



Contemporary Piano Music

PERFORMANCE AND CREATIVITY

Edited by

Madalena Soveral

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Contemporary Piano Music:

Performance and Creativity

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PIANO FINGERING STRATEGIES AS EXPRESSIVE AND ANALYTICAL TOOLS FOR THE PERFORMER

ANA TELLES

Abstract

The process of fingering a piece, for a pianist, is a highly personal one. It depends on a number of factors: the configuration of the keyboard, the physiology of the pianist's hands, the specific demands of the work in question. It serves several purposes, of which dexterity and expressiveness have often been acknowledged in literature.

In this presentation, I claim that the fingering process bears an important cognitive role and may prove to be a valuable analytical resource for the interpreter, as it promotes the understanding of musical processes at work, both before and during the performance, specifically in the contemporary repertoire. Complementarily, I advocate that a more comprehensive and all-encompassing approach to fingering, freed from the constraints of standard practices, may significantly contribute to the realization of the full expressive potential of a number of works. Examples will be drawn from specific composers, such as João Pedro Oliveira, Christopher Bochmann, Jean-Sébastien Béreau, Paul Méfano, João Madureira and Emmanuel Nunes.

Introduction

The fingering of a musical work has often been claimed to be a major concern for pianists and even composers, as it may, and indeed does, determine important technical and expressive elements of a performance. Frédéric Chopin claimed that there are “As many different sounds as there are fingers – everything is a matter of knowing good fingering.” (Eigeldinger 1993, 40). American pianist and composer Ernest Schelling (1999, 274), for instance, states that “[...] one of the most essential considerations in the study of a new piece is the study of the fingering. A detailed study of this should be made”. Indeed, according to Luca Chiantore (2019, 57), “Any single passage can be interpreted in different ways according to one or other fingering system, and

this was clear right from the earliest times.” As Richard Parncutt and other authors (Parncutt, Sloboda, et al. 1997, 342-343) put it,

Fingering strategies have always been of intense interest to keyboard players, because fingering can significantly affect the technical and expressive qualities of a performance. There is rarely one “best” fingering in any situation, some fingerings assisting precision and speed, others phrasing and dynamic articulation, and yet others memorization; master pianists tend to emphasize the role of musical interpretation in their choice of fingerings (Bamberger 1976; Clarke, Parncutt, Raekallio, & Sloboda 1997; Neuhaus 1971). According to pianists’ own accounts, it is not usual to decide on a fingering on purely technical or ergonomical grounds and then, when the notes are under the fingers, to work on musical interpretation; instead, a final fingering is typically decided on only after considerable interpretive groundwork has already been completed.

In another important study based on an interview conducted with seven pianists about their views on fingering, Clarke and others (Clarke, et al. 1997, 87) summarise that “while interpretation is universally regarded as the primary determinant of finger choice, attitudes range from a refusal to contemplate a fingering until musical matters have been resolved to the belief that a single best fingering can be found onto which interpretative choices are mapped [...]”.

Heinrich Neuhaus exemplifies the latter attitude, in insisting on the importance of choosing, *a priori*, an “aesthetically correct fingering”¹ (Neuhaus 1971, 141-142), determined by “the spirit, the character and the pianistic style of the author”.² A rather similar view is stated by Alfred Brendel, cited by Elyse Mach (Mach 1991, 27), for whom “[...] the music dictates the terms. It tells you what to do with fingering, pedalling, and hand movements.” Alicia de Larrocha, equally cited by Mach (1991, 59), argues in the same sense, when she affirms: “[...] I’m not the kind of person who likes to sit down to a score and play it from beginning to end. I study the music carefully first to form an idea of what it is all about. Then I seek

¹ « L’essentiel est d’établir d’abord le principe directeur d’un doigté esthétiquement correct. Tout le reste en découle naturellement. [...] le meilleur doigté est celui qui permet d’interpréter le plus exactement une musique donnée et correspond le plus exactement à son sens. [...] le principe de la commodité physique de la main est un principe secondaire soumis au premier. » (p. 141)

² « [...] on peut retenir comme deuxième exigence la souplesse, la mutabilité du doigté déterminé par l’esprit, le caractère et le style pianistique de l’auteur. » (p. 142)

passages or sections which offer the most difficulty, especially in regard to fingering. For me, the fingering is very important. [...] fingering is the base of security.” Yves Nat, quoted by Lucette Descaves (1990, 33), relates fingering to the pianist’s conception of the musical work in question, and states that good fingering corresponds to judicious thinking and correct interpretation.³

The importance of fingering for expressive purposes, even in cases where a meaningful choice of fingering may not be the most comfortable or conventional one, has been further emphasized by several authors. Grigory Kogan, quoted by Karafin (2006, 96), explains:

In the case of fingering, a lot depends on the structure of the hand and other individual features of a performer. [...] there are also artistic requirements, to which the final word – including the clash of one with another – always belongs. [...] Uncomfortable could be preferable to comfortable if it more clearly expresses and better conveys the intentions of the composer or the performer to the audience”.⁴ [...] The character, and the intended sonority might dictate and justify some quite unexpected fingering, contradicting any “rules”, as, for example, playing with one finger: [...]

Ernest Schelling (1999, 275), in turn, states: “I oftentimes find it expedient to adapt a more difficult fingering of some given passage for the reason that the difficult fingering frequently leads to a better interpretation of the composer’s meaning.”

Composers’ attitudes towards piano fingerings of their own works are quite disparate. Beethoven (Rosen 2002, 13), Chopin (Eigeldinger 1993, 40),⁵ Liszt (Walker 1988, 297), Ravel (Descaves 1990, 32), Rachmaninov (Neuhaus 1971, 143) and Messiaen (Lechner-Reydellet 2008, 98)⁶ carefully indicated their own choice of fingerings for specific passages, thus providing important insight into their own interpretive and pianistic style. On the other hand, Debussy (1994, XVIII) encouraged pianists to seek their own fingerings, in the “Few words...” that precede the edition of his twelve etudes, acknowledging that “A predefined fingering cannot, obviously, suit all the many different types of hands.”

³ « Dis-moi quelle est ta conception de l’œuvre, je te dirai quel est ton doigté. » ; « Pianistiquement, les mains son seules au bout de notre être; bien doigter, c’est bien penser et bien exécuter ensuite. »

⁴ Grigory Kogan, *By the Gate of Mastery* (Moscow: Sovetskiy Compositor, 1961).

⁵ See also Rosen 2002, 13.

⁶ See also Loriod-Messiaen 1996, 76.

What is then a “good” or “optimal” fingering? According to Parncutt and Troup (2002, 297)

Optimal fingering emerges from a trade-off or compromise among various physical, anatomic, motor, and cognitive constraints, in conjunction with interpretive considerations. It depends on the relative importance of these different aspects for a given pianist or musical context. The complex interaction among these various constraints and their dependence on pianist and style mean that one can rarely speak of a single best fingering for a given passage.

Corresponding to such an individual quest, fingering has been a key issue in piano pedagogy, although some authors express difficulty in addressing it; Lucette Descaves states, in her important pedagogical work *Un nouvel art du piano* (Descaves 1990, 31), that “to talk about fingering is a very delicate issue, considering how much of it is an individual matter”.⁷ Still, Parncutt and Troup (2002, 343) insist that “A significant component in piano instruction and pedagogy is concerned with assisting the learner to choose fingerings that will best achieve an intended performance.” Indeed, apart from the work developed by piano teachers around fingering strategies in the context of practical piano instruction, some key pedagogical publications address this issue (Haydon 2011; Robert 1981).

The principles on which those reference works operate apply mainly to the 18th and 19th century repertoire, though, with practically no regard for newer musical styles, languages and pianistic idioms; they oftentimes disregard what we should call unconventional fingering approaches, proposed notably by Romantic composers such as Frédéric Chopin and Franz Liszt; celebrated pedagogues Alberto Jonas, Alfred Cortot and Grigory Kogan, as well as a significant number of 20th and 21st century composers.

Standard and unconventional fingering approaches

What characterizes those unconventional fingering approaches nowadays? We should bear in mind that what may have been common practice at a certain time in history, as related to a specific musical style and language,

⁷ « Parler du doigté est chose très délicate tant il s’agit ici d’un problème individuel. »

may be considered unconventional under different circumstances. For the purpose of this discussion, I consider “unconventional” certain fingering practices that contradict a standard tendency established since at least the mid-18th century, which is still taught nowadays and referred to by a number of authors as “conventional”, “traditional” or “normal”. Mark Lindley (2020) summarizes:

Since methods of fingering are, of course, closely allied to differing styles of keyboard compositions, it is only natural that more complex figurations of 19th-century piano music should have been accompanied by a more resourceful approach to problems of fingering. Yet the rules established during the latter part of the 18th century remained a firm basis for all subsequent developments.

