Talk on Musical Interpretation — Visual Tools for Perceived Dynamics and Points of Gravity

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ABSTRACT

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Visual Tools for Perceived Dynamics and Points of Gravity

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Typical for Western classical music is the process of interpreting and conveying a written score into sounding music. However, sometimes the communication of musical issues between musicians may be experienced as aggravating. In educational contexts in a broad sense, it might be advantageous if this communication could be facilitated, for example, by using visual illustrations as a complement to the verbal language. The final aim of the present PhD project is to introduce a further investigation of the relationship between what musicians do when performing classical compositions and how the music will be experienced by listeners familiar with this kind of music. As an indispensable preparative step for this purpose, based on established conventions of melody phrasing, two special visual tools were developed: the Melody Phrasing Curve and a system for notating metrical points of gravity. In two empirical studies, the relevancy of these visual tools, intended to simplify the communication of matters linked to musical interpretation, was tested. This purpose includes the exploration of musical thoughts coming up when the tools are employed by professional musicians as instruments for illustrating their musical experiences.

The Melody Phrasing Curve is a continuous line that is drawn by free hand into a special device indicating approximately the experienced dynamical fluctuations within the melody part of a composition. In the two phases of *Study A*, this phrasing curve was tested from the perspective of music professors listening to classical piano excerpts recorded on audio tape. The results indicate that the visual tool mentioned might be used as an instrument for illustrating the experienced changing dynamics of the melody part, primarily in piano music of a clear homophonic character.

In the consecutive *Study B*, the other visual tool, the system for notating metrical points of gravity, was introduced. This tool was used by four professional musicians, together with the Melody Phrasing Curve, as an aid when preparing performances of three classical piano excerpts, as well as for the purpose of visually illustrating musical aspects of their recorded performances. The study included in-depth-interviews revealing some of the participants' musical ideas.

The results revealed that the participants respected the traditions of classical music, but they were also interested in further exploring the expressive potential of the music, in order to find new interpretative solutions. Moreover, the results indicate that the visual tools employed might be used in educational contexts as *triggers* for activating musicians' self-reflection and for developing a bigger awareness when interpreting classical music. Aside from the participants' diverging drawing styles, the results further support the functionality of the Melody Phrasing Curve as a visual tool for mirroring the experienced dynamical progression of the melody part. Finally, the phrasing curve may be used for the purpose of planning musical interpretations, as well as for illustrating a given performance.

CONTENTS

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Nyhamnsläge, Sweden, in april 2009

Ingemar Fridell

Chapter 1: INTRODUCTION

'Mind the music line! Make the melody clearer! Play with more feeling, please!' This was some typical advice that I used to hear during my instrumental lessons as a student of the soloist organ programme, as well as the soloist piano programme at one of the Swedish academies of music. I understood the words as referring primarily to the *ultimate* sounding results of an implied preparative process, something that I was expected to realise at the very moment of performing the music in question. Personally, I did never experience these instructions as clear, because neither did they tell me *what* I was supposed to do, nor *how* to reach that goal of bringing out the desired characters in my performance. This means that I was still as uncertain as before concerning which concrete *measures* I should take. Since then, I have kept wondering how it would be possible to explain and discuss issues related to *musical interpretation* in a more comprehensible way.

As I gathered more experience in my capacity as professional musician, I finally figured out what to do all by myself. Nevertheless, it is my impression that there seems to prevail a gap, at least in the many programmes of the higher music education that I have encountered up to now, between theoretical subjects on the one hand and explicit technical education aiming to master a certain musical instrument on the other.

It is my impression that musical interpretation represents an immense research field that remains to be explored. There seems to be two intertwined aspects in particular which ought to be investigated:

1) The relationship between what musicians actually *do* when performing music, and how the music will be *experienced* by listeners who are familiar with Western classical music.

2) Alternative ways of expressing musical issues might be developed and tested, for the purpose of facilitating the *communication* between musicians discussing musical interpretation on the one hand, and between teachers and students in an explicit educational context on the other.

The first aspect represents the real aim of my research, whereas the second aspect may be considered as a necessary preparative step facilitating the first kind of research.

The PhD project that is presented in this book consists of two theoretical investigations (Chapter 2 and 3) and two empirical studies (Chapter 5 and 6). In the theoretical chapters, the premises for the development of two special visual tools are explained with references to authors representing different musical perspectives. In the first empirical study, which has been presented as a licentiate thesis (Fridell, 2006), a visual tool intended to illustrate the experienced dynamical fluctuations within the melody part of a performance is tested from the perspective of expert music listeners. This means that the study is focusing primarily on the second of the two aspects mentioned above. In the second empirical study (Chapter 6), however, this visual tool is applied by professional musicians in the practical context of preparing musical performances of selected piano compositions, together with another visual tool intended for notating the metrical *points of gravity* (cf. 1.2.5.) within their performances. In addition to visual tools and recorded performances, the data material of the latter study also includes in-depth-interviews clarifying the participants' musical ideas. Consequently, by discussing the relationship between features within the performances and the participants' experiences when listening to the recordings, this study may be described as focusing also on the first of the mentioned aspects.

The present PhD project may be regarded as an attempt to slightly open the door to the suggested exciting research field of musical interpretation.

1.1. Different musical views

A question that may arise is whether there is a need for a special forum of musical interpretation on the whole. That this is a matter of great concern to everybody is something that cannot be taken for granted. People seem to experience music very differently. Therefore, before giving an account of the background of the present PhD project, I would like to start with a survey discussing some authors' diverging views on music. The reason for this is that my own position, which is the essential point of departure for my research, ought to be explained more precisely.

It is true that far from all music lovers agree with the idea that it would be possible to express musical thoughts by other means than music itself. Furthermore, some of them think that although this might be possible it is still not *desirable* that these thoughts should be too precisely formulated; music seems to be regarded almost as a kind of sacred field that should rather be left in peace.

The view on music as something *absolute* is not entirely new. Stravinskij (1962) insists that music is constituted of elements that cannot be expressed verbally, elements which only someone who has a real talent can convey to the audience. Nielsen (1946) and Bengtsson (1973) regard music as something absolute, constituting its own sovereign sphere without expressing any specific 'meaning'.

As opposed to this view, Hultberg (2000) considers the printed score as a 'cultural tool' with the function of mediating intrinsic musical *meaning*. Consequently, it is of a great importance to find out what stands 'behind' the printed score. Hultberg differs between an *explorative* approach and a *reproductive* approach to musical notation. The reproductive approach implies the idea that the composer's written document, although to some extent reinterpreted by the editor, prescribes exactly how to play. The explorative approach means that the printed score gives the performer an interpretative freedom and space for making personal choices, within the frames of the actual stylistic tradition. Musicians seem to shift between the two approaches in different situations.

Walker (2004) challenges the concept of 'pure' music, which he regards as a construction made by Western intellectualisation of music. He states that music works as a medium for expressing experiences from *outside* the musical universe and that people tend to make analogies especially across sound and vision.

Personally, I prefer not to regard music as something 'pure' or 'absolute', building up an autonomous sphere. To me, music is primarily *communication* in many senses, not least when considering its great capacity of conveying emotional messages to the audience. Folkestad (1996) claims that any kind of communicative activity or *discourse* is based on a mutually agreed and meaningful *code* linked to the specific context. Gabrielsson and Juslin (1996) have found that also *music* performers and listeners are more or less aware of a mutually agreed emotional code.

Analogously, Folkestad (1996) claims that the concept of *discourse* may be defined as something relating to linguistic as well as musical activities. Thus, in addition to the discourse *on* music, referring to the use of verbal language, there is also a discourse *in* music, including many musical languages with different styles and expressions. When two persons use a certain discourse code differently, which may also be the case in musical contexts, the communication between them runs the risk of being aggravated. Music is described by Folkestad as a dialog 'not only with the present, but also with the tradition and history of the music, *and* of its creator' (p. 210).

In addition to the music's function of communicating emotional messages, it has also a more or less marked *intellectual* side expressed by its inherent logical structure. In Olsson (1993), the art pedagogue Anna Lena Lindberg discusses 'the charismatic attitude' representing the opinion that art has more in common with feelings and intuition than with reason. Lindberg underlines that

this view 'defeats the idea that pedagogical efforts may contribute to a deeper understanding' (Olsson, 1993, pp. 166-7).

1.1.1. Finding a balance between intellect and feelings

The many diverging views on music seem to represent different positions on a gradual scale between a demand for analysing music thoroughly, and a corresponding aversion against all theoretical analyses. Maybe all is about finding the ideal *balance* between intellectual reasoning and considerations of the music's emotional qualities. In a performance, I. Bengtsson (1988) appreciates the equilibrium between structural awareness and the musician's personal touch. Casals describes emotional expression and musical interpretation as flowing together into one single stream, emanating from one and the same common source (Blum, 1977). Nielsen (1988) emphasises the aesthetic qualities of the musical object, at the same time as advising against a music education that is too much dominated either by structural analyses or concentrating exclusively on the *activity* of the individual being at the expense of the musical object as such. However, there is a discrepancy between analysing and experiencing music, Nielsen concludes; when analysing music it is necessary to take the listening persons into account as well (Nielsen, 1997/2001).

Schnabel (1970) also opposes against approaching music in a too intellectual and analytical way, whereas Karajan, according to Haeusserman (1968), believed that a conductor could find the composer's wave length, his deeper thoughts and intentions, by means of hard work, concentration and intuition.

Traditionally, *musicologists* have studied music from an alleged objective perspective, often by focusing primarily on the printed score. According to Barenboim (1980), however, there is no such thing as 'objective' about music; music is experienced in different ways each time. Nevertheless, it is a challenge for the performer to bring back to life something that is dead in itself, not by means of whims but by paying attention to form and structure as central aspects. Inspiration and intuition will emerge easier if a basic fundament exists in advance (Barenboim, 1991). Barenboim believes that musical understanding includes knowledge about physics, metaphysics and psychology. Knowledge about physics refers to the need for considering the acoustic laws, and metaphysics refers to what can be expressed beside the strictly physical aspect. Consequently, he does not see any conflict between knowledge and consciousness on the one hand, and emotions on the other. An ideal performance should, in a natural way, unify consciousness, subconsciousness, reason and intuition, so that you will get the impression of thinking by means of your feelings and feeling by means of your thoughts, Barenboim states.

Berry (1989) complains about the less convincing force of musical performances externalising the artist's lack of analytic insights. The discrepancy between a strictly theoretical perspective and the music's emotional aspects may be a problem in educational contexts. Lester (1995), however, does not find any opposition between theoretical analyses and descriptions originating from the *performers'* special perspective. Students trying to become established musicians do not obey educated 'authorities' placing themselves in opposition to eminent artists. Lester suggests that theoreticians integrate the performances of artists as an important part of the analytical process.

In this way, Lester thinks, performers can enter in an analytical dialogue in the capacity of artists and equals, instead of being considered as intellectual inferiors who ought to be taught by theoreticians. Even if 'players should understand what they play' (Lester, 1995, p. 197, referring to an utterance of Tovey discussing Beethoven's piano sonatas), 'analysts should understand what it is they analyse, especially when the goal of their analysis is to enlighten performers' (p. 214).

According to Cone (1995), it is just a matter of intuition guided by the performers' own musical experiences. A musical performance that is too correct in a historical and analytical sense may be perceived as obtrusive and 'academic'. Rothstein (1995) thinks that it may sometimes be

disadvantageous to focus too much on structural aspects in a performance. The expectation of most people when listening to classical pieces is hardly to hear an analytical demonstration but to experience something 'magic'. Nevertheless, Rothstein recommends the performer to pay regard to analytical facts, as well as to the music's dramatic aspects. It is not enough to understand the composition's structure as such; it is also crucial to create a musical narrative.

At the same time, the benefit of theoretical knowledge should not be underestimated; it may contribute to a clearer view and a deeper awareness:

> To put 'the totally free creation' on the one hand, against final educational constructions ('the answers') and fixed rules of what is (more or less) right and wrong on the other, is a mistake within all kinds of activities. [...] ...professional practice of art demands substantial 'handicraft knowledge' with rules for what is right and wrong (Molander, 1996b, p. 19, *my translation*).

Thus, theoretical knowledge may be regarded as an aid in practical contexts, as an instrument for systematising and structuring explicit practical experiences. According to Schön (1983, 1987), expert knowledge consists of a gathered repertory of representations, examples, interpretations and actions. When encountering something unknown, the expert acts as in a familiar situation.

A theory may thus be described as a kind of mental scaffold. When it has been totally integrated into the practical workmanship, there is no need to pay attention to it any more. Dreyfus and Dreyfus (1988) define five stages in the progress from novice to expert. To begin with, rules allow the accumulation of experiences, but sooner or later these rules have to be put aside in order to proceed. Rules do not make allowances to the situational components of the specific context. According to Dreyfus and Dreyfus, a proficient performer recognises the total situation without following rules each moment. The authors also believe that the concept of *intuition* is related to know-how or the ability to make holistic discriminations and associations, combined with a deep situational understanding resulting from previous experiences. This means that Dreyfus and Dreyfus explain the learning process as progressing from abstract rules towards particular cases, not the other way around. They mean that the traditional view of a beginner starting with particular cases and then using more abstract and sophisticated rules, has to be abandoned: 'The expert is simply not following any rules (p. 108)!'

At the same time, in Dreyfus and Dreyfus' (1988) perspective the learning process passes through different stages on a scale beginning with a focus primarily on specific elements and details, progressing more and more towards a stage characterised by a predominantly holistic overview, at least from a musical perspective. This seems to contradict Fagius's (2001) theory of the tendency of more musically initiated people to focus more on sophisticated musical details, due to the greater activity of the human brain's left hemisphere, as opposed to people less musically initiated, who tend to grasp whole melodic and harmonic entities primarily by the activity of the right hemisphere.

When discussing Dreyfus and Dreyfus' (1988) holistic view, Molander (1996a) concludes that a real expert '*understands the total situation*, recognises it immediately without analysing or reasoning and reacts directly, instinctively. However, it may take many years of rehearsals to learn the correct instinct' (p. 46).

A conclusion of all the statements above might be that since music comprises an emotional side as well as an intellectual side, both these aspects ought to be respected in a balanced way when performing a composition.

1.1.2. Adequate musical knowledge

A question related to the same discussion is what kind of *knowledge* that may be considered as the most important for the purpose of developing a deeper musical understanding. Is it primarily a matter of making *practical* musical experiences by building up technical instrumental skills, preparing and performing different compositions in accordance with the concept of 'learning by doing' (cf. Molander 1996a, 1996b), or is there also a need for theoretical knowledge?

The answer to this question seems to depend on the specific purpose of the educational process. If the objective is primarily to explore further the music's emotional potential and interpretative possibilities, it may be important to assimilate more knowledge in the musical field.

In an interview study (Fridell, 1997), 10 professors teaching different subjects at one of the Swedish academies of music all expressed the opinion that theoretical knowledge was important, although none of them seems to have considered this as a purpose in itself. The question is what *kind* of theory is the most urgent when studying music on an advanced level. Is knowledge emanating from the common theoretical subjects not enough?

Maybe the effectuation of, for example, a harmonic analysis is not useful in all situations. Is it really important to recall the names and the structural function of the chords? Or is it chiefly important to be aware of the underlying emotional 'meaning' of these chords when performing music?

It should be underlined that during my own education, I did appreciate studying counterpoint and music theory under the guidance of a professor who was rather rigorous and demanding. By studying, for example, the strict rules of Palestrina's counterpoint, I had a feeling of getting a sort of a key to the implicit code of classical music. Today, however, I would probably need some support by my dear colleagues to manage the harmonic analysis of a structurally complex composition. Nevertheless, without recalling the precise functional names of the harmonies when performing, I have still the impression of 'understanding' their emotional values and 'meaning' related to the actual musical context.

1.1.3. Music as a research field exploring new expressive possibilities

So the question still remains unanswered, whether there is a cause for the supposition that there may be a gap between the common theoretical subjects and strictly instrumental education. Hultberg (2000) stresses the importance of being familiar with established musical traditions, in order to be able to express and communicate musical 'meaning' to listeners knowing the same traditions. Could it be that music students of today have partly lost their contact with some musical traditions being more alive in the past? In any case, the results of a study including six piano students performing a movement from a Mozart sonata (Fridell, 1999), might be interpreted as revealing the students' deficiency of knowledge in respect of a lacking familiarity with some basic conventions for performing classical music.

Even Anton Schindler, as a motivation to his decision not to publish Cramer's piano Etudes with the alleged comments written by Beethoven himself, emphasises in one of his annotations (quoted in an article written by Newman, 1984), the importance of respecting the correct *declamation* in music. Verbal poetry may serve as an analogy, Schindler states:

> Without previous study of (German) prosody, without more exact understanding of iambic, trochaic, dactylic, and spondaic scanning, as [in] those poetic feet that underlie all instrumental music, the student can achieve nothing; for on this understanding depends the art of correct accenting and the distinction between longs and shorts in groups of tones (in Newman, 1984, p. 411).

Analogously, in his introduction to Schirmer's edition of Chopin's Impromptus (Schirmer, 1915/1943) Carl Mikuli claims the following:

> Chopin's attention was always directed to teaching correct phrasing. With reference to wrong phrasing he often repeated the apt remark, that it struck him as if some one were reciting, in a language not understood by the speaker, a speech carefully learned by rote, in the course of which the speaker not only neglected the natural quantity of the syllables, but even stopped in the middle of the words. The pseudo-musician, he said, shows in a similar way, by his wrong phrasing, that music is not his mother-tongue, but something foreign and incomprehensible to him, and must, like the aforesaid speaker, quite renounce the idea of making any effect upon his hearers by his delivery.

These two quotations might be considered as mirroring some significant musical values, values which are perhaps no longer self-evident in all musical contexts. Moreover, an interpretation of the very detailed prescriptions within many printed scores from the last century might be that composers and conductors have taken over the responsibility of the performance to a certain extent, rendering in this way some aspects of the individual musician's knowledge superfluous.

As regards music students, for instance those participating in the study mentioned above (Fridell, 1999), they cannot yet be expected to know all conventions of classical music. Furthermore, since even the strongest traditions are subject to a constant transformation, teaching conventional performing principles does not exclude encouraging students to explore new means of expressing themselves.

The musical activity in itself may thus be described as a continuous exploration of the music's expressive potential, a potential that nobody seems to be able to exhaust definitively. Schön (1983) expresses a similar view by claiming that when making experiments and tests, the practitioner (for example, a musician) becomes a researcher. Meyer (1973) considers the performance of a piece of music to be an analytic act, even though this analysis may have been made in an intuitive and unsystematic way. Practising and preparing musical performances might thus be compared to a kind of *research* implying the study of established musical conventions and traditions, as well as the search for new interpretative solutions by exploring the expressive possibilities of the actual compositions.

Exploring the depths of music may thus be described as a continuous process of musical *initiation*, regardless of whether this process is primarily based on intellectual analyses or on a more emotional kind of research. The music student is gradually initiated into the special laws and principles of the corresponding musical traditions. Bearing in mind that this learning process has to be experienced personally by the students themselves, the benefit of intellectual analyses may be limited. However, a teacher's good advice combined with theoretical reasoning may serve as an aid contributing to the development towards an enlarged and multiplex musical understanding.

Säljö (2000) discusses Vygotsky's concept of 'Zone of proximal development' (ZPD), which means the difference between what individuals are capable of doing by themselves, compared to what they are potentially capable of doing under the guidance of more, or differently, experienced peers or a teacher. ZPD can thus, among others, be defined as the zone in the frames of which the learning person is susceptible to explanations and the support of somebody being more competent within the sphere in question.

Sundberg (1990) desiderates a kind of *interpretation grammar* focusing on the emotional codes of the music, instead of just its structural aspects. In an interview (Johansson, 1997), Sundberg emphasises the communicative aspect of music by comparing it to speech. It will be harder to understand what is said if nonessential things are stressed, he claims. At the same time, Sundberg

admits that some people have a more analytical character, whereas other people are more 'intuitive'.

I do not think that Sundberg's idea of an interpretation grammar should be understood as if there is just *one* single way of performing the actual music. Correspondingly, when speaking and writing, people use a common grammatical structure, but nonetheless, not even two persons express their thoughts in exactly the same way.

The process of *interpreting* and *transferring* the documented information of a written score into sounding music is typical for Western classical music. According to statements made by the music professors participating in a previous study (Fridell, 1997), interpretation may be defined as referring to one or more of the following musical aspects:

- attracting the listeners' attention by bringing out the music's special atmosphere
- paying attention to the musical style, the historical context, and the composer's ideas
- assimilating firstly an instrumental and theoretical handicraft knowledge in order to interpret the music in question from a comprehensive view
- being familiar with the 'standard' interpretation (an established commonly sanctioned template), bearing in mind that the evaluators of, for example, an audition may expect the musicians who aspire at being employed to perform in accordance with some fixed musical criterions

To me, musical interpretation may also be defined in a more *general* way as referring either to

- ❖ the musician's personal *choice* based on considerations and reflections made *before* the performance, or to
- ❖ the final sounding *version* emanating from these previous considerations as realised at the very moment of the *performance*

Henceforth, in this book the concept of musical interpretation will be used in a way *shifting* between these two meanings, depending on the context.

1.2. Background of the PhD project

In this second part of the chapter, the following topics will be discussed: music regarded as a phenomenon that is *experienced* by human beings, reasons for assigning the PhD project to the research field of *music education*, alternative ways of *communicating* musical thoughts, and the contingent benefit of using *visual tools* as a complement to verbal language. A section follows broaching the need for a *common base* as a reference point when expressing experiences related to musical interpretation. Before clarifying the purpose of the present project, some concepts are defined shortly.

During my entire career within the frames of the music world, I have been particularly interested in musical interpretation. In 1992 I participated in a special course conducted by Professor Folke Bohlin and Professor Hans Pålsson, arranged by the Malmö Academy of Music which also happens to be the school where I am employed as a professor teaching *Musical studies and interpretation*. This preparatory course called 'Talk on Musical Interpretation' ('Tal om tolkning') was going on for two years, and it was intended to be part of a planned PhD programme within the research field of *Music*. However, such a doctoral education has been realised only recently, during the last years. On the other hand, the PhD programme of *Music Education* started already in 1996 (Folkestad, 2007). Since I was particularly interested in matters

related to musical interpretation, the course mentioned may be regarded as an inspiring incitement to my following research.

As a task included in the course, I wrote a paper in 1993 called 'A holistic view on music?' ('En holistisk syn på musik?') comparing two books written by Bastian (1987): '*Into the Music – a Book about Music and Consciousness*' ('*Ind i musikken – en bog om musik og bevidshed*'), and by Bjørkvold (1991): '*The Muse-ic Man*' ('*Den musiska människan*'), respectively. At this time, I was notably inspired by Bastian (1987) who claims that the inner essence of music cannot be described without paying attention to the specific context in which it appears. Every single part is an element within a wholeness of greater dimensions. Analogously, it is a big challenge for musicians to integrate all the musical elements into a coherent totality. To Bastian, the experience of music is not constituted exclusively of a sequence of single tones. It is not the things in themselves that constitutes reality, he concludes, but rather the personal *experience* of the same things.

1.2.1. Music experienced by human beings

Adopting a similar view as Bastian (1987), I have defined music in the present book as a phenomenon *experienced* by human beings. This does not mean, however, that each individual experiences life exclusively in a subjective world isolated from the world of everybody else. Subjective experiences are always *relating* to something happening 'out there' in a *surrounding world* shared by all beings. Marton and Booth (1997) state similarly that the world is neither external nor internal but constituted as an inner relationship between both perspectives.

Even if the multiplex sensorial stimuli emanating from the external world will be inevitably interpreted and coloured due to the personal background and life history of each individual, there will still remain some aspects within these personal experiences which remind of the corresponding experiences made by other people living in the same common world. From this it may be concluded that everyone's experience of life will include subjective elements that are more or less hard to communicate to other people, as well as elements that can be relatively easily communicated and understood by others.

Accordingly, music will in some respects be experienced differently by everyone. On the other hand, it is likely that music also has the power of creating similar experiences shared by several human beings; if not, any attempt to discuss matters related to, for example, musical interpretation would be totally pointless.

As already mentioned, I am, as a long-term aim, interested in further exploring the relationship between what musicians do when performing music, and how a certain performance may be similarly experienced by listeners who are familiar with classical music. Of course, this can be investigated in many different ways. For example, in addition to in-depth interviews with a group of music listeners, the performed amplitude, duration and timbre of tones in a sequence might be studied by means of quantitative measurements. However, knowing the precise measured numerical values of the performed tones within this sequence may not be very useful in communicative contexts. What interests me mostly is the interchange between the specific musical experience and the sounding events giving rise to this corresponding impression on the one hand, and on the other, how people *express* themselves revealing different ways of conceptualising the underlying *ideas* and *principles* within a certain musical performance.

1.2.2. A PhD project representing a multidisciplinary crossway

In the present PhD project I have thus paid special attention to the problem of *communicating* musical experiences and to the exchange of musical thoughts and ideas between musicians. This problem may be of great concern when studying and analysing music, as well as when preparing a performance. Furthermore, the communication of musical ideas is crucial in *educational* contexts,

for which reason the project has been situated not only in the artistic practice but chiefly in the research field of *music education*.

According to Folkestad's (1996) broad definition, music educational research covers a lot more than studies of musical learning based on lessons in a traditional sense. Learning processes are taking place in other situations as well, Folkestad claims. This means that people are always learning things, no matter if it is deliberate or not (Folkestad, 2007).

Thus, the point of departure for the present PhD project is music education defined in the same broad way. At the same time, the issues of the project position it to a *multidisciplinary crossway* between musicianship, artistic research, music psychology and musicology.

Aside from some recent studies (e.g. Hultberg, 2000; Johansson, 2008; Ljungar-Chapelon, 2008), relatively few studies have focused on Western classical music on a more advanced level, such as the education at the academies of music, or the more informal learning processes going on between, for example, professional chamber musicians discussing different interpretative solutions.

My own musical background is that of a skilled and experienced concert pianist and concert organist since many decades, mastering a wide repertoire of classical compositions covering several stylistic epochs from the early baroque era up until recent times. As a result I have had the special advantage of being able to experience and study the issues of the present PhD project from an *inside* perspective, and therefore, some of my own subjective impressions have been included in the total data material gathered.

In the two following sections two special questions related to the problem of communicating musical experiences will be broached, respectively:

- *How* could explicit musical thoughts be communicated efficiently?
- *Which* musical topics would be feasible for communication?

1.2.3. Alternative ways of communicating matters of musical interpretation

In the beginning of this chapter, I gave some examples of the advice I got during my own music education, and which I experienced as rather unclear. Personally, I really missed a forum for discussing matters related to musical interpretation in a more concrete and detailed way. One possible reason for the unclear advice and the alleged absence of an interpretation forum might be that many musical thoughts tend to be difficult to describe and explain beyond the sphere of music itself. Nevertheless, from an educational perspective it might be advantageous if these thoughts could be formulated in a simpler way, and sometimes even the most intuitive musicians have to explain their acquired workmanship to other people.

It is my hypothesis that there may be a need for combining many alternative means of communication for the purpose of encircling musical problems, in order to find efficient practical solutions. In this way the communication between professional musicians, as well as between teachers and students in an explicit educational context, might be facilitated.

In educational contexts, the verbal language seems to have played a dominating role (cf. Woody, 2000). However, in my view it may be hard to merely verbally express musical ideas, experiences, or emotions. Moreover, in many cases music students are not able to transform their interpretative ideas into sounding music, particularly if they are not yet mastering the musical instrument in question to a degree admitting an accurate musical representation of what was intended. By also using some alternative means of communication, the students might clarify the musical expressions intended, in this way facilitating the teacher's role of guiding them to bring out their own ideas in a sounding form. Woody suggests, for example, the use of the performer's

own emotions or moods, in order to develop musical expressivity, and reducing too much theoretical verbal instructions by using aural modelling, metaphors, gestures and imagery instead.

In addition, some musical aspects might also be illustrated *visually*. Traditionally, classical compositions have been documented and preserved by means of a sophisticated visual tool: the written *score*. It is important, however, to be aware of the relativity of this tool. A score cannot possibly cover all the details of the music, which does not mean that the information that it conveys is insufficient. In addition to the notes, the markings, fingerings and other prescriptions, often in Italian, the score reveals redundant 'invisible' information, for example, in the shape of an implicit *key of interpretation* (cf. Valkare, 1997, p. 70 ff), which seems to be obvious to every experienced musician.

Furthermore, reproducing the score precisely would make the music sound boring (cf. Hultberg, 2000), and the question is if this is at all possible. Cone (1995) considers every notation as an approximation, and that the realisation of any musical score implies conscious decisions: 'In fact, it is exactly the space cleared by that approximation, an area of indeterminacy, that is the locus of the performer's prime interpretative activity' (p. 245).

From this it might be concluded that some aspects of sounding performances cannot be exactly illustrated by means of the traditional score, for example, the performed continuous dynamical progression of the melody part or expressive agogic deviations from a fixed metronomic pulse. Maybe even such aspects could be illustrated for pedagogical and communicative purposes by means of special visual tools complementing the written score.

To what extent is it then relevant to *visually* illustrate an acoustic phenomenon like music? Crain (1980) describes the psychologist Heinz Werner and his concept of physiognomic perception based on *synaesthesia*, which means that there seems to exist a syncretistic unity between all the human senses. For example, some people are able to 'hear' colours or 'see' music. This ability might be connected to the earlier stages of evolution, where the senses were not yet completely separated, theories which have been further developed by Stern (1991).

Something that seems hard to express in one medium might be expressed through the use of another medium, which opens up to a communicative flexibility. One example of the links between different sensorial stimuli within the musical sphere is the experience of *rhythm*, that may be aroused by sounds as well as by visual phenomena. A conductor's bodily movements represent rhythmical and emotional impulses, which are reinterpreted into sounding music by the musicians of an orchestra.

Some people tend to be particularly susceptible to non-verbal information. In many cases, visual representations might save both time and effort, being experienced as more clarifying than verbal explications. Using a metaphor, if a person wants to find the best way to go somewhere in a big city, this might be easier to explain by drawing a map on a piece of paper indicating some important roads and buildings. It is certainly true that the single details may not represent the precise cardinal points or the proportions of the distances, and the bends of the roads may deviate considerably from those of the external world. Indeed, a map drawn by hand is likely to be very approximate compared to an official map. In spite of this, even approximate visual illustrations of this kind might be useful in many cases. Although visual illustrations cannot entirely *replace* speech, they may serve as a *complement* to verbal instructions.

1.2.4. Communication of musical matters based on common experiences

As already mentioned, in this project music is regarded as a phenomenon *experienced* by human beings (cf. 1.2.1.). Even if everybody experiences music subjectively, these experiences, however, are still relating to some corresponding elements within the sounding performances; elements which everybody are more or less likely to perceive when listening. This means that in addition to

musical elements being experienced *differently* from one person to another, it is possible that music listeners may also perceive some musical aspects in a rather *similar* way.

This presumption is thus a condition for the development of appropriate *tools* for the purpose of facilitating the *communication* of matters linked to *musical interpretation*. Analogously to the use of verbal language, a commonly agreed base for communicating musical thoughts ought to be found. In other words, in order to study the different ideas and experiences of musicians, some kind of a common reference point is needed. Consequently, instead of first exploring people's *different* musical experiences as expressed by themselves for the purpose of finding out what might be *similar*, I have chosen to focus primarily on possible *similarities* for the purpose of detecting diverging musical experiences afterwards in relation to these similarities.

A question that might arise is whether there are any similarities at all between people's musical experiences. If not, explicit musical thoughts cannot be communicated by other means than music itself, which means that the immense field of musical interpretation will not be accessible to any research either. Musical interpretation would then remain a mystic metaphysical phenomenon. According to another plausible alternative, musical interpretation can indeed be demystified and explored. It is true that music represents a domain of emotions, but it expresses also a more or less *logical* structure that may be subject to interpretation and analyses.

The next question is obviously *which* musical aspects may be considered as constituting a common base for the development of appropriate communicative tools. Since music is a very multiplex phenomenon, it is necessary to start somewhere. In this book, I have chosen to initiate my exploration of the musical interpretation field by focusing on the following two issues:

- illustrations of the dynamical progression experienced within the melody part
- experienced metrical structure of the music caused by the performed underlying pulse

Neither the continuous dynamical progression of the melody part, nor the performed agogic deviations from a fixed metronomic pulse can be sufficiently illustrated by means of a traditional score (cf. 1.2.3.). Therefore, two special visual tools are developed as a complement to the score for pedagogical and communicative purposes. The visual tools will be thoroughly explained in Chapter 2 and 3, respectively, as well as the reasons for focusing on these very aspects.

1.2.5. Definitions

In this section, some conceptions are defined briefly. The reader is recommended to study the succeeding two chapters for more detailed explanations.

A *melody phrase* is defined as a metrical unit within the entire melody part of a composition being experienced as delimited, and at the same time as an integrated element in the course of musical events. Traditionally, the integral elements of a melody phrase are articulated by means of, for example, dynamics and temporal displacements, analogously to the punctuation in a linguistic sense, which means that the performance of melody phrases might be compared to the pronunciation of some similar elements within the *sentences* of speech, which are usually articulated and expressed in a corresponding way (cf. Fridell, 1997).

The *perceived dynamical progression* of melody phrases refers to the subjective way an imagined listener experiences the fluctuating *soft* and *loud* sound levels of the melody part within a certain performance. Accordingly, perceived dynamics should not be understood as correlated exactly to physical amplitudes measured in decibels. Apart from the performed sound levels exerting the principal impact, many other musical aspects may reinforce or modify the total impression of the changing dynamics, for example, the contour of the melody line, the harmonic progression, rhythm, etc. Furthermore, the specific instrumental timbre, pitch, agogics, acoustics, etc., may also affect a person's experience of dynamics.

When discussing the performance of the music's underlying *pulse* in Chapter 3, the concept of *point of gravity* is introduced, referring among others to *the stressed part of a prosodic metrical foot* in a musical sense. When listening, points of gravity may be *perceived* primarily due to the immanent musical *structure*, giving rise to the impression of the music's division into units on different architectonic levels. In this context, I have paid particular attention to the relationship between the single notated *bars* and their unification into different rhythmic patterns and periods. A point of gravity may also be *potential* in the shape of an interpretative *option*, no matter whether this will be brought out in the performance or not. When realised in a performance, the points of gravity will be defined as *performed*. Finally, a performed point of gravity may also have the function of *counterbalancing* another point of gravity that does not have to be particularly emphasised, because of being already perceived as dominant due to the immanent structure.

1.3. Purpose of the PhD project

The general purpose of the research initiated in this PhD project is twofold, one of which is long-term and the other short-term:

1) investigating thoroughly the relationship between what musicians actually do when performing music and how the music will be experienced, which may rather be considered as a *long-term aim*

2) developing and testing visual tools for the purpose of facilitating the communication of musical interpretative matters, which may be considered as a necessary *preparative step in the short-term aim* of pioneering such a thorough research

This means that in my capacity of researcher, I may, in respect of the short-term aim, be compared to a prospector searching for 'gold' (answers to some settled questions), and in respect of the long-term aim, to a 'traveller' exploring new, unfamiliar lands (cf. Kvale, 1997).

Implementing this kind of a PhD project may be regarded as *basic research*, while at the same time aiming at a *stated practical sector of application* in the end. The special visual tools used in the present project may be described as having the function of *investigative* instruments, although they are actually designed for being used as an aid in explicit *educational* situations, as well as in other situations where matters of *musical interpretation* are discussed.

The primary *purpose* of the present PhD project is thus to *develop and test appropriate visual tools*, of which one is intended to illustrate the experienced fluctuating dynamical sound levels of the melody part within a performance, and the other for indicating the experienced stresses of the underlying pulse, giving rise to the impression of the composition's metrical structure and bar-line organisation. This means, that instead of concentrating on some specific aspects of a certain musical style or those of a certain composer, I have chosen to focus on some general ideas that seem to be common to many different styles of classical music.

The research questions for the present PhD project might be formulated as follows:

a) To what extent could visual tools facilitate the communication between musicians of matters linked to musical interpretation?

b) Which thoughts come up when professional musicians illustrate their musical experiences by means of specially designed visual tools?

1.4. Disposition of the PhD project

Chapter 2 is a theoretical investigation describing the premises for the development of appropriate visual tools, particularly the one intended to illustrate the fluctuating dynamical sound levels of the performed melody part as personally experienced. Different perspectives have been considered, giving a survey of some conventional views on musical interpretation. Thus, the literature refers to works of different categories, including statements emanating from biographies of professional musicians and conductors. The chapter is concluded by settling two aspects related to melody phrasing, represented by the present PhD project's two visual tools, and constituting the main focus of the consecutive empirical studies presented in Chapter 5 and 6, respectively.

Chapter 3 focuses on the interaction between melody, rhythm and meter and its role in the process of musical interpretation. The chapter describes the premises for developing a simple system for notating so-called 'points of gravity' (cf. 1.2.5.) in accordance with a certain performed version of a composition. For this purpose the following topics are discussed: music and language, prosodic metrical feet, bar-line meter, different kinds of stresses, the personal experience of metrical points of gravity, the musical 'gear-box', as well as performed asymmetry of the beats within the score's written bars.

In *Chapter 4*, the methodological considerations for the empirical studies are discussed. The Studies A and B presented in Chapter 5 and 6, respectively, might be described as explorative in character, inspired by different elements from hermeneutical, phenomenological, phenomenographical approaches, and to some extent also by socio-cultural perspectives.

Chapter 5 presents *Study A*, which is a somewhat revised version of my licentiate thesis (Fridell, 2006). The purpose of this study was to test, from the perspective of professional music listeners, the relevancy of a special visual tool intended to illustrate the dynamical progression of the melody part as personally perceived.

In *Chapter 6*, the *Study B* is presented. The purpose of this study is, among others, to investigate to what extent visual tools may facilitate the communication of musical thoughts between professional musicians being asked to prepare individual performances of some given classical piano compositions.

In the final discussion presented in *Chapter 7*, the relevancy and usefulness of the two visual tools are discussed, after which follows a section dealing with some possible implications in educational contexts. Potential ways to proceed are broached, followed by a short description of the planned forthcoming research. The chapter ends by commenting on contingent gender aspects, after which follows some concluding remarks.

Chapter 2: THE MELODY LINE — a Theoretical Investigation 1

In the present chapter, conventional views on some aspects linked to the interpretation of classical music are discussed, forming the basis for the development of the visual tools being applied in the present PhD project (cf. 1.3.). A precondition for using special tools for the intended *communicative* purposes is that there are musical aspects which may be experienced in a relatively similar way by different persons (cf. 1.2.4.). It is my point of departure that aspects related to *melody* and *phrasing* might serve as a common reference.

The chapter thus presents the premises found in literature for designing two appropriate visual tools, particularly the first one intended to illustrate the experienced fluctuating dynamical sound levels of the melody part within a performance. For the purpose of developing the second visual tool an additional theoretical investigation was needed, which will be further explained and presented in Chapter 3. This latter visual tool has the function of indicating the experienced stresses of the underlying pulse, giving rise to the impression of the composition's metrical structure and bar-line organisation. The two tools are intended as complements to speech and the traditional score (cf. 1.2.3.).

The references of this chapter have not been extracted exclusively from different categories of theoretical literature; documented statements made by performing artists representing somewhat diverging approaches are presented as well. The reason for referring also to some literature of an older date is that these texts seem to mirror typical conventional views which have been established within the classical music traditions. For example, there are references to literature written by the German music theorists Oskar Rainer (1925), Alexander Truslit (1938), and Ernst Kurth (1947).

When studying the literature, I was struck by the authors' relatively similar ideas about many matters linked to musical interpretation. An interpretation of this might be that their statements represent common views within the classical music traditions. For example, *melody* seems to be considered as the principal musical element by most of the referred authors. Another common view is melody *phrases* regarded as continuous *lines* with interchanging phases of tension and relaxation, which all together gives rise to the experience of *periodicity*. Furthermore, the performers' preparation of the single tones, as well as their experience of an inner movement, are said to exert a decisive influence upon the perceived character of the music.

In the present chapter, the following musical aspects will be discussed with references to different authors:

1) polyphonic and homophonic approaches
2) melody regarded as a continuous line
3) tension and relaxation
4) gravity and energies connecting tones
5) dynamics following the melody contour, dynamics and emotions
6) breath
7) shape of the single tones: intensity, performance of shorter and longer notes, preparation of single tones
8) movements of the music
9) tempo and rhythm

Of course, none of these aspects should be considered as an isolated phenomenon; when performing a composition all the elements are indissolubly integrated into the sounding music. The reason for categorising the authors' statements in this way is merely to achieve a clearer overview of some essential aspects linked to musical interpretation.

2.1. Polyphonic and homophonic approaches

Representative of the early Western musical history from about the 11th century is the intense development of *polyphony*, which made Western music deviate more and more from other original musical cultures in the world (Grout, 1962). Jeppesen (1930) regards the rising sophisticated harmonic structure of classical music as a consequence of dissonances and euphony provoked by the interlacing polyphonic voices' movement forwards in time. A great example of elaborate and mature polyphony is said to be the vocal music of the renaissance composer Giovanni P. da Palestrina. As opposed to his strictly polyphonic approach, a kind of music primarily based on a main melody part with chords and accompanying harmonies gradually became more frequent from the beginning of the 17th century (Jeppesen, 1930).

In the 18th century, there was an intense antagonism between the two theorists and composers Jean-Philippe Rameau and Jean-Jacques Rousseau. The latter challenged the priority Rameau accorded to the music's *harmonic* aspect (Sadler & Christensen, 2001). Rousseau thus criticised Rameau's elevation of the alleged rational component of harmony over the 'passionate' components of *melody* and voice linking music to primordial poetry and the natural language. As opposed to Italian opera music, Rousseau thought that French music had lost the essential aspects of voice and melody, replacing them with secondary properties such as harmony and structural complexity (Kintzler, 2001). He claimed that it was an error to believe that Rameau's intellectual science of harmony could elucidate musical phenomena. The basis of linguistic and musical meaning is rather *passion* which is primarily implied in the concept of vocality.

According to Brincker (2002), Rosseau paid particular attention to the continuous succession of melody and sounds building up a 'story'. When music is reduced to isolated sounds, it stops speaking. Even if I am inclined to agree with Rousseau in many respects, his view on the harmonic structure as representing the music's *rational* component as opposed to melody and voice representing its more *emotional* and passionate side may indeed be questioned. In many cases, the special emotional character of a composition is created first and foremost by means of its harmonic progression, and as to melody this aspect may also be structured in a rational and logical way, which all together seems to disaffirm Rousseau's rather artificial distinction.

Nevertheless, in most original musical cultures in the world, harmonies and chords seem to be either absent or at least subordinate to melody and rhythm representing the basic musical elements. For example, in *heterophonic* music (e.g. many Asian musical styles) there is no underlying harmonic structure (cf. Bonnier, 1975). Another example is Gregorian chant that may be described as based primarily on long melody lines with neither any clear underlying rhythmic structure nor harmonies (Grout, 1962). There are also musical styles prioritising the rhythmic component without any real melody or harmonies, for example, different kinds of African drum music. If excluding the melodic element, however, and instead giving place exclusively to rhythm and harmonies, the music runs the risk of being perceived, at least by classical music listeners, as if there was something missing. It is true that such music exists as well, for example, for the purpose of creating special atmospheres or with the function of making people enter into a relaxed meditative state. However, for the purpose of meeting the expectations of demanding music listeners, this kind of music tends to sound static and boring. Since melody seems to represent such an essential musical element, I have decided to design a special visual tool for the purpose of illustrating the fluctuating dynamical sound levels of the *melody part* as personally experienced within different musical performances.

Statements made by different artists, composers and authors seem to represent diverging positions on a scale between polyphonic and homophonic approaches to music, giving priority to either counterpoint and harmonies or to the experienced melody line moving forwards in time.

In his music, the Swedish composer Hilding Rosenberg strived to give priority to singing melodic lines, since he considered everything else as adornment (Martinsson, 1999). Furtwängler (1991) thinks that the overall melodic shape is fundamental to the inner meaning of the work, even if it may change between the instruments from one register to another.

In Walter's (1958) opinion, polyphony does not mean that all the voices should be treated equally; generally there is just one main line at a time. He claims that all the voices are obliged to adapt to the melody that demands a certain care and attention. Walter regards all music to be basically *homophonic*. Even polyphony is subject to a homophonic purpose.

In contrast to this, Barenboim (1991) considers music as *polyphonic* by nature, and the harmonies should always be considered in a polyphonic sense. None of the voices is independent of the others; the voices are functioning like bodies in a unit. However, he admits that different voices may dominate in different sections.

The pianist Glenn Gould seems to go a step further in his verbally formulated strivings to give priority to the *vertical* layer of the score, often by emphasising the lower voices or by articulating each single note individually, using the noises of the onsets and releases of the keys in order to imitate the pronunciation of verbal consonants (Bazzana, 1997). Consequently, Gould did not consider legato playing as a fixed rule, but merely as one particular expression among others. He regarded the composition's texture as a kind of musical mosaic or sound pattern, which was said to be more important than the melody line as such.

However, according to Schnabel (1970) different ways of articulating the tones do not contradict the ideal of keeping the musical lines together: 'Of course, a line in music should remain a whole; whether it is marked *legato* or *staccato*, whether some note values are longer or shorter, and in whatever rhythmical arrangement it appears, it should be still the same figure, the same phrase' (p. 172).

When discussing musical phrasing, Sundin (1994) refers to Hans Mersmann and his 'Angewandte Musikästhetik', according to which the balance between horizontal (linear succession of tones) and vertical (chord structure) layers, preventing neither of them from being dominant, is considered to be an ideal. Traditionally, it is however primarily the uppermost voice that calls the listener's attention due to a long musical tradition (Sloboda, 1985).

2.2. Melody regarded as a continuous line

Melodies have sometimes been compared to continuous *lines*, bows or arches. The famous cellist, composer and conductor Pablo Casals associated with 'rainbows'. Each tone functions as a link in a chain: '...important in itself and also as a connection between what has been and what will be' (Blum, 1977, p. 19).

According to Corredor (1954), Casals expressed the same kind of idea in the following way:

> Musical interpretation demands that nothing remains isolated; the tones should be like links in a chain having significance in themselves as well as through their relations connecting them with the past and the future of the composition (p. 256, *my translation*).

Blum (1977) describes how Casals's phrases seemed to be born out of a movement of energy, flowing from one note through the next, a movement from one point to another, on the way to a new point or emanating from an earlier point, everything representing a contour.

Haggin (1959) writes about Toscanini's plastic continuity and coherence in the continuum of sound moving in time. There is tension in the continuity, cohesive tension from one sound to the next, one of shape, right proportion to what preceded and followed, timing and force of one

sound implied the timing and force of the next, giving the flow naturalness and inevitability in addition to its coherence.

In Furtwängler's (1991) opinion, one conductor is able to make an orchestra play legato, whereas others are not. One is able to make the shortest phrase sound smooth and coherent like the line of a song, another makes it sound clumsy and disjointed. He considered this as a matter of technique, not of personality. In Furtwängler's view, it is a challenge to combine rhythmical accuracy with a freely singing melodic line. To him, the melodic substance lies *between* the beats.

Skoda (1957) emphasises the importance of stretching arches, shaping the impression of breaths and contrasts between tension and relaxation, and avoiding elements that are supposed to belong together to be cut off, everything in order to keep the musical form together in a unity. Every note of a melodic arch should appear as alive and relate in a balanced way to the whole of the melody:

> The succession of tension and relaxation and the wide range of emotional values can never be exactly represented visually. The notes replace a continuous line through points whose organic connection has to be left to the performer's intuition and knowledge (p. 14, *my translation*).

The conception of melodic arches seems to exist in other musical styles as well. As an example of this, Huron (1995) has studied the melodic arch in Western folksongs.

To Karajan, it was important to keep the long lines intact by paying attention to the tensional ebbs and flows, as well as to the many voices and the composition's construction (Osborne, 1989). He was even convinced that those long lines could be created by means of appropriate cuts made in a recording studio. In order to shape an uninterrupted long line in the flute solo of 'Domine Deus' in Bach's b minor Mass, Gareth Morris was once supplemented by an extra flutist, even though Morris seemed to have some difficulties digesting this kind of 'musical immorality'. Karajan was able to guide even eminent artists to adopt his ideas of phrasing in ways preferred by a singer.

Sundin (1994) emphasises linearity as one of the fundamental aspects of interpretational coherency in which melodic, harmonic, rhythmic, dynamic or sonoric species are embedded. He refers to Mersmann's principles of performing, in the frames of which *phrasing* is described as an interaction between musical elements either belonging together in the composition, and which therefore should be unified in a performance, or musical elements supposed to be separated and therefore being delimited from another. Meyer (1996) claims that 'proximity between stimuli or events tends to produce connection, disjunction usually creates segregation' (p. 13).

Kurth (1947) explains the experience of musical 'energy'. In its simplest form, it may be perceived as a continuous stream flowing through the melodic shape, as some kind of force between the tones, not to be understood as a supplying connection but rather as a *drawing* force, an *inner* movement, giving rise to changing states of *tension*.

According to Kurth (1947), a melody will thus be perceived not just as a succession of points, but as a continuous stream of tonal movements. This impression of a continuous flow concerns the act of understanding, reading, speaking, as well as emotional processes. Kurth considers the tones as the perceptible traces of a vague, fugitive streaming force:

> The stream of force, however, that is drawing through the sounding material, appears also in other shapes than the line of one single voice; it expands over entire complexes of voices, either in the sense of individual linear shapes (polyphony), or as strokes of sounds merging together (homophony), who in its turn may be penetrated by musical lines appearing in a multitude of ways (Kurth, 1947, p. 83, *my translation*).

Kurth (1947) also describes the experienced energy as flowing through beginnings, releases, staccato notes, as well as the space between the single notes. There is an experience of tension and an aspiration in a forward direction, due to the striving of the single notes. In Kurth's view, the single elements relate to each other in a way that creates the impression of a *shape* (German: 'Gestalt') or a unified force of tension, connecting elements on different hierarchic levels. The phrases are moving into each other as a kind of fluid.

Moreover, Kurth considers the remaining acoustic image of a whole melody as easier to reproduce than single tones and sounds. The continuous connection between the notes, also extending outside the very sounds, is due mainly to an independent energetic continuity extending through rests or staccato notes as a unit in the sense of form. This means that the rests should not be considered as breaks; they are also connected to the sounding element.

Inspired by Edmund Husserl, Sundin (1994) states that '…a melody comes into existence through retrospective relation to phases that can no longer be heard […] therefore, the melody is not its sound, but that which appears through transcending it' (p. 113). Sundin explains the phrase bows as linked together with releases and new beginnings overlapping each other, which also means that the experience of the past might be revised.

