ATSKAŅOTĀJMĀKSLA UN PEDAGOĢIJA / MUSIC PERFORMANCE AND PEDAGOGY

BEETHOVEN'S KEYBOARD FINGERINGS: A MASTER CLASS FOR TODAY'S PIANISTS?

Nils Franke

Abstract

The paper summarises four selected research publications relevant to the topic and briefly examines three works in which Beethoven's keyboard fingerings can be found, including one by his student Archduke Rudolph. The selection of these pieces is intentional, as it shows different facets of Beethoven's work: that of a piano teacher, a pianist-composer, and a composition tutor who provided specific fingerings for his student's work. The paper concludes by suggesting that, whether or not one chooses to use Beethoven's fingerings today, they offer an insight into his pianism and musical priorities.

Keywords: piano, teaching, piano teacher, Archduke Rudolph

Anotācija

Rakstā izvērtētas četras zinātniskās publikācijas, kas saistītas ar izraudzīto tēmu, kā arī tiek aplūkoti trīs klavierdarbi, kuriem Bēthovens pats rakstījis aplikatūru; vienu no tiem sacerējis viņa audzēknis, Austrijas erchercogs Rūdolfs. Šie darbi apzināti izvēlēti tā, lai parādītu dažādas Bēthovena radošās darbības šķautnes: viņš atklājas gan kā klavierspēles skolotājs, gan kā pianists un reizē komponists, gan arī kā kompozīcijas pedagogs, kas ieteicis aplikatūru sava audzēkņa darbam. Raksta noslēgumā pausta doma: neatkarīgi no tā, vai mūsdienās Bēthovena aplikatūra tiek vai netiek lietota, tā sniedz būtisku ieskatu viņa pianismā un muzikālajā gaumē.

Atslēgvārdi: klavieres, mācīšana, klavierspēles skolotājs, erchercogs Rūdolfs

Introduction

The period between 1782 and 1827, in which Ludwig van Beethoven's music appeared in print during his lifetime, marked a gradual yet decisive increase in the capturing of performance directions as part of a printed score. While much ambiguity remains, not least because of the absence of autograph sources in early Beethoven scores, it seems that

printed music increasingly sought to document some of the refinement required of touch, dynamics and articulation that a composer such as Beethoven imagined in his works. Part of that process, especially for pianist-composers, is the use of fingering. Whether intended to reflect personal choices, strengthen phrasing or musical effects, or aimed at helping performers overcome technical challenges, the choice of fingering can reveal much about the pianism, artistic heritage and musical preferences of a pianist-composer. In that sense, Beethoven was no exception.

The present article reviews the findings of four different sources that examine aspects of Beethoven's fingerings before putting the spotlight on three works for which Beethoven provided fingerings: a piano trio movement, a solo piano piece and a composition by another composer. The selection of these pieces is intentional, as they show different facets of Beethoven's work: that of a piano teacher, a pianist-composer and a composition teacher who provided specific fingerings for his student's work.

The article concludes with an attempt to identify key elements in Beethoven's approach to writing keyboard fingerings as well as underlining the need for today's performers to engage with this aspect of Beethoven's work.

Selected literature review

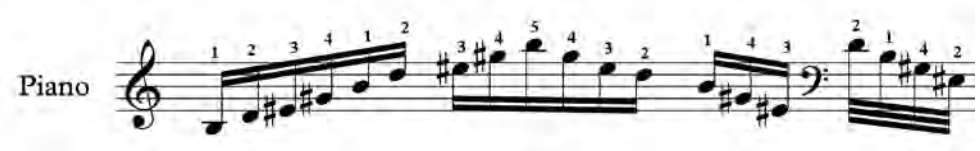
As a stand-alone focus of research, Beethoven's keyboard fingerings had to wait until the second half of the twentieth century before a more systematic scholarly engagement with the topic occurred. By that time, different perspectives, and arguably layers, had altered some of Beethoven's original fingerings, as can be seen in editions by pianists who knew and worked with Beethoven (e.g. Ignaz Moscheles [c. 1828–1839], Carl Czerny [c. 1828–1856]), musicologists/theorists (e.g. Heinrich Schenker [1913–1921], Hugo Riemann [1918–1920]), and distinguished Beethoven interpreters in the late 19th and 20th centuries (e.g. Hans von Bülow [c. 1875], Artur Schnabel [1935] and Claudio Arrau [1969–1978]). Therefore, refocusing on the composer's fingerings seemed to go hand in hand with the growing interest in urtext scores in the 20th–21st centuries, the primary purpose of which is arguably the removal of accumulated editorial decisions, which are not disclosed to a reader.

The following four contributions to the topic have been chosen as examples that represent a progressively more detailed focus on Beethoven's fingerings.

Herbert Grundmann and Paul Mies' article *Beethovens Fingersätze* appears to be one of the earliest academic research papers to focus specifically on Beethoven's fingerings (Grundmann, Mies 1966). Nevertheless, the authors were able to draw on some publications that, albeit in different contexts, touched on the issue of fingering in Beethoven's piano scores. These include, amongst others, Heinrich Schenker's commentary on Beethoven's last five piano sonatas (1921–1924) and Paul Mies' article *Beethoven as Teacher* (1952).