That approach is very much based upon scale and chord patterns derived solely from the tonal system, and relies on a limited number of set principles:

1. Each note is to be played by one finger, whose action upon the key will produce a specific sound.
2. In playing major and minor scales, neither the 1st nor the 5th finger are to play on black keys; according to the specific tonal patterns in study, combinations of 123 and 1234 are to be used.
3. In playing chromatic scales, a more detached, articulated fingering, based on the alternation of 12 or 13, and a more connected (potentially faster version), using combinations of 123 and 1234 sequences, coexist. Both follow the principle stated above, i.e., neither the 1st nor the 5th finger are to play on black keys.
4. In playing chords and arpeggios, standard fingerings are determined by the distance between two given notes. In a closed hand position, thirds are to be played with alternate fingers (1-3, 2-4, 3-5), fourths with combinations of 1-4 or 2-5, fifths and bigger intervals with 1-5. In stretched hand positions, reaching to an octave, thirds are played with adjacent fingers, fourths are played with alternate fingers, fifths and bigger intervals are played with 1-4, 2-5, 1-5 fingers.
5. Trills are usually executed with any combination of fingers 1, 2 and 3.
6. For double notes, different manuals and exercise collections suggest standard, typified solutions, according to the intervals being used. In general, such suggestions are based on the principle that the hand should be split into two halves: the lower, corresponding to fingers 1, 2 and occasionally 3; the upper, comprising fingers 4, 5 and occasionally 3.

7. Octaves are generally fingered 1-5 and 1-4, the rule being the use of 5 on white keys and of 4 on black keys.
8. As far as repeated notes are concerned, the general principle is that of finger succession (321321321 or 432143214321) or alternation (in this case, 212121 and 313131 being the most common).

Let us now focus on what may be considered the most common fundamental departures from these principles, the so-called “unconventional” fingering strategies. Most of them, as we shall see, concern the use of the thumb.

It is useful, in the first place, to recall the definition of the “three-fingered” and “five-fingered” approaches, as suggested by Kogan, quoted by Karafin (2006, 92): “In general, there are two types of fingering: “three-fingered”, which derives from Czerny and his pupil Leschetizky and “five-fingered”, which comes from Liszt and his follower Busoni.” He goes on to explain:

At the time, the introduction of “three-fingered” fingering was a justified step and it played a helpful role in a pianist’s practice. In those times when *legato* playing with an almost motionless hand was common, this fingering freed pianists to a considerable degree, from some insoluble problems (“equalization” of the fourth finger with the other ones, and the crossing of thumb under pinky [sic]), which ruined many performing talents (it will be enough to mention just Schumann). In the following decades, however, major changes occurred in the methods of pianists: *legato* became less “connected” and more “illusory”, and *non legato* partially took its place. The hand gained freedom of movement; in particular, the use of the “assembled” throw of a hand toward the pinky [sic] by means of bigger or smaller turns of the wrist from a horizontal (pronated) position to a half-vertical (supinated) one began to be widely applied. [...] Not only does the “five-fingered” fingering not yield to the “three-fingered” one in comfort of execution, the former has a number of advantages compared to the latter, and most importantly, as practice has shown, ensures a huge gain in speed. This can be explained, first, by less common “position” changes and, therefore, fewer conscious “commands”, volitional impulses, and the lengthening of automated “chains”. [...] Using the thumb less frequently plays no small role [...].” (Kogan quoted by Karafin 2006, 95-96)

The thumb prompts hand position changes, being traditionally positioned in white keys only; that tendency may be traced back to the 16th century treatise *Libro llamado Arte de tañer Fantasia* (1565), by Thomas de Sancta Maria, and to the slightly later work *Facultad Organica* (1626), by Francisco Correa de Arauxo (Chiantore 2019, 47), having been firmly advocated by Carl Philipp Emmanuel Bach in his *Essay on the true art*

of playing the keyboard: “Hence, the first principal rule: Black keys are seldom taken by the little finger and only out of necessity by the thumb.” (Bach 1949, 45)

That basic assumption was challenged by Frédéric Chopin who, according to (Eigeldinger 1993, 40): “[...] unashamedly used the thumb on black keys, or passed it under the fifth finger [...]”. Furthermore,

Since Liszt’s time, the search for alternative scale fingerings has been a persistent one, albeit sporadic. Teachers and pianists as diverse and renowned as Francis Taylor (a student of Clara Schumann), Theodore Wiehmayer, Rudolf Ganz, Ernst Bacon, Powell Everhart, Stanley Fletcher and, most recently, Penelope Roskell have argued for and offered alternatives to the standard, conventional fingerings. (Verbalis 2012, 7)

As a consequence, the use of either the thumb or the fifth finger on black keys has been promoted since the mid-19th century, but common practice did not exactly follow that advice:

While earlier teachers had discouraged the use of 1 and 5 on black keys because of the excessive hand movement that this entailed, teachers of the later 19th century recommended that the technique should be employed quite freely. For this reason, Louis Plaidy in his *Technische Studien für das Pianofortespiel (1852)* invited advanced players to transpose the basic C major finger exercises into other keys, using the same fingering, ‘in order that the hand may become accustomed to an equal and certain touch in different positions’. J. Alsleben, writing in Mendel’s *Musikalisches Conversations-Lexikon (1873)*, even stated that the conventional C major fingering could be applied to all scales, including those starting on a black key, and argued that the passing of the thumb in such circumstances was merely a question of practice. These exceptional methods, however, have never superseded the fundamental techniques of fingering established by earlier masters. (Lindley 2020)

More recently, at the onset of the 20th century, Ferruccio Busoni, in the first part of his *Klavierübung in fünf Teilen (1918)*, proposes a number of exercises and musical works employing unconventional fingerings, such as 12345 successions in scales, implying the crossing of the thumb under the 5th finger (which also appears in arpeggio exercises) or not using the thumb at all, regardless of the configuration of the keyboard. Alberto Jonas (1922, 4), in the second volume of his *The Master School of Modern Piano Playing and Virtuosity*, suggests stepping temporarily away from “normal [scale] fingering”, as he suggests: “It is well to practise all the scales with the C

major fingering [...]”. He furthermore proposes different ways to practise scales, with three, four or five fingers in regular succession (123123123...; 123412341234....; 123451234512345...), either with or without the thumb, independently of the keyboard topography of black and white notes. (Jonas 1922, 22-25). However, these suggestions are meant as mere exercises: “With only three or four fingers. This not only promotes greater agility of the thumbs, but also lends a more effective smoothness to the scale, when performed with the normal fingering.” (Jonas 1922, 22) Likewise, Alfred Cortot (1928, 27) suggests practising three, four and five fingered scales, in all major and minor keys, starting with the thumb on every note of each scale. Yvonne Loriod-Messiaen used to encourage me to practice scales with regular, repeated fingerings, such as 12121212 or 13131313 in all major and minor keys, as well as in the chromatic scale, which she advised should be practised also with 123451234512345 fingering. (Lechner-Reydellet 2008, 99) Similar exercises, based on Messiaen’s modes of limited transposition, using both the thumb and the 5th finger on black keys, are suggested by Catherine Vickers (2007, 3-11).

In the more recent repertoire, though, the thumb assumes evermore diversified roles, and not merely subsidiary ones, being expected to play on the black keys in several different contexts. Lucette Descaves (1990, 32) points out its expressiveness: “As a rule, we forbid youngsters to play with the thumb on the black keys. But it sounds better and lends both authority and smoothness to an expressive attack, too.”⁸

The thumb and/or other fingers have been called to play two notes either in succession or simultaneously. We may trace that practice back to Chopin, since “He often used the same finger to play two adjoining notes consecutively (and this not only when sliding from a black key to a white key), without the slightest noticeable break in the continuity of line.” (Eigeldinger 1993, 40). Part I of Busoni’s *Klavierübung in fünf Teilen* (1918) comprises a section with exercises for sliding from black to white key in chromatic passages. Alfred Cortot (1928, 44), in turn, advised pianists to practice scales and arpeggios in seconds, using the thumb to play two adjacent notes simultaneously, but only in the key of C major. Yvonne Loriod-Messiaen (1996, 102) recalls how different 20th century composers – Maurice Ravel, Sergei Prokofiev, Béla Bartók and Olivier Messiaen – have used one finger to play two adjoining notes simultaneously; all of them have used the thumb

⁸ « En principe, on défend aux enfants de mettre le pouce sur les touches noires. On a raison. Mais il sonne mieux et donne de l’autorité, du moelleux aussi, pour une attaque expressive. »

as a pivot, mostly between white and black key combinations. Prokofiev, as we know, has used each finger to play two adjacent white keys, in rapid successions, in the third movement of his Piano Concerto n° 3 (cf. rehearsal numbers 138, 143, 145). In Christopher Bochmann's *Essay VIII* (cf. p. 6, 1st system), I have been prompted to use the thumb to play three adjacent white notes in a chord that included three other notes to be played on black keys (cf. example. 2-1).

Example 2-1. Bochmann, Christopher. 1991. *Essay VIII*⁹, p. 6, 1st system. Transcribed from the autograph manuscript.¹⁰ Used by permission.