In Palestrina's vocal music, melodies are usually representing a line more or less in the form of a bow (Jeppesen, 1930). The melody line is characterised by a strong intrinsic integrity, which gives rise to the impression of something organically coherent. It avoids interruptions without smoothness and prefers what is falling down in a free and natural way. However, according to Kurth (1947), there is a great difference between the calm bows of the melody phrases in Palestrina's vocal compositions and the shapes of the lines in, for example, much of romantic music. He explains how the energy produced by a bow stores at its culmination point a kind of push-off force that remains during the decreasing phase of the curve in question. The culmination points are thus influencing the continuation of the music; the energy is not totally released at the end of a phrase. This means that the single phrase bows are linked together; releases and new beginnings are overlapping each other. When a new activity of perceived dynamics is emerging, the perceived interpretation of a release may be revised into an interpretation of a beginning new increase of tension. For example, a diminuendo can be reinterpreted as a crescendo, which means that the past can be revised. Kurth discusses the interchange between the acoustic listening and the *inner* dynamic activity. The listener will simultaneously hear the past, the present, the 'beside', and the future. The energy is experienced not only as a unit in itself but also as development.

A question that may arise is why listeners to classical music tend to experience single tones as jointed, building up coherent musical lines. For instance, when striking the keys of a piano, the sound will often be perceived as built up by tones moulding together into a coherent melody, although the constantly decaying tones might also be perceived as isolated, produced by a kind of percussion instrument. All seems to depend on *how* a person listens to the music in question, and to what extent this person is able to identify the intended musical lines. This means that the experienced melody line, as well as all other kinds of experienced musical lines, may be defined as primarily *mental* phenomena originating from the listeners' active perceptual participation. In other words, it seems as if the listeners themselves *create* the music to a great deal, at the very moment of listening.

There is a vivid discussion going on between researchers representing a *cognitive* perspective on the one hand and those representing the so-called *ecological* perspective on the other. Departing from Gibson's (1986) ecological approach considering *perception* as a reciprocal relationship between a person and the environment, Clarke (2005) further emphasises the relationship between perception and *action*. In contrast to some cognitive views regarding perceptual skills as instruments filling in the missing information from a 'chaotic' world, perceptual learning is, in an

ecological view, considered as the development of a gradual differentiation within the stimulus emanating from a *structured* environment and culture. The sensorial impressions are created by means of a perceptual system *resonating* to this external information.

A question that arises is whether the experienced coherent musical lines are primarily caused by inherent functions of the human brain, or if it is provoked by the cultural impact of the surrounding world. I do not see any direct contradistinction between these two perspectives. It is true that the human brain *searches* for patterns when perceiving and interpreting the external world, but it is still the impact of the culture in question that meets this search by providing the indispensable *material* enabling the experience of adequate patterns.

For instance, the Swedish researcher of cognition, Peter Gärdenfors (1991/1999), claims that the *human brain* actively structures sensorial impressions: 'The human brain does not perceive images and sounds from the external world passively. It actively searches for *patterns* and *interprets* the surrounding world' (p. 62). The 'filling-in-mechanisms' (p. 64) ('ifyllnads-mekanismer') of the human brain enables the creation of illusions. As I understand this, the reinterpretation of single tones into *phrases* might be an example of this.

Using *Gestalt psychology* as a point of departure, Meyer (1967/1992) claims that people perceive and understand the world, and consequently music as well, in terms of patterns, models, concepts and classifications rooted in a specific *cultural* tradition. In music, single tones tend to be perceived as grouped into melody phrases. Conjunct pitch sequences, continuing timbres, as well as cyclic formal structures facilitate perception, learning and understanding.

Spitzer (2006) emphasises the crucial function of *memory* when listening to music: 'A melody emerges only when the combination of several tones is perceived within a certain lapse of time, and the musical experience moreover implies the recall of structures already heard' (p. 115) ('Eine Melodie gibt es nur, wenn mehrere Töne zusammen über die Zeit betrachtet werden, und das Erleben von Musik setzt zudem das Wiedererinnern bereits gehörter Strukturen voraus'). Spitzer also discusses the corresponding impression of tones building up structures which will be experienced by a listener as coherent *rhythmic* groups with more or less regularly occurring metrical stresses. This issue will be further discussed in Chapter 3.

In the same way as Kurth (1947), the authors Uhde and Wieland (1989) describe a silent musical stream, a continuous main thread running trough all rests, caesuras and stagnant sounds. For example, a break in the acoustically sounding unit does not necessarily signify a stop in the energy flow.

A rest may under certain circumstances be perceived even as a new charge of energy before the next beat, which supports the idea that the impression of a continuous musical flow of energy seems to be attached more to the total acoustically sounding shape of the music, rather than to single tones, musical events and beats. Barenboim (1991) claims that even silence may represent a lot of tension.

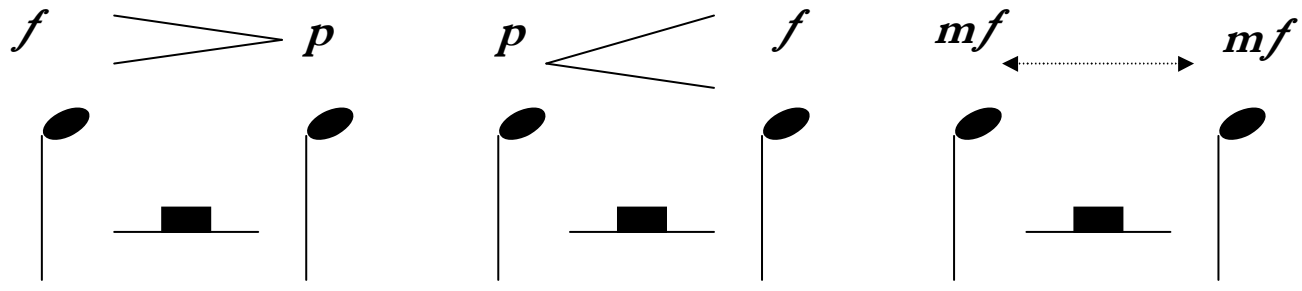

Figure 1: Three examples of dynamical changes that might be experienced during notated rests.

As an example of this, Figure 1 illustrates how the illusion of transformed dynamics may appear under certain circumstances during a prescribed rest. The figure to the left represents a tone performed in a forte dynamic and experienced as being of a character fitting to the character of the onset of the succeeding tone performed in a piano dynamic, which may create the illusion of a *diminuendo* traversing the rest. The middle figure displays the opposite: a tone performed in a piano dynamic and being of a character that fits to the onset character of the succeeding tone performed in a forte dynamic may create the illusion of a *crescendo* through the rest. The figure to the right illustrates two tones located on both sides of a rest and being of the same character, which may give rise to the experience of an unchanged dynamic level throughout the rest.

If the end of a tone is experienced as not being of the same character as the onset of the succeeding tone, the dynamical change may instead be perceived as a sudden '*subito*' effect. The explanations above also seem to be consistent with the illusionary impression of *accented rests* in the main theme of Brahms's Symphony as displayed in Image 1:

(J. Brahms: from Symphony N° 3, op. 90, first movement)

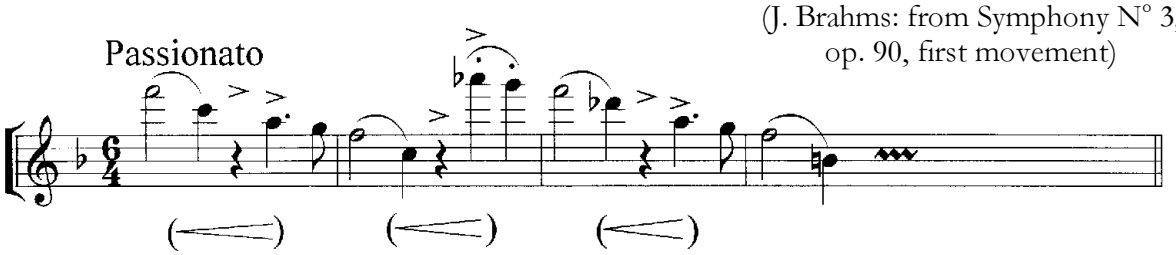

Image 1: Experience of 'accented' rests

In this case, the melody is accompanied by a rhythmic pattern composed in the viola and violoncello parts with the function of 'filling up' the rests. Another example with no rests 'filled up' is Brahms's third Ballad op. 10 in b minor for piano solo. The composition starts with a fifth chord quaver repeated twice, functioning as an accented upbeat to the first 'empty' beat (notated as a rest) in each one of two succeeding bars. Only in the third bar where the melody begins, the preceding upbeat chord is acoustically connected to the metrically stressed first beat. This means that the melody once being introduced may give rise to a revised impression of the two preceding bars' first beats as being also metrically stressed in spite of the notated rests.

Hence, it is my impression that the idea of conceptualising music in the shape of coherent lines is a well-established idea within the Western classical music traditions. Consequently, when designing a visual tool for the purpose of illustrating the experienced dynamical sound levels of the melody part, this basic idea has been taken under consideration. Accordingly, I have decided to illustrate the experienced melody part by means of a *continuous curve line* moving collaterally to the written score, as displayed in Image 3b at the end of the present chapter.

2.3. Tension and relaxation

In most music, the experience of tension and relaxation seems to be essential. In the renaissance era polyphonic vocal music was even considered as subjected to a kind of laws analogous to physical laws influencing a body in movement (Jeppesen, 1930; Söderholm, 1967). For example, an ascending melody line was treated as if conquering resistance, as if some musical *gravity* would exist. Valkare (1997) argues that the conception of notes being 'high' or 'low' might be partly explained by the visual appearance of the score, although he admits that such a view may also emerge as an association between muscular sensorial experience when singing a high tone and the experience of resistance in a physical sense. Tones located higher up in the register may thus provoke a stronger feeling of tension than tones in the lower register, due to the natural physiological functions of the human voice.

In some cases, the experienced tension may also affect the performer's choice of tempo. Barenboim (1991) considers Casals's tempi to be frequently rather slow, depending on the culmination points of the different phrases, the inherent tension and relaxation, the substance and sound of the music, or how the voice of an instrument leads into that of another instrument. The continuity of sound is very important when performing music, Barenboim claims. The performer has to be aware of the preceding silence, and it may be an effort to produce the sound or maintaining it on the same level. It is like lifting an arm, which can be easily done, even if it is much harder keeping it in that same position for a longer time. Silence may also represent a lot of tension. To Barenboim, it may appear as more intense than the strongest note or more relaxed than the softest note.

In all music, the experience of *periodicity* seems to be essential. According to the conductor Celibidache, music moves between culmination points and dissolutions (Weiler, 1993). He also claimed that tension is related to mass as an experimental phenomenon based on acoustical ground (Sundin, 1994). Tension thus emerges through opposing contrasts and the experience of mass in movement. Increasing tension is a development from less to more. Celibidache considered musical periods as consisting of phases of ascending tension and phases with diminishing kinetic energy being compressed. In a similar way, Uhde and Wieland (1989) describe music as based on cycles of tension and *counter-tension* overlapping each other.

As a consequence of the constantly changing phases of tension and relaxation, the continuous lines will normally be perceived as divided into smaller units or *phrases*. Music has often been compared to the prosody of the spoken language, and in this context *melody phrases* have been defined as melodic units reminding of linguistic sentences being also pronounced and articulated in a similar way (cf. Fridell, 1997; cf. 1.2.5.). The association between melody phrases and the sentences of the spoken language will be further explained in Chapter 3.

Sundin (1994) explains tension as something that occurs because of the inner connection between what is related and what is contradictory. For example, in an interval the tones simultaneously strain away from and towards each other, which contributes to the creation of the experience of tension. Even if performed with a staccato, two tones may be experienced as one interval. Sundin also refers to the music professor, pianist and composer Edward T. Cone who described natural periodicity, which means tension and culmination points succeeded by relaxation, as a fundamental musical principle.

In my view, a performing style permitting smaller musical elements to be integrated into blocks of larger dimensions by means of a continuous and steadily flowing sound in a temporal sense, will even reinforce the experience of the mentioned periodicity within the frames of coherent lines. The reason for this may be that any kind of languor in the dynamic level and sound quality will easily provoke the impression of relaxation, and consequently also a structural disjunction towards what follows in the music. In other words, the experience of periodicity presupposes that musical elements are performed in a way that does not give rise to the impression that they are isolated from the actual musical context.

In Kurth's (1947) opinion, the energy of movement in a musical sense has a physical side, as well as a mental one, causing many different forms of tension. The emotional tensions go hand in hand with the motor tensions of the music, Kurth explains. In a broader sense, harmonic consonants give rise to the impression of relaxation, whereas dissonances provoke a desire to move forwards. The major triad has become a symbol of relaxation, attracting the other notes against its gravity centre. A dissonance may cause the impression of pressure or weight.

Nielsen (1983) has studied the connections between subjectively experienced levels of musical tension and the music's structural features. By means of a synchronized graphical curve displaying continuously varying degrees of tension as indicated and controlled by the participants, the musical events, giving rise to the tension could be identified in the printed score.

Nielsen (1987) refers to Kurth when discussing the concept of tension considered as a propriety that is embedded in the musical object itself. Concepts like musical tension, energy, and force have been used within the German musicology and psychology tradition of 'form dynamics' from the 1920s and 1930s. Music was conceived as a continuous flow of inner dynamic forces. When music is performed, waves of tension appear as emerging, rising, culminating and relaxing phases, taking place on several interacting levels of time. Nielsen mentions Zuckerkandl and the Danish composer Nørgård who regard tension as a universal phenomenon rooted in the surrounding nature, as well as in the human mind. Nielsen also refers to Pierce (1983), who in his article 'Climax in Music' focused on the *climax* as being something fundamental in musical phrasing and its connection to corporal movements and kinaesthetic experience.

However, it is not easy to explain exactly what in the music that gives rise to this experience of tension. Nielsen (1987) argues against an ascription of the experience of tension to any single isolated musical parameter or aspect. It is rather due to the interplay of a multitude of factors. Following the same path, Fredrickson (2001), referring to previous studies, states that no specific variable seems to influence the totally perceived tension. Tension seems to emerge out of the combined impact from all musical variables involved in the performance.

The phenomenon of musical tension seems thus to be multidimensional. Nielsen (1983, 1987) defines two main aspects of tension:

1) the kinetic-dynamic and energetic aspects of motion, or the experience of some kind of force moving the music in a direction forwards, development, direction, activity, and

2) the focusing aspect of experienced intensity, musical attention, importance, emphases and unexpectedness

To Nielsen (1983), perceived tension is related to elements which are embedded in the music regarded as an *object*. The category of musical tension can be described as a ligament making the composition coherent and significant in a structural sense. Nielsen emphasises the mutuality between the features of music regarded as object and act. It is possible to imagine the lapse of increasing, culminating and decreasing tension within a whole movement simultaneously and independent of present time.

Bearing in mind that the total impression of *tension* seems to be provoked by the combined impact of several musical aspects at a time (Nielsen, 1983, 1987; Fredrickson, 2001), I have found this concept to be too *vague* for the purpose of designing an appropriate visual tool intended to facilitate the *communication* of musical ideas between musicians. If it is too hard to discriminate between the many intertwined aspects, and to identify any special musical parameter provoking the experienced tension, nobody will know exactly what it is within the sounding music that the visual illustration in question is supposed to mirror. This is also the reason for designing a visual tool that is supposed to focus on a somewhat more delimited aspect: the perceived *dynamics* of the melody part, which means the subjective way an imagined listener experiences the fluctuating soft and loud sound levels within a certain performance.

It is true that the concept of perceived dynamics may appear as closely related to experienced tension in many respects. Both concepts seem to imply the discussed conventional views on melody phrases as constituting continuous lines moving through the music, including rests as well as caesuras (Kurth, 1947; Skoda, 1957; Uhde & Wieland, 1989; Barenboim, 1991). In some cases, the illusion of a dynamical change may even be experienced during a composed rest (cf. 2.2., Figure 1). On the other hand, the fact that a composed rest or caesura might give rise to an experience that is not necessarily tantamount to tensional relaxation or silence, indicates that neither of the two concepts of tension and perceived dynamics is totally correlated to physical *amplitude* in terms of decibels.

The most important difference between the two more related concepts of experienced tension and perceived dynamics is that although being performed in a soft dynamical nuance, a musical section might still be experienced as representing a high degree of musical tension. However, as defined in this project, the concept of perceived dynamics is supposed to be linked primarily to the *performed* sound levels as exerting the most decisive impact, although this does not exclude that there are many musical aspects which may reinforce or modify the impression of fluctuating dynamics.

Hence, in this PhD project, perceived dynamics is defined as a separate concept being neither entirely equivalent to musical tension, nor to physical amplitudes. By way of a suggestion, the dynamical fluctuations of the melody part might be illustrated by means of a freehand curve moving continuously on and between a settled number of horizontal lines collaterally to the printed score within a specially designed staff, and indicating the relative dynamical levels of a certain musical performance as personally perceived.

2.4. Gravity and energies connecting tones

As already discussed, the tones of a melody phrase may be experienced as being subject to some kinds of energies reminding of gravitational forces. Casals (in Blum, 1977) compared the tones to the links of a chain. All of them were said to have a special significance, belonging to an element and/or striving in a certain direction. He even told that he was able, when intonating a half-note interval, to feel the 'gravity' or attraction between the two notes.

Kurth (1947) considers gravity between tones as a basic quality in music. One tone always strives to the next one or emerges out of the preceding tone. The total impression of all the tones together determines the experience of the single tone. To Kurth, a major triad has the capacity of 'attracting' other tones against its gravity centre.

Sometimes musical experiences have been compared to phenomena within the surrounding nature. For example, when listening to music it may be possible to experience some kind of mass in movement (Bastian, 1987, Sundin, 1994). According to Sundin, Celibidache thought that the impression of musical tension was linked to the experience of mass.

In the renaissance era, certain more or less severe rules were formulated for how to deal with smaller intervals or jumps when composing polyphonic vocal music (Jeppesen, 1930). In his vocal music, Palestrina strived to compensate and fill up the melodic intervals of a larger size. Söderholm (1967) explains these rules by referring to the conception of musical forces of gravity underlying the melody movements. In order to move upwards in the register, the melody should first be recharged by a corresponding preparative movement downwards. A melody moving stepwise upwards should not continue in one and the same direction too long because it then might be perceived as losing all its force, and a melody moving downwards should not continue too long either without being vitalised by a movement in the opposite direction.

This also means that in Palestrina's music a melody was not allowed to jump from the lower register directly up to a high tone. The movement upwards in the register had first to be neutralised by a movement in the opposite direction in order to recharge the melody with new force before progressing towards the high tone. In this way, at least the melody lines of renaissance vocal music remind of a beautiful landscape's topography, gently intersected with hills and valleys.

2.5. Dynamics

As already discussed, in a musical sense the dynamics of a performance may be considered as implying more aspects than exclusively physical amplitudes. Accordingly, Walter (1958) thinks that dynamics are not just a matter of playing loudly: 'Musicians have to be aware of the decisive difference between a forte in a quantitative dynamical sense and a forte regarded as a qualitative concept of force or energy' (p. 127). In a similar way, Casals thought that the prescribed dynamics of the printed score should always be interpreted in a relative way adapting them to the specific musical context (Blum, 1977).

Karajan too, regarded dynamics as something relative (Haeusserman, 1968). Different circumstances, for example, the acoustics of the concert hall, determine the way in which the music will be perceived by the listener. Moreover, Karajan believed that dynamics have their roots in the dynamics of the soul.

It seems as if dynamics might be described primarily as a mental phenomenon. Kurth (1947) states that musical imaginations do not always emanate from the external world but from inner psychological mechanisms which are commonly shared by all humans. Consequently, the experienced energies are not possible to measure in a mathematical way. The experience of inner dynamics cannot be covered by explanations dealing with measured physical amplitudes. After all, even external dynamics should be understood as an internal phenomenon of tension being of an affective nature. Moreover, dynamics are always relative, bearing in mind that different instruments have different acoustic features.

There seems to be at least two different kinds of interacting conventions for how to perform dynamics, which will be broached in the succeeding sections:

- a traditional basic model implying dynamics following the melody contour
- a commonly agreed emotional code consisting of several cues for expressing special musical effects

2.5.1. Dynamics following the melody contour

A frequently used convention for performing melody phrases is to reinforce the movements of the melody contour up and down in the register by increasing and decreasing the dynamical sound levels in a corresponding way. According to Sundin (1994), the music theorist Hugo Riemann argued that an ascending melody should be performed by increasing the dynamic level (treble oriented performing), giving rise to the impression of cumulative tension and liveliness. On the other hand, a descending melody should be performed with a corresponding decreasing dynamic level.

Friberg and Battel (2002) have studied expert performances by analysing variations in timing and dynamics within melody phrases. Particularly in performances of music from the Romantic period, phrases tend to start slow, speed up in the middle, and slow down again towards the last tone. The dynamics tend to follow a corresponding pattern: soft-loud-soft. Pitches higher up in the register are usually played louder. The highest tone of a phrase is often the most important.

Of course, there are also many exceptions to this convention; for example, a sudden soft dynamic in the higher register may give rise to special emotional effects because of going against the listeners' expectations. Already Quantz described how a sudden soft sound level may provoke the effect of a surprise (cf. Quantz, 1752/1974).

When performing music composed by Bach, Klemperer (1986) regards it as appropriate to increase and decrease the sound levels according to the shape of the melody phrase's contour, but without disturbing its basic dynamic line. Also Casals (Blum, 1977) claims that dynamics should follow the melody contour up and down in most cases, even though the score may sometimes indicate a soft nuance at the beginning of the phrase. Normally, there should be a high point in each phrase, often coinciding with the highest pitch, regardless of whether the tone representing this high point happens to be located at a metrically unstressed beat of the bar.

Dynamics are not always indicated in the score. For example, in Mozart's scores, there are mostly just hints about dynamics (cf. Skoda, 1957). The feeling for the melody shape and its phases of tension and relaxation is nevertheless important. In Skoda's opinion, every note of a melody 'arch' should appear alive and relate in a balanced way to the whole of the melody.

2.5.2. Dynamics and emotions

In addition to the discussed basic model for performing melody phrases, a kind of musical code seems to prevail consisting of several cues for expressing emotions as well as special effects. In many cases, this code seems to be used in order to modify or even override the mentioned convention for performing melody phrases by reinforcing the melodic contour dynamically. Gabrielsson and Juslin (1996) have found that performers and listeners are more or less aware of such an emotional code. Musicians tend to communicate emotions by using an acoustical code reminding of the one used in vocal expressions (Juslin & Persson, 2002). Juslin and Persson have even succeeded in simulating emotional expressions in synthesized performances so that listeners can decode the intended emotions. For the purpose of obtaining a successful musical communication, Juslin and Persson claim that it is indispensable that the performer's cue utilisation is as similar as possible to the listeners' cue utilisation. However, no absolute uniformity in the utilisation of emotional cues could be discerned.

The connections between music and emotions have been studied from different research perspectives. From the perspective of brain physiology, Fagius (2001) claims that music has the power of influencing people emotionally. Clynes (1973) presents quantitative theories and measured shapes of emotional expression by means of normalised expressive touch pressure. Due to the recognition of the expressive shape or 'essentic' form, a caress, for example, is clearly recognised as different from a scratch and it is further differentiated as to a motherly or sexual caress. According to Clynes, even a dog is able to discriminate between anger and affection through the character of the voice, the gestures, or the caresses.

To Eitan (1993), music is related to universal characteristics of non-musical human behaviours such as the emotional expression through speech intonation and motion gestures. In speech, high-pitch accents are used to create the intonational 'nucleus' of a phrase, emphasised by speakers and perceived by the listeners as correlated to an increased level of tension.

In summary, several studies indicate a direct connection between performed dynamics and the experience of musical emotions (Rigg, 1964; Gabrielsson & Juslin, 1996; Woody, 2000; Juslin & Persson, 2002; Friberg & Battel, 2002). Moreover, musical performances with big dynamic contrasts have traditionally been associated with a romantic style (Goulding, 1996), and echo effects have existed as an emotionally motivated convention within classical music traditions ever since the renaissance era with its frequent terrace dynamics (cf. Dart, 1964; Goulding, 1996).

Hence, the performed musical dynamics in particular seem to function as a kind of principal *marker* indicating the melodic shape and exerting an important influence on the perceived character of the melody phrases. This connection is also the reason for calling the visual tool that is employed in the present PhD project, intended to illustrate the perceived dynamics within the melody part of a certain performance, *Melody Phrasing Curve*.

2.6. Breath

An aesthetic ideal that does not contradict the ideal of coherence and creation of long melody lines is that the music should 'breathe', which means that some units are supposed to be more or less separated. For example, Klemperer (1973) regards musical breathing as something fundamental: '…but the important thing is that one should let the orchestra breathe. That's the essential thing' (p. 86). In their interpretative system, Uhde and Wieland (1988) make associations between inhalation and expiration on the one hand and the performance of structural units on different architectonic levels on the other. Skoda (1957) also emphasises the importance of breathings and contrasts between tension and relaxation.

When discussing singing-ideals and the human voice's different means of expression, I. Bengtsson (1988) claims that the same kind of aesthetic ideals have also influenced the instrumental performing styles within the Western classical music traditions:

> Furthermore, the instrumental structures of phrases, periods, melodies, etc., have also deep historic roots in vocal music traditions beside all of the dance music. For example, violinists and pianists should therefore learn to shape 'intra-musical respiration' by means reminding of declamation and singing such as the performance of phrase closures, articulations, slight delays, etc. (p. 142, *my translation*).

This means that not only singers and wind players have to consider where they should breathe; musicians playing other instruments are also supposed to pay attention to the mentioned intra-musical respiration motivated by the musical structure when performing a composition.

There seems to be at least two different ways of breathing:

- breath performed with maintained dynamical intensity, giving rise to the experience of a continuing musical phrase
- breath performed with a decreasing dynamical sound level, giving rise to the experience of a phrase closure and relaxation

The two kinds of breathings mentioned are likely to be experienced differently. In the first case no dynamical decline is perceived, whereas in the second case a listener might experience some kind of a diminuendo. Correspondingly, the planned design of the Melody Phrasing Curve with its curve line moving along a staff continuously indicating the relative dynamical sound levels of the melody part as personally experienced, enables also the illustration of differently performed breathings.

2.7. Shape of the single tones

The experienced characters of the single tones are said to be due to many different aspects such as the performed intensity, the relationship between longer and shorter tones within a performed melody phrase, as well as the performer's inner preparation for each one of the tones.

2.7.1. Intensity

To Karajan it was a matter of great concern to care about every single detail in order to obtain a beautiful sound (Edler, 1989). As a consequence of this, the tones should sound throughout their entire duration without losing intensity. In Karajan's opinion, orchestral musicians often have the bad habit of interrupting their play all the time by playing note by note. In other words, the sound is constantly fading away, because the tones are not sustained in their full length as prescribed in the score. Karajan also wanted the final chord of a composition to stand as evident and firm as a monument.

Barenboim (1991) does not prefer music to be performed in a way with too much focus on every single beat or bar, because in most cases a phrase comprises more than just one bar. Furthermore, the beats are not there exclusively to help the musicians orient themselves in the score, but also to provide information about how to fill up the 'space' between the notes.

Casals incited performers to imagine or feel something special by using their fantasy (Corredor, 1954). He argued that accents and dynamics should not be performed in a stereotype way. A long note implies either a crescendo or a diminuendo (Blum, 1977), even though this is not always prescribed in the score. In many cases, some extra dynamical contrasts will be needed. After an accent in a forte nuance, Casals thought that a succeeding diminuendo might be appropriate, and that a piano nuance becomes more alive through small increases of intensity, just like in a painting: a colour stands out against weaker surrounding colours (Corredor, 1954). This means that an accent stands out, gets its life and relief not only because of its immediate degree of intensity, but also due to the 'shadow' that follows in the shape of a performed diminuendo (Blum, 1977). Casals also argued that if the forte nuance is sustained, nobody will hear the accent. Moreover, through the diminuendo the next note will stand out clearer. A diminuendo creates the expectation for what is going to happen next, which means that the accents get a greater importance through the following contrasts. Diminuendo signifies the life of music, Casals claimed.

Casals's statements seem to be consistent with some verbally formulated performing styles of the 18th century, for example, the so-called 'son enflé' (swelling sound) that might be applied by all the instruments capable of producing this kind of sound. This playing style seems to have been frequently used all over Europe (Veilhan, 1977). In his violin school, Mozart (1787/1983) expresses similar ideals for how to play long notes by recommending the sound volume to expand at the middle of the bow. For example, when syncopated crotchets are tied over the bar line, he criticises violinists who divide such tied notes into two halves by means of bow pressure in order to maintain the stability of the rhythm: 'Such notes should be attacked and sustained without pressure through a gradual decaying stillness. Just like the gradually decaying sound of a bell that has been struck sharply' (p. 44) ('Solche Noten müssen stark angegriffen, und durch eine sich nach und nach verlierende Stille ohne Nachdruck ausgehalten werden. Wie der Klang einer Glocke, wenn sie scharf angeschlagen wird, sich nach und nach verlieret').

It is interesting to compare these musical ideas to those of Karajan, for example, who was instead concerned about keeping the intensity of the tones' sound intact during their notated full length without making the sound fade away (Edler, 1989).

2.7.2. Performance of shorter and longer notes

Sometimes, tones of shorter duration or tones located at metrically unstressed beats demand a special care and attention. According to Barenboim (1991), Casals emphasised the importance of articulating tones of shorter duration particularly carefully, particularly in legato phrases, in this way keeping them from appearing insignificant. Casals formulated the same idea in Blum's (1977) biography: 'Clarity! The big notes come of themselves; it is the little notes that require attention' (p. 58).

Barenboim (1991) claims that a shorter note in a legato phrase may be played either louder or softer, but never with the same volume as the surrounding notes. He underlines that the last note of a phrase should be as important as the first one. Skoda (1957) seems to express similar ideas, saying that it is important to play notes of short time value in a particularly clear way by use of dynamic emphasis, for example, when performing a short note succeeding a dotted note or quavers surrounded by crotchets.

2.7.3. Preparation of single tones

The preparation of single tones is said to exert a great influence on the entire musical experience. For example, Barenboim (1991) claims that an upbeat without authority creates a dead sound. He believes that the upbeat can make the sound hard or smooth, influence the way the note ought to be sustained or the appropriate amount of vibrato. He recommends instrumentalists, singers and conductors to imagine the desired sound in their mind a fraction of a second before playing. This cannot be explained; it has to be experienced intuitively. No mechanical etude or waiting for inspiration can replace the personal search for a link between the desired expression and the appropriate method to bring it out. To Barenboim, common sense, emotion, technique as well as all the different musical elements may be considered as inseparable parts of a reflected process.

Also Klemperer (1973) is concerned about the relationship between the inner preparation of an upbeat and the shape of the succeeding tones: 'One must also learn to give special attention to the upbeats. And the second note must sometimes be a bit shorter than the first; that's something you can't notate' (p. 86). 'The conductor's upbeat, moreover, has an influence on the first sound' (p. 84).

Casals, in Blum (1977, and Furtwängler (1991) seem both to have adopted a similar view. Furtwängler claims that the secret behind the power and the sound quality of a tone depends on how it is prepared. He also thought that the melodic substance is located between the single beats. By paying attention just to rhythm and tempo, there will be no real music.

Casals (Blum, 1977) considered the very first note of a piece of music to be particularly important. The expression should be there already before the music, and to Casals, this is the point of departure for all musical communication. He used the metaphor of beautifully embellished initial letters in older books illustrated with hand-made paintings.

The preparation of accents may also affect the musical experience. According to Brendel (1982), accents played on the piano in a musical section with a cantabile character should be particularly prepared in advance, in order not to be played too sudden. In many cases, the performed shape of the anacrusis is crucial.

The discussed preparation may also be associated with the experience of some kind of inner movement or the imagination of musical gestures. When discussing the performance of improvised jazz music, Contro (1993) focuses on the concept of gesture, however not in a visual sense, but primarily referring to its auditory dimension as an indispensable condition for the realisation of the music in question: 'The word indicates a relation to the body, a movement, an action' (p. 170) ('Le mot indique un rapport au corps, un mouvement, un acte'). The concept is defined as implying breathing and articulation, as well as the relation between instruments and the music being produced.

Inspired by the statements presented in this section when designing the Melody Phrasing Curve of the present PhD project, I was concerned about how the inner preparation of particularly the first tone of a performance could be visually illustrated. One solution was to let the curve line depart from a point located slightly *before* the first printed note, in this way mirroring the inner experience of a preparation and transition between the preceding 'silence' and the first sounding music. Correspondingly, at the end of some excerpts the curve line was supposed to return to a point located slightly behind the last printed tone, mirroring the experienced return into the succeeding 'silence' in a musical sense. By drawing a continuous phasing curve, the subjective experience of the 'spaces' between the single notes may be illustrated as well (cf. Kurth, 1947; Barenboim, 1991; Furtwängler, 1991).

2.8. Movements of the music

The experience of motion and movement seems to be another important aspect of melody phrasing. As already discussed (e.g. in 2.2.), Kurth (1947) describes an inner movement flowing through the melodic shape provoking the experience of fluctuating degrees of tension.

Repp (1993) relates musical movements to biologically conditioned movements. Shove and Repp (1995) refer to the article 'Brahms and the Mechanisms of Motion: the Composition of Performance' by D. Epstein, who claims that 'tension means energy unresolved and unresolved energy ultimately means forward motion' (Shove & Repp, 1995, p. 57).

Discussing the Austrian musicologist Eduard Hanslick who considered the musical content as consisting of sounding forms in motion, Gabrielsson (2002) argues that music is not able to describe the *emotions* in themselves but rather their external dynamic properties, like for example, quick, slow, strong, weak, falling, and rising *movements*. Since music seems to be able to express such movements, he thinks that it can also express emotions in an indirect way, at least to some extent, because some movements might be regarded as linked to certain emotions.

The experience of movement may to a great extent be related to the choice of tempo. Barenboim (1991) considers music as ruled by its own unifying cosmos; all the voices are functioning like bodies in a unit. The total 'weight' of all the parts determines the choice of tempo; depending on the 'weight' of a special sound it will need a corresponding appropriate time to move: '…the weight of the object in motion determines its motion' (p. 133).

Rainer (1925) discusses how melodies and different moods may relate to bodily movements. For example, joy can be expressed through stretching out the hands, sadness through contracting movements. In a similar way, the German music theorist Truslit (1938) explains the relationship between emotional bodily expressions and musical performances. He regards the *movement* as the music's original element: 'Music is sounding movement' (p. 51) ('Musik ist tönende Bewegung'). Referring to Richard Wagner, Truslit claims that it is primarily the *melody* sung by, for example, an orchestra that gives rise to this impression. Rhythm and harmony are flowing together with melody in a unified course of movements.

Truslit (1938) uses the concept of *dynamo-agogic*. Deviations in an agogic sense are not only allowed but also indispensable. Agogics and dynamics are considered as two related elements being born out of the same basic movement. The bodily movement is transmitted to the sound, which is explained by the metaphor of a parish clerk who is going to ring the bell.

Truslit (1938) expresses the alleged musical movements by means of visual curves. However, his curves are supposed to correspond primarily to the inner energetic movement, not to any specific pitches or to the register of the melody contour. Visual curves illustrating inner conceptions facilitate the discovery of musical shapes not being naturally coherent, Truslit believes. For example, straight and sharp-angular musical movements interrupting the continuity of the singing line should be avoided. His curves also imply movements existing already before the onset of the very first tone (cf. 2.7.3.). Neither fermatas, rests, nor the decay of the very last tone are considered as still-standing in a kinetic sense.

The diverging shapes of Truslit's (1938) curves are supposed to correspond to musical movements being of different characters. Image 2 displays two examples mirroring Truslit's experience of an inner movement. The figure to the right seems thus to illustrate a movement starting already before the onset of the tone. In later times, the music researcher Bruno Repp (1993) has summarised and translated Truslit's book as a synopsis in English.

Image 2: Two examples of Truslit´s (1938) 'dynamo-agogic' curves displayed in his book

The planned Melody Phrasing Curve is neither adapted to directly illustrate the experience of inner musical movements nor the agogic deviations performed. The reason for this is that the bars of the printed score displayed collaterally to the continuous curve line are not equally long, which means that the phrasing curve cannot be synchronised to any settled time axis. However, the other planned visual tool, which is supposed to indicate the experienced *points of gravity*, giving rise to the impression of the composition's metrical structure and bar-line organisation, might be used for illustrating some temporal displacements in an *indirect* way. For the purpose of designing this latter visual tool an additional theoretical investigation was needed, which will be further presented in Chapter 3.

2.9. Tempo and rhythm

The concepts of tempo and rhythm may be considered as phenomena provoked by structural features within the music, giving rise to the experience of more or less regular patterns on different architectonic levels. To Karajan, rhythmic accuracy and control was something crucial (Osborne, 1989). He was said to be in possession of a so-called 'absolute metronome'. This does not mean, however, that the sounding results of his beating were metronomic in a negative sense. According to Karajan, the phrases were always determinant, and the feeling of pulse should be anchored in the body. He thought that the composer Richard Strauss had an excellent feeling for the inner rhythm of the music by making it appear as a constant movement forwards in time.

In order to create the impression of a steady tempo in the listener's mind, Brendel (1982) finds it necessary to pay attention to the natural flow of the music itself, which is not the same as following a static metronome kind of tempo. Through evenness in rhythm and sound, simplicity of expression may be achieved in a positive sense (Brendel, 1976). In a similar way as Brendel, Horowitz did not define a rhythmical play as following a metronome (in Schonberg, 1992). When a fundamental pulse is kept, it is possible to perform with almost no kind of metrical adjustment.

In his striving after technical accuracy, while at the same time expressing the emotional content of a phrase, Walter (1958) was particularly concerned about finding the relevant tempo. The tempo is relative and should constantly adapt to the changes of the music. However, there is always a fundamental tempo maintaining the unity of the musical piece. Walter claims that the changes of tempi may be considered as a part of the composition in itself, and not something that has to do with the interpretation of the musical work in question. Changes of tempi give rise to the specific significance of the musical phrases. To Walter, freedom and impulsiveness should be restricted within the frames of fixed laws. An appropriate flexible, but still continuous tempo gives the impression of natural and lively flow.

Many artists seem to constantly adapt the tempo to different changes within the musical structure. Casals argued that music should be performed in a constant rubato, like the constant changes of speed when talking (Corredor, 1954). When choosing a tempo, it is also important to take under consideration the conditions of the concert hall. Casals thought that many performers

have a tendency of using artificial and too fast tempi. To him, the pulse of the music was like the composition's organic heartbeats (Blum, 1977). Like Toscanini he often allowed himself to change the tempo, even in the middle of a passage. He considered it also important to dare waiting long enough where long rests are notated in the score.

Hence, the tempo indications of the printed score cannot be interpreted as something absolute. According to Furtwängler (1991), the score never prescribes the exact tempo of a musical work. Stenzl describes Furtwängler as one of the very last German 'espressivo conductors', who constantly applied a kind of 'phrasing rubati' in the pure spirit of Wagner (Furtwängler, 1996). This means flowing changes in tempo in order to shape the characters of the musical phrases, which is only possible under the conductor's full control. Furtwängler did not think that the vocal aspect of music would appear to advantage in a fixed metronome tempo. Cook (1995) is interested in the subjective experience of a steady tempo. He discusses Furtwängler's so-called modified or in a metronomic sense fluctuating tempo when performing the first movement of Beethoven's ninth symphony. Barenboim (1991) refers to Rubinstein who avoided rushing away in a dramatic musical section; the phrase must sing freely on the top of the melodic line and at the culmination point.

Many performers do not seem to like too fast tempi. For example, Celibidache preferred slow tempi in most cases (Weiler, 1993). Slow tempi bring out form, structure, and great arches of tension, enabling the music to breathe. The inner tempo of a piece of music has nothing to do with measurable speed. Clearness is important, and when the music is multiplex, there is a need for more time. If not, no one will experience all that is happening, Celibidache thought.

However, even if playing in tempo is not equivalent to playing in a strictly metronomic way, this should rather not be interpreted as an invitation to play totally out of rhythm. Music still has its own natural implicit rhetoric which can be recited as freely and natural as speech. Uhde and Wieland (1989) consider dance and the linguistic aspect as two basic musical elements. According to the authors, music is normally oscillating between these two poles.

Throughout history, music has received a lot of influence from different kinds of dances. According to Walter (1958), rhythm reveals the familiarity between music and dance. The musical rhythms are governing the rhythms of the dance. This connection originates from the inherent rhythmic life of the physical body itself. However, it is never a matter of mathematical accuracy. To Walter, musical rhythm is the spontaneous expression of living energy related to the rhythms of cosmos.

Kurth (1947) thinks that agogics and temporal stretches contribute to the impression of elasticity. He explains rhythmic patterns as a primarily mental phenomenon. The impression of movement that is transformed into bodily feelings is said to be caused by the penetrating motor drive of the music. Experiences of steps and strikes are also basically psychic by nature. Kurth does not want rhythm and stress patterns to be experienced as hindering the melodic energy flow.

To Karajan, rhythmic accuracy and control was something crucial everywhere in life (Osborne, 1989). He perceived all the physical movements transformed into musical rhythm, for example, when driving a car or an aeroplane (Edler, 1989). For example, a driver should be able to stop on the very precise spot, in the same way as a musician should be able to stop at the very last crotchet at the end of a bar.

Rhythm may also be regarded as an element that is implied in the single tones. At least Söderholm (1967) argues that some melodic intervals have their own immanent rhythm. For example, the rhythm of a small second interval or a fourth moving upwards in the register is regarded as ascending because of their functions within the tonal harmonic structure of Western classical music. In the melodic interval of a small second, Söderholm explains that the first tone

has the role of a leading tone or subtonic with an implicit ascending rhythm striving towards the other tone being the 'goal' tone.

2.10. Summary

Most of the authors referred to in this chapter seem to be particularly concerned about the importance of bringing out the main melody line clearly. The experience of melody is said to have a great significance for the purpose of creating an impression of unity (Walter, 1958) and for obtaining success when communicating the musical message to the listener (Furtwängler, 1991; Brincker, 2002). This is also the reason for focusing particularly on the *melodic aspect* when designing one of the visual tools employed in the present PhD project.

When interpreting music, performing artists seem to give different priority either to its polyphonic or to its homophonic aspects. For example, Walter (1958) claims that all music is homophonic by nature, whereas Barenboim (1991) finds all music polyphonic. However, this does not necessarily mean that there is any big discrepancy between their different positions, since both artists claim to care about the shape of the main melody line.

A frequent view is to imagine melody phrases as coherent musical lines (Walter, 1958; Osborne, 1989; Schnabel, 1970; Sundin, 1994; Furtwängler, 1991), as bows (Jeppesen, 1930), as stretched arches or 'rainbows' rather than isolated points (Skoda, 1957; Blum, 1977) or as links of a chain (Corredor, 1954; Blum, 1977). Uhde and Wieland (1989) as well as Kurth (1947) describe the melody line as a kind of silent continuous musical thread or energetic stream running through all the breaks, caesural pauses and still-standing sounds. Therefore, when performing melody phrases it is important to search for the ideal balance between the connection and separation of elements supposed to either belong together or to be disjuncted (Sundin, 1994; Meyer, 1996; Skoda, 1957). Accordingly, when designing a visual tool focusing on the melodic aspect, the experience of the fluctuating dynamical sound levels are supposed to be illustrated by means of a *continuous curve line* moving collaterally to the written score.

Concepts like musical tension, energy, and force have been used for a long time within the German musicology and psychology tradition of 'form dynamics' (Kurth, 1947; Nielsen, 1987). Uhde and Wieland (1989) discuss cyclical phases of tension and counter-tension, overlapping each other in an interchange between points of culmination and relaxation. The experience of tension cannot be linked to any specific musical parameter (Nielsen, 1987; Fredrickson, 2001).

Since the concept of tension appears as too vague for the purpose of designing a visual tool facilitating the communication of musical ideas between musicians, the Melody Phrasing Curve of this PhD project is instead supposed to illustrate only the *perceived dynamics* of the melody part. The difference between experienced tension and perceived dynamics is among others that the latter concept presupposes that the performed dynamical sound levels exert the most decisive impact. Consequently, the experienced dynamical fluctuations of the melody part are illustrated by means of a continuous curve moving collaterally to the printed score within the frames of a special *staff indicating the relative dynamical levels* of a certain musical performance.

Kurth (1947) considers the experience of gravitational forces attracting tones as a basic quality in music. Referring to musical ideas which were established during the renaissance era, Jeppeson (1930) and Söderholm (1967) discuss the shape of melody lines in terms of gravity and resistance.

According to statements expressed by Casals (in Blum, 1977), Walter (1958), Karajan (in Haeusserman, 1968) and Kurth (1947), none of them seemed to consider dynamics as something absolute. The entire musical context including the timbre of different instruments and the acoustics of the concert hall will exert a great influence on how the music will be experienced by a listener. An established way of performing melody lines is to follow the contour of the pitches

dynamically (Sundin, 1994; Klemperer, 1986; Blum, 1977; Friberg & Battle, 2002). According to Casals (Blum, 1977), there should always be a high point in each phrase, and the dynamic culmination point of a phrase may well coincide with a note on a metrically unstressed beat. However, there may be many exceptions to this basic rule in order to create special emotional effects.

Since particularly the performed dynamical sound levels seem to be closely linked to how the shape of the melody phrases will be experienced, the visual tool supposed to illustrate the experienced fluctuating dynamics of the melody part has been called the *Melody Phrasing Curve*.

In order to make the musical phrasing sound natural, there may be a need for paying attention to musical breath (cf. Klemperer, 1973). Skoda (1957) as well as Udhe and Wieland (1988) discuss breathing linked to phases of tension and relaxation. Referring to vocal musical traditions, I. Bengtsson (1988) claims that also string players and pianists should emulate some kind of musical breathing when performing a composition. The Melody Phrasing Curve might also be used for illustrating experienced dynamical changes provoked by different kinds of *breathings*.

Karajan often wanted to maintain the intensity of sound intact throughout the notes' prescribed length (Edler, 1989). To Casals, however, a long note means either crescendo or diminuendo (Blum, 1977). For example, he wanted an accent in a forte nuance to be followed by a diminuendo functioning as a kind of contrasting 'shadow'. In order to avoid notes of shorter values to be disregarded in a melody phrase, it may sometimes be appropriate to counterbalance these tones by performing them extra clearly (cf. Skoda, 1957; Blum, 1977; Barenboim, 1991). Brendel (1982), Casals (in Blum, 1977), Klemperer (1973), Furtwängler (1991) and Barenboim (1991) were all concerned about upbeats and the indispensable emotional preparation of the tones and the sounds.

By using a *continuous* curve 'filling up all the spaces' between the printed notes, and also departing from a point located *before* the first printed note, *the inner preparation of the first sounding tone, as well as that of all the other tones* may be visually illustrated.

Kurth (1947) discusses the impression of inner musical movements. Shove and Repp (1995) refer to authors having studied the impression of movement forwards in time out of the unification of musical events and expected resolutions of different kinds of experienced musical tension. Clarke (1990) as well as Shove and Repp (1995) discuss timing patterns and movements which are perceived as natural in a psychological and aesthetic sense. Gabrielsson (2002) argues that some musical movements may be associated with human emotions.

The Melody Phrasing Curve cannot illustrate movements in a musical sense, whereas the planned system for indicating the experienced points of gravity might to some extent be used for the purpose of indirectly illustrating *agogics and temporal displacements* motivated by the bar-line organisation.

Karajan was very concerned about making the music flow forwards by means of rhythmic accuracy and control (Osborne, 1989). However, the impression of a steady tempo is not necessarily due to a fixed metronomic tempo (Brendel, 1982; Schonberg, 1992; Clarke, 1990). The tempo is relative and should flexibly adapt to the changes of the music in order to express the emotional meanings of the phrases (Schonberg, 1992; Walter, 1958). Casals and Furtwängler seem to have adopted the ideal of performing music in a constant rubato in order to bring out the vocal element and the specific shape of the phrases (Corredor, 1954; Blum, 1977; Furtwängler, 1991, Furtwängler, 1996). When discussing the shape of musical phrases, Casals (Corredor, 1954) as well as Uhde and Wieland (1989) associate with speech. Walter (1958) as well as Uhde and Wieland (1989) discuss the familiarity between music and dance. To Walter, the sensation of rhythm is anchored in the inherent rhythmic life of the physical body.

From this it might be concluded that many authors have reflected a lot on matters linked to musical interpretation and melody phrasing. Based on the statements discussed, two visual tools have been designed for the purpose of being used in the two empirical studies presented in Chapter 5 and 6. These tools are focusing on the following aspects, respectively:

- perceived *dynamical* progression of the melody line
- *points of gravity* functioning as markers of the phrases' metrical division

The concept of metrical points of gravity, as well as the interaction between melody, rhythm and meter, and the role of this interaction in the process of musical interpretation, will be explained in a detailed way in Chapter 3. Before closing the present chapter, the Melody Phrasing Curve will be further explained.

2.11. The Melody Phrasing Curve

The Melody Phrasing Curve (abbreviated MPhC) is thus supposed to be based on conventional views on melody phrasing within the traditions of Western classical music as presented in this chapter. In this context, the experienced dynamics of the melody part plays a dominant role, which does not exclude, however, that other musical aspects like for instance harmony and rhythm may modify, reinforce or diminish the principal impact of melody.

When designing the MPhC in the first place, I was confronted by a relatively similar phrasing curve that had been used by the pianist Paul Badura-Skoda (Skoda, 1957). His phrasing curve was totally unknown to me at that time. Skoda used this curve in order to clarify his ideas about how to perform Mozart's music. To the best of my knowledge, his phrasing curve has not been subject to any empirical studies. Since it seems to represent musical ideas reminding of those on which the MPhC is based, I would like to start this section by briefly describing this other curve.

