. The textural balance found in the middle of the Development (Figure 25) is one of these discoveries. In my early performances on the modern piano, I was trying to bring out the motif played by the right hand (highlighted in red) by playing the left hand octaves (highlighted in blue) softer, and putting more weight into the right hand in the high register (as demonstrated in CD 16). I used to play in this way because I thought that the octaves played by the left hand in the very low register would obscure the sound of the right hand in the high register, which produces less sound in comparison.

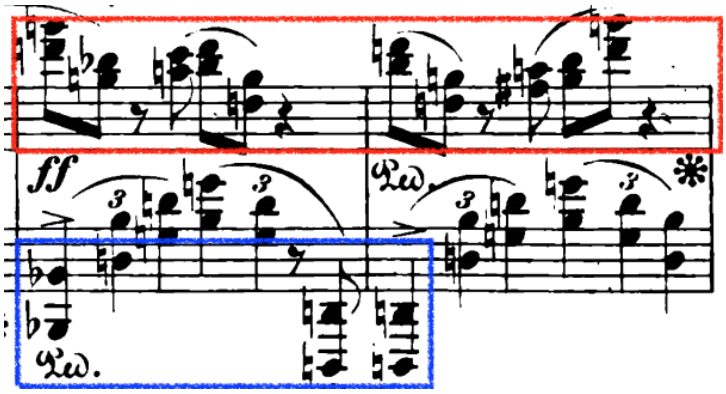

Figure 25. The middle of the Development from the 1st movement (bars 137-138)

I applied this approach on the Pleyel fortepiano too when I played the instrument for the first time. However, I found that it did not work well, as the volume of the sound in the high register on the Pleyel was very soft so that it did not matter very much whether I played the left hand softly or not as demonstrated in CD 12. Instead of playing the right hand heavier and the left hand softer (as it did not make so much difference), I tried to allow the sound of both low and high registers to resonate without trying to adjust the natural balance of the instrument. My prediction was that everything would be covered up by the massive sound of the left hand and that the right hand's part would be obliterated. Interestingly, however, the actual outcome was different. The bass note provided a good structure for the harmony without overwhelming the motif in the right hand. I could definitely hear the high register while the left hand was playing or holding the octave passage. In terms of volume, the left hand part was weighted more than the right hand; however, in the full context it brought an overview of the harmonic structure and a united sound to the harmony as demonstrated in CD 13. Surprisingly, playing this passage without thinking about balancing or adjusting the volume of the sound between two hands gave much more unity to the sound than when I was trying to bring out the two motifs. This balancing of the volume was not to be found only by analysing logically, but rather through practical experiments on the instruments.

I previously interpreted this passage such that both hands should be stated clearly by more-or-less equal volume, however, I realised that the volume was not the key issue here after this experience. Even if the volume of the right hand is less than the left hand, this does not mean that the right hand is less important than the left hand or that the right

hand should not be treated carefully. This passage, where two motifs of arguably equal importance exist at the same time, can be interpreted not by emphasising both as clearly as possible but by focusing instead on the larger harmonic structure supported by the bass note.

One might argue that the limit of the volume in the high register on the fortepiano restricts the interpretive range of my performance, but actually, in this case it led me to a different approach for this passage. Instead of demanding of the instrument more than what it is capable of, or trying to force it to produce similar effects to those found on the modern piano, I instead adopted the natural features of the instrument and allowed it to present to me new ideas and possibilities for different approaches. The ringing top f"", that Samson (2001) claims is not available on fortepianos, can be achieved through an alternative technical approach. The instrument does not give exactly the same outcome as that found on the modern Steinway concert grand piano, but nevertheless the effect of *fortissimo* can still be achieved by balancing texture and carefully listening to the sound of the instrument. As shown by Hipkins (1937, p. 5) above,[32] the volume of the *fortissimo* sound was not the main issue for Chopin, but rather the quality and the impression of the sound.

However, some pianists think that the different dynamic volume on the fortepiano is a demerit, or at least, they try to achieve the same dynamic effect as the modern piano on the fortepiano. For example, in the performance of Makoto Ueno (2013) on an Erard 1852 fortepiano, the *fortissimo* sound for this middle part of the Development section is played with full force. The fast and strong attack on the keyboard, in my opinion, creates an impression of inelasticity, and the touch used indicates the intention to create a loud *fortissimo* sound; this does not work on the fortepiano, given the limit of the volume, and has led him to press and attack the keyboard harder in order to produce more sound. I believe that better results are achieved when the flexible approach suggested earlier is adopted.

This flexible approach towards creating a *fortissimo* sound on the Pleyel fortepiano can also work effectively on the modern piano as well as on the Erard fortepiano. After experimenting on the Pleyel, I tried this approach on the modern piano, instead of

[32] See page 72

projecting both hands equally. On the modern piano, it is possible to play both motifs almost equally loudly, as the high register is also very resonant, whereas it is not so prominent on the fortepiano, especially on the Pleyel. However, this involves more pressure and force in the high register than in the middle register and this creates an associated muscle memory with playing this passage, that, when transposed to the Pleyel doesn't work. Although the respective sizes of the Pleyel fortepiano and the modern piano are different, it is better to allow the instrument to teach the performer how to play the passage, responding to its sound to create a balanced harmonic structure as found on the fortepiano. The differences between my previous approach (Erard fortepiano in CD 14; Modern piano in CD 16) and the new approach after this research (Erard fortepiano in CD 15; Modern piano in CD 17) can be heard in the CDs and the quality of the *fortissimo* sound can be clearly appreciated in the later performance.

Sándor (1981, p. 167) suggests in his book that playing the bass with a gentle accent, and underplaying the middle register, will bring out the top notes and the blend of the chords will be beautiful. This technique could be found by playing on the Pleyel fortepiano as well. However, it is important to note that it is different when one applies a technique by following instructions written in a book and when one finds out a solution by working on the instrument on one's own. If performers learn techniques with instruments through their own experiences, it encourages the development of technique further because it is an original discovery - they know where it comes from, why it works and how it affects their own practice.

3.2.6. Listening - Conclusion -

As Eigeldinger (1986) remarks, Chopin's music, performance and *legato* technique are very much from vocal performance. We reviewed the quotes and the recollection of Chopin's pupils in this section, and it is clear that Chopin was advising to listen to and refer the performance of good singers and their singing styles and techniques. However, *how* can we convert these ideas and the knowledge gained from vocal performance to piano playing as Chopin was doing? The way of listening to the sound and the consequences of these new listening skills (for example, the change of the hand motion and the use of the

wrists), which I found through this research, enabled me to understand the testimonies practically as a pianist. Also, through this research, I am now convinced that the *portamento* singing that Chopin sought to find in piano performance was not just a vague 'imaginary' idea but can practically, physically, and audibly be demonstrated with the listening approaches discovered in this research. Therefore, in effect, my experience with the Pleyel and the Erard fortepianos translated Chopin's testimony to me, and also made it relevant to my performance of the music on the modern piano.

3.3. Damper pedal

As well as the importance of the listening skills discussed earlier, the pedalling also assumes an important role in performance. Sándor (1981, p. 167) takes Beethoven's Fourth Piano Concerto as an example and says that players must not take the pedal markings simply because they are on the score, but 'must search for the real meaning behind the indication in all pedal markings'. As well as Sándor, other sources such as Banowetz (1985, p. 168) and Hinson (1985, p. 195) also suggest the importance of searching for the real meaning of the pedal marks.

The development of the damper pedal has also affected the manner and style of the music as well as the pedalling techniques of pianists. In late eighteenth century, foot-controlled pedalling to replace knee levers emerged and became common in early nineteenth century (Rowland 1993, p. 18). Pedalling techniques commonly used in the eighteenth century and early nineteenth century are referred to as 'rhythmic pedalling' (or direct pedalling), and the common pedalling technique used in modern times is mainly a 'syncopated pedalling' (or legato pedalling).

Rhythmic pedalling is to synchronise the hands and foot to go up and down together. Therefore, for example, if there is a pedal sign at the end of a phrase and a new pedal sign at the beginning of the very next phrase, a gap between the phrases occurs. In contrast to the later syncopated pedalling, this rhythmic pedalling allowed time for the increased resonance caused by the fortepiano's damper pedal to die away (Rosenblum, 1993).

One might think that the modern piano is more resonant so that the pedal at the end of the phrase remains longer than on the fortepiano, but the sound on the modern piano can be immediately cut off when lifting up the damper pedal. Therefore, on the modern piano, it can cause a sudden gap when the rhythmic pedalling is applied, while on the fortepiano, the damper does not cut off the sound as immediate as the modern piano so that it can create natural transitions to the next phrase.

As fortepianos are more resonant than modern pianos after lifting up the damper pedal, rhythmic pedalling helps the performer to clearly change the pedalling between different harmonies and avoid the harmony overlapping with the next harmony. In addition to

that, the rhythmic pedalling can be effectively used for articulations, such as accents, because the fresh raising of the dampers can emphasise the note so that supports the accentuation (Rosenblum 1993, p. 162).

In contrast, syncopated pedalling is the pedalling technique widely known and used in the modern era. Syncopated pedalling is to apply the damper pedal immediately after the attack of the note and release as a new harmony is played. As it removes a gap in between two consecutive pedal signs, it gives smoother flow in phrasings than rhythmic pedalling on modern pianos. Rhythmic pedalling is still in use on modern pianos when the performer wants to emphasise articulations such as accents and rhythmic effects, but not usually used for slow and quiet *cantabile* sections. On modern pianos, syncopated pedalling can change the harmony clearly because the dampers have immediate control of the strings. On the other hand, on fortepianos, syncopated pedalling can sometimes cause unwanted results of overlapping harmonies depending on the conditions of the instruments and the performing palces.

The technique of syncopated pedalling started to appear in the late nineteenth century in some notations such as by Hans Schumitt (1893 [1875], p. 4) in around 1863 and books published by Niecks (1876, p. 183), but it is not certain when pianists began to use specific pedalling techniques. Some scholars including Rosenblum (1993, p. 167) suggest the possibility that Chopin was already using the syncopated pedalling intuitively as Chopin's pedalling technique was highly acclaimed.

Pedalling is an important aspect of Chopin's music and his approach to performance (Hinson 1985, p. 179). When Schumann listened to Chopin's playing of his own Etude in A flat major, Op. 25, no. 1, Schumann praised Chopin's performance and the captivating result through his innovative use of the pedal techniques as 'it was rather an undulation of the A flat major chord, brought out more loudly here and there with the pedal, but, exquisitely entangled in the harmony' (Schumann 1877, pp. 199-200). Marmontel also commented that 'Chopin used the pedals with marvellous discretion' (Marmontel 1885, pp. 256-257 cited in Eigeldinger 1986, p. 58). Chopin was very careful with pedalling in his writing to indicate his intention of its use, and in this research, it is possible to look into the meaning further by using the historical instruments.

Just as the action of the hammer works differently, and the way in which the instrument is built is different, so too the function of the sustaining pedal on the fortepiano and the modern piano work differently. For example, one can find a lot of long pedal markings which modern pianists rarely adopt because the original pedalling will be unlikely to create the same effect on the modern piano that the composer originally wanted on the fortepiano. Since the sound decay of the modern piano lasts a relatively long time (as explained earlier in this chapter), the notes sustained by the damper pedal of the modern piano create a much louder and longer sound than on period instruments. Consequently, following the original pedalling of the composer may sometimes not be effective on the modern piano because of these mechanical differences. One can also find such pedal markings in Chopin's Second Piano Sonata. At the beginning of the first movement of the Second Sonata, a long pedal over three or four bars can be found in the first subject (Figure 26).