Using only one (strong) finger, be it the thumb, the 2nd or the 3rd, to execute extremely loud isolated notes became a common practice in 20th and 21st centuries works by composers such as K. Stockhausen, B. A. Zimmerman, S. Bussotti, M. Kagel and H. Pousseur (Read 1993, 208), among others. Oftentimes, this practice has been combined with hand alternation, a feature extensively explored by Liszt and developed ever since, especially for repeated note or other rapid passages. (Kogan quoted by Karafin 2006, 99) An extensive example of this *martellato* technique may be found in Christopher Bochmann's *Essay VIII* (first section), which

⁹ My own interpretation of this piece is available at: <https://www.youtube.com/watch?v=QUa-904gPe4>

¹⁰ I wish to thank Tiago Quintas for producing all the musical examples in this article.

I have analysed in great detail (Telles 2020), and other works by the same author (Telles 2018, 69-71).

That technique has evolved, in certain cases, to using the fist in order to produce extremely loud, isolated sounds. Yvonne Loriod-Messiaen suggested I should use that resource in a number of specific passages from her late husband's works, such as *Oiseaux exotiques* and *Par lui tout a été fait* (6th piece from *Vingt regards sur l'Enfant Jésus*) or in works by others authors, such as Béla Bartók's suite *Out of Doors* (Yvonne Loriod-Messiaen, Personal communication to author, Paris, February 29, 2000); she furthermore referred to her own use of that technique in works by other composers, such as Debussy's *Préludes*, for instance. (Yvonne Loriod-Messiaen, Personal communication to author, Paris, November 12, 1999). Composers Christopher Bochmann (2018, 4) and Jean-Sébastien Béreau (2016, 14) have explicitly demanded the use of the fist in some of their piano works written for me, such as *Triste Triade* (p. 4, 4th system) and *Fragments de Mémoire* (bar 144), respectively.

A new approach to fingering strategies

The complexity that most recent or contemporary piano works display on different levels, such as: notation, pitch, rhythm, dynamics, timbre and sound production modes, extreme registers, extended techniques and other factors, from which a new virtuosity paradigm emerges (Caillet 2007, 62), as well as the relative unpreparedness that most pianists express as far as that repertoire is concerned, has placed an important strain on performers. Those who specialize in the aforementioned repertoire are therefore compelled to find effective learning and performing strategies, many of which concern unconventional fingerings. Indeed, there is evidence that “those performers with a deeper involvement in, and earlier exposure to, contemporary music considered themselves to have a less standard approach to fingering” (Clarke, et al. 1997, 87); the underlying search has been noted once again by Lucette Descaves (1990, 32), who tells us that “The pianistic progress obtained through works of technical transcendence by modern composers have stimulated a search for fingerings that one didn't employ for classical authors.”¹¹

¹¹. « Les progrès pianistiques obtenus par les œuvres de technique transcendante des compositeurs modernes ont amené à rechercher les doigtés que l'on n'employait pas pour les classiques. »

As we have seen above, unconventional approaches to fingering, particularly in the context of the recent repertoire, may enhance the expressive or sonic demands of particular works, as they do not apply exclusively to the search for the ergonomic ease of the performer. In a much broader sense, they may also contribute to meeting the significant cognitive challenges that this repertoire often encapsulates.

Based on my own experience as an active pianist very much engaged in the performance of the 20th and 21st century repertoire, I would argue that fingering strategies, specifically concerning recent or contemporary piano works (including unconventional approaches) may be used as important analytical tools which, for one thing, assist the pianist in understanding the particulars of the musical language and structure to be dealt with. As I noted above, this claim goes beyond the aforementioned notion that fingerings should reveal the composer's intentions, more than facilitate the ergonomic approach to a given work, insofar as those claims tend to focus on expressive elements, such as timbre, articulation and dynamics; instead, I would suggest that they can be useful in making evident not only those aspects, but also structural concerns and musical language elements such as melody, harmony and rhythm.

The theoretical foundation for this claim derives from two main sources. For one thing, I recall¹² that Yvonne Loriod-Messiaen, with whom I was fortunate to study privately in the years 1999 through 2001, used to insist on a very free and liberal approach to fingering, postulating that fingerings should always “proceed from logic”¹³ (Lechner-Reydellet 2008, 98). On the other hand, we must not overlook the concept of “technical phrasing” (Karafin 2006, 110), as opposed to “musical phrasing”, put forward by Ferruccio Busoni (1894, 64-65); according to this author, this kind of phrasing corresponds to:

[...] the grouping of the tones of a passage in conformity (a) with the musical motives, (b) with the position of the notes on the keyboard, or (c) with the change in the direction. This grouping, however, should be audible only to the player, and in public performances should properly form only a mental, not a physical, factor. (F. Busoni 1894, 64)

¹² In a testimony assembled by Catherine Lechner-Reydellet.

¹³ « [...] Yvonne Loriod préconisait un abord très libéral de la part de l'interprète qui, selon elle, devait inventer des doigtés en se servant de tous les moyens disponibles pour rendre le sens musical de l'œuvre. Elle insistait sur le fait que les doigtés découlent toujours de la logique. »

This grouping depends largely on fingering, as Georges Kochevitsky (1967, 48) explains:

Mental regrouping must be based on keyboard structure, fingering and design of musical line. Guides in making convenient groupings are:

1. Fragments within which the notes move in one direction.
2. Regularity of movement when uniform groups are repeated (repetition of similar movements).
3. Notes which can be grasped in one hand location.
4. Constructions in which the last note of a group comes on an accent.

The importance of grouping, particularly in the operations of musical memory, has also been acknowledged by John Sloboda (1985, 94), in his important work *The Musical Mind: The Cognitive Psychology of Music*.

On the other hand, insofar as those fingering strategies allow for the discharging of cognitive demands associated with the works in question regarding the realm of motor acquired reflexes – what Neuhaus (1971, 148) calls “muscular memory” –, they can indeed lighten the burden of information to be decoded during a performance, and thus foster performing efficacy. Alberto Jonas (1927, 164) affirms that: “Good fingering enables a pianist to rely on his fingers, on the accuracy of his unconscious movements.”

According to Parncutt *et al.* (1997, 342):

Bailey (1985) argued that the musical performer must “operate within a spatial framework and, at some level, represent the task as a spatial one. A question is now whether this representation is a low-level cognitive process or whether it is, or can be, a high-level process at which the conscious planning of performance takes place” (p. 256). In spite of insights of this kind, there still exists no systematic work that examines the transduction of cognitive representations into physical movements.

I intend to contribute, from a practical standpoint, to that very purpose, since piano fingerings constitute, in fact, a crucial link between the cognitive representations of a pianist’s own take on a given musical work at a certain moment and the ensemble of physical movements – or gestures – through which, as an interpreter, he or she brings the music to life. To achieve that goal, I have focused the next part of the present study on my own fingerings for different recent and contemporary works, by João Pedro Oliveira, Christopher Bochmann, Jean-Sébastien Béreau, Paul Méfano,

João Madureira and Emmanuel Nunes, which I have often played in public. I have tried to discern the main analytical roles or functions implicit in the fingering choices made, and how they depart from more common practice fingering strategies. From a methodological standpoint, I must mention that, in the discussion that follows, I considered the “distribution of hands” or, to be more precise, “the distribution of a passage between hands” as a particular type of fingering (Karafin 2006, 99).

The kind of analysis implicit in those choices can, to my understanding, be related to performance analysis, as defined by John Rink (Rink 2002, 39), since my endeavour focuses on music shape, as opposed to music structure, and is informed by a certain degree of intuition, which in turn is a result of acquired expertise; furthermore, analytically determined decisions made evident by the study of fingerings in the chosen body of works take into account a number of factors associated with style, genre, individual artistic profile and others, thus being ultimately flexible and non “systematically prioritized” (Rink 2002, 39).

As a result, I have isolated seven analytical parameters, which I shall discuss on the basis of the specific musical examples provided:

1. Motivic work;
2. Harmonic construction;
3. Identifying similar passages in different formal contexts;
4. Phrasing;
5. Identifying superimposed melodic lines;
6. Rhythm and repeated note patterns;
7. Dynamic layers equalization.

Of these, the use of fingerings to clarify motivic work has proved to be the most commonly developed parameter, with significant expression in the previously selected works of João Pedro Oliveira, Christopher Bochmann and Jean-Sébastien Béreau. In all cases, hand distribution assumes a prominent role. Harmonic construction is often inseparable from this motivic work, as we shall see in specific examples.

Example 2a) shows how the motif presented has been fingered, in both the right and the left hands, as a circular gesture with no thumb-crossing, despite the great amplitude of the hand movement required. As a consequence, hand coordination while realizing the canon at different distances, in both examples 2-2a and b, is simplified. The motivic development that occurs at the end of example 2-2b is made evident through the adoption of different hand positions from the starting ones.