In their paper, Grundmann and Mies use a number of Beethoven's works to illustrate a range of observations. The musical examples include solo piano music ranging from early to late sonatas, the Fantasy op. 77 and the piano parts of the Cello Sonata op. 69 as well as a number of piano trios. Additional evidence considered comes from musicological publications, including an edition of Beethoven's *Sketchbook* from 1802–1803. To provide some historical context, Grundmann and Mies link some of Beethoven's fingerings to the writing of Carl Philipp Emanuel Bach, using the latter's *Versuch über die wahre Art das Clavier zu spielen* (Essay on the True Art of Playing Keyboard Instruments, 1753–1762) to explain Beethoven's fingering choices. Schenker's writing on tied notes with a change of fingering, as found in bar 5 of the *Adagio ma non troppo* section of Beethoven's Sonata op. 110, is noted by Grundmann and Mies but ultimately needs to be seen as superseded by more recent positions on the matter.

Grundmann and Mies rightly draw attention to Joseph Schmidt-Görg's catalogue of autographs in the Beethovenhaus and the Beethoven archive (Schmidt-Görg 1935), in which the author gives an example of a two-octave diminished seventh chord starting on B from one of Beethoven's sketches, annotated by the composer with the comment: "[…] extended passages [to be played] as much as possible with the same fingering" (Beethoven n.d.; see example 18 for additional context).



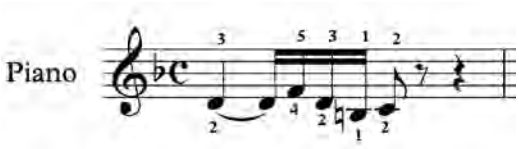
Example 1. Grundmann and Mies 1966: 117

Although the idea of a repeated finger pattern over two octaves is not a surprise in the context of the musical example Beethoven offers, the composer's comment suggests a logical and economic approach to using finger patterns.

Grundmann and Mies also observe the presence of alternative fingerings in Beethoven's music and suggest that this may be intended

for different-sized hands. However, more recent research has suggested that only the lower fingering is in Beethoven's hand,[1] making it more likely to be an example of Beethoven's teaching.

[1] See Jochen Reutter's preface to the edition of *Drei Sonatinen* by Beethoven (Reutter [in press]: III).



Example 2. Grundmann and Mies 1966: 120

Moving beyond a discussion of fingering per se, Grundmann and Mies consider the connection between fingering and articulation, or fingering and sound. Both authors link this point to a letter Beethoven sent to Czerny in February/March 1816, in which the connecting of notes, using all fingers, achieves an effect Beethoven describes as being "like a pearl" (for the letter in its entirety, see: Beethoven 1996a: 236–238).

Grundmann and Mies' paper rightly identifies some of the characteristics of Beethoven's fingerings and distinguishes between two settings: those provided for concert repertoire and those offered in an educational, and in Beethoven's lifetime unpublished, context. Where the article appears limited is in evidencing the scope of pianistic innovation, or unconventional thinking, documented in Beethoven's fingerings. One such example is the way in which the authors respond to the fingering in Beethoven's *Flohlied*, op. 75, III. They regard it to be achievable on period instruments but question its suitability for the modern instrument:

Example 3. Grundmann and Mies 1966: 115

In concluding their paper, Grundmann and Mies suggest:

> "The consideration of Beethoven's fingerings has made it clear that he puts all fingers at the service of piano-technical tasks, especially the thumb, and probably less so the fifth finger. Sometimes he follows tradition; sometimes he offers progressive solutions, which are still valid today. […] Many of the musical examples included [in this article] prove that fingering was not just a technical tool for Beethoven but a way to document his expectations with regard to articulation, phrasing and expression." (Grundmann, Mies 1966: 132; translated by Nils Franke)

Much as this paper rightly makes a connection between Beethoven's fingerings and the musical intentions behind them, and the authors touch on, without resolving the issue, that it is difficult to establish

something resembling an overarching systematic approach in Beethoven's fingerings.

In contrast, William S. Newman's article *Beethoven's Fingerings as Interpretive Clues* (1982) refers to the composer's keyboard and string writing in an attempt to establish commonalities in Beethoven's approach to writing fingering. In the introduction, Newman offers some wider historical context on composers providing fingering in their compositions, ranging from Bach to Schubert. He believes that those who had "neither excelled in instrumental performance and neither revealed quite the flair for virtuosic exploitation" were less likely to have left a legacy of fingerings (Newman 1982: 171).

Newman's discourse is followed by a brief discussion of key contemporaneous method books that contained explanations on the use of fingering. The strength of Newman's writing is perhaps also its weakness, as he looks for consistencies in Beethoven's approach:

> "Beethoven often seems to think in larger rather than smaller scale preferences […] he often chooses the fingerings that cover the largest number of coming notes." (Newman 1982: 180)

But:

> "[…] in stepwise lines and passagework a converse technical preference – fingering in small segments – is more likely to reveal itself." (Newman 1982: 180)

As the analytical approach Newman takes produces pertinent observations, it uses examples from a range of Beethoven's works over many years to make its points. But just as composers' styles change gradually over the years, so can the performer's view of what works, and what may not, in terms of fingerings. Therefore, seeking to establish a broader notion of continuity in fingering for anything else but directly compatible textures or concepts is potentially problematic.