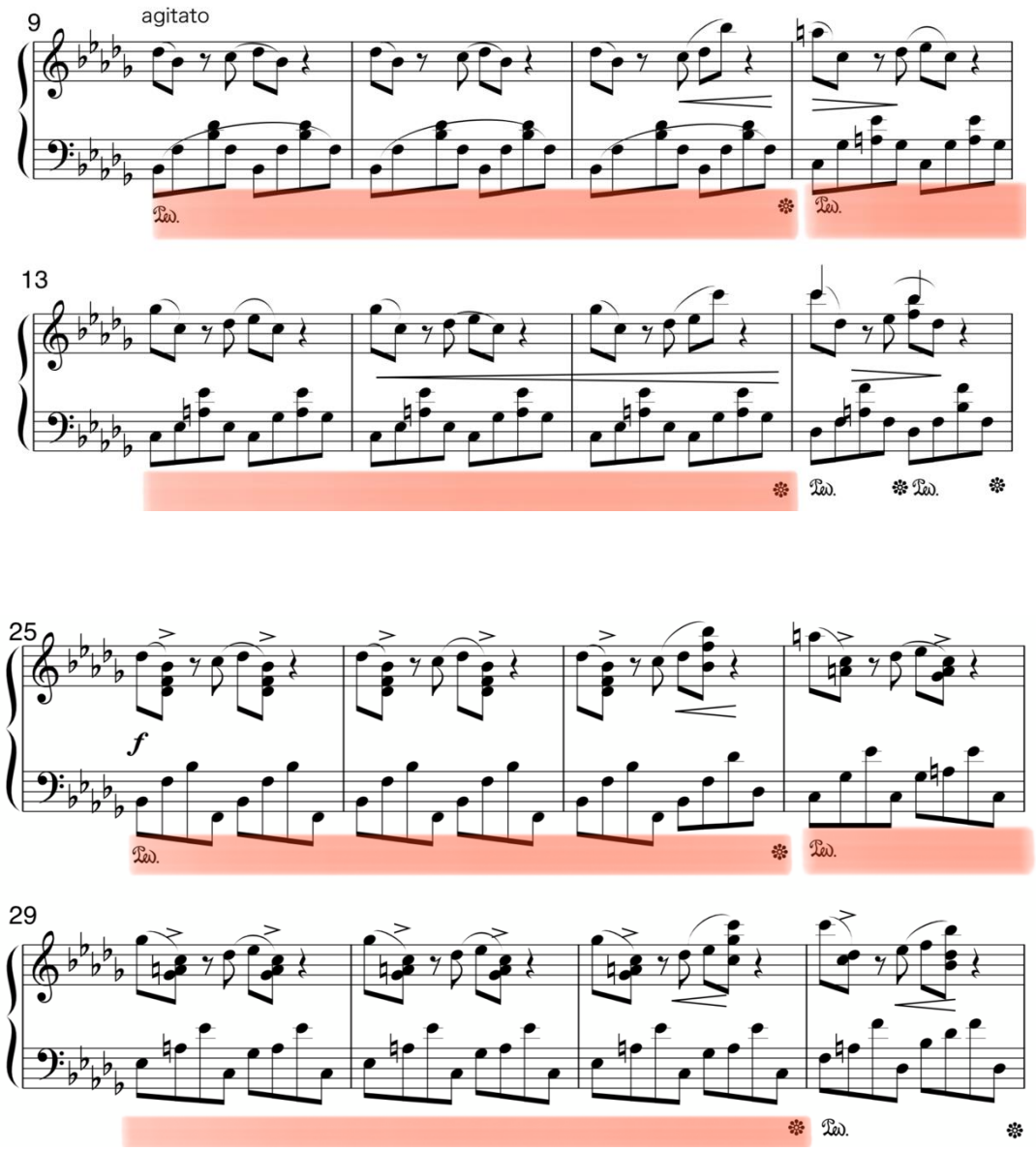

Figure 26. The first subject from the first movement (bars 9-16 and 25-32). The long pedal markings are highlighted in red

A long pedal is marked through bars 5 to 8, but this is more acceptable on the modern piano as these four bars retain the same harmony and notes and there is, as yet, no melody. While some pianists change the pedal halfway through to avoid the sound becoming too loud, Chopin's notated effect can be captured on the modern piano by keeping the dynamic very quiet. On the other hand, the pedal markings in bars 9 to 11 and especially bars 12 to 15 can be too long for modern concert grand pianos in large concert halls. These passages include both the melody with chords of the right hand and the accompaniment of the left hand in the lower register. Considering the speed, the number of the notes and the register of the notes, it can sound muddy and too loud if the

damper pedal is sustained for such a long time on the modern piano in a big concert hall, as DVD 11 could suggest as an example.[33] Moving to the fortepiano, the marked pedalling throughout this passage is absolutely fine, and does not give an impression of too heavy a sound, or of the pedal being too long as demonstrated in DVD 12 on the Erard 1866 fortepiano and in DVD 13 on the Pleyel 1848 fortepiano.[34]

So what can be done on the modern piano? The composer marked long pedal marks, but they often do not work effectively on the modern piano. Should we neglect the long pedal because of the differences of the instrument, or follow the authentic markings, even if they do not create the same effect on the modern piano as found on fortepianos? During the research process of this project, I observed how these pedal markings work, and how they affect the performance of the piece. I will now explain what I found in Chopin's pedalling and how these long pedal marks can be interpreted on the modern piano.

When I perform the first subject on the modern piano, I change the pedal once or twice a bar in order not to lose the quaver rest, and to keep the sound rather quiet. When I applied the same pedalling on the fortepiano and changed the pedal as frequently as I do on the modern piano, the action worked well and I did not notice anything to be wrong. However, when I applied the long pedalling as marked originally in the score, I found that the original pedalling worked better in terms of the phrasing and making the accompaniment part of the left hand more flowing and smooth. When I went back to the fortepiano and applied the frequent pedalling that I employ on the modern piano, I felt that it prevented me from keeping the long phrasing that I had found with the long pedalling.

Listening to the recording of the performance on the Erard with the frequent pedal changes, the bass note of the left hand, where the pedal is changed, sounds more obvious each time I hear it. In the recording on the CD 18, the bass notes of B2 flat and C3 can be heard more distinctly in every minim beat (highlighted in Figure 27). On the other hand, the bass notes in the CD 19, where the original pedalling is applied, are more harmonised within the melody and the harmony. Therefore, the original longer pedalling supports the

[33] Depending on the setting, for example, in a larger concert hall with resonant acoustic where a lot of major pianists perform nowadays, this pedalling could be a bigger issue.
[34] The recording of DVD 13 contains background noise and the resolution of the image is not high. However, the demonstration of the pedalling effect discussed in this paragraph is not affected by the recording issues in this video.

creation of longer phrases. Hinson (1985, p. 183) has also stated that Chopin's pedalling indicates an important role in phrasing.

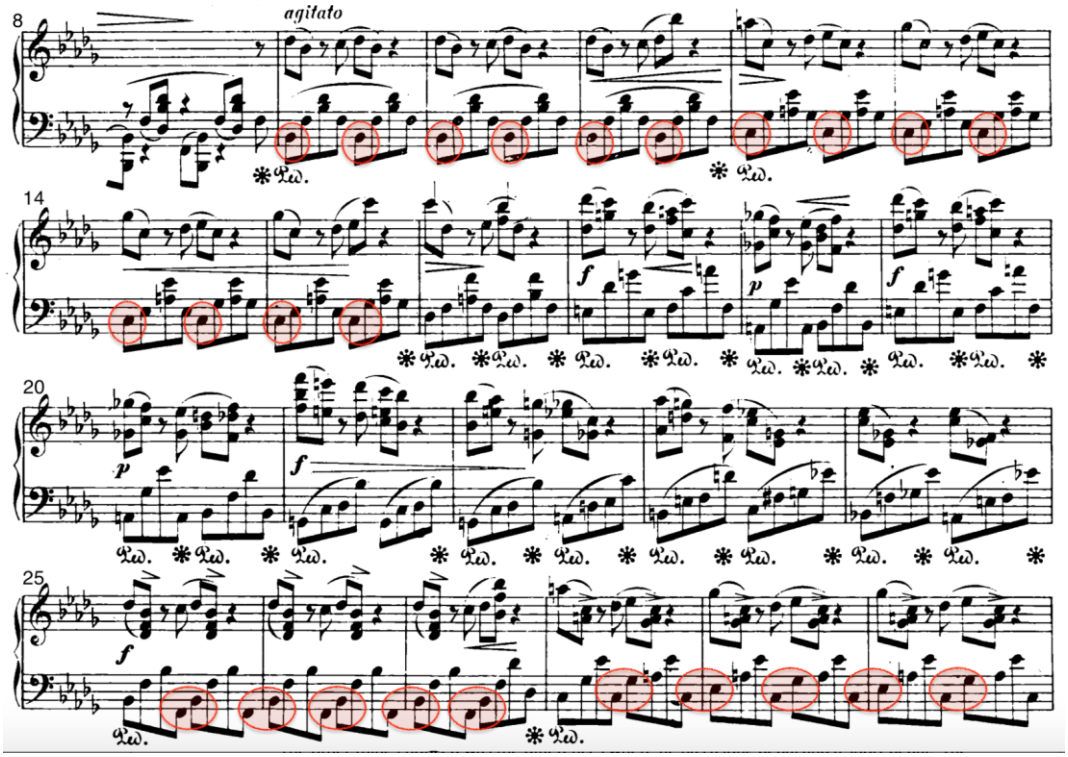

Figure 27. The first subject from the first movement (bars 8-30). The bass notes are highlighted in red

I also noticed were the differences where Chopin marked either a long pedal or a short pedal. The long pedal marks in bars 9 to 11 and bars 12 to 15 help the performer to feel a long melodic line and to move forward, while the short pedal marks starting from bar 16 onwards, can suggest that the player should articulate the short slurs of the melody more clearly. Following this long and short pedalling marked in the score on the fortepiano, the articulation and the phrasing can be recognised more clearly as demonstrated in the performance on the Erard in CD 20.[35]

Therefore, in my opinion, Chopin's pedalling is not only for the effect of sustaining the sounds but also for indicating the articulations and phrases of the music. After comparing

[35] The recording of CD 20 contains background noise, however, the issues does not affect this video to demonstrate the articulation and the phrasing.

the effects of the short and long pedal marks on the fortepiano, I realised the effect as well as the purpose of the pedalling in this music.

One may assume that Chopin was choosing pedalling simply in accordance with harmonic changes. Indeed, looking at the first subject, the pedal is changed according to the harmony. For example, bars 9 to 11 and bars 12 to 15 keep the same harmony and the pedal is kept accordingly; and from bars 16 onwards, the harmony changes every minim beat with the pedal also changing every minim beat. However, the difference between the first phrase of the first subject in bars 12 to 20 and the second phrase of the first subject in bars 29 to 36 (Figure 28) indicates that the pedalling is changed even though the harmony remains the same both times. Why would this be the case?

The first difference occurs in bars 16 and 32 (Figure 28, marked in red colour). These two bars have the same harmony and the same melody with a few variations; however, the pedalling is different. The first time, in bar 16, the pedal marking changes every minim beat, while later in bar 32 Chopin keeps the pedal throughout the bar. The variations of the melody also suggest different articulations in bars 16 and 32. In bar 16, the top melodic line is held in crotchet notes, and these longer notes create a slight emphasis on every minim note. In bar 32, these crotchet notes are removed and the similar texture from the previous bars continues.