Moderato

The musical score for Example 2-2a is in G major and 3/4 time. The tempo is marked 'Moderato'. The right hand part begins with a melodic line starting on G5, with fingerings 5, 3, 2, 1, 2, 3, 5, 3. The left hand part starts with a bass line on G2, with fingerings 1, 2, 3, 3, 2. The dynamics are marked *mp* and *f*.

Example 2-2a. Bochmann, Christopher. 2007. *Commentaries on Notations by Pierre Boulez*,¹⁴ VI, 1st system. Transcribed from the author's unpublished edition.

The musical score for Example 2-2b is in G major and 3/4 time. The dynamics are marked *p*. The right hand part features a melodic line with fingerings 5, 3, 2, 1, 2, 3, 5, 1, 2, 1, 7. The left hand part has a bass line with fingerings 1, 2, 3, 5, 3, 2, 1, 4, 5, 3, 1.

Example 2-2b. Bochmann, Christopher. 2007. *Commentaries on Notations by Pierre Boulez*, VI, 4th system. Transcribed from the author's unpublished edition. Used by permission.

We may recall Grigory Kogan's advice, cited by Karafin (2006, 276): "[...] it is best to use a similar fingering for similar passages." Indeed, figures 3 through 6 show how hand distribution and fingering choices may highlight the motivic construction behind a given figure.

¹⁴ My own interpretation of this piece is available at: <https://soundcloud.com/ana-telles-593420649/christopher-bochmann-commentaries-on-notations-by-pierre-boulez-part-i> and <https://soundcloud.com/ana-telles-593420649/christopher-bochmann-commentaries-on-notations-by-pierre-boulez-part-ii>.

In Example 2-3, that analytical function has been considered more important than technical considerations, such as hand crossing or jumping from one position to another in the left hand (see 2-5/2-5 fingering in m. 2).

Example 2-3. Oliveira, João Pedro. 2007. *Timshel*,¹⁵ bars 1-2. Transcribed from BabelScores.

Examples 2-4 and 2-5 further exemplify the use of similar fingerings and hand distribution for similar motives and passages.

Example 2-4. Oliveira, João Pedro. 2007. *Timshel*, bars 10-11. Transcribed from BabelScores.

¹⁵. A live recording of this piece, with the Ensemble *mpmp*, conducted by Jan Wierzba, and myself at the piano is available at: <https://www.youtube.com/watch?v=jBtro02wTa8>.

Example 2-5. Oliveira, João Pedro. 2007. *Timshel*, mm. 23-24. Transcribed from BabelScores.

In Example 2-6, the same principle is at work. However, the play of major and minor seconds could have been further highlighted by using 2-1 on the G sharp – A sequence assigned to the left hand at the end of the figure, as a parallel to the use of 2-1 for the minor second D flat – E on the right hand; the choice of 3-2 fingering is a result of the left hand and arm position in that very high register.

Example 2-6. Oliveira, João Pedro. 2007. *Timshel*, m. 215. Transcribed from BabelScores.

Example 2-7 further demonstrates how hand distribution and fingering choices may highlight the same basic motives as building principles for different figures throughout the work; one single page is shown, but several other examples could have been drawn from the same piece.

Musical score for piano (PNO) in 4/4 time, marked with a tempo of quarter note = 72. The score is in G major and consists of three systems. The first system shows a right-hand melody with a 9th interval and a left-hand accompaniment. The second system features a right-hand melody with a 9th interval and a left-hand accompaniment, with dynamics *p* and *ff*. The third system shows a right-hand melody with a 9th interval and a left-hand accompaniment, with dynamics *sf* and *f*. Red boxes highlight specific intervals in the right hand across all systems.

Example 2-7. Oliveira, João Pedro. 2005. *Abyssus ascendens ad aeternum splendorem*,¹⁶ page 1. Transcribed from the author's unpublished edition. Used by permission.

In example 2-8, major thirds are assigned to the left hand, no matter what register they occur in, while minor ninths are reserved for the right hand, which serves as a pivotal axis over which the left hand crosses to reach both the lowest and the highest register employed.

Musical score for piano (PNO) in 4/4 time, marked with a tempo of quarter note = 72. The score is in G major and consists of two systems. The first system shows a right-hand melody with a 9th interval and a left-hand accompaniment. The second system features a right-hand melody with a 9th interval and a left-hand accompaniment, with dynamics *mf* and *f*. Red boxes highlight specific intervals in the right hand across both systems.

Example 2-8. Oliveira, João Pedro. 2005. *Abyssus ascendens ad aeternum splendorem*, bars 221-223. Transcribed from the author's unpublished edition. Used by permission.

¹⁶ A recording of this work (Ana Telles, piano solo; Orquestra Filarmonia das Beiras, conducted by António Vassalo Lourenço; João Pedro Oliveira, electronics) is available at: <https://soundcloud.com/jppo/abyssus-ascendens-ad-aeternum-splendorem>.

Both examples 2-9 and 2-10 exemplify how the harmonic construction parameter may be linked to motivic work. In the former, hand distribution highlights not identical but similar motives, in their evolution throughout the selected bars. In violet squares (see Fig. 9), assigned to the left hand, the founding interval of each example represented evolves from a perfect 5th (7 semitones) to an augmented 5th (8 semitones) and to a minor 9th (13 semitones). In yellow, a motif derived from the notes F-A-C-E (a hypothetical chord superimposing major 3rd / minor 3rd / major 3rd) successively displays intervals of 5-8 / 4-7 / 1-4 and 1-7 semitones; in the third bar represented, this motive is exceptionally assigned to the left hand, given the interposition of a major 7th just before (in dark green). In the fourth bar, another foreign element, signalled in bright green, intervenes: its contour inexactly mirrors that of the preceding motif, 1-7 semitones followed by 7-2 semitones; as regards the configuration of the keyboard, the pattern results in an exact mirror of the preceding one, and has therefore been symmetrically fingered (1-2-5 on the right hand followed by 5-2-1 on the left). Last but not least, highlighted in red is the culminating pitch of the example, always the same throughout its four different versions; I assigned it to the left hand on the first occurrence, and to the right hand on all the other three, giving primacy to the hand crossing criteria which allows for the dynamic *crescendo* and sense of momentum that the notated *accelerando* indication requires.

The image displays two musical examples, 2-9 and 2-10, illustrating hand distribution and interval analysis in piano notation. Both examples are transcribed from Christopher Bochmann's 2007 work, *Letter IV - To Jean-Sébastien Bériau*, pages 1-2.

Example 2-9: This example consists of two systems of piano notation. The first system shows three bars of music. The first bar has a left hand (l.h.) playing a perfect fifth (F-A) and a right hand (r.h.) playing a perfect fifth (C-E). The second bar has the l.h. playing an augmented fifth (F-A#) and the r.h. playing a perfect fifth (C-E). The third bar has the l.h. playing a minor ninth (F-A) and the r.h. playing a perfect fifth (C-E). The second system shows two bars. The first bar has the l.h. playing a perfect fifth (F-A) and the r.h. playing a perfect fifth (C-E). The second bar has the l.h. playing a minor ninth (F-A) and the r.h. playing a perfect fifth (C-E). The culminating pitch (F) is highlighted in red in both systems.

Example 2-10: This example also consists of two systems of piano notation. The first system shows three bars of music. The first bar has the l.h. playing a perfect fifth (F-A) and the r.h. playing a perfect fifth (C-E). The second bar has the l.h. playing an augmented fifth (F-A#) and the r.h. playing a perfect fifth (C-E). The third bar has the l.h. playing a minor ninth (F-A) and the r.h. playing a perfect fifth (C-E). The second system shows two bars. The first bar has the l.h. playing a perfect fifth (F-A) and the r.h. playing a perfect fifth (C-E). The second bar has the l.h. playing a minor ninth (F-A) and the r.h. playing a perfect fifth (C-E). The culminating pitch (F) is highlighted in red in both systems.

Example 2-9. Bochmann, Christopher. 2007. *Letter IV - To Jean-Sébastien Bériau*, p. 1-2. Transcribed from the author's unpublished edition. Used by permission.

Example 2-10 shows a very similar procedure, but given the constancy of the pattern, the same hand distribution scheme is suitable for both occurrences, with the exception of the very last element in the second occurrence, where the successive right hand / left hand 2-4-/ 2-4 fingerings highlights the superposition of two perfect 4^{ths} (5 semitones) separated by a major 6th (9 semitones).

The image displays two systems of musical notation. The first system includes a Cello part (Cbasse) and a Piano part (Piano). The Cello part has a tempo marking 'Largamente' and a circled 'U' with 'T° Largamente'. The Piano part has a dynamic marking 'f' and a tempo marking 'larga'. The second system includes a Treble Clef part and a Bass Clef part. The Treble Clef part has a tempo marking 'ancora più largamente' and a dynamic marking 'ff'. The Bass Clef part has a dynamic marking 'ff' and a tempo marking 'meno lunga'. Various musical elements are highlighted with colored boxes: a blue box in the Piano part, a red box in the Treble Clef part, a yellow box in the Cello part, and a purple box in the Treble Clef part. Fingerings are indicated with numbers 1-5. A dashed line indicates a melodic line across the systems.