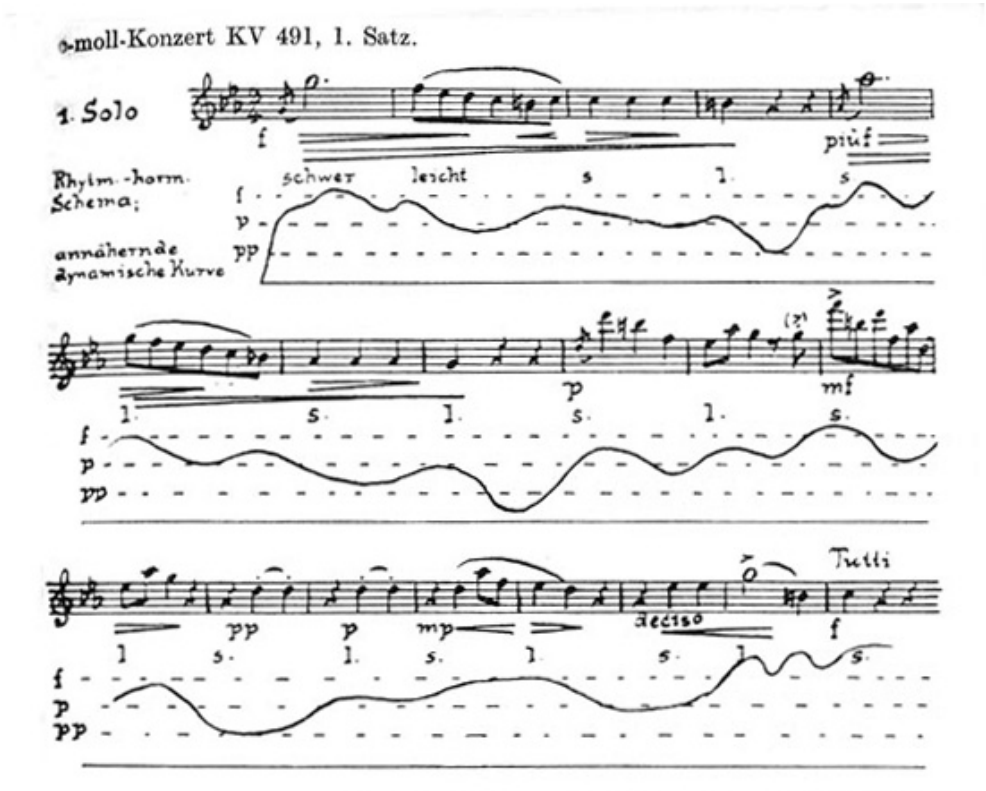

Image 3a: Skoda's (1957) dynamical phrasing curve illustrating the melody part at the beginning of Mozart's piano concert, KV 491

Image 3a displays Skoda's (1957) curve suggesting the dynamics of the melody part at the beginning of Mozart's piano concert, KV 491. Moreover, the image displays a pattern indicating stressed and unstressed beats (s=schwer [heavy] and l=leicht [light]). To the left of Skoda's curve, three different dynamic levels are indicated: *pp*, *p* and *f*, respectively, from which three corresponding horizontal broken lines are proceeding. The curve moves from the left to the right collaterally to the melody part of the score within the space of the broken lines mentioned. It departs from the continuous nethermost line, after which it ascends steeply indicating the dynamic level of *f* already at the very first melody tone.

Skoda's curve might thus be interpreted as representing the *intended* dynamics of the melody part rather than the performed sound levels in a physical sense. This interpretation is furthermore confirmed by the ascending movement in the fourth bar, from the indicated dynamic level of *pp* all the way up to an *f*, within a notated *rest* with no music sounding. A study of the complete score reveals that, at this place, there are rests in all of the other instruments as well. Since it is by no means possible to *perform* a crescendo in a rest, it seems as if Skoda's curve refers to the dynamical progression of the melody as *perceived* by a person (cf. 2.2., p. 21: Figure 1; Image 1).

In addition to Skoda's phrasing curve, several attempts have been made to illustrate musical aspects visually, for example, Truslit's (1938) visual curves broached in 2.8. and Nielsen's (1983) graphical curves displaying changing degrees of tension as experienced by music listeners (cf. 2.3.). However, Truslit's so-called *dynamo-agogic* curves illustrating primarily the experienced *characters* of the musical movements are not supposed to be drawn continuously collaterally to the staffs of the printed score. Accordingly, this kind of curve does not display any links to specific elements embedded in the music. In other words, Truslit's curves might be interpreted as *symbolising* the general kinaesthetic character in different sections of a musical piece.

As concerns Nielsen's (1983) graphical curve, this was not a curve drawn by free hand. The curve was indirectly created by the participants of his study who were asked to express their experiences of the musical *tension* in every moment by pressing a special pair of tongs while listening to different recordings of classical music. The changing levels of muscular pressure were transmuted into electrical impulses connected to a special program that printed out a continuous curve representing the variations of the experienced tension visually. This means that Nielsen's curve was supposed to represent the total spontaneously experienced tension of the music provoked by several musical aspects at a time. Accordingly, Nielsen's curve, because of not constantly mirroring one and the same musical aspect, cannot be considered as adequate for the purpose of facilitating the communication of musical ideas between musicians (cf. 1.2.4.).

As already discussed, the performed dynamical progression of the melody line might be regarded as one of the principal markers determining how the shape of the phrases will be perceived by a listener (cf. 2.5.). By focusing on this very aspect, the MPhC will refer to something concrete: the performed fluctuating dynamics of the melody part as personally experienced.

As distinguished from Skoda's (1957) phrasing curve that has been broached above, the MPhC is equipped with a dynamical scale consisting of a number of horizontal *unbroken* lines approximately indicating different potential dynamical sound levels of the melody part. Accordingly, the phrasing curve is supposed to be drawn by free hand in the shape of a continuous line moving collaterally to the printed score within the frames of the mentioned scale. Compared to Skoda's phrasing curve, this special design will hopefully make it more convenient for music listeners to draw the curves illustrating the fluctuating dynamics of the melody part as experienced by themselves on the one hand, and on the other to compare the individually drawn curves in the process of analysing the data material.

Besides, the location of the dynamical scale either *above* or *beneath* the staff of the printed score had not been definitely settled when carrying out Study A (presented in Chapter 5). The reason for this was that Study A as well as Study B (presented in Chapter 6) might be considered as explorative, including the test of different solutions during the course of the studies. For the same reason, the precise number of horizontal lines indicating the relative dynamics had not been decided either. However, when carrying out Study B, I finally decided to locate the dynamical scale, now consisting of *six* horizontal lines, *beneath* the printed score (cf. Image 3b below).

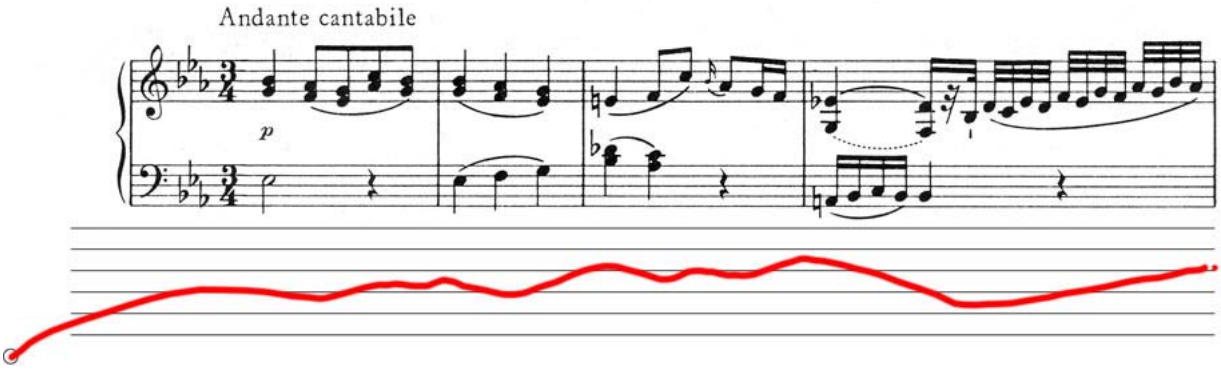

Image 3b: Part of the phrasing curve drawn by one of the pianists participating in Study B, illustrating the first four bars of the second movement from W. A. Mozart: Sonata in B flat major, KV 333 (315c)

Image 3b displays the final design of the MPhC in the first four bars of a piano piece composed by Mozart that was employed in Study B. The image reveals the dynamical scale consisting of six horizontal lines located beneath the staff of the printed score. The red curve line was drawn by one of the participants for the purpose of illustrating the dynamical progression of the melody part in these bars as experienced by him.

In spite of its relatively simple design, the MPhC covers several criteria linked to the conventional views on melody phrasing discussed above:

a) it focuses on the *horizontal* layer of the music represented by the *melody* part,

b) it has the shape of a *continuous line* enabling the illustration of the experienced dynamical progression through *rests*, *fermata*, as well as through *caesuras* within the total shape of the sounding music,

c) it is supposed to illustrate the performed fluctuating *dynamical sound levels of the melody line* as personally experienced,

d) it is supposed to indicate the experienced dynamical *high points* and *low points*,

e) it enables the illustration of different kinds of *breathings* in a musical sense, as well as the experience of the inner *preparation* preceding a tone or a chord on the one hand and the perceived dynamic *decay* succeeding a tone or a chord on the other

The reason for displaying the device of the MPhC collaterally to the printed score is that this construction enables the indication of dynamical levels directly related to events within the composed music, which may facilitate the interpretation of which events that may have given rise to the specific shapes of the drawn curves. The disadvantage is that the shape of the individual curves then might be modified by the influence of the score's visual appearance. This was also the reason for carrying out the second phase of Study A with the purpose of exploring to what extent the MPhC works as a tool for illustrating dynamical features within the *sounding* music.

Chapter 3: POINTS OF GRAVITY — a Theoretical Investigation 2

In this chapter, the conventional views on some aspects of musical interpretation, being broached in Chapter 2, will be further discussed, forming the basis for the development of the *second* visual tool: the system for notating points of gravity. Accordingly, the main focus of the chapter is the interaction between melody, meter and rhythm, and the possible benefit of paying attention to that aspect in the process of musical interpretation. For this purpose, a simple visual system intended for notating the experienced metrical emphasis within different compositions of classical music has been developed. By also implying the use of *durative* emphasis, some smaller temporal displacements might be indirectly illustrated as well (cf. 2.8.). At the end of the chapter, the general purpose of the empirical studies A and B is presented.

3.1. Metrical points of gravity

In this section, the following topics constituting the premises for developing the second of the two visual tools are discussed: the metrical structure of the music, music and language, prosodic metrical feet, bar-line meter, different kinds of stresses, metrical 'points of gravity', the musical 'gear-box', as well as deliberately performed asymmetry of the beats.

3.1.1. Metrical structure of the music

When interpreting a classical composition, a musician may reflect on its structure, how it is divided and unified in a metrical sense, and which notes are supposed to be emphasised. A performance without paying respect to these aspects might be perceived as not only unstructured but even expressionless.

Sundin (1994) discusses the basic principle of periodicity caused by changing phases of tension and relaxation. Within the frames of each metrical unit, which may be represented by a small melodic element, as well as by a section of greater dimensions, there seems to be some kind of an inherent tensional development towards a culmination point of smaller or bigger significance followed by a corresponding relaxation (cf. 2.3.). For example, in a unit represented by an entire movement it is at the dramaturgical culmination point of the whole movement that the accumulated tension is issued, whereas in a small melodic or rhythmic element the relative tensional culmination point may imply nothing but a small emphasis of some kind.

Music is structured in many ways, not only melodically, but also harmonically and rhythmically. When comparing different kinds of structural units, they do not always coincide. For example, the score's notated bars are not necessarily congruent with groups generated by means of methods for analysing the music's rhythmic structure. In many cases, the musical structure seems to be very complex and ambiguous.

A usual aesthetic ideal when interpreting music is to focus on the big basic lines (Sundin, 1994). At the same time, this focus ought to be counterbalanced by another aesthetic ideal implying that the small musical elements and details are respected. Referring to Mersmann, Sundin explains that in a performance it is the musical phrasing connecting what belongs together, or disconnecting what is supposed to be separated, that gives rise to the experienced interaction between different elements. Meyer (1996) claims that 'proximity between stimuli or events tends to produce connection, disjunction usually creates segregation' (p. 13).

The experience of musical tension might be easier maintained by musical elements being merged into bigger units provoked by a performance with a continuous sound and temporal flow, since all kinds of waning in sound and dynamics run the risk of giving rise to the experience of relaxation, and consequently a segregation from what follows next.

Levy (1995) discusses the ambiguous experience of elements being either separated or connected caused by small details in a performance, as for example, dynamical changes, change in tempo, musical hesitation or eagerness, accents, durative or dynamic emphasis, etc.

A conventional aesthetic ideal that does not in any sense contradict the ideal of coherence is that the music should 'breathe', which means that some units are supposed to be separated, motivated not only by the need for respiration but also due to the inherent musical structure of the composition in question. Uhde and Wieland (1988) associate human inhalation and exhalation with the performance of musical units on different architectonic levels (cf. 2.6.).

Singers and wind players who are physically dependent on the respiration have to consider where in the music they should breathe. Of course, for the purpose of detecting appropriate breathing spaces a singer will be helped by the lyrics. However, I. Bengtsson (1988) claims that even musicians playing other instruments than wind instruments are supposed to pay attention to the structurally conditioned breathing when performing a composition.

In some respects, the structure of music may be compared to the structure of verbal language. In the same way as in a literary volume, a composition might be divided into parts on different architectonic levels. The chapters may be compared to the composition's movements, the sections of the chapters to, for example, the exposition and recapitulation parts of a symphony, the paragraphs to musical elements such as the primary and secondary theme sections of a symphony, etc.

Moreover, the melody phrases might be divided into units reminding of the clauses within linguistic sentences separated by punctuations such as commas, stops, exclamation marks, question marks, etc. The musical 'punctuations' may be performed by means of different kinds of breathings, articulations, caesuras, etc., giving rise to different expressions and significances. As distinguished from a 'comma', a musical 'stop' implies the performance of a clearer phrase closure, for example, by means of a diminuendo and by slowing down the tempo a little. Furthermore, the single tones constituted of singing 'vowels' and different 'consonants' shaped by weak and hard onsets, articulations, accents, etc., might be compared to the syllables of the verbal words (Rischel, 1990).

Articulation slurs might be regarded as framing the musical 'words', but sometimes, for example, in a longer legato section, they may be performed without any distinct articulations between the single slurred groups. When speaking, the separate words will normally be pronounced in a way merging them into bigger blocks without any stops between (Halle & Stevens, 1990). Analogously, the single musical elements may sometimes be performed as connected.

With references to songs composed by Mozart, Méhul and Schubert, Boehm (1871/1964) has described how a song text might be interpreted when being performed on a musical instrument. In this case, the musical 'words' represented by the articulation slurs do not always seem to coincide with the words of the lyrics.

In Edlund (1992), the first movement of a piano sonata composed by Mozart (Köchel 333) has been analysed departing from the idea that a piece of music may sometimes be experienced as either a monologue or a kind of conversation involving several voices expressing an emotionally meaningful diction.

3.1.2. Music and language

In my view, the correspondence between verbal speech and musical performances is striking. Some of the research presented in 1990 at the international symposium of the Wenner-Gren Center in Stockholm, Sweden, may shed light on the connections between music and language. According to Pierrehumbert (1990), there seems to be a hierarchic, not-recursive prosodic structure in musical performances, as well as in the phonology of the language.

Scherer (1990) has focused on the human voice, which he considers to be crucial in music, as well as in speech. For example, vocalisations of human affects seem to be closely related to biologically conditioned expressions and means of communication. In an arduous situation, the human voice tends to be raised to a higher frequency. Weeps and shouts are often imitated in music, and used as expressive means already in the early operas. Scherer believes that the communication of affects and emotions by means of vocalisations may be a common base for music as well as for speech. Prosody and other extra-linguistic aspects being shaped in accordance with the speaker's attitudes and feelings seem to be important. For example, the wish of making a pleasant impression is often expressed by a voice with a soft sound. Vowels of a sharp character may give rise to a vigorous and happy impression. A dark sound may be interpreted as the expression of sadness or grief. Fear may be expressed by a wider range of pitch amplitudes. A slow tempo may be associated with sorrow, whereas a quicker tempo might give rise to the impression of anger or fear, etc.

In the same way as in speech, music has its special conventional pronunciations and intonations. Although pronouncing the consonants and vowels correctly, a foreigner may still reveal a foreign origin due to the diverging prosody, melody, rhythm, accents, etc. Analogously, unintended emphasis in a musical performance can transform the inherent musical 'meaning' into something 'incomprehensible' obscuring the composer's original intentions (cf. Schirmer, 1915/1943). In this context, emphasis implies accents and other kinds of performed stresses, independently of whether they are prescribed in the printed score or not.

Even if many musicians would agree with Meyer (1967/1992) who claims that the purpose of music is primarily to create aesthetic experiences without having any other meaning in itself, it may still be important, at least in respect of the implicit significance determined by the music's conventional codes of expressions (Meyer, 1956/1979), to be aware of potential stresses and emphases, not least in order to develop a feeling for the experience of the music *moving* between these temporary 'destinations' (cf. 2.8.).

Lehiste (1990) considers *poetry* to be an intermediate link on a scale between the two poles of music and speech. When departing from the pole of speech disregarding the words, the other pole representing music will be approached.

In a similar way, Lerdahl and Halle (1990) compare the prosody of poetry to that of music. In both cases there is an interaction between meter and rhythm, and according to Fant, Kruckenberg and Nord (1990) there is a tendency towards a clearer distinction between these two elements in musical contexts, as well as when analysing poetry. Meter is defined as the abstract pattern created by weak and strong syllables. Rhythm is defined as the results of the interchange between this abstract pattern and the normal rhythm of prose. When reciting a poem, the meter can only be partly expressed due to the language's inherent resistance towards regular metrical patterns. The prosody of language might be undermined when being stuck into a metrical scheme. The tension between meter and rhythm is perceived as something fruitful in itself.

An important difference between music (and to some extent also poetry) on the one hand and speech on the other is the music's highlighting of the rhythmic-metrical element by means of patterns based on more or less regular but differently stressed beats. In this way music may be

perceived as divided into single bars and periods on different architectonic levels. This periodicity is often symmetrical, maybe due to influences from dance music (Valkare, 1997, p. 94). Fant, Kruckenberg and Nord (1990) describe rhythm as follows:

> Rhythm implies repetitions of simple or more complex events that form groups of regular patterns. Even if a sequence of events is not regular a human observer tends to impose a rhythmical interpretation. The two fundamental aspects of rhythm are thus the group pattern and the repetition rate. An example of a group pattern is the composition of a metrical foot, e.g. the weak-strong sequence of syllabic elements of an iambic foot and the strong-weak sequence of a trochaic foot (p. 380).

The emotional power of music seems to be closely linked to the rhythmic element. In common speech there is a rhythm as well, but without a regular pulse, for which reason the speech flows in a rhythmically freer way, giving rise to a much more complex impression. The primary purpose of language is to communicate a concrete message. On the other hand, the more or less regular pulse occurring in a large part of the music literature, and giving rise to the interaction experienced between meter and rhythm, is almost absent in normal speech.

Music often appears as more vitalised when being partly disburdened from the sometimes schematic character of the printed score and instead brought nearer to the more elastically flowing speech (cf. Fridell, 1997). When being performed with a certain rhythmic flexibility, music may adopt an almost declamatory shape. However, the experience of such a free musical declamation is dependent on a steady background based on a more or less regular pulse counterbalancing this freedom. This means that sometimes musical contrasts and dichotomies tend to reinforce each other mutually.

It should however be underlined that a regular pulse is not typical of all kinds of music. For example, this element is not as prominent in Western classical music as in many kinds of rock music. In classical music, the pulse normally appears in a somewhat subtler way provoked by a vigorous musicianship bringing the music nearer to the rhythm of the speech and the human voice. Music may sound almost like poetry provided that it will be performed in a way that is neither scanned nor rhythmically unstructured.

3.1.3. Meter, rhythm, and points of gravity

As opposed to the concept of *rhythm* referring to the musical movement as such, Bonnier's encyclopaedia of music defines *meter* as primarily linked to notated bars, periods, measures and time (cf. Bonnier, 1975, p. 254).

However, meter is often defined in a broad sense referring to the total rhythmic, harmonic, and melodic structure of a composition, which means that the concept may also be used when broaching other kinds of musical divisions than, for example, the notated bars of the printed score. For example, Berry (1985) defines meter as 'a punctuation of time by events of the classification "accent" (p. 7)'. Benjamin (1984) writes as follows:

> What distinguishes meter from many other musical topics is the vast difference between its immediate problems and its more abstract issues, in terms of how approachable they are or how susceptible they are to anything like satisfactory resolution. To be sure, this difference exists in other areas of music study; it is just that, where meter is concerned, it is more acute (p. 355).

In this PhD project, the concept of meter is defined as referring primarily to the structure of the notated *bars* organised in periods. In order to distinguish this aspect of meter from the concept defined in a broader sense, Berry (1985) uses the word 'bar-line meter'. Edlund (1994) distinguishes between 'inherent meter' and 'notated meter'.

However, 'notated meter' may be considered as the visual expression of a basically mental phenomenon that implies more than just the organisation of bars within the printed score. Edlund (1993) describes the interaction between meter and rhythm in the following way:

> Often meter is regarded as the aspect of layered, coinciding regularity within the greater and very complex phenomenon of rhythm. But it is also described as an independent force opposing or dominating the rhythm, or as a hierarchical framework that the rhythm has to comply with, embellish or characterize. […] …metrical signs are meant to somehow modify the way musical events are rendered (and read) — an observation that suggests that in order to formulate the relationship between rhythm and meter one must search beyond notation (pp. 1-2).

The grouping of strong and weak beats into regular patterns might be considered as being at the base of the meter defined as referring to the notated organisation of the bars, measures and time of a composition, as opposed to meter defined as conditioned by the musical structure partly independent from the division into bars according to the score. The latter definition implies musically important notes, harmonies, rhythms, etc., which do not necessarily have the function of emphasised beats in the former sense, sometimes marked in the score with dynamic accents or other kinds of stresses by the composer or the editor. Nevertheless, rhythm and meter may be considered as two interlaced and interacting musical elements.

Many compositions reveal a deliberately composed conflict between meter and the progression of the melody part. A condition for perceiving this conflict as a musical expression is a firmly performed pulse (cf. Levy, 1995). Without respecting the recurring more or less stressed beats, a performance may be experienced as unstructured in a rhythmic sense, losing its expressive force.

There seems to be a suggestive almost hypnotic force in a regular pulse, a force that combined with the melodic tones may enchant people, recall deep emotions, alluring even our entire minds and bodies. Music seems to have the force of affecting us deeply beyond all kinds of social bounds. The rhythmic element of the music symbolises the heart beats and the blood circulation. Risset (1990) writes as follows:

> Music assumes a sacred function in most civilizations, including ours. Music has been said to derive from chant. Indeed, there is no word for 'music' in some societies which practice chant or singing and which have a word for it. The primeval role for music — and specially the combination of speech and music — is probably religious, incantatory and magic. (p. 369)

Petsche, Rappelsberger, Filz and Gruber (1990) write that 'the concept of a beat, a musical pulse underlying any melody, is fundamental to any kind of music; in the most primitive civilizations, it is even the predominant musical quality' (p. 318).

3.1.4. Rhythmic structure of music

Cooper and Meyer (1960) have developed a method for analysing and indicating the music's inherent falling and rising rhythmic structures by referring to different prosodic metrical feet (— = stressed notes, u = unstressed notes):

Iamb	u—
Anapaest	uu—
Trochee	—u
Dactyl	—uu
Amphibrach	u—u

According to Cooper and Meyer (1960), all kinds of metrical feet may occur in any time signature building up rhythmic groups on different architectonic levels. In a rising rhythmic structure, the unstressed notes have the function of an anacrusis towards the stressed note. In a falling rhythmic structure, the unstressed notes constitute the afterbeat succeeding the stressed note. In an amphibrach, there is an anacrusis as well as an afterbeat. Rhythmic structures may traverse the notated bar lines in many cases. The single groups are often experienced in an ambiguous way. For example, a tone may be experienced as either the first tone of a group or the last tone of the preceding group. Performing an unstressed note somewhat closer to the preceding stressed note may facilitate the listener's experience of this note as being an afterbeat. A performed diminuendo at the end of a group may accentuate the experience of a falling rhythmic structure. In a corresponding way, a crescendo at the beginning of a group may reinforce the experience of a rising rhythmic structure.

If the unstressed notes are performed closer to the succeeding stressed note, they thus tend to be experienced as an anacrusis, or upbeat, towards the following rhythmic group. Such a 'late' upbeat has a weak or '*passive*' character. However, if the upbeat is performed somewhat earlier in relation to the succeeding stressed note, its character may be described as heavy or '*active*'. Performing this 'early' upbeat, by means of, for example, a dynamic emphasis, diminishes the risk that it will be experienced as an afterbeat to the stressed note of the preceding rhythmic group.

In order to experience a group of notes as a rhythmic unit, the stressed note has to *deviate* in some respect from the other notes. This may, for example, be the case due to the inherent structure of the melody or the harmonies, but also by reinforcing the implied stressed note by means of performed dynamic or durative emphasis. The experience of rhythm is thus based on a distinguishable difference between metrically stressed and unstressed notes. A note will be experienced as stressed only if it deviates somehow from the other notes. According to Lester (1986), any form for deviations concerning the sound quality or other changes in a melodic, rhythmic, harmonic, or dynamic sense, may be experienced as a stress. However, if a note deviates too much in a certain musical context, it may be perceived as isolated and not belonging to any rhythmic group.

However, a metrically unstressed note that is performed with, for example, a dynamic emphasis or a special articulation will not necessarily be experienced as stressed for that reason. Sometimes, a dynamic emphasis may *accentuate* a note's intended function of being the unstressed upbeat of a rhythmic group. From this it might be concluded that a very complicated interplay prevails between a multitude of aspects within the frames of the total musical context: the relationship between the single notes, the musical structure, tempo, the character of the performance, the musical movements and gestures, rests, note values, melody, harmonic progression, dynamics, sound character, etc. It is this complex interplay that ultimately determines how the rhythmic groups of the music in question will be experienced.

When performing, it may be important to be aware of the sometimes big difference between the interpretative intentions converted by the artist into specific technical and expressive measures on the one hand, and the experience of the music in the ears of a listener on the other. For example, you cannot take for granted that a tone, although being strongly accentuated in a dynamical sense, will be experienced as metrically stressed. On the other hand, a tone may also be perceived as metrically stressed *without* being performed with any emphasis at all. The reason for this is that every single musical element is always related to all the other elements within the composition in question.

Since the rhythmic structures of a composition tend to be experienced ambiguously, there seems to be enough space for bringing out many different interpretative solutions. Articulations, dynamic emphasis, as well as small rhythmical dislocations of the notes may transform the experience of an iamb into a trochee and an anapaest into a dactyl or the other way around. In

this way, a musician may perform the music at pleasure, giving rise to the experience of either rising or falling rhythmical structures, alternatively rhythmical structures overlapping each other in an ambiguous way.

According to Levy (1995), a musician really has the power of affecting the listeners' musical experience. She discusses '…the performer's power to communicate those functional ambiguities that arise when a passage in music could be a beginning or an ending [...] of a section of a composition, at some structural level' (p. 151). Levy considers a musical event as ambiguous if it simultaneously, or within a limited lapse of time, provokes at least two different possibilities or implications.

In many cases, the experience of musical ambiguity is caused by the composer's deliberate intentions (cf. Levy, 1995). Music may express witty equivocation, which is not necessarily the same as uncertainty or vagueness. When performing, it is usually possible to express two kinds of significance simultaneously. In order to appreciate this kind of ambiguity the listener should be initiated into the music's conventional syntax.

Cooper and Meyer's (1960) method for analysing the rhythmic structure of music implies a potential focus on several different architectonic levels at the same time. This means that the stressed and unstressed parts of a rhythmic group on a higher architectonic level may contain stressed as well as unstressed notes within the rhythmic groups on lower architectonic levels. Consequently, the stressed notes of a group on a lower level may constitute the unstressed elements of a rhythmic group on a higher architectonic level, at the same time as the unstressed notes on the lower level may function as elements within the stressed part of a rhythmic group on a higher level.

On an architectonic level congruent with the changing harmonies of a cadence, Cooper and Meyer (1960) consider the *tonic* as the stressed part. This might appear as astonishing, since it is usually the subdominant and the dominant chords which, according to recognised praxis, are supposed to be performed with the strongest emphasis. An explanation of this may be that the tonic chord does not have to be performed with any special emphasis because of its implicitly stressed function in a rhythmic sense. In conclusion, the rhythmically stressed notes in Cooper and Meyer's system are not always equivalent to notes being emphasised within a musical performance.

In addition, the author's method may be employed for analysing longer musical sections by means of the same metrical feet, which, for instance, not only means periods of eight bars but also entire sections of a sonata movement, including exposition, development, and recapitulation functioning as the unstressed and stressed parts, respectively.

In effect, it may be difficult to focus on several rhythmic-architectonic levels simultaneously. Normally, the human mind cannot perceive too much of rhythmic complexity without being confused. Therefore, in most cases an artist has to select among the many contingent architectonic possibilities when performing. Cooper and Meyer (1960) advise against over-articulating rhythmical groups on a lower level, because of the risk of undermining the rhythmic structure of the total musical phrase, and if undermining the total phrase, the smaller rhythmical groups may be experienced as impaired as well, even if this was not the performer's intention.

3.1.5. Potential and performed points of gravity

In addition to many other musical aspects, music seems to express an inseparable interplay between melody, rhythmical groups and meter defined as the bar-line organisation. On an architectonic level corresponding to the notated bars, the stressed notes of a rhythmical group may coincide with the strong beats of the bars, but the rhythmical groups are far from always congruent with the notated bars. In the same way as the rhythmical groups discussed, the notated note values, the bars, and the bar periods may be considered as constituting elements on different

architectonic levels. This means that metrically stressed notes may also be regarded as occurring on other architectonic levels than that of the notated bars. For example, this is the case in a group consisting of four semiquavers or in a period consisting of eight bars. In the present PhD project, the concept of *points of gravity* will be used henceforth referring to the *strong* beats of metrical units on different architectonic levels within the melody part contributing to the experience of the music's structural division (cf. 1.2.5.; cf. London, 2009).

The concept of 'points of gravity' is to some extent motivated by some common associations between music and phenomena within the surrounding nature. Music may thus be experienced in a way reminding of mass in movement (cf. 2.4.; Bastian, 1987, Sundin, 1994). The points of gravity in a musical sense may also be associated with the stressed syllables within speech.

An important difference between the discussed system of Cooper and Meyer (1960) and my own planned system for notating points of gravity is that according to my system, there cannot be more than one primary point of gravity in each metrical unit, independently of the architectonic level in question. However, in addition to the *primary* points of gravity *secondary* points of gravity may also occur, which will be further discussed below. Aside from this distinction it is also crucial to distinguish between the many *potential* points of gravity and those selected by the *performer* within a certain interpretative version of the musical piece. The selection of appropriate *performed* points of gravity may be conditioned by the total musical context, as well as by the performer's special interpretative intentions.

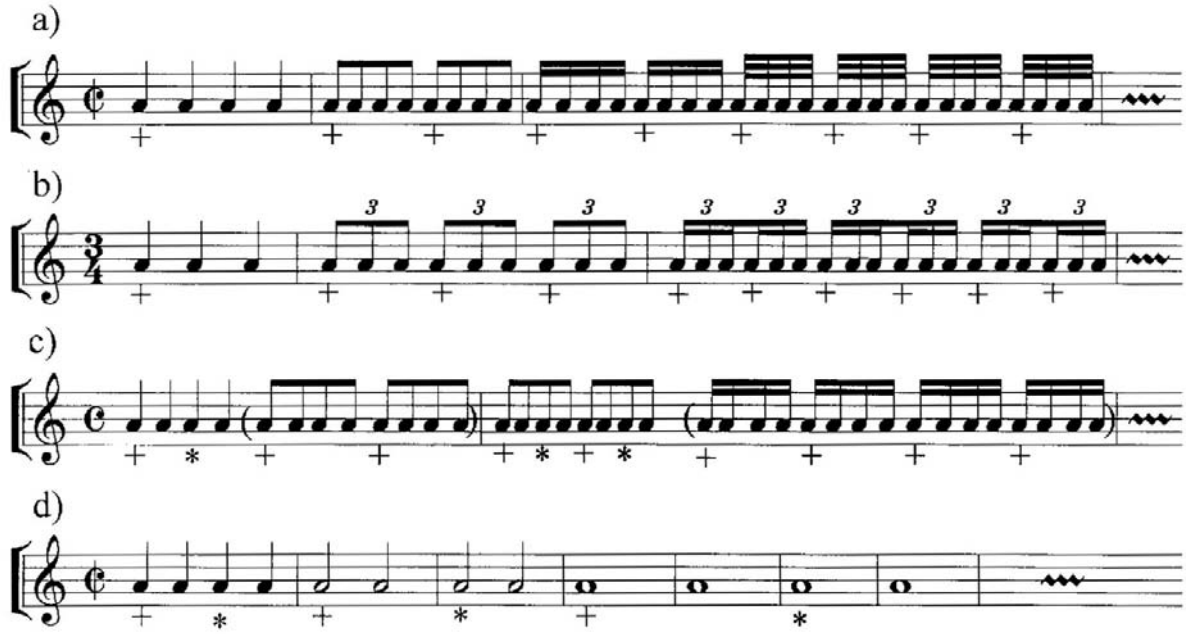

Image 4: Metrical points of gravity on several architectonic levels

Image 4 displays an overview of all potential points of gravity on several architectonic levels. The '+' sign symbolises *primary* points of gravity, whereas the '*' symbolises the *secondary* points of gravity. A point of gravity is always located on a strong beat or on even note values, which means that only the *first* note of a group may have the function of a primary point of gravity. Each group on a certain architectonic level also includes latent lower architectonic levels dividing the group into smaller units, which explains the existence of secondary points of gravity functioning as potential primary points on a lower architectonic level.

The single bars may also build up longer units or periods. Consequently, the location of the points of gravity will be correspondingly sparser, as displayed in Image 4d. In a musical section with mixed note values, many contingent potential points of gravity on different architectonic

levels may be selected in a performance. Most of the potential points of gravity displayed in the image, visualising merely a theoretical reasoning, would never be performed in effect.

In other words, it would hardly be an advantage to bring out all potential points of gravity in a musical performance. In many cases, a more flexible performance will be achieved when focusing on big musical lines on a higher architectonic level with sparsely located points of gravity. For a similar reason many conductors prefer to indicate only the first beat in a measure with three beats or two beats in a measure containing four beats.

Furthermore, points of gravity may be *perceived* without bringing them out in a performance due to the immanent musical structure. Finally, a performed point of gravity may also have the function of *counterbalancing* other points of gravity that tend to be too dominant in the actual musical context, for example, because of the music's immanent structure.

3.1.6. Meter and rhythm — an interaction between past and present

A common view seems to be to consider the printed score's division into single bars as nothing but a visual organisation helping the musicians to orient themselves when reading the score. Moreover, it may be difficult to distinguish rhythm from bar-line meter, since these two aspects appear as intertwined, conditioning each others' existence mutually. Music is usually perceived in a unified form, giving rise to the experience of elements like pulse, beats and meter. For example, without sounding music there is no musical pulse either. On the other hand, the experience of rhythm may occur without experiencing any regular pulse and measures. The spoken language is an example of this, but there are also many examples of rhythm without regular measures in the world of music: Gregorian chant, opera recitatives, solo cadenzas, some contemporary music.

The musical experience of pulse or beats seems to be intimately associated with the experience of tempo. Bengtsson, Gabrielsson & Thorsén (1969) write as follows:

> Tempo is a term that is founded in the tradition, and it should be considered as a special case of velocity in respect of the number of (more or less) regularly recurring stresses per time unit, in other words a kind of experienced 'velocity of pulse' (i.e. a concept of frequency). Music that does not provoke such a temporal-metrical reference system – a certain 'level of pulse' – may be considered as not having a fixed 'tempo'; nevertheless it is still possible to discuss the experienced duration, velocity, 'density', as well as the contingent temporal regularity of the sounding events (p. 59, *my translation*).

Many researchers have attempted to explain the complicated interaction between meter and rhythm, as for example, Cooper and Meyer (1960), Meyer (1956/1979), Benjamin (1984) and Berry (1985). It is my impression that there exists a resistance against considering rhythm and meter, the latter being defined as a concept referring to pulse, time signatures, measures, etc., as two *separate* phenomena. The existence of meter as an autonomous phenomenon is sometimes even denied. A common view is meter considered as a *secondary* product generated by the music's rhythmical, melodic and harmonic progression.

The point of departure in the present project is that meter may be regarded as consisting of two layers: one more or less regular on-going pulse on the one hand, and some recurring beats, more or less stressed, on the other. By emphasising some beats, a listener experiences periodicity provoked by the difference between strong and weak beats. Usually the bar lines of the printed score provides information about the intended rhythmical patterns, as well as the location of the potential points of gravity, at least on an architectonic level corresponding to the music's notated division into bars.

According to Cooper and Meyer (1960), sensorial impressions of a certain degree of density or frequency will be perceived as structured into periods. The authors also explain how the impression of pulse tends to remain for a while in the listener's mind and muscular system.

Bengtsson et al. (1969) point out that the experience of rhythmical groups is linked basically to muscular movements and muscle tension. Spitzer (2006) discusses the impression of tones building up structures which tend to be experienced as coherent rhythmic groups with more or less regularly occurring metrical stresses (cf. 2.2.).

Furthermore, the experience of rhythmic patterns may also be provoked by other sensorial impressions than those mediated through the auditory faculty. For example, rhythmic patterns may be perceived through the tactile sense, as well as through the faculty of vision. An important example of experienced rhythm originating from visual impressions is the beats of a conductor, who conveys musical impulses visually to the orchestra.

Usually the experience of pulse and meter is particularly established at the very beginning of a piece of music. Once having been integrated into the listener's mind, this impression seems to function in an 'automotive' way, at least for a while and even after the music has stopped sounding.

The impression of musical pulse seems thus to be linked to memory. Bengtsson et al. (1969) underline that 'between the present experiences and those having crossed the borders of the present experience (having been transformed into more or less clear "memory images"), integration processes, etc., take place in an interaction' (p. 59).

If this is true, the interaction between meter and rhythm may be described as representing the remaining impressions generated by the past musical progression, giving rise to the experience of pulse by means of the memory on the one hand, and the present musical development on the other, the latter being perceived almost as a kind of layer flowing on top of the established pulse impression (although being subject to a continuous transformation and modification due to the further on-going musical progression). In other words, the experience of the relationship between meter and rhythm in a piece of music may be considered as a result emanating from a constant interplay between past and present time.

3.1.7. Interaction between meter and rhythm in an aesthetic view

Bang-Mather (1973) emphasises the expressive significance of meter in French music from the 18th century. She quotes Freillon-Poncein who wrote already in 1700 that 'meter is the most beautiful thing we have in music' (p. 3), and Bordet, who claimed in 1755 that 'meter should be considered the soul of music' (p. 3).

Uhde and Wieland (1989) consider dance and speech as two basic musical factors, of which *dance* is represented by rhythm, periodicity, regularity, the bar division and the 'vertical' aspect of the printed score, whereas *speech* represents freedom, irregularity, declamation, expression, anarchy, and the 'horizontal' aspect of the score. Music usually moves between these two poles.

A colleague of mine described the interaction between meter and rhythm as the sensation of 'playing duets with oneself'. Another colleague formulated this as a matter of 'making the rhythm *swing* against the meter'.

Valkare (1997, p. 4 ff) claims that the metrical fundament may have a direct musical function in interplaying actively against the rhythm. However, he thinks that in contemporary classical music the traditional metrical organisation is often absent, which means that there are not necessarily any bar lines, regular pulse, or reference to the metrical pattern of an underlying time. Shove and Repp (1995) believe that this may be one reason for the restrained appreciation of certain kinds of contemporary music among the audience. In many cases, music focusing mainly on tone-colour and abstract tonal patterns does not provoke the experience of a natural movement in the ears of the listeners.

Already in the 18th century, musicians seem to have had a great awareness of the importance of clearly bringing out the difference between the measures' strong and weak beats (cf.

Harnoncourt, 1982). Kullak (1994) considers it as crucial to respect strong beats, declamatory accents, as well as meter and the rhythmic organisation. Schindler underlines the importance of correct accenting, and to bring out the distinction between long and short tones (in Newman, 1984; cf. 1.1.3.)

The interaction between meter and rhythm may thus be considered as an important aesthetic musical aspect, wherefore in my view these two elements should be treated as partly autonomous, at least from an interpretative perspective. The notated bars within the printed score seem to visualise not only the experience of an organised pulse generated by the previous musical events (cf. Barenboim, 1991), but also the listener's expectation of a continued pulse. From this it might be concluded that the bars, representing the pulse being established by the music that has 'filed past', work as a kind of temporal container or *background* to the succeeding music. In other words, the meter visualised by the notated bars may be considered as a fictive 'stage' on which the musical events or drama is enacted. In its turn, the succeeding music is transformed continuously into a modified background, or stage, to the on-going playing, while constantly replacing the old stage.

3.1.8. Relativity of the printed score

When performing a piece of music, moderate deliberate deviations from the established meter may contribute to the experience of a bigger rhythmical flexibility. Such interpretative details are seldom explicitly prescribed in the printed score. Reproducing the score precisely is hardly an advantage, even if it would be possible (cf. 1.2.3.). Cone (1995) considers every notation as an approximation. Nevertheless, the feeling for the rhythm may be considered as crucial, which does not mean that the music should be performed like obeying the unalterable beats of a metronome. Referring to Wilhelm Furtwängler's fluctuating tempo when conducting the first movement of Beethoven's ninth symphony, Cook (1995) discusses the subjective experience of a tempo's stability. Clarke (1990) claims that even a strict tempo may be experienced as an expressive deviation, for example, when performing a piece of music marked *moto perpetuo*.

The interplay between the musical meter with its points of gravity and the freer rhythmic shape may provoke the experience of many different patterns based on many kinds of emphasis and beats. Clynes (1987) has observed specific characteristics within the musical style of different composers by studying typical patterns with beats of varying duration, amplitude and timbre. For example, in contrast to what is usually the case when performing Mozart's music, in Beethoven's music the last beat of each measure within a time signature of 4/4 tend to be performed a little longer (cf. Clynes, 1983). In Schubert's music however, it is usually the second beat of the measure that tends to be prolonged. Bengtsson and Gabrielsson (1983) have studied occurring deliberate durative deviations between the single beats in performances of waltzes. In many cases, the first beat of the measure tends to be shortened, whereas the second beat may be considerably prolonged.

From this it may be concluded that it is rather unrealistic to regard the printed score dogmatically as something absolute and unambiguous. Howat (1995) writes that

> …the relationship between notation and music can be likened to the painter who works close to the canvas and then step back: in the same manner, our reasoned, stylistic, analytical assimilation of a score is (ideally) followed by the lightning intuition that releases a performance into living sound. This relationship underlies Sir Thomas Beecham's observation that 'the function of music is to free us from the tyranny of conscious thought' (Beecham Stories, 1978:80, H. Atkins and A. Newman, Eds.) — not, we may note, 'to free us from conscious thought', but merely from its tyranny (p. 19).

Thus, the score cannot possibly cover all the details of the music, which does not mean, however, that the information it conveys should be insufficient (cf. 1.2.3.). The relationship

between a score and the sounding music might be compared to the relationship between text and speech. Sundberg (1990) writes as follows: 'Thus, we must conclude that the music score is nothing more than a sketchy description of the essence of sounding music, as sketchy as orthography is of a text as read aloud' (p. 173). Sundberg points out that a speaker uses extra-linguistic information as prosody and other things, whereas a musician uses 'extra-notational' information, among other things, in the shape of different kinds of deviations from what is notated, in order to express what is supposed to be important and what is supposed to be connected or separated.

3.1.9. Meter considered as background to the rhythmic course of events

Many pieces of music imply metrical patterns occurring simultaneously, competing for the listener's attention. According to Bengtsson et al. (1969), the bar lines indicate moments of stresses and groups without grading or hierarchical levels, which means that the bar division may be considered as a special case of groups in addition to other patterns. Besides, a bar may be defined as notated, experienced or 'intentional' ('intenderad takt') (p. 104). This means that a musician performing a piece of music has to decide which metrical pattern should play the leading role. Since the human mind cannot perceive too many patterns simultaneously, some kind of metrical hierarchy might be necessary.

In most cases, but not always, it is the meter visualised by the notated bars that represents the primary rhythmic background, which means that the other potential metrical patterns will be considered as secondary, except for when it is obvious that the music is supposed to be performed in an ambiguous way, giving rise to the experience of several patterns simultaneously. For example, this might be the case in music with hemiola or a polyrhythmic structure.

A conventional aesthetic ideal is to play the music in a way facilitating the listener's understanding of the notated meter without having to look in the score. Edlund (1996) expresses the same idea:

> While it is not clear what the player should exactly do in order to express the meter, he must not play in a manner that conveys an incorrect idea of the notated metrical organization (p. 29).

Of course, the ability of experiencing the notated meter in a performance is to some extent also dependent on the listener's familiarity with the piece of music in question. Moreover, there are musical pieces which may be of a very complex rhythmic character, making even an experienced listener confused.

It may be important to achieve the optimum equilibrium between meter and rhythm when performing music. For example, the notated meter is not supposed to be highlighted at the expense of all other interesting rhythmic patterns. A common ideal is to play in a way that prevents the performance to be perceived as neither heavy, nor rhythmically unstructured. On the other hand, when not paying enough attention to the notated meter, there might be a risk that the contrasting effect generated by the interplay between the music's playful ambiguousness and the underlying meter gets lost.

3.1.10. A musical balancing act

Sometimes certain factors within the musical structure may give rise to an experienced conflict between meter and rhythm. Edlund (1994) claims that a musician should normally give priority to the meter when such a conflict occurs:

> When such metrical ambiguity prevails, the notated meter is bound to designate one of the inherent meters at the expense of the other, which means that (except for in special cases) this prescribed metrical organization should dominate over the other, merely latent, configuration when the music is played. […] When such a conflict between notated and inherent meter is at hand, the notated meter, being counterindicated by the structure, turns strictly normative and demands to be supported by additional emphases in performance - otherwise the peculiar character of such passages will be destroyed (p. 85).

According to Clarke (1990), the fundamental structure of the music will often appear by itself without the performer having to hammer it out in order to make it lucid to the listener. This means that there is not always a need for performing with distinct emphasis; the listener may perceive the intended rhythmic patterns anyway. In cases where the musical structure contains notes which will be easily experienced as undesirable stresses undermining the balance between meter and rhythm, the musician may have to adjust this by means of performing with certain kinds of *counterbalancing* measures.

From a musical perspective, the concept of counterbalance may be defined as implying different technical measures compensating for the experience of undesired stresses provoked by the musical structure as such. For example, if a point of gravity motivated by the meter appears as too vague in a certain musical context, it may be strengthened by means of some kinds of emphasis. In reverse, a metrical point of gravity appearing as too dominant due to the musical structure, may be counterbalanced by emphasising some other appropriate notes within the phrase.

3.1.11. Bringing out the points of gravity

The metrical points of gravity can be brought out in a performance by means of stresses. There are many different kinds of stresses, for example, stresses being

1) notated (notes marked with accents etc. within the printed score)
2) interpretative (performed expressive emphasis of different kinds, whether these are prescribed in the score or not, sometimes with the function of counterbalancing an experienced conflict between meter and rhythm caused by the musical structure)
3) structural (stresses provoked by the musical structure, sometimes not directly intended by the performer)
4) external (caused by, for example, acoustical circumstances or characteristics linked to the musical instrument)
5) experienced (synthesis of the different stresses mentioned above)

An accent that is prescribed in the printed score may be motivated either by the musical structure or intended to be particularly brought out, which means that it is sometimes a matter of interpretation how the accent in question should be performed. In some cases, the performer does not have to bother so much about notated stresses and accents, because they are rather there in order to visualise what an experienced listener would perceive anyway due to the inherent musical structure, but in some other cases the notations should really be interpreted as a *prescription* for taking some special musical-technical measures. An example of this is to perform notes with different kinds of emphasis.

There seem to be at least three different kinds of current emphasis: *dynamic* emphasis, *durative* emphasis, and emphasis linked to *articulation*. A durative emphasis means that the temporal distance between the onsets of two tones is deliberately prolonged by 'stretching' out the beat a little. Emphasis linked to articulation implies that some tones will be sustained for a longer time compared to other tones, normally within the frames of beats being performed with an unchanged duration between themselves.

In order to distinguish these different kinds of emphasis, Ingmar Bengtsson (in Bengtsson et al., 1969, p. 102 ff) has used the abbreviations Dii (duration in/in) referring to the total duration of the tones and Dio (duration in/out) or Doi (duration out/in) referring to the articulated length of the tones. Doi refers consequently to the 'silent' time between the end of a tone and the onset of the succeeding tone. This means in its turn that Dii is always constituted by the duration of the sound and the temporal space between the tones in question (Dii = Dio + Doi). Adding '+' or '-' after these abbreviations indicates that the tone or the temporal distance between two notes are prolonged or shortened, respectively. For example, Dii- means that the temporal distance between the onsets of two tones is shortened, which makes also the beat shorter compared to the other beats. In some cases, the performance of a relatively shorter beat may also be perceived as a kind of durative emphasis, although being of negative duration.

When performing, the three kinds of emphasis mentioned may be used either separately or in a combined way. By combining durative emphasis with dynamic emphasis and emphasis linked to articulation, a stress will be experienced as reinforced. On the other hand, when teaching music I have sometimes noticed that the students seem to experience it as difficult to separate these different expressive means from another. For example, it might be hard to perform durative emphasis 'stretching out' the beats when playing in a loud nuance. One plausible reason for this is that when performing on a loud sound level, the tempo tends to speed up, and when performing in a soft nuance, the tempo tends to slow down. It might also be hard to play a distinct staccato (Dio-) combined with a strong durative emphasis (Dii+) in a loud sound volume, or a dense legato (Dio+) in a soft nuance without slowing down the tempo.

Nevertheless, from an interpretative perspective it might be advantageous mastering all kinds of emphasis combined in several ways and proportions. In order to clarify the metrical structure to the audience, the points of gravity may be brought out by means of *different* kinds of emphasis compared to those being employed when bringing out other important notes within the total rhythmic structure. Using different emphases for different musical purposes may give rise to the experience of a pleasant balance between meter and rhythm.

Edlund has studied the relationship between how musicians playing different instruments convey the notated metrical organisation within selected musical excerpts on the one hand, and how this was perceived by participants listening to the corresponding performances on the other (Edlund, 1993, 1994, 1996). The results indicate that emphasis particularly linked to *articulation* seems to be preferred by cembalists and organ players in order to clarify the notated bar division to the listeners. According to the same study, durative emphasis seems to be less effective for the same purpose. Nevertheless, inverted durative emphasis (Dii-) was used frequently by the musicians in this study. Edlund explains the preferred way of performing the excerpts by referring to, among other things, tempi, rhythmic characters, and individual playing styles.