Nevertheless, Newman's desire to categorise Beethoven's approach to fingering also produces worthwhile observations. The use of the term 'non-interpretive fingerings' (Newman 1982: 177) leads to distinguishing between fingering that has impact in terms of its musical outcome, versus that which may not. By implication, the latter is fingering that does not produce a particular affect and is therefore less pertinent.

Newman also takes on the issue of the frequently debated tied notes with changes of fingerings in the Sonata op. 110 (see Grundmann and Mies 1966, discussed above). After deliberating the evidence available to him, he concludes that the notes were intended to be played thus:

> "My own conclusion is that Beethoven did want to sound it, but also to achieve its effect of release by playing it as nearly as possible within the same motion that played the first note." (Newman 1982: 187)

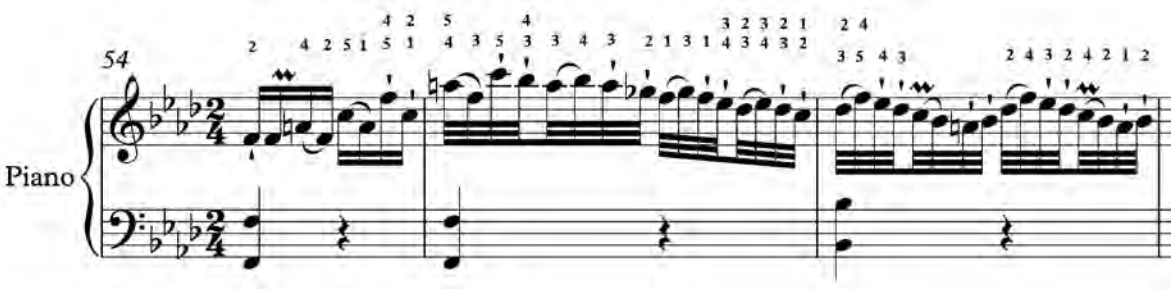
Having structured the observations in his article in sections on technical preferences, articulation, grouping of ideas, realisation of ornament signs, and tone colour and projection, Newman concludes:

> "The findings should suffice to demonstrate that Beethoven's fingerings do often have some direct interpretive as well as technical significance." (Newman 1982: 197)

Michael Ladenburger's article *The Young Beethoven – Composer and Pianis*t (2003) uses the composer's own copy (German: *Handexemplar*) of his early piano sonatas WoO 47 as a basis for attempting to date when Beethoven may have received this printed copy of a score first published in the autumn of 1783 (Ladenburger 2003). As part of his enquiry, Ladenburger reflects on articulation, ornamentation and, in particular, the handwritten fingering in the composer's copy.

One of the strengths of the article is not just the detailed consideration of Beethoven's fingerings, but Ladenburger's discussion of the implications of Beethoven's fingering corrections in the edition. The author argues that C. P. E. Bach's opinion that the thumb be treated equally to the fingers is fully integrated in Beethoven's fingerings, as can be seen in the frequent use of the thumb in passage work and even on the black notes.

Ladenburger presents two versions of Beethoven's fingering for one particular passage, and this offers an insight into the composer's pianism, which is not fully explored in the article, at least not from a pianistic point of view.



Example 4. Ladenburger 2003: 114

Nevertheless, Ladenburger acknowledges the occasionally unconventional fingering indications, at one point describing them as "unusual", even "extravagant" (Ladenburger 2003: 112–113). He contemplates whether some of the fingerings show a "lack of experience" or "lacking knowledge of rules". The author rightly observes that Beethoven's fingerings in these sonatas demand

considerable skill, an observation he links to a letter by Beethoven from 1793 in which the composer outlines that some of the difficulties in his music are aimed to "embarrass the local pianists [in Vienna]" (Ladenburger 2003: 114). Ladenburger speculates whether a similar spirit may have led Beethoven to provide the fingerings in his early piano sonatas WoO 47.

The paper concludes with the acknowledgement that it remains unclear for whom Beethoven wrote the fingerings, although the author suggests that the presence of "extravagant fingerings" may indicate they were intended for the composer's own use.

As part of her doctoral dissertation, titled *Beethoven's Experimental Figurations and Exercises for Piano* (2012), Siân R. Derry examines Beethoven's fingerings as one element of a chapter dedicated to "fundamental [piano] skills". Her detailed work focuses on what she calls "three sub-categories of fingerings": slides, articulation and sequences, i.e. patterns. By making connections between Beethoven's sketch books and some of the composer's published piano solo works, Derry offers what is likely to have been a first attempt to schematise some of Beethoven's pianistic patterns and link these to contemporaneous writings in piano method books.

According to Derry, slides fall into two categories: "[…] the first is sliding from one finger to another whilst remaining on the same note, and the second slide is from one note to the next under the same finger" (Derry 2012: 117). As part of this section, she also examines the issue of Beethoven's finger changes in tied notes, previously explored by Grundmann and Mies (1966) as well as Newman (1982). Derry offers a detailed overview of different perspectives on the topic.

The section on articulation focuses predominantly on Beethoven's use of two fingers on one note in order to be able to emphasise the note more effectively. Derry links this to Czerny's *Piano Forte School* op. 500, for historical evidence, and then speculates how the same concept might be applied to a section in Beethoven's Sonata op. 7.