Example 2-10. Béreau, Jean-Sébastien. *UBUNTU - Chœur de Pierres*, p. 15, 1st-2nd systems. Transcribed from the autograph manuscript. Used by permission.

Similar fingering strategies are evident in examples 2-11 and 2-12.

The image displays a single system of musical notation for piano and cello. The piano part has a dynamic marking 'ff' and a tempo marking 'Veloce sempre'. The cello part has a dynamic marking 'mp' and a tempo marking 'Veloce come prima'. The score includes various musical notations such as slurs, accents, and fingerings. Two purple boxes highlight specific fingering patterns in the piano part. The tempo markings 'a T° Giusto' and 'Veloce come prima' are also present.

Examples 2-11. Béreau, Jean-Sébastien. *Fragments de Mémoire*,¹⁷ mm. 145-147. Transcribed from AVA Musical Editions.

¹⁷ My own recording of this piece, with Jaime Reis (electronics), is available at: <https://www.youtube.com/watch?v=S1dwOu3ArTk>.

The image shows two systems of musical notation for a piano piece. The first system features a treble clef staff with a melodic line and a bass clef staff with a rhythmic accompaniment. Annotations include 'più mosso' and 'un poco cresc' with a yellow box highlighting a specific interval. The second system includes markings for 'meno mosso', 'p subito', and 'sf'. It features several colored boxes (purple, blue, yellow, red, green) highlighting intervals and fingerings in both hands. Fingerings are indicated by numbers 1-5. A 'rapido' marking is present in the right hand.

Example 2-12. Béreau. Jean-Sébastien. *Fragments de Mémoire*, m. 153. Transcribed from AVA Musical Editions.

Example 2-13 shows pairs of related intervals or motives symmetrically distributed between hands and so fingered.

The image shows a single system of musical notation titled 'Solelle'. It features a bass clef staff with a melodic line and a treble clef staff with a rhythmic accompaniment. Annotations include 'f' and 'p'. The score is annotated with several colored boxes (purple, blue, green, yellow) highlighting intervals and fingerings in both hands. Fingerings are indicated by numbers 1-5. A yellow box highlights a specific interval in the right hand.

Example 2-13. Bochmann, Christopher. 2007. *Letter IV - To Jean-Sébastien Béreau*, pp. 5, 4th system. Transcribed from the author's unpublished edition. Used by permission.

Example 2-14 translates the same procedure to a more purely formal harmonic context.

The image shows a musical score for a piano piece. It consists of two staves: a treble clef staff for the right hand and a bass clef staff for the left hand. The key signature has two sharps (F# and C#). The score is divided into three measures. The first measure is marked 'poco a poco cresc' and features a rising line in the left hand. The second measure is marked 'Allargando' and 'molto', with 'l.h.' and 'r.h.' labels indicating hand positions. The third measure is marked 'ff' and '8va', indicating fortissimo and an octave shift. There are also 'Ped.' markings under the left hand staff.

Example 2-14. Béreau. Jean-Sébastien. *Fragments de Mémoire*, mm. 150-151. Transcribed from AVA Musical Editions.

Example 2-15 is most significant. In fact, fingering the left hand in a coherent, analytical manner was crucial in learning the complex contrapuntal workings at play, especially given the fact that different formal parts of the work employ similar, yet different passages in the left hand, coupled with diverse materials in the right hand, which proved to be a highly complex task as far as coordination is concerned. In the figure, rectangles in different colours highlight the main constitutive motives – an ascending succession of minor 3rd, minor 2nd and minor 3rd (3-1-3-semitones), perfect or diminished triads, and a descending succession of minor 3rd and perfect 5th (3-7 semitones) – with their respective note and fingering variations; on the other hand, oval shapes are intended to signal moments where the analytical concern overrode standard fingering principles, resulting in sequences like 3-1 in adjacent keys; 1-1 ascending, either from black to white adjacent key or from one white key to another distant one; 5-4 descending from white to black key; 5-5 descending from black to white key; 1-5 ascending from black to white adjacent key.

The image displays four systems of musical notation for a piano piece. Each system consists of a treble clef staff and a bass clef staff. The first system begins with a *ff* dynamic and includes fingerings 3, 1, 4, 5, 1, 4, 5, 1, 4, 5. A *mp* dynamic appears later. The second system starts with a *f* dynamic and includes fingerings 4, 3, 2, 5, 4, 3, 2, 1, 5, 3, 1, 2, 3, 5, 3, 2, 1, 4, 1, 2. A *p* dynamic is also present. The third system begins with a *f* dynamic and includes fingerings 5, 3, 1, 2, 4, 5, 3, 2, 1, 2, 3, 5, 5, 3, 2, 1, 1, 2, 5, 3, 1, 2, 4, 5. The fourth system starts with a *p* dynamic and includes fingerings 4, 3, 2, 1, 2, 5, 3, 1, 2, 5, 1, 2, 5, 3, 1, 2, 5. Dynamics *f* and *sf* are also indicated. The score is annotated with various colored boxes and ovals: a red box and a purple oval in the first system; purple ovals in the second system; purple ovals in the third system; and purple ovals in the fourth system. The text *p legato* is written in the first system, and *(sempre p e legato)* is written in the second system.

Example 2-15. Bochmann, Christopher. 2007. *Letter IV - To Jean-Sébastien Bériau*, pp. 4-5. Transcribed from the author's unpublished edition. Used by permission.

The exact same fingering patterns in examples 2-16a) and b) clarify the similitudes between both examples represented, which occur at slightly different moments of the piece.

Example 2-16a shows a piano piece with a treble and bass clef. The treble clef has a slur over four notes with fingerings 3 1, 5 1, 4 1, and 3 1. The bass clef has a slur over seven notes with fingerings 4, 5, 4, 5, 5, 3, and 5. A dynamic marking 'p' is present in the bass clef.

Example 2-16a. Bochmann, Christopher. 2007. *Letter IV - To Jean-Sébastien Béroau*, p. 3. Transcribed from the author's unpublished edition. Used by permission.

Example 2-16b shows a piano piece with a treble and bass clef. The treble clef has a slur over four notes with fingerings 3 1, 5 1, 4 1, and 3 1. The bass clef has a slur over seven notes with fingerings 3, 2 5, 3, 4, 2 5, 3, and 1 5. A dynamic marking 'p' is present in the bass clef.

Example 2-16b. Bochmann, Christopher. 2007. *Letter IV - To Jean-Sébastien Béroau*, p. 4. Transcribed from the author's unpublished edition. Used by permission.

Examples 2-17a) and b) are far more complex and show how similar analytical fingering patterns allow the identification of similar complex structures in the left hand in totally different formal parts of the overall structure, and how specific passages marked 1, 2 and 3 in red rectangles, in example 2-17b), derive from the corresponding ones presented in example 2-17a). In yellow oval shapes, we find fingering exceptions dictated either by the configuration of the passage as related to the keyboard's configuration – 2-17a) – or by motivic development – 2-17b).

The image displays four systems of musical notation for a piano piece. Each system consists of a treble clef staff and a bass clef staff. The music is written in a key signature of one sharp (F#) and a time signature of 4/4. Dynamics include *ff*, *mp*, *f*, *p*, and *sf*. Fingerings are indicated by numbers 1-5 above or below notes. Red boxes highlight specific passages in the bass clef of each system. A red number '1' is placed below the first system's bass clef. A red number '2' is placed below the second system's bass clef. A red number '3' is placed below the third system's bass clef. A yellow circle highlights a specific passage in the bass clef of the third system. A yellow circle highlights a specific passage in the bass clef of the fourth system.

System 1: Treble clef starts with *ff*. Bass clef starts with *mp*. A red box highlights a passage in the bass clef with the instruction *p legato*. A red number '1' is below the system.

System 2: Treble clef starts with *f*. Bass clef starts with *p*. A red box highlights a passage in the bass clef with the instruction *(sempre p e legato)*.

System 3: Treble clef starts with *f*. Bass clef starts with *p*. A red box highlights a passage in the bass clef. A yellow circle highlights a passage in the bass clef. A red number '2' is below the system.

System 4: Treble clef starts with *p*. Bass clef starts with *f*. A red box highlights a passage in the bass clef. A yellow circle highlights a passage in the bass clef. A red number '3' is below the system.

Example 2-17a. Bochmann, Christopher. 2007. *Letter IV - To Jean-Sébastien Béroau*, pp. 4-5. Transcribed from the author's unpublished edition. Used by permission.

Vivo

The musical score consists of two systems of piano and bass clef staves. The tempo is marked **Vivo**. The score includes various dynamic markings: *p* (piano), *f* (forte), and *mf* (mezzo-forte). Performance instructions include *p legato*. The score is annotated with red boxes and a yellow circle highlighting specific passages. The first system has a red box around the first two measures of the bass clef staff, with a red '1' and the instruction *p legato* below it. The second system has two red boxes around the first and last measures of the bass clef staff, with a red '2' between them. The third system has two red boxes around the first and last measures of the bass clef staff, with a red '3' between them. A yellow circle highlights a passage in the third system, specifically the last measure of the first red box and the first measure of the second red box. The score includes numerous fingering numbers (1-5) and slurs.

