

SELECTING FINGERING FOR PERFORMING MOZART'S PIANO MUSIC

By

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CONGCONG CHAI

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ABSTRACT

The purpose of finger selection for composers and musicians has changed since the 18th century due to many factors. In order to understand how fingering selection can serve a composer's musical intention, this paper concentrates on the study of historical treatises and performance practice, the development of the aesthetic of music, the development of the keyboard instrument, and the anatomy of the hand. In the second half of this paper, I experiment with various fingering ideas in Mozart's Fantasy in D minor, K. 397 and Piano Sonata in B flat major, K. 333. The result of this experimentation led to the discovery that once pianists liberate their minds to accept new fingering options, they will broaden their musical abilities, both physically and intellectually. However, the fingering study needs further research on more musical examples from the 18th and 19th century.

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Chapter 1 Introduction

The original inspiration for this paper was Malcom Bilson's DVD, "Knowing the Score." While watching the DVD, I realized there are many important musical elements beyond the notes. Historical treatises as well as harpsichord and fortepiano fingering instructions aroused my interest. Why does the modern pianist no longer play scales with only the second, third, and fourth finger? Did the development of the modern piano change the way we perform 18th-century music? Would 18th-century fingering help us to get closer to Mozart's original musical intention?

While writing this paper, I noticed my fingering selection matched the fingering rules of C. P. E Bach, Beethoven, and Chopin. They believed fingering decisions should be based on musical intentions and musical elements such as slurs, accents, dynamics, articulation, and harmony. Through studying the writings of late 18th- and early 19th-century musicians, I have discovered useful fingering suggestions. I have applied these ideas to two piano pieces by Mozart: Fantasy in D minor and Piano Sonata in B flat major, K. 333.

In order to be able to select a better fingering, I believe it would be necessary to study the musical aesthetics of the 18th century. This would include the development of keyboard instrument, performance practice of the time, and individual composers' preferences.

The musical intention which is argued in this paper is for an approach to Mozart's music that believes that considering all the elements of the treatises will lead to a satisfying understanding and performance of Mozart's music. I recognize that each musician will come up with his/her own answer. In the long run this will lead to a more variety of solutions for all of us to share and learn from.

This paper will argue that studying the performance practice at the time as suggested in contemporary treatises will help us to a better understanding of a composer like Mozart's

musical ideas. Although each musician will come up with his/her own solution, a process that emphasizes performance practice will lead both to a more rooted performance as well as a variety of solutions for all of us to share and learn from.

This paper discusses finger selection based on musical intention and interpretation. The study will not discuss fingerings for sight-reading or for purpose of memorization. Research has indicated that when pianists sight-read music, they use fingering that is automatic and not the result of study and analysis.

This paper will mainly focus on Mozart's piano music, as well as drawing on the ideas of composers in the 18th century for additional insight. Not only for the full variety of articulation and fast changing expression in his music, but also the relatively simpler compositional technique which allows pianists to liberate their mind when choosing fingerings.

This project will discuss fingering under the circumstance that fingers are not isolated. As Seymour Fink said, "Fingers are not isolated units, but rather, integrally connected parts of a larger playing mechanism that begins at least as far back as the shoulder girdle."¹ Fingering can only be discussed when all the joints from fingertip to at least the shoulder are all connected organically. The palm, wrist, elbow and even the shoulder will naturally follow the movements fingers provide.

Chapter 2 Precondition – background knowledge about Music in 18th century

In the 18th century, music was understood as a reflection as a human language. This is in contrast to music in the Romantic period which emphasized long line and singing quality.

¹ Gail Berenson and Kris Kropff, *A Symposium for Pianists and Teachers: Strategies to Develop the Mind and Body for Optimal Performance* (Dayton, OH: Heritage Music Press, 2002), 60.

Whether writing IN Sturm and Drang, *empfindsamkeit*, or Galant style, 18th century musicians paid more attention to shorter phrases, articulations, accents, note relationships under a slur, length of a note with a staccato or dash, etc. They were interested on imitating other instruments' sound on a keyboard. This trend influenced 18th century piano makers who aimed to build compound instruments with various types of music stops. Thus, composers developed the musical language within the framework of the possibilities a fortepiano or harpsichord of the period could provide, but they created music beyond the limitation of the period instruments.

Mozart never imagined his music would be performed in a modern concert hall for thousands of people. He wrote for the pianoforte assuming the performance would be in a relatively small space. The fortepianos he used and favored included Walter, Stein, and Spath. These instruments could create a clearer texture; for example, playing alberti bass on a modern piano should be voiced carefully and softer in order to avoid covering the melody. This would not be a concern on fortepiano. Another advantage that belongs to the fortepiano is the tone, which cannot last long. The short lasting tone necessitated 18th century pianists to develop finger pedal technique to produce better legato. This technique was useful in assuring legato in accompanimental passages and highlighting dissonances in appoggiaturas, as well as showing harmony and providing resonance where the performer thought appropriate. Another important difference between fortepiano and modern instrument is the gradations of tone qualities in the fortepiano's different registers.

Generally speaking, Mozart's fortepiano had a thinner soundboard, lighter stringing, light hammers, and light dampers. The black keys are shorter, spans between the keys are narrower, the distance from surface of a key to the key bed is also shorter, and the escapement system is less complex so it demands less finger energy than a modern piano does. The tone is bright, thin,

and delicate with more resonance. The treble is more percussive, and the bass is less blurred compared to the modern Steinway.

General 18th century articulation

Johann Joachim Quantz, in his *On Playing the Flute*, explained his understanding of the meaning of 18th century articulations:

“Flattery, melancholy, and tenderness are expressed by slurred and close intervals, gaiety and boldness by brief articulated notes, or those forming distant leaps, as well as by figures in which dots appear regularly after the second note. Dotted and sustained notes express the serious and the pathetic; ... The passions may be perceived from the dissonances. These are not all the same; they always produce a variety of different effects...”²

Quantz’s explanation is considerably artistic and imaginative. On the other hand, modern pianist Paul Badura-Skoda described 18th century articulations in a more practical way. He particularly argued with other pianists who play Mozart’s music with almost everything legato. He said “Mozart’s music, as other 18th century music, is derived from speech.”³ Badura-Skoda generally divided Mozart’s articulations into six categories: slur, portato, staccato, accent, rests and absence of signs.

For slurs, he suggested a delayed releasing finger technique to enhance the legato. With this overlapping touch, the hammering effect from moving to another note would be covered by the previous note, which is still slightly sustained on the keyboard. He distinguished the

² Robert Lewis. Marshall, *Eighteenth-century Keyboard Music* (New York: Routledge, 2003), 62.

³ Eva Badura-Skoda and Paul Badura-Skoda, *Interpreting Mozart: The Performance of His Piano Pieces and Other Compositions* (New York: Routledge, 2010). 103.

differences between portato and staccato, as well as strokes and dots. He believed it is extremely important to hold notes in various required lengths in order to express the musical spirit. He stated that it was common in the 18th century, when a note is non-legato or detached, the articulation signs are absent. An exception was when it functioned as an instruction to continue the previous articulation. Finally, he mentioned rests, as an articulation as well, are to call for change of breath.

There will be more discussions of articulations when talking about 18th century performance practice later in this paper.

Edition

There is no agreement among performers and scholars regarding the best edition to use for Mozart's piano works. I like the *Neue Mozart Ausgabe* published Barenreiter-Verlag, right after the World War II. It aimed to achieve as close as possible to Mozart's original intentions, by gathering the best-known scholars working on this huge project. However, this edition was completed while a large amount of Mozart's manuscripts were still missing. This inevitably caused the inaccuracies to reach Mozart's music text and intention. Published after *Neue Mozart Ausgabe*, the two *Henle* and *Wiener Urtext* editions were able to take advantage of the reappearance of those missing manuscripts which were found in University Jagellonian Library of Krakow, Poland. The *Wiener Urtext* edition is especially interesting because it includes extensive fingering suggestions. Rather than using this edition at the start of studying one of Mozart's Sonatas, I prefer to select fingering myself based on my study of the sources as I understand them and apply it to the music. I suggest the pianist make an initial decision and then consult other editions with fingering suggestions.