In the section on sequences, Derry also discusses the issue of touch as raised by Beethoven in one of his letters to Czerny (quoted in Beethoven 1996a: 236–238), in which the former describes the playing of a musical pattern as needing to sound "like a pearl", before turning her attention to fingerings for double trills.

The final part of this chapter is dedicated to source studies, in which Derry links sketches held in Berlin and Bonn to musical material found in Beethoven's Piano Concerto op. 58, followed by a brief reference to the fingerings Beethoven provided in his Piano Trio movement WoO 39, for Maximiliane von Brentano, in 1812.

As a summary of Beethoven's fingerings, Derry concludes:

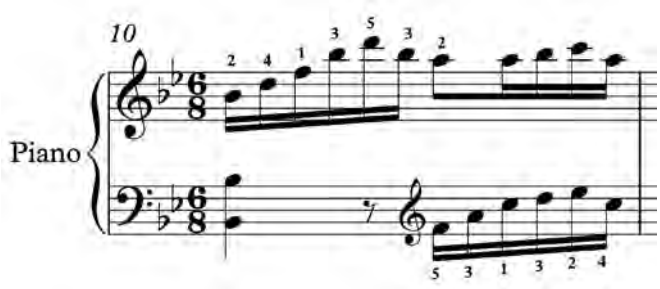
> "Beethoven's fingering indications seem to have served a largely practical purpose: he appears to have been experimenting with different styles, particularly for articulation, in order to devise fingerings that would render his intentions unmistakable." (Derry 2012: 134)

Case studies

The three case studies have been chosen deliberately, as they capture the work by Beethoven in different contexts, both as a teacher providing his student with a plethora of fingerings in WoO 39, and as a pianist-composer whose use of different technical formulae connect a work intended for publication (op. 77) with private experiments in piano technique, as documented in some surviving sketches. The third case study documents a rare, if not unique, situation, namely, Beethoven's writing of fingerings for music composed by someone else.

Case Study 1: Trio for piano, violin and violoncello, WoO 39

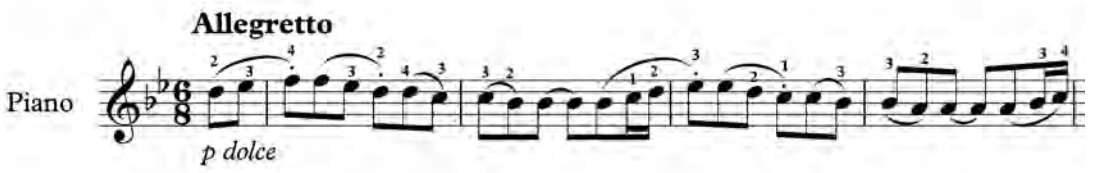
Written in 1812 and dedicated to the then ten-year-old pianist Maximiliane von Brentano, Beethoven supplied the young musician with fingerings for this stand-alone piano trio movement in B-flat major (see Beethoven 1968). Beethoven's fingerings, which are relatively detailed and plentiful compared to those in his piano works written around this time, show the composer's understanding of needing to cater for a smaller sized hand. This is nowhere more obvious than in bar 10, in which the fingering is based on triadic hand positions:



Example 5. Trio for piano, violin and violoncello, WoO 39, bar 10 (piano part only)

Many of Beethoven's fingerings in this work are testimony to his thinking in hand positions, whether they form part of a scale passage or chord pattern. But there is also evidence of using fingering as a tool for achieving articulation as clearly as possible, both as part of a melodic line and as an accompaniment figuration. During the opening four-bar phrase of the trio movement, Beethoven is musically consistent in

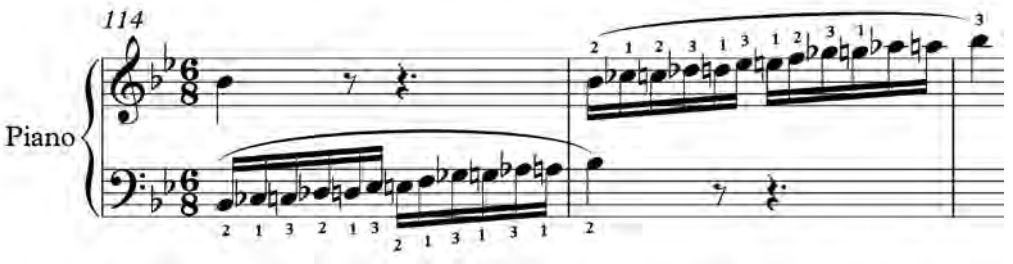
his request for when (and when not) to change fingers on a repeated note, thereby instructing the player both through musical notation and fingering how to differentiate the rhythmic patterns of the melody in bars 1 and 2:



Example 6. Trio for piano, violin and violoncello, WoO 39, bars 1–4 (piano part, right hand only)

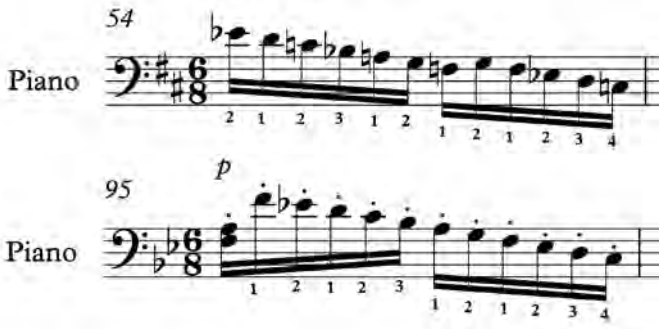
The deliberate repetition of the same finger on the first note of bars 1, 2 and 4 in the musical example above places additional emphasis on the first note of the bar and thus aids the rhythmic precision in performance. Beethoven's fingering therefore appears to be a lesson in interpretive detail.