With all respect for these results, I still consider durative emphasis (Dii+) as a very useful and sometimes underestimated means of expression in order to clarify the notated metrical organisation and the chosen points of gravity. This should be understood as the performance of subtle durative 'stretches' to the points of gravity, sometimes in combination with other kinds of emphasis. Clynes (1983) refers to Leopold Mozart, who claimed that the measures' strong beats should be longer and performed with more intensity compared to the weak beats.

In addition to the mentioned use of emphasis linked to articulation, durative emphasis may be advantageously employed also by cembalists and organ players because of their instruments' implicit incapacity of reproducing dynamic emphasis. Bringing out the points of gravity primarily by means of durative emphasis enables other musically important notes to be highlighted by the use of other kinds of emphasis.

The duration of the single beats seems to be crucial as a means of clarifying the meter to the listeners, particularly the first beat of a metrical unit constituting the primary point of gravity, as well as the last beat of the same unit in the capacity of an upbeat to the succeeding metrical unit. The advantage of prolonging these beats specifically in some musical contexts will be further explained below in the text, in the section dealing with points of gravity serving as impulses of force. It should however be underlined that the borders between using different means of expression may be vague. When performing, many musicians seem to use different combinations of expressive means simultaneously.

3.1.12. Conception of musical energy and movement

The notated bars might also be considered as miniature periods or cycles based on their single beats and potential points of gravity. Each bar may thus be experienced as a unit containing several phases: an energetic high point, a release of energy, a rest, as well as a new recharge of energy (cf. 2.2.; 2.4.; 2.8.). These cycles are usually repeated within a composition, and in this way the bars are conjoined by means of the phases mentioned. The last beat of a bar representing the recharge phase constitutes at the same time the preparation towards the next bar's high point followed by the release of energy. When discussing these cycles, Sundin (1994) uses the concept of metrical 'waves'.

Since the recharge phase functions as a kind of *metrical upbeat* towards the next bar, the experienced flow of musical energy might be described as being of an anacrustic character. This character concerns primarily the notated meter as such but not necessarily the total rhythmic structure that may imply falling rhythms, as well as rising rhythms (cf. Cooper & Meyer, 1960). Maybe this was what Riemann meant when describing music as basically anacrustic (cf. Meyer, 1973). Music may thus be described as consisting of two layers, one of whom is always anacrustic or rising in a rhythmical sense, whereas the other layer may change between rising and falling rhythms.

According to this view the metrical units may be compared to some kind of energetic cycles reminding of biological organic functions. The metrical upbeat or recharge phase corresponds thus to the inhalation and the high point, succeeded by the release of energy, corresponds to the exhalation. The beats of music symbolise the heartbeats vitalising the blood with fresh oxygen. Repp (1993) makes similar associations by comparing the musical movements to biologically conditioned movements (cf. 2.8.).

Music may be considered as based on the experience of changing degrees of tension and relaxation, movement and stillness in a melodic, harmonic and rhythmical sense (cf. 2.3.). For example, the melody's pitches and intervals can be associated with different levels of physical energy of position (Jeppesen, 1930), the harmonies seem to represent different degrees of tension on a scale between consonants and dissonances, and the meter expresses more or less regular cycles of energy.

Shove and Repp (1995) refer to different researchers who have studied tension and relaxation related to temporal qualities generating the experience of movements, qualities which are manifested through melody, harmony, and rhythm. For example, C. F. Hasty (1981) concludes that 'motion arises [...] from the unification of events. This unification is mainly temporal in origin, since it depends on the duration between successive events, although other structural factors may help to unify the events' (p. 56).

Shove and Repp (1995) also refer to V. Zuckerkandl (1956/1973) who claims that the experience of movement is a result of 'unstable' tones being resolved into stable tones. There are different degrees of stability; the tonic, being the centre of tonal gravity, is the most stable, whereas the leading tone is the least stable. In a harmonic sense, the experienced movement corresponds to the tension of dissonant intervals and chords being resolved into consonant intervals and chords.

In Shove and Repp's article, Piston (1978) is also mentioned, who concludes that the quality of a dissonance is conditioned by its ability to create an experience of movement. Finally, Shove and Repp quotes Epstein who claims that 'tension means energy unresolved, and unresolved energy ultimately means forward motion' (p. 57). The authors seem thus to argue that the experienced tension embedded in the musical structure implies an expectation of resolution, which sweeps away the listener forwards in time by means of a psychological movement provoked by the melodic and harmonic expectations.

3.1.13. Points of gravity serving as impulses of force

Although the notated bar lines frame a kind of metrical unit on a corresponding architectonic level, the character of the first beat is conditioned by its preparation through the preceding metrical upbeat representing a kind of an energetic recharge. Consequently, the experienced cycles of energy on the same architectonic level as the notated bars may be considered as not being synchronised with these bars. Thus, the experienced cycles actually start one beat *before* the bar lines preceding the succeeding bars' first beats. This means that each notated bar begins with the 'strong' beat or the high point of the experienced energetic cycle constituting a potential point of gravity. Although the experienced cycles is not synchronised with the notated bars, a musician is still able to detect the potential points of gravity within a composition because they may be indirectly visualised by means of the printed score's bar division.

The described relationship between an experienced energetic cycle and the corresponding notated bar, in this case consisting of four beats, is illustrated in Figure 2 below:

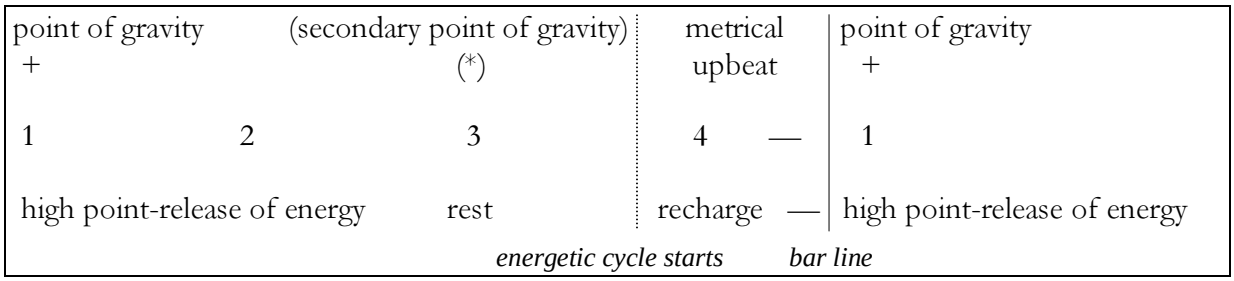

Fig. 2: Relationship between a notated bar and an experienced energetic cycle

Figure 2 should rather be understood as a principal visualisation of a phenomenon that is in itself of a much more complex nature, since each energetic cycle will adopt an individual shape due to the actual musical context. In addition to the notated bars and the relationship between the single beats, these cycles will also be formed by time signatures, rhythmic templates or patterns with special characteristics and different emphases (cf. Clynes, 1987).

In contrast to the music's changing rhythms, every point of gravity is thus preceded by a metrical upbeat representing a recharge of energy independently of whether the rhythm is rising or falling. This means that although the note coinciding with the metrical upbeat may function as the afterbeat in a group representing a falling rhythm (cf. Cooper & Meyer, 1960), and although the corresponding note may be articulated with a short duration (Dio-), the beat in question has still the function of more or less recharging the metrical energy before the next high point phase represented by the succeeding bar's first beat. The metrical upbeat may even coincide with a

notated rest. The experience of metrical cycles sheds light on the fact that the tones of a piano composition performed in a slow tempo may still be experienced as jointed, in spite of the persistent decaying sound that is typical of the instrumental character.

However, as already mentioned, a metrical upbeat may be considered as either passive or active (cf. 3.1.4.). According to Sundin (1994), the conductor Celibidache claimed that a stressed upbeat generates a stronger driving impulse to the musical phrase. This effect may be achieved, among other things, by performing the upbeat a little longer (Dii+), thus stretching out the temporal distance to the succeeding first beat.

There seems to be a direct relationship between the character of the metrical upbeat and the way the succeeding point of gravity will be experienced, which might be compared to the relationship between an inhalation and exhalation. The experienced intensity of the point of gravity thus seems to be conditioned by the character of its *preparation* represented by the preceding upbeat. A shorter passive upbeat may be perceived as recharging less metrical energy. This might be compared to lifting a hammer or rowing a boat. Consequently, it may be crucial to a musician to reflect on the character of the metrical upbeat in relation to the intended intensity of the succeeding point of gravity. For example, a passive metrical upbeat may create the expectation of a succeeding potential point of gravity performed with less emphasis.

According to Clarke (1990) there seem to be some normative patterns of timing that many people experience as pleasant, and Shove and Repp (1995) state that a basic, prevailing mental model exists that implies principles for perceiving movements as natural. For example, a tempo change will be experienced as natural only if this is performed in accordance with the principles for walking or moving the body. The authors conclude that a performance may be experienced as aesthetically satisfying when the artist, in addition to stylistic and structural demands, also pays attention to the basic principles of biological movements.

The discussed conception of metrical cycles thus implies that the music is divided into units which may be experienced as constantly recharged with energy by means of the preceding upbeats considered as energetic impulses. The point of gravity of the metrical cycle might be metaphorically compared to the moment of pressing down the pedal when riding a bicycle. In a tailwind on a road going slightly downhill, the bike will roll on almost by itself, which means that each pace will be experienced as more or less unnoticeable, whereas an uphill slope makes every energetic impulse feel severe. With less resistance a 'higher gear' can be used, which corresponds to a performance with a more even musical development, and metrical units of longer duration implying sparsely occurring points of gravity. On the other hand, the performance of a rhythmically accentuated musical character might be described as riding a bike on an uphill slope, which demands more force and a 'lower' gear corresponding to shorter metrical units and frequently occurring points of gravity. This means that it is possible to perform a composition by using many different metrical 'gears', which will be further discussed in the next section.

3.1.14. The musical 'gear-box'

The energetic cycles discussed may be experienced on several architectonic levels, not only on a level corresponding to the notated bars (cf. Bengtsson et al., 1969, p. 105). The notated bars may be divided into smaller metrical units with points of gravity correspondingly occurring more densely, and they may also be merged into big metrical units with sparsely occurring points of gravity. The metrical divisions thus seem to imply the experience of shorter energetic cycles within longer energetic cycles on many potential architectonic levels.

As stated earlier, a music listener cannot normally focus on too many metrical cycles simultaneously. Therefore the musician has to make interpretative decisions by selecting appropriate architectonic levels in accordance with the musical context. This might be metaphorically compared to a car driver's choice of the appropriate gear according to the traffic

circumstances. For example, a focus on a level implying two metrical units in each notated bar corresponds to a lower gear, which may give rise to a marked rhythmic character. On the other hand, playing in a higher 'gear' creates longer metrical units, giving rise to the experience of long coherent phrase lines. By using different 'gears', a musician may thus bring out different musical characters.

Image 5 displays the initial bars of the violin part in C. Franck's sonata for violin and piano. The theme's melodic structure may be interpreted as conjoining the notated bars two by two. This means that the corresponding metrical units imply a point of gravity performed in every two notated bars. The suggested point of gravity on the first beat of every *second* bar is motivated by the implicit amphibrach rhythm and the specific shape of the melody contour. However, these points of gravity should rather be emphasised in a very subtle way. At the same time, the pitch contour of the melody may motivate a soft dynamic accent on the f sharp note on the notated *second* beats (when counting three beats per measure) of the first and the third bars, respectively. The suggested point of gravity on the fifth bar's first beat, counterbalancing the rhythmic structure of the preceding bars, may be motivated by the falling melody line and the relatively long duration of the c note on the second beat being easily experienced as stressed anyway. By generally counting three beats to a measure, instead of nine beats to a measure as prescribed in the printed score, the melody may adopt a smoother flow without necessarily speeding up the tempo, and at the same time preventing the quaver rhythm from being too striking.

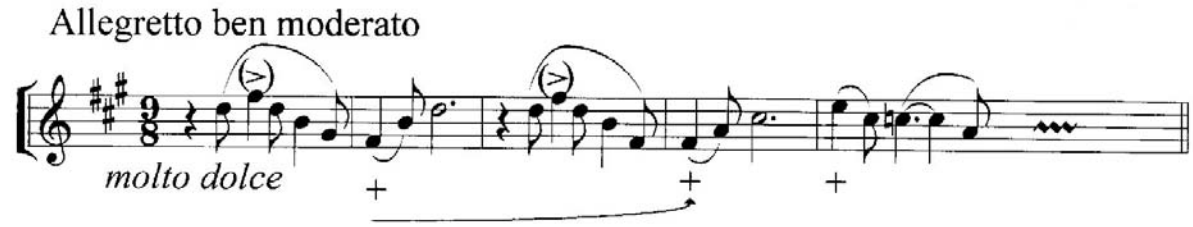

Image 5; C. Franck: Violin sonata in A major, from the first movement

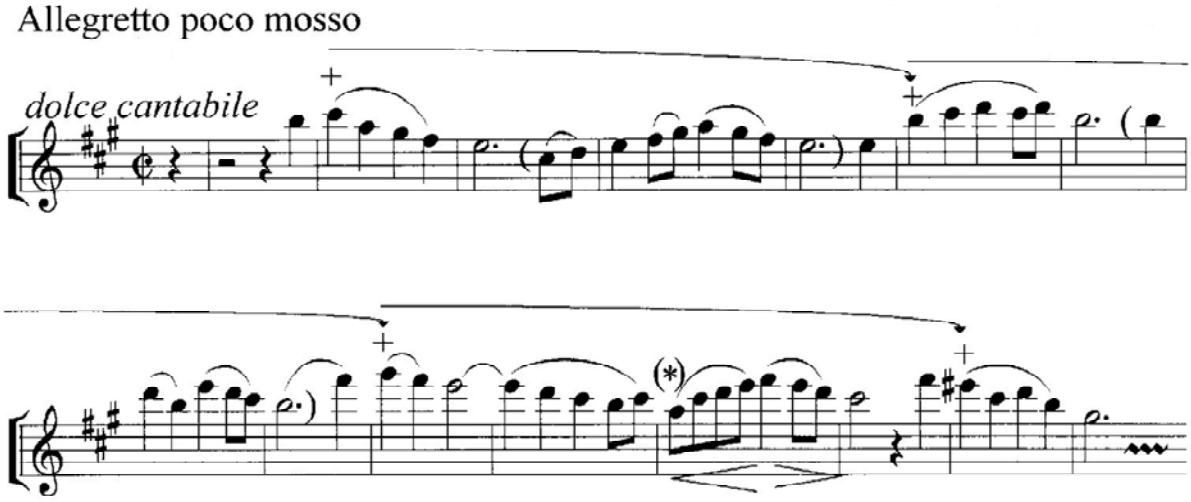

Image 6; C. Franck: Violin sonata in A major, from the fourth movement

Image 6 displays the theme of the last movement retrieved from the same violin sonata. The melody may be interpreted as consisting of totally 37 coherent bars interrupted only by a subtle metrical 'comma' after 21 bars. The advantage of conjoining the single bars into the suggested metrical units consisting of *four* notated bars each, as displayed in the image, is that the melody may be experienced as flowing forwards in long uninterrupted musical lines without any

undesired 'seams'. In a metrical unit consisting of four bars, the single bars function almost as *beats* within the bigger metrical unit. The parts indicated by me in parenthesis might be interpreted as interjected rhetorical musical comments. The reason for suggesting the *counterbalancing* points of gravity on the first beats of the metrical units' *first* bars, instead of the rhythmically inherent *structural* points of gravity located on the first beats of the units' *second* bars in the first system of the excerpt, is, among other things, that the latter beats will be easily perceived as stressed anyway because of the long duration of the dotted minims. In my view, when performing these notes with additional emphasis, the rhythmic structure runs the risk of being too obvious, which may disturb the melodic flow. Furthermore, at least in the first metrical unit, the melody moves down from a higher pitch expressing a higher degree of intensity, and out of a harmonic sense the c sharp note, which represents the major third constituting the underlying A major chord seems to be more interesting compared to the e note in the phrase's second bar representing the chord's fifth.

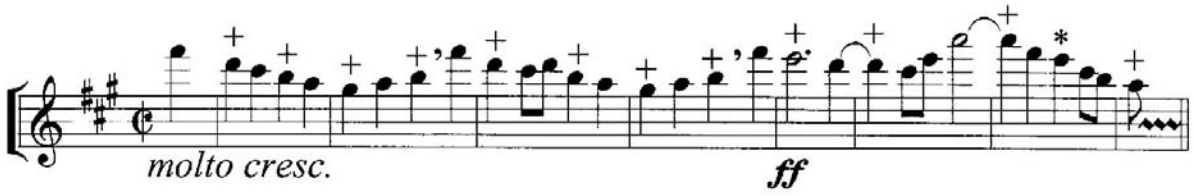

Image 7; C. Franck: Violin sonata in A major, from the fourth movement

However, as displayed in Image 7, the discussed melodious theme in the initial part of the sonata's fourth movement is succeeded by a section that might be interpreted as having a totally different rhythmic character. The suggested metrical division with two points of gravity within every bar implies a sudden change from a very high metrical 'gear' into a very low one, giving rise to a marked rhythmic character.

These examples might illustrate the fact that it is the basic musical characters that should determine the choice of appropriate metrical 'gears', as well as the density between the performed points of gravity, and not so much the tempo prescribed in the printed score. A slow tempo does not necessarily have to be linked to a lower 'gear' with densely occurring points of gravity, and a quicker tempo does not always have to be linked to a higher metrical 'gear' with longer metrical units. In some cases, a slow tempo might be advantageously performed with long metrical units in order to bring out long melodious lines, and a fast tempo might be performed with smaller metrical units and frequent points of gravity in order to bring out a marked rhythmic character.

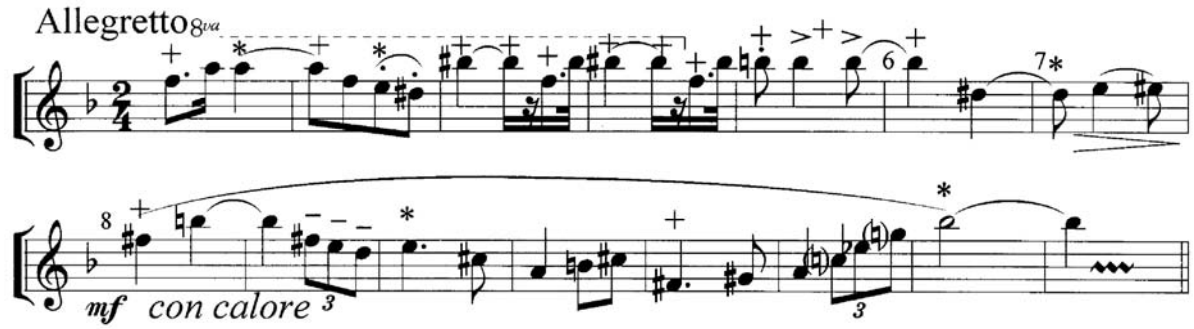

Image 8a; G. Pierné: Violin sonata op. 36, from the first movement

Image 8a displays an example of a metrical 'gear' being changed in the third bar in order to bring out a marked musical character reminding of fanfares. In contrast to this, the sixth and

seventh bars might be interpreted as expressing a transition into a long melodic phrase beginning in the eighth bar. For this purpose, it may be appropriate to perform in a higher 'gear' at this place. In this case, the long phrase has been divided into two metrical units in order to maintain the 'steerage-way' as well as the experience of rhythmic stability. Nevertheless, this means that the range of 'gear ratio' will be as much as 1:16 (cf. Bengtsson et al, 1969).

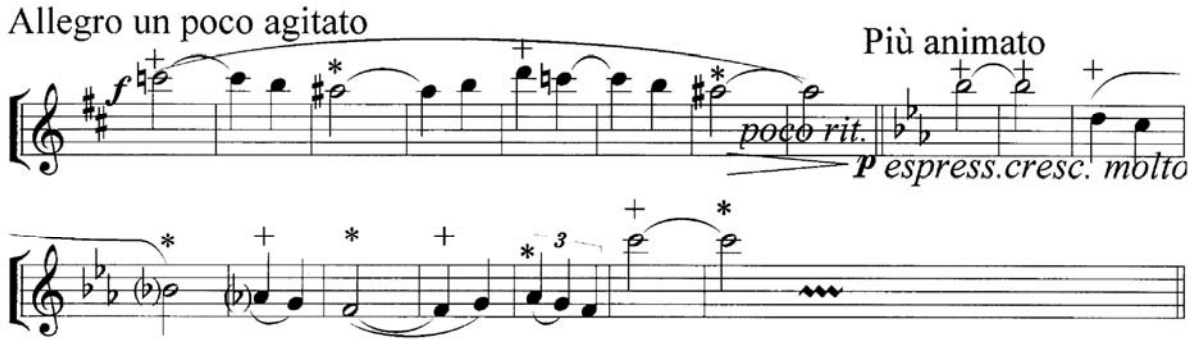

Image 8b; G. Pierné: Violin sonata op. 36, from the third movement

In Image 8b, displaying a section retrieved from the last movement of the same sonata, the suggested metrical 'gear' with a primary point of gravity on the first beat of every fourth bar is replaced by a lower 'gear' implying more or less a point of gravity on the first beat of each bar, in spite of the tempo marking *più animato*. The roulades in the piano part may motivate a denser metrical pattern, which facilitates a performance with better rhythmic accuracy. Generally, the notated bars may thus be considered as representing just the average metrical units.

The musical 'gear-box' may also be used for expressing the changing characters in a simple way, for example, when performing a typical Mozart Allegro with the time signature of four beats to a measure. By choosing a moderate tempo enabling the music to be performed alternately in *alla breve* and in four beats to a measure, a musician may change between the correspondingly different characters at will according to the musical context. By reflecting on points of gravity as defined in the present chapter, in combination with the discussed musical 'gear-box' implying many musical gear-changes, a vigorous musicianship with a lot of playful contrasts might be achieved.

3.1.15. Asymmetry of the beats

As already discussed, the metrical units of a musical composition may be experienced as energetic cycles (3.1.12.). Accordingly, in a performance it may sometimes be advantageous to create the effect of a stronger driving impulse to the musical phrases when bringing out actively, not only the points of gravity, but also the metrical upbeats representing the recharge phases of the experienced cycles by means of durative emphasis (Dii+ or Doi+ in case of a notated rest) (cf. Sundin, 1994; 3.1.11.; 3.1.13.). This means, however, that the beats of the metrical units will not be performed with the same length. As a consequence of this, the inalterable beats of a metronome may sometimes mislead a musician.

The degree of this kind of asymmetry between the single beats corresponds to the performer's interpretative intentions as concerns the character and the rhythmic shape of the music in question. Naturally, there are also rhythmic patterns implying other beats than the upbeats and the points of gravity to be somewhat prolonged. However, in such cases it may still be important to perform in a way that prevents the weak beats from being perceived as the strong ones and vice versa, which might easily provoke a confusing impression in the ears of the audience.

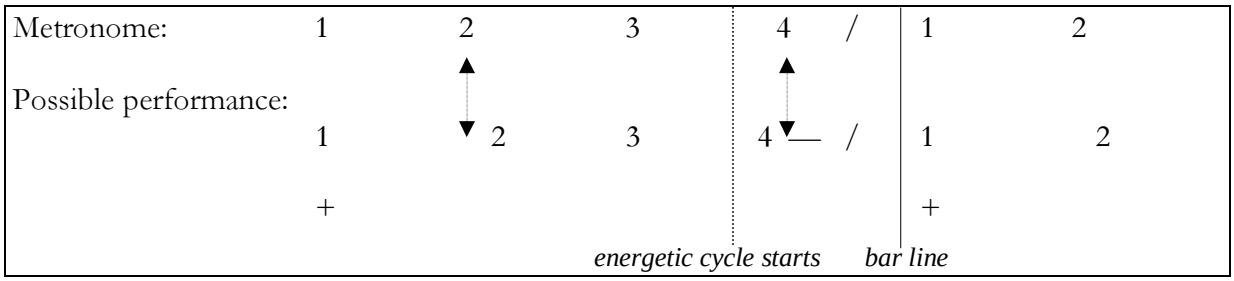

Fig. 3: Relationship between the asymmetrically performed beats of a bar and those of a metronome

Figure 3 may be considered as an attempt to illustrate the relationship between the beats of an imagined metronome and a possible performance of a metrical unit corresponding to the time signature of four beats to a measure, with distinct durative emphasis (Dii+ or Doi+ in case of a notated rest) on the point of gravity, as well as on the metrical upbeat preceding the next point of gravity. The arrows are supposed to indicate the temporal dislocation of the second and the fourth beats caused by the durative emphasis mentioned. The emphasis on the first beat thus makes the second beat somewhat delayed, whereas the emphasis on the fourth beat implies that the upbeat starts a little earlier compared to the corresponding beat of the metronome, in order to synchronise the succeeding first beat with the tempo of the music in question.

It should however be underlined that the figure is only supposed to illustrate the contingently increased durative length of the beats in a very schematic way. When performing, every metrical unit will adopt its individual rhythmic shape, depending on the specific musical context in every moment.

In certain musical styles, for example, in jazz or in French classical music from the 18th century, groups of notes with the same notated length are conventionally supposed to be deliberately performed with unequal length. As concerns French music, Bang-Mather (1973) writes that 'absolute equality in an expressive sense is rarely desirable' (p. 3). For example, when playing two quavers the first one may be somewhat prolonged compared to the second one, or vice versa.

From this it may be concluded that although the impression of a steady pulse is crucial in most cases, this should rather not be interpreted as an incitement to play strictly according to the inalterable beats of a metronome. Nevertheless, in my view, the metronome may still be regarded as an important aid, particularly at an initial stage when preparing a new piece of music. Ultimately, music seems to express its own inherent rhetoric, which means that it may be recited in the same free way as when speaking. Music needs time, freedom and elasticity. Thus, respecting rhythm is not the same as reproducing the printed score's note values precisely. An inner feeling for the previously discussed energetic cycles represented by the music's metrical units might contribute to the gradual development towards an optimal musical interpretation.

3.1.16. Summary and conclusions

1) Musical interpretation seems to implicate the performer's reflection on the structural division of the music in question, as well as the relationship between the single elements and the total composition (Sundin, 1994; Meyer, 1996). Speech may be used as a reference, since musical phrases remind of the structure and the punctuations within linguistic sentences (cf. Rischel, 1990; Halle & Stevens, 1990; Boehm, 1871/1964; Edlund, 1992). When performing, the musical elements may be separated or merged into units of greater dimensions by means of technical measures such as articulations, different kinds of breathings, or certain phrase closures, which seems to give rise to the experience of various musical significations (Levy, 1995; Udhe & Wieland, 1988; I. Bengtsson, 1988).

2) A piece of music may be considered as consisting of rising rhythmic structures, as well as falling rhythmic structures on several architectonic levels (Cooper & Meyer, 1960). These structures may be shaped in many ways, giving rise to the experience of different musical expressions. The rhythmic structures are often experienced as ambiguous (Levy, 1995).

3) In this PhD project, the metrical counterpart to the stressed parts of the rhythmic structures has been designated points of gravity. Points of gravity may be either potential or performed, motivated by the musical structure or deliberately performed in order to counterbalance other notes being perceived as stressed.

4) The experience of a steady pulse may be experienced as a kind of background, or 'stage', on which a rhythmically freer declamation takes place. Meter seems also to have an aesthetic function in itself (cf. Bang-Mather, 1973; Petsche, Rappelsberger, Filz & Gruber, 1990). The time signature and the notated metrical units may be considered as a mould to the further musical progression. Furthermore, different kinds of rhythmic patterns may express many different musical characters (Clynes, 1983, 1987; Sundberg, 1990; Valkare, 1997; Bengtsson & Gabrielsson, 1983).

5) The interplay between rhythm and meter is a kind of musical balancing act that implies a developed feeling for the pulse (cf. Levy, 1995). This complex interplay may be mastered by means of variously performed emphases (Bengtsson et al., 1969; Edlund, 1993, 1994, 1996). In many cases it might be advantageous to understand how to bring out dynamic emphasis, emphasis linked to articulation, as well as durative emphasis, either separately or in all thinkable combinations. Durative emphasis may clarify the impression of the metrical shape of the music in question. However, in many cases a performing musician ought to compensate for the experience of undesired stresses due to the inherent musical structure by using counterbalancing technical measures (cf. Lester, 1986; Clarke, 1990).

6) Music may also be experienced as divided into energetic cycles represented by metrical units on different architectonic levels (Sundin, 1994; Uhde & Wieland, 1989). The beats of a measure may be regarded as representing different phases of an energetic cycle. The phases are often implicitly asymmetrical, which means that the single beats may be performed with various durations (cf. Clynes, 1983, 1987; Bang-Mather, 1973). The total musical progression seems to imply changing degrees of tension and relaxation, movement and stillness in a melodic, harmonic and rhythmical sense (cf. Uhde & Wieland, 1989; Jeppesen, 1930; Shove & Repp, 1995).

7) The metrical upbeats of a performance may be both weak and passive, or strong and active. The relationship experienced between the character of the metrical upbeats and the succeeding points of gravity might be compared to inhalation and exhalation. This also means that the character of the point of gravity is, among other things, conditioned by the character of the preceding upbeat.

8) In order to bring out a multitude of different musical expressions in a performance, the intended focus may change between different metrical architectonic levels analogous to the use of different gears when driving a vehicle.

9) Music often needs temporal space, freedom of movement and elasticity, which might be obtained by regarding the metrical units as representatives of energetic cycles. It may also be important not to get stuck in a too dogmatic approach when interpreting the printed score (cf. Howat, 1995; Cone, 1995; Valkare, 1997; Sundberg, 1990). However, when deviating deliberately from the precise note values of the score, these measures should rather provoke the experience of relating to a steady background represented by the pulse and the points of gravity of the music in question.

Music involves a complex interplay between many parameters, none of them being autonomous or separated from the total musical structure. Accordingly, rhythm and meter may be considered as musically integrated phenomena affecting also the melody part as clearly revealed when discussing the displayed musical excerpts of this chapter. It might be of interest to consider Skoda's (1957) phrasing curve indicating also the strong and weak beats of the melody part (2.11., Image 3a). In other words, in most cases it is not exclusively the bass part and the accompanying voices that stand for the execution of the rhythmic and metrical aspects of the music. Furthermore, the metrical division of a composition may be regarded as representing experienced musical energetic cycles functioning as a background to the total musical progression, almost like some kind of a mould also fashioning the specific shape of the melody part (cf. 3.1.6.-3.1.7.). In many solo pieces without accompaniment, this metrical background is still implied. From this it might be concluded, that by combining a focus on the perceived dynamics of the melody part within a composition with a focus also on its metrical structure, the aspect of musical phrasing would be explored from two supplementing perspectives. For this purpose, the presented system for notating points of gravity indirectly indicating the metrical division of the melody part, is suggested as a complement to the Melody Phrasing Curve discussed in the previous chapter. Thus, in the total PhD project, *two* visual tools have been used representing two different but intertwined aspects of melody phrasing, respectively.

3.2. Consecutive empirical studies

A precondition for using visual tools for *communicative* purposes is that there are musical aspects which may be experienced in a relatively similar way by different persons (cf. 1.2.4.). Based on the discussions presented in the previous, as well as in the present chapter, it is my hypothesis that particularly aspects related to *melody phrasing* might serve as a common point of reference.

The general purpose of the present PhD project is to develop and test the relevancy of two special visual tools intended to facilitate the communication between musicians of matters linked to musical interpretation (cf. 1.3.). This purpose also implies the exploration of thoughts coming up when professional musicians are asked to use these visual tools as instruments for illustrating their musical experiences.

Consequently, in the consecutive empirical studies, two specially designed visual tools focusing on different aspects of melody phrasing are employed:

- the *Melody Phrasing Curve* intended to illustrate the experienced fluctuating dynamical sound levels of the melody part within a performance
- the *system for notating points of gravity*, giving rise to the impression of the composition's metrical structure and bar-line organisation

My first idea was to proceed by studying empirically not only the relevancy of the Melody Phrasing Curve but also the system for notating metrical points of gravity. However, since I suspected that it might be difficult to explain the intended use of the latter tool to the involved participants without submitting some kind of detailed review, I decided to start my investigation with the Study A by testing only the function of the Melody Phrasing Curve. The phrasing curve was tested from the perspective of experienced music professors being asked to *illustrate* their personal experience when listening to a selection of piano excerpts representing different styles of classical music recorded on tape.

However, in Study B the system for notating metrical points of gravity was used simultaneously with the Melody Phrasing Curve. This time the four participating musicians were supposed to illustrate their *planned* performances of three selected classical piano excerpts, after which they were asked to listen to the recorded performances in question, in purpose to *illustrate* their experience of the recording on the one hand, and *evaluate* their interpretative ideas on the other. In all of the meetings with the participants, in-depth-interviews were included. The reason for involving also the system for notating points of gravity was that the Study B included several meetings with the participants, giving them a better opportunity to get used to work with the two visual tools. In this study, some of the participants' musical ideas, expressed by them when being asked to illustrate their musical experiences by means of the visual tools, were further explored. This means that the two visual tools were tested also in respect of their contingent usefulness as an aid facilitating the communication between musicians discussing issues linked to musical interpretation.

Chapter 4: METHODOLOGY

Based on the referred literature of Chapter 2 and 3, two visual tools were developed focusing particularly on the aspects of melody and musical phrasing. In Study A (Chapter 5), the gathered data material consists primarily of special drawings visually illustrating the fluctuating dynamics of the melody part as perceived by the participants when listening to a selection of classical piano excerpts recorded on tape. Although this first study did not imply any interviews, some of the spontaneous comments of the participants were documented and taken into account. The data material of Study B (Chapter 6) consists of the participants' visual illustrations of the melody part within three classical piano excerpts as experienced by them, recordings and films of the participants' own performances of these excerpts, as well as recorded and filmed in-depth interviews from all meetings.

Before presenting the two empirical studies in Chapter 5 and 6, respectively, the methodological considerations are discussed. The project that is presented in this book may be regarded as an attempt to dive deeper into some aspects of the large and relatively unexplored research field of musical interpretation. A question that might arise is which methodological considerations ought to be respected when investigating issues dealing with art. In the following, some different approaches will be broached.

4.1. General methodological considerations

Alvesson and Sköldberg (1994) express their opinion that the experienced reality cannot be fully explored and explained just by collecting and analysing quantitative data emanating from observations of the external world. Gadamer (1997) claims that 'art is knowledge and the experience of the work of art means participation in this knowledge' (p. 73). This also means that the work of art cannot be separated from the experiencing subject. Rønholt, Holgersen, Fink-Jensen and Nielsen (2003) interpret Gadamer's hermeneutic view by stating that 'a work of art is greater than its originator' (p. 78). In other words, the revealed significance of a work of art surpasses the original intentions of its creator.

Tham (2004) refers to Baumgarten who regarded personal feelings as fundamental in all kinds of thinking, in art as well as in science. According to Molander (1996c), knowledge does not exist in verbal descriptions but in human activities. Science does not necessarily supply better kinds of knowledge about the experienced reality than for instance the so-called fine arts.

Dewey (1934/2005) regards the fine arts as different languages enabling the communication of thoughts which cannot be expressed by means of merely words. He underlines that artistic knowledge and skills ought to be based on the originator's devotion and balanced 'love': 'Insufficient emotion shows itself in a coldly "correct" product. Excessive emotion obstructs the necessary elaboration and definition of parts (p. 73).'

When discussing different methodologies, Chalmers (1976) quotes from the Austrian philosopher Paul Feyerabend's book 'Against Method' (1977) ('Ned med metodologin!'): 'All methodologies have their constraints and the only remaining "rule" is that "everything is allowed" ' (Chalmers, 1976, p. 150). According to Feyerabend, the subjective element of science gives the researcher a certain degree of freedom, and science is not always superior to other kinds of knowledge appearing as incommensurable to the character, aims, and methods of common science.

Compared to Feyerabend's somewhat anarchistic view, referred to in Chalmers (1976), Marton and Booth (1997) adopt a considerably more moderate position. When studying the world of complex life, Marton and Booth recommend methodological creativity and the use of adequate methods adapted to the specific research area.

4.2. Hermeneutics

In some respects, this PhD project is inspired by hermeneutics. Hermeneutics may be described as an approach focusing on *interpretation* in a broad sense. Alveson and Sköldberg (1994) claim that the data emanating from a study is constituted of interpretations already from the beginning: 'Thus, we always apply a perspective on what we see, and the view is moreover *inseparable* from the perspective, it *is perspective*' (p. 49).

Accordingly, Study A and B of this book, presented in Chapter 5 and 6, respectively, deal with different kinds of interpretation. It is not only the musical performances of the employed piano compositions that represent interpretations; the participants' personal experiences when listening to the recordings may also be considered as a kind of interpretation. Their visual illustrations represent thus an interpretation of some experienced aspects within the musical excerpts, and the interviews of Study B include their verbally expressed reflections on musical interpretative matters. Alveson and Sköldberg (1994) describe the concept of *reflection* as interpretation of something that has already been interpreted. In a corresponding way, the participants' verbal reflections in Study B might be considered as expressing a process of *reinterpretation* of their original ideas. Furthermore, Study A and B also include my own subjective interpretation of the data material.

According to Alveson and Sköldberg (1994), hermeneutics recognise intuition as 'separated from reason being more formal and strapped for perception' (p. 115). Empathy is considered as crucial. The authors refer to Collingwood who claims that actions have an external side as well as an internal side, which means a behaviour side as well as a signification side. The signification of an element cannot be understood until it is related to the totality. On the other hand, the totality can only be understood out of the single elements. Alveson and Sköldberg also refer to Heidegger who redefines the hermeneutic circle, or rather spiral, by stating that 'to understand implies pre-understanding, but at the same time the pre-understanding inhibits the understanding' (Alvesson & Sköldberg, 1994, p. 136).

In a corresponding way, the present PhD project may be described as moving between deduction and induction in a kind of hermeneutic spiral. The two visual tools were thus developed based on relevant literature, and in Study A one of these tools, the Melody Phrasing Curve was tested from the perspective of music professors listening to recorded piano excerpts. When designing Study B, the results of Study A were taken under consideration. However, according to its specific purpose, Study B focused not only on testing the contingent relevancy of the visual tools, but also on musical thoughts related to musical interpretations coming up when the participants were asked to interpret and illustrate the piano excerpts employed.

Rønholt et al (2003) describe hermeneutics as an approach in the frames of which the researcher explores and interprets human actions and expressions by means of analyses made in a movement between the elements and the totality. The purpose of the interpretative process is to understand the entire data material. The researcher should also reflect on his/her pre-understanding in order to avoid being affected by preconceptions. In a similar way, Gadamer (1997) describes the concept of understanding as a fusion between the movement of the tradition and the interpreter's own movement. Alveson and Sköldberg (1994) emphasise the importance of presenting the outcome in a comprehensible and meaningful form. They regard the relationship between the experienced reality and the results as multiplex and complicated, something which has to be considered in the interpretative process.

4.3. Cultural tools and the socio-cultural perspective

When developing the special visual tools of this project, it has been my ambition to pay particular attention to some conventions for interpreting music, as referred to in the literature, in accordance with established traditions of the classical music sphere. Bruner (1996/2002) considers traditions as constituted of the experiences of human beings, and knowledge collected in the present time, as well as during previous generations. However, in Bruner's view, one interpretation of a material does not exclude other equally plausible interpretations. Different narratives may represent the same degree of consciousness. The 'external' world is accessible exclusively through consciousness and its system of symbols, and we are formed by culture providing the raw materials by means of which we construct our world, as well as our self-concept and estimation of our abilities, Bruner explains.

Although the visual tools of this project are supposed to be based on conventional views on classical music, this does not exclude that these conventional views are subject to a constant process of transformation. Rogoff (2003) explains the human development as a process in the frames of which people *change* by means of their participation in cultural activities. These activities contribute in their turn to changes in the cultural communities through the generations. This means that people and culture influence each other mutually, and that people, according to Rogoff, may be described as biological as well as cultural beings, in a dynamically integrated interchange where none of those factors can be separated from the other. Cultures influence each other, whereby new cultures emerge. As I interpret this, all traditions are constantly changing instead of remaining static. Even if a musician's experienced freedom of expression may be originally delimited because of respecting the rules of a certain tradition, this freedom still contributes to the changes and the further development of the tradition in question.

In Bruner's (1996/2002) view, all psychical activities are culturally situated in a world of cultural codes and traditions. Knowledge is considered as linked to the communication between people, and in the same way as Folkestad (1996), Bruner claims that learning processes take place in all kinds of situations. Bruner discusses moreover the Vygotskian concept of *cultural tools* used by human beings.

According to Säljö (2000) and his *socio-cultural* perspective, that seems to a great deal inspired by Bruner's views to, people are not only biological creatures but also human beings living and communicating in a socio-cultural reality providing many different kinds of instruments and tools, which enables us to exceed our purely biological restraints. In a similar way as Bruner, Säljö claims that physical artefacts, as well as linguistic and intellectual tools, are the results of understandings and experiences emanating from people living in the present time, as well as from generations in the past. By means of these tools, the development of mankind is transformed in a way that makes people more and more impressed with socio-cultural circumstances instead of just being subject to pure biological conditions. The musical instrument, the compositions, the printed scores, the established conventions for interpreting classical music, as well as the visual tools illustrating some aspects of melody phrasing used in this project, may all be regarded as cultural artefacts and tools in accordance with Säljö's perspective.

4.4. Phenomenology

In respect of its focus on music as a phenomenon experienced by human beings, the PhD project has been partly inspired by *phenomenology*. As described by Rønholt et al (2003), phenomenology is based on the researcher's first hand perspective. Reality cannot exist independently of us, which means that, from a phenomenological perspective, it is not possible to have access to an absolutely objective view of the surrounding world. As Rønholt et al explain, the purpose of a phenomenological research is to penetrate the core or the *essence* of an object, rather than to

explore its functions and how it is related to other phenomena. However, this does not mean that the historical and the social context should be disregarded. In order to reach the essence of a phenomenon, Rønholt et al continue, the researcher has to distance him/herself from all preconceptions and what is usually taken for granted. In the kind of phenomenology explained by Rønholt et al, the researcher strives to transcend the borders between subjectivity and objectivity without suppressing the differences. The crucial thing is to find out how the phenomenon appears in the eyes of the viewer. Therefore, the researcher should put him/herself, as well as the phenomenon as such, aside in order to bring the phenomenon back to the correlation between the subject and the surrounding world. Rønholt et al suggest that the method for this is reduction and reflection. As I interpret this, subject and object meet in the perception, giving rise to, for example, the phenomenon of music.

According to Bengtsson (1999), phenomenology is not a unitary concept. However, a common denominator is that events and phenomena are studied as far as possible without prejudices (cf. J. Bengtsson, 1988). All theories and concepts are regarded as originally silent experiences which are mentally clothed in words. Everything gets its specific significance due to the fact that nothing that we experience can exist independently of consciousness, Bengtsson explains.

J. Bengtsson (1988) refers to Husserl, who challenged the view of an independently existing world. In Husserl's view, reality consists of a permanent on-going interchange between subject and object. Accordingly, Husserl distinguishes between *existentia* and *essentia*, Bengtsson continues. As I understand the statement, this does not mean that Husserl questions the existence of subject and object. The phenomenological focus on different phenomena as they appear implies at the same time an experiencing subject (Bengtsson, 1999).

In the capacity of human beings, we have a consciousness through which we are able to think, act, communicate and experience the world. Being experiencing subjects, everybody has always the impression of existing in the centre of life. According to Bachtin (1987), everything in the world gets its value and significance in relation to the observing person. Without the subject being experienced as the emotional and willing centre, the world would be dissolved into an abstract construction.

Adrianson (1985) also adopts a perspective with the experiencing subject in the centre. He criticises the view on individuals as helpless subjects to either heredity or environment, or both. In both cases, human beings are regarded as more or less passive participants, determined by biological heredity, physical conditions or irreducible social conditions and structures. Such a view contradicts the concept of a *free will*, which may lead up to severe social consequences. Adrianson suggests an alternative view by regarding human beings as autonomous, independently thinking and creating beings, who possess a great capacity exceeding their causal restraints. In his view, human beings should be regarded rather as actively willing and answerable subjects. If not, it will be hard to motivate people to become more aware of the importance of realising, for example, ideals of social emancipation, Adrianson claims.

According to Rønholt et al (2003), in a typical phenomenological approach the researcher strives to obtain an overview that is as differentiated as possible by paying attention to the specific context on the one hand, and by including several perspectives by means of, for example, the experiences made by other persons on the other. However, this *inter-subjectivity* does not necessarily exclude the personal involvement and the first hand perspective of the researcher. Rønholt et al explain the process as interpretation (hermeneutics) of the object as perceived (phenomenology) by human beings.

Our life is historical Ricœur (1988) claims, for which reason everything has to be observed from the outside as well as from the inside, in order to appear as meaningful. Objectivity cannot be achieved exclusively by adopting the perspective of other people without paying attention to

the observer's own perspective. Universal history has several horizons, since nothing can be closed. Nevertheless, Ricœur emphasises the importance of entering into the view of the counterpart by means of the unification of different horizons.

In contrast to a typical phenomenological study, the results of the present PhD project are not primarily based on my own first hand perspective, but to a large extent on the analysis of the participants' documented visual illustrations, musical performances and verbal comments. Nevertheless, I still consider myself as personally involved in the interpretative process by structuring and analysing the data material. Furthermore, in Study B (Chapter 6), I sometimes declare my personal impressions when comparing the musical characteristics of the recorded performances to the participants' visual illustrations and their verbal comments. Furthermore, in my capacity of an experienced musician, I had the special advantage of being able to investigate the gathered data material from an inside perspective (cf. 1.2.2.). The many interviews of Study B secure a certain degree of inter-subjectivity and differentiated understanding.

4.5. Phenomenography

In some respects, the present PhD project has also been inspired by *phenomenography*. Phenomenography is an approach that has found its theoretical foundation in phenomenology. Accordingly, phenomenography is based on a non-dualistic view. In a phenomenographical study, different phenomena in the surrounding world are studied as experienced primarily by *other* people than the researcher (Marton, 1981; Bengtsson, 1999). In phenomenography '...the *variation* in ways of experiencing phenomena' is studied (Marton & Booth, 1997, p. 111). An important difference between phenomenology and phenomenography is said to be that 'in the former the researcher (the philosopher) is exploring her own experience by reflecting on it. In the latter the researcher is exploring other people's experiences by reflecting on *them*' (p. 120). In other words, the difference might be described as the one between an enterprise in first person singular compared to an enterprise in third person plural (Folkestad, 1996).

According to Marton and Booth (1997), phenomenography may be defined in a broad sense without being restricted to any specific theory and method. Instead, phenomenography encourages methodological creativity using adequate methods adapted to the specific research area. The specific designs of Study A and B, respectively, might be regarded as an example of such a methodological creativity.

Åsberg (2000) criticises this approach, because in his view 'true facts' tend to be rendered relative: How is it possible to be acquainted with anything, when nothing exists but subjective experiences and thoughts without any connection to a real existing world? When everything is nothing but descriptions without referring to real facts, there are no fixed norms for valuing the data of a study either, Åsberg concludes.

However, in a phenomenographical view, the world cannot be separated from the persons experiencing it (Marton & Booth, 1997). Marton and Booth explain that a phenomenographical study focuses on what people experience in a physical, social, and cultural sense. Knowledge is constituted of the inner relationship between the individual and the surrounding world. According to this non-dualistic view, the world as such is neither external nor internal; it is rather constituted as an inner *relationship* between both perspectives.

In accordance with this view, by studying the different experiences as expressed by the participants of Study A and B, the relationship between the music and the individuals is studied as well. This means that by studying the individual expressions, we may acquire knowledge not only about different ways of expressing experiences, but also about the phenomena as such.

Everybody experiences the world in a different way, and none of these individual conceptions can be classified as irrelevant or totally wrong (Marton, 1995). The individual views may be

considered as relevant partial descriptions of one and the same totality, although Marton and Booth (1997) admit that the different descriptions reveal an internal hierarchy in respect of their degree of complexity. Some perspectives may be more profound and multiplex compared to other perspectives, but Marton and Booth do not consider any of the individual ways of experiencing the world as identical to the world itself. Nevertheless, learning things opens up to a broader perspective and a more detailed view of the world. By learning, the world gets bigger (Marton, 1995). The individual ways of experiencing a phenomenon may thus be described as representing different hierarchical layers. Within the frames of a more advanced way of experiencing the phenomenon in question, the underlying layers are still present like silent components: '...learning can thus be characterised as an individual's successive growing within the complex of differing understandings' (p. 177).

Instead of using the word 'layer', Ricœur (1988) discusses the concept of *traces* as a synthesis between something that does not exist any more and the presence of its traces as a monument or a remaining testimony. An interpretation of this may be that we have access to the real things and events exclusively through their physical traces, or copies, in the shape of all kinds of conceptions, documentations, expressions and descriptions.

In a typical phenomenographical study, the variations of experiencing phenomena are categorised without being related to a certain number of individuals (Marton & Booth, 1997). This means that one and the same individual may represent several views and categories simultaneously, which does not exclude that the participants experience things differently, among others due to their diverging backgrounds and to the individual biographies of their lives.

The present PhD project has been inspired by Marton's phenomenography in respect of its focus on the participants' differently expressed ways of experiencing music. Accordingly, the participants' visual illustrations of given aspects within the employed piano excerpts as well as their verbal comments have been structured into corresponding categories. In the same way as in a phenomenographical study, the categories extracted from the participants' visual and auditory expressions are not supposed to be linked to specific persons, since one individual may be a representative of diverging categories in different situations. However, in a typical phenomenographical study the categories should rather be distinctive with clear boundaries between the corresponding different aspects (cf. Marton & Booth, 1997). Bearing in mind that music generally seems to be a very ambiguous and manifold phenomenon, the boundaries between the categories that have been extracted in this project are not quite as distinct as in a more typical phenomenographical study.

4.6. Debate between Marton and Säljö

In addition to the participants' recorded musical performances and visual illustrations, the data material of Study B (Chapter 6) has been extracted from in-depth-interviews. A question that may arise is to what extent verbal statements represent the real standpoints of the participants. There has been an on-going debate between Marton and Säljö (1997) during many years. Säljö challenges phenomenography for many reasons. Do *verbal comments* really mirror the participants' *experiences*, he asks. Different ways of speaking and arguing are primarily determined by the special discourse. Instead, the specific context and the underlying motives of the verbal expressions ought to be analysed, Säljö claims. Statements are primarily conditioned by the relationship and the communication between the researcher and the participants. According to Säljö, it is not possible to reveal the experiences as such, because people's inner world remains inaccessible: 'Conceptions of the world are not meaningful in and by themselves, they form part of discursive practices and gain their meaning from their insertion into systematic discourses' (p. 180). Säljö concludes by stating that the categories of a phenomenographical study are nothing but abstract constructions, since it is the discourses that are studied rather than the persons' real experiences.