In this paper, all the Mozart's musical examples are based on the *Neue Mozart Ausgabe*.

Historical performance practice

In order to understand the 18th century performance practices, I studied writings by C.P.E. Bach, Marpurg, Turk, Czerny, Clementi, Leopold Mozart and Hummel. Although these composers are somewhat contemporary, they have some different opinions as to the best way to play keyboard instruments and we must always keep in mind the differences between harpsichord, clavichord, fortepiano, and all the interesting experiments that try to combine characteristics of one with another. For example, the book from C. P. E. Bach discusses keyboard performance practice in a more general way, while Marpurg seems to focus mainly on harpsichord. Even though both Clementi and Hummel played fortepiano, their ideas of performance practice may vary contradict because their approach of playing fortepiano were very different. This chapter will briefly describe the general common performance practices on which they agree, as well as ideas on which they have different opinions.

Almost all of them agree that notes under a slur should be played legato. The first note under a slur should be slightly emphasized, but not accented. The last note under a slur should be relatively shorter and lighter. Turk, in his *Klavierschule*, says “The end of a phrase is rendered more noticeable by gently lifting the finger from the key and by touching the first note of the following phrase with rather more strength.”⁴ C.P.E.Bach agrees on playing legato for slurs. He adds that “In figures of two or four such notes the first and third are emphasized slightly more than the second and fourth, but in such a way that it is scarcely noticeable.”⁵ Turk also

⁴ Daniel Gottlob Türk and Erwin R. Jacobi, *Klavierschule* (Kassel: Bärenreiter, 1962), 340-341.

⁵ Carl Philipp Emanuel Bach and William J. Mitchell, *Essay on the True Art of Playing Keyboard Instruments* (New York: W.W. Norton & Company, 1949), 125-128.

mentioned that this scarcely noticeable emphasis that it should be “less forceful” and “be sensed rather than heard”.⁶ Interestingly, Leopold Mozart prefers a stressed first note under a slur and states the remainder should be played “smoothly and more and more quietly”.⁷

Most of the 18th century musicians who I consulted felt that the finger should be lifted before the next is played.⁸ However, they cannot make an agreement of precisely when to lift the finger.⁹ C.P.E. Bach wrote in his book: “Notes which are neither staccato nor legato nor sostenuto are held for half their value unless the word Ten. is placed above them, in which case they have to be sustained.”¹⁰ However, most of the other scholars believe staccato should be held for the half value, but not for ordinary touch. Marpurg says “In contrast to legato and staccato there is the ordinary manner of playing in which the finger is lifted from the key just before the following note is played. This ordinary manner of playing, since it is always taken for granted, is never marked.”¹¹ Obviously Marpurg expects to hold the ordinary touch much longer than C.P.E. Bach. Turk supports Marpurg’s opinion that “the finger should be lifted shortly before the written value of the note requires it. Where single notes are supposed to be held for their full value they have to be marked ten. or tenuto.”¹² However, Czerny, writing in the early 19th century, holds a completely different opinion that he believes the ordinary manner is to play as legato as possible “When nothing is placed over the notes, and they are not separated by rests, they are, in compliance with a general rule, always to be played in a smoothly connected manner;

⁶ Daniel Gottlob Türk and Erwin R. Jacobi, *Klavierschule* (Kassel: Bärenreiter, 1962), 45.

⁷ Leopold Mozart, *A Treatise on the Fundamental Principles of Violin Playing* (London: Oxford University Press, 1951), 41.

⁸ In general, the non-legato or detached touch is considered as the ordinary touch in the 18th century.

⁹ Fritz Rothschild, *Musical Performance in the times of Mozart and Beethoven* (London: A. & C. Black, 1961), 40.

¹⁰ Carl Philipp Emanuel Bach and William J. Mitchell, *Essay on the True Art of Playing Keyboard Instruments* (New York: W.W. Norton & Company, 1949), 127.

¹¹ Friedrich Wilhelm. Marpurg, *Anleitung Zum Klavierspielen:: Der Schöneren Ausübung D. Heutigen Zeit Gemäß Entworfen* (Berlin: A. Haude & J.C. Spencer, 1755), 29.

¹² Daniel Gottlob Türk and Erwin R. Jacobi, *Klavierschule* (Kassel: Bärenreiter, 1962), 356.

for the legato style is the rule, and the staccato the exception...”¹³ It is understandable that Czerny combines ordinary touching and legato playing, since he was influenced partially by Beethoven, who preferred to play as close as possible to the keyboard and reduce changing the hand positions. Clementi, another musician, had a similar idea to Czerny that he wrote in his *Art of Playing the Piano Forte* that “The best general rule is to keep down the keys of the instrument the full length of every note...”¹⁴

The treatises also discuss staccato dots, strokes, dotted rhythms. Again, even though most of them agree the staccato should be hold half value of the note, other opinions indicate that the staccato needs to be shorter than half value. Most believe that the dot and dash share the same meaning as staccato; there is a thought that dashes should be relatively shorter. Clementi states that dots are less pronounced staccatos, compared to dashes. In short, there is no one treatise that gives a perfect answer of historical performance practice; modern pianists need a comprehensive study while keeping an open mind. However, pianists should aware the two separate streams between C. P. E. Bach, Turk and Czerny, Clementi. This argument of the aesthetic of piano playing influenced later composers. Just as there are varying musical ideas between composers such as C. P. E Bach and J. C. Bach and their followers, so there are different stream and traditions deriving both from musical ideas as well as the various differences between those who prefer harpsichord, clavichord, or fortepiano.

An interesting thing would be worthwhile to illustrate is the finger pedal these treatises describe. Badura-Skoda generally indicates that the slurs over broken chords imply the notes

¹³ Carl Czerny, Paul Badura-Skoda, and Carl Czerny, *On the Proper Performance of All Beethoven's Works for the Piano ; Reminiscences of Beethoven, And, Chapters II and III from Volume IV of the Complete Theoretical and Practical Piano Forte School: Op. 500* (Wien: Wiener Urtext Ausgabe, 1970), 189.

¹⁴ Muzio Clementi, *Introduction to the Art of Playing on the Piano Forte: Containing the Elements of Music, Preliminary Notions on Fingering, and Fifty Fingered Lessons* (New York: Da Capo Press, 1974), 8.

under the slurs should be held through to the end of the slur, disregarding the original note value.¹⁵ Turk says more specifically, that “Two notes may be kept down by the fingers in broken chords accompaniment.”

The last thing about performance practice I would like to share is from Hummel. He explains the notes with both staccatos and slurs should be gently detached by fingers, and each of them receive “*a certain increasing degree of emphasis*”.¹⁶

The historical references mentioned above should be helpful to pianists selecting fingering for the 18th century keyboard music. The approach should be to find fingering that helps explaining the musical intention of the composer while avoiding fingering that a contrary to the performance practice instruction of the period.

Back to the musical taste in 18th century

Mozart’s music has been described as “Great simplicity or simple greatness”.¹⁷ Though Beethoven told Czerny that Mozart played in a “clipped style”, Mozart himself states that legato playing should “flow like oil”.¹⁸ Quantz explains that: “each note must be sounded with its true intonation, as beautiful as possible, must be easy and flowing, light and shadow must be constantly maintained, must be expressive, must be able to judge the nature of the passion that each idea contains.”¹⁹

¹⁵ Thurston Dart, *The Interpretation of Music* (London: Hutchinson's University Library, 1963), 99.