The composer's fingerings also evidence some (at least within this piece) consistent approaches to the playing of scales, which can be seen in his approach to B-flat major (see Example 8), and the chromatic scale (see Example 7). In terms of chromatic patterns, Beethoven adopts a finger sequence in either hand that, were the player to put hands together, would promote corresponding finger numbers in both hands for eight out of twelve notes. This is in contrast to fingerings more commonly used today, which are based on five or six corresponding finger numbers when hands are played together:



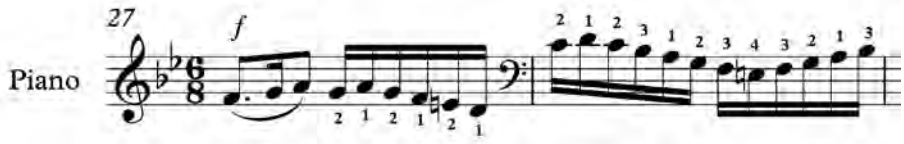
Example 7. Trio for piano, violin and violoncello, WoO 39, bars 114–115

At first sight, Beethoven's left hand fingerings for a B-flat major scale pattern are not what one might expect to see, yet he is consistent in his repeated, agile use of the first and second fingers:



Example 8. Trio for piano, violin and violoncello, WoO 39, bars 54 and 95 (in both cases, the left hand)

The repeated use of the first and second fingers also occurs in the left hand of bars 27–28, in which a sequence of nine notes is played by only two (!) fingers:



Example 9. Trio for piano, violin and violoncello, WoO 39, bars 27–28 (left hand)

To conclude that the repeated patterned use of the first and second fingers in scale passages is a feature of Beethoven's pianism may be overestimating the importance of the musical examples above. It is the underlying concept of using, by today's standards, unconventional means to achieve a certain sound, or articulation, that can be found in Beethoven's fingerings more widely.

Whether derived from the composer's detailed knowledge of C. P. E. Bach's fingerings (for further details, see Reutter 2020: XI–XIV), or a fingering aimed at developing the piano playing of Maximiliane von Brentano, remains a matter of speculation. What is clear is that the difference between intentionally unconventional and odd fingering can sometimes be a fine dividing line.

There are a number of occasions when the composer's fingering seems to be idiosyncratic or, as Ladenburger called it, extravagant (Ladenburger 2003: 112–113). The left hand of bar 51 is one such case. Admittedly, Beethoven's fingering is playable, but there are several alternatives that are more comfortable to play and would require less preparation:

Example 10. Trio for piano, violin and violoncello, WoO 39, bar 51 (left hand)

What this passage illustrates more than anything else is that Beethoven's fingerings, if they are what Newman calls "non-interpretive" (Newman 1982: 177), as the above example is, should be changed, if there are good reasons for doing so.

As a pianist-composer, Beethoven's connecting of compositional output and experimenting with piano technical patterns was understandably interwoven, if not always immediate. A comparison between an entry found in the *Autograph Miscellany…* (*The Kafka Sketchbook*; British Library, f. 39v, 15, edited by Joseph Kerman) from around 1793 and bar 118 of the Piano Trio Movement, WoO 39, shows the subtle amending of a fingering pattern first sketched 19 years earlier:

("the last time, very quietly")

Example 11. The Kafka Sketchbook (f. 39v, 15)

Example 12. Trio for piano, violin and violoncello, WoO 39, bar 118 (right hand)

Case Study 2: Fantasy op. 77

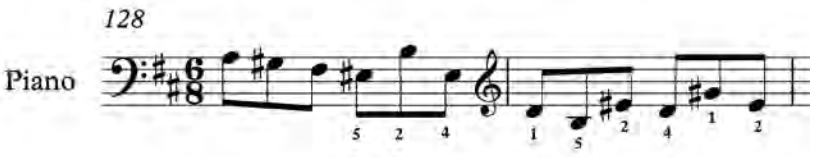
Beethoven's skills as an improviser at the keyboard are widely documented in accounts by those who witnessed the composer's improvisations, both in public and in private.

Although Beethoven took part in two chamber concerts in 1812 and 1814, it seems that his final performance as a piano soloist was in December 1808. This withdrawing from public performance, and with it his much-acclaimed improvising for audiences, might go towards explaining the writing down of an improvisation the following year (1809) as the Fantasy op. 77, a work that occupies a unique position in Beethoven's output.