As mentioned above, Marton was criticised by Säljö (1997) for disregarding the constituting role of the language. As an example of this, when interviewing the participants of Study B, the expressed statements cannot be unreflectingly interpreted as representing the participants' real experiences and opinions, which remain inaccessible to any study. Furthermore, the comments expressed by the participants cannot be generalised as applying to other musicians, although it cannot be excluded either, that other musicians might have adopted similar views.

On the other hand, whereas Säljö (1997) expresses his opinion that '...accounting practices precede individuals and they are the tools by which the world is constituted and rendered "meaning-ful" in a situated practice' (p. 182), Marton (1995) replies that language, culture, as well as the different discourses presupposes the individual experience of a human being. The describer cannot be separated from the description: 'Experience and culture are dialectically intertwined. To claim that one has primacy over the other is almost certainly wrong' (p. 171).

Marton (2000) also criticises Säljö for not paying enough attention to the differences between people's diverging ways of learning within the same practice. However, these differences are not decisive for the understanding of how social practices function, Säljö replies (2001). He wants to demystify the learning process. Everybody can learn, although different persons might need more or less time. Säljö holds out a hand to Marton by suggesting a possible opening up to a more detailed way of studying individual differences: 'A sociocultural perspective should be able to deal with variations between individuals within practices as well, and should not conceive of individual action as determined by practices' (p. 112).

From this debate it might be concluded that when studying and interpreting verbal statements it may be reasonable to be cautious. It cannot be taken for granted that the answers to the questions of the interviews mirror the participants' real views. In many cases, the answers may even be considered as primarily mirroring the way the questions have been conceived by the participant in question. Concerning the visual illustrations made by the participants in Study A and B, it cannot be taken for granted that these illustrations mirror the participants' real musical experiences either.

However, without focusing particularly on this problem, in my opinion visual and auditory expressions may still reflect aspects of people's real experiences and valuations; their ability of expressing inner feelings and experiences should not be underestimated. It is also important to respect people's integrity, their capacity of thinking autonomously, as well as their verbally expressed standpoints and opinions. To me, it seems implausible that the participants of a study could be induced to tell anything. Furthermore, since people constantly build up new social and cultural contexts, it may appear as somewhat cynical to regard them as passive subjects helplessly affected by the overwhelming cultural and social impact upon them (cf. Adrianson, 1985).

When analysing the interviews of Study B, the participants' verbal comments seem to reveal a generally open-minded and spontaneous attitude during all meetings. Furthermore, the questions were supposed to be formulated in an open way, without delimiting the discussions. By meeting the participants several times and by comparing the participants' verbal statements to their recorded performances, as well as with their different visual illustrations, it is my impression that I have received a relatively integrated and plausible overview of their different standpoints.

4.7. Conclusion

Hence, the PhD project that is presented in this book is inspired by several methodological approaches: for example, hermeneutics in respect of treating different kinds of interpretation, phenomenology in respect of regarding music as a phenomenon experienced by human beings, phenomenography in respect of studying other people's experiences by structuring their different expressions into corresponding categories, and the socio-cultural perspective in respect of using cultural tools. When carrying out the empirical studies presented in Chapter 5 and 6, respectively, I have not found any problems in combining elements from the different methodological approaches discussed, since the respective ideas do not necessarily have to be considered as contradictious.

Chapter 5: STUDY A — the Melody Phrasing Curve; a Visual Tool for Illustrating Perceived Dynamics

The design of Study A might be considered as explorative in character, generating a data material consisting of the participants' illustrations of the fluctuating dynamics of the melody part, as perceived by them within a selection of classical piano excerpts recorded on tape.

The purpose of Study A was to test the relevancy of a specially designed visual tool called the Melody Phrasing Curve (MPhC), which is supposed to be drawn by free hand continuously and collaterally to the printed score (Appendix A1-5). In this study, the MPhC has been tested exclusively from the perspective of expert music listeners being experienced music professors.

The research question was formulated as follows:

How does the Melody Phrasing Curve function as an instrument for visually illustrating the dynamical progression of the melody part, when applied by experienced music professors listening to classical piano compositions recorded on tape?

The chapter is divided into three main parts: *method*, *results* and *discussion*.

- In the *method* part (5.1.), the setup and design of the study's two phases are described, as well as the process of analysing generated data.
- In the next part (5.2.-5.4.), the *results* extracted from Study A are presented. In a number of images, selected parts from the participants' drawn phrasing curves illustrating the experienced dynamics within the melody part of the employed musical excerpts, are displayed. Firstly, the results emanating from the study's *first phase* are presented. In this phase, the phrasing curves drawn by seven participants illustrating their respective experiences of the fluctuating dynamics of the melody part within five stylistically diverging piano excerpts recorded on tape were compared. These results have been structured into six main categories corresponding to the participants' foci on different musical aspects when drawing their curves. Secondly, the results emanating from the study's *second phase* are presented. The reason for carrying out the second phase of the study was that the visual appearance of the printed score displayed collaterally to the dynamic scale might have affected the shape of their drawn curves. Therefore, in order to test if the visual shape of the phrasing curves really might be interpreted as mirroring the dynamic fluctuations within the recordings, this part of the study focused on comparing the curves drawn by three participants, illustrating three differently performed recordings of one and the same composition. A section summarising the entire results ends with some conclusions answering this study's research question.
- In the third *discussion* part (5.5.), possible reasons for occurring discrepancies between the individual curves are broached. After that, possible ways to proceed are discussed ending with a short description of the consecutive Study B.

5.1. Method and design of the study

Study A includes thus two phases with different foci. In both phases of Study A the phrasing curves drawn by the participants were compared and analysed. Although no interviews were carried out in this study, some interesting comments made by the participants have still been documented and taken into account.

Firstly in this section, some aspects of the Melody Phrasing Curve's special design will be explained, as well as the expressed instructions for how this tool was supposed to be used, after which the setup of Study A is described. A section explaining the analysis of the data material follows, and finally, a discussion about the study's validity, reliability and credibility.

5.1.1. Designing the Melody Phrasing Curve

Based on the conclusions drawn from the theoretical investigation, as presented in Chapter 2, the device of the MPhC consists of a staff with a number of horizontal lines functioning as a dynamical scale indicating the relative potential dynamics of the melody part within classical compositions (cf. 2.11; cf. Image 3b). The phrasing curve illustrating the experienced dynamics within the melody part of the musical excerpt in question is supposed to be drawn by free hand, collaterally to the printed score. The location of the device parallel to the score enables an interpretation of possible connections between the specific shapes of the drawn curves on the one hand, and the corresponding musical events performed on the other.

Considering the explorative character of this study, neither the precise number of horizontal lines constituting the dynamical scale of the device, nor the location of the scale above or beneath the displayed printed score, had been definitely settled when carrying out the study (cf. 2.11). In the first phase of Study A, a dynamical scale with *six* horizontal lines was tested, located *above* and parallel to copied systems of the printed score (cf. Appendix A1-5).

Since the recorded piano excerpts that were used in the first phase of the study might be described as expressing musical characters with different dynamical ranges (cf. 5.1.2.3.), the participants were asked to 'calibrate' the experienced dynamic levels of the excerpts in question by adapting them to the device's scale. This means that independently of whether the music was perceived as being generally soft or loud, the participants were asked to use all of the device's dynamical scale in each excerpt, except for the space between the first and the second lines counted from below, which will be further explained below. Calibrating the experienced dynamic levels, in this way adapting them to the device's dynamical scale, might be expressed by the metaphor of adjusting the input sound volume when using old kinds of analogue tape recorders equipped with a VU-meter display.

At the left of each staff consisting of six horizontal dynamical scale lines some figures supposed to correspond to the potential experienced dynamic levels of the music indicate in rough outline different values in a progressive scale from 0 to 5 (cf. Appendix A1-5). However, bearing in mind that the MPhC is only supposed to illustrate the experienced dynamical progression of the melody part approximately, it should be underlined that neither the figures mentioned nor the single horizontal staff lines of the dynamical scale are supposed to refer to any fixed sound levels. The primary reason for displaying these figures and lines was to make the drawing of curves more convenient to the participants on the one hand, and to facilitate the process of comparing and analysing the individual phrasing curves on the other (cf. 2.11.).

When carrying out the study, the participants were asked to express their experience of the maximal dynamic level by drawing their curves touching upon the uppermost sixth line of the dynamic scale *at least once* in every single excerpt, independently of the experienced maximal dynamic levels within the other recorded excerpts. On the other hand, the participants were free to indicate the maximal level (peak) more than once in one and the same excerpt, if they experienced the music in that way. In order to detect the experienced maximal levels of the

recorded musical excerpts, the participants were asked to first listen to each excerpt from the beginning to the end without stopping in order to get a general idea of the changing dynamic levels. They were also recommended to make small notes into their devices indicating the most evident dynamic high points. However, with the exception of the beginning and the end of each excerpt, they were not obliged to indicate any corresponding minimal dynamic levels.

The participants were also asked to consider the space between the first and the second horizontal lines of the dynamical scale counted from below. This space was not supposed to be used for the purpose of illustrating any sounding music at all, independently of whether it was experienced in a very soft dynamic. The space between the first and the second horizontal lines was namely restricted for expressing the experience of *silence* in a musical sense, for example, at the beginnings and the ends of the excerpts. In other words, the participants were asked not to draw any curves below the *second* line, as long as they could perceive the music sound acoustically.

The beginning of each phrasing curve was supposed to depart from a star symbol located on the nethermost line of the dynamical scale, to the left and above the first system of the printed score, enabling in this way an illustration of the inner experience of transition between the preceding silence and the first sounding music (cf. Appendix A1-5). Correspondingly, at the end of some excerpts the phrasing curve was supposed to return to a star symbol located on the first line as well, to the right and above the printed score, illustrating in this way the experienced return into the succeeding silence after the sounding music had ceased. The reason for asking the participants to draw these beginnings and ends to their phrasing curves was to explore in what ways they would illustrate their experience of the connections between the relative silence preceding the music, and the silence succeeding the music on the one hand and the beginnings and the ends of the sounding music on the other (cf. 2.7.3.).

In the *second* phase of the study the device for drawing phrasing curves was modified in some respects (cf. Appendix A6). Considering the relatively low-voiced character of the piano excerpt employed in the second phase, the use of a large dynamical scale with many lines might have given rise to a big spread between the individual phrasing curves rendering a comparison difficult. Accordingly, a device consisting of *five* dynamical lines instead of six lines was tested. On the other hand, as opposed to the device employed in the study's first phase, all of the five horizontal lines could be used for illustrating the experienced dynamics, including the space between the first line and the second line counted from below. Furthermore, it was now the uppermost *fifth* line, instead of the sixth line, that was supposed to represent the experienced maximal dynamic level.

This time, the experienced connection between the preceding 'silence' and the beginning of the sounding music was represented by the initial part of the curves moving out from a black point within a circle, located to the left and *below* the nethermost line of the dynamic scale. In a corresponding way, the experienced connection between the end of the sounding music and the succeeding 'silence' was represented by the final part of the curves returning down to a black point within a circle, located to the right and below the nethermost line as well. The purpose of this modification was to avoid making the participants confused, as might have been the case in the first phase of the study, when asking them not to draw any curves below the second line as long as they could perceive the music sound acoustically.

On the proposal of one of the participating music professors, the device for drawing phrasing curves was located *below* instead of above the printed score as a test when carrying out the study's second phase. This change is also in accordance with the way Badura-Skoda (1957) designed his phrasing curve (cf. 2.11., Image 3a). The advantage of this location is that the displayed score will not be covered by the hand when drawing the phrasing curves, except for if the participant in question happens to be left-handed. The disadvantage is that the dynamical scale might appear as

being linked to the *left* hand part of the piano score, although the melody part of a piano composition is mostly represented by the uppermost voice of the *right* hand part.

After having evaluated the design of the MPhC when accomplishing the present study, I decided henceforth to stick to the location of the dynamical staffs *beneath* the systems of the printed score. However, after having tested a dynamical scale with five lines in the second phase of Study A, I finally found out that a device consisting of *six* dynamical lines instead of five would enable a more varied illustration of the experienced dynamical progression of the melody part in most kinds of musical excerpts, for which reason I decided to use a device with six lines in Study B.

As distinguished from the study's first phase, the device used in the second phase was constructed by means of a computer. Consequently, the quality of the scanned images was improved, facilitating the analysis when comparing the individual phrasing curves.

In Study A and B, the phrasing curves are always supposed to be drawn as a continuous line by means of a pencil. The reason for using a pencil is to enable corrections giving space for personal reflections and decisions within the frames of the given verbal instructions. Furthermore, mastering a conventional pencil might also be perceived as easier compared to being obliged to learn the functions of, for example, a computer application. It should however be underlined that the participants did not have to make corrections in *real-time* while listening to the recording in question; they hade always an opportunity to listen to the recording in shorter or longer sections, and with an optional number of stops as many times as they liked.

Music implies a multitude of different aspects and voices contributing to the total experience of fluctuating dynamical sound levels. However, the participants were asked to focus primarily on the *melody part*, discriminating as far as possible the melody's dynamical progression from other things happening in a musical sense.

This also means that instead of designing a complicated device supposed to illustrate the experience of several musical aspects simultaneously, for example, by means of many different curves, the MPhC is intended to illustrate just *one* single aspect, the experienced dynamics of the melody part, making the visualisation of the music as simple and lucid as possible. Thus, the MPhC does by no means pretend to express the impression of the sounding music in its total complexity.

5.1.2. Design of the study

In this section, the selection of participants and recordings is described, as well as the diverging approaches of the study's two phases. The realisation of the study's two phases is explained, and finally some spontaneous comments will be broached made by the participants in the first phase of the study.

5.1.2.1. Participants

Considering the specific purpose of this study, the MPhC has been tested exclusively from the perspective of experienced music professors. The reason is that the MPhC is supposed to be based on established conventions of melody phrasing within the classical musical traditions (cf. Chapter 2), wherefore the participants ought to be thoroughly initiated into these traditions through their respective educations and professional occupations. When selecting the participants, it was thus my intention to engage primarily professors teaching different musical subjects on an advanced level. Furthermore, by mastering a wide range of different specialities the participants were supposed to represent somewhat diverging perspectives, which would hopefully generate a varied outcome.

Hence, a strategic selection of seven experienced professors teaching different subjects at one of the academies of music in Sweden participated in the study's first phase, which was carried out from January to April 2002. The following professors participated in the first phase of the study:

A) Professor of piano, woman, age 51
B) Conductor, man, age 80
C) Professor of music theory, man, age 42
D) Musicologist, man, age 56
E) Professor of flute, man, age 46
F) Composer, man, age 38
G) Professor of singing, woman, age 58

Two of the participants, *A* and *D*, were pianists. However, D is primarily a scholar in musicology.

A preliminary analysis of the phrasing curves drawn by the participants in the first phase of the study revealed that in some cases the different shapes of the curves seemed to mirror musical aspects related to the participants' respective professional specialities. In order to avoid the shapes of the curves being too much biased by these musical specialities, the participants of the study's second phase were supposed to represent more of the same musical perspective. Thus, in the second phase of the study, which was carried out in May 2004, all of the three participants were pianists teaching piano or musical interpretation. The participants were as follows:

A) Pianist and professor of Musical studies and interpretation, man, age 46
B) Pianist and professor of Musical studies and interpretation, man, age 31
C) Professor of piano, woman, age 53

The participant *C* in the study's second phase is the same person as the participant *A* in the first phase of the study. The two other professors did not participate in the study's first phase.

5.1.2.2. Differences between the study's two phases

In the first phase of the study, each participant listened to musical excerpts from five stylistically diverging classical piano compositions recorded on tape. Subsequently, the participants were asked to draw phrasing curves illustrating their experience of the fluctuating dynamics within the melody part of each one of the five excerpts.

In the second phase of the study, the participants were asked to draw phrasing curves into a device that, except for some modifications in respect of its design (cf. 5.1.1.), was principally the same as the one used in the previous phase. This time, the individual phrasing curves were supposed to illustrate the perceived dynamical progression of the melody part within each one of three differently interpreted versions of one and the same piano composition recorded on tape (R. Schumann: 'Von fremden Ländern und Menschen').

5.1.2.3. Recordings

When planning the first phase of the study, it was my intention to select piano excerpts representing a wide range of distinctly diverging styles within the frames of Western classical music history from the last three centuries, for the purpose of testing the MPhC in different musical styles on the one hand, and generating a varied outcome on the other. For example, the Mozart excerpt might be characterised as an example of classical homophony, the Bentzon excerpt as an example of free tonality, whereas the Schönberg excerpt is an example of dodecaphony.

The advantage of using piano music was that, instead of selecting music involving several voices with different instrumental characters which might be experienced as confusing by the listeners, just one instrument was used facilitating the preparation of the study on the one hand,

and on the other hand I hoped to make the music listening less ambiguous. In other words, the participants did not have to concentrate on the melody part switching between several instruments with different sound characters. Moreover, piano compositions will often be perceived as more complete because of not requiring the support of any additional instrument. However, since the compositions employed in the first phase of the study were all performed and recorded by myself, the excerpts were also selected because of simply belonging to my own musical repertoire. The musical excerpts of the study's first phase were thus as follows:

1) W. A. Mozart: from Sonata in B flat major, Köchel 333, first movement
2) J. Brahms: from Intermezzo in E flat major, op. 117, N° 1
3) C. Debussy: from 'Préludes pour Piano (1er Livre)', N° 12 ('Minstrels')
4) N. V. Bentzon: from 'Træsnit' ('Woodcut'), op. 65
5) A. Schönberg: Sonata op. 26 (1924), version for flute and piano edited by F. Greißle, interlude for piano solo from the third movement

A preliminary analysis of the phrasing curves emanating from the study's first phase revealed that, considering the purpose of communicating musical ideas between musicians, the MPhC seems to function more adequately when being used for illustrating structurally simple homophonic music with the melody part appearing in a clear relief to the other voices, compared to when being used in music that may be characterised as more ambiguous and complex in a structural sense. Therefore, in the second phase of the study, three different recordings of Robert Schumann's distinctively homophonic piano composition 'Von fremden Ländern und Menschen' were selected. The composition is included in his piano suite 'Kinderszenen' op. 15. In addition to its homophonic character it may also be described as very simple in a structural sense. Another reason for selecting this little composition was that three very differently performed recordings were available in accordance with the specific purpose of the study's second phase (cf. 5.1.).

The participants listened to the following recordings of the Schumann composition:

1) Marta Argerich, Hamburg 1984, Deutsche Grammophon GH stereo 410653-1
2) Ingrid Haebler, LY Philips Holland stereo 802738 [1]
3) Lucia Negro, Malmö Academy of Music 1991, Map of Sweden CD 9130

In order to avoid any undesirable influence when drawing the curves, none of the participants was informed about the names of the performing artists a priori, and none of them commented on being familiar with the specific recordings either.

Nevertheless, the participants commented spontaneously on their experience of the specific characters of the three differently performed versions. For example, all of them described in different ways the character of the *first* version as more 'romantic' than that of the other two versions; calmer, more intimate and maybe also somewhat sentimental.

The character of the *second* version was in different ways described as more energetic than that of the other two versions, maybe even somewhat 'nervous'. The composition was also experienced as being performed with long phrase lines moving on forwards.

All of the participants declared in different ways that the character of the *third* version might be described as melodious and non-sentimental, with distinct articulations at some phrase closures, probably in order to bring out the metrical patterns to the listeners. At this occasion, the participant B added that he did not experience these articulations as disturbing the continuous flow of the melody line. The participant C commented explicitly on her drawn curve indicating a

[1] Unfortunately, there is no year of publication indicated on the cover of the Haebler record.

generally very high dynamic level, with the intention of illustrating the pregnancy of the melody line in the right hand part as experienced by her.

In both phases of the study, the recordings had been copied to tape cassettes. The number of each musical excerpt was verbally announced on tape. The reason for using a cassette recorder was that the equipment, a Sony Walkman Professional and two small computer loudspeakers, could be moved easily between different rooms which happened to be vacant at the time of the study's individual meetings. The sound quality was judged to be sufficient for the purpose of the study, and all of the participants listened to the recorded excerpts by means of the same equipment.

5.1.2.4. Realisation of the study's first phase

The first phase of the study was carried out at one of the Swedish academies of music, except in one case, where the study took place at another department of the university. The meetings with the participants took place in accordance with their personal agreements about date and time.

Considering the specific purpose of the study testing the MPhC, it was crucial that the participants would use this tool in approximately the same way. Therefore, before effectuating the study, the participants were verbally informed that the MPhC was intended to illustrate primarily the perceived dynamical progression of the melody part, which means that they were supposed to focus on the melody's fluctuating soft and loud dynamical sound levels as experienced by themselves (cf. 1.2.5.; 5.1.1.). Besides, it was up to them to assess in every single moment which voice that was representing the primary melody part within the total composition recorded. For example, the Bentzon excerpt used in the study's first phase may be characterised as polyphonic, for which reason the melody part is likely to be experienced as switching from one voice to another.

The participants had the opportunity to listen to each excerpt, in shorter or longer sections and with an optional number of stops, as many times as they liked. After accomplishing their phrasing curves illustrating the recording in question, most of the participants finally listened to the excerpt from the beginning to the end without stops in order to check the curves and make corrections if necessary. Every time, before proceeding to the next excerpt, each participant was asked whether (s)/he was definitely pleased with the curve.

Finally, each participant was asked to check the coherence between the notated dynamic level at the end of each dynamical staff and that of the succeeding staff located below the first one, in this way avoiding sudden and unintended 'jumps' to break the continuous line.

5.1.2.5. Realisation of the study's second phase

In the composition by Schumann that was used in the second phase of the study all kinds of instructions, except for slurs and fermata, within the printed score of this original edition had been removed. The reason for this was to eliminate as far as possible any undesirable visual information that might otherwise have affected the shape of the drawn phrasing curves. Furthermore, the two notated repeats had been removed, displaying instead each one of the two sections twice consecutively.

Except for the modification of the device, the instructions for how to draw the phrasing curves were principally the same in the second phase of the study as in the study's first phase. The participants were thus asked to 'calibrate' the range of the experienced dynamics, adapting them to the device for drawing phrasing curves, and permitting them to touch upon the uppermost line representing the maximum level at least once or several times in one, or in more than one, of the recorded three performances, regardless of the generally silent and low-voiced characters of the recordings. This means that before drawing any curves, each participant was asked to first listen to the recordings of all the three interpretative versions.

5.1.2.6. Participants' comments in the first phase of the study

As already mentioned, Study A did not imply any interviews at all. According to the specific purpose of the study, the analysis of the data material implied exclusively the comparison between the curves drawn by the participants. Nevertheless, some comments elucidating the specific shapes of their curves have still been documented and taken into consideration.

In the first phase of the study, the participant D (musicologist) expressed explicitly his intention of attempting to put himself into the place of an imagined listener not being familiar with the music in advance, and therefore reacting quickly and spontaneously to the musical events performed, as if he would hear the composition for the first time.

It may be regarded as doubtful to adopt such an approach presupposing a sudden ignorance of already achieved musical experiences and pre-understanding, particularly bearing in mind that D is likely to be familiar with many of the piano excerpts of the study's first phase in his capacity of pianist. However, for ethical reasons the integrity of all the professors participating in this study has been fully respected (cf. Kvale, 1997). This means that nobody was pushed to change a certain approach. Besides, the participants were all very helpful and obliging, sacrificing their precious time without any economic compensation.

I tried to clarify the intended use of the MPhC by means of the following metaphor: The changing dynamic levels of the phrasing curves might be compared to the changing amplitudes of a conductor's arm movements and bodily gestures visualising the dynamics and thereby also some aspects of the intended emotional moods to the orchestra. The reason for using such a metaphor was to encourage the participants to focus exclusively on the changing *dynamics*, avoiding in this way the curves to indicate high dynamic levels at places representing musical sections which are performed with decidedly soft dynamics (cf. 2.3.; 2.11.).

At this occasion, the participating professor of music theory (participant C) objected to this metaphor by referring to his own experiences when conducting music of recent date. He claimed that a conductor sometimes has to indicate nothing but the beats in a neutral way, regardless of the dynamics of the music. It is true that a conductor may be obliged to give priority to the organisation and coordination between the single parts and voices when the rhythmical structure of, for example, a contemporary composition happens to be very complex, which means that the performance of the changing dynamics and emotional characters will be more or less left to the musicians themselves. However, this approach does not seem to be very representative when conducting music belonging to the conventional classical repertoire, and particularly not when conducting music of distinct homophonic kinds with a clearly outstanding melody part.

5.1.3. Analysis

In this section, the analysis of the collected data material will be described. The phrasing curves drawn by the participants were all scanned into images, in order to be processed by means of the Adobe computer software called Photoshop (for technical details, see Appendix A7). Thereby the comparison between the individual curves became very convenient.

5.1.3.1. Conditions of the MPhC

Since the data material consisted of phrasing curves drawn by free hand, no perfect conformity between the individual curves was expected. However, considering the specific purpose of the study: testing the benefit of the MPhC in communicative contexts, there should still be observable similarities between the individual curves illustrating one and the same musical performance. Consequently, all the participants were supposed to use the MPhC in approximately the same way according to my verbally expressed instructions, not because these instructions represent the only possible way of using this tool, but because the purpose of the present study was to test it according to its intended use of illustrating exclusively the experienced dynamical progression of the melody part.

5.1.3.2. Analysis of the study's first phase

Regarding the data material emanating from the study's first phase, the analysis thus focused on comparing the phrasing curves drawn by the seven participants, illustrating each one of the five stylistically diverging musical excerpts employed.

The curves were compared in respect of

1) their general shape
2) notated high and low points, resemblances and differences between the participants
3) the shape of the curves' beginnings and endings, supposed to illustrate the participants' experience of a transition between the preceding 'silence' and the first sounding tone, as well as their experience of the music returning into the succeeding 'silence'

The reason for comparing the drawn phrasing curves in respect of their general shapes, was to get a better overview of the emerging resemblances and divergences. As regards the notated high and low points, they were supposed to mirror the dynamic culmination points and relaxation points as experienced by the participants. The idea of drawing beginnings and ends to the phrasing curves was based on some usual conceptions concerning melody phrasing as discussed in the Chapter 2 (cf. 2.7.3. Normally, music will not be experienced as starting without preparation, nor will it be experienced as ending immediately after the last tone has faded away.

In order to facilitate the analysis, the parts of the curves stepping occasionally over the fifth line, counted from below, were defined as high points, or high areas in cases where the drawn curves were still moving on that dynamic level. The notated maximal dynamic levels touching upon the uppermost sixth line have been called *peaks*. The parts of the curves touching occasionally upon the second line, or falling below the second line, were defined as low points, or low areas in cases where the drawn curves were still moving on that low level.

A curve visualising the quickly changing *physical* amplitudes of the Schönberg excerpt has been constructed as well (see Appendix A7 for technical details). The curve was constructed by normalising the visualised physical amplitudes of the recording into the same dynamic scale used for drawing phrasing curves. This curve does not specifically represent the dynamical progression of the *melody* part, since the sound track of the recording is generated by the music's total dynamic impact, including all voices and harmonies. The amplitude curve was constructed primarily as an experiment for comparative purposes, in order to get a hint of the difference between a curve displaying the changing amplitudes of the recording in a physical sense on the one hand, and on the other hand the drawn phrasing curves illustrating the perceived dynamical progression of the reproduced sound with focus on the melody part. The reason for exclusively selecting the Schönberg excerpt for this purpose was the specific lucid character of this music, facilitating the otherwise relatively complicated construction of an amplitude curve adapted to the MPhC's device.

Furthermore, a curve displaying the *average* of all the notated dynamic fluctuations within the seven individual phrasing curves illustrating the Schönberg excerpt, has been calculated statistically. An average curve does not reveal the contingent spread between the individual phrasing curves, for which reason only two bars of the Schönberg excerpt are displayed in order to get a hint of the difference between the shape of the mentioned physical amplitude curve on the one hand, and the average of the drawn phrasing curves mirroring the experienced dynamic fluctuations of the melody part within the reproduced excerpt on the other. The relationship between the physical amplitude curve and the curve indicating the average of the curves drawn by all the participants will be further broached when discussing Image 13 that displays both curves.

It should be underlined that none of these experimental curves are vitally important for the purpose of the study's first phase, and no corresponding curves have been effectuated in the second phase.

When analysing the phrasing curves emanating from the study's first phase, it seems as if the participants in some cases have conceptualised the intended focus on the fluctuating dynamics of the melody part in a somewhat broader sense than expected. An interpretation of these results is that the participants might sometimes have focused on some other musical parameters than the experienced dynamical progression of the melody part as well. This was also the reason for structuring the curves' momentarily diverging shapes into different categories.

5.1.3.3. Analysis of the study's second phase

In the study's second phase, the curves drawn by the three participants, illustrating the three differently performed versions of the Schumann composition, were compared. The purpose was to find out how the MPhC works as an instrument for visualising dynamic features in the sounding music (cf. 5.1.2.2.). In other words, the analysis focused on studying to what extent clearly audible differences in a dynamical sense between the three different recordings of one and the same composition could be detected in the individual phrasing curves.

Consequently, an analytical work was carried out in order to

1) compare each participant's phrasing curves, illustrating the three differently performed versions of the Schumann composition
2) compare the three participants' phrasing curves, illustrating each one of the recordings

In the second phase, the definitions of dynamic high points, high areas, peaks, low points and low areas were principally the same as in the first phase. However, this time the parts of the curves stepping over the *fourth* line from below were defined as high points or high areas, since the dynamic scale had been limited to five horizontal lines instead of six. Consequently, the parts of the curves touching upon the uppermost fifth line were defined as dynamic peaks.

Finally it should also be emphasised that due to the fact that no interviews were carried out in this study, all conclusions about which musical aspects might have given rise to the specific shapes of the individual phrasing curves, should be considered as subjective interpretations based on my own pre-understanding of classical music.

5.1.3.4. Validity, reliability and credibility

Since the purpose of Study A was to test the usefulness of the MPhC as an instrument for visualising the experienced dynamical progression of the melody part within classical piano excerpts recorded on tape, the shapes of the drawn phrasing curves are supposed to approximately mirror this aspect provoked by events implied in the sounding music.

People never experience music in exactly the same way. Therefore, when analysing the single curves, some individual characteristics have also been observed and taken into account.

The usefulness of the MPhC has been tested from the following two criteria:

1) The participants were supposed to use the phrasing curve in roughly the same way.
2) When illustrating one and the same section of a recorded excerpt, there should be observable similarities between curves drawn by the participants.

Comments on the first criterion: Considering the specific purpose of this study, there were some constraints and 'rules' for how to draw the curves. However, there was still space for a certain personal freedom, bearing in mind that the concept of perceived dynamical progression is by no means clear-cut.

By relating the shape of the individual curves to the sounding music on the one hand, and by comparing the curves to the printed score displayed collaterally to the dynamical scale on the other, it has been possible to get a hint of how the participants had conceived the verbal instructions.

Comments on the second criterion: By comparing high points, low points, as well as the general shapes of the individual curves illustrating the same sections of the recorded excerpts, it has been possible to observe resemblances as well as discrepancies between the participants' phrasing curves.

5.2. Results of the first phase

The presentation of the results follows the general design of the study carried out in two phases with different foci (cf. 5.1.2.). This means that in the first section dealing with the study's first phase, the results emanating from the comparison and analysis of the participants' phrasing curves, illustrating five stylistically diverging piano excerpts recorded on tape, are presented. In the section dealing with the study's second phase, the results emanating from the comparison and analysis of the participants' phrasing curves, illustrating three differently performed recordings of one and the same composition, are presented.

In many cases, particularly when commenting on the specific shape of the individual phrasing curves, the presentation of the results is supplemented with colour images displaying selected parts of the participants' drawn curves, illustrating small sections of the musical excerpts employed. The reason for not displaying *all* the individual curves simultaneously every time in one and the same dynamical staff, is that some curves are primarily displayed for the purpose of paying attention to certain aspects which are specially discussed in the text. Therefore, the phrasing curves displayed often appear in two separate sets of dynamical scales located above each other, and parallel to the printed score beneath, in this way facilitating a visual comparison.

Since the presentation has not been supplemented with images in all cases, there are instead numerical figures referring to the specially designed scores for drawing phrasing curves that were used in the study, and which are also fully displayed in the appendixes A1-6. The reason for not displaying these appendixes together with all the curves drawn by the participants is that the visual appearance of all the drawn curves together moving in one and the same dynamical staff would probably have a confusing rather than an elucidating effect on the reader. In order to construe the individual curves, a special software program is needed enabling the comparison of the curves two by two or possibly three by three (for technical details, see Appendix A7). All computers are not equipped with such an indispensable software program, for which reason I have decided not to supply this book with any kind of CD or DVD containing the images of the phrasing curves drawn by the participants.

When analysing the results emanating from the first phase of the study, I observed that the shapes of some parts of the participants' phrasing curves might be interpreted as they had interpreted the intended illustration of the experienced dynamical progression within the melody part in a somewhat broader sense than expected. As a consequence, the individual phrasing curves are sometimes diverging a lot, although being supposed to illustrate the same musical sections. However, when illustrating, for example, the recorded Mozart excerpt, the phrasing curves look more alike, mirroring the dynamics of the melody line in a plausible way. This means that in addition to the results supporting the idea that the MPhC might be used as an instrument notably for the purpose of specifically illustrating the dynamics of the melody line, some unexpected results were found as well.

The diverging parts of the drawn curves seem to indicate that when listening, the participants might have focused not exclusively on the fluctuating dynamics of the melody part in a narrow sense, but also on some other musical parameters. Accordingly, sometimes they seem to have interpreted the intended concept of *perceived dynamics* in a way reminding of the concept of *experienced tension* used in Nielsen's (1983) study (cf. 2.11).

The mentioned discrepancies might be due to one or more of the following reasons:

- The verbal instructions for how to use the MPhC were not clear enough
- The instructions were indeed clear, but the participants interpreted them differently
- The participants are used to listen to music in many different ways

Being confronted with these unexpected results in the first place, I felt like arriving at a crossroad. This means that I had to make a decision whether I should specifically study the shapes of the *diverging* parts of the drawn curves for the purpose of exploring the participants' potential different ways of *listening* to music, or if I should stick to my original plans, investigating to what extent the MPhC might be used for the purpose of facilitating the *communication* of musical thoughts and ideas between musicians (cf. 1.3.). For the moment, I was rather inclined to proceed the study as originally intended.

It is indeed fascinating that the MPhC also might be used for illustrating different kinds of musical experiences provoked by the special characters of the musical sections in question, but this means that the specific shapes of the curves first have to be thoroughly *decoded*, enabling an elucidation of *which* musical events the participants have attempted to illustrate. When using the phrasing curves freely, mirroring the interchange between a multitude of musical aspects at a time instead of focusing on just one single aspect, another layer of suppositions would be added, which has to be filtered before the special shapes of the phrasing curves can be interpreted. This would disqualify the MPhC as an instrument for *facilitating* the communication of musical ideas between musicians, because if the phrasing curves do not specifically refer to the dynamical progression of the melody part, but also to any musical events experienced, other persons would probably find it hard to know for sure exactly what the phrasing curve in question is supposed to illustrate at each moment in the sounding music (cf. 2.3.).

Considering this study's delimited purpose of testing the relevancy of the MPhC in a practical situation, there were no interviews with the participants that could have clarified the shapes of their drawings. Therefore, in the analysis I have decided to abstain from doubtful speculations on possible reasons why the participants have drawn phrasing curves with diverging shapes, except in cases where the connections between the musical events and the corresponding parts of the curves seem to be obvious. After all, it has been possible to interpret the specific shapes of the participants' phrasing curves in many cases, for which reason the results were structured into *six* corresponding *main categories* referring to the participants' somewhat diverging foci in different musical sections. In this section of the present chapter, these categories are presented consecutively together with some typical examples. In each category, similarities as well as discrepancies between the individual curves will be presented.

The first five categories refer to the participants' probable foci on the following different parameters: *melody line*, *harmony*, *rhythm*, *metrical units*, as well as *combined musical aspects*, respectively, whereas the sixth category refers to some *individual characteristics* which have also been observed when comparing the phrasing curves. The reason for treating the individual characteristics in a separate sixth category is to shed more light on possible correspondences between the participants' professional specialities and their way of drawing phrasing curves. It should however be underlined that aside from this, none of the categories mentioned is constantly linked to any specific participant; the single participant may thus represent diverging categories in different situations (cf. 4.5.). The description of the first of the mentioned main categories, (*melody line*) is the most extensive because of referring to the participants' focus on the dynamical progression of the melody part in accordance with the originally intended use of the MPhC.

In the images of this section, each colour refers to the curves drawn by a specific participant:

A) brownish red (professor of piano, woman)
B) yellow (conductor, man)
C) green (professor of music theory, man)
D) light blue (musicologist, man)
E) dark blue (professor of flute, man)
F) pink (composer, man)
G) brown (professor of singing, woman)

The numerical figures refer to the specially designed scores that were used in the study (cf. Appendix A1-5). Thus, the first figure refers to the *page* of the excerpt in question, the second figure to the *staff system* of the page in question, the third figure after the colon to the specific *bar* of the staff system, and the figures in parentheses, or brackets, refer to the precise *note* or *motif* within a certain bar. The first bracketed figure refers to the *beat* of the bar, whereas the second figure after the colon refers to the *subdivision* of the beat in question. In a fictitious example in a measure of four beats, the numerical figures 1/2:3 (4:2-1) thus refers to the first page of the excerpt in question, its second staff system and the third bar: from the second quaver of the fourth beat until the first beat of the succeeding bar.

In the specially designed device, there are figures located *between* the horizontal lines of the dynamical scale at the extreme left of each system, giving the participants a hint of approximate dynamic levels in a progressive scale from 0 to 5 (cf. 5.1.1.; cf. Appendix A1-5). However, in order to avoid misunderstandings when *presenting* the results, the indicated dynamic levels are instead coherently referred to as located on one, or between two lines within the dynamical scale.

The concepts of *high points* or *high areas* refer to the parts of the curves stepping over the fifth line from below. The definition of *peaks* is the maximal level of high points or high areas touching upon the uppermost sixth line. The parts of the drawn curves touching the second line, or falling below the second line, are defined as indicating *low points* or *low areas*.

5.2.1. Melody line

As mentioned above, the presentation of the first main category melody line is the most extensive of the six categories. The results of this category will thus be presented in respect of the phrasing curves' general shape, notated high and low points, as well as the curves' beginnings and ends (cf. 5.1.3.2.). When studying the general shape and the notated high and low points particularly, many similarities between the curves were found.

5.2.1.1. General shape of the curves

Important resemblances have thus been observed in respect of the curves' general shapes, particularly in the homophonic Mozart excerpt. In cases where the music may be characterised as more complex in a structural sense, for example, in the first page of the Bentzon excerpt, the spread between the individual curves is evident. In the following, examples from each one of the five musical excerpts will be presented and commented on consecutively.

1) Mozart

(W. A. Mozart: from Sonata in B flat major, Köchel 333, first movement)

The Mozart excerpt has a clear homophonic structure, composed primarily as a kind of duet between two voices, of which the upper voice constitutes the melody part whereas the second voice has mostly the function of an accompanying voice, as well as the bass part. In some cases, the two voices are supplied with some extra chord notes.

In the Mozart excerpt, the shape of the participants' curves generally corresponds to the contour of the melody line. The upper dynamical staff of Image 9 displays an example of resemblances in shape between the curves drawn by the participants A, B, D, E and F in a part of the Mozart excerpt (1/3:1-4). However, in the first bar, B has notated a soft dynamic a little bit earlier than the other participants. In the fourth bar of the Image, A seems to have experienced less of a diminuendo compared to the other participants. Her curve might be interpreted as an expression of a perceived dynamic level continuing into the next melody phrase without much relaxation at the harmonic cadence of the fourth bar. An interpretation of this might be that when drawing her curve, she was affected by the harmonic-rhythmical figure in the left hand part, connecting the preceding phrase with the following one.

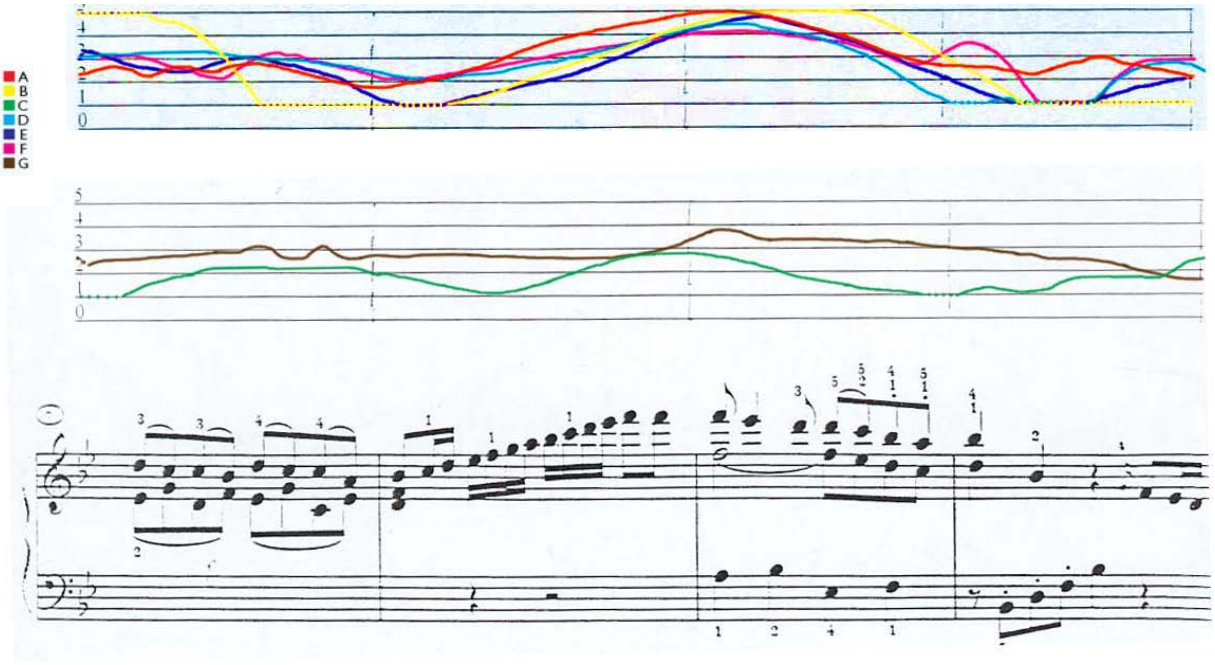

Image 9, upper staff: Curves drawn by A, B, D, E and F in a section of the Mozart excerpt (1/3:1–4)
lower staff: Curves drawn by C and G in the same section

The lower dynamical staff of Image 9 displays the curves drawn by the participants C and G in the same section. To some extent these curves seem to relate to the melody line as well, although the shape of the curve drawn by C does not follow the melody contour coherently. In contrast to the other curves, C's curve does not indicate any clear high point at the first beat of the third bar. At the harmonic cadence of the fourth bar, the curve of C tends to move upwards, indicating a gradually increasing dynamic level towards the next melody phrase, maybe for the same reason as the curve drawn by A. The curve drawn by G has a rather straight shape, expressing less dynamical changes compared to the other participants.

At the dissonance-dissolution element of 1/2:1 (1-2) (cf. Appendix A1), an exception from the phrasing curves' shape generally following the melody contour has been found. Here, all the participants, except for C, made their curves fall down a bit in spite of the melody line moving upwards. Traditionally, the dissolution of a harmonic dissonance in the melody part is performed by means of some kind of a diminuendo, even if the melody happens to move upwards. Consequently, most of the curves seem to mirror a diminuendo in this case. In other words, it seems as if the usual principle of following the melody contour dynamically was modified by another principle advocating a diminuendo when dissolving a harmonic dissonance.

2) Brahms

(J Brahms: from Intermezzo in E flat major, op. 117, N° 1)

Brahms's Intermezzo has been composed in a form that might be described as A1-B-A2. The excerpt of this study comprises only two thirds of the composition (A1-B). The first section may be characterised as primarily homophonic and melodious, whereas the character of the second section seems to be based rather on quickly changing harmonies and bold modulations between different keys. In the homophonic structure of the first part, the melody line is partly hidden between the surrounding accompanying voices, which makes the melody appear in a less clear relief against the other voices compared to the Mozart excerpt. This might also explain some divergences occurring between the shapes of the individual curves.

In the homophonic first part of the Brahms excerpt the phrasing curves still seem to correspond fairly well to the melody contour of the right hand part, even if the individual curves

are generally diverging a bit more than in the Mozart excerpt. An interpretation of this is that the music might be characterised as somewhat more ambiguous and complex.

Moreover, according to the shapes of the individual curves, it seems as if the participants have sometimes focused not only on the dynamical progression of the melody line but also on other elements embedded in the music. Apparently, this was the case particularly in the *second* section of the excerpt, which may be characterised as based on changing harmonies and modulations. Consequently, in this low-voiced section beginning in the third system of the second page (2/3:1-), and continuing until the end of the excerpt, the curves drawn by some participants seem to correspond more to the *harmonic* progression than to the dynamics of the melody line, which will be further exemplified when describing the second main category referring to the participants focusing on the music's harmonies (5.2.2.).

The upper dynamical staff of Image 10 displays the phrasing curves drawn by the participants A, B, C, D and E at the bars 2/1:1-2 of the first section, in which they still seem to follow the melody contour. The lower staff of Image 10 displays the curves drawn by F and G in the same section. The shape of the curve drawn by G looks straight, indicating hardly any dynamical changes, whereas the curve drawn by F does not seem to relate exactly to the melody contour. It could be that F has experienced the dynamics of the recorded performance in a corresponding way, but it might also have something to do with F's tendency of focusing primarily on the music's harmonic progression, which will be further discussed when presenting the next main category.

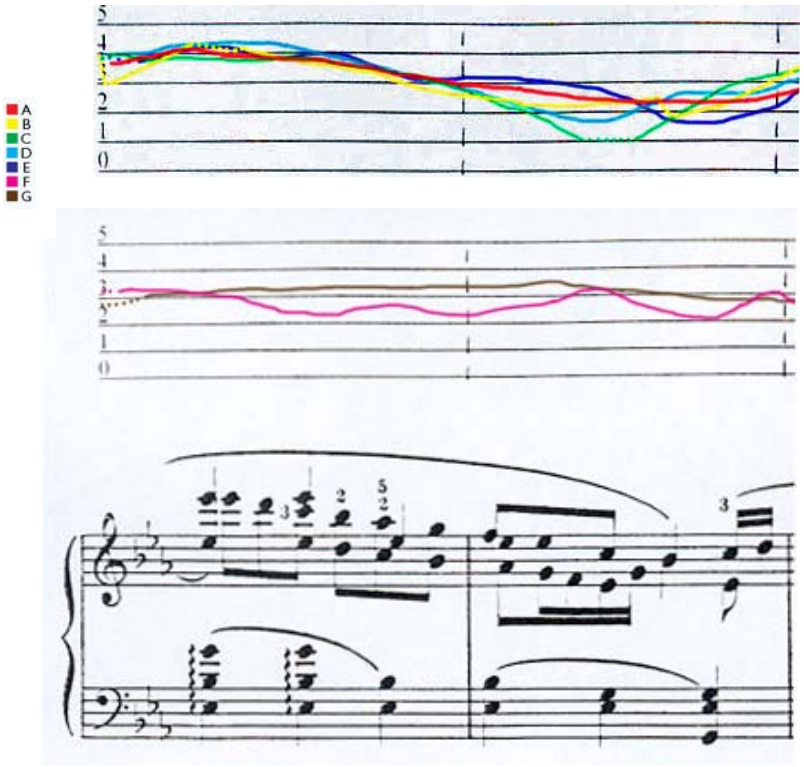

Image 10, upper staff: Curves drawn by A, B, C, D and E in a section of the Brahms excerpt (2/1:1–2)
lower staff: Curves drawn by F and G in the same section

3) Debussy

(C. Debussy: from 'Préludes pour Piano (1er Livre)', No 12 ['Minstrels'])

The title of Debussy's Prélude *Minstrels* means clowns or street musicians. An interpretation of this is that the composition's character is supposed to be humoristic. The composition thus contains many surprising and unexpected musical effects, which may give rise to the experience of something exciting happening. Maybe due to this special musical character, the participants' curves seem to mirror not only the melody line but also the total complex interplay with other musical parameters like rhythm and the harmonic progression, which will be further exemplified when discussing the corresponding main categories of this study.

The spread between the individual curves is generally big, although some common features were observed as well. In some more melodious parts of the excerpt with a less outstanding rhythm, the curves seem to correspond fairly well to the melody contour in the same way as in the previous excerpts.

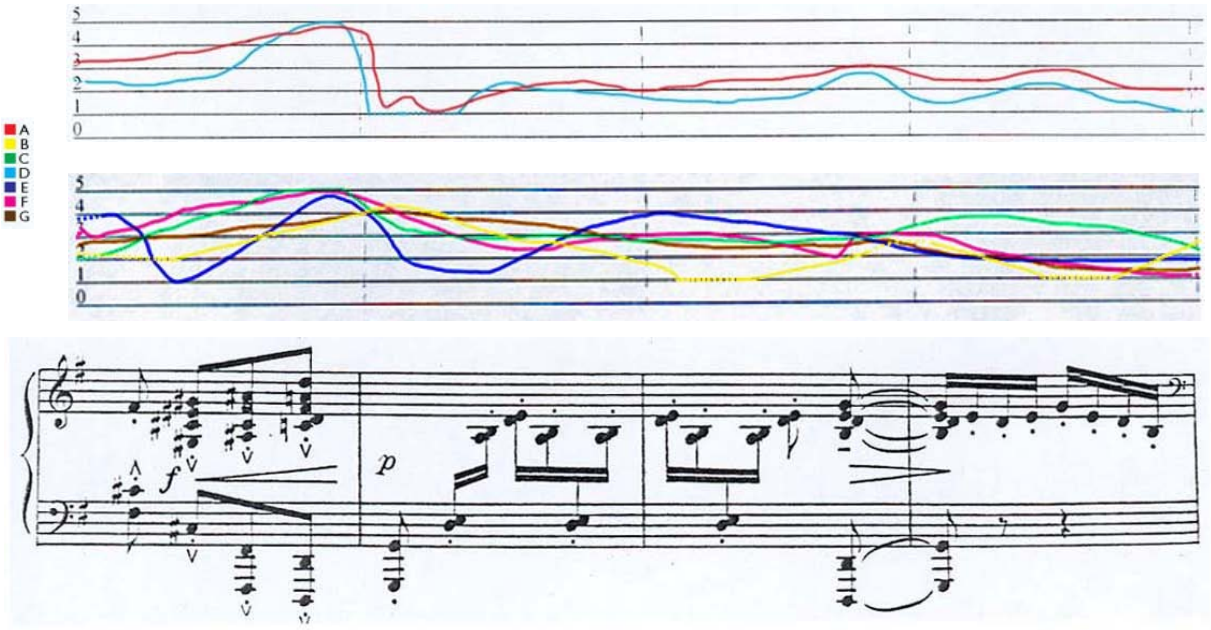

Image 11, upper staff: Curves drawn by A and D in a section of the Debussy excerpt (2/2:1–4)
lower staff: Curves drawn by B, C, E, F and G in the same section

The upper dynamical staff of Image 11 displays an example of occasional similarities between the curves drawn by the participants A and D in the bars 2/2:1-4. The shape of their curves tends to correspond to the melody contour defined in a broad sense. Although the music is rather complex, some kind of a melody line may still be discerned. When the performer does not give particular prominence to another voice, listeners will usually perceive the uppermost voice as the principal melody in accordance with a long tradition (cf. Sloboda, 1985).