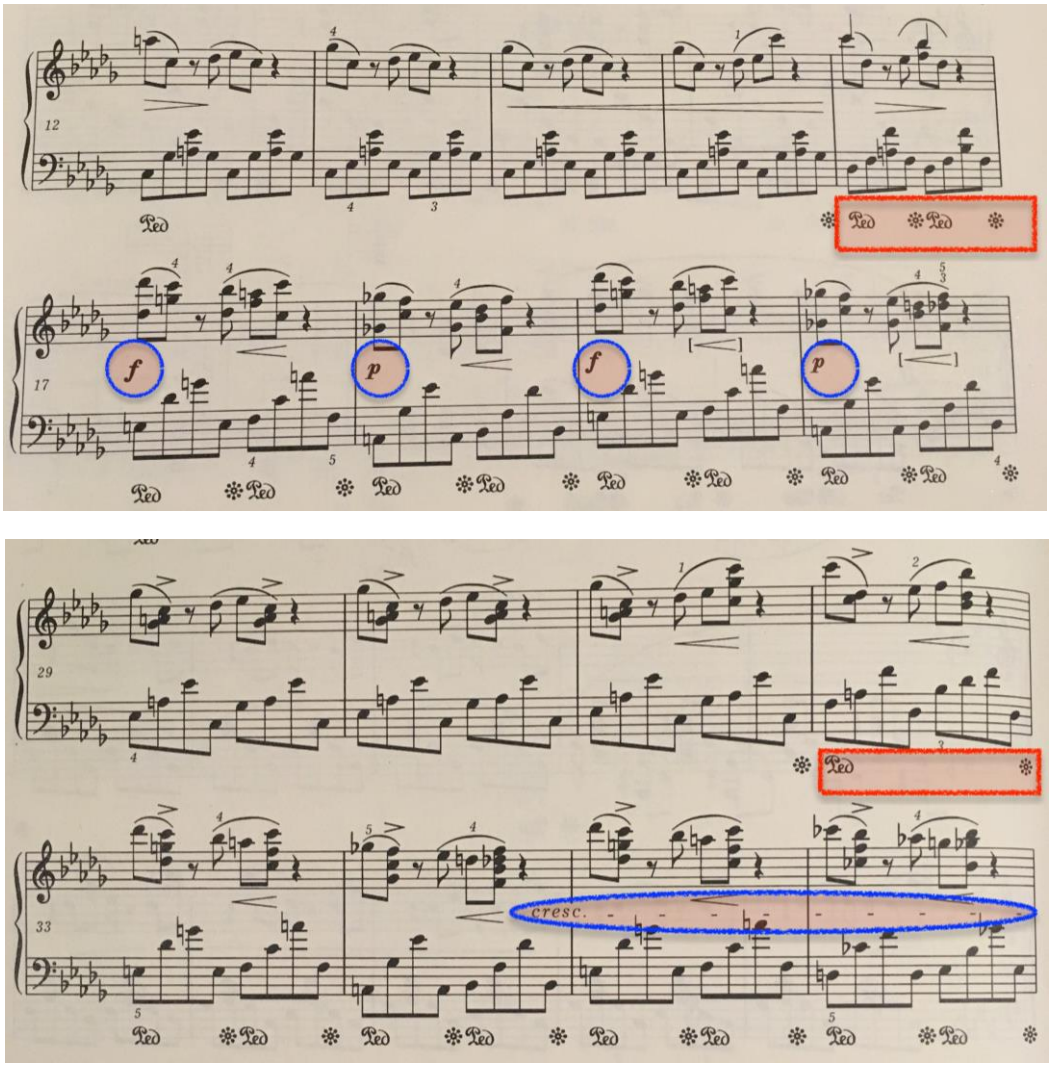

Figure 28. The first subject from the first movement, bars 12-20 and 29-36 (the National Edition edited by Ekier and Kamiński, pp. 11-12). The pedal markings are highlighted in red and the dynamics markings are highlighted in blue

Considering my earlier contention that pedalling could indicate phrases in Chopin's writing, one can begin to see that there is a different intention in each occurrence of this phrase. The reasons for these differences can be found by looking at the following bars. In bars 17 to 20, there are frequent changes of the dynamics and these create a big dynamic contrast each bar from *f* to *p* (Figure 28, marked in blue colour). On the contrary, in bars 33 to 36, there is only a single *crescendo* towards *ff* in bar 37 and there is no contrast of *f* and *p* that had occurred in the previous iteration (Figure 28, marked in blue colour). The dynamics of the first example in bars 17 to 20 would suggest an intention to prevent the melody from flowing straight forward, and creates an effect in which the music struggles to move forward easily. There is a conflict between the melody that wants to

move forward and the frequent dynamic changes that prevent its momentum. The latter part in bars 33 to 36 would suggest one single smooth line of the movement towards the next phrase to reach *ff* in bar 37, and there is no strain to prevent its movement.

The pedal markings in bars 16 and 32 (Figure 28, marked in red colour) already indicate what is going to happen in the dynamics in the next phrase by the frequency of the pedalling. In bar 16, the pedal is changed every minim beat, the same rate as in the following bars, with frequent dynamic changes. In contrast, bar 32 has the pedal kept for the whole bar and there is no change of pedal in the bar. This helps to keep the line growing from the previous bars with long pedalling, as well as provide a continuing line towards bar 35 where a single *crescendo* starts towards *ff* in bar 37 (Figure 28, marked in blue colour). The phrase is not interrupted by frequent dynamic changes or the pedalling, and creates a longer connecting line to reach the *ff*.

When listening to existing recordings, I have observed that these subtle differences in the pedal marks and the phrase marks are sometimes not apparent in the performance. For example, in performances by pianists such as Martha Argerich (2015 [1975]), Vladimir Ashkenazy (1992), Yulianna Avdeeva (2010) and Yundi Li (2011), there are no differences in the phrasings between bars 16 and 32, and all pianists play both bars with one single line (that is, without separating the phrase in bar 16 by a crotchet beat). Some pianists even change the pedalling completely; they play the first phrase of the first subject (bars 9 to 24) with no pedal, or almost without pedal, to create more detached notes, possibly to make a difference from the second phrase of the first subject (bars 25 to 40) where they start using the pedal more generously. Such examples can be found in the performances by Sergei Rachmaninov (2009 [1925-1942]), Howard Shelley (1987) and Mikhail Pletnev (1988).

In contrast, a few pianists, such as Arturo Benedetti Michelangeli (1968), Maurizio Pollini (1985) and Grigory Sokolov (1992) do observe the differences between the phrase marks as suggested by the dynamics and pedalling. For example, the performance of Grigory Sokolov (1992) clearly suggests the differences between the first (bars 9 to 24) and the second phrases (bars 25 to 40) of the first subject. The first time in bar 16, the melody (crotchets) is notated as a distinct line and the pedalling followed by a big contrast of *f* and *p*, while the second time in bar 32 he plays more smoothly with a flowing, rhythmical

movement.[36]

As demonstrated by this example, Chopin's pedalling works not simply in a harmonic way but in many other, perhaps more subtle ways. Hinson (1985, p. 193) also says that it is common in Chopin's writing to find inflexible rules of pedal for identical passages, and that the same manner cannot be followed for these passages. The development section of the first movement shows another clear example of Chopin using the pedal for the purposes of the articulations. In bars 153 to 156, the pedal is kept down as the music keeps the same harmony. However, in bars 157 to 160, where the passage is the same as in the previous 4 bars, Chopin writes pedal markings only at the first and the last minim beats of the phrase (Figure 29).

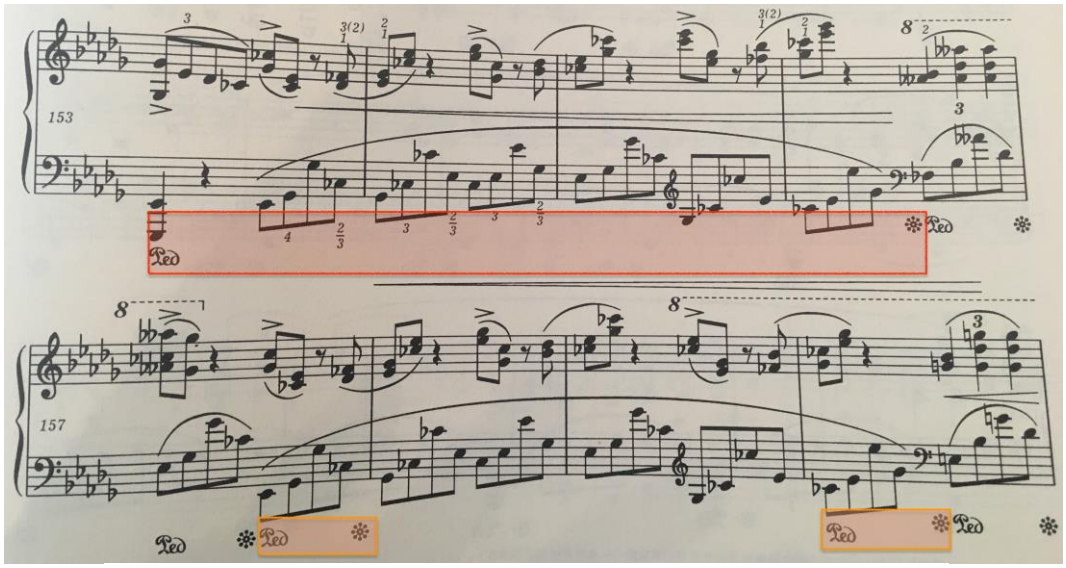

Figure 29. The development of the first movement, bars 153-160 (the National Edition edited by Ekier and Kamiński, p. 17). The pedal markings are highlighted

These different pedal markings create different articulations in the first phrase of bars 153 to 156 and the second phrase of bars 157 to 160 in the same passages. By following the pedalling instructions, the first phrase creates a long line by sustaining a harmonic build-up for 4 bars, especially because the lower register of the left hand gets louder

[36] Again, unlikely to the majority of many pianists, Sokolov uses a longer pedal as well for the second phrase by following the original pedal mark.

according to the longer pedal. On the other hand, the second phrase demonstrates more detailed articulation, clearer rhythms and a lighter and livelier character according to the absence of the pedal as demonstrated in CD 21.

By looking further at the dynamic markings in the score, the first phrase of bars 153 to 156 has a hairpin *cresc.* in the middle of the two staves, which can suggest a *cresc.* to be expressed by both hands as the whole sound is kept by the pedal. Moving to the next phrase in bars 157 to 160, a hairpin *cresc.* is put above the right hand's passage, which can indicate that this *cresc.* is different from the one in the previous phrase. As the *cresc.* is put in a different position on purpose, one can understand that this *cresc.* is particularly for the right hand to build up, while the left hand is kept rather quiet so as not to disturb the right hand, with a lighter pedal. The position of the *cresc.* can also be found in the manuscript copy by Gutmann (Figure 30 and 31).