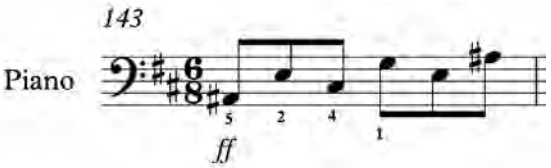
Much as the idea of an improvisation written down by its creator seems a contradiction in terms, Beethoven must have been serious about wanting this work to be known, and to be studied. The (surprisingly) tidy manuscript of the work contains only a small number of crossed-out bars and subsequently added material, thereby suggesting that the piece may in fact be a hybrid between originally improvised and subsequently (re)composed ideas.

There are three entries with Beethoven's fingerings in the score:[2]

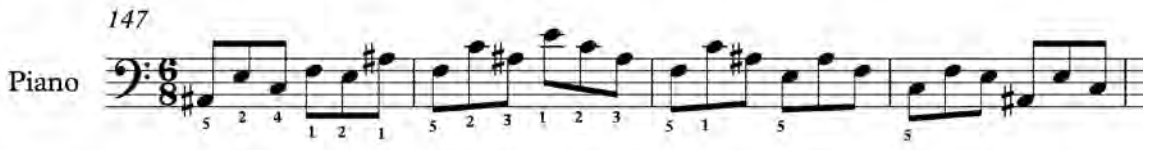
[2] Beethoven, Ludwig van (1975). "Fantasie op. 77." In: *Ludwig van Beethoven. Klavierstücke. Urtext* [sheet music]. Edited by Otto von Irmer. München: G. Henle Verlag, pp. 168–179.



Example 13. Fantasy op. 77, bars 128–129 (left hand)



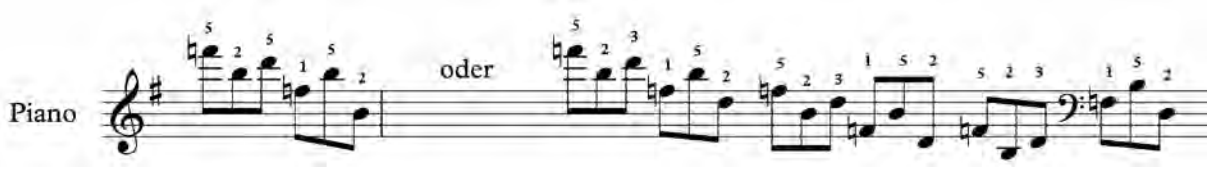
Example 14. Fantasy op. 77, bar 143 (left hand)



Example 15. Fantasy op. 77, bars 147–150 (left hand)

The placing of the fingerings is of interest. It is arguably the first time in the piece that the sequential writing would allow for different viable fingering solutions. Rather than providing prescriptive instructions, Beethoven's fingering advocates the application of logical finger patterns based on a minimal number of hand positions. The last two notes in bar 147 suggest a subtle extension to the preceding hand position by extending the thumb, thus creating the physical space for the next hand position, across the bar line.

Beethoven's schematised fingerings that employ patterns of hand positions are not only part of his published compositions but also feature in many different sketches. Two such entries, believed to date from the year before he wrote the Fantasy op. 77, evidence this clearly:

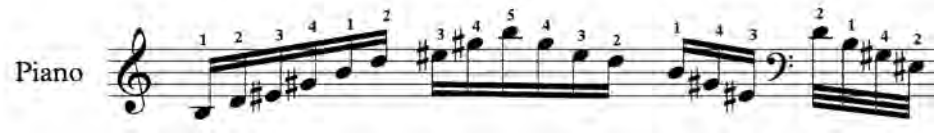


Example 16. Sketch. Grasnick 32[3]

Example 17. Sketch. Grasnick 32

While the fingering can be revealing in itself in terms of a logical application, some of Beethoven's sketches also contain comments by the composer (see Example 11) in which he identifies the reason for his sketch, be it dynamics, articulation or fingering. In the following sketch, also referenced by Grundmann and Mies above, Beethoven's comment identifies his fondness for patterns in fingerings: "broad sweeping or extended passages [to be played] as much as possible with the same fingering" (Grundmann, Mies 1966: 117).[4]

[3] Friedrich August Grasnick (1798–1877) catalogised the sketches by Beethoven. The catalogue entry for the sketches cited here (Grasnick 32) can be found at the Staatsbibliothek in Berlin (Bartlitz 1970: 111): https://digital.staatsbibliothek-berlin.de/werkansicht?PPN=PPN1014109051&PHYSID=PHYS_0127&DMDID=DMDLOG_0016 (accessed October 7, 2020).



N b: bei großen weitausgehenden oder gedehnten Passagen so viel als möglich einerley Fingersatz

Example 18. Sketch. Beethovenhaus, Bonn: Beethoven n.d. (BH 124)

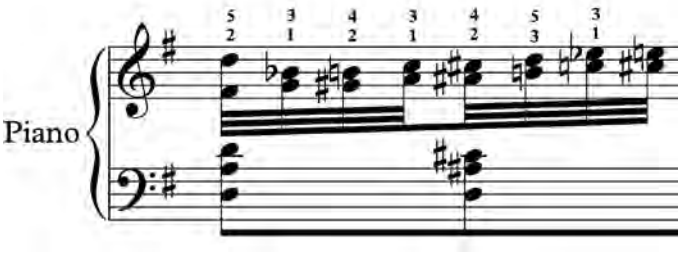
[4] The autograph for BH 124 can be accessed at the Beethovenhaus in Bonn under https://www.beethoven.de/en/media/view/5777305557270528/Ludwig+van+Beethoven%2C+Finger%C3%BCbung+mit+Fingers%C3%A4tzen%2C+Autograph?fromArchive=5736895317278720

Case Study 3: Archduke Rudolph. Forty Variations on a Theme by Beethoven

The name of Archduke Rudolph is closely linked to Beethoven, whether as patron of his music or as dedicatee of some of Beethoven's most important works, including the Piano Trio op. 97, the Piano Concerto op. 73 and the Piano Sonatas opp. 81a, 106 and 111.