¹⁶ Johann Nepomuk Hummel, *A Complete Theoretical and Practical Course of Instructions on the Art of Playing the Piano Forte: Commencing with the Simplest Elementary Principles and including Every Information Requisite to the Most Finished Style of Performance* (London: T. Boosey, 1829), 66.

¹⁷ Eva Badura-Skoda and Paul Badura-Skoda, *Interpreting Mozart: The Performance of His Piano Pieces and Other Compositions* (New York: Routledge, 2010). 369.

¹⁸ *Ibid.*

¹⁹ Robert Lewis. Marshall, *Eighteenth-century Keyboard Music* (New York: Routledge, 2003), 62.

Many musicians feel the modern piano, compared to 18th century fortepiano, is too full for Mozart's music. Considering the larger soundboard, heavier stringing, hammers and dampers, the pianist needs more energy to produce a sound on a modern piano. Another issue is that the modern piano produces a longer lasting sound than fortepiano. The uniform tone quality in all registers presents a great challenge to contemporary pianists playing piano music composed for fortepiano.

In order to produce "Mozart's sound" on a modern piano, Paul Badura-Skoda seems to follow the 18th century treatises which suggested "pliable wrist follow the play of the fingers, quite free to take part, keep the whole body free of tension, relaxed, shoulders free of strain, relaxed neck muscles".²⁰ He further states that "Without elasticity, one's tone will not carry. An excessively hard touch gives the impression of a certain brutality, which is quite out of place in Mozart".²¹ He believes a "relaxed singing tone" is necessary, while non-legato tones could be produced by curved fingers with sparkling touch like little hammers. Badura-Skoda also mentions the resonance created by modern pianos and modern concert halls. He suggests pianists, when playing Mozart on modern piano, play non-legato for legato scales, especially in low register. For certain cases, depending on the acoustic of the hall, it would be necessary to play staccato for non-legato notes.²²

Suggestions from other scholars include "playing non-legato or finger staccato for quick semi-quaver running movements", "it is better to concentrate on finger, wrist and forearm, rather than the whole arm and body, in order to simulate the harpsichord and fortepiano's translucence". One important opinion, which I agree with completely, warns modern pianists to

²⁰ Eva Badura-Skoda and Paul Badura-Skoda, *Interpreting Mozart: The Performance of His Piano Pieces and Other Compositions* (New York: Routledge, 2010). 370.

²¹ Ibid.

²² Ibid.

avoid the tendency to “soften up” the whole interpretation when playing music by Haydn, Clementi and Mozart. Both harpsichord and fortepiano have the internal strength and directness of attack which is hard to be represented, especially when playing soft on modern piano.²³

Chapter 3 Fingering

Reason and significance to study fingering

There are always many possible fingering options if we consider a note in isolation. Optimal fingering solutions are best achieved by looking at physical and musical context. The palm, wrist, forearm and elbow need to be particularly flowing and follow the movements directed by the fingers; one should also understand as much about the musical style, background, and interpretation as we have discussed in the previous chapter. Roskell, in his book, explains his idea that the most obvious or most simple fingering is not always the best for achieving a particular subtlety of phrasing or expression.²⁴ Most pianists are trained to find the fingering that will allow the easiest performance of a passage. Under this concept, the fingering is not necessarily focused at reaching the composer’s original intention. Some editions would rather remove the original fingering markings by the composer, because those fingerings don’t “make sense” on modern piano playing. Howard Schott says “What is important for the modern performer... is to recognize what the earlier types of fingering were intended to achieve and then produce the same effects with more modern fingerings.”²⁵

²³ Peter Cooper, *Style in Piano Playing* (London: Calder, 1975), 32.

²⁴ Eric Clarke et al., "Talking Fingers: An Interview Study of Pianists' Views on Fingering," *Musicae Scientiae* 1, no. 1 (1997): 87-107, accessed August 19, 2016, doi:10.1177/102986499700100106.

²⁵ Jon Verbalis, *Natural Fingering: A Topographical Approach to Pianism* (New York: Oxford University Press, 2012), 78.

Mechanical relationship between five fingers

In order to find the fingering which achieves both comfortable playing as well as the composer's musical intention, pianists must be aware of the physical structure from the fingers to the hands to the forearms and to the back.

The extensor tendon of fingers is located on the back of the hand and controls the extension and independence of the fingers. The extensor tendon originates from the elbow and passes through the wrist, where it divides into several main strands. The thumb, which has its own extensor tendinum, is obviously separated from the other fingers, and therefore is very independent. The fifth finger, although interconnected with the fourth finger, also has its own tendinum and thus is relatively independent. Besides, both the thumb and the fifth finger are at the end of the hand and therefore their strength can be compensated by forearm assisted by rotation. The second finger, has its independent strand of tendinum without interconnection to others. Hence, the second finger is independently extensible, and be named as "index". The independence of finger three, four and five is limited by the juncturae tendinum. However, the third finger is relatively independent since it is in line with one of the main strands of the tendinum, and the fifth finger also has its independency as mentioned above. As a result, finger four is the finger whose independent extension is most limited by the juncurae tendinum. Although pianists have devoted numerous practice to increase the independence of the fourth finger, no one can completely conquer this physiological limitation.²⁶

²⁶ Lora Deahl and Brenda Wristen. "Strategies for Small-Handed Pianists." *American Music Teacher* (2003): 21.

Characteristics of each finger

Similar to the various colors and characteristics composers render on different keys, fingers could also be illustrated with their own characters. Generally pianists agree the thumb can produce a “French Horn” sound, while the fifth finger can present the sound penetrative, second finger, as called as index finger, is the most dexterous finger.

It would be interesting to share Chopin’s view here. He believes the index finger is the strongest, while the middle finger is both strong and fit cantabile playing. He thinks the thumb has horizontal agility and the lateral movement provides the thumb being able to replace other fingers in many cases. For the fourth finger, he uses the word “sensitive” to describe.²⁷ Pianists should consider the physical characteristics of each of the five fingers when evaluating artistic demands.

Original fingering markings from composer

Some pianists may feel that the original fingering markings from the composer might not be suitable on the modern piano. However, it would help greatly in understanding and carrying out the composer’s intention through studying the fingering directly from the composer. To have the composer’s fingering suggestions, fingering rules in contemporary treatises are also important and can be used along with the composer’s suggested fingerings.

It does not mean pianists nowadays have to follow exactly the fingering markings from an original composer. It is more important to find out why the fingerings are there. The original

²⁷ Martin Gellrich and Richard Parncutt, "Piano Technique and Fingering in the Eighteenth and Nineteenth Centuries: Bringing a Forgotten Method Back to Life," *Brit. J. Music. Ed. British Journal of Music Education* 15, no. 01 (1996): 5-23, accessed August 19, 2016, doi:10.1017/s0265051700003739.

fingering can be understood as instructions for certain musical demands, or it is a way to indicate the composer's desired effect.

One famous example is the opening of the first movement of Beethoven's Piano Sonata Opus. 111. Beethoven did not instruct how to play the big octave leap. However, starting the piece with a diminished 7th chord suggests a traumatic or at least unstable mood, which is better explained by a risky rather than easy fingering. For me, it suggests life's hard struggle. Although it is more challenging to guarantee the right notes, the riskier performance by one hand feels closer to the dramatic character. Though the technical difficulty is increased, the musical intention is clearly revealed as well. Plus, the technical difficulty forces the upper body get involved more in this transportational movement, so visual effects in some way helps the listener to reach the composer's illustration as well.