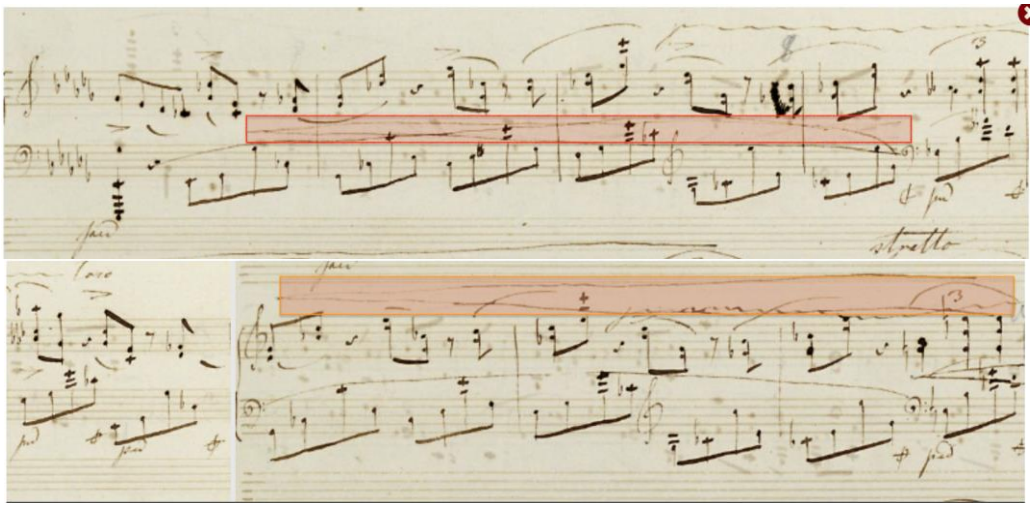

Figure 30. The development of the first movement, bars 153-160 from the manuscript copy by Gutmann (Online Chopin Variorum Edition, n.d.). The dynamics markings are highlighted n red

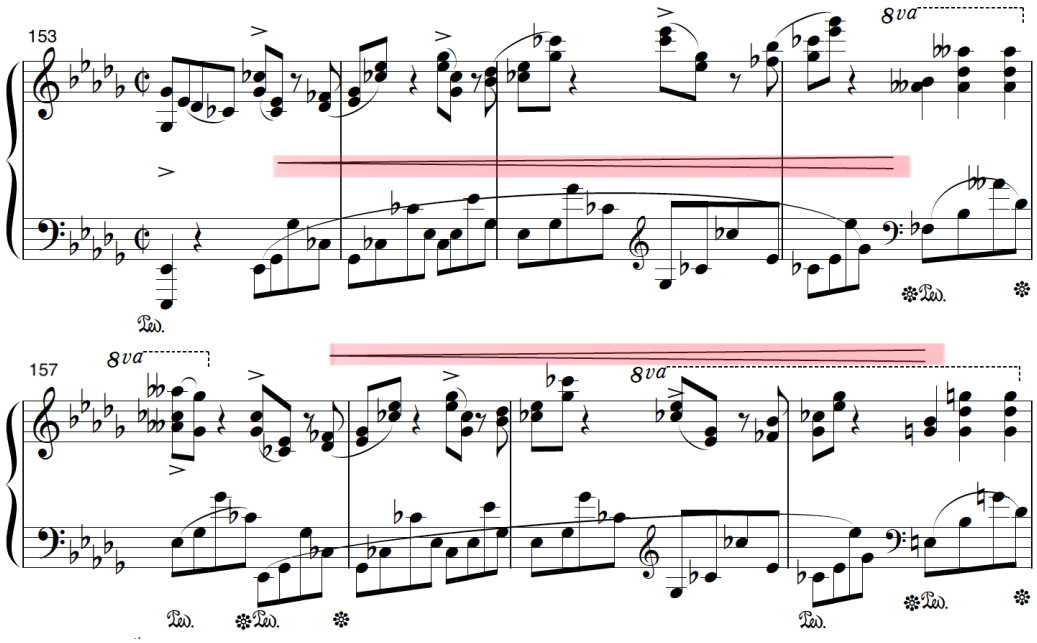

Figure 31. Rewrite of Gutmann's copy shown on Figure 30 to present the notes and the annotations more clearly

Considering this dynamic marking, along with the pedalling mark, a case can be made that Chopin's pedalling is connected to the articulations as well as the dynamics, phrasing and various other aspects. By understanding the features of Chopin's pedalling, one can appreciate and create the effect of the original pedal (as revealed on the fortepiano) even if the original pedalling is not always applied.

These examples discussed thus far demonstrate that it is important to look at Chopin's pedalling marks when performing on the modern piano. Even if, initially, it looks unmatched with the phrase marks or *legato* indications, there always appears to be a justification for it. Therefore, it is important to look carefully at the pedalling marks of Chopin as they lead the performer to comprehend the piece in more detail. Looking at Chopin's pedalling is not simply for the purposes of using the pedal, but also as an important means to analyse and understand his indications further beyond the written notes.

In contrast to the various pedalling marks in the first movement, in the fourth movement, no pedal signs are marked. There is a question, therefore, as to whether Chopin did not want the player to use the pedal, or whether he left its use to the performers' discretions; or perhaps he considered it too obvious too mark, and thus left it

blank to avoid overly-detailed marks that would relate to the dissonant harmony.

As Hinson (1985, p. 187) has analysed, there is a possibility that one of the reasons for the lack of pedal indications in some pieces is that pedalling is too obvious in some pieces, such as the Preludes in E minor and C minor from Op. 28. This could be the same case for the fourth movement of the Second Sonata, as it is *legato* throughout; it is common to use the pedal for this movement as can be observed in many pianists' performances, such as by Rachmaninov (2009 [1925-1942]), Michelangeli (1968), Argerich (2015 [1975]), Pollini (1985), Pletnev (1988), Sokolov (1992), and Yundi Li (2011).

However, it is also possible to think that Chopin did not really want to have pedal in this movement. Schumann criticised this movement as 'more like an irony than a kind of music' (Rosen 1996, p. 283-284) and this suggests that this movement was very radical at that time, especially for those who got used to Romantic tunes that were common style in the era. It does not suggest that this piece is intended to be played without pedal, but at the same time it is not suggested that it *should* use the pedal.

On the fortepiano, I experimented with playing this movement without using the sustaining pedal. The two different performances on the Erard 1866 fortepiano, one using the pedal (CD 22) and one without the pedal (CD 23) can be found in the CDs. Because of the longer resonance caused by the slower motion of the damper placed underneath the string on the Erard (as explained in Chapter Two), this movement without the pedal works effectively as well as with the pedal. On the Pleyel 1842 fortepiano, it has a drier sound when this is played with no pedal as demonstrated in CD 24.

To conclude, I would recommend that performers try to use Chopin's own pedalling to seek what he intended. Some markings do not work well or are not compatible with the modern piano, but at least the performer can speculate concerning the fundamental reasons for the pedal indications. It is important to explore the meaning of the indications before disregarding them simply because they do not fit the modern piano.

In the process of understanding the meaning of markings and the composer's intentions, period instruments are one of the best tools for this procedure to find a path to the answer on the modern piano. As I experienced through my research, historical instruments

sometimes suggest the important key which one would not find through working only with modern instruments, and these create opportunities to further improve performances. Some edited versions alter Chopin's pedalling indications as they are sometimes independent of the harmony and cause blurring as a result (although these instances are usually created deliberately by Chopin).[37] Therefore, it is important to refer to various editions and, where possible, the original manuscript of the composer, in order to have a deeper understanding of the markings.

[37] For example, edited editions such as by pianists Scharwenka (1833), Scholtz (1879), Debussy (1915), Cortot (1930) and Paderewski (1950) altered Chopin's pedal markings in the first movement of the Second Piano Sonata in bars 32 and 158-159.

3.4. Editions

The importance of referring to editions is not only for pedalling, but also for other indications. One example concerns the repeat sign in the first movement of the Second Sonata. At the end of the exposition in the first movement, there is a repeat sign going back to the beginning of the movement. As the manuscript copy by Gutmann (Figure 32 and Figure 33) shows a double bar line at the beginning of the exposition after the four bars of the introduction, the first edition of Breitkopf und Härtel assumed that this double bar line is the point to go back for the repeat, and thus they added a repeat sign here. Although the other first editions in Paris by Troupenas, and London by Wessel, did not put a repeat sign, this wrong indication in the German first edition influenced the majority of editions published later. Some editors, for example Breitkopf und Härtel edited by Johannes Brahms, corrected this repeat sign but this did not help to change the custom. The influence of the German first edition remains till recent days so that even the Paderewski edition, which is one of the most common editions for Chopin's works, also has the repeat sign marked in Bar 5; as a result, the majority of pianists still follow this sign and repeat back to Bar 5 instead of Bar 1.

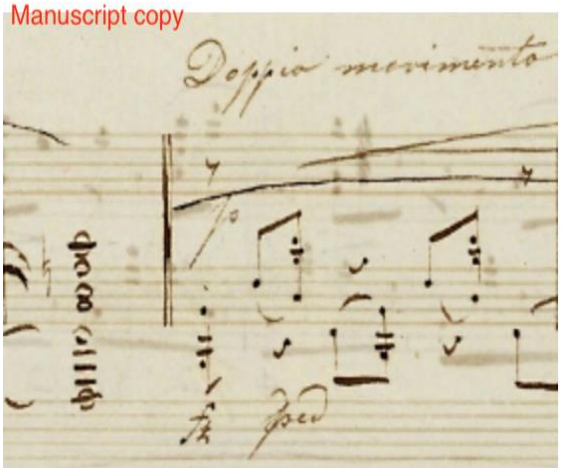

Figure 32: The first movement in bars 4-5 from Manuscript copy by Gutmann (Online Chopin Variorum Edition, n.d.)

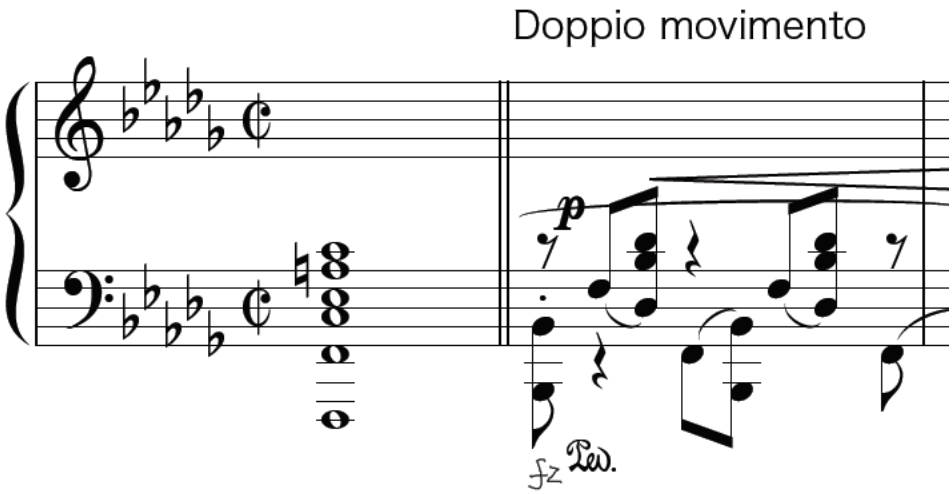

Figure 33. Rewrite of Gutmann's copy shown on *Figure 32 to* present *the notes and the annotations more clearly*

As Rosen (1996, pp. 280-282) indicates, this repeat sign going back to bar 5 is incorrect through analysing the harmony and the structure of the work.[38] The last chord of the exposition in bar 104 is the Dominant of D flat major, so it is natural to go back to the D flat note in Bar 1 to have the chord progression of a perfect cadence rather than to a B flat note in Bar 5. I can understand that some people may suggest that it is possible to analyse the dominant chord in bar 104 as resolving to B flat, with the sixth chord of D flat major as an interrupted cadence. However, referencing Rosen's analysis in the rhythm, the tempo and the structure at the end of the exposition could suggest that going back to Bar 1 is more natural. I adopted this interpretation of the repeat sign and my performance in the recordings submitted along with this thesis apply this repeat going back to Bar 1.