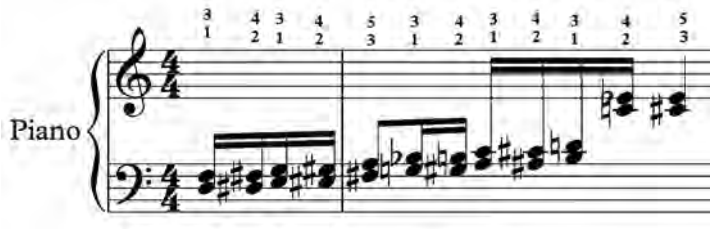
The Archduke was also Beethoven's longest-standing pupil, though not as a pianist but as a composer. As the letters between both men indicate, Beethoven was involved in the Archduke's revisions of his set of variations and championed the publication of the work (Beethoven 1996b: 312–313), which appeared in two versions within a short period of time. First published as a complete set in 1819, it appeared subsequently in an abridged format of twenty-five variations as part of the third volume of Friedrich Starke's *Wiener Pianoforte-Schule* (1819–

1821). It was for the latter publication that Beethoven provided some fingerings, making it arguably the only work by another composer published with Beethoven's fingerings and, by implication, public endorsement. The number of Beethoven's entries is relatively modest, and, of the fingerings given, the following two examples stand out:



Example 19. Variation 23, bar 4. *Wiener Pianoforte-Schule*, vol. 3 (Starke 1821: 90)

Beethoven's rapid transition of the third finger from B natural to E flat is a considerable distance to travel and does have implications for the achievable tempo, whether played *legato* or *non legato*. Even within the same publication, the *Wiener Pianoforte-Schule*, Ignaz Moscheles provides a fingering for chromatic thirds that is less complicated than Beethoven's:



Example 20. Wiener Pianoforte-Schule, vol. 1 (Starke 1819: 12)

Although Beethoven's fingering is playable, it is a personal solution to a problem that most pianists of today would solve differently, given the changes in key width, depth and weight in piano manufacturing since the early 1800s.

Conclusion

The purpose of this article is to continue the discussion surrounding Beethoven's keyboard fingerings by offering a brief overview of selected academic research carried out to date and by focusing the angle of the enquiry on specific works rather than attempt to offer a summary perspective of the topic as a whole.

The reason for doing so is that fingering is a manifestation of a practical action that is not only personal to each performer but also reflects the skills and experiences of the player in question. As such, it is reasonable to assume that the fingerings of the thirteen-year-old Beethoven in the three Sonatas WoO 47 are indicative of his skills at that point, which were naturally quite different to those he possessed thirty years later. For that reason, the case studies chosen for this article come from a period of one decade, 1809–1819, at the beginning of which Beethoven had only recently "retired" from regular public solo performance. He had by then amassed considerable experience as a performer as well as some as a teacher and observer of the growing market for piano pedagogical publications.[5]

[5] For example, in 1826 Beethoven recommended Muzio Clementi's *Introduction à l'art de toucher le piano-forte op. 42* to Stephan von Breuning's son Gerhard, suggesting its use would lead to "good success" (quoted in Beethoven 1996c: 281).

The latter is highly relevant to this topic: the writing of fingerings for students is an entirely different process to that of writing fingerings for one's own use, as it requires the ability to imagine oneself in the position of someone less experienced and choose fingerings accordingly. Furthermore, the choice of fingerings can also be influenced by the purpose of providing them: to develop a less experienced player's skills, or to offer something that is comfortable and thus useful in performance. Just how central the use of "appropriate fingering" was to Beethoven can be seen in his letter to Carl Czerny about teaching Beethoven's nephew, Carl, in which Beethoven sets out a hierarchy of musical relevance he himself appears to have adopted:

> "With regard to his playing for you, I am asking you – once he uses the appropriate fingering, plays in time as well as the notes largely without mistakes – only then to encourage him with regard to performance, and at this point to not make him stop because of smaller mistakes but to comment on them at the end of the piece. Although I have taught little, I have always followed this method, because it soon educates musicians […]." (Quoted in Beethoven 1996c: 236–238; translated by Nils Franke)

The examples from the three case studies in this article reveal a number of priorities in Beethoven's approach to fingering. By placing logic in finger patterns over ease in performance, Beethoven undoubtedly facilitates the process of memorisation, which to performers in his time was less relevant than it is today. His working in hand positions, too, is an indication of the interconnection between pianist-composers' practical skills at the keyboard and their compositional imagination, as the piano technical commentaries in his sketchbooks illustrate. Without doubt, fingering to Beethoven is a tool for enhancing musical outcomes and for emphasising articulation. Whether or not we choose to use Beethoven's fingerings today is therefore an entirely different matter to the need to understand some of their underlying principles. In that sense, Beethoven's keyboard fingerings remain a musically pertinent master class, delivered through time.