On the other hand, there are pianists argue that the performer could achieve the same effect that the composer desired by using different or even better methods of fingerings that does not take into account performance practice of the period and/or does not consider using the composer's fingering suggestions. One modern pianist interview said "not doing the composer's fingering, (because) I am probably more likely to realize his intention than if I stick to the notation."²⁸

Fingerings from editor

When editing fingering, editors sometimes provide their own opinion additionally for various purposes. Schenker follows Beethoven's fingering ideas when adding his fingering on Beethoven's sonata, in which the ideas place on musical intention rather than technical

²⁸ Eric Clarke et al., "Talking Fingers: An Interview Study of Pianists' Views on Fingering," *Musicae Scientiae* 1, no. 1 (1997): 87-107, accessed August 19, 2016, doi:10.1177/102986499700100106.

demands.²⁹ Other editors who are pianists, such as Schnabel, Badura-Skoda, Schiff, or many others, also provide their opinions of fingering bases on their researches and performance experiences. However, it is noteworthy that several editions which marked as “Urtext” in the market actually contain more or less additional markings which are not from the original manuscripts.

Basic fingering rules

Generally, there are several basic fingering rules proposed from the 18th century and they are still counted as common rules when selecting fingering today. These rules include but are not limit to the weak-finger rule, stretch rule, position-change-count rule, four-on-black rule, short-finger-on-black rule, and short-finger-on black rule.³⁰

Weak-finger rule, as the name suggests, is to avoid using weak fingers to play as often as the stronger ones. The thumb, fourth and fifth are considered “weak” in different levels as we discussed in the previous section on anatomy. Stretch rule means avoiding stretching as much as possible, no matter what size of the hand a pianist has. In the book *An Ergonomic Model of Keyboard Fingering for Melodic Fragments*, scholars marked numbers to indicate the level of stretching, then calculate the marked numbers to derive a final score for each group of fingering in order to find the most comfortable fingering. Position-change-count rule is that to change hand position as less as possible. This rule probably is from Czerny, who follows Beethoven’s idea of staying close to the keyboard and not changing position that much. Avoiding placing the thumb,

²⁹ Jeffrey Swinkin, "Keyboard Fingering and Interpretation: A Comparison of Historical and Modern Approaches," *Perfpr Performance Practice Review* 12, no. 1 (2007): 1-26, accessed August 19, 2016, doi:10.5642/perfpr.200712.01.01.

³⁰ Eric Clarke et al., "Talking Fingers: An Interview Study of Pianists' Views on Fingering," *Musicae Scientiae* 1, no. 1 (1997): 87-107, accessed August 19, 2016, doi:10.1177/102986499700100106.

fourth finger, and fifth finger on black key rules are understandable. Playing the fourth finger on a black key is an additional difficulty, especially when the third finger is on a white key.

Scholars mention the pass from non-thumb on white key to thumb on black key is the most difficult case.

Historical fingering rules

As studying the historical articulation rules and performance practice, it would be helpful for today's pianist to select better fingering if they study comprehensively the fingering rules in the music history. It can be a huge project to find out the reasons how those historical fingering rules formed, and how were the rules related to the period instrument – harpsichord, clavichord and fortepiano. However, the priority of studying historical fingering is to understand that fingering rules had changed and developed from generation to generation, and it will keep changing today and in the future. Once the pianists accept this concept, they would not see fingering as a fixed instruction written on the music, but rather an additional method of approach to the composers' music.

Prior to Bach, the tendency was to use primarily the middle three fingers. J.S. Bach was innovative in using five fingers more equally and closer to the keyboard. He centralized the thumb as the principle finger.³¹ C.P.E. Bach followed his father's idea, and developed this hand position concept by adding the cross-over and cross-under possibilities. C. P. E. suggested multiple fingering options for one passage: each fingering providing different thoughts of pattern grouping. For example, when playing the C major scale with the right hand, he suggests

³¹ Jeffrey Swinkin, "Keyboard Fingering and Interpretation: A Comparison of Historical and Modern Approaches," *Perfpr Performance Practice Review* 12, no. 1 (2007): 1-26, accessed August 19, 2016, doi:10.5642/perfpr.200712.01.01.

12312345, 12341234, and 12343434. This idea makes great flexibility through creating different groupings by different fingering design. On the other hand, C. P. E. Bach selects strong fingers for accented notes, and apparently the unaccented notes with relatively weaker fingers.

Beethoven was influenced by C. P. E. Bach's fingering innovations.³² As mentioned above, he preferred a playing style in which the fingers stay closer to the keyboard in order to play the notes more connected. Beethoven seems to prefer more use of legato and less staccato and detached playing than his predecessors. When he wants a passage to be played detached, he will indicate that in the music.

Scholars who study Beethoven's music feel that the fingerings are indicated to express a specific musical intention. For example, in a running passage, he marked the same finger for the last four notes before the high point of the phrase.³³ This fingering forces the performer to play and arrive at the high point through detached articulation. There are three advantages in using this fingering. First, the detached playing makes the sound more articulated, which enhances the arrival to the climax. Second, the detached playing lifts the hand up, and when the hand comes down with arm support, it increases the power of the sound production. Third, it takes more time to repeat the same finger in a running passage and this timing highlights the dramatic approach to the climax.³⁴

Beethoven marked fingerings to achieve his particular compositional idea and sound. By using and studying his original fingering, we are trying to understand the clues of his musical thinking in addition to the dynamic, timing, and articulation markings. Even if we decide to not

³² Jeffrey Swinkin, "Keyboard Fingering and Interpretation: A Comparison of Historical and Modern Approaches," *Perfpr Performance Practice Review* 12, no. 1 (2007): 1-26, accessed August 19, 2016, doi:10.5642/perfpr.200712.01.01.

³³ Examples can be found in his sonata Op. 7, 4th movement, mm141-142;

³⁴ Jeffrey Swinkin, "Keyboard Fingering and Interpretation: A Comparison of Historical and Modern Approaches," *Perfpr Performance Practice Review* 12, no. 1 (2007): 1-26, accessed August 19, 2016, doi:10.5642/perfpr.200712.01.01.

use the composer's fingering, I think it is important at least try all the suggestions that the composer indicates.

Czerny is influenced by Beethoven to keep the hand position close to the keyboard and prefer hand crossing rather than arm lifting. He seeks comfortable fingerings which provide maximum velocity and virtuosity. He also centralized hand position to the thumb as did Beethoven, while restricting three to cross over four. He allows the pianist to change fingering on a holding note in order to keep the whole phrase legato. He suggests not using the same finger on consecutive keys. In short, Czerny's fingering rules are not focused primarily on finding the musical meaning of the notes. He focused more on adjusting fingerings to fit the developing virtuosic direction of the 19th century style. Beethoven was in many ways a transitional composer and the reader will have to decide for himself whether to follow Beethoven's more classical suggestions or Czerny's prescription which looks forward more to 19th century pianism.

As mentioned above, Chopin believed the fingers have their own different characters. Thus, he marks many fingerings which are unsystematic. Many pianists find these fingering surprising. Two typical examples would be that he frequently crosses the thumb under the fifth finger and he repeated one finger on multiple notes, perhaps a throwback to earlier practices. This would make sense since Chopin felt much closer to Bach and Mozart than to someone like Beethoven.

Other notable fingering rules could be found from Kullak and Schenker. Kullak encourages performers to select fingering based on their technical approach. He believes the fingering selection would be largely different between a pianist who prefers to use wrist movements a lot and a pianist who tend to keep the wrist still. Schenker recommends fingering selection based on harmonic changes.