As mentioned in the previous 3.3. Damper Pedal section, there are variants in the markings on the score of the sonata. For example, editions by pianists such as Scharwenka (1833), Scholtz (1879), Debussy (1915), Cortot (1930) and Paderewski (1950) altered Chopin's pedal markings and dynamic indications on the manuscript copy shown on page 87 (Figure 30). Jan Ekier (2013, p. 9) admits that it is not always possible to formulate practical suggestions close to the original and players sometimes need to

[38] Rosen also points out that the chords held long in bars 101 to 104 (four minim beats for each chord) naturally connect to the introduction in Bar 1 to 4, which are twice slower than the main section (as there is *Doppio movimento* from Bar 5). He also shows an example of a sonata by Weber, whom Chopin admired, that has a similar structure to this exposition and repeats back to the slow introduction.

content with an approximation. However, taking into account the detailed explanation of the process of selection from available variants and stemmatics present in this edition, I have based my performance for this research mainly on the use of the Polish National Edition edited by Ekier and Kamiński.

3.5. Tempo

As a result of this research, the choice of the tempos that I now take for this piece (especially the first movement), has been changed according to the singing *portamento* approach. I used to take a much faster tempo for the first subject of the first movement, as can be found in my older recording (CD 25). This kind of fast tempo can be found in some other pianists' performances too, for example by Vladimir Ashkenazy (1992). The tempo mark that Chopin put at the beginning of the first subject is '*Doppio movimento*' which suggests a speed that is twice faster than the Introduction, marked '*Grave*' at the beginning. Most pianists tend to take the tempo for the '*Doppio movimento*' much faster than this or the introduction too slowly - it is usually three or four times faster than their speed at the Introduction.

It is important not to lose the momentum and the anxiety given by the *agitato* indicated for this first subject, but the fast tempo is not the main issue in the performance here. The expression of this agitation should not come from how fast the speed is, but from the tones, articulations, dynamics and textural balance, mentioned earlier in this chapter, and the tempo is not the main point of giving this agitation. Daniel Barenboim (2004) has said that tempo is the last thing to be determined, and not the first thing, as it will be determined naturally. He questions and states that:

> Why is so much spoken today of the selection of the tempo? I do not understand this. As if tempo were an independent phenomenon. The tempo is, however, determined by the content; we don't hear the tempo. We hear only the content. If the tempo is proper for a specific content, then it is correct. I believe that musicians come to terms with tempo far too soon. One must, however, also establish the sound content to a much greater extent. The decision on tempo is last. Only at the moment when I comprehend the piece, the content, the sound- consequently everything that belongs to it.
>
> (Barenboim, 2004)

For me, as Barenboim suggests, the decision of the tempo for this piece came at the end of this process of research, after investigating all the aspects on the fortepiano and the modern piano as discussed earlier.

3.6. Summary

A singing *portamento* quality, which Chopin loved to find in piano performance, was a quality I discovered on the Pleyel fortepiano during this practical research. The different sound decays between fortepianos and modern pianos revealed the different ways of listening to the tones, which led me to understand this *portamento* effect as well as to develop approaches of vertical and horizontal melody lines. It offered me new ways of listening to the sound and how importantly it affects my performance and the use of the body. Through this research, I found a way to create a *portamento* effect like singers or string players on fortepianos and to transform this technique to the modern piano. The practical research with the Pleyel and the Erard fortepianos revealed Chopin's intentions to me more fully, and enabled me to understand his texts in more detail. Also, the experience of the fortepianos enhanced detailed research on his writing and pedalling markings, enabling me to understand and approach to the meaning of markings and the composer's intention more closely.

Through the experiences on the Pleyel and Erard fortepianos in my research, I realised that fortepianos and modern pianos give pianists different possibilities and new ways of how to listen to the sound. If I simply played the Pleyel and the Erard fortepianos in the same way that I used to play on the modern piano, I imagine that I would not have been able to discover the new approaches that I have introduced in this chapter. Instead, I communicated with each instrument to search for the most effective way of playing this music on each particular instrument, so that the instruments themselves suggested and taught me a more natural and effective means of performing and listening to the sound.

Chapter IV

4.1. Conclusion

This research has examined the Pleyel and Erard fortepianos from various perspectives, how the differences between the two instruments would affect a pianist's performance, and how these discoveries can be transformed to the performance on the modern piano. Following the introductory first chapter, the Pleyel 1848 and the Erard 1845 were compared and the different outcomes they would provide are described in the second chapter. In Chapter Three, we looked into further details and how the consequences found in Chapter Two could be transformed and applied to performance on the modern piano.

In Chapter Two, I investigated the mechanical differences between Pleyel and Erard in detail, and how the characteristics of the two fortepianos are affected by the different mechanical features. This was a revelation to me, and connected me to the sensation that Chopin had had on these two different instruments, as demonstrated by the quotes introduced in previous chapters.[39] Chopin told his pupils that they should not rely on the beautiful ready-made tone that was already provided by the instrument, but should work hard to create something even better (Grewingk 1928). Gretsch recalled that 'Things that came out perfectly on my solid and robust Erard became abrupt and ugly on Chopin's [Pleyel] piano' (Grewingk 1928, p. 15). This 'ready-made tone' could be likened to a ready meal – a convenient option which is time-efficient and sates one's hunger. On the contrary, not relying on the ready-made tone is like cooking by oneself from scratch. It is harder and takes more time and effort, but through this process one can achieve a better quality and greater variety of outcome. Through working on the Pleyel fortepiano, the instrument provided me with an opportunity not to rely on the 'ready-made tone' but to work by myself with the instrument to find out what works effectively with different touches. The sensation that Chopin felt on these two different manufactures of the fortepianos as described in Marmontel (introduced in the first chapter) was during the course of this practical research on these instruments. Investigating the relationship between Chopin and his instruments through this practical research helped me to find the way to establish the relationship between the performer and the instruments.

[39] See pages 20 and 27.

In the third chapter, I went on to describe how the consequences for the management of the various dimensions explained in Chapter Two can be applied to the interpretation and performance of Chopin's Second Piano Sonata. The importance of how one listens to the tones and how this listening skill could demand a different quality of sound were described, along with the changes that resulted in my performance after the experience of the fortepiano instruments. I was aware of this importance of listening to and paying attention to what I am actually playing as the first step before starting this research. However, in this research, I went a further step and found out 'how' to listen to the sound. I examined, experimented and explored the way of listening to the sound, which the fortepianos suggested to me. The first thing I found was that the tone was caused by the short decay of the sound on the fortepianos, and it changed my physical habits as a modern pianist that had practised for many hours on modern pianos. I feel that pianists playing on modern pianos are in danger of developing a lazier approach to listening to sound decay, as the notes sustain for so long that less attention to *legato* playing still produces an acceptable result. For example, when modern pianists try to produce a modern piano's *legato* on the period piano, they fail to take sufficiently into account these differences of sound decay. On the fortepiano, there is less margin of error as the sound decay is quicker. Practising on the period piano requires much closer attention and involved listening to the note decay. Taking this more detailed approach to listening to the sound from the period piano to the modern piano results in a more focused approach. This enabled me to find the singing *portamento* effect, which Chopin loved to find in playing (Karasowski 1877, p. 94 cited in Eigeldinger 1986, p. 45), on the Pleyel fortepiano. This also developed to realise different listening approaches (vertical approach and horizontal approach) for making *legato* lines. It also enabled me to feel what I perceive as a 'bounce' to the sound which is made visually clear by the diagrams of the sound decay as shown in Chapter Three.

By taking all these aspects explored and explained in the previous chapters, I made audio and video recordings of my performance for the Second Piano Sonata by Chopin on the pianos from the three different manufacturers and using six different instruments; Pleyel grand fortepianos (1842 and 1848), Erard grand fortepianos (1845 and 1866) and Modern Steinway grand pianos model B and model D. The audio and video recordings

submitted along with this thesis are made by using recording equipment of Zoom Q4n Handy Video Recorder, Edirol R-09 24bit WAVE/MP3 recorder by Roland, iPhone SE (1st generation) and MacBook Pro (13-inch, Mid 2014). The visual representation of the sound was created by using GarageBand and Audacity software. The video recordings were edited by using LumaFusion and Final Cut Pro software. A set of recordings of Chopin's Second Piano Sonata on both Pleyel and Erard grand fortepianos, as well as on a modern Steinway grand piano, performed by the same performer, is currently not available commercially. I believe that these recordings that I have submitted along with this thesis, as a comparative set, could be an important source as a recording resources as well as giving new light to existing scholarship.

The recording on the Pleyel 1848 grand fortepiano at the Cobbe Collection in Hatchlands was made in autumn 2016. As the access to the instrument was withdrawn by the owner at the late stage before making a complete recording in summer 2018, audio recordings of the third (CD 26) and fourth (CD 27) movements of the Sonata recorded in autumn 2016, and audio and video recordings of the first movement made in spring 2018 (CD 28; DVD 14) are submitted with this thesis.[40]

The recording on the Pleyel 1842 grand fortepiano at the Finchcocks Museum in Tunbridge Wells was made in summer 2018 (1st mvt is DVD 15; 2nd mvt is DVD 16; 3rd mvt is DVD 17; 4th mvt is DVD 18). There was a minor mechanical issue on the instrument that the hammers of the notes E3, F3 and G3 flat were clogged when either was hit softly/slowly. When it was played at a *forte* dynamic, there was no problem, but when playing *piano*, the hammer was either stuck and did not make a sound, or was clogged and suddenly shifted so that it made an unnecessary accent. This affected the performance,

[40] As previously explained (p. 16), a planned recording session for making audio and video recordings for the PhD submission on the Pleyel 1848 was cancelled at the late stage. Therefore, these submitted recordings were not originally meant to be presented as the final full recordings for this submission but were produced during the process of the research, and the settings and the preparation for these recordings are not in the best condition.
The recordings of CD 25, 26 and 27 contain background noise. DVD 14 is the only available video of demonstrating the performance of the first movement on the Pleyel 1848 fortepiano, and it contains background noise and the resolution of the image is not high. Despite the presence of these issues, they are insignificant as the recordings demonstrate general characteristics of the instrument and the result of the listening approaches gained in this research.

especially slow and quiet phrases such as the end of the second movement and the middle section of the third movement. I coped with this issue by changing the touch and hand motion, as can be seen in the video recording of the middle section in the third movement (DVD 17). I used a flatter finger-shape to minimise the attack and to adjust the weight of the touch so that it reduced unwanted accents. Despite this mechanical issue on the instrument, the influence on the performance was minimised.

The recording on the Erard 1845 grand fortepiano at the Cobbe Collection was recorded in summer 2018 (1st mvt is DVD 19; 2nd mvt is DVD 20; 3rd mvt is DVD 21; 4th mvt is DVD 22). Unlike the Pleyel 1848 fortepiano, my access to the Erard fortepiano was not withdrawn but restricted to one time playing-through, without any soundcheck session, warming up or re-recording. Due to the restricted access, the recording was made during the opening hours for the public and a few parts occasionally contain some noises from surroundings, such as people talking. The adjustment for the position of the instrument, the video camera and audio recorder was also limited, but the environment of the recording was set to be as close as possible to the other recordings.