Example 2-17b. Bochmann, Christopher. 2007. *Letter IV - To Jean-Sébastien Bériau*, p. 6. Transcribed from the author's unpublished edition. Used by permission.

In examples 2-16a) and 2-16b), the continuity of the top fingers 3,4, 5 in the right hand was used to ensure the coherence of the phrasing, despite the fragmentary and harmonic intervallic nature of the writing. In the third bar of example 2-18, only three global hand positions for the right hand and two for the left hand ensure melodic continuity in an otherwise loose and unintelligible chord succession (all hand distribution indications correspond to my own additions to the score).

The image shows a musical score for Example 2-18, consisting of two staves: a piano (left) and a right hand (right). The score is divided into four measures. The first measure is in 3/4 time, with dynamics *mf* and *f*. The second measure is in 6/8 time, with dynamics *pp* and *mp*, and a *ritenir* marking. The third measure is in 4/4 time, with dynamics *pp* and *sec*, and a *pp* - (hésitant) marking. The fourth measure is in 6/8 time, with dynamics *pp*. Fingerings are indicated by numbers 1-5 above or below notes. Hand positions are indicated by *U.C.* (Upper Case) and *U.C.* (Lower Case) with arrows. A dashed line indicates a *senza* section in the third measure, with a *(poco)* marking below it.

Example 2-18. Méfano, Paul. 1994. *Mémoire de la porte blanche*, p. 2, 3rd system. Transcribed from Editions musicales européennes.

In bars 37 through 41 of example 2-19, the finger continuity exhibited by the left hand creates a consistency based on the melodic bass line, which highlights the sharp contrast between the mentioned passage and the circular, percussive, note-confined nature of the overall texture.

Example 2-19. Madureira, João. 2012. *Estudos literários: Retratos, A. H.*,¹⁸ mm. 36-50. Transcribed from the author's unpublished edition. Used by permission.

It would have been simple to play the first two notes, with their respective *appoggiaturas*, with only the right hand, at the beginning of example 2-20; I decided to split the *appoggiatura* and the main-note lines between hands, though, with symmetrical fingerings, so as to ensure a better phrasing of both.

un poco capriccioso

Example 2- 20. Béreau, Jean-Sébastien. *Fragments de Mémoire*, m. 197. Transcribed from AVA Musical Editions.

¹⁸. My own recording of this piece is available at: <https://soundcloud.com/ana-telles-593420649/estudos-literarios-retratos-a-h>.

Examples 2-21 and 2-22 show how fingering indications may render the counting of repeated notes an automated feature in different contexts.

Example 2-21. Oliveira, João Pedro. 2007. *Timshel*, mm. 111-112. Transcribed from BabelScores.

Example 2-22. Bochmann, Christopher. 2010. *Letter II - To Amílcar Vasques-Dias*, p. 4 (1st and 2nd systems). Transcribed from CIMP/PMIC.

In example 2-23, the five utterances of the minor 2nd A#-B in the middle register are always fingered 1-2 or 2-1, either in the right hand (once) or the left hand (in the other four cases). According to Grigory Kogan, quoted by Karafin (2006, 276): “The stronger fingers are naturally better adapted to the stronger accents.” The use of the strongest fingers of both hands, in this particular context, allows for the coherence of the dynamic accent required by the composer.

The image displays two systems of musical notation for a piano piece. The first system, starting at measure 159, consists of two staves: a left hand (l.h.) and a right hand (r.h.). The left hand has three notes circled in orange, each with a 'v' above it and a '1' below it. The right hand has a circled note in measure 161 with a 'v' above it. The second system, starting at measure 161, also has two staves. The left hand has a circled note in measure 161 with a 'v' above it and a '3' below it. The right hand has a circled note in measure 161 with a 'v' above it. The score includes various musical notations such as dynamics, articulation, and fingering.

Example 2-23. Bochmann, Christopher. 2010. *Music for Two Pianos II*,¹⁹ m. 159-162. Transcribed from CIMP/PMIC.

Similarly, the use of the 3rd finger in all three utterances of middle C# in example 2-24 (once in the right hand and twice in the left hand) enhances the distinctive dynamic *mf* marking associated with this specific note, which stands out from the general *mf-mp-p* progression.

¹⁹. A recording of this work (Ana Telles and Leonor Cardoso, pianos) is available at: <https://soundcloud.com/ana-telles-593420649/christopher-bochmann-music-for-two-pianos-ii>.

The image shows a musical score for a piano piece. It consists of two staves, treble and bass clef. The music is in 3/4 time. The score is divided into measures by bar lines. There are several dynamic markings: *mf*, *mp*, and *p*. There are also fingering numbers: 1, 2, 3, and 5. Three specific notes are circled in yellow ovals, each with a '3' above it, indicating a triplet or a specific fingering. The notes are on the treble staff in the first system, the second system, and the third system. The first system also has a circled note on the bass staff. The score is transcribed from an autograph manuscript.

Example 2-24. Bochmann, Christopher. 1991. *Essay VIII*, p. 16, 2nd system. Transcribed from the autograph manuscript. Used by permission.

In example 2-25, the dynamic differentiation is similarly emphasized by the fingering choices: the use of the fist, preconized by Yvonne Loriod-Messiaen, ensures the extreme dynamic terrace *fff* (marked in red oval shapes), whereas the 3rd (on the white key) or 2nd plus 3rd fingers (on the black key) are reserved to enact the *ff* dynamic marking (yellow oval shapes); quieter dynamics, namely *pp* and *p*, preceded by a longer preparation time than some of the previous cases, employ different fingerings, according more to the overall pitch contour than to the dynamic parameter.

The image shows a musical score for a piano piece, consisting of two systems of two staves each (treble and bass clef). The music is in 3/4 time. The score is divided into measures by bar lines. There are several dynamic markings: *fff*, *f*, *ff*, *pp*, *mp*, *p*, and *sfz*. There are also fingering numbers: 1, 2, 3, 4, and 5. Three specific notes are circled in red ovals, each with a '3' above it, indicating a triplet or a specific fingering. The notes are on the treble staff in the first system, the second system, and the third system. The first system also has a circled note on the bass staff. The score is transcribed from an autograph manuscript.

Example 2-25. Nunes, Emmanuel. 1971. *Litanies du feu et de la mer II*, p. 3, rehearsal number 14. Transcribed from Jobert.

To conclude, I find that analytical fingering procedures such as the ones described above have enhanced the pace at which I am able to learn new challenging contemporary works and significantly helped to build coherent performances, based on a clear understanding of what the underlying composition principles at work are. These procedures have greatly augmented the range of possible interpretative options available to me, and rendered my performing activity extremely rewarding, from a personal standpoint.

On the other hand, we must recognize that fingering strategies have been an essential component in the evolution of piano technique; even though what we may call “unconventional” fingering strategies have greatly varied through times, according to the development of musical styles and languages, as well as of the instrument itself, a basic standard approach was fixed in the second half of the 18th and beginning of the 19th centuries; this standard is still largely adopted and taught around the world, with a certain disregard to important innovations that date back to Chopin and Liszt, with most significant developments having occurred in the course of the 20th and 21st centuries.

In that sense, I advocate for a thoughtful, analytical approach to fingering, especially as far as recent repertoire works are concerned; indeed, I believe a bold and imaginative attitude towards fingering, using specific strategies, may significantly enhance formal and expressive comprehension and the sonic rendition of piano music.

Thus, I am tempted to conclude with the words of Lucette Descaves and Igor Stravinsky, as quoted by her (1990, 33):

Igor Strawinsky [sic] said that “We must not neglect the fingers; there are great inspirational forces which, in their contact with the sound matter, frequently awaken, in yourself, subconscious ideas that may otherwise not have been revealed.”

This word is to be retained. If Strawinsky [sic] recognizes in a simple digital automatic mechanism the power to awaken creative activity, we shall not be astonished, *a fortiori*, to realize that our fingers may sometimes, spontaneously and as if they did not belong to us, find the solution to all our problems.²⁰

²⁰ « Igor Strawinsky a dit: ‘Il ne faut pas mépriser les doigts ; ils sont de grands inspireurs et, au contact avec la matière sonore, éveillent souvent en vous des idées subconscientes qui, autrement, ne se seraient peut-être pas révélées.’