Aesthetic difference of fingering between the past and in the modern time

Musicians will have different priorities when selecting fingering. The biggest difference between the historical and modern views is that modern fingering is aiming for velocity and virtuosity, while the historical fingering cares more about phrasing and articulation. It might be impossibly challenging to select a fingering, which is satisfying both in explaining the composer's intention as well as physically the most comfortable. Physical ease cannot be ignored as making a fingering decision. However, it seems that most master pianists tend to emphasize musical interpretation when choosing fingerings.³⁵

The experiment in *An Ergonomic Model of Keyboard Fingering for Melodic Fragments* shows pianists make fingering decisions at different stages when learning a new piece. Most pianists would start to read the notes with standard fingerings which have been unconsciously implanted through their training. In fact, they admit that the standard fingering makes them comfortable when facing performance stress or memorization challenges. Fewer pianists in the experiment prefer articulation study before identifying the fingering. One participant additionally remarked that "the organization of the music implicit in a fingering is for the player's conceptualization, not the listener's."³⁶

There are a few more thoughts regarding the evolution of the piano and piano technique since the late 18th century that I would like to share before discussing my approach to Mozart's Fantasy and Piano Sonata:

³⁵ Richard Parncutt et al., "An Ergonomic Model of Keyboard Fingering for Melodic Fragments," *Music Perception: An Interdisciplinary Journal* 14, no. 4 (1997): 341-82, accessed August 19, 2016, doi:10.2307/40285730.

³⁶ Ibid.

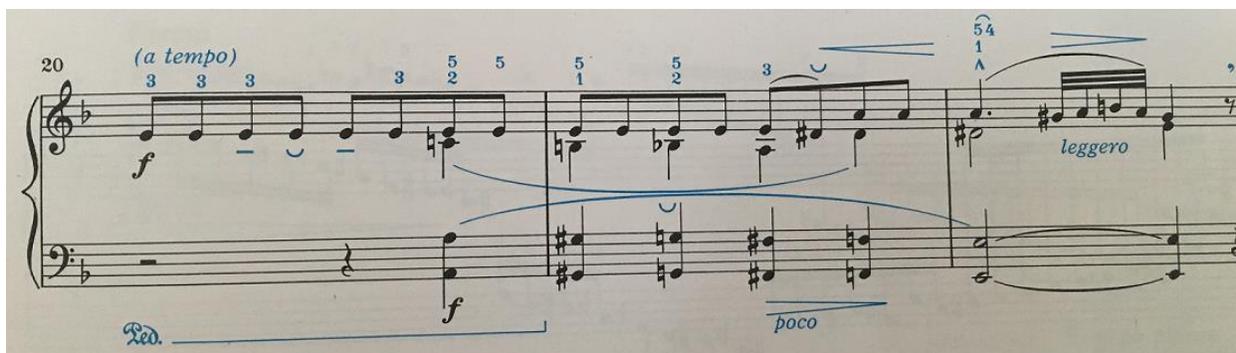
1. Since the black keys on the modern piano become longer, and spans between the keys become wider, several fingering rules are no longer suitable including the thumb-on-black rule and short-finger-on-black rule.
2. The same fingering in different registers might have various effects depending on the level of twisting the wrist of the hand has. For example, 345 of right hand on low register would definitely better than 123.
3. Slower tempo provides more opportunities for fingering experiments.
4. Changes of hand position would be more desirable in detached playing.
5. When the accents are needed, using strong fingers would help.
6. Same fingering on parallel passages is always helpful. But it might potentially increase the memory confusion.³⁷

Chapter 4 Selecting fingerings on Mozart's Fantasy in D minor



Example 1: Fantasy in D minor, K. 397, m. 20-22

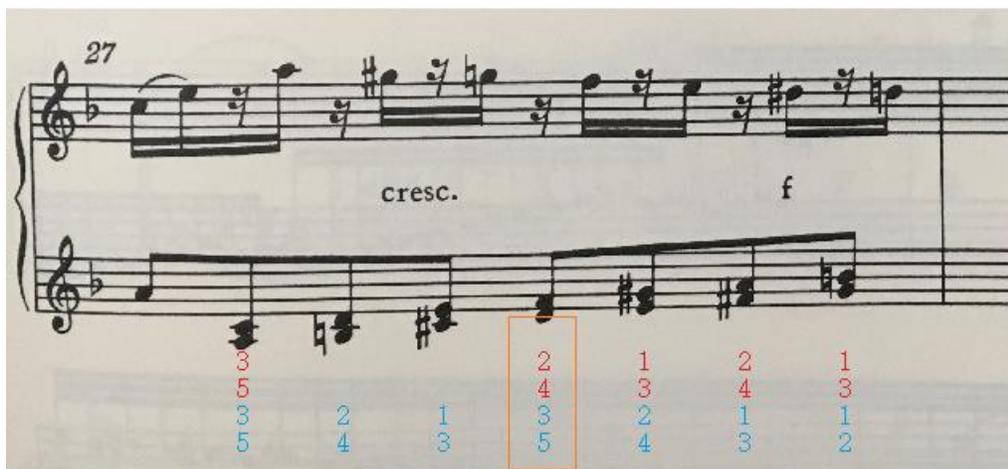
³⁷ Eric Clarke et al., "Talking Fingers: An Interview Study of Pianists' Views on Fingering," *Musicae Scientiae* 1, no. 1 (1997): 87-107, accessed August 19, 2016, doi:10.1177/102986499700100106.



Example 2: Fantasy in D minor, K. 397, m. 20-22, from Paul Badura-Skoda's edition

In the D minor Fantasy, from measure 20, a new dramatic passage enters without musical transition. As Example 1 indicates, the new idea starts with a repeated E natural note and gradually adds chromatic descending scales both in the middle voice and bass octaves. This phrase arrives on the great dissonance at measure 22, which resolves on the second beat in the same measure. My fingering suggestion here is using the third finger of the right hand to start the phrase, keeping the same finger on E natural even though the inner voice joins at the end of measure 20. The advantage for keeping the same fingering on this repeated motive is to maintain an absolute same tone quality which fits the striking thrilling musical character. As you can see, in the fingering suggestion from Badura-Skoda, he changes fingering when the inner voice enters. After that, the repeated E natural note is played by the fifth finger, while the line of inner voice is phrased by thumb and index finger in order to create a more horizontal motion. Mozart clearly indicates that all three voices – top repeated notes, inner chromatic scales, and left hand octave should be played without legato. The fifth finger that Badura-Skoda suggests is weak and less on the passion and drama of this passage. The fingering I suggest, particularly the third finger on the repeated note and the repeated thumb on the inner voice, enables the performer to play this passage with utmost intensity.

In measure 22, I choose 323432 on the right hand, while Badura-Skoda prefers 5(4)34543. My reason is to avoid use fourth finger as extensively as possible, especially when playing 32nd notes. Plus, the dynamic here is a rapid diminuendo after the phrase arrives at the most dissonant diminish moment on the downbeat of measure 22. It would be much easier to control the tone and dynamic when using 23432 rather than 34543.



Example 2, Fantasy in D minor, K. 397, m. 27

In Example 2, the left hand chromatic ascending thirds first appears in measures 26 and 27. In the example, I marked my fingering in red, contrary to the blue fingering I believe is used more commonly. The significant difference is on the second beat, notes D and F, that I choose 24 instead 35, though 35 would make the following patterns easier to play with less hand position changing. The reason I prefer to use 24 here is the priority of keeping one single line from the first third, A and C, which I use 35. To me, 35 on D and F is giving a feeling that this phrase is divided to two parts which both generate on 35 fingering. On the other hand, my fingering 13-24 avoids using the third finger immediately as 13-35 does.

34 **All Right Hand**
 Presto
 m.s.
 m.s.
 m.s.
 m.s.
 m.d.
 m.s.
 m.d.