The recording on the Erard 1866 grand fortepiano at the Finchcocks Museum was also recorded in summer 2018 (1st mvt is DVD 23; 2nd mvt is DVD 24; 3rd mvt is DVD 25; 4th mvt is DVD 26). The acoustics in the room that the instrument was placed in were resonant. The instrument is a much later model of the Erard fortepiano and closer to the modern piano's function compared to the one in the Cobbe Collection made in 1845. One can see a transition from the fortepiano to the modern piano by listening and watching the recordings of the Erard 1845, 1866 and the modern Steinway piano.

The recordings on the modern Steinway grand pianos Model B at Trinity Laban Recording Studio (1st mvt is DVD 27; 2nd mvt is DVD 28; 3rd mvt is DVD 29; 4th mvt is DVD 30), and Model D at Peacock Room in Trinity Laban Conservatoire of Music and Dance (1st mvt is DVD 31; 2nd mvt is DVD 32; 3rd mvt is DVD 33; 4th mvt is and DVD 34), were made in summer 2018. As the recording on the Erard fortepiano was made on two different types and sizes, the recording on the modern grand piano was also made on two different types for reference.

The recording equipment was located at about 2 meters away from the instruments and

standing 110 centimetres above the floor fixed by tripod. Since the use of the recording environment was restricted to this setting when making the main recordings of the performance on the Pleyel 1848 fortepiano and the Erard 1845 fortepiano, other recordings were made to be as close as possible this setting to make adjustments. The recording on the Steinway grand pianos Model B at Trinity Laban Recording Studio is edited with a slight reverb to be as close as possible to the recording setting of the fortepianos.

With this research and its results, I hope that more investigations will be developed concerning the relationship between historical and modern instruments. I believe that this research bridges the gap between historical and modern instrument players, as well as between theoretical and practical research on Chopin's music. For example, many recollections from Chopin's pupils and existing scholarship suggest that Chopin sought singing quality in music performance as can be found in Eigeldinger (1986, p. 14) 'for Chopin, singing constituted the alpha and omega of music'.[41] However, it is not enough just to know what the composer wanted, but 'how practically' pianists can apply his wishes also matters a lot. This research, through the detailed examinations on the Pleyel and the Erard fortepianos and a comparison of historical and modern instruments from the perspective of a concert pianist myself, revealed how pianists can demonstrate the singing quality in performance on percussive keyboard instruments. These important discoveries were not able to be found only by scholarly knowledge but needed the process of the practical research. This suggests the importance of using the methodology that combines theoretical and collected scholarship with practical experience and experiments on both historical and modern instruments from the view of a performing artist-researcher.

Also, this project suggests that all modern pianists, including those who do not have or have only had a little experience in period instruments, could benefit from working with historical instruments for their performances on modern pianos; this project also demonstrates that period and modern instruments are not unconnected concepts for the pianist. Fortepianos are not the miniature or functionally limited versions of modern pianos, but can be the important tools to teach pianists about the composition and interpretation of earlier repertoire. The importance of listening skills, and of different approaches to listening, were suggested by the instruments as well as by my instinctive

[41] See page 59 for the recollections of Chopin's pupils.

reactions during the course of this research. This approach can also be applied to pedagogy in piano performance to demonstrate and enhance the importance and the needs of listening skills for pianists, and I believe that the methodology used in this research can be beneficial for practical performance pedagogy, developing performance skills, approaches and interpretation.

The achievements of this research suggest that this methodology can exemplify the effective and valid method of practical research and can be used to explore the music interpretation of other composers such as Liszt with Erard and Pleyel, in contrast to this research project, as well as for the musical development of pianists in pursuit of the quality of tones, listening skills, use of the body and interpreting the music. I hope that this research project will open up opportunities for further practical research by using historical and modern instruments to investigate the music of other composers, and will lead to new approaches for pedagogy in piano performance.

Bibliography

Adelson, Robert, Laure Barthel, Michel Foussard, Jenny Nex and Alain Roudier (2015a) *The History of the Erard Piano and Harp in Letters and Documents 1785-1959: Volume 1 Inventions, Business, Composers and Performers*, Cambridge, Cambridge University Press

Adelson, Robert, Laure Barthel, Michel Foussard, Jenny Nex and Alain Roudier (2015b) *The History of the Erard Piano and Harp in Letters and Documents 1785-1959: Volume 2 Erard Family Correspondence*, Cambridge, Cambridge University Press

Adler, Dan (2002) *Make Your Notes Bounce* [Online]. Available at http://danadler.com/articles/b/Bounce.htm (Accessed 1 October 2018)

Askenfelt, Anders and Erik Janson (1990) 'From touch to string vibrations' in Anders Askenfelt (ed.) *Five Lectures on the Acoustics of the Piano*, Stockholm, Royal Swedish Academy of Music [Online]. Available at https://www.speech.kth.se/music/5_lectures/contents.html (Accessed 1 March 2018).

Aziz, Andrew I. (2015) 'The Evolution of Chopin's Sonata Forms: Excavating the Second Theme Group' in *a journal of the Society for Music Theory*, vol. 21, no. 4 [Online]. Available at http://www.mtosmt.org/issues/mto.15.21.4/mto.15.21.4.aziz.html (Accessed on 1 October 2017)

Badura-Skoda, Eva and Paul (1962) *Interpreting Mozart on the Keyboard*, London, Barrie and Rockliff

Badura-Skoda, Paul (1984) '*Playing the Early Piano'* in *Early Music,* vol. 12, no. 4, The Early Piano I, pp. 477-480 [Online]. Available at http://www.jstor.org/stable/pdf/3137977.pdf (Accessed on 16 November 2017)

Badura-Skoda, Paul (1993) *Interpreting Bach at the Keyboard*, Oxford, Oxford University Press

Banowetz, Joseph (1985) *The pianist's guide to pedaling*, Indiana, Indiana University Press

Barenboim, Daniel (2004) Interviewed by Juergen Otten [Online]. Available at https://danielbarenboim.com/interview-with-daniel-barenboim/ (Accessed 1 October, 2018)

Barenboim, Daniel (2008) *Everything is Connected: The Power of Music*, London, Weidenfeld & Nicolson

Bellman, Jonathan (2000) 'Chopin and His Imitators: Notated Emulations of the "True Style" of Performance' in *19th-Century Music*, vol. 24, no. 2, pp. 149-160 [Online]. Available at https://www.jstor.org/stable/746839 (Accessed on 1 December 2015)

Bilson, Malcolm (1980) '*The Viennese Fortepiano of the Late 18th Century*' in *Early Music,* vol. 8, no. 2, pp. 158-162 [Online]. Available at http://www.posgrado.unam.mx/musica/lecturas/historiaInterpretacion/JSTOR/Bilson-Fortepiano.pdf (Accessed on 1 December 2015)

Bilson, Malcolm (1982) '*Late Beethoven and Early Pianos'* in *Early Music,* vol. 10, no. 4, pp. 517-519 [Online]. Available at http://www.jstor.org/stable/pdf/3126940.pdf (Accessed on 16 November 2017)

Bilson, Malcolm (2005) *Knowing the Score* [DVD]. Cornell University

Bońkowski, Wojciech (2005) 'Vladimir Horowitz, or "bad" Chopin Playing?' in Autur Szklener (ed.) *Chopin in Performance: History, Theory, Practice Warszawa 2004*, Warsaw, Narodowy Instytut Fryderyka Chopina, pp. 259-271

Brown, A. Peter (1990) '"Performance Practices in Classic Piano Music" by Sandra P. Rosenblum' in *Performance Practice Review,* vol. 38, no. 1, Article 8 [Online]. Available at http://scholarship.claremont.edu/cgi/viewcontent.cgi?article=1041&context=ppr (Accessed on 1 August 2017)

Burnett, Richard (2004) *Company of Pianos*, Goudhurst, Finchcocks Press

Butt, John (2002) *Playing with History*, Cambridge, Cambridge University Press

Caplin, William Earl (2013) *Analyzing classical form: an approach for the classroom*, New York, Oxford University Press

Clarke, Christopher (2005) 'Les Particularités de Pleyel' in Jean-Jacques Eigeldinger (ed.) *Interpréter Chopin*, Paris, Musée de la Musique

Cobbe, Alec and Nobbs, Christopher (2014) *Three Hundred Years of Composers' Instruments: The Cobbe Collection*, Woodbridge, Boydell

Colombati, Claudia (2005) 'The performance of works by Fryderyk Chopin as an aesthetic-historical phenomenon' in Autur Szklener (ed.) *Chopin in Performance: History, Theory, Practice Warszawa 2004*, Warsaw, Narodowy Instytut Fryderyka Chopina, pp. 39-55

Cornell SCE (2016) *Malcolm Bilson: Knowing The Score* [Video]. Available at https://www.youtube.com/watch?v=mVGN_YAX03A (Accessed 1 August 2017)

Cornell University (2015) *A Piano is not a Piano is not a Piano…* [Video]. Available at https://youtu.be/oaODna4KVcM (Accessed 16 November 2017)

Cortot, Alfred (1952) *In search of Chopin*, Greenwood Press

Damschroder, David (2015) *Harmony in Chopin*, Cambridge, Cambridge University Press

Demus, Jörg and Phillips, Peter (1980) '*Playing Schumann's Piano'* in *Early Music,* vol. 8, no. 4, pp. 1-2 [Online]. Available at http://www.jstor.org/stable/pdf/3126572.pdf (Accessed on 16 November 2017)

Dodson, Alan (2009) 'Metrical Dissonance and Directed Motion in Paderewski's Recordings of Chopin's Mazurkas' in *Journal of Music Theory,* vol. 53, pp. 57-94 [Online]. Available at http://www.jstor.org.proxy.trinitylaban.ac.uk/stable/pdf/40606878.pdf (Accessed on 23 November 2017)

Dubal, David (n.d.) *Biographical Essay About Chopin* [Online]. Available at http://chopinsociety.org/chopin/biography (Accessed 21 December 2017)

Ekier, Jan (1986) 'How Chopin Played', Warsaw, cited in Skowron, Zbigniew (2005) 'Creating a Legend or Reporting the Facts? Chopin as a Performer in the Biographical Accounts of F. Liszt, M. A. Szulc, and F. Niecks' in Autur Szklener (ed.) *Chopin in Performance: History, Theory, Practice Warszawa 2004*, Warsaw, Narodowy Instytut Fryderyka Chopina, p. 9

Ekier, Jan (2013) *Introduction to the Polish National Edition of the Works of Fryderyk Chopin, Part 2 Performance Issues* [ebook reader], Warsaw, Fundacja Wydania Narodowego Dzieł Fryderyka Chopina

Eigeldinger, Jean-Jaques (1986) *Chopin: pianist and teacher as seen by his pupils*, New York, Cambridge University Press

Eigeldinger, Jean-Jaques (1994) 'Placing Chopin: reflections on a compositional aesthetic' in John Rink and Jim Samson (ed.) *Chopin Studies 2*, Cambridge, Cambridge University Press. pp. 102-139

Eigeldinger, Jean-Jaques (2001) '*Chopin et Pleyel'* in *Early Music,* vol. 29, no. 3, pp. 388-396 [Online]. Available at http://www.jstor.org.proxy.trinitylaban.ac.uk/stable/pdf/3519183.pdf (Accessed on 1 October 2015)

Eigeldinger, Jean-Jaques (2005) *Chopin et la manufacture Pleyel*, Switzerland

Feuchtwanger, Peter (1998) 'Piano Study', *PIANO*, vol. 6, no. 5, p. 16

Good, Edwin M. (1982) *Giraffes, Black Dragons, and Other Pianos: a Technological History from Cristofori to the Modern Concert Grand*, Stanford, Stanford University Press

Grabowski, Christophe, and Rink, John (2010) *Annotated catalogue of Chopin's first editions*, Cambridge, Cambridge University Press.