The lower staff of Image 11 displays the curves drawn by the other participants in the same section. As the corresponding parts of the curves drawn by A and D in the first bar (2/2:1), these curves seem, in different ways, to indicate an ascending dynamic level towards the culmination point at the last quaver of the bar (2/2:1 [2:2]). A comparison between the curves drawn by A and D (upper staff) on the one hand and the curve of E (lower staff: dark blue colour) on the other, reveals that these three participants have all notated an abrupt dynamic fall after the culmination point towards a low dynamic level, exactly at the sudden piano nuance as prescribed in the score at the first beat of the succeeding bar (2/2:2 [1]). In contrast, the four other curves have notated a smoother descent. An interpretation of this might be that according to the shape of their curves, A, D and E seem to have experienced the music in a somewhat different way by

reacting quicker to the sudden dynamical change compared to the other four participants. The curves drawn by the latter participants might be interpreted as expressing the experience of a kind of delayed remaining dynamic effect provoked by the preceding crescendo.

There is a similar example of curves expressing quicker or slower reactions towards musical stimuli when listening in the next page of the excerpt, at 3/2: 1-2 (cf. Appendix A3). After the dynamically culminating last quaver of bar 3/2:1 (2:2), the curves of B, E, F and G are descending gently, whereas the curves of A, C and D are falling down quickly towards the 'empty' first beat of the succeeding bar (3/2:2 [1]). This means that in contrast to the previous example, it is not the curve drawn by *E*, but the curve drawn by *C* together with the curves drawn by A and D, that indicate a quicker reaction to the dynamical change than the other participants' curves, indicating the experience of a remaining dynamic, maybe due to the preceding crescendo.

4) Bentzon

(N. V. Bentzon: from 'Træsnit' ['Woodcut'], op. 65)

The fourth excerpt is a polyphonic variation including three intertwined voices from a piano suite composed by Bentzon. The music may be described as more complex than the previous excerpts. The shape of the participants' drawn curves seem to mirror not only the melody line but also the sophisticated interplay between several musical parameters, for example, rhythm, accents, metrical patterns, and harmonies.

The polyphonic character of the excerpt implies that the experienced main melody line may change places between the three voices. At 2/1:2 in the first system of the second page, two voices are moving in opposite directions (cf. Image 12, second bar), which means that both of the voices may be perceived as melodies. According to the instructions, it was up to the participants to decide which voice was the main melody (cf. 5.1.2.4.).

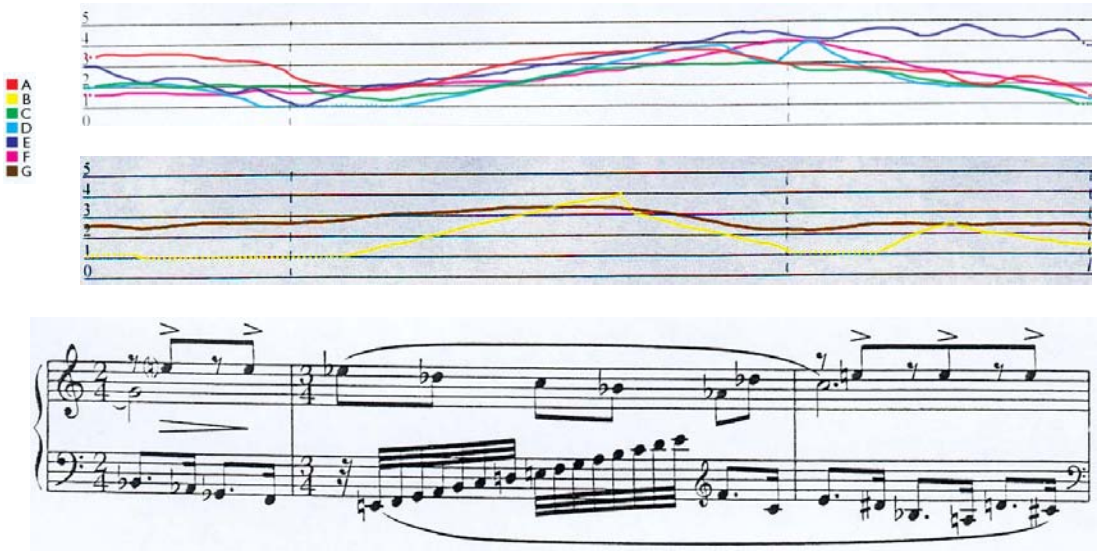

Image 12, upper staff: Curves drawn by A, C, D, E, and F in a section of the Bentzon excerpt (2/1:1–3)
lower staff: Curves drawn by B and G in the same section

The upper dynamical staff of Image 12 displays the curves drawn by A, C, D, E and F at 2/1:1-3. In the beginning of the second bar, all these curves follow the contour of the ascending melody in the left hand part. However, the participants have notated the location of the phrase's dynamic culmination point somewhat differently. An interpretation of this might be that the participants, although focusing on the ascending melody contour of the left hand scale in the beginning of the second bar, have either switched focus to the ascending interval of the right

hand part at the end of the second bar (2/1:2 [3]) (the participants E and F), or they have kept their focus on the left hand part with its descending interval at the same spot (the participants A and D). At the end of the second bar, C (green) has notated his curve continuing on one and the same dynamic level without changes, which means that at this place he seems not to have followed any of the melody contours of the two voices.

According to the shape of his curve, D (light blue) seems to have perceived a high dynamic level on the first beat of the third bar (2/1:3) in particular, whereas the participant E (dark blue), contrarily to all the other participants, has notated his curve on a very high dynamic level at the accented syncopations of the right hand part. An interpretation of this might be that the participants D and E have focused in different ways on rhythmical elements and accents embedded in the music (cf. 5.2.3.).

Image 12b displays the curves drawn by B and G illustrating the corresponding bars. The curve of G sticks to its generally rather straight shape, whereas the curve of B seems to correspond more or less to the melody contour of the left hand part in the second bar.

5) Schönberg

(A. Schönberg: from the third movement of Sonata op. 26 [1924])

The Schönberg excerpt is a short interlude for piano solo extracted from the third movement of his composition originally written for woodwind instruments, but here it is transcribed for the flute and the piano by Felix Greißle, his son-in-law. The composer himself has approved the edition of this version.

The music may be described as polyphonic with a structure that gives rise to the impression of two interplaying voices, even if these voices are supplied with many chord notes in between. Despite the relatively big complexity of the Schönberg excerpt, the shapes of the individual phrasing curves seem to mirror some kind of synthesis between the following musical parameters at the same time: the changing dynamics of the melody line, rhythm and harmonies. The spread of the individual phrasing curves representing this excerpt is generally big, but still there are some common features between the individual curves that can be discerned.

The upper staff of Image 13 reveals how all the phrasing curves are ascending towards a dynamic high point (1/2:2). According to the curves, this high point seems to be located somewhere around the bar line. After the high point, all of the single curves indicate in different ways a slowly descending dynamic, although the spread is rather big.

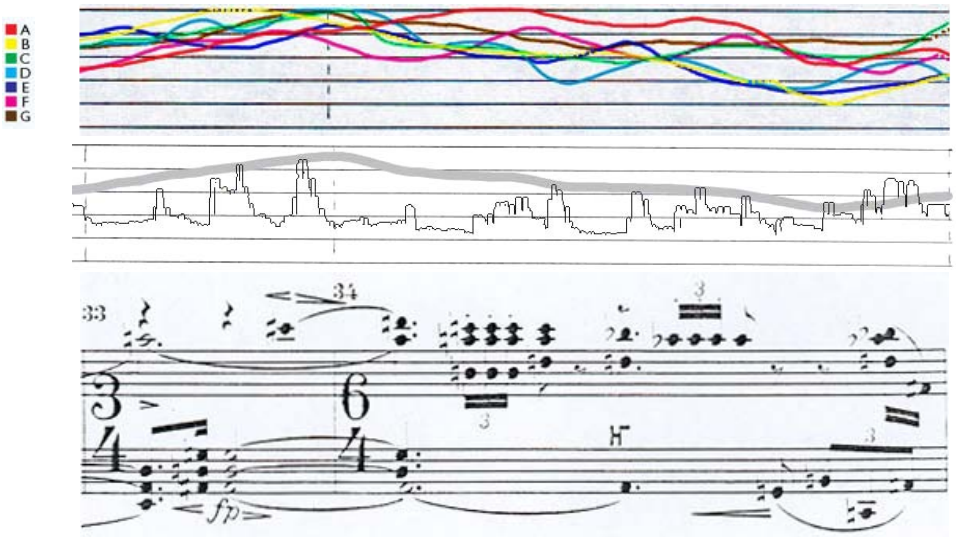

Image 13, upper staff: The participants' curves representing two bars of the Schönberg excerpt (1/2:2–3)
lower staff: Average curve and physical amplitude curve representing the same two bars

In the lower staff of Image 13, the thicker grey line represents the calculated *average* shape of all the phrasing curves together (cf. 5.1.3.2.). The jagged light grey line is a constructed curve visualising the changing *physical amplitudes* of the recording. The latter curve has been normalised to fit into the same dynamic scale that was used by the participants. A comparison between the constructed physical amplitude curve and the calculated average curve gives a hint of the difference between the *measured* sound level of the recording on the one hand, and on the other hand the average of all the drawn phrasing curves illustrating the dynamical progression of the reproduced melody as personally *experienced*. I am perfectly aware of the fact that such a comparison is not totally relevant, since the representation of the changing physical amplitudes is based on the sound levels of the recording provoked by the impact of all the voices and harmonies together, which means that it does not correspond specifically to the dynamical progression of the *melody part*. However, despite this reservation it might still be of some interest to reflect on how physically measurable phenomena of the surrounding world can relate to the multiplex personal experiences of the same phenomena.

The image reveals the distinct discrepancy in shape between the average curve and the physical amplitude curve. In the amplitude curve, every single piano tone is represented by very quick and sudden dynamical changes, whereas the calculated curve representing the average of all the phrasing curves reveals a tendency, which is also discernable in the single curves (cf. Image 13, upper staff), of *evening up* the isolated musical stimuli into a more coherent and continuous course of musical events (cf. Kurth, 1947; Gärdenfors, 1991/1999).

For example, the amplitude curve drops abruptly at the beginning of the second bar immediately after the preceding dynamic culmination, whereas the average curve falls only slowly. In spite of the big spread, this tendency is also discernable in each one of the seven individual curves. An interpretation of this might be that the shapes of the curves mirror the experience of a remaining dynamic reverberation from the preceding high point.

In this special case, the physical amplitude curve represents the fluctuating dynamics of the specific piano sound with its constantly decaying tones whenever a key is struck. An amplitude curve representing the sound of another instrument would definitely have another shape. Nevertheless, it is still likely that a drawn phrasing curve illustrating the musical experience of the human mind would deviate considerably from a curve representing the acoustical amplitudes reacting immediately to the slightest dynamical change.

Summary of the general shape of the curves

In many cases important resemblances were observed between the shapes of the individual curves. However, with the exception of the Mozart excerpt, the spread between the curves is generally big. An interpretation of this is that distinctly homophonic music seems to facilitate the listeners' focus on the intended dynamical progression of the melody part. This also means that music which may be characterised as more complex in a structural sense, with the melody part appearing in a less clear way like, for example, in the first page of the Bentzon excerpt seems to affect the listeners to focus on other musical parameters than the melody: for instance harmonies, rhythm, and metrical patterns, which will be further exemplified in the sections dealing with the other five main categories.

5.2.1.2. High points and low points

When testing the relevancy of the MPhC as an instrument for illustrating the experienced dynamics within the melody part of a musical piece, the notated *high points* and *low points* may be considered as a matter of special concern. Aside from representing the experienced dynamic culmination points and relaxation points, the high and low points also have the function of a kind of visual *turning points* within the continuously drawn phrasing curves, which gives a clearer overview when comparing the individual curves.

As previously described (cf. 5.1.1.), the participants were asked to calibrate their phrasing curves to touch upon the uppermost sixth line, defined as the maximal level of the dynamical scale, *at least once* in each excerpt. Consequently, this was also valid for the Brahms excerpt, as well as for the Schönberg excerpt, in spite of their generally low-voiced characters. On the other hand, if the participants did not experience any clear *soft* nuances, they were not obliged to notate any *low points* or *low areas* at all. An exception from this was at the very beginning of each excerpt where the curves were supposed to start from a special point located to the nethermost line of the staff, and also at the end of some excerpts (Brahms, Bentzon, and Schönberg), where the curves were supposed to return to a corresponding point located on the same line (cf. Appendix A1-5).

According to their drawn curves, the participants generally seem to have reacted to the same high and low points. Sometimes the participants have notated high points at *other* places than those motivated exclusively by the general musical structure as revealed to them by the visual appearance of the printed score, which might be interpreted as an indication that they had really attempted to illustrate their experience of the *sounding* music. However, in some cases it also seems to be obvious that the notated high points indicate a focus on other musical aspects than the dynamical progression of the melody part, which will be discussed in the respective sections describing the five other main categories.

1) Mozart

According to their curves illustrating the Mozart excerpt, the participants seem to have agreed about *three* distinct high points: at 1/3:3 (1-), 3/2:1 (1) and 3/3:4 (1), respectively (cf. Appendix A1). The first one had been notated at the movement's first cadence. Here, all of the participants except for C and G had notated clear high points or high areas (cf. Image 9). However, the curve of G had been drawn just below the fifth line, defined as the border of the high area. The curve of C has also an ascending tendency, even if it does not move all the way up to the high area.

The second high point is located at 3/2:1 (1), where the second theme of the movement is introduced (according to the curves drawn by all the participants except for A and C). Particularly the curve of E indicates a steep ascent towards the high point already before the third beat of the preceding bar, which might be interpreted as the expression of some musical expectation, or the retrospective experience of an inner preparation or musical inhalation (cf. 2.2.; 2.7.3.). The curves of A and G have a similar tendency, even if they seem to indicate this preparation phase towards a high point later than in the curve drawn by E. The curves of B, D, and F are ascending abruptly, whereas the curve of C lacks a coherent connection between the staffs of the score.

The third high point has been notated at 3/3:4 (1) (according to the curves drawn by all the participants, except for B and C). The curve of C does not reach up to the fifth line, defined as the border of the high area at any of the two places mentioned within the third page, although it still indicates an increased dynamic level in both cases. At the first place, the curve of B steps clearly over the fifth line, whereas at the second place, the curve moves in exactly the opposite direction from a notated very low level at the beginning of the bar succeeded by an ascending movement in the second half of the bar. An interpretation of this might be that when repeated at 3/3:4, the theme is accompanied by a less thick chord on the first beat of the right hand part, compared to what was the case the first time. Moreover, the two crotchets in the left hand part might have given rise to a light dance-like character. Thus, these two musical factors might have affected B to experience a lower dynamic level the second time.

In contrast to B's curve, the curve drawn by *A* does not reach the fifth line at the first place but indeed at the second. This means that at the place where the second theme is repeated, her curve indicates an increased dynamic. In this case, I abstain from any attempt to explain these

two contradictory notations; I rest content with the fact that music is an ambiguous and complex phenomenon that will far from always be perceived in exactly the same way by different persons.

Most of the participants seem to have agreed about the location of two low points or low areas. At the B flat major cadence of 1/3:4 (around 2-3) after the high point of the preceding bar, all the participants except for A and G have indicated low points or low dynamic areas (cf. Image 9). In the bar of the C major cadence at 3/1:3, all the curves, except for that of A, descend towards a low point or a low area.

2) Brahms

The phrasing curves drawn by the participants indicate *five* clear high points in the Brahms excerpt, of which three have been notated in the first page. Furthermore, most of the participants seem to agree about the location of the low area sections.

The first high point has been notated at 1/2:1 (1) (by all the participants except for F) (cf. Appendix A2). The reason for notating this high point might be the impression of an increased dynamic caused by the ascending contour of the melody line, maybe reinforced by the harmonic progression. The second high point located at the end of the same bar, at 1/2:1 (6-1) (as indicated by all the participants except for C and F), might be motivated by the same melodic element as in the previous bar with identical harmonies being repeated. The *b flat* pitch of the melody line relatively high up in the register at the upbeat of 1/2:1 (6) may be experienced as emphasising the repeated motif. This might also be the reason why the high point here, in contrast to the previous high point, has been notated on the *upbeat* and not on the first beat of the succeeding bar.

However, the most distinct high point in page 1 seems to be the one at 1/2:3 (between 3 and 6) (as indicated by all the participants except for F). There seems to be a discrepancy between the single participants in respect of the exact location of this bar's dynamic high point, maybe because of the participants focusing not exclusively on the melody line, but also on the total complex interplay between several musical parameters at a time.

In the second page of the excerpt, at the first half of the bar 2/1:1, all the participants except for F and G, have notated a high point, maybe influenced by the melody pitches high up in the register of the right hand part. At 2/2:4 (1), the participants B, E, F and G have indicated a clear high point, in G's case even a peak. In this case, it seems as if the high point in question has been notated not exclusively because of the dynamics of the melody line but because of the complex interplay between many other musical aspects as well, since the music in this section is not performed in a very loud nuance. At exactly the same place, the curve of C sticks to a low dynamic level corresponding more to the dynamics performed.

In this excerpt, the phrasing curves have often been drawn close to the low area. In the middle of bar 2/1:4 of the Brahms excerpt, all the curves except for those of A and G, are descending in different ways towards the second line from below, maybe because of the falling melody line within the middle voice of the right hand part, reinforced by the diminuendo performed and the harmonic cadence, all together provoking the impression of a soft dynamic.

The musical section introduced in the third system of the second page might be experienced as somewhat introvert and low-voiced. According to the prescribed dynamics of the score, the music should be performed in a relatively soft dynamic at this place. The phrasing curves also tend to stick to a corresponding low dynamic level. The curve of F is an exception from this by indicating a considerably higher dynamic level. An interpretation of this is that F might have been more affected by the harmonic progression than by the dynamics of the melody.

At the end of bar 4/1:2, where the melody line of the right hand part moves down in the register, and the rhythmic movement of the left hand slows down, all the participants, except for

C and F, have indicated low points. In the very last bar (4/1:4), all the curves, except for that of F, were drawn in different ways within the low dynamic area.

3) Debussy

When illustrating the Debussy excerpt the participants have notated five high points. According to their curves, most of the participants also agree about the location of low points and low areas.

In the second page, exactly on the last quaver of bar 2/2:1 (2:2), all the participants, except for B and G, have notated a high point, as regards C, D and F even a peak (cf. Image 11). The two other participants, B and G, have instead notated their high points just one quaver later, which means on the first beat of the succeeding bar (2/2:2 [1]). Thus, all the participants have notated their high points very closely, maybe mirroring the humoristic effect caused by the strong crescendo succeeded by a sudden soft dynamic on the first beat of the following bar. A, D and E have illustrated this effect by making their curves fall down very abruptly towards this first beat.

When the fanfare-like motif is introduced in the right hand part for the first time at around the second half of bar 2/1:4 (cf. Appendix A3), the curves drawn by C, E and F move up to the high area, even if their high points have not been notated at exactly the same spot. When the same fanfare motif is repeated at 2/3:5 (2), B, C, E and F have notated a high point, as regards the curve of E even a peak. Here, the curves of A, D, and G indicate an ascending tendency as well, even if they do not move up all the way to the fifth line. Regarding the curves of A and G, there was no corresponding ascending tendency when the same fanfare motif was introduced the first time, which might be explained by the forte nuance appearing in a clearer way the second time, maybe also because the motif has modulated into a key higher up in the register.

The most distinct high points in the third page of the excerpt were notated around the end of the bars 3/1:3 (2:2) and 3/2:1 (2:2), respectively, where all the participants without exceptions seem to have expressed their experience of a dynamic culmination. According to the printed score, both of these two bars should be performed with a crescendo culminating on the last quaver. The first time, D and E have indicated almost a peak, whereas A, C, D, F and G have indicated a peak the second time, when the same motif is repeated higher up in the register and with an ample melodic interval between the two last octave quavers of the right hand part.

In the Debussy excerpt, all the participants agreed about a low point in accordance with the falling melody line, as well as the hesitating 'Cédez' and the diminuendo prescribed in the printed score at the second half of bar 1/2:1 (2-1). When the same motif is repeated at 1/3:1 (2), all the participants, except for F, have indicated low points as well.

The curves of all the participants, except for that of C, were notated close to the low area during the soft bass motif in the left hand part at the bars 3/2:4 (2:2) - 3/3:2 (2). However, the curve of C dips down to a low point just occasionally on the last quaver of bar 3/2:5 (2:2). Contrary to all the other participants, C has notated almost a *peak* on the very first bass tone of this very soft motif supposed to be played in a pianissimo nuance. An interpretation of this might be that C has focused on other musical aspects than the dynamics of the melody part at this place, which will be discussed in the section describing combined musical aspects (cf. 5.2.5.).

4) Bentzon

The Bentzon variation may be described as expressing one long gradual crescendo culminating in the middle of the excerpt, succeeded by a corresponding long gradual diminuendo into a very soft dynamic at the end. In the participants' curves, the dynamic culmination point has been notated within the space from the end of the bar 2/3:1 until the beginning of bar 2/3:3 (cf. Appendix A4). Although indicating this high point by means of curves assuming somewhat diverging shapes, all the participants without exceptions seem to have agreed about a very high

dynamic level at this place. However, since it might be hard to discriminate the precise location of the dynamic culmination, the participants have not notated this at exactly the same place.

The participants have not notated any clear low points in this excerpt. Nevertheless, all the curves descend gradually towards the second line in the last system, which corresponds to the prescribed diminuendo into a very soft dynamic at the very end of the variation.

5) Schönberg

The participants' phrasing curves seem to indicate two relative high points in the Schönberg excerpt, although the general character of this piece may be described as low-voiced. The clearest high point, as notated by all the participants in different ways, is located in the first page, more or less close to the bar line between 1/2:2 and 1/2:3 (cf. Image 13, upper staff). This high point is probably motivated by the ascending melody line of the right hand part moving up to the *D6 sharp* pitch, a note that is further emphasised by its relatively long duration.

In the second page, all the participants, except for B, have notated a high point at about the beginning of bar 2/2:1 (1) (cf. Appendix A5). An interpretation of this might be that the participants have experienced a high point at this place, provoked by the rising melody contour of the *left* hand part, and reinforced by the relatively big melodic interval jumping up in the register towards the long *G4* note.

In the Schönberg excerpt, the participants have not notated any clear low points. Only the curves drawn by D and E fall down to the low dynamic area at each one of the two composed rests located at 2/2:1 (5:2) and 2/3:1 (3:2-4), respectively.

Summary of the high points and low points

According to their phrasing curves, the participants seem to have agreed about the location of many high and low points when listening to the recordings of the five piano excerpts. However, sometimes they had notated high points even on the peak level at places where the music was performed in a relatively soft dynamic. An interpretation of this might be that the participants had interpreted the concept of perceived dynamics within the melody part in a broader sense, implying their experience of the total interplay between many integrated musical aspects simultaneously. As a consequence of this, in some cases they seem not to have focused exclusively on the dynamical progression of the melody part, which will be further discussed in the succeeding sections describing the other main categories.

5.2.1.3. Beginnings and ends of the curves

The drawing of the beginnings and ends of the curves may be regarded primarily as an experiment. These parts of the curves were thus supposed to illustrate the experienced transition between the preceding 'silence' and the first note on the one hand, and the connection between the last note and the return into the following 'silence' on the other. In most cases, these parts of the drawn phrasing curves reveal a rather big discrepancy. Only in some few cases, for example, in the Brahms excerpt, an agreement between the corresponding parts of the participants' curves may be discerned.

Thus, in the Brahms excerpt, the curves drawn by A, B, C, E and G begin in a similar way with a smoothly ascending tendency through the upbeat towards the first beat of the first bar, which seems to correspond fairly well to the soft character of the music. However, the curve drawn by D rises up abruptly towards a notated high dynamic level. Also the curve of F ascends somewhat abruptly, although just to a very low dynamic level.

At the end of the excerpt, all the curves, except for that of F, fall down smoothly towards the dynamic level of zero (the first line from below), which also seems to correspond to the soft character of the music. In contrast to this, the curve of F stays on a very high dynamic level until the end of the last bar, probably under the influence of the harmonic impact (cf. 5.2.2.).

Thus, considering the general aim of the PhD project (cf. 1.3.), as well as that of the present study testing the relevancy of the MPhC as an instrument for communicating musical thoughts, the results indicate that, at least in the Brahms excerpt, this very aspect of the study succeeded in respect of revealing an evident accordance between the participants.

5.2.2. Harmony

The results of particularly the study's first phase indicate that sometimes the participants seem to have focused on other musical aspects than the melody. The experience of the fluctuating dynamics of the melody part is indeed a multiplex phenomenon, to some extent provoked by the total impression of many musical parameters at a time, which may render a focus specifically on this very aspect difficult.

In some parts of the curves illustrating the *Brahms* excerpt in particular, a presumed focus on *harmony* can be discerned. Although many of Brahms's compositions may be characterised as rather melodious, the harmonic aspect is often crucial and contributing to the special atmosphere of his music. This might also be the reason why some participants tended to switch their focus from the melody part to the harmonic progression.

In the first page of the Brahms excerpt, the curve of F moves on a very low dynamic level without any high points at all, but his curve indicates an ascending tendency towards the high point that has been notated by all the other participants at 1/2:3 (3-6) (cf. Appendix A2). From the second page, particularly at 2/3:1 where the second section is introduced, continuing until the end of the excerpt, F's curve ascends to a considerably higher dynamic level compared to the curves drawn by all the other participants, in spite of the low-voiced character of the music. The other curves mostly stick to a lower dynamic level conforming to the recorded performance of this section.

In the following pages, F's curve reaches even the maximal level of the dynamical scale several times, for example, at 4/1:2 (2) and 4/1:4 (5). From this it may be concluded that F seems to have focused more on the harmonic progression of the excerpt than on the dynamics of the melody part. Maybe the rather big distance between the pitches of the right and left hand parts in some bars has furthermore reinforced the sensorial impact of the harmonies.

Image 14 displays the diverging dynamic levels as notated by the participants in a bar within the low-voiced section of the Brahms excerpt (3/1:3). The upper dynamical staff reveals the evident difference between the notated low dynamic levels in the curves drawn by A, B, D and E on the one hand, and the very high dynamic level in F's curve on the other. The lower staff displays the dynamic levels as notated by C and G at the same place. Their curves have been notated on a more moderate level, somewhere between the high dynamic level of F's curve and the lower levels of the other curves as displayed in the upper staff. The curve of G (brown, lower staff) ascends to a point close to the fifth line (the border of the high area) in the middle of the bar, which means that it indicates a higher dynamic level than the curves drawn by A, B, C, D and E, although not as high as in F's curve.

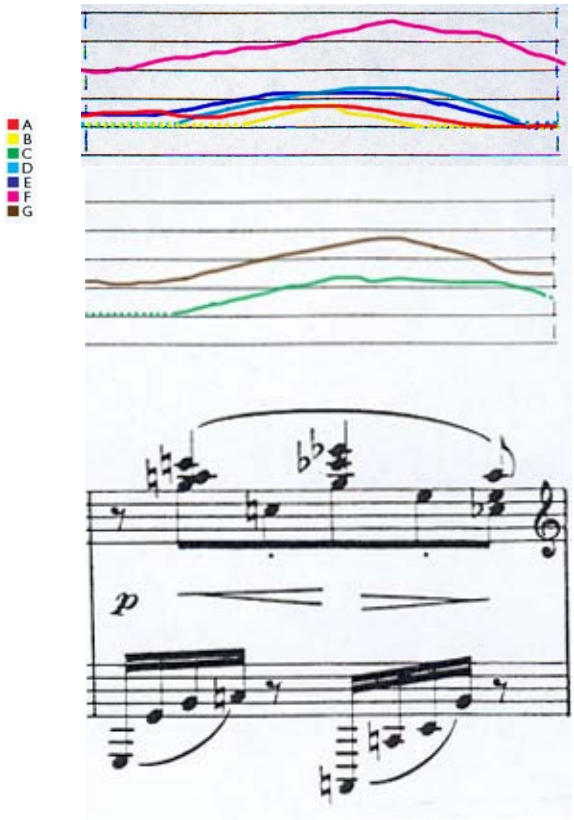

Image 14, upper staff: Curves drawn by A, B, D, E and F in a bar of the Brahms excerpt (3/1:3)
lower staff: Curves drawn by C and G in the same bar

In the last page of the Brahms excerpt (cf. Appendix A2), several participants seem to have focused on other musical aspects than the melody line, probably on the harmonic progression. At the bars 4/1:1-4, the curves of C, D, E and F appear with bends of big amplitudes in spite of the music's gradually fading low-voiced character. The curve of F stays on a very high dynamic level all the way until the end of the excerpt. On the other hand, at this place the curves of A, B and G indicate a very low dynamic level, which might be interpreted as if they have focused on the dynamical progression of the melody part in accordance with the intended use of the MPhC.

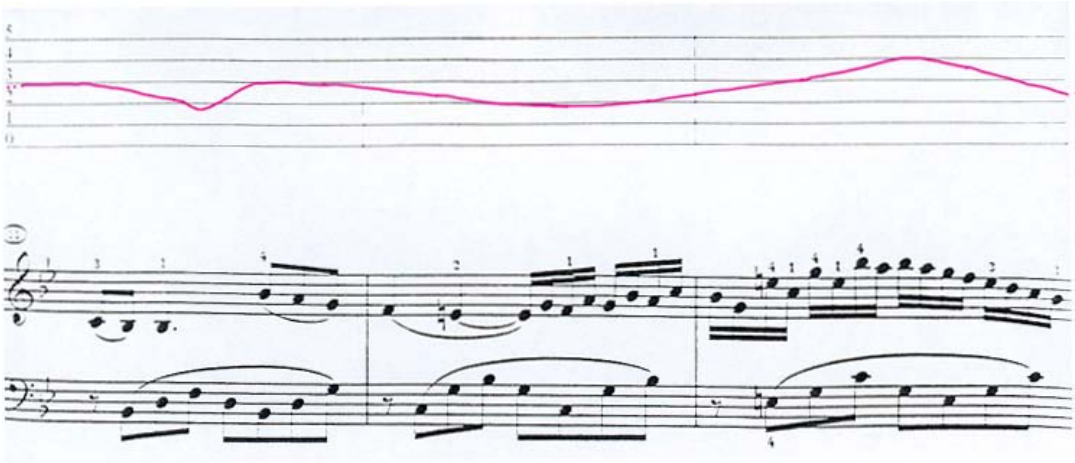

Image 15: Curve drawn by F in a section of the Mozart excerpt (2/1:1–3)

Hence, when drawing his curve illustrating the Brahms excerpt, the participant F in particular seems to have been affected by the music's harmonic aspect. However, F is far from always a representative of the harmony category. As an example of this, Image 15 displays a part of his curve in the Mozart excerpt which seems to mirror primarily the melody line. This might be due

to the distinct homophonic character of Mozart's music facilitating a focus exclusively on the melody part.

5.2.3. Rhythm

The shape of some parts of the participants' curves seems to mirror primarily the *rhythm* of the music. This interpretation is based on the appearance of the curves equipped with sudden bends or humps of different sizes at rhythmically stressed or accented notes. A focus mainly on the melodic element would probably have been illustrated by means of a more continuous and even curve at these places. The presumed focus on the rhythmical element occurs particularly in the Debussy, Bentzon and Schönberg excerpts. Typical to these excerpts is that the rhythm appears in a clearer way than in the more melodious Mozart and Brahms excerpts.

The *Debussy* excerpt might be characterised as humoristic with many surprising musical effects. In some parts, the rhythmical aspect seems to dominate the melody, appearing in a less clear way. In the beginning of the excerpt, the rhythm seems to consist of two elements: the bass voice of the left hand part emphasising the first beats of the bars, as well as the fourth upbeat quavers on the one hand, and on the other the right hand part emphasising instead the off beat rhythm with stresses primarily on the second and third beats of each bar. However, the tones of this rhythm might also be perceived as a kind of a complete melody line moving between the left hand and the right hand parts. Furthermore, the right hand part may be experienced as a melody in itself, without taking into account the left hand part, whereas the left hand part in itself primarily has the function of an accompanying bass voice.

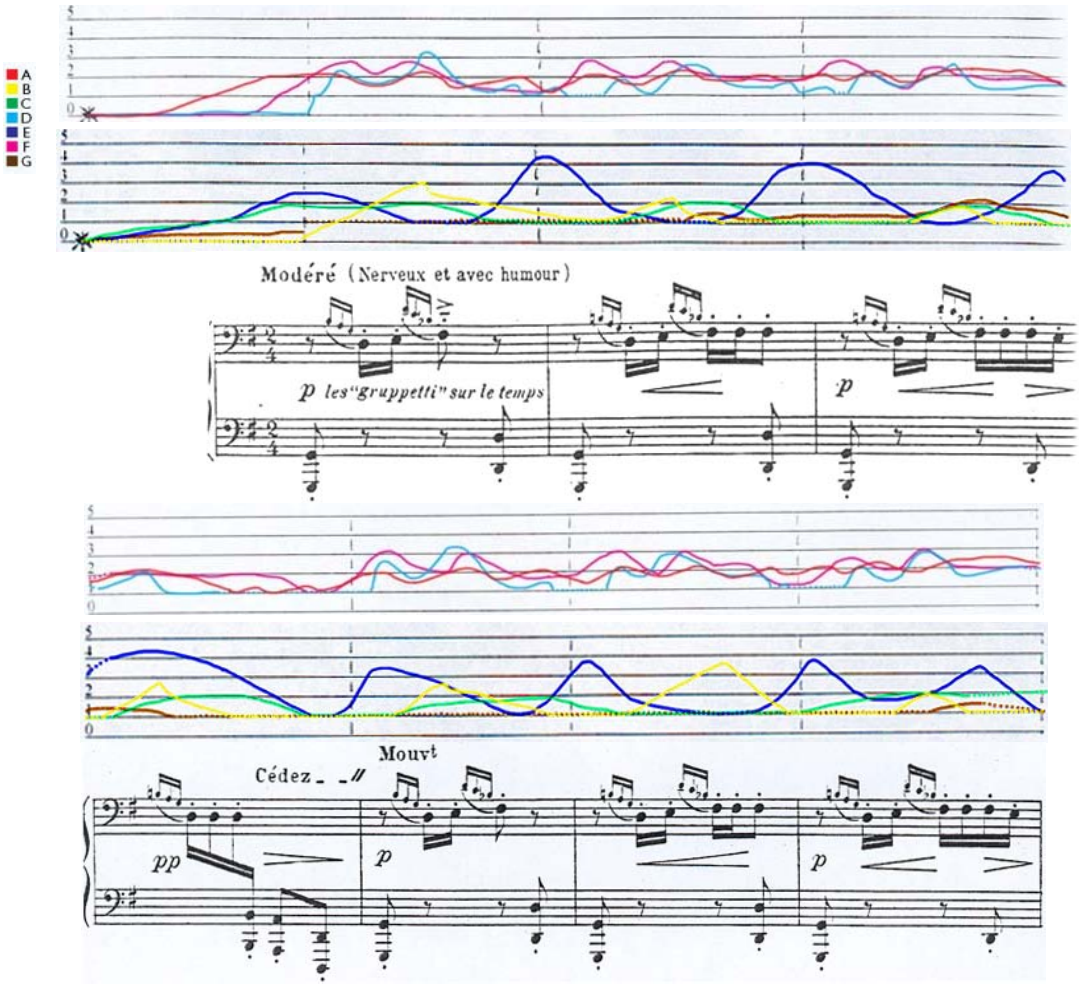

Image 16, upper staff: Curves drawn by A, D and F in a section of the Debussy excerpt (1/1-2:1-7) lower staff: Curves drawn by B, C, E and G in the same section

Image 16 displays the two very first systems of the Debussy excerpt (1/1-2:1-7), where all the participants, except for G, had drawn curves with characteristic bends of different sizes. The shapes of these curves indicate a focus on rhythmical elements, since it is likely that a focus on the melody would have instead been illustrated by means of a more continuous and even shape. Although not expressing themselves in exactly the same way, most of the participants have thus equipped their curves with sudden bends, and the shape of five curves (the curves drawn by A, B, C, D and F) seems to mirror the rhythm of the right hand part with its off beat stresses primarily on the second and third beat of each bar. The upper dynamical staff of Image 16 displays the rather similar shape of the curves drawn by A, D and F in this section. The lower staff displays the other curves revealing specifically the distinct tops within E's curve located to the *first* beats of the left hand part. Moreover, this curve is touching several times upon the fifth line, defined as the border of the high area.

The polyphonic variation from *Bentzon's* piano suite includes a complex interplay between many rhythmical patterns embedded in the different voices. These rhythms may easily draw the listener's attention away from focusing primarily on the dynamical progression of the melody part. In some cases, the shape of the individual curves illustrating this music might instead be interpreted as mirroring different rhythmical patterns. An explanation of this might be that all the musical parameters appear as intertwined, rendering it difficult to distinguish one separate musical aspect when listening to the excerpt.

In the first page, the shape of the curves drawn by C and G, respectively, might be interpreted as mirroring some kind of stresses located mainly on the second or third beats of each bar, whereas the curve of F seems to indicate stresses located on the first beats instead (cf. 5.2.4.), except for bars with syncopated accents in the right hand part, where his curve does not indicate any stresses at all. An interpretation of the divergences between the three participants' respective curves, might be that they have focused on different kinds of patterns due to the music's rhythmical complexity.

In this same excerpt, the curves drawn by D and E seem to mirror the accents of the right hand part in different ways. The curve of D looks somewhat jagged and sharply angular, whereas the curve of E has been drawn moving constantly on a very high dynamic level. At 2/1:3, E has, in contrast to all the other participants, drawn his curve assuming a shape equipped with humps touching upon the maximum peak level, presumably illustrating the accented syncopations of the right hand part (cf. Image 12, upper staff: dark blue colour).

The polyphonic *Schönberg* excerpt may be described as relatively complex. Nevertheless, it still seems to be possible to discern some kind of a continuous melody line throughout the music. However, the shape of the individual curves might in some cases be interpreted as mirroring certain rhythmical patterns rather than the dynamics of the melody line.

In bar 1/2:3, the curves drawn by D and F seem to mirror the semi-quaver triplets of the right hand part in different ways. The shape of D's curve, however, indicates a focus on the very triplet groups followed by a drawn descent, whereas F's curve seems to mirror the quavers immediately succeeding each triplet group. This might be interpreted as F's possible experience of the triplets as an anacrusis motif towards the succeeding quaver.

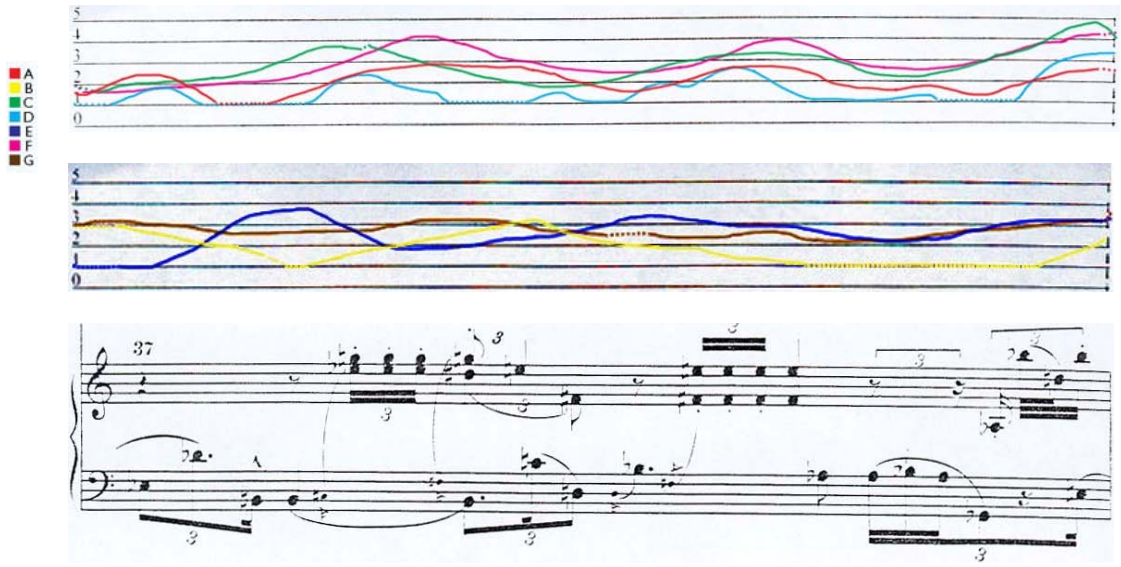

Image 17, upper staff: Curves drawn by A, C, D and F illustrating a bar of the Schönberg excerpt (2/1:1)
lower staff: Curves drawn by B, E and G illustrating the same bar

According to the upper dynamical staff of Image 17, the curves drawn by A, C, D and F have smooth bends, maybe illustrating the triplets of bar 2/1:1 in the right hand part. At the end of this bar, the curves are striving up towards a high point, as notated by most of the participants (except for B) and located on the first beat of the succeeding bar.

The lower staff of Image 17 displays the corresponding parts of the curves drawn by B, E and G. In G's curve, a vague tendency of illustrating the triplet motifs in the right hand part might be discerned, whereas the curves of B and E might possibly be interpreted as mirroring the melody line of the left hand part in different ways.

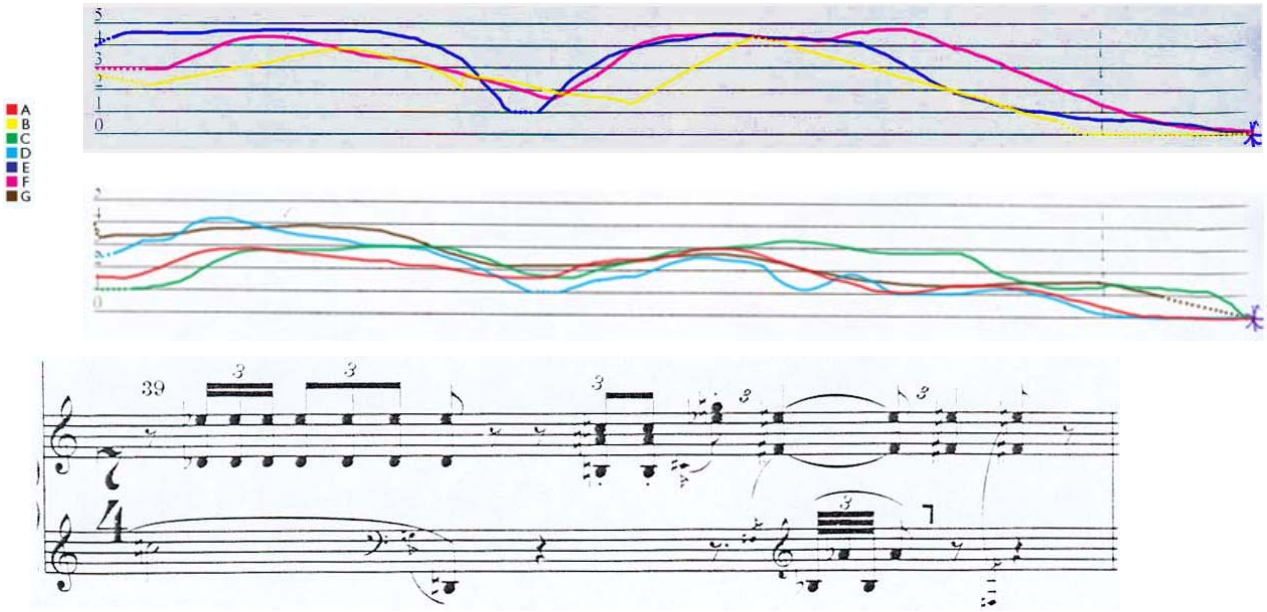

Image 18, upper staff: Curves drawn by B, E and F illustrating a bar of the Schönberg excerpt (2/3:1)
lower staff: Curves drawn by A, C, D and G illustrating the same bar

At 2/3:1 displayed in Image 18, all the curves seem to illustrate the two triplet motifs in the right hand part in different ways by means of shapes reminding of arches. In the upper dynamical staff containing the curves drawn by B, E, as well as by F, this arch shape is most evident and succeeded by a rather similar decline at the very end. In contrast to the part of F's curve illustrating bar 1/2:3, (broached in the second paragraph of the present section within the main category of *rhythm*), at this place the shape of his curve indicates a reaction provoked primarily by the semi-quaver triplet as such at the beginning of the bar (2/3:1 [1:2]), whereas the shape of B's curve might be interpreted as illustrating his experience of this semi-quaver triplet being an upbeat, moving towards the succeeding quaver triplet at 2/3:1 (2).

In this same bar, the participants A, C, D and G have notated lower dynamic levels compared to B, E and F (cf. lower staff of Image 18). Furthermore, the former participants have illustrated the second triplet motif with an arch shape looking smaller than the first one. This also means that the decline of their curves at the very end of the excerpt looks somewhat gentler compared to the corresponding decline as illustrated by the participants B, E and F.

5.2.4. Metrical units

The fourth category refers to parts of the participants' curves which might mirror *metrical units*. Music may be analysed as built up by metrical units on different architectonic levels (Cooper & Meyer, 1960). However, the division of music into smaller elements does not exclusively have to be the result of a conscious analytical process. The human mind tends to structure sensorial stimuli emanating from the surrounding world into patterns, maybe in order to make the experience of life comprehensible (cf. 2.2.). In music, the interchange between the melody line, the harmonic progression, rhythm, time and the bar-line structure may give rise to the experience of different metrical divisions and units due to a person's focus in a given situation. This also implies that the boundaries between the discussed categories of melody, harmony, and rhythm on the one hand, and the fourth category of metrical units on the other, are not always distinct.

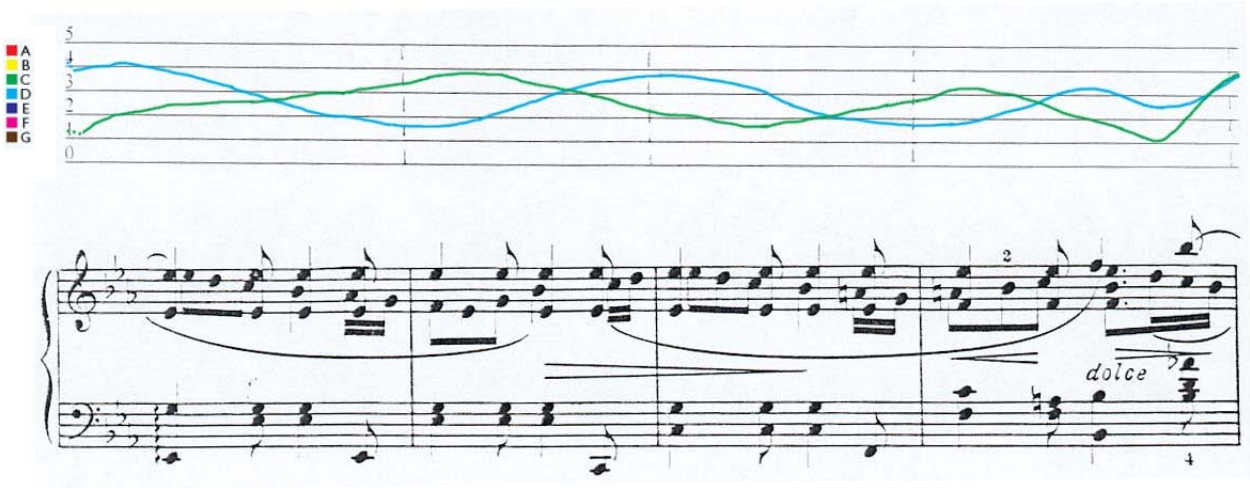

Image 19: Curves of C and D in a section of the Brahms excerpt, 1/3:1-4

Image 19 displays how the curves of C (green) and D (light blue) were drawn in almost opposite directions in the third system of the *Brahms* excerpt. At this place, the melody phrase may be interpreted as built up by metrical units consisting of two bars each (bar 1-2:-5, and bar 2:6 – 4:5, respectively), which means that on a higher architectonic level each bar might be considered as a *beat* within the metrical unit consisting of two bars. According to the shape of their curves, C as well as D seems to have illustrated some kind of *point of gravity*, or metrical emphasis, on the first beat of every second bar. However, C's curve indicates an emphasis on the first beat of every *second* bar within each metrical unit, which means that every first bar might be

interpreted as a metrically unstressed *anacrusis* towards the succeeding bar, whereas D seems to have notated some kind of a *falling rhythmical structure* (cf. Cooper & Meyer, 1960) by drawing a curve indicating instead the emphasis on the first beat of every *first* bar. Furthermore, D's curve seems to have a shape corresponding to the melody contour (cf. 5.2.1.1), whereas the curve of C instead indicates a dynamical progression correlated in an *inverted* way to the melody contour. The diverging shape of these two curves may be regarded as an example of the ambiguity of music generating different experiences from one person to another, which renders it difficult to illustrate music in exactly the same way.

In the first page of the *Bentzon* excerpt (cf. Appendix A4), the shape of the curves drawn by C and G seems to coincide with the accents of the second or third beats within each bar (cf. 5.2.3.), whereas the shape of the curve drawn by F might be interpreted as instead mirroring the stressed first beat of each bar, except in the bars with syncopated accents in the right hand part. Thus, by means of its special shape, F's curve indicates not only the music's rhythmical accents but also a metrical bar-line pattern grouping the bars of the first page in the following way: 2+2+1+2+1+1.