35 **All Left Hand**
 Tempo primo
 m.s.
 m.d.
 f
 f
 p

Example 3: Fantasy in D minor, K. 397, m. 34

In Example 3, the red fingering marking is my personal preference, while the blue one is from Badura-Skoda's edition. Technically, it would be easier to alternate the left and right hands in this cadenza-like running passage, especially the ascending passage after the bottom note is reached. Crossing hand technique seems to be a better solution. In the example, the fingering in blue suggests to use left hand on the first note of each group of descending pattern, and suggests cross hand playing for the ascending arpeggio. However, cross hand, to me, looks too virtuosic, and deliberately entertaining audiences visually. In my opinion, frequent changing of hands here is losing the musical intensity that contains the internal tension, determination and an indomitable spirit when going straight forward.



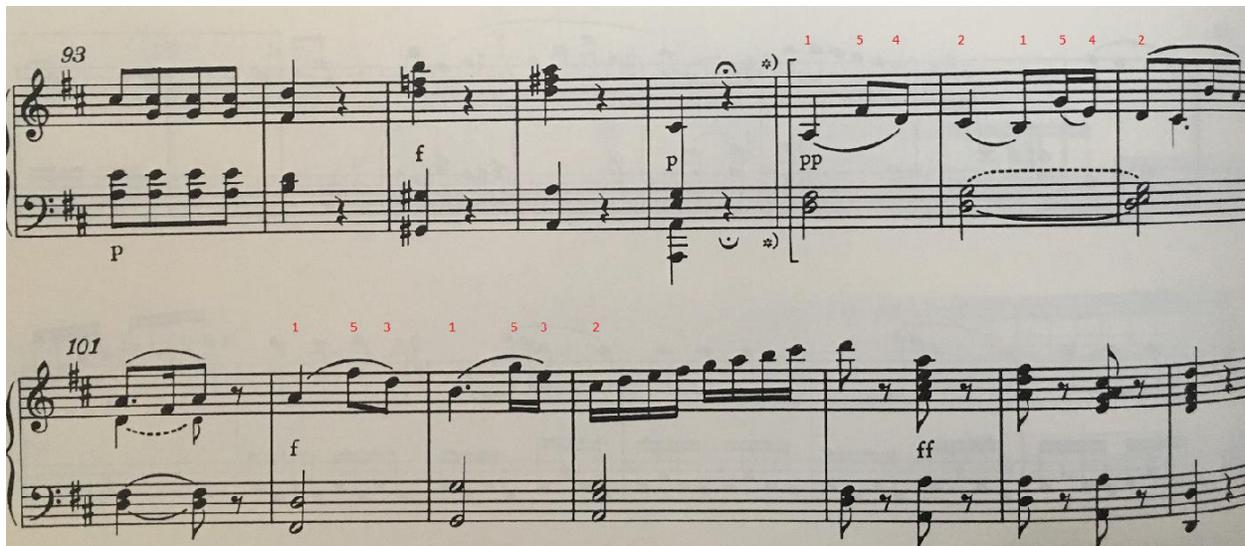
Example 4: Fantasy in D minor, K. 397, m. 55

When the Fantasy moves on to the Allegretto chapter, slurs are marked more frequently, and are marked differently. Here, in example 4, I intended to choose one fingering pattern and fit on various slur marking in the whole Allegretto section. It is obvious that the fingering in red is not using fingers as smoothly as the blue one. Placing the fourth finger on the last notes from measure 55 and 56 would force a hand lifting gesture that helps the performer to explain the slur easier. At the same time, the lifting movement also enhances slightly arm weight on the next note, which is on the downbeat. In short, by changing the fingering from 3 to 4, both the articulation and the rhythm are assisted. However, the pianist should be aware that the wrist movement is important in assisting the suggested fingering. Otherwise it would be tense to play an interval of a third with 5-4.



Example 5: Fantasy in D minor, K. 397, m. 65-66

In Example 5, the same consideration directs to the fingering in red rather than the one in blue. When playing a technically easier piece such as this Fantasy in d minor by Mozart, there would be more possible fingering options to consider, while keep the smooth playing. Here, I choose the fingering in red which is 1&2, because placing thumb on the downbeat would enhance the strong beat, and would also avoid to use thumb on black key as what historical performance practices suggested. Also, by finishing the slur with index finger, it increases the distance from the last note under the slur to the next phrase, which forces a lift again. If we choose to use thumb on the last note under the slur, it would be pretty easy to connect to the next note by stretching the hand slightly.



Example 6: Fantasy in D minor, K. 397, m. 93-107

Example 6 is the last phrase of this Fantasy. Mozart places the Allegretto theme in *pp* dynamic on the middle register after a *fermata* and immediately follows the same theme with *f* dynamic one octave higher, with different accompaniment, rhythm and articulation. As you can see, the last statement from measure 102 abandons the detailed slur markings, as well as the appoggiatura on the downbeat of measure 103. The more open spaced left hand accompaniment gives a grander effect at the same time. All these changes explains Mozart's idea here: to provide a vigorous and honored ending. In this case, I believe it is less important to provide the details of the two slurs in measures 102 and 103. Instead, in order to fit the music intention, placing every single notes as clear as possible would be more effective. Thus I choose 1-5-3-1-5-3 because the third finger is stronger than the fourth and insures that all notes are strong.

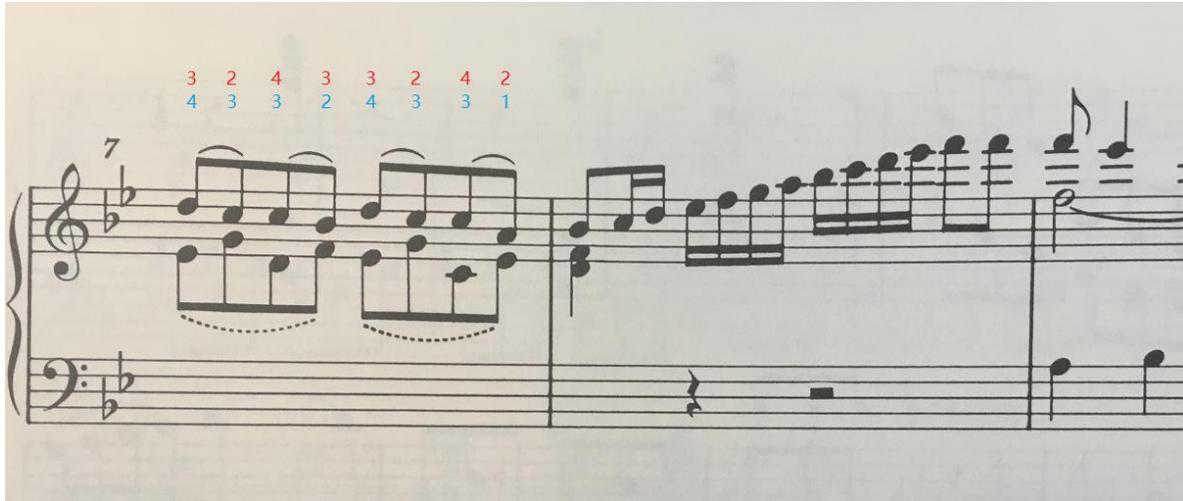
Chapter 5 Selecting fingerings on Mozart's Piano Sonata in B flat major K. 333

Allegro

Entstanden in Linz, Ende 1783***)