Grewingk, Maria von (1928) *Eine Tochter Alt-Rigas, Schülerin Chopins*, Riga, Löffler

Gunn, Donna Louise (2016) *Discoveries from the Fortepiano: A Manual for Beginning and Seasoned Performers*, New York, Oxford University Press

Hall, T. Proctor (1920) 'Tone color' in *The Scientific Monthly,* vol. 10, no. 2 [Online]. Available at http://www.jstor.org/stable/pdf/6805.pdf (Accessed on 16 November 2017)

Hamilton, Kenneth (1998) 'The virtuoso tradition' in David Rowland (ed.) *The Cambridge Companion to the Piano*, Cambridge, Cambridge University Press

Hamilton, Kenneth (2008) *After the Golden Age*, Oxford, Oxford University Press

Hansen, Martin (2005) 'The Pedal Indications in Chopin's Preludes. A performer's Look at the Autograph' in Autur Szklener (ed.) *Chopin in Performance: History, Theory, Practice Warszawa 2004*, Warsaw, Narodowy Instytut Fryderyka Chopina, pp. 121-139

Hedley, Arthur (1947) *Chopin*, Maurice Brown (ed.), London, Dent (this edition 1974)

Hinson, Maurice (1985) 'Pedaling the Piano Works of Chopin' in Joseph Banowetz (ed.) *The pianist's guide to pedaling*, Indiana, Indiana University Press, pp. 179-198

Hipkins, Edith J. (1937) *How Chopin Played: From contemporary impressions collected from the diaries and note- books of the Late A. J. Hipkins*, London, J. M. Dent & Sons Ltd.

Huneycutt, Ron (2011) 'Comparing hammers from the best', *The Daily Ping*, 28 September [Blog]. Available at https://thedailyping.files.wordpress.com/2011/09/wp_000316-with-labels.jpg (Accessed 1 June 2018)

Karasowski, Moritz (1877) *Friedrich Chopin. Sein leben, seine Werke und Briefe* (2 vols), Dresden, Ries

Kinderman, William (2011) '"Beethoven the Pianist" by Tilman Skowroneck' in *Performance*

Practice Review, vol. 16, no. 1, Article 3 [Online]. Available at http://scholarship.claremont.edu/cgi/viewcontent.cgi?article=1253&context=ppr (Accessed on 1 August 2017)

Kinzler, Hartmuth (2005) 'Towards the Reconstruction of Chopin's own Theory of Pedalling' in Autur Szklener (ed.) *Chopin in Performance: History, Theory, Practice Warszawa 2004*, Warsaw, Narodowy Instytut Fryderyka Chopina, pp. 97-119

Kleczyński, Jean (1913 [1879]) *How to play Chopin. The works of Frederic Chopin, their proper interpretation*, translated by Alfred Whittingham, London, William Reeves

Leikin, Anatole (1992) 'The sonatas' in Jim Samson (ed.) *The Cambridge Companion to Chopin*, Cambridge, Cambridge University Press, pp. 160-188

Lhevinne, Josef (1972) *Basic Principles in Pianoforte Playing*, New York, Dover Publications, Inc.

Liszt, Franz (1877) *Life of Chopin*, London, William Reeves

Marmontel, Antoine (1885) *Histoire du piano et de ses origines*, Paris, Heugel

Methuen-Campbell, James (1981) *Chopin Playing: From the Composer to the Present Day*, London, Victor Gollancz Ltd

Methuen-Campbell, James (1992) 'A historical survey of Chopin on disc' in Jim Samson (ed.) *The Cambridge Companion to Chopin*, Cambridge, Cambridge University Press, pp. 284-294

Morski, Kazimierz (2005) 'Interpretations of the works of Chopin. A comparative analysis of different styles of performance' in Autur Szklener (ed.) *Chopin in Performance: History, Theory, Practice Warszawa 2004*, Warsaw, Narodowy Instytut Fryderyka Chopina, pp. 153-167

Newman, William S. (1985) 'Beethoven's Uses of the Pedals' in Joseph Banowetz (ed.) *The pianist's guide to pedaling*, Indiana, Indiana University Press, pp. 142-166

Niecks, Frederick (1876) *On the Use and Abuse of the Pedal*, Monthly Musical Record, 6/72 Dec. 1

Nikolska, Irina (2005) 'Russian Tradition in Chopin Performance' in Autur Szklener (ed.) *Chopin in Performance: History, Theory, Practice Warszawa 2004*, Warsaw, Narodowy Instytut Fryderyka Chopina, pp. 249-257

Nobbs, Christopher (2010) 'Chopin's Piano Action: A Comparison of the actions of Broadwood, Pleyel and Erard' in Alec Cobbe (ed.) *Chopin's Swansong: the Paris and London pianos of his last performances*, London, the Chopin Society, London in association with the Cobbe Collection Trust

Nobbs, Christopher (2010) 'Chopin's Piano Action: A Comparison of the actions of Broadwood, Pleyel and Erard' in Alec Cobbe (ed.) *Chopin's Swansong: the Paris and London pianos of his last performances*, London, the Chopin Society, London in association with the Cobbe Collection Trust, p. 42, figure 56

Nowik, Wojciech (2005) 'The expression of for, and forms of expression. Fryderyk Chopin's Berceuse in D flat major, Op. 57, in the interpretations of Josef Hofmann' in Autur Szklener (ed.) *Chopin in Performance: History, Theory, Practice Warszawa 2004*, Warsaw, Narodowy Instytut Fryderyka Chopina, pp. 273-285

Online Chopin Variorum Edition (n.d.) *Sonata Op. 35, 35-Copy/Stichvorlage-Gutmann, p. 2 Mvt 1, bs 31-66* [Online]. Available at http://www.chopinonline.ac.uk/ocve/browse/pageview/71117/ (Accessed 19 December 2017)

Online Chopin Variorum Edition (n.d.) *Preludes Op. 28, 28-A-Stichvorlage, p. 19 No. 15, bs 1-31* [Online]. Available at http://www.chopinonline.ac.uk/ocve/browse/pageview/72660/ (Accessed 19 December 2017)

Online Chopin Variorum Edition (n.d.) *Sonata Op. 35, 35-Copy/Stichvorlage-Gutmann, p. 6 Mvt 1, bs 153-181* [Online]. Available at

http://www.chopinonline.ac.uk/ocve/browse/pageview/71121/ (Accessed 19 December 2017)

Online Chopin Variorum Edition (n.d.) *Sonata Op. 35, Bar 4-5* [Online]. Available at http://www.chopinonline.ac.uk/ocve/browse/barview?workid=6362&orderno=4&range=2 (Accessed 19 December 2017)

Opieński, Henryk (1931) *Chopin's Letters*, New York, Dover Publications, Inc.

Ortmann, Otto (1935) 'What Is Tone-Quality?' in *The Musical Quarterly,* vol. 21, no. 4 [Online]. Available at http://www.jstor.org/stable/pdf/738664.pdf (Accessed on 16 November 2017)

Philip, Robert (1992) *Early recordings and musical style: changing tastes in instrumental performance, 1900-1950*, Cambridge, Cambridge University Press

Philip, Robert (2004) *Performing in the Age of Recording*, London, Yale University Press

Reti, Rudolph (1951) *The Thematic Process in Music*, New York, Macmillan

Richard Burnett Heritage Collection (n.d.) *Collection* [Online]. Available at http://www.finchcocks.co.uk/collection.html (Accessed 19 December 2017)

Richardson, Bernard (1998) 'The acoustic of the piano' in David Rowland (ed.) *The Cambridge Companion to the Piano*, Cambridge, Cambridge University Press

Richardson, Bernard (1998) 'The acoustic of the piano' in David Rowland (ed.) *The Cambridge Companion to the Piano*, Cambridge, Cambridge University Press, p. 100, figure 6.3

Rink, John (1992) 'Tonal architecture in the early music' in Jim Samson (ed.) *The Cambridge Companion to Chopin*, Cambridge, Cambridge University Press, pp. 78-98

Rink, John (1994) 'Authentic Chopin: history, analysis and intuition in performance' in John

Rink and Jim Samson (ed.) *Chopin Studies 2*, Cambridge, Cambridge University Press. pp. 214-244

Rink, John (1997) *Chopin: The Piano Concertos*, Cambridge, Cambridge University Press

Rink, John (1998) 'Editing Chopin', *PIANO*, vol. 6, no. 5, p. 13

Rink, John (2001) 'Perahia's Musical Dialogue' in *The Musical Times*, vol. 142, no. 1877, pp. 9-13, 15

Rink, John (2005) 'Chopin and the technique of performance' in Autur Szklener (ed.) *Chopin in Performance: History, Theory, Practice Warszawa 2004*, Warsaw, Narodowy Instytut Fryderyka Chopina, pp. 225-237

Rosen, Charles (1996) *The Romantic Generation*, London, HarperCollins

Rosen, Charles (2002) *Piano Notes: The Hidden World of the Pianist*, United States of America, The Free Press

Rosenblum, Sandra P. (1988) *Performance Practices in Classic Piano Music*, Bloomington, Indiana University Press

Rosenblum, Sandra P. (1993) 'Pedaling the Piano: A Brief Survey from the Eighteenth Century to the Present', *Performance Practice Review*, Vol. 6, No. 2, Article 8 [Online]. Available at: https://scholarship.claremont.edu/ppr/vol6/iss2/8 (Accessed on 1 August 2017)

Rosenblum, Sandra P. (1995) '"A History of Pianoforte Pedaling." by David Rowland' in *Performance Practice Review,* vol. 8, no. 1, Article 11 [Online]. Available at http://scholarship.claremont.edu/cgi/viewcontent.cgi?article=1156&context=ppr (Accessed on 1 August 2017)

Rowland, David (1993) *A History of Pianoforte Pedalling*, Cambridge, Cambridge University

Rowland, David (1994) 'Chopin's tempo rubato in context' in John Rink and Jim Samson (ed.) *Chopin Studies 2*, Cambridge, Cambridge University Press. pp. 199-213

Rowland, David (1998) 'The piano since c.1825' in David Rowland (ed.) *The Cambridge Companion to the Piano*, Cambridge, Cambridge University Press

Rowland, David (2001) *Early Keyboard Instruments: A Practical Guide*, Cambridge, Cambridge University Press

Rubinstein, Arthur (1980) *My Many Years*, New York, Knopf

Samson, Jim (1985) *The Music of Chopin*, London, Routledge & Kegan Paul plc

Samson, Jim (1992) 'Extended forms: the ballades, scherzos and fantasies' in Jim Samson (ed.) *The Cambridge Companion to Chopin*, Cambridge, Cambridge University Press, pp. 101-123

Samson, Jim (1992) *Chopin: the four ballades*, Cambridge, Cambridge University Press

Samson, Jim (1996) *Chopin*, New York, Oxford University Press

Samson, Jim (1998) 'Choosing an Edition', *PIANO*, vol. 6, no. 5, pp. 9-11

Samson, Jim (2000) 'The Practice of Early-Nineteenth-Century Pianism' in Michael Talbot (ed.) *The Musical Work: Reality or Invention?*, Liverpool, Liverpool University Press, pp. 110-127