Cet hommage est à retenir. Si Strawinsky reconnaît à un simple automatisme digital la possibilité des activités créatrices, nous ne nous étonnerons pas, *a fortiori*, que nos

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doigts puissent parfois trouver spontanément, comme en dehors de nous, la solution de nos problèmes. »

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NOTES ON CONTRIBUTORS

Alexandre Zamith is a Professor / Researcher in the areas of musical performance (piano and chamber music) and Music Research Methodology and Coordinator of the Graduate Program at the Arts Institute of the State University of Campinas (UNICAMP). He is PhD in Music from the same institution. As a performer, he highlights the musical repertoire of the 20th and 21st centuries, as well as contemporary improvisation practices, both instrumental and combined with electronic and digital resources. His research and artistic practices have led him to several artistic works, with which he has performed in several artistic and scientific meetings, with emphasis on Performa (Lisbon / Portugal), the Composition in 21st Century Conference (Dublin / Ireland), the Sonorities Festival of Contemporary Music (Belfast / Northern Ireland), 10th São Paulo International Electroacoustic Music Biennial and IRCAM Forum / Brazil.

Alfonso Benetti is a pianist and fellow researcher at the University of Aveiro/INET-md. He is a member of the committee of the IMPAR platform, associate editor and founder of ÍMPAR - Online Journal for Artistic Research, and co-PI of the Xperimus Project/Ensemble – an artistic research group devoted to experimentation in music.

Anna Kijanowska has distinguished herself internationally as a recitalist, chamber musician and concerto soloist. .” Past and upcoming engagements include solo recitals at Carnegie and Merkin Halls in NYC, the National Gallery of Arts and the Kennedy Center in Washington DC, Harvard University in Boston, and in others institutions on Brazil, China and Tokyo. She holds a Doctorate and a Master of Music in Piano Performance from the Manhattan School of Music in New York, and an Aggregate Degree from the Music Academy in Gdańsk, Poland. She is Associate Professor at the University of Silesia in Poland and is a former faculty member of The College of William and Mary, University of Nevada and Virginia, University of Richmond, Virginia, USA and University of Warsaw, Poland.

Portuguese pianist **Ana Telles** has pursued musical studies in Lisbon, New York and Paris, with Yvonne Loriod-Messiaen, Sara Buechner and Nina Svetlanova. She graduated from the Lisbon School of Music (“Bacharelato”), Manhattan School of Music (Bachelor’s Degree in Piano Performance) and New York University (Master’s Degree in Piano Performance). She holds a doctoral degree in Music History and Musicology from the Paris IV University (Sorbonne) and the University of Évora (Portugal). She plays regularly in Europe, Brazil, and United States, as a soloist or as part of chamber music groups. Professor at the University of Évora’s Music Department, currently she is Director of the School of Arts of the same university. Member of CESEM, Ana has authored a significant number of book chapters, papers in peer-reviewed journals and musical publications, including a critical edition of Luís de Freitas Branco’s Piano Preludes (AvA Musical Editions). Her discography includes fifteen published CDs.

Carlos Villar-Taboada is a musicologist specialized, both a researcher and as an advisor, in music analysis of the Hispanic repertoire from the 19th century onwards. He obtained her Doctorate in Musicology at the University of Valladolid (UVA). University of Paris 8). He completed his academic training specialized courses in contemporary music and music analysis at the IRCAM and Université de Paris IV-Sorbonne, and at Columbia University. Since 2007, he has been working as a Senior Lecturer in Musicology for the Degree in Musicology and the Master in Hispanic Music at UVA). With M. Vega Rodríguez, he co-edited three volumes on the Aesthetics of contemporary music (*El tiempo en las músicas del siglo XX; Música, lenguaje y significado; Pensamiento español y música: siglos XIX y XX*, and with J. Martín Galán he also coordinated, *Los últimos diez años en la investigación musical*.

Helen Gallo has a postdoctoral degree in Music from the Universidade Estadual Paulista “Júlio de Mesquita Filho” (UNESP) and has a PhD, Master of Music and Bachelor of Piano from the same institution. She is the author of the book *Música de duas dimensões: correspondências entre os universos instrumental e eletroacústico* (Music of two dimensions: correspondences between the instrumental and the electroacoustic universes - 2015). Former Director of Training at the São Paulo Municipal Theatre Foundation, she is currently a member of the piano department’s faculty at the São Paulo Municipal School of Music.

Helena Marinho is an assistant professor at the Department of Communication and Art at the University of Aveiro, and an integrated researcher at the Institute of Ethnomusicology - Centre for Music and Dance Studies. Her research interests focus on the areas of performance research and Portuguese music of the 20th and 21st centuries. She has authored several book chapters and articles on these topics, and has also presented papers at national and international conferences. Alongside her academic activity, she has performed chamber music recitals and concerts in the major Portuguese halls and festivals, as well as in the United States, Brazil, and Europe. She belongs to the groups Borealis Ensemble (with António Carrilho), Performa Ensemble and Xperimus Ensemble. Her activity is divided between projects with the modern piano and pianoforte, having recorded CDs containing both the contemporary and classical repertoire on both instruments.

Helena Santana studied Musical Composition at the Porto School of Music and Performing Arts. In 1998 she obtained the degree of Docteur at the University of Paris-Sorbonne (Paris IV) defending the dissertation entitled - “L’Orchestration chez Iannis Xenakis: L’espace et le rythme fonction du timbre”. Since 2000, she has carried out duties as Assistant Professor at the Department of Communication and Art of the University of Aveiro. She belongs to the Inet-MD Research Unit, undertaking various research in the field of contemporary music. In addition to several articles published in several national and international journals, she is co-author of the book - (semi)- BREVES. Notas sobre música do século XX ((semi)-BREVES, Notes on 20th century music), published by the University of Aveiro. published by the University of Aveiro.

Heloisa Amaral is a pianist, artist-researcher and curator. Her musical partnerships include Duo Hellqvist/Amaral and Ensemble neoN. A former curator at Ny Musikk and co-founder of the Ultima Academy in Oslo, Heloisa lectures in curatorial practices in music at the Royal Conservatory of The Hague and is undertaking an artistic-research PhD on the same topic at the University of Leiden (NL) and Orpheus Institute (BE) with the support of the Portuguese Foundation for Science and Technology. She is an advisor for DEFRAGMENTATION – Curating contemporary music, a project of the German Federal Cultural Foundation, the International Music Institute Darmstadt, the Donaueschingen Festival and MaerzMusik.

Pianist, composer and researcher, **Joana Sá's** work stands out for its transversality, multi-dimensionality and its drive towards exploring disruptive and poetic thresholds of bodies of music. These features are at the core of the trilogy of solos *Listening | the open*, a major work begun in 2009 in collaboration with the cinematographer/film director Daniel Costa Neves. The trilogy is composed of *Through this looking glass* (2010/11); *In Praise of Disorder* (2013); *Listening: the open* (2016) and is the subject of her PhD research at Aveiro University. She has studied in Lisbon, Paris, Castelo Branco and Cologne (among others with Paulo Álvares and Caio Pagano) and had an INOV-ART Grant (PT) in 2009. She has played in various prestigious venues and festivals and released CDs/DVDs for labels such as Clean feed, Blinker, Shhpuma and Centa.

Pianist **Kuo-Ying Lee**, a native of Taiwan, won first prize winner at the Oberlin International Piano Competition. She holds a doctoral degree from the University of North Texas in piano performance where she was awarded the Dean's Camerata scholarship. As a soloist and chamber musician, she played at Lincoln Center (NYC), Northwest Festival at University of Oregon), Tanglewood Music Festival, and At the National Theater Concert Hall of Taiwan (Taipei). In 2012 and 2013, she was invited to serve as assistant conductor and rehearsal pianist at Amarillo Opera (TX) and Vancouver Opera studio. In 2016, Lee was invited by the Shanghai musician association to give a recital and masterclasses in Lanzhou International Piano Festival. Lee's doctoral thesis, *An Examination of Innovations in Alexander Scriabin's Late Etudes*, has been translated into Chinese and is an important resource for the National Taiwan Library and Kaohsiung Public Library. Currently, Ms. Lee is an associate professor at Zaoqing University in China.

Born in Venice, **Leticia Michielon** studied piano under the direction of E. Bagnoli and graduated cum laude at 16 from the Conservatory of Venice. In addition to being a Steinway Artist, she has given recitals in Europe, Canada and the USA, playing in important halls. She is currently recording Beethoven's complete Sonatas and major piano works with Limen Music; a CD-DVD recording of Debussy's *Préludes II Livre* and Ravel's *La Valse* was released in 2014. In 2014, she started the complete recording of the piano works of Chopin. After having obtained a degree in Philosophy with honors from Ca' Foscari University in Venice, Leticia

Michielon completed her Ph.D. at the University of Padua. She published two volumes about Schiller and Goethe, and others essays on Beethoven and Hegel. Leticia is a professor of Piano Performance, 20th Century Piano Repertoire and Music Philosophy at the Conservatory of Venice.

Luís Bittencourt is percussionist, composer, artist-researcher and music producer. Bittencourt has performed and collaborated with Lee Ranaldo and Leah Singer (Sonic Youth), Jeffrey Ziegler (ex-Kronos Quartet), Phill Niblock, Found Sound Nation, Gabriel Prokofiev, David Cossin (Bang on a Can), Jon Rose, among others. Besides his activities as solo performer, Bittencourt is full-time artist-researcher in the project “Xperimus: Experimentation in Music in Portuguese Culture: History, Contexts and Practices in the 20th and 21st centuries” and integrated researcher at INET-md.