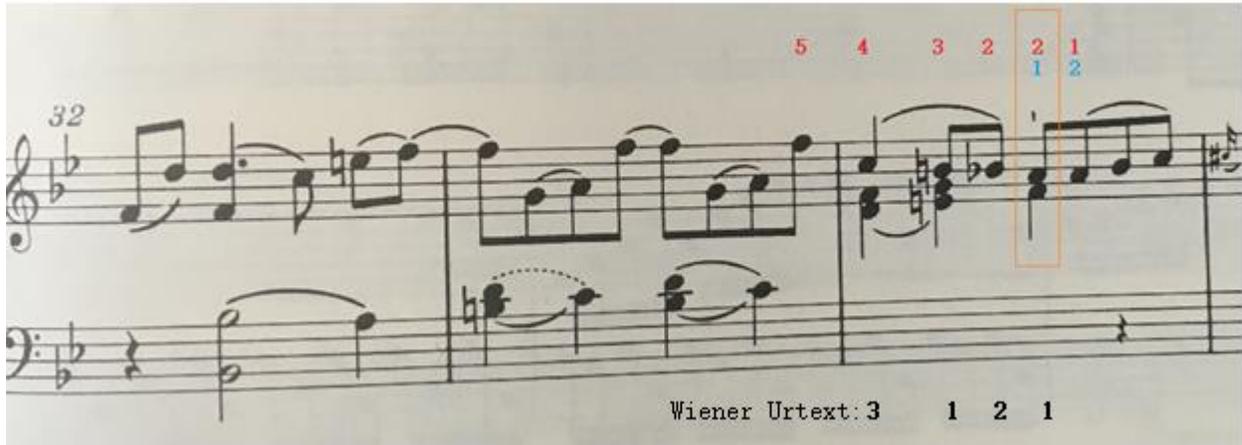
Example 7: Piano Sonata in B flat major, K. 333, first movement, m. 1-3

As we have discussed above, Turk suggests that “Two notes may be kept down by the fingers in broken chords accompaniment.” I believe the case here, left hand in Example 7, fits the instruction from Turk, which means a pianist should use finger pedaling technique on at least the first two notes while playing left hand accompaniment. Here, a pianist might tend to start with fourth finger on measure 2, since the pattern in measure 2 is one degree higher than the pattern in previous measure. However, starting the left hand pattern with fourth finger would make hand position more stretch, if pianist hold the first two notes. By using the fifth finger on the first note of each pattern, it provides the maximum space for the rest of the fingers.



Example 8: Piano Sonata in B flat major, K. 333, first movement, m. 7

In Example 8, in order to interpret the slur in a comfortable way, one must lift up on the second notes under all the slurs here. The blue fingering in the example helps force the pianist to lift up between the slurs, while keeping a natural hand position. However, the 3243, fingering which marked in red in the example, might be another solution to consider. First, it forces the lifting as the blue one does. Second, it places the third finger on the downbeat and the fourth finger on the second beat and help us understand that the downbeat is stronger than the second beat.



Example 9: Piano Sonata in B flat major, K. 333, first movement, m. 32-34

As indicated by example 9, I choose the index finger on the third beat at measure 34 (in red color), a note which also has a stroke marking on it. Though it would be more common to place thumb on it as a comfortable and smooth result, I noticed it would be very difficult to lift up at the end of the previous slur if connects it with the thumb on the third beat in tempo. Again, the repeated index finger not only helps to illustrate the articulation, but also enhances the third beat with extra arm weight from lifting, especially when there is a stroke marking on it.

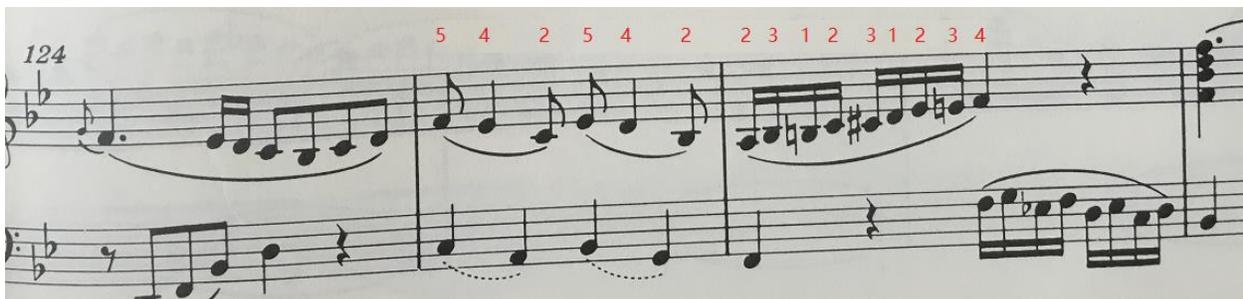
Contrasting to my fingering, the fingering edited by Robert Levin in *Wiener Urtext*³⁸, which is marked in black, focuses on smooth playing but not articulation. The fingering is not helping the performer to represent the articulation idea, but encouraging a more connected playing between slurs and the stroke note.

³⁸ Wolfgang Amadeus Mozart et al., *Klaviersonaten* (Wien: Wiener Urtext-Ed., 2003), 61.



Example 10: Piano Sonata in B flat major, K. 333, first movement, m. 43-44

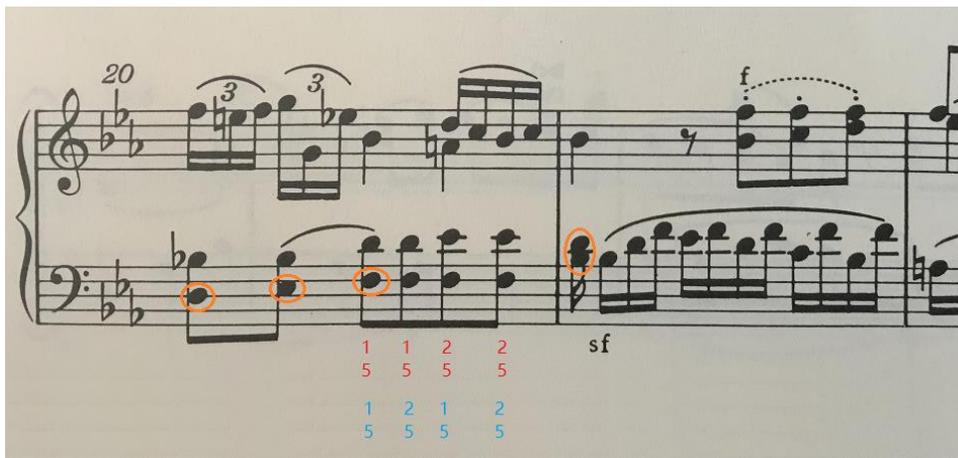
Example 10 is another example of changing fingerings in repeated patterns. The reason I choose not to keep using 232 on the left hand is the harmony changes in the third pattern, which is the downbeat in measure 44. Compared to the other three patterns, the third one is diminished 7 of vi in F major, which is much more dissonance and surprising. I choose to start the other three patterns with index finger, but the third pattern with third finger, in order to enhance the diminished color with a stronger finger.



Example 11: Piano Sonata in B flat major, K. 333, first movement, m. 124-126

In Example 11, the fingering choose in measure 125 and 126 is mainly for the consideration of slur articulation and the legato on ascending chromatic scales. There would be enough time for a pianist to start the chromatic scale with the index finger, even though the index finger has been be used at the end of previous slur. The advantage for using index finger rather

than the thumb on the first note of chromatic scale is to avoid starting the scale with a sense of accent from the thumb, as well as a forced lifting from B flat to A between the measures. Finally, because of the lyrical and singing music atmosphere here, I choose 231231234, but not 131231312, for the chromatic scale in order to make the phrase feel more legato.