5.2.5. Combined musical aspects

Since music generally exerts a complex influence on the human mind, it may sometimes be hard to determine which aspect that plays the predominating role in a certain situation. The fifth main category thus represents parts of the curves which might be interpreted as mirroring musical experiences affected by the combined impact of several *combined musical aspects* at a time.

In the *Brahms* excerpt (cf. Appendix A2), B, E, F and G have notated a distinct high point at 2/2:4 (1) (cf. 5.2.1.2), as regards G even a peak. In this case, the notated high point might be interpreted as provoked by the complex interplay between many musical aspects simultaneously, since the music has not been performed with a very loud nuance at this place. The tempo of the recording slows down considerably towards the harmonic cadence. There is also a modulation into another key correlated to the descending melody line. The combined impact of the tempo slowing down, the special harmonic progression, as well as the descending melody line, might have awakened the experience of some kinds of musical expectations from the four participants, due to their familiarity with established conventions of musical expressions (cf. Quantz, 1752/1974). This means that the participants seem to have experienced this section out of their implicit pre-understanding of musical conventions.

From the perspective of brain physiology, Fagius (2001) claims that music has the power to affect people emotionally. The researchers of music psychology, Gabrielsson and Juslin (1996), as well as Juslin and Persson (2002), have shown that performers and listener seem to be more or less aware of a commonly agreed emotional code in music. The shape of the curves drawn by B, E, F and G in this bar might thus be interpreted as mirroring the experience of something unexpected, and therefore exciting in an emotional sense, provoked by the interplay between several musical aspects at a time.

Contrary to all the other participants, C has notated almost a *peak* at the end of bar 3/2:4 (2:2) in the *Debussy* excerpt (cf. Appendix A3), exactly on the very first low bass tone in the left hand part, where the music is supposed to be performed in a very soft pianissimo nuance. After that, his curve dips down to a low point just on the last quaver of bar 3/2:5 (2:2). The character of the somewhat mystical and dull bass motif within this section might have awakened the experience of something exciting happening, as pointed out earlier. The title of the Prélude is *Minstrels*, which indicates that the composition's main character is supposed to be humoristic. It contains a lot of surprising and unexpected musical effects, which may shed light on the special shape of C's curve at this place. The combined impact of many musical aspects simultaneously might have contributed to the experience of some kind of excitement in the same way as in the former example.

5.2.6. Individual characteristics

When studying the participants' phrasing curves, some *individual characteristics* have been observed occasionally. The reason for treating this aspect as a separate category is that the shapes of some parts within the phrasing curves might be interpreted as mirroring a possible correspondence between the participants' professional specialities and the way they drew their curves. In contrast to the five previous main categories, the present category is not necessarily linked to any special characteristics within the recorded musical excerpts. In the following, examples from the curves drawn by each participant will be presented consecutively.

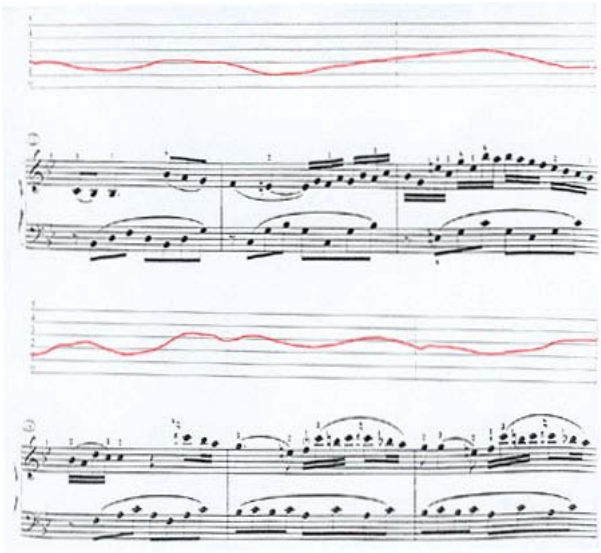

Image 20a: A's curve in a section of the Mozart excerpt (2/1-2)

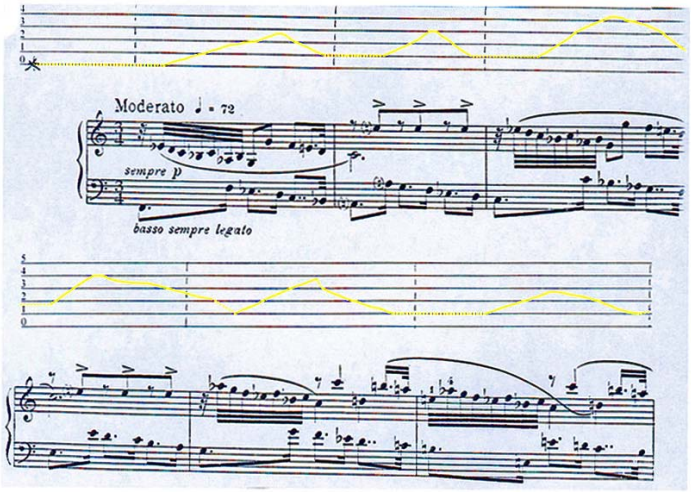

Image 20b: B's curve in the first section of the Bentzon excerpt (1/1-2)

Image 20a displays the phrasing curves drawn by A with their typical smooth bends. However, these characteristics might be interpreted as an expression of her personal drawing style, rather than expressing something linked to her specific professional speciality.

Image 20b displays the phrasing curves drawn by B, which generally appear as somewhat extreme in respect of their abrupt and somewhat sharp-cornered bends with wide amplitudes between the notated levels. In some cases, B seems to have had difficulties in 'obeying the rules' by drawing his curve beyond the prescribed dynamical staff lines. On the other hand, in the Schönberg excerpt his curve looks considerably straighter than in the previous excerpts. An explanation of the special shape within B's curves might be that he, in his capacity of an experienced conductor, tends to draw curves reminding of the bodily gestures when conducting.

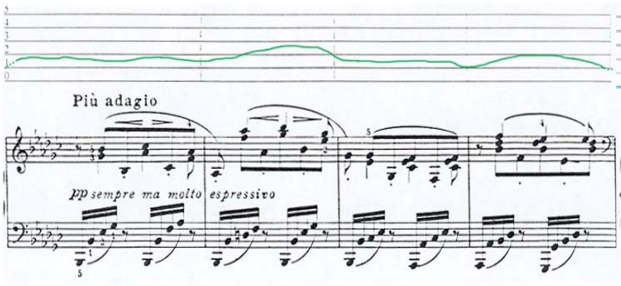

Image 20c: C's curve in a section of the Brahms excerpt (2/3:1-3)

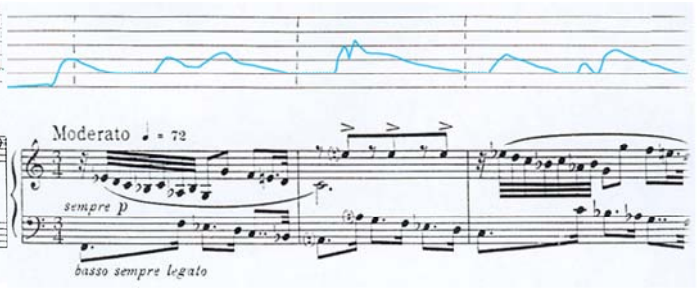

Image 20d: D's curve in the first three bars of the Bentzon excerpt (1/1:1-3)

As displayed in Image 20c, the drawing style of C might be described as characterised by gentle longish bends. Nothing indicates that the visual appearance of his curves is linked to his professional speciality (professor of music theory).

Image 20d displays the phrasing curves drawn by D in some bars of the Bentzon excerpt. Generally, his curves might be described as somewhat twitched, often equipped with abrupt and sharp-angular bends. A plausible explanation that is furthermore supported by his explicitly expressed verbal comments when carrying out the study might be that D, being a musicologist and especially interested in different perspectives of experiencing music, had intended to put himself into the place of a listener not being familiar with the music in advance and therefore reacting quickly and spontaneously to all musical events as if he would hear the composition for the first time (cf. 5.1.2.6.). In the Bentzon excerpt, D's curve looks extremely jagged to begin with (cf. Image 20d), but as the music proceeds his curve adopts an evener shape, maybe because of the music's gradual transformation into a character with less rhythmical accents.

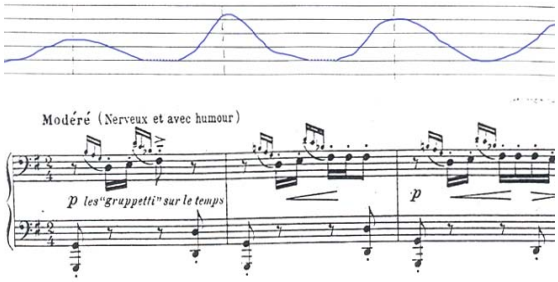

Image 20e: E's curve in the first three bars of the Debussy excerpt (1/1:1-3)

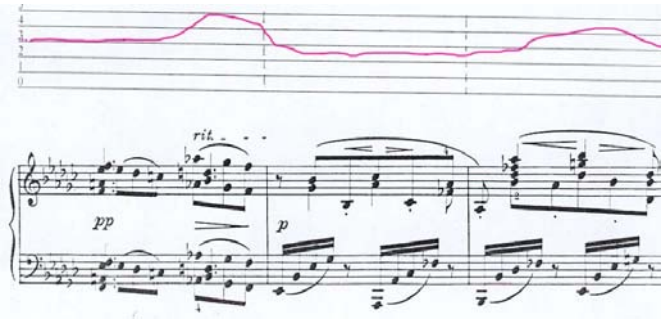

Image 20f: F's curve in a section of the Brahms excerpt (3/2:1-3)

Image 20e displays an example of the phrasing curve drawn by E. His drawing style might be described as characterised by bends with very big amplitudes, and notated dynamics that tend to stick to the higher levels, for example, in the Debussy excerpt as well as in the Bentzon excerpt. Nothing indicates that his specific shape is linked to his profession of teaching the flute.

Image 20f displays the phrasing curve drawn by F in a section of the Brahms excerpt. As was also the case in E's curves, F's curves tend to indicate high dynamic levels and big amplitudes between the notated high and low dynamic levels. As already discussed (cf. 5.2.2.), his curves might be interpreted as sometimes mirroring the harmonic progression rather than the dynamics of the melody part, particularly in the Brahms excerpt. Maybe this could be explained by referring specifically to his probable interest in the music's harmonic progression, due to his capacity as a composer.

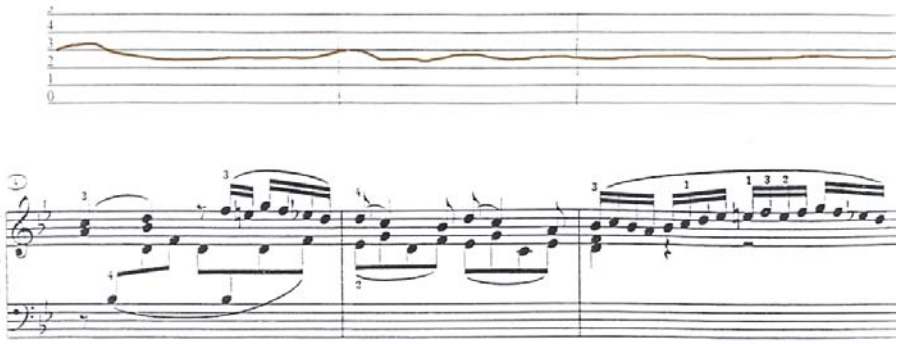

Image 20g: G's curve in a section of the Mozart excerpt (1/2:1-3)

Image 20g displays an example of a phrasing curve drawn by G. Her curves differ considerably from those of all the others because of their very straight shape with few bends. Furthermore, she has generally notated her curves on a moderate dynamic level. G is an experienced professor of singing, and an explanation of the specific shape of her curves might be that she has been affected by considerations linked to singing technique concerning the control of the air stream and maintaining it on a constant level.

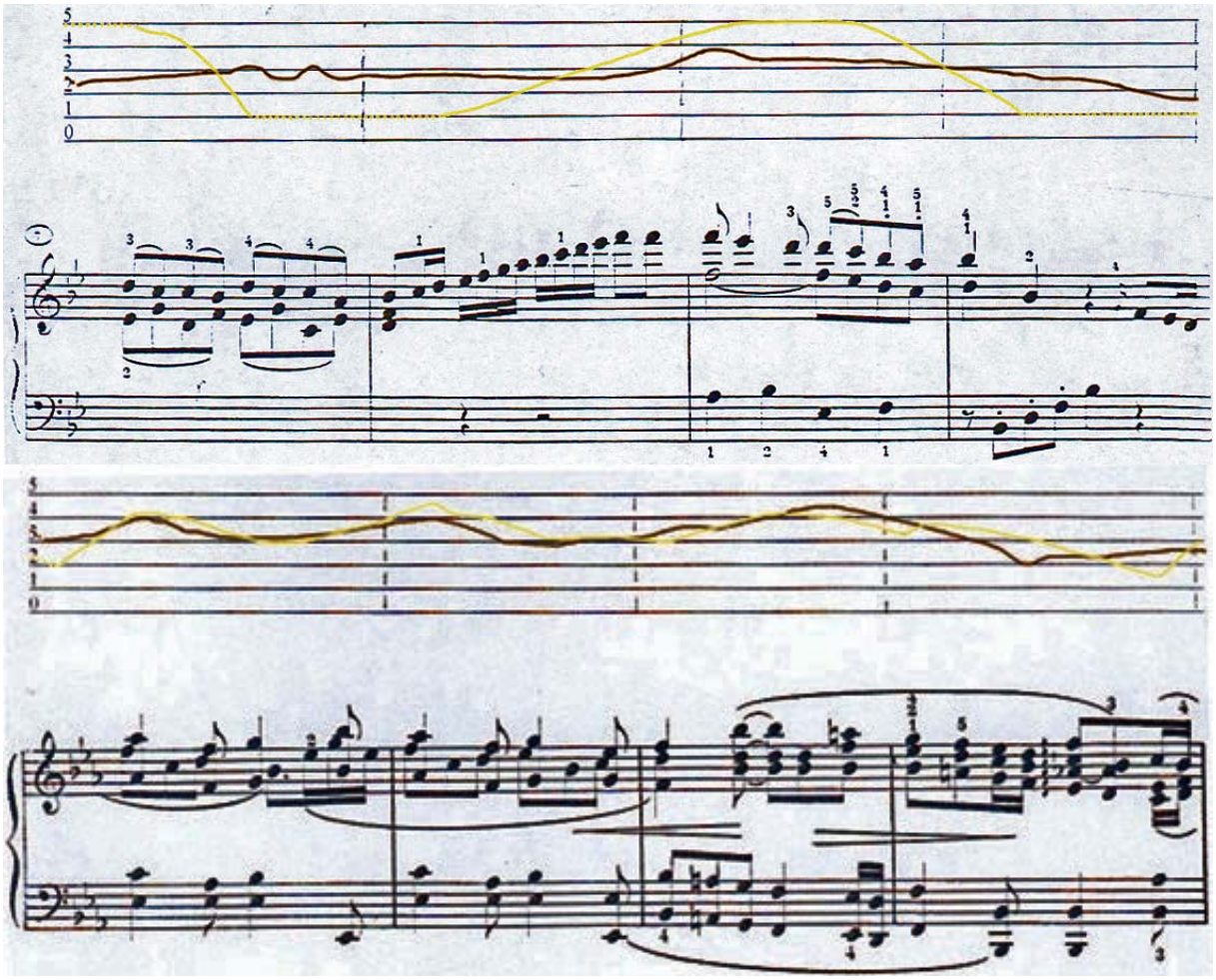

Image 21, upper part: Curves drawn by B and G in a section of the Mozart excerpt (1/3:1-4)
lower part: Curves drawn by B and G in a section of the Brahms excerpt (1/2:1-4)

When comparing the curves drawn by the participants B (yellow) and G (brown) in particular, big differences have sometimes been observed. The upper part of Image 21 displays an example of this in the Mozart excerpt, at 1/3:1-4, where the curve of B moves steeply up and down in big bends, whereas the curve of G keeps moving almost straight forwards on a moderate dynamic level with just small fluctuations. As already mentioned (cf. Image 20b and g, respectively), the diverging shapes of the curves might be explained by experiences emanating from the participants' respective professional specialities. However, such differences have not occurred systematically in this study. The lower part of Image 21 thus displays a section in the Brahms excerpt (1/2:1-4), where the curves drawn by B and G, respectively, look more alike.

In some cases, similarities were observed between the curves drawn by participants specialised in related areas. An example of this is some parts of the phrasing curves drawn by A and D, respectively (e.g. cf. Image 11, upper staff), both of them being pianists. However, D's curve has its own characteristic style, probably due to the reasons that has already been discussed above (cf. 20d). Since the somewhat extreme tendencies in his phrasing curve, as well as in some parts of the curves drawn by B (cf. Image 20b; cf. the upper part of Image 21), have not occurred

systematically, I have not found it necessary to make any reservations when integrating their phrasing curves in the analysis of this study.

First phase of the study: Summary

The results of this study's first phase reveal resemblances as well as discrepancies occurring between the phrasing curves drawn by the participants, and supposed to illustrate the five musical excerpts employed. After being tested by the seven participating professional music listeners, the MPhC seems to have functioned best when illustrating the personal experience of the fluctuating dynamical sound levels in *homophonic* music, with the melody part appearing in a clear relief to the other voices. Consequently, there seems to be more resemblances between the individual curves in the Mozart excerpt than in music that may be characterised as more complex in a structural sense, for example, the Debussy and the Bentzon excerpts.

Since you cannot disregard the potential influence caused by the visual appearance of the printed score displayed collaterally to the device's dynamical scale, the study's *second* phase was carried out in order to further test the MPhC as an instrument for visually illustrating primarily the experienced dynamics of the *sounding* music. This means that evident characteristics, in respect of the dynamics within three differently performed versions of the same piece of music, should be discernable in the corresponding phrasing curves.

5.3. Results of the second phase

In the second phase of Study A, as described in the first section of this chapter, three pianists, two men and one woman, were asked to draw phrasing curves illustrating the experienced dynamical progression of the melody part within three differently performed recordings of Robert Schumann's piano composition *Von fremden Ländern und Menschen* (cf. 5.1.2.).

The presentation of the results is divided into two main sections in accordance with the analysis. In the first section, all three curves drawn by *each one of the participants*, supposed to illustrate the dynamics of the melody part within *three differently performed versions*, were compared, whereas in the second section, the curves drawn by *all the participants* illustrating *each one of the three versions* were compared. The descriptions of the general *characteristics* within the three recorded performances are based partly on my own subjective impression when listening to the tape, partly on some of the participants' spontaneous comments when carrying out the study, which might shed further light on the shapes of their respective phrasing curves.

As was also the case when presenting the results from the study's first phase, the numerical figures refer to the specially designed score that was used (cf. Appendix A6). In the selected images, *dark* colours signify the curves drawn by the participant *A*, *intermedium* colours the curves drawn by the participant *B*, and *light* colours the curves drawn by the participant *C*. The curves representing the *first* recorded version are coloured in different graduations of *red*, the curves of the *secon*d version are *green*, whereas the curves of the *third* version are *blue*.

This means that the curves have been arranged according to the following disposition:

Participant A	*Participant B*	*Participant C*
Version 1: dark red	Version 1: medium red	Version 1: light red
Version 2: dark green	Version 2: medium green	Version 2: light green
Version 3: dark blue	Version 3: medium blue	Version 3: light blue

For practical reasons, the abbreviations Ver. 1, Ver. 2, and Ver. 3 will be used in the text, referring to the three differently performed versions of the composition, respectively.

In this second phase, the device for drawing phrasing curves had been located *below* instead of above the systems of the printed score (cf. 5.1.1.). When presenting the results, the definitions of dynamic high points, high areas, peaks, low points and low areas are principally the same as in the first phase. However, this time the parts of the curves stepping over the *fourth* line will be defined as indicating high points or high areas, since the dynamic scale has been limited to five horizontal lines (cf. 5.1.1.). Consequently, the definition of a dynamical peak has been changed to high points or high areas touching upon the uppermost *fifth* line. The parts of the curves descending to the second line or below are defined as low points or low areas.

Except for the participant C, who participated in both phases of the study, the two other music professors, A and B, participating only in the second phase, have not been subject to any changed conditions because of the device's revised layout.

The phrasing curves of the study's second phase were compared primarily in respect of their *general shape* and *dynamic levels*. The reason for this is that the composition may be described as a rather simple song without any distinct high points in the same sense as in the musical excerpts of the study's first phase. Nevertheless, some notated high points might still be of interest, which will be discussed as an element within the frames of the curves' general dynamic levels, and not separately as was the case in the first phase. In addition to the study of the curves' divergences and similarities in general, the *fermata bars*, as well as some sudden *sharp-cornered descents* within the shape of the curves illustrating Ver. 3 have been specifically considered. The reason for paying

special attention to the fermata bars is their special significance as bars of transition between the composition's main sections.

5.3.1. Comparison between the curves drawn by each one of the participants

5.3.1.1. Curves drawn by A illustrating the three versions

When comparing the phrasing curves drawn by A for the purpose of illustrating the three *differently* performed recordings, significant *divergences* were found in respect of their *general shapes*, particularly in the second page of the score (cf. Appendix A6). The shape of the curve illustrating Ver. 1 diverges mostly from A's two other curves. A typical characteristic within this curve is its big, rounded bends, which might be interpreted as mirroring the recording's specific character with somewhat bigger dynamic contrasts compared to the two other versions. Big dynamic contrasts are usually associated with a so-called romantic performance style (Goulding, 1996; cf. 2.5.). When carrying out the study, the participants also commented on the Ver. 1 as being more 'romantic' than the other two versions (cf. 5.1.2.3.), which is also my own impression when listening to the recording.

Generally, A's curve illustrating Ver. 3 has been notated on a higher *dynamic level* compared to the other curves. The curve of Ver. 1 has been notated on the lowest level, whereas the curve of Ver. 2 seems to move between the dynamic levels of the two other curves. From this it might be concluded that A seems to have experienced the melody part of Ver. 3 with a higher dynamical sound level than in Ver. 2, and Ver. 1 with a considerably lower dynamical sound level compared to the two other versions. According to the curves drawn by each one of the other participants, they seem to agree in most cases about the same dynamical hierarchy when comparing the three different recordings of the composition.

However, the shapes of the three curves drawn by A look somewhat more alike where the first melody theme is repeated in the third and the fourth systems of the first page (1/3-4), as well as in the fourth system of the second page, from the second bar until the very end of the piece (2/4:2-5:5). Here, all the three curves illustrating the different performances were notated on a distinctly lower dynamic level, also moving closer to each other. These lower dynamics might indicate that A has experienced all the three pianists performing a kind of echo effect when the first melody theme is repeated. Such echo effects has existed as an emotionally motivated convention within the classical musical traditions ever since the terrace dynamics of the renaissance era (cf. Dart, 1964; Goulding, 1996).

Still, in spite of the notated low dynamic level beginning at 2/4:2-, the curve of Ver. 3 seems to indicate a higher dynamic level in the second last bar of the composition (2/5:4). In contrast to this, the curves drawn by A, illustrating the two other versions, indicate a descent down to the low area at this place. An interpretation of this might be that in Ver. 3, A has not experienced any clear diminuendo at the end of the piece.

An exception from the mentioned dynamical hierarchy of the three curves appears in the composition's B section beginning in the fifth system of the first page. In the second bar of this system (1/5:2), it is the curve of *Ver. 1* that reaches the highest dynamic level of them all, closely followed by the curve of Ver. 2, both of these two curves indicating a high point within this bar. The curve of Ver. 3, otherwise representing the highest dynamic level of the hierarchy, is here ascending gradually from a lower level towards a notated high point only in the fourth bar of the same system (1/5:4 [1]). An interpretation might be that at this place A has experienced the location of the respective high points differently within the three recordings.

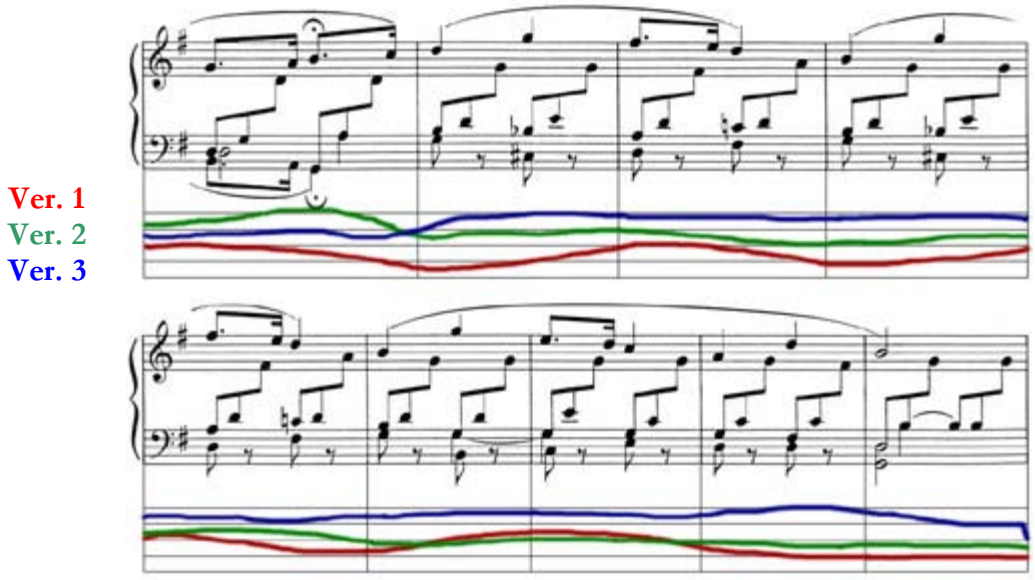

Image 22: A's curves in a section of the Schumann composition (2/1:1 – 2/2:5)

Image 22 displays the parts of the phrasing curves supposed to illustrate the first *fermata bar* (2/1:1), which might be interpreted as mirroring some specific dynamic characters within each one of the three recordings. In spite of the curves' dynamical hierarchy implying that Ver. 3 generally represent the highest level, it is instead the curve of Ver. 2 (dark green) that reaches the highest dynamic level, culminating precisely on the fermata note of the first fermata bar. The curve of Ver. 3 (dark blue) gradually reaches a constant peak level only from the beginning of the next bar, where the main theme starts again.

Image 22 also displays how the curve illustrating Ver. 1 (dark red), contrary to the other curves, descends gradually in the same fermata bar towards a notated low point on the first beat of the succeeding bar. The shape of A's curve in this bar might be interpreted as mirroring the bar's almost meditative atmosphere within Ver. 1, in accordance with the participants' verbally expressed experience of this version's romantic character. In the *second* fermata bar (2/4:1), the curve of Ver. 2 that indicates a peak in the first fermata bar has been notated on a comparatively lower dynamic level, which makes all the curves move closer to each other.

Typical to the phrasing curve drawn by A illustrating Ver. 3, is the *sudden* sharp downward '*hooks*', in the third system of the first page: at the very end of the fourth bar (1/3:4 [2:3]), in the fifth system of the first page: between the fourth and the fifth bars (1/5:4-5 [2:3-1]), in the second system of page two: at the very end of the fifth bar (2/2:5 [2:3]) (cf. Image 22: the dark blue curve at the end of the last bar), as well as in the third system of page two: between the fourth and fifth bars (2/3:4-5 [2:3-1]). This means that A has notated such 'hooks' just before all the B sections of the composition, and every time exactly before the beginning of the bar immediately preceding the fermata bar. According to the participants' comments when the study was carried out, they had all reacted to the striking articulations at some phrase closures within Ver. 3. From this it might be concluded that A has attempted to illustrate these articulations consciously by means of the corresponding downward 'hooks'.

5.3.1.2. Curves drawn by B illustrating the three versions

Even the three phrasing curves drawn by B, illustrating the three recordings, respectively, look different in regard to their *general shape*, even if they are diverging somewhat less than A's curves, particularly in the first page of the composition. In general, B's curves seem to express the same kind of dynamical hierarchy as in A's curves, which means that it is the curve of Ver. 3 that tends to move on the highest *dynamic level*, the curve of Ver. 1 on the lowest, and the curve of Ver. 2 in the middle between the two other curves. However, the curves of Ver. 1 and Ver. 2 look rather similar in respect of the notated dynamic levels in the first eight bar period of the first page, although the curve of Ver. 1 seems to express a somewhat clearer diminuendo at the end of this period (1/2:3 [2]-1/2:4 [2:3]) (cf. Appendix A6). The curves of Ver. 1 and Ver. 2 also indicate a clear lower dynamic level, where the first theme is repeated in the third and fourth systems of the first page, maybe illustrating some kind of an echo effect. This is particularly evident in the curve illustrating Ver. 1. In contrast to this, the curve of Ver. 3 has been notated with a less dynamic difference between the main theme's first and second presentation compared to the corresponding parts of the curves of Ver. 1 and Ver. 2.

At the B section, beginning in the first page's fifth system, there is an exception from the mentioned dynamical hierarchy of the curves. Here, it is not the curve of Ver. 3 but that of Ver. 2 that has been notated on the highest dynamic level, even very close to the peak level. Also in contrast to the mentioned hierarchy, the curve of Ver. 3 has been notated on a somewhat lower level at the same place compared to the corresponding parts of B's curves, illustrating the other versions. This means that in contrast to the participant A, who had notated the curve of the *first* version (Ver. 1) on the highest level of all his curves in the fifth system, B has instead notated the curve of the *second* version (Ver. 2) on the highest level. However, the curve drawn by B representing Ver. 1, usually notated on the lowest dynamic levels of all the curves, reaches occasionally a high point in the second bar of the B section (1/5:2). In the *second* B section located in the third system of the second page (2/3:1-), the part of the participant B's curve representing Ver. 2 has been notated on the highest dynamic level of all the curves, as was also the case in the first B section.

Where the main theme is repeated from the bar succeeding the fermata bar at 2/1:2-, the curve drawn by B illustrating Ver. 3 ascends towards the highest dynamic level of all his curves illustrating this section, which also corresponds to the generally high notation of this curve. However, it has not been notated on the peak level, as was the case with the curve drawn by A at this place. Where the main theme is repeated the last time at 2/4:2-, it is B's curve illustrating the *second* version (Ver. 2) that indicates the highest dynamic level, higher than in the bar succeeding the first fermata bar at 2/1.2-. The corresponding part of the curve illustrating Ver. 3 that had been notated on the highest level the first time, has been notated on a lower dynamic level the second time. An interpretation of this might be that B has experienced the last repetition of the main theme within Ver. 2 in a comparatively higher dynamic nuance, and the corresponding section of Ver. 3 on a lower dynamic level.

In contrast to the corresponding curves drawn by A, at the very end of the composition all of B's curves, including that of Ver. 3, seem to indicate a diminuendo with a rather similar shape, although on somewhat diverging dynamic levels. Particularly the curve of Ver. 1 decays towards a very low dynamic level at the end.

In the same way as in A's curves, the parts of the curves drawn by B illustrating the *fermata bars*, seem to mirror some specific dynamic characters within the three differently performed versions of the composition (cf. Curves drawn by A: *fermata bars*). In contrast to the mentioned general dynamical hierarchy of the curves representing the three different versions, it is the curve drawn by B, illustrating Ver. 2, that culminates, as was also the case with the corresponding part of the curve drawn by A, on a notated very high dynamic level in the middle of the first fermata bar (2/1:1), closely followed by B's curve illustrating Ver. 3. At the same place, B's curve of Ver.

1 descends towards a very low dynamic level on the first beat of the succeeding bar, which also corresponds to the curve drawn by A in this bar. The low dynamic level notated by B, as well as by A, might be interpreted as mirroring a silent romantic atmosphere within Ver. 1 at this place in accordance with the participants' verbal comments. The shape of the parts of B's curves illustrating the *second* fermata bar at 2/4:1, reminds very much of the corresponding part illustrating the first fermata bar. Contrary to A's curve, B has *not* notated his curve illustrating Ver. 2 on a lower dynamic level at this place.

In a similar way as the participant A, B has notated some kinds of *sudden descents* in his curve illustrating Ver. 3, at 2/3:4 (2:3)–2/3:5 (1) and at 2/5:1 (2.3)-2/5:2 (1), respectively. However, A has notated more of sharp-cornered 'hooks' in his curve illustrating Ver. 3. According to the comments made by B when carrying out the study, he had indeed paid attention to these articulations at many phrase closures. However, he did not experience them as disturbing the continuous flow of the melody line, which was also his verbal explanation for not visualising all articulations in his curve.

5.3.1.3. Curves drawn by C illustrating the three versions

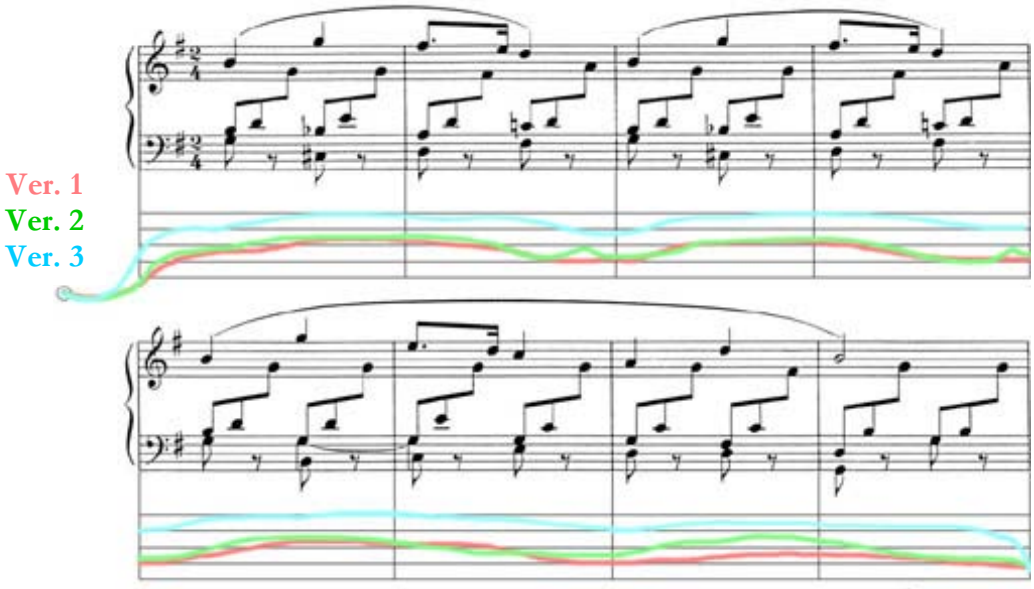

Image 23: C's curves in a section of the Schumann composition (1/1:1 – 1/2:4)

The three curves drawn by C are diverging in a significant way in respect of their *general shape*. Particularly the curve illustrating Ver. 3 (light blue) looks different by generally moving on a very high dynamic level close to the peak level. Image 23 displays this tendency in the two first systems of the first page. As already mentioned, C explained the notated high dynamic level of the curve illustrating Ver. 3 by referring to her experience of the pregnancy of the melody line performed in this version (cf. 5.1.2.3.). The curve of Ver. 2 (light green) generally indicates a slightly higher level compared to the curve representing the Ver. 1 (light red), which corresponds to the previously broached dynamical hierarchy between the three recordings as notated by all the participants.

Specifically worthwhile noticing is the occasional curly shape of the curve drawn by C, illustrating Ver. 1 in the middle of the fourth last bar (2/5:2 [2]) (cf. Appendix A6). An interpretation of this specific shape might be that C has attempted to emphasise her experience of the performed emotional character of this bar.

In the first four bar period of each section in which the main theme is presented, the curve drawn by C representing Ver. 2 has a shape looking like humps upwards in the dynamic register at the end of every second bar, at 1/1:2 (2:3) and 1/1:4 (2:3) (cf. Image 23: the light green curve at the end of the first system's second and fourth bar, respectively), at 1/3:2 (2:3) and 1/3:4 (2:3), as well as at 2/1:3 (2:3) and 2/2:1 (2:3), but not where the main theme section is repeated on a lower dynamic level the very last time from 2/4:2-. The specific shape of the humps might be interpreted as an attempt to illustrate the somewhat energetic character with unevenly performed triplets in the middle voice, which seems to be typical to this version.

As already mentioned, C has mostly notated her curves in accordance with the same dynamical hierarchy as notated by the two other participants, which means that the curve of Ver. 3 has been generally notated on the highest *dynamic level*, the curve illustrating Ver. 1 on the lowest level, whereas the curve of Ver. 2 has often been notated in the middle between the other two curves. Where the main theme is repeated in the first page (1/3:1-), the curve of Ver. 1 has been notated on almost the same dynamic level as the first time. In contrast to this, the curves of Ver. 2 and Ver. 3 were notated on a slightly lower dynamic level the second time. However, even if the part of the curve illustrating Ver. 3 has been notated on a slightly lower level where the theme is repeated, it has still been notated on a very high level, although not as close to the peak level as was the case the first time.

5.3.1.4. Comparison between the curves drawn by each participant: Summary

A comparison of each participant's three phrasing curves illustrating the three differently performed versions of the Schumann composition reveals significant divergences in respect of the general shape. This tendency is thus visible in the curves drawn by all participants. As notated by all participants, the curves illustrating Ver. 3 have generally been notated on the highest dynamic level, the curves of Ver. 1 on the lowest level, and those of Ver. 2 mostly in the middle between the two curves of the other versions. However, in the composition's B sections (1/5:1-, 2/3:1-) as well as in the fermata bars (2/1:1, 2/4:1), all of the participants have notated their curves of Ver. 2 on a higher dynamic level than the curves illustrating Ver. 3. In A's as well as in C's phrasing curves illustrating Ver. 3, sudden descents were notated at some phrase closures. Compared to the participant B, A and C have indicated a considerably less diminuendo in Ver. 3 within the composition's last bars. An interpretation of A's and C's curves, indicating almost no diminuendo at the end, might be that they have experienced the character of this performance ending in a straight and non-sentimental way.

At the place where the main theme is repeated in the first page, C seems to have drawn a curve that might be interpreted as the illustration of some kind of echo effects in the same way as the two other participants. However, she has notated these possible echo effects primarily in the parts of her curves illustrating *Ver. 2* and *Ver. 3*, but in her curve illustrating the *first* version (Ver. 1) almost *no* corresponding echo effect has been notated. In contrast to these parts of the curves drawn by C, the participant A has notated possible echo effects in *all* of his curves at the same place, whereas the participant B has notated possible echo effects in the corresponding parts of the curves illustrating the second (Ver. 2) and the *first* version (Ver. 1) *in particular*, but a little less clearly in the *third* version (Ver. 3). Hence, according to the corresponding parts of their curves illustrating the *second* version (Ver. 2), all of the three participants seem to agree about the lower echo dynamic, but there seems to be a discrepancy between their experiences as regards the lower echo dynamics at this place within Ver. 1 and Ver. 3, respectively.

It is likely that all the participants have played the composition themselves, since they are supposed to be familiar with the classical standard repertoire in their capacity of professional pianists. Consequently, one possible reason for the discussed discrepancy between the participants' notations might be their respective musical pre-understanding. When listening to the

recorded versions, they might have been affected a priori by their own interpretative ideas about the music (cf. Damasio, 1994; Johansson 1999).

Another reason for this discrepancy might be that it seems to be indispensable, for the purpose of obtaining a successful musical communication between performer and listeners, that the performer's and the listeners' cue utilisations are *matching* each other (cf. Juslin & Persson, 2002). This means that in order to succeed in communicating special musical ideas, the performer's cue utilisation should be as similar as possible to the listeners' cue utilisation. It cannot be taken for granted that the musical communication between the respective pianists *performing* the three recorded versions of the Schumann composition on the one hand, and the pianists *participating* in this phase of the study on the other, has been perfect in all cases. However, it should also be underlined that performers sometimes perform music in a consciously ambiguous way, leaving the listeners free to experience the music at will without interfering by trying to communicate specific musical intentions to them.

Another discrepancy between the three participants' curves appears in the composition's B section, which begins in the fifth system of the first page (1/5:1-). In contrast to the participants A and B, who have both notated a clear high point at 1/5:2 in their respective curves illustrating the *first* version, C has not notated any high point at all in the corresponding part of her curve. Instead, her curve even descends at this place, which means that it has been notated on the lowest level of all her curves, in accordance with the general position of the first curve within the dynamical hierarchy discussed. As an exception from this hierarchy implying that the curve of the *third* version (Ver. 3) should be notated on the highest level, the parts of the curves drawn by the participants A and B illustrating Ver. 3 at this same place, were notated on the lowest level of all their curves. Here, C's curve of Ver. 2 has been notated on the highest level, the first curve (Ver. 1), as mentioned, on the lowest level totally in contrast to the corresponding parts of the curves drawn by the other participants, whereas C's curve of Ver. 3 is moving between the corresponding parts of her two other curves. The discrepancy between the three participants at this section might, in the same way as the previously discussed possible echo effects, be explained out of Juslin's and Persson's (2002) theory of the need for a matching cue utilisation between performers and listeners.

According to her curve illustrating Ver. 3 in the four very last bars of the composition, C has notated a considerably higher dynamic level compared to that of her two other curves decaying in a clear diminuendo towards the end. This is also in accordance with the corresponding parts of the curves drawn by A. However, at this place B diverges from the other participants by notating a similar diminuendo towards the end in *all* of his curves, including the curve of Ver. 3.

In the same way as in the corresponding parts of the curves drawn by the other participants, C has notated the curve of Ver. 2 on the highest dynamic level of all her curves in the first *fermata bar* (2/1:1), closely followed by her curve illustrating Ver. 3. C also seems to agree with the other participants by drawing the curve of Ver. 1 on a low dynamic level at this place. Where the fermata bar is repeated a second time at 2/4:1, all of C's curves indicate a comparatively lower dynamic level, which might be interpreted as her experience of some kind of an echo effect.

In her curve illustrating Ver. 3, C has notated *sudden descents* at several phrase closures, for example, each time after the performance of the main melody phrase grasping over eight bars at 1/2:4 (2:3) (cf. Image 23: the light blue curve at the end of the second system), at 1/4:4 (2:3), as well as at 2/2:5 (2:3). There are also sudden descents immediately before the bar line of each one of the bars preceding the two fermata bars, respectively, at 1/5:4 (2:3) and 2/3:4 (2:3). An interpretation of this might be that C, in the same way as A, has attempted to illustrate the clear articulations at some phrase closures, which according to the participants' verbal comments seem to be typical of the third recorded version of the composition.

5.3.2. Comparison between all the participants' curves illustrating each version

5.3.2.1. Curves drawn by all the participants illustrating Version 1

When carrying out the study, the participants commented spontaneously on the characteristics of Ver. 1 as being more 'romantic' than the other two versions (cf. 5.1.2.3.), which was also my own subjective experience when listening. For example, the notated low dynamics within the parts of the curves illustrating the two fermata bars, might be interpreted as mirroring a low-voiced, almost meditative atmosphere. According to the shape of the participants' curves, this version also seems to have been performed with more dynamic contrasts than in the other versions, although still within the frames of somewhat lower dynamic levels. Traditionally, big dynamic contrasts are associated with a romantic performing style (cf. Goulding, 1996).

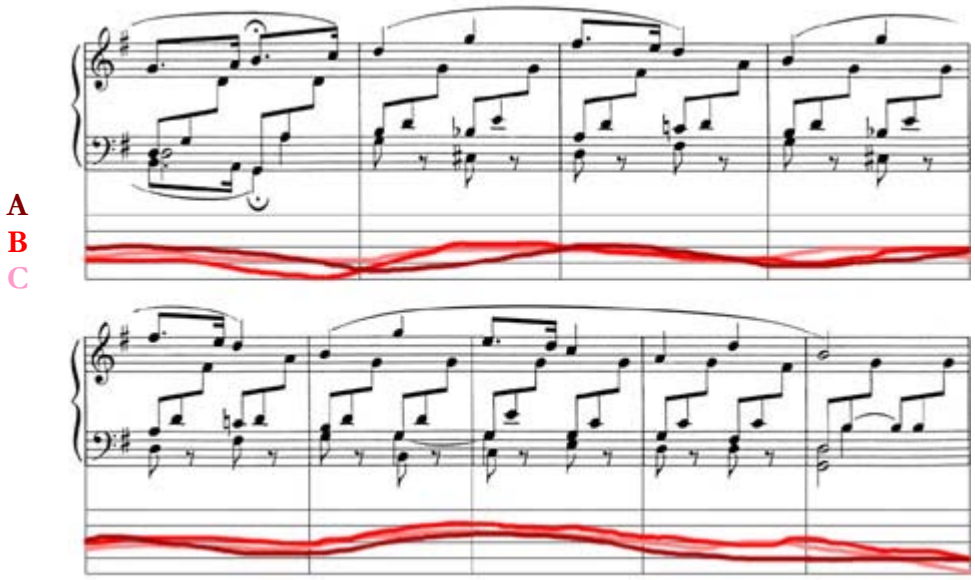

Image 24: Curves illustrating Ver. 1 in a section of the Schumann composition (2/1:1 – 2/2:5)

Many similarities were observed between the phrasing curves drawn by the three participants illustrating the first recorded version of the Schumann composition. However, some discrepancies are also occurring. For example, in the first two systems of the first page, the curves drawn by the participants *B* and *C* are more similar in respect of their *general shape* compared to the corresponding part of the curve drawn by the participant A, whereas the curves drawn by *A* and *C* are instead more similar than the curve drawn by B in respect of the notated *dynamic levels*. In this section, the curve drawn by the participant B generally indicates a somewhat higher dynamic level than the other participants.

What makes the shape of A's curve diverge in the two first systems is, among other things, that it seems to indicate, in contrast to the corresponding parts of the curves drawn by the other participants, some kind of a dynamic ascent on the *first* beats of each *second* bar in every metrical unit grasping over two bars, at 1/1:2 (1), 1/1:4 (1), and at 1/2:2 (1) (cf. Appendix A6), respectively. Image 24 displays a similar ascent in the parts of A's curve (dark red curve) illustrating the main theme section in the first system of the second page (at 2/1:3 [1], 2/2:1 [1], and at 2/2:3 [1]). In the corresponding parts of the curves drawn by B (medium red), as well as C (light red) in the first and second page, a dynamic ascent have instead been notated on the *second* beats of each *first* bar in every metrical unit grasping over two bars (for example, at 1/1:1 [2] and at 2/1:2 [2]. These characteristics thus make the corresponding parts of A's curve look different.

There may be many explanations for such occurring divergences, for example, the general ambiguity of music giving rise to different experiences of metrical patterns depending on the

listener's specific focus in a certain moment (Cooper & Meyer, 1960; Gärdenfors, 1991/1999; Edlund, 1994; Edlund, 1996). Thus, the shape of A's curve corresponds to the experience of the first bar of every *metrical unit* grasping over two bars as a rhythmical *anacrusis* towards the *first* beat of the *succeeding* bar (cf. 3.1.4.). The shape of B's and C's curves might instead be interpreted as following the pitch *contour of the melody line*, traditionally performed by reinforcing the melody's movements up and down in the register by increasing and decreasing the sound levels in a corresponding way (Blum, 1977; Klemperer, 1986; Sundin, 1994). The shape of the curves drawn by B and C is thus consistent with the top of the melody phrases located on the *second* beat of the *first* bar within every metrical unit grasping over two bars. However, an exception from the mentioned divergences between the curves occurs in the second system of page two, where all of the participants have notated a dynamic ascent located close to the bar line between the second and third bar (2/2:2 [2:3-1]) (cf. Image 24).

In respect of the shape of the drawn curves illustrating the composition's main theme sections, another possible reason for the discrepancy mentioned may be the participants' individual pre-understanding in their capacity of pianists. Their supposed familiarity with the music in question might generate a musical experience a priori biased because of their own interpretative ideas about the composition (cf. 5.3.1.4). A third possible reason for the discrepancy may be a different cue utilisation between performer and listeners, as explained by Juslin's and Persson's (2002) already broached theory of *matching cue utilisation*.

Furthermore, the notated somewhat higher *dynamic levels* and comparatively bigger amplitudes of B's curve in the two first systems of the composition, accentuate the diverging shape of the parts of the different curves illustrating the first main theme section. However, where this section is repeated in the third system of the first page (1/3:1-), the curves drawn by A and B have both been notated on a lower level with smoother dynamic amplitudes, which makes all the three curves look more similar. The curve of C had been notated on a rather low dynamic level already where the main theme is introduced at the beginning of the composition, and it has almost the same shape where the main theme is repeated the second time. An interpretation of this might be that C, in contrast to the two other participants, did *not* experience any different dynamic sound level when the main theme was repeated.

As was also the case at the beginning of the composition, B had drawn his curve on a rather high dynamic level with bends of big amplitudes where the main theme is repeated for the last time at 2/4:2-, in contrast to A and C, whose curves seem to indicate instead some kind of an echo effect expressed by the notated lower dynamic levels at this place. In the last system of the second page, all the participants seem to agree about a clear decay by notating a gradual diminuendo towards a very low dynamic level at the end of the composition.

Where the composition's B section is introduced in the first page's fifth system, the curves drawn by A and B are both indicating a high point, as concerns A's curve even a peak, located on the second beat of the second bar (1/5:2 [2]), whereas the curve of C is instead indicating a very low dynamic level at this place. According to this part of her curve, C seems to have experienced the first B section of Ver. 1 very differently compared to the two other participants. However, where the B section is repeated in the third system of the second page at 2/3:1-, the curves of A and B were notated on a generally lower dynamic level compared to the previous time, and without any clear high points, whereas the curve of C looks almost the same as the first time. In other words, according to their curves the participants A and B seem to have experienced the B section of the second page as being performed in a lower dynamic sound level, in contrast to the participant C, who seems to have experienced the same dynamics both times.

In the first *fermata bar* at 2/1:1, all the three phrasing curves illustrating Ver. 1 are descending towards the low area from an already rather low notated dynamic level (cf. Image 24). The curve

of B descends mostly in this bar. The low dynamic level that is notated by all the participants might be interpreted as mirroring a performed low-voiced, almost meditative atmosphere.

5.3.2.2. Curves drawn by all the participants illustrating Version 2

The participants described Ver. 2 as more on-going and energetic than Ver. 1 (cf. 5.1.2.3.). The occurring 'humps' within the curve drawn by C may be an attempt to illustrate the pianist's specific way of performing the triplets in the middle voice. In my ears, the triplets sound somewhat uneven, probably performed consciously in this way in order to achieve a more energetic character.