REFERENCES

Barlitz, Eveline (ed.) (1970). *Die Beethoven-Sammlung in der Musikabteilung der Deutschen Staatsbibliothek. Verzeichnis. Autographe, Abschriften, Dokumente, Briefe*, Mus. Db 413/42. See also: https://digital.staatsbibliothek-berlin.de/werkansicht?PPN=PPN1014109051&PHYSID=PHYS_0127&DMDID=DMDLOG_0016 (accessed October 7, 2020)

Beethoven, Ludwig van (n.d.). *Fingerübung mit Fingersätzen, Autograph. Beethovenhaus, Bonn, BH124*. See also: https://www.beethoven.de/en/media/view/5777305557270528/Ludwig+van+Beethoven%2C+Finger%C3%BCbung+mit+Fingers%C3%A4tzen%2C+Autograph?fromArchive=5736895317278720 (accessed October 7, 2020)

Beethoven, Ludwig van (1968). "Klaviertrio WoO39." In: *Ludwig van Beethoven. Klaviertrios. Urtext* [sheet music]. Vol. 3. Edited by Friedhelm Klugmann. München: G. Henle Verlag, pp. 75–82

Beethoven, Ludwig van (1975). "Fantasie op. 77." In: *Ludwig van Beethoven. Klavierstücke. Urtext* [sheet music]. Edited by Otto von Irmer. München: G. Henle Verlag, pp. 168–179

Beethoven, Ludwig van (1996a). *Briefwechsel. Gesamtausgabe*. Edited by Sieghard Brandenburg. Vol. 3. München: G. Henle Verlag

Beethoven, Ludwig van (1996b). *Briefwechsel. Gesamtausgabe*. Edited by Sieghard Brandenburg. Vol. 4. München: G. Henle Verlag

Beethoven, Ludwig van (1996c). *Briefwechsel. Gesamtausgabe*. Edited by Sieghard Brandenburg. Vol. 6. München: G. Henle Verlag

Beethoven, Ludwig van (2020). *Drei Klaviersonaten WoO47* [sheet music]. Edited by Jochen Reutter. Notes on interpretation by Nils Franke. Wien: Wiener Urtext Edition

Beethoven, Ludwig van (in press). *Drei Sonatinen* [sheet music]. Edited by Jochen Reutter. Notes on interpretation by Nils Franke. Wien: Wiener Urtext Edition

Derry, Siân R. (2012). *Beethoven's Experimental Figurations and Exercises for Piano*. A thesis submitted to the University of Manchester for the degree of Doctor of Philosophy in the Faculty of Humanities. Manchester: University of Manchester. https://www.research.manchester.ac.uk/portal/en/theses/beethovens-experimental-figurations-and-exercises-for-piano(8d5303ce-cf0a-47f8-adde-79b0e7100e97).html https://www.research.manchester.ac.uk/portal/en/theses/beethovens-experimental-figurations-and-exercises-for-piano(8d5303ce-cf0a-47f8-adde-79b0e7100e97).html (accessed September 30, 2020)

Erzherzog Rudolph (1819). *Aufgabe von Ludwig van Beethoven gedichtet, vierzig Mahl verändert und ihrem Verfasser gewidmet von seinem Schüler R: E: H* [sheet music]. Wien: S. A. Steiner und Comp.

Grundmann, Herbert, and Paul Mies (1966). "Beethovens Fingersätze." In: Herbert Grundmann and Paul Mies. *Studien zum Klavierspiel Beethovens und seiner Zeitgenossen*. Bonn: H. Bouvier & Co Verlag, pp. 113–132

Kerman, Joseph (ed.) (1970). *Ludwig van Beethoven: Autography Miscellany from Circa 1786 to 1799*. 2 vols. London: British Library

Ladenburger, Michael (2003). "Der junge Beethoven – Komponist und Pianist." In: *Bonner Beethoven Studies*. Edited by Sieghart Brandenburg and Ernst Hettrich. Bonn: Beethoven-Haus Verlag, pp. 107–117

Newman, William S. (1982). "Beethoven's Fingerings as Interpretive Clues." *The Journal of Musicology*, Vol. 1, No. 2, pp. 171–197

Reutter, Jochen (2020). "Preface." In: *Ludwig van Beethoven. Drei Klaviersonaten WoO47* [sheet music]. Edited by Jochen Reutter. Notes on interpretation by Nils Franke. Wien: Wiener Urtext Edition, pp. IX–XIV

Reutter, Jochen (in press). "Preface." In: *Ludwig van Beethoven. Drei Sonatinen* [sheet music]. Edited by Jochen Reutter. Notes on interpretation by Nils Franke. Wien: Wiener Urtext Edition, p. III

Schmidt-Görg, Joseph (1935). *Katalog der Handschriften des Beethovenhauses und Beethovenarchivs*. Bonn: Beethoven-Haus und Beethoven-Archiv

Starke, Friedrich (1819–1821). *Wiener Pianoforte-Schule op. 108* [sheet music]. Vol. 1–3. Wien: S. A. Steiner & Co.