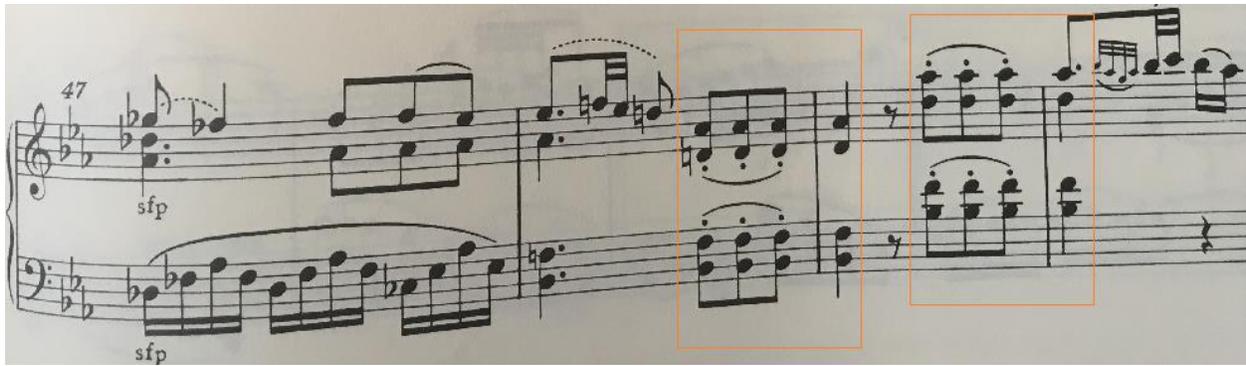


Example 12: Piano Sonata in B flat major, K. 333, second movement, m. 20-21

Example 12 is a good example to illustrate my fingering preference on repeating notes. When the repeated notes have a clear direction moving forward, I would recommend alternated fingering as long as there is no technical conflict. In this example, the worst idea is to keep using thumb and fifth finger from the first repeated chord because the fingering is not helping musical intention at all. By using 15-15-25-25, it would be uncomfortably outstretched when playing F and E flat; it helps the increasing music tension toward to the B flat chord on next downbeat, through an increased physical tension. Another solution would be 15-25-15-25 which is marked in blue in the example. It provides a strong phrase direction moving toward the next measure with less enhancements on each beat.

Example 13: Piano Sonata in B flat major, K. 333, second movement, m. 32-42

Example 13 is another repeated note fingering example could be found in the development section of the second movement. Here the music shifts from E flat major to F minor. After a long ostinato from measure 35 to measure 41, it finally resolved at A flat major. I tend to use one finger on almost all the repeated notes in the bass line, to provide an uncertain, mysterious atmosphere. The fourth finger would be a good solution here, because it is not as strong as the third, not as lyrical and sensitive as the index. The thumb and fifth finger would also be inappropriate because they are either too strong or too weak. I prefer to stop repeating the fourth finger at measure 40, when there is a slur, which is right before the arrival note – the V43 – on the next measure downbeat. I use repeated fingering in the right hand at measure 40 until the last note. In this way, both hands move their position from a vertical repeated lifting movement to a contrary motion toward to each other. This physical movement at some point helps the pianist to sense the musical direction unconsciously.



Example 14: Piano Sonata in B flat major, K. 333, second movement, m. 48-49

At measure 48 and 49 of the same movement, in Example 14, the first repeated chord pattern belongs to the end of previous phrase, but the same notes repeated one octave higher are used to lead the music back to the main theme later. In this case, the two patterns function differently, though the harmony and articulation are exactly the same. I would suggest the pianist to use different fingerings according to his/her preference. For example, if one prefers the next phrase with higher internal tension to transition the music back to main theme, he could use an alternate fingering on this repeated chord pattern, such as 15-14-13-12 on right hand and 51-41-31-21 on left hand, while the previous pattern keeps repeated fingers such as 13 on right hand and 14 on left hand. However, it would be possible do the opposite fingering selection if one interprets the first pattern with a stronger direction to the last note, in order to finish the phrase with a stronger, more emotional ending. In contrast, the second pattern could keep a repeated fingering so the musical direction is temporarily saved until the descending scale leads to the main theme later. In short, I would say fingering selection could always be flexible and individualized, once the pianist come up with his understanding of the music and composer's original intention.

4 2 1 1
 5 4 2 1
 5 4 2 2

Allegretto grazioso*

Example 15: Piano Sonata in B flat major, K. 333, third movement, m. 1

As we discussed above, multiple fingering solutions are possible depending on your understanding of the composer's intention. The motive at the beginning of the third movement repeats again and again in this rondo movement. The performer must decide if the theme should always return with the same articulation or with other possibilities. It would be interesting to try several fingering ideas that would facilitate changing interpretations of the theme. Both fingerings in blue and red explain the articulation accurately, while the blue one provides a more comfortable wrist movement. But the blue one increase the possibility to make accent on the last beat accidentally. The blue fingering keeps a pianist's wrist moving, and provides a more comfortable move toward the next measure. The fingering in black is an idea that creates fresh and even surprising effect. It courageously places thumb on repeated black keys in order to produce a contrasting character after the tender second movement finishes.

Example 16: Piano Sonata in B flat major, K. 333, third movement, m. 110-111

This running chromatic scale, in Example 16, is in the middle of the third movement. By considering the whole movement's character, I tend to interpret almost all the transitions in a linear way, so there would be a better contrast every time when the main theme returns. Under this idea, I try to avoid using the most common fingering for chromatic scales – 212313131231312. I believe this standard fingering uses the thumb too many times, which provides a brilliant sound and allows pianist to play the scale fast. I have tried two other fingerings, which I marked on the example with blue and red colors. The red one is my favorite because it has only one thumb throughout the whole scale. It largely avoids making an accent accidentally by thumb during the scale. In fact, it is inspired by Chopin's etude No.2 in Op. 10. The fingering marked in black is from *Wiener Urtext* which is interestingly combined the standard fingering and the fingering I marked in blue.³⁹ It provides richer variety that the first

³⁹ Wolfgang Amadeus Mozart et al., *Klaviersonaten* (Wien: Wiener Urtext-Ed., 2003), 89.

half of the chromatic scale runs brilliant then it tends to be more lyrical in the second half so the music connects to the main theme nicely.

The image shows two systems of musical notation for a piano sonata. The first system, starting at measure 169, features a treble clef with a chromatic scale and a bass clef with a more lyrical accompaniment. A section labeled 'Cadenza in tempo' begins at the end of the system. Fingering numbers are provided: blue numbers (1, 3, 2, 4, 3, 5) for the right hand and red numbers (2, 4, 1, 3, 2, 4) for the left hand. The second system, starting at measure 172, continues the chromatic scale in the treble clef and a more lyrical accompaniment in the bass clef. The word 'dolce' is written above the right hand. Fingering numbers are provided: blue numbers (4, 1, 3, 2, 4, 3, 5, 4, 1, 3, 2, 4, 3, 5, 4) for the right hand and red numbers (3, 1, 3, 2, 4, 1, 3, 2, 2, 4, 1, 3, 2, 4, 3) for the left hand.

Example 17: Piano Sonata in B flat major, K. 333, third movement, m. 171-172

As I have mentioned earlier in this paper, the fourth finger tends to be the weakest finger as its independent extension is most limited by the juncurae tendinum. Though the fingering marked in blue keeps a very nice hand position for each pattern, it is still considered risky, for too many fourth finger within running notes, especially it would be placed on black key in the first pattern.

Chapter 6 Conclusion

This paper concentrates on new ways to select fingerings. To better understand how fingering selection can serve the composer's musical intention, I studied schools of treatises and

performance practices in the 18th century, the anatomy of the hand, the development of the keyboard instrument, and the development of the aesthetic of music. I experimented with two works by Mozart. I found that it is initially uncomfortable to employ fingers that are not from the “standard” fingerings. However, through adding more “self-invented” fingering to the two Mozart pieces, my fingers gradually accepted the new fingerings. The reason pianists tend to use conservative fingering for performance and memorization is because they only know the “standard” fingering. Once pianists liberate their minds to experiment with new fingerings, they will broaden their musical abilities, both physically and intellectually. However, this experimentation of finger selection is only tested on Mozart’s piano music. It requires further study and research on music by other composers which have more complex voicing and thicker texture.

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