Samson, Jim (2001) '*Chopin, Past and Present'* in *Early Music,* vol. 29, no. 3, Oxford, pp. 381-387 [Online]. Available at http://www.jstor.org.proxy.trinitylaban.ac.uk/stable/pdf/3519182.pdf (Accessed on 1 October 2017)

Samson, Jim (2009) 'Chopin and the Tradition of Pedagogy' in John Neubauer, Darla Crispin and Kathleen Snyers (ed.) *New paths: aspects of music theory and aesthetics in the age of*

romanticism, Leuven, Leuven University Press

Sándor, György (1981) *On piano playing: motion, sound and expression*, New York, Schirmer

Schmitt, Hans (1893 [1875]) *The Pedals of the Pianoforte. Four lectures given at the Conservatory of Music*, Vienna, translated by Frederick Law, Philadelphia, Presser

Schumann, Robert (1877) *Music and Musician; Essays and Criticisms*, London, William Reeves

SKLEP NARODOWEGO INSTYTUTU FRYDERYKA CHOPINA (n.d.) *The Real Chopin* [Online]. Available at https://sklep.nifc.pl/index.php?podk=1 (Accessed 1 August 2018)

Skowron, Zbigniew (2005) 'Creating a Legend or Reporting the Facts? Chopin as a Performer in the Biographical Accounts of F. Liszt, M. A. Szulc, and F. Niecks' in Autur Szklener (ed.) *Chopin in Performance: History, Theory, Practice Warszawa 2004*, Warsaw, Narodowy Instytut Fryderyka Chopina, pp. 9-23

Steinway & Sons. (n.d.) *Steinway & Sons.* [Online]. Available at https://www.steinway.com/pianos/steinway/grand (Accessed 1 June 2018)

Swinkin, Jeffrey (2007) 'Keyboard Fingering and Interpretation: a Comparison of Historical and Modern Approaches' in *Performance Practice Review*, vol. 12, no. 1 [Online]. Available at http://scholarship.claremont.edu/ppr/vol12/iss1/1 (Accessed on 1 October 2017)

The Fryderyk Chopin Institute (n.d.) *Chopin and his Europe* [Online]. Available at http://en.chopin.nifc.pl/festival/edition2012/info (Accessed 30 May 2018)

Tsutsui, Kazutaka (2011) *Cristofori action - Escapement action for earliest fortepiano by Bartolomeo Cristofori, 1726* [Video]. Available at https://www.youtube.com/watch?v=uZjcV3_0PqQ (Accessed 1 September 2017)

Urista, Diane J. (2007) 'Chopin's Prelude in C Major Revisited: Integrating Sound and Symbol' in *a journal of the Society for Music Theory*, vol. 13, no. 1 [Online]. Available at http://www.mtosmt.org/issues/mto.07.13.1/mto.07.13.1.urista.html (Accessed on 1 October 2017)

Vogel, Benjamin (2005) 'The young Chopin's domestic pianos' in Autur Szklener (ed.) *Chopin in Performance: History, Theory, Practice Warszawa 2004*, Warsaw, Narodowy Instytut Fryderyka Chopina

Wada, Akiko (2014) *A study of the differences between Pleyel and Erard vol. 6* [Online]. Available at http://francepiano.blogspot.co.uk/2014/07/blog-post.html (Accessed 1 September 2017)

Walden, Daniel (2010) 'PianoFortePiano: Exploring The Use Of Historical Keyboards As A Heuristic Guide To Performance On The Modern Piano', *MTNA e-journal*, November 2010, pp. 10-21

Walker, Alan (1966) *Frédéric Chopin: Profiles of the Man and the Musician*, London, Barrie and Rocklife

Weinreich, Gabriel (1990) '*The coupled motion of piano strings*' in Anders Askenfelt (ed.) *Five lectures on the acoustics of the piano*, Stockholm, Royal Swedish Academy of Music [Online]. Available at https://www.speech.kth.se/music/5_lectures/contents.html (Accessed 1 March 2018)

Wells, Elizabeth, John Budgen, William Debenham, Jenny Nex, Christopher Nobbs and Lange Whitehead (2000) *Royal College of Music Museum of Instruments Catalogue Part II: Keyboard Instruments*, London, Royal College of Music

Discography

Argerich, Martha (2015 [1975]) *Piano Sonata No. 2, Scherzo No. 2, Andante Spianato & Grande Polonaise: Argerich* [CD]. Japan, Universal Music

Bingham, John (2009) *John Bingham Plays Chopin* [CD]. Meridian

Ashkenazy, Vladimir (1992) *Favourite Chopin [Disc 2]* [CD]. Decca

Chopin Institute (2016) *Yulianna Avdeeva – Sonata in B flat minor, Op. 35 (third stage, 2010)* [Video]. Available at https://youtu.be/O8JkCUVsxcU [Accessed 1 August 2017]

Cortot, Alfred (1931-43) *The Great Chopin Recordings* [CD]. Paris and London, Andromeda

Daniel Shigo (2014) *No 5 The Portamento* [Video]. Available at https://youtu.be/VzUABTP0pvA (Accessed 1 November 2017)

Ekier, Jan (1959) *Dziela Wszystkie series* [CD]. Muza label

Fialkowska, Janina (n.d.) *Janina Fialkowska plays Chopin Sonata #2* [Cassette].

François, Samson (1964) *Chopin: Piano Works [Disc 6]* [CD].

Freire, Nelson (2004) *Chopin: Etudes, Barcarolle, Sonata #2* [CD]. Suffolk, Decca

Friedman, Ignaz (n.d.) *The Complete Solo Recordings* [CD]. Pearl

Gornostaeva, Vera (1986) *Chopin: Piano Sonatas #1-3* [CD]. Yedang Classics

Grainger, Percy (1928) *Percy Grainger plays Chopin Sonata #2* [Cassette]

Grimwood, Daniel (2008) *Années de Pèlerinage* [CD]. UK, sfz music

Grimwood, Daniel (2010) *Chopin: 24 Preludes* [CD]. UK, sfz music

Hofmann, Josef (1966) *Chopin: Sonata #2* [LP]. Everest

Janis, Byron (1956) *Great Pianists of the 20th Century Vol 50 - Byron Janis I [Disc 2]* [CD].

Katsaris, Cyprien, The Queensland Symphony Orchestra, Edvard Tchivzhel (2010) *Chopin: Piano Concerto No. 2 - The 4 Versions* [CD]. PIANO 21

Li, Yundi (2011) *Yundi - Live In Beijing* [CD & DVD]. Warner Classics

Lipatti, Dinu (1947) *Chopin; Enescu: Piano Sonatas, Etc* [CD].

mariacanalsbarcelona (2009, 00:01:00-00:01:24) 'Jun Ishimura. Chopin 1/2 Sonata nº2 op.35 (maria canals)' [Online], Available at https://youtu.be/rrSCRjcsc_M (Accessed 1 September 2017)

Michelangeli, Arturo Benedetti (1968) *Arturo Benedetti Michelangeli [Disc 2]* [CD]. Lugano, aura music

Paderewski, Ignacy J. (2017 [1914-1931]) *Paderewski: The American Recordings – The Complete Victor Recordings (1914-1931)* [CD]. APR Recordings

Pletnev, Mikhail (1988) *Chopin: Piano Sonata #2, 4 Nocturnes, Scherzo #2, Barcarolle* [CD]. East Woodhay, Virgin Classics

Pogorelich, Ivo (1981) *Chopin: Sonata No. 2, Ravel: Gaspard De La Nuit, Prokofiev: Sonata No. 6*
[CD]. Germany, Deutsche Grammophon

Polini, Maurizio (1985) *Chopin: Piano Sonatas Nos. 2 & 3* [CD]. Germany, Deutsche Grammophon

professorV (2009, 00:00:34-00:00:36) *Violin Lesson #56; The Portamento/Slide* [Video].

Available at https://youtu.be/OYTQIIXDrwI?t=34s (Accessed 1 November 2017)

Rachmaninov, Sergei (2009) *Rachmaninov - Sergei: Piano Solo Recordings, Vol. 1 (Victor Recordings 1925-1942)* [CD]. Naxos

Roscoe, Martin (2009) *Piano Masterpieces* [CD]. The BBC Music Magazine Collection

Rubinstein, Arthur (1946) *Chopin Recording (1946-1958)* [CD]. New York, Naxos

Rubinstein, Arthur (1961) *The Great Performances of Chopin* [CD]. aura music

Rubinstein, Arthur (1964) *Rubinstein - Chopin: Piano Works* [CD]. Revelation

Shelley, Howard (2003) *Chopin: Piano Sonatas No. 2/Preludes* [CD]. Regis

Shelley, Howard (2009) *Chopin Sonaty Howard Shelley* [CD]. Warsaw, Narodowy Instytut Fryderyka Chopina

Sokolov, Grigory (1992) *Chopin: Piano Sonata #2, Etudes, Op. 25* [CD]. Paris, naïve

Stern, Edna (2010) *Edna Stern plays Chopin* [CD]. Paris, Naïve

Thai Son, Dan, Frans Bruggen, Orchestra of the 18th Century (2006) *Chopin Piano Concertos 1 & 2 (Erard piano 1849)* [CD]. Warsaw, Narodowy Instytut Fryderyka Chopina

Uchida, Mitsuko (1948) *Chopin Piano Sonatas* [CD]. Philips

Ueno, Makoto (2013)*, Chopin: Two Piano Sonatas played on Pleyel 1846 & Erard 1852* [CD]. Mie, Triton

Webmaster GPIPL (2014a) *laureat 2014 1er PRIX PAVEL YELETSKIY* [Video]. Available at https://www.youtube.com/watch?v=4Z-Fsg6eXAE (Accessed 1 September 2017)

Webmaster GPIPL (2014b) *laureat 2014 3e Prix Jun Ishimura* [Video]. Available at

https://www.youtube.com/watch?v=-X75lW_mQTo (Accessed 1 September 2017)

Scores

Chopin, Fryderyk (n.d.) *Sonate*, copied by Adolf Gutman. Warsaw, The National Library

Chopin, Fryderyk (1840a) *Grande Sonate*, London, Wessel.

Chopin, Fryderyk (1840b) *Sonate*, Leipzig, Breitkopf und Härtel.

Chopin, Fryderyk (1840c) *Sonate*, Paris, Troupenas.

Chopin, Fryderyk (1878) *Friderich Chopin's Werke. Band VIII*, edited by Johannes Brahms. Leipzig, Breitkopf und Härtel

Chopin, Fryderyk (1879) *Sonate II Op. 35*, edited by Hermann Scholtz. Leipzig, Edition Peters.

Chopin, Fryderyk (1883) *Sonate*, edited by Karl Klindworth and Saver Scharwenka. London, Augner

Chopin, Fryderyk (1895) *Sonate*, edited by Carl Mikuli. New York, Schirmer

Chopin, Fryderyk (1915) *Sonates*, edited by Claude Debussy. Paris, A. Durand & Fils

Chopin, Fryderyk (1930) *Sonate Op. 35*, edited by Alfred Cortot. Paris, Editions Salabert

Chopin, Fryderyk (1950) *Sonate*, edited by Ignacy J. Paderewski. Warsaw, Instytut Fryderyka Chopina

Chopin, Fryderyk (2005) *Sonaty*, edited by Jan Ekier and Paweł Kamiński. Krakow, the National Edition of the Works of Fryderyk Chopin

Chopin, Fryderyk (2014) *Various Works. Series B*, edited by Jan Ekier and Paweł Kamiński. Krakow, the National Edition of the Works of Fryderyk Chopin