Madalena Soveral is Coordinator Professor at the Superior School of Music and Performing Art, Polytechnic Institute of Porto. During her career, Madalena Soveral has focussed on the 20th century repertoire working with a variety of composers and performers, such as the composer Giacinto Scelsi and the ‘Les Percussions de Strasbourg’ group. As a pianist, she played, both solo and with orchestra, as well as various of chamber music in Europe, Asia Middle East and South America. She has recorded more than a dozen albums and recordings, including the full piano works by Schoenberg and Emmanuel Nunes. In 2005 she concluded her Doctorate in Music at the University of Paris 8. Her doctoral dissertation was published by Presse Académiques Francophones (Sarrebrücken, Germany). Researcher at CESEM, Madalena Soveral has published articles in national and international journals. In 2016, together with Sara Zurletti, she published a collection of articles for Cambridge Scholar Publishing.

As a pianist, **Mariachiara Grilli** is particularly dedicated to the study and interpretation of the contemporary piano repertoire. She has performed extensively as a soloist in Italy and abroad and with the Orchestra di Padova e del Veneto (piano/keyboards), with which she also took part in recordings for Decca and Stradivarius and TV broadcasts for Italian channels such as Rai5 and Radio3. She is currently working as a pianist/conductor, co-repetiteur, arranger and teacher at the Teatro Lirico Sperimentale in Spoleto. Her essays have been published by EUM-Edizioni Università di Macerata

within the series *Quaderni di Pedagogia e Comunicazione musicale*. She has given papers at conferences in Italy, Brasil and Portugal.

Mónica Chambel is a PhD student in musicology at the University of Aveiro, researching Portuguese 20th- and 21st-century music, experimentation in music and inter-artistic relations. She was a research fellow in the project 'Euterpe unveiled', in which she developed research and stage production work related to Constança Capdeville.

Born in Astorga, in the state of Paraná, Brazil, the pianist **Paulo Meirelles** has a Bachelor of Music with honours from the FFCLRP Music Department of the University of São Paulo and a Master in Music from the Postgraduate Music Programme of the Federal University of Rio Grande do Sul. In 2012 he obtained a scholarship from the Franco-Brazilian Committee of the École Normale de Musique of Paris where he obtained the Diplôme d'Exécution with unanimity on the part of the jury. Paulo Meirelles is a Lauréat of the Royaumont Foundation where he has performed in concerts, research studios and has received training in nineteenth century pianos. In December 2019 he will carry out an artistic residency at the Royaumont Foundation on the astronomical works of Almeida Prado. Paulo Meirelles currently combines his solo and chamber musician activity in Brazil and Europe with his doctoral studies in Music and Musicology at the University of the Sorbonne.

Pavlos Antoniadis (PhD in music & musicology, University of Strasbourg-IRCAM, Prix de thèse 2019; MA in Piano performance, University of California, San Diego; Master's in musicology, National University of Athens) is a musicologist, pianist and technologist from Korydallos, Greece. His practice-oriented research has focused on both historic and systematic aspects of 20th and 21st century music, notably the performance practice of complex contemporary and experimental music, as well as on embodied cognition and on the development of tools for technology-enhanced learning & performance. He is invited researcher of the Interaction-Son-Musique-Mouvement team at IRCAM, and previously associate of the Laboratory of Excellence GREAM, Université de Strasbourg, where he also taught seminars on computer music and contemporary performance practice. He has published several essays in English, German and French on contemporary piano performance. As a pianist, Pavlos has performed in Europe, North & South America and Asia.

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Example 1-39. Transcribed from Stanisław Mierczyński, “Tańcowali zbójnicy,” in *Muzyka Podhala* [The Music of Podhale], ed. Karol Szymanowski (Kraków: Polskie Wydawnictwo Muzyczne, 1949), 24-25.

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“*Sonata|für Klavier*”. Transcribed from Universal Edition A.G., Wien/UE 31873.

Chapter two

Example 2-1. Bochmann, Christopher. 1991. *Essay VIII*, p. 6, 1st system. Transcribed from the autograph manuscript. Used by permission.

Example 2-2a. Bochmann, Christopher. 2007. *Commentaries on Notations by Pierre Boulez*, VI, 1st system. Transcribed from the author's unpublished edition.

Example 2-2b. Bochmann, Christopher. 2007. *Commentaries on Notations by Pierre Boulez*, VI, 4th system. Transcribed from the author's unpublished edition. Used by permission.

Example 2-3. Oliveira, João Pedro. 2007. *Timshel*, bars 1-2. Transcribed from BabelScores.

Example 2-4. Oliveira, João Pedro. 2007. *Timshel*, bars 10-11. Transcribed from BabelScores.

Example 2-5. Oliveira, João Pedro. 2007. *Timshel*, mm. 23-24. Transcribed from BabelScores.

Example 2-6. Oliveira, João Pedro. 2007. *Timshel*, m. 215. Transcribed from BabelScores.

Example 2-7. Oliveira, João Pedro. 2005. *Abyssus ascendens ad aeternum splendorem*, page 1. Transcribed from the author's unpublished edition. Used by permission.

Example 2-8. Oliveira, João Pedro. 2005. *Abyssus ascendens ad aeternum splendorem*, bars 221-223. Transcribed from the author's unpublished edition. Used by permission.

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Example 2-19. Madureira, João. 2012. *Estudos literários: Retratos, A. H.*, mm. 36-50. Transcribed from the author's unpublished edition. Used by permission.

Example 2-20. Béreau, Jean-Sébastien. *Fragments de Mémoire*, m. 197. Transcribed from AVA Musical Editions.

Example 2-21. Oliveira, João Pedro. 2007. *Timshel*, mm. 111-112. Transcribed from BabelScores.

Example 2-22. Bochmann, Christopher. 2010. *Letter II - To Amílcar Vasques-Dias*, p. 4 (1st and 2nd systems). Transcribed from CIMP/PMIC.

Example 2-23. Bochmann, Christopher. 2010. *Music for Two Pianos II*, m. 159-162. Transcribed from CIMP/PMIC.

Example 2-24. Bochmann, Christopher. 1991. *Essay VIII*, p. 16, 2nd system. Transcribed from the autograph manuscript. Used by permission.

Example 2-25. Nunes, Emmanuel. 1971. *Litanies du feu et de la mer II*, p. 3, rehearsal number 14. Transcribed from Jobert.

Example 2-26. *Pirâmides de Cristal* composer sketch. Used by permission.

Example 2-27. *Pirâmides de Cristal* composer sketch. Used by permission.

Example 2-28. *Pirâmides de Cristal* composer sketch. Used by permission.

Example 2-29. *Pirâmides de Cristal* composer sketch. Used by permission.

Example 2-30. The 8 harmonic groups and intervals.

Example 2-31. Harmonic groups and pivot notes.

Example 2-32. The harmonic material organized in four tetrachords.

Example 2-33. *Pirâmides de Cristal*, two first pages. Transcribed from Oficina Musical edition (Porto).

Example 2-34. Mm. 1-7. Transcribed from Oficina Musical edition (Porto).

Example 2-35. Mm. 1-14. Transcribed from Oficina Musical edition (Porto).

Example 2-36. *Pirâmides de Cristal*, first page. Transcribed from Oficina Musical edition (Porto).

Example 2-37. Group of 3 sounds.

Example 2-38. *Pirâmides de Cristal*, last measures. Transcribed from Oficina Musical edition (Porto).

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Example 2-48. *Pirâmides de Cristal*, p. 12. Transcribed from Oficina Musical edition (Porto).

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Example 2-49a: Proportions, Seconds, chords

Example 2-49b. Two tetrachords and transposition.

Example 2-50. *Pirâmides de Cristal*, p. 12. Transcribed from Oficina Musical edition (Porto)

Example 2-51. Beginning (mm 1-8) of the “Theme”, *Variacións Beiras* (1990). Copyright by Paulino Pereiro. Used by permission.

Example 2-52. Variation I, beginning (mm. 17-22), *Variacións Beiras* (1990). Copyright by Paulino Pereiro. Used by permission.

Example 2-53. Variation 2, mm. 35-40, *Variacións Beiras* (1990). Copyright by Paulino Pereiro. Used by permission.

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Example 2-56. Excerpts form variations 6 (A), 20 (B), and 31(C), *Branca, no desxeo das tebras* (2000). Copyright by Paulino Pereiro. Used by permission.

Example 2-57. Almeida Prado, *Cartas Celestes*, volume 2, preface.

Example 2-58. Almeida Prado, *Noturno* No. 7, m. 1, verbal mention *Rapiodo, como uma estrela cadente* (Fast, like a shooting star).
Transcribed from the manuscript.

Example 2-59. Guarnieri, *Ponteio* No. 41, mm. 1-4, verbal mention *Tristemente* (Sadly). Transcribed from Ricordi.

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