The three participants have generally drawn their curves with a rather similar *shape*. An exception to this occurs in the fourth and fifth system of page two (2/4:2-) (cf. Appendix A6), where the main theme is presented for the last time. In this section, the individual curves happen to diverge a lot. B's curve has been notated with bends of rather big amplitudes, and on a considerably higher dynamic level than the corresponding parts of the curves drawn by A and C, respectively, the latter two curves looking generally more similar. However, in contrast to A's curve continuing on an average dynamic level, the curve of C is suddenly descending towards the lowest possible level just before the bar line between the bars 2/4:3 and 2/4:4. This indicates that C seems to have experienced the dynamic level very differently compared to the two other participants. The comparatively higher dynamic levels of B's curve, as well as the notated bends of a bigger amplitude in the two last systems, are continuing until the end of the composition, whereas the curves drawn by A and C have a straighter shape in this section, the latter two curves indicating also a gradual decay towards the end. Particularly the curve of C had been notated on a very low level trough the last system. The rather big discrepancy between the parts of the curves drawn by the three participants illustrating the two last systems of Ver. 2 might be explained by Juslin's and Persson's (2002) broached theory dealing with the importance of using a matching cue utilisation between performer and listeners.

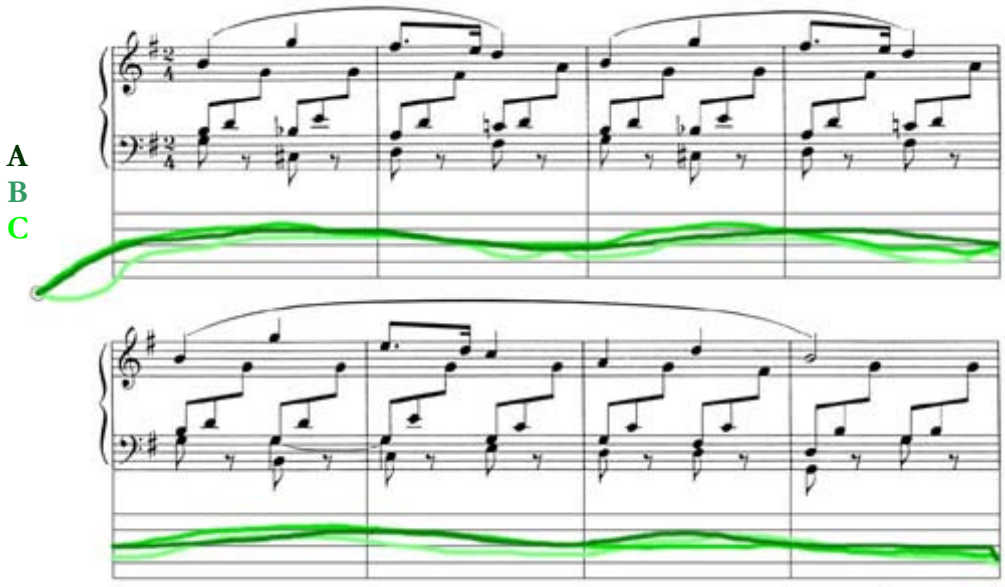

Image 25: Curves illustrating Ver. 2 in a section of the Schumann composition (1/1:1 – 1/2:4)

As displayed in Image 25, the phrasing curve drawn by the participant A (dark green) illustrating the two first systems of the composition indicates, like his curve illustrating Ver. 1, a dynamic ascent located somewhat later compared to the corresponding parts of the two other curves, which makes the shapes of the individual curves diverge a little. The possible reasons for the sometimes diverging shape of A's curve has already been discussed in the previous section

dealing with the curves illustrating Ver. 1. However, in A's curve of Ver. 2 some of these dynamic ascents have been located to the *bar lines* rather than on the first beat of every second bar within the metrical units grasping over two bars, for example, at 1/1:1 (2:3-1) and 1/2:1 (2:3-1). At 1/2:3 (2), the curves of A and C (light green) indicate a small ascent, whereas the curve of B (medium green) has a straighter shape (cf. Image 25). As already mentioned (cf. 5.3.1.3.), in some bars the curve of C has a shape with 'humps' on the last triplet notes of the middle voice, for example, at 1/1:2 (2:3) and 1/1:4 (2:3) (cf. Image 25), which might be interpreted as an illustration of the pianist's special way of performing these triplets.

All the curves seem to indicate some kind of an 'echo' effect, where the main theme is repeated in the first page, at 1/3-1/4:4, by moving on a clearly lower *dynamic level* compared to what was the case the first time. At the same time as the part of the curve drawn by A indicates a lower dynamic level at this place, it also adopts a straighter shape levelling up the previously discussed ascents of this curve at the beginning of the piece. This is also the case where the main theme starts again after the first fermata bar, at 2/1:2-. Here, the curve of A has thus been notated with a straighter shape as well, in contrast to the corresponding parts of the curves drawn by B and C, which keep their shape with rounded bends in the same way as at the beginning of the composition. The reason why A has drawn his curve with such a straight shape after the first fermata bar as opposed to the shapes of the two other curves is unknown to me.

All the three curves indicate a very high dynamic level at the beginning of the first B section at 1/5:1-, and at this place the curve drawn by B moves even very close to the peak level and stays on a high level a little longer than the two other curves, which are instead indicating a diminuendo in the third and the fourth bar of the system (1/5:3-4). According to his curve and in contrast to the two other participants, the participant B seems not to have experienced any clear diminuendo in the first B section within Ver. 2. Where the B section is repeated a second time in page two, at 2/3:1-, it is only the curve of B that indicates a high point, on the second beat of the first bar (2/3:1 [2]), whereas the other curves sticks to a considerably lower level this time compared to what was the case in the first B section. However, from the second bar of the system all the curves descend in a similar way. An interpretation of this might be that, aside from the high point in the first bar of B's curve, the participants seem to have experienced the B section being performed in a softer dynamic the second time.

The three curves have a rather similar shape in the first *fermata bar*, at 2/1:1, and all of them indicate a high point, as concerns the curve drawn by A even a peak. From this it might be concluded that the fermata bar seems to have been performed on a considerably higher dynamic level in Ver. 2 compared to what was the case in Ver. 1. Where the fermata bar is repeated at 2/4:1, however, all the curves were notated on a comparatively lower dynamic level, which seems to indicate that the participants have experienced the second fermata bar on a lower dynamic sound level compared to the first time. The second time, it is B's curve and not the one drawn by A that has been notated on the highest level of all the curves.

5.3.2.3. Curves drawn by all the participants illustrating Version 3

When carrying out the study, the participant C commented explicitly on the notated high dynamic level within her curve illustrating Ver. 3 by referring to the performed pregnancy of the melody part as experienced by her (cf. 5.1.2.3.). The two other participants did not express any corresponding comments, but their curves have nevertheless been notated on a generally higher dynamic level than their curves representing the two other versions of the Schumann composition. Maybe they have notated their curves on a high dynamic level for the same reason as expressed by C. Moreover, according to their comments all the participants seem to have noticed the striking articulations at some phrase closures within Ver. 3. The sudden sharp-cornered descents within the curves notated by the participants A and C in particular might be interpreted as an attempt to illustrate this characteristic feature. Furthermore, in my ears Ver. 3 ends in a simple and non-sentimental way without any clear diminuendo. This impression is also consistent with the shape of the participants' phrasing curves at the end of Ver. 3. Contrary to the corresponding sections within the two other versions, none of the participants have illustrated this end with any evident diminuendo.

As was also the case when comparing the individual phrasing curves illustrating the other two versions, many similarities were observed between the participants' curves illustrating the third version of the composition, particularly in respect of the curves' *general shape*. However, in the first two systems of the first page the curve drawn by A indicates some kinds of dynamic ascents located somewhat later than in the two other participants' curves, for instance on the first beats of the bars 1/1:2 and 1/1:4, respectively (cf. Appendix A6), and this tendency is also conforming to the corresponding parts of A's curves representing the two other versions. This diverging shape of A's curves illustrating the section where the main theme is introduced at the beginning has already been discussed in the previous sections dealing with his curves of Ver. 1 and Ver. 2, respectively. In other words, A is the only one who has systematically notated such dynamic ascents in *all* of his curves, located somewhat later compared to in the other participants' curves. From this it might be concluded that these dynamic ascents are not likely to be specifically linked to any characteristics within the single versions of the composition.

The curve of C illustrating the same initial section (the two first systems of the score) sticks almost constantly to a very high *dynamic level* close to the peak level. She expressed explicitly her intention of illustrating the pregnant melody in this way. The curves of A and B have both been notated on a somewhat lower level than C's curve at this place, although still on a high level. In contrast to the two other curves, the curve of B has here a shape with rounded bends. The corresponding parts of the two other curves have a more straight shape, which might be interpreted as an attempt to illustrate the melody line moving forwards without any dynamic decline before the phrase closure at 1/2:4 (2:3-1). This means that *all* the curves of Ver. 3 have, in different ways, been notated on a high dynamic level in the first two systems of the composition, which might be explained by the specific character of Ver. 3 being performed on a generally higher dynamic level compared to the two other versions. However, where the main theme is repeated in the third system of the first page (1/3:1-), the dynamic level of A's curve in particular is considerably lower than the first time and without any clear ascents. An interpretation might be that he has experienced some kind of an 'echo' effect at this place. The corresponding parts of the curves drawn by B and C have also been notated on a somewhat lower level than at the first presentation of the main theme.

Where the main theme begins again after the first fermata bar at 2/1:2-, the curve of A indicates, in the same way as C's curve, a high dynamic level. This part of A's curve has an extraordinarily straight shape sticking almost constantly to the peak level line. At this same place, and in contrast to the first two systems of the composition, the curve drawn by C has a shape with more rounded bends which makes it look more similar to the corresponding part of the curve drawn by the participant B. Here, B's curve has been notated on about the same dynamic

level as in the corresponding part of his curve at the composition's beginning. However, since the curve of A at this place has been notated moving almost constantly along the peak level, B's curve indicates a somewhat lower dynamic level than the corresponding parts of A's as well as C's curves. Thus, although the curves drawn by all the participants indicate a rather high dynamic level in accordance with the specific dynamic character of this version, the results suggest that the three participants might still not have perceived this section of Ver. 3 in exactly the same way. A question that arises without any certain answer is why the participant A, in contrast to the two other participants, has notated a considerably higher level where the main theme is repeated after the first fermata bar compared to at the very beginning of the composition.

In the composition's two B sections at 1/5:1- and 2/3:1-, respectively, all of the curves were notated on the same rather high dynamic level, even if they are diverging a little in respect of their shape. Where the main theme is repeated at 2/4:2-, all of the curves were notated on a somewhat lower dynamic level compared to the previous corresponding section after the first fermata bar, maybe indicating the participants' experience of some kind of an 'echo' effect at this place. However, the curve of C has still been notated on a rather high level. For some unknown reasons B's curve rises to a higher level again in the beginning of the very last system. At this place, the curve of C indicates about the same level as B's curve, but in contrast to B's curve that ascends, C's curve indicates a gradually lower dynamic level. Here, the curve drawn by A indicates a somewhat lower dynamic level than the other curves. Thus, the results indicate that the participants seem to have experienced this section in different ways. In the four last bars of the composition all the curves indicate a later decay compared to what was the case in the corresponding parts of the curves illustrating the two other versions, which means only in the very last bar. In other words, according to their phrasing curves none of the participants seems to have experienced any clear diminuendo at the very end, which might be explained by this version's generally simple and non-sentimental character.

In the first *fermata bar* of page two (2/1:1), the curves drawn by B and C, respectively, indicate both a high point located exactly on the second beat, whereas the curve of A has a straighter shape through the whole bar, although it has been notated on the same level as the culminating parts of the two other curves. This means that all of the participants in different ways seem to have attempted to express their experience of a rather high dynamic sound level in this bar. In the *second* fermata bar (2/4:1), all of the curves, and the curve drawn by B in particular, indicate a comparatively lower level with a descending tendency. An interpretation of this might be that the participants have experienced some kind of an 'echo' effect in this bar.

As already mentioned, all participants had noticed the distinct articulations at some phrase closures within Ver. 3. Particularly the curve drawn by C has a shape with many *sudden descents*, presumably illustrating the characteristic performance of these phrase closures. In a similar way, the participant A has drawn his curve with sudden downward 'hooks' at some phrase closures, for example, at 2/2:5 (2:3-1) (cf. Image 22). The participant B told me that he had noticed those articulations, but since he did not experience them as interrupting the continuous flow of the melody line, he notated just a few descents at some phrase closures. However, at 2/3:4 (2:3-1), just before the bar preceding the *second* fermata bar, all of the participants including B had notated similar sudden descents. In contrast to the two other participants, B had not notated any corresponding descent before the bar preceding the *first* fermata bar.

On the bar line just before the composition's fourth last bar, at 2/5:1 (2:3-1), both of the curves drawn by B and C seem to indicate similar sudden dynamic descents, maybe illustrating the, to my ears, expressively 'hesitation' performed just on the threshold before the composition's last four bars period. However, at this place A had not notated any corresponding dynamic descent.

5.3.2.4. Comparison between the curves illustrating each one of the versions: Summary

When comparing the three participants' phrasing curves illustrating each one of the three differently performed versions of the Schumann piece, many similarities were found in respect of the general shape and the notated dynamic levels, although some discrepancies have occurred as well. For example, at the very beginning of the composition all the phrasing curves drawn by the participant A indicate systematically a kind of dynamic ascents about one beat later than in the two other participants' curves. An interpretation of this might be that he had primarily experienced a metrical pattern where the first bar of every unit grasping over two bars has the function of an rhythmical anacrusis towards the first beat of the succeeding bar, whereas the shape of B's and C's curves corresponds rather to the pitch contour of the melody part.

According to their curves, all the participants seem to have experienced the dynamic sound level of Ver. 1 as the lowest among the three versions, the level of Ver. 3 as the highest, and the dynamic sound level of Ver. 2 in the middle between the two other versions. In the B sections of the composition and in the fermata bars, however, it is usually the curves illustrating Ver. 2 that were notated on the highest dynamic level.

In the curves illustrating Ver. 3, some notated sudden descents were observed, probably illustrating the articulations performed at some phrase closures, as noticed by all the participants. Contrary to the participant's curves illustrating the two other versions, the curves of Ver. 3 do not indicate any clear decay at the end of the composition.

5.3.3. Conclusion from the second phase of Study A

The results from the study's second phase indicate that when comparing the participants' phrasing curves illustrating one and the same version of the employed Schumann composition there seems to be a *higher degree of similarity* than in the phrasing curves drawn by each participant illustrating three differently performed versions of the composition in question. The occurring divergences between the phrasing curves drawn by each participant illustrating the three different versions may also be considered as constituting the basic condition determining the MPhC's usefulness for the purpose of illustrating given characteristics within the music. Furthermore, sometimes the shapes of the individual curves seem to mirror emotional characteristics within each one of the recorded versions in accordance with the participants' brief descriptions. From this it might be concluded that the MphC seems to work as an instrument for illustrating, not only characteristics emanating from the visual appearance of the displayed printed score, but also characteristics emanating from the experience of the *sounding* music.

However, sometimes the results also reveal some divergences between the curves illustrating one and the same version. One possible reason could be that it may sometimes be difficult to calibrate the phrasing curves to the dynamical device in a precise way, not least bearing in mind that they are drawn by free hand. On the other hand, the participants were asked to first listen to the excerpts without stops in order to get a general idea of the changing dynamic levels (cf. 5.1.1.). While listening, they were moreover recommended to make small notations of the most evident dynamic high points.

The reasons for occurring divergences are not always obvious, which means that in many cases I have been obliged to abstain from any further interpretations.

5.4. Conclusions from Study A and answer to the research question

In this study, resemblances as well as discrepancies have been observed between the individual phrasing curves when being supposed to illustrate the fluctuating dynamic progression of the melody part within the same piano excerpts. Some of the discrepancies might be interpreted as a consequence of the participants having probably defined the intended concept of perceived dynamics in a broader way then expected. Accordingly, sometimes they seem to have focused on other musical aspects in excess of the dynamics of the melody line. However, in some other cases the phrasing curves seem to diverge due to the fact that people never experience music in exactly the same way.

1) Many similarities in respect of the general shape were observed between the phrasing curves drawn by the participants illustrating the same compositions. However, in music that may be characterised as more complex in a structural sense, the discrepancies between the individual curves might sometimes be remarkable.

2) This means that when illustrating music of a clear *homophonic* character, there seems to be more similarities between the individual curves. From this it might be concluded that homophonic music probably facilitates a focus on the dynamical progression of the melody part. When illustrating primarily the perceived dynamics of the melody part in accordance with the MPhC's intended function, the drawn phrasing curves often tend to follow the melody contour.

3) Particularly in musical sections that might be described as more complex with the melody part appearing in a less clear relief to the other voices, the participants seem to have paid as much attention to other musical parameters as to the perceived dynamics of the melody part, for example, to harmony, rhythm, metrical units, as well as to some combined musical aspects. From this it might be concluded that in some kind of music, it seems to be more difficult to focus exclusively on the melody part.

4) Furthermore, in some cases the participants' professional occupations and specialities seem to have exerted a certain influence on the shape of their phrasing curves aside from the parts of their curves that seem to mirror characteristics within the recorded music.

5) According to their curves, the participants seem to have agreed in most cases about the location of the recordings' dynamical *high points* and *low points*. Sometimes they seem to have notated high points at other places than those motivated just by the visual appearance of the printed score, or by the participants' familiarity with the music's embedded structure. This might be interpreted as the participants' serious attempts to illustrate their experiences of the *sounding* music independently of the printed score.

6) The results of the study's second phase seem to further support the idea that the MPhC might work as a tool for visually illustrating characteristics within the music performed.

The research question was formulated as follows: *How does the Melody Phrasing Curve function as an instrument for visually illustrating the dynamical progression of the melody part, when applied by experienced music professors listening to classical piano compositions recorded on tape?*

Based on the presented results the answer may be formulated as follows: The Melody Phrasing Curve seems to function as an instrument for visually illustrating the dynamical progression of the melody part, particularly in classical piano compositions with a clear homophonic structure. In music that may be described as more complex, it seems to be difficult to focus exclusively on the melody part. More research is needed in order to explore the contingent usefulness of this visual instrument in this latter kind of music according to the Melody Phrasing Curve's intended purpose of facilitating the communication of musical ideas between musicians.

5.5. Discussion

In this section, the following topics will be discussed based on the results of Study A:

- dynamics and emotions
- possible reasons for discrepancies occurring between the individual curves
- ways to proceed

In conclusion, the next planned study will be described.

5.5.1. Dynamics and emotions

The outcome of this study has revealed that the MPhC seems to function in accordance with its originally intended function as a visual tool for facilitating the communication of musical ideas between musicians, when used for illustrating *homophonic* music. It is likely that homophonic music makes it easier to focus on the perceived dynamical progression of the melody part. Furthermore, when supposed to illustrate homophonic music, the individual phrasing curves tend to follow the pitch contour of the melody line closely, particularly in the Mozart excerpt that was employed in the study's first phase.

5.5.1.1. Phrasing curves following the melody contour

According to some conventions for performing classical music, musicians often tend to reinforce the pitch movements of the melody up and down in the register by increasing and decreasing the dynamic levels in a corresponding way (Blum, 1977; Klemperer, 1986; Sundin, 1994; Friberg & Battle, 2002). It is likely that I have followed these conventions when performing and recording the musical excerpts, which might explain the shapes of the participants' curves following the melody contour in the homophonic musical sections.

However, there are many exceptions from this basic rule of melodic-dynamical phrasing. At the dissolution of the dissonance within the Mozart excerpt, at 1/2:1 (1-2) (cf. 5.2.1.1.), six participants had drawn *descending* phrasing curves in spite of the melody line moving upwards. A plausible explanation might be that when listening to the recording, they experienced a decreasing dynamic sound level according to *another* musical convention implying a *diminuendo* at the dissolutions of harmonic dissonances. This means that at this place the shape of the curves rather seems to correspond to this latter convention, modifying the first convention of reinforcing the melody's pitch contour dynamically.

The standard model of melodic-dynamical phrasing may be deliberately modified for other reasons as well. By performing just in the opposite way of what is expected, special emotional effects may arise. For example, a soft dynamic in the higher register may create the effect of increased emotional *tension*. However, according to the originally intended use of the MPhC such interpretative solutions should still be illustrated by drawing the corresponding phrasing curve to a lower dynamic level.

5.5.1.2. Links between dynamics and emotions

In the study's second phase, the special shapes of the phrasing curves might sometimes be interpreted as sketching the experience of different *emotional* characteristics within the recordings, in addition to the illustration of the fluctuating dynamics of the melody part (cf. 5.3.2.). This interpretation also seems to be supported by the participants' own spontaneous comments (cf. 5.1.2.3.). Some studies indicate that there might be links between the dynamics performed and the experience of musical emotions (e.g. Rigg, 1964; Gabrielsson & Juslin, 1996; Woody, 2000; Juslin & Persson, 2002; Friberg & Battel, 2002), which sheds light on the parts of the Schumann curves which might be interpreted as mirroring aspects of the recordings' emotional characters.

5.5.2. Reasons for discrepancies

Particularly the results emanating from the study's first phase indicate that in some cases parts of the participants' phrasing curves seem to correspond more to other musical aspects than the dynamics of the melody part, for example, in some sections of the Brahms excerpt (cf. 5.2.2.) and the Debussy excerpt (cf. 5.2.5.). An interpretation of this might be that it is hard to focus exclusively on the melody part in structurally complex musical sections. Furthermore, sometimes it seems as if the participants' professional specialities have affected the curve's shape (cf. 5.2.6.).

This was also the reason for selecting a distinctly homophonic composition in the study's second phase on the one hand (cf. 5.1.2.3.), and selecting exclusively professional pianists supposed to represent more of the same musical perspective, on the other (cf. 5.1.2.1.). These changed conditions might explain the somewhat bigger accordance between the individual curves when illustrating the same recordings in the study's second phase.

5.5.2.1. Discrepancies in the study's second phase

However, although supposed to illustrate the same recorded performances, some discrepancies between the phrasing curves were observed in the second phase of the study as well. It is likely that the pianists themselves had played the composition employed, since they belong to the classical standard piano repertoire. Accordingly, some of the discrepancies might have emerged because of the participants' respective musical pre-understanding, provoking them to experience characteristics within the recordings coloured by their own interpretative ideas (cf. Damasio, 1994; Johansson 1999).

On the other hand, bearing in mind that the curves might be described as *drawings* approximately illustrating the participants' *subjective* musical experiences, no perfect accordance was expected between the individual phrasing curves. Nevertheless, an inevitable condition for evaluating the relevancy of the MPhC, in accordance with its intended purpose of facilitating the communication of musical thoughts between musicians, is that observable similarities between the curves can be detected when representing the same performance. Therefore, it is crucial that all the persons involved use this instrument in roughly the same way (cf. 5.1.3.4.).

Since the results indicate that certain parts of the individual phrasing curves seem to correspond more to other musical aspects than the dynamical progression of the melody part, it might be concluded that the MPhC has not always been used in the same way by the participants. A possible reason for this might be that they had interpreted the verbal instructions differently. In order to shed further light on this problem, the distinction of three partly intertwined concepts will be further discussed: *perceived dynamics*, *musical tension*, and *physical amplitudes* (cf. 2.3.).

5.5.2.2. Perceived dynamics, musical tension and physical amplitudes

Nielsen's study (1983) focused on the concept of musical *tension* as perceived by listeners. According to Nielsen, as well as to Fredrickson (2001), the total impression of tension cannot be ascribed to any single musical aspect, since it seems to be generated by the combined impact of several musical variables at a time.

Even though no watertight bulkheads exist between the three concepts of perceived dynamics, experienced musical tension and physical amplitudes, in this PhD project, the definition of perceived dynamics might be described as a phenomenon determined primarily by the dynamic sound levels performed, which is not always the case concerning the concept of musical tension according to Nielsen's study. Although being performed in a soft dynamic nuance, music might obviously still represent a high degree of musical tension.

On the other hand, perceived dynamics is not equivalent to measurable *physical amplitudes* either. In Image 13 (cf. 5.2.1.1.), two bars of the Schönberg excerpt are displayed revealing clearly the difference between these two latter concepts. In the upper dynamical staff of the image, all

the participants' phrasing curves are displayed. By descending gradually in the dynamic scale, the individual curves seem to express the experience of some kind of a sustained and *delayed* dynamic level provoked by the preceding dynamical high point. This phenomenon has also been observed in the Debussy excerpt, for example, in the parts of the individual phrasing curves displayed in the lower dynamical staff of Image 11 (cf. 5.2.1.1).

In the bar 3/1:3 of the Mozart excerpt employed in the study's first phase, the phrasing curve drawn by the participant E indicates an increasing dynamic level by ascending steeply just before the third beat of the bar (cf. 5.2.1.2.). The ascent proceeds towards the onset of the second theme, on the first beat of the succeeding bar. However, the curve ascends during a composed *rest*, which means that E's curve cannot be interpreted as illustrating any crescendo in a physical sense (cf. Skoda's [1957] phrasing curve displayed in 2.11, Image 3a). From this it might be concluded that the special shape of the curve mirrors the experience of some kind of musical inhalation or inner preparation. The corresponding parts of the phrasing curves drawn by A and G have a similar tendency, although their illustration of the same inner 'crescendo' has been located somewhat later than in E's phrasing curve.

The examples discussed indicate that in some parts of the participants' phrasing curves the concept of perceived dynamics also seems to imply some kind of inner dynamical activity, which is not exactly correlated to the measurable dynamical amplitudes of the music performed. Gärdenfors (1991/1999) claims that the 'filling-in-mechanisms' (p. 64) ('ifyllnadsmekanismer') of the human brain make it search for *patterns* in order to render the experiences of the surrounding world comprehensible, which might shed further light on the concept of perceived dynamics.

This is also consistent with some conventional views within the classical tradition considering melody phrases as continuous lines moving through the music, between the single tones including rests as well as caesuras (Kurth, 1947; Skoda, 1957; Uhde & Wieland, 1989; Barenboim, 1991) (cf. 2.2.). When listening to music, a composed rest might thus under certain circumstances be experienced as a diminuendo or a crescendo, depending among other things on the character of the tones immediately preceding and succeeding the rest in question (cf. 2.2., Figure 1).

Kurth (1947) considers music listening as an inner dynamic activity. We 'hear' simultaneously the past, the present, and the future. This inner dynamical activity, which implies, for example, the reinterpretation and 'filling in' of performed rests, as well as the spaces between the single tones, might be considered as a mental subsequent construction emerging only after the musical event that gave rise to the impression has passed (e.g. cf. Spitzer, 2006). In a similar way, Sundin (1994) argues that the experience of a melody is not only caused by its individual sounds; it is the result of a retrospective relation to what 'can no longer be heard' (p. 113).

Accordingly, the preparation towards the onset of the first tone of a melody phrase may be perceived as a 'crescendo' emerging out of the preceding 'silence'. Many artists seem to be particularly concerned about the inner preparation of the first note, for example, Casals (Blum, 1972), Klemperer (1973), Brendel (1982), Barenboim (1991), and Furtwängler (1991).

In accordance with the intended use of the MPhC, Paul Badura-Skoda's phrasing curve (Skoda, 1957) also seems to refer to the dynamical progression of the melody part, since the broken horizontal lines of his device indicating the curve's different levels have been explicitly marked with musical dynamics at the beginning of the score (cf. 2.11, Image 3a). Furthermore, Skoda's curve indicates dynamic levels implying some kind of an inner dynamic activity. For example, his curve representing the first bars of the melody part within the Mozart composition indicates a 'crescendo' before the onset of the very first tone, as well as a 'crescendo' during a composed rest with no music sounding in a physical sense.

Hence, in this study the concept of perceived dynamics has been defined as a separate one, that is neither entirely equivalent to musical tension, nor to physical amplitudes. In contrast to a

curve illustrating the experienced degree of musical tension, the high levels within the dynamical scale of the MPhC is restricted to the illustration of experienced *loud* dynamic sound levels, which means that the indication of high levels are not meant to refer to musical sections being performed in a soft dynamic sound level. On the other hand, the visualisation of perceived dynamics may sometimes deviate considerably from measured physical amplitudes, since other aspects than the sound levels performed may *modify* the experience of the fluctuating dynamics.

Nevertheless, according to the originally intended use of the MPhC, the soft and loud sound levels performed should never be disregarded. The principal aspect determining the shapes of the curves is still supposed to be the dynamics *performed*. In other words, no other aspect should *dominate* the shape of the phrasing curves, which still does not exclude that the experienced dynamical progression might be modified by the combined impact of many different aspects.

5.5.2.3. Intended use of the MPhC

The distinction of a musical focus permitting other aspects than the dynamics performed to *dominate* the total experience of dynamics on the one hand, and a focus implying that these other aspects might to some extent *modify* this experience on the other hand, is illustrated in the following page, in the Figures A and B, respectively. Figure A represents a focus paying attention to several musical aspects being experienced as *equally* important, for which reason they are located on the same horizontal level in the figure.

Figure B illustrates instead a musical focus in accordance with the originally intended function of the MPhC as an instrument supposed to facilitate the communication of musical thoughts between musicians. Here, the dynamic sound level performed, now located *above* the other aspects indicated in the figure, is considered as the *principal* aspect, although the experience of this dynamic sound level may be modified, or rather *filtered*, through the complex interplay of several musical aspects simultaneously.

Of course, the total experience of the fluctuating dynamics within a musical performance may also be modified by other aspects than those represented in the Figures A and B; for example, instrumental properties, timbre, pitch, articulation, agogics, acoustics, and even visual stimuli. An oboe may thus sound loud because of its specific timbre. The acoustics of the room may increase or diminish the experienced dynamic sound levels. Speeding down the tempo slightly just before a musical climax may reinforce the dynamic impact on the listener, etc.

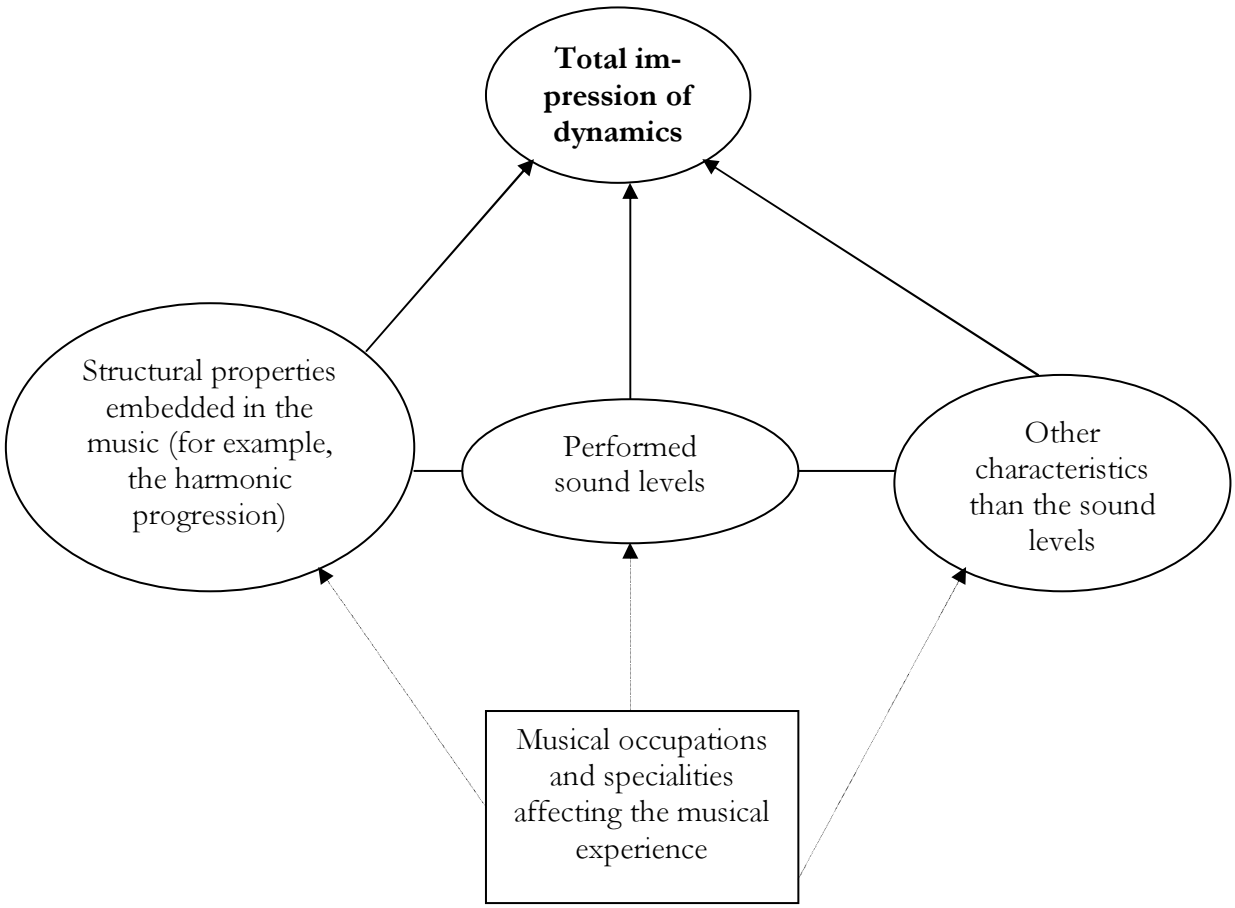

Figure A: Musical focus paying attention to several aspects considered as equally important

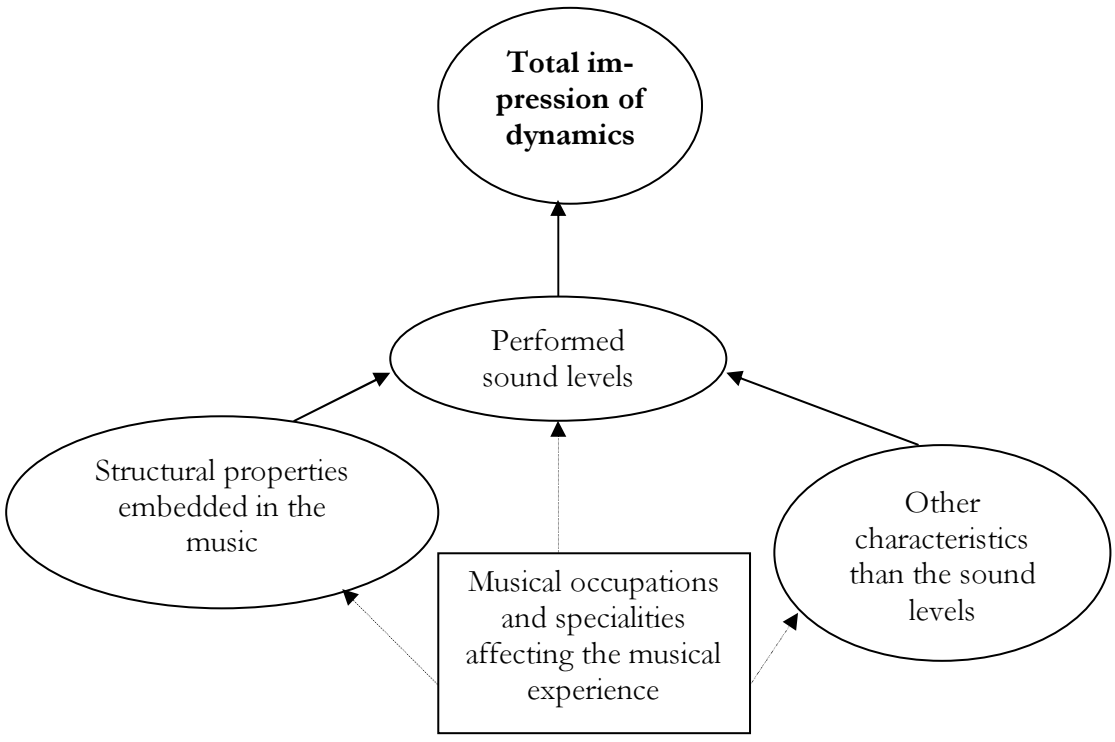

Figure B: Musical focus paying attention to the performed sound levels as the principal aspect

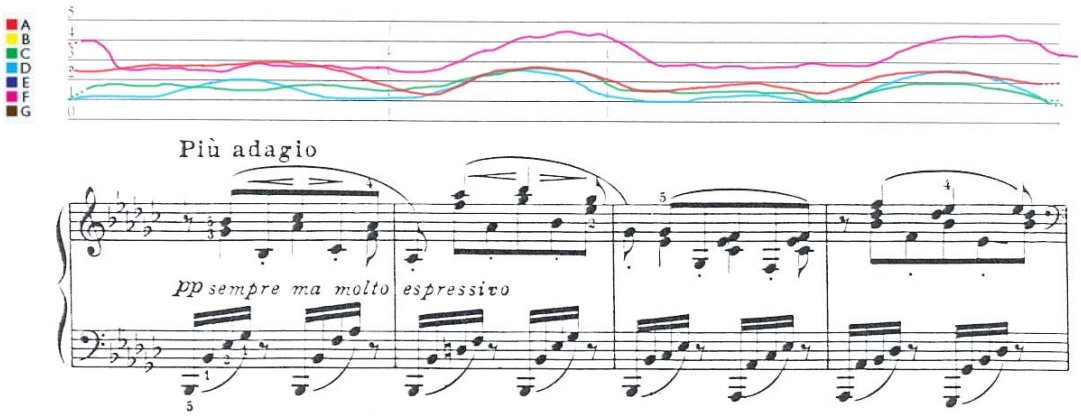

Image 26: Curves drawn by A, C, D and F in a section of the Brahms excerpt (2/3:1 – 2/3:4)

As an example of the difference between the two special foci of music listening, as illustrated in the Figures A and B of the previous page, Image 26 displays a part of the phrasing curve drawn by the participating composer (participant F, pink colour), departing from the fifth dynamic line, vis-à-vis three other phrasing curves (A, C and D), all illustrating a section of the Brahms excerpt that was employed in the study's first phase (2/3:1 – 2/3:4). The shape of F's curve certainly reminds of the other curves in respect of its shape, but nevertheless it indicates a considerably higher dynamic level in spite of the soft dynamic sound level performed in accordance with the printed score's prescribed pianissimo nuance. From this it might be concluded that F, when drawing his curve, seems to have disregarded the dynamics performed by assuming a musical focus on other musical aspects. His curve might be interpreted as representing instead his focus on the harmonic progression (cf. 5.2.2.), maybe because of his professional occupation as a composer.

5.5.2.4. The conductor metaphor

As defined in this study, the concept of perceived dynamics might be explained by means of the following metaphor: The notated dynamic levels of the phrasing curves are supposed to correspond approximately to the *amplitudes* of an imagined conductor's arm movements and bodily gestures. This implies that in some cases the conductor's movements seem to visualise more than just the *sounds* of the music. For example, the movements normally start before the first onset of the music, continuing throughout the entire shape of the music including rests and caesuras. Furthermore, normally the conductor's bodily gestures do not stop immediately after the very last tone at the end of the music.

Barenboim (1991) claims that the conductor's upbeat has a special influence on the first sound. He also thinks that the beats are not there exclusively to help the musicians orienting themselves in relation to the score, but also to provide information about how to fill up the space between the tones.

Aside from the conductor's gestures introducing and ending the music, as well as filling up the space between the tones, a musical section supposed to be performed in a *soft* dynamic nuance would normally not be conducted by means of *ample* arm gestures, even though the music happens to be experienced as intense. In a corresponding way, the indicated dynamic levels of the phrasing curves might be described as matching approximately the amplitudes of an imagined conductor's movements.

5.5.2.5. The MPhC being used differently

As already discussed (cf. 2.11.), the MPhC is supposed to be based on some conventional views on melody phrasing: it focuses on the *melody* part, it illustrates the total experienced *dynamical progression* through rests, fermata etc. by means of a *continuously drawn line*, it is supposed to indicate the personal experience of dynamical *high points* and *low points*, it enables the illustration of the experienced dynamics within different *breathings*, as well as the experienced inner dynamical *preparation* preceding the onset of a tone and the experienced dynamical *decay* succeeding a tone.

In addition to the special function of the MPhC based on the premises mentioned above, it has been designed for the special purpose of visualising certain ideas concerning the experienced dynamical progression of the melody part in the hope of facilitating the communication between musicians of some corresponding matters linked to musical interpretation. Considering this specific and delimited purpose the MPhC is not intended to be used totally at will.

It is certainly true that people experience music differently. Nevertheless, when discussing different musical experiences, or the choice of interpretative solutions in the context of preparing the performance of musical compositions, it is still necessary to depart from some kind of *commonly agreed reference point* (cf. 1.2.4.). A question that may arise is whether the mentioned conventional views on melody phrasing could serve as a common reference point to all music listeners. For example, although representing a very common view (cf. 2.2.), it cannot be taken for granted that everybody experiences a melody coherently in the shape of a continuous line. It could also be that someone experiences melodies in the shape of isolated tones. Gärdenfors (1991/1999) claims, however, that normally the human brain structures sensorial impressions into patterns in order to render the surrounding world comprehensible. In a similar way Meyer (1967/1992) states that people understand the world in terms of patterns, models, concepts and classifications rooted in a specific cultural tradition.

A related question is if it may be considered as reasonable to expect people to listen to classical compositions in this very specific way, implying a focus primarily on the experienced dynamical progression of the melody part. As a consequence of the human mind's mentioned search for patterns structuring sensorial impressions emanating from the surrounding world, this might be possible, at least as an experiment for study purposes. Maybe it is also possible to experience and detect melody lines in atonal and vanguard musical styles. Moreover, the experienced classical music listeners of the present study were supposed to be thoroughly initiated into most of the established conventional views discussed.

In this study, the relevancy of the MPhC has been validated in relation to this instrument's intended special purpose (cf. 5.1.3.4.). The results indicate that in most cases the participants have detected the same dynamical high and low points of the melody part within each one of the different musical excerpts. Furthermore, particularly in homophonic music, the specific shapes of the phrasing curves seem to mirror how the dynamical progression of the melody phrases has been disposed by the performers of the musical excerpts. The results from the study's second phase also indicate that the participants' phrasing curves supposed to illustrate one and the same version of the employed Schumann composition, seem to reveal a higher degree of similarity in respect of their shapes and the indicated dynamical high and low points, compared to the curves drawn by each participant illustrating the three differently performed versions.

However, the beginnings and ends of the drawn curves, which were supposed to illustrate the inner experience of a transition between the preceding 'silence' and the first sounding music, and the experienced return into the succeeding 'silence' after the sounding music has ceased, respectively, reveal a rather big discrepancy in most cases (cf. 5.1.1.; 5.1.3.2.; 5.2.1.3.).

Although supporting the usefulness of the MPhC in many respects, the results also indicate a lot of divergences between the individual phrasing curves illustrating the participants' experiences

of the same musical performance. In many cases, these problems might be explained by the fact that the participants seem to have used the MPhC differently. It was however an indispensable condition for the purpose of this study that the participants should use this instrument in roughly the same way according to the verbal instructions (5.1.3.4.). There may be many possible reasons why the participants have used the MPhC in different ways:

- The participants had interpreted the concept of perceived dynamics of the melody part in a *broader* sense, maybe because the verbal instructions were not clear enough.
- They did not *want* to use the MPhC exactly in the intended way. At the briefing, however, none of the participants objected to my explanations concerning the originally intended function of the MPhC. They all seemed to have a positive attitude towards the verbal instructions, and it is also my impression that they have generously attempted to do their best, which all speaks against this explanation.
- They were not *able* to discriminate the dynamical progression of the melody part from all other musical aspects, particularly not in sections of a more complex kind. On the other hand, the MPhC had been designed according to some conventional views on melody phrasing within the classical music traditions (cf. 2.11.), and the participants were selected especially for being supposed to be familiar with these conventional views through their respective musical backgrounds and education.
- The participants were *not used to the idea* of focusing exclusively on one single musical aspect, maybe because they were rather used to listen to music in a more *integrated* way, implying the total complex interplay between all the involved parameters of a performance. Furthermore, music is an *ambiguous* phenomenon that may give rise to different experiences. In some cases, the participants' musical experiences might also have been coloured by their respective musical *pre-understanding* and their own interpretative ideas.
- All of the participants seemed to be colourful personalities contributing to a redundant outcome, but in some cases this seems to have created problems in respect of a tendency towards too individually imprinted interpretations of the verbal instructions for how to use the MPhC (cf. 5.1.2.6.; 5.2.6.). In addition to their knowledge about traditional musical conventions, the participant's musical illustrations may sometimes have been affected by their *professional specialities*.
- It might have been difficult to *calibrate* the phrasing curves to the dynamical scale of the device. — However, before drawing any phrasing curves the participants were asked to listen to the excerpts without stops in order to detect the dynamical high and low points within the performance in question.
- Since the curves might be described as *drawings* approximately illustrating the participants' subjective musical experiences, no perfect accordance can be expected between the individual phrasing curves.

5.5.3. Ways to proceed

The research might proceed according to one of two basically different approaches:

1) The participants may use the MPhC at will. In this case, the phrasing curves might still serve as a possible *trigger for self-reflection* in the context of studying, preparing and performing compositions of classical music. The MPhC might also be used for *scientific* purposes as a visual instrument together with in-depth-interviews exploring people's different ways of experiencing music. In this matter the more general concept of experienced *tension* could serve as a point of departure instead of restricting the participants to focus exclusively on the prescribed concept of perceived dynamics of the melody part, as was the case in the present study. Another alternative would be to depart from the even more multi-dimensional concept including various degrees of *aesthetic* experiences as used by Fredrickson (1995) in a study inspired by Nielsen (1983). On the other hand, if using the MPhC in a freer way without references to any specific musical aspect, this instrument would be disqualified for the purpose of facilitating the *communication* of musical thoughts between musicians (cf. 5.1.3.4.). In this case, a person would neither know for sure which musical events that the phrasing curve is supposed to illustrate in a certain moment nor the relationship between what happens in the performance and how the music will be experienced by the listeners (cf. 1.3.).

2) The verbal instructions for how to use the MPhC might be sharpened, making the intended function of the instrument more lucid. However, when carrying out the study, it was my ambition to respect people's personal integrity. The participants should never be prevailed upon executing a task in a way that appears awkward to them. Accordingly, a solution for the continuing study might be to exclusively select participants familiar with the implied conventional views on melody phrasing, and sharing a similar musical perspective. It is also my impression that more preparation time could be needed in order to get used to the intended function of the MPhC.

The decision was made to continue the research according to the *second* alternative. The reason for this is that the contingent usefulness of the MPhC as a visual tool for communicating musical ideas has not yet been fully explored.

5.5.3.1. Reasons for focusing on performed dynamics

A question that might arise is why it is important to draw phrasing curves specifically illustrating the dynamics of the melody part. For the purpose of communicating musical thoughts the MPhC seems to be more useful when representing *one* musical aspect consistently. Within the classical traditions, the performed dynamical progression constitutes an important *marker* of the melody phrases regarded as building up arch shapes (cf. 2.2., 2.5.). By focusing on the aspect of perceived dynamics the shape of the phrasing curves is supposed to refer to something *concrete*: the performed disposition of the dynamics within a musical phrase. This choice might also enable a fruitful discussion about practically orientated solutions in the context of interpreting music. For example, the MPhC might be used as a visual plan for testing different musical ideas in sounding form, since the performed shapes of the dynamical progression within a melody phrase might be illustrated by means of the curves drawn.

5.5.3.2. Forthcoming study

The point of departure for the forthcoming study was to further explore the MPhC under conditions where it seems to have functioned in a most relevant way according to its intended use, which means in homophonic classical piano compositions with a lucid structure. The MPhC was thus studied in a more practical context involving participants performing music themselves,

drawing phrasing curves and listening to their recordings, as well as in-depth-interviews giving the participants an opportunity to make comments and to express their reactions.

By designing a study with several meetings, the participants had a better chance to get used working with the visual tools employed (cf. 5.5.3., *alternative 2*). In addition to the phrasing curves, the participants' interpretative choice of metrical units within their performances was studied by means of the system for notating *points of gravity*, which has been explained in Chapter 3.

For this purpose, it was crucial to select participants familiar with the implied conventional views on melody phrasing. Furthermore, they should be able to perform the musical excerpts on the piano, for which reason only experienced professional musicians were selected. Music students often seem to be busy, lacking enough time to prepare musical performances thoroughly (cf. Fridell, 1999), which was an indispensable condition for the purpose of the forthcoming study. By selecting professional musicians, important critical comments were also expressed for the benefit of evaluating the visual tools.

In accordance with the special design of the forthcoming study, all the musical performances and interviews were documented on DVD and audio tape.

Chapter 6: STUDY B — Points of Gravity and the Melody Phrasing Curve in Musical Performances

Similarly to Study A, Study B might be described as explorative in character, including data material consisting of visual illustrations of three selected classical piano excerpts, recorded performances of these musical excerpts, as well as recorded in-depth interviews from all of the study's meetings.

In contrast to the purpose of Study A, focusing mainly on the Melody Phrasing Curve's relevancy as a visual tool for illustrating musical experiences from the perspective of expert music *listeners*, the purpose of the present study is to further explore what happens when professional musicians prepare and evaluate their own musical performances with the aid of both of the following visual tools:

- the Melody Phrasing Curve (cf. 2.11.; 5.1.1.)
- the system for notating metrical 'points of gravity' (cf. 3.1.)

This means that in Study B, the visual tools have not been employed by the participants exclusively for the purpose of *illustrating* their personal experiences of some musical aspects when listening to recorded performances, but also for *planning* and preparing their own performances of selected piano excerpts on the one hand, and on the other hand for *evaluating* certain interpretative ideas when listening to the recordings of these performances.

The following research questions constitute the point of departure for Study B:

a) *In what different ways do professional musicians use two given visual tools intended to illustrate their personal experiences of the dynamical progression of the melody part and the metrical points of gravity, respectively, within three classical piano excerpts?*
b) *Which musical thoughts and ideas come up when these musicians interpret, illustrate and perform musical excerpts from three classical piano compositions?*
c) *Which different musical approaches are revealed in this study?*

This chapter follows the same structure as Chapter 5 that is divided into three main parts: *method*, *results* and *discussion*.

- In the *method* part, the setup and design of the study are described, including the different meetings as well as the general information at the first briefing. The section ends with a short description of the method for analysing generated data.
- In the next part, the *results* of Study B are presented including selected quotations from the interviews, as well as some parts displayed from the participants' visual illustrations. Firstly, the participants' different ways of accomplishing their tasks are broached, after which follows a description of their illustrations of each one of the three recordings. The balance between visual notations and musical spontaneity are discussed, whereupon follows a section focusing on the characteristics of the participants' musical performances. The succeeding section deals with the participants' illustrations of a recording with one of their colleagues performing music. The last section represents a summary of the participants' explanations for their different ways of using visual tools. At the end of this section, the participants evaluate the study, after which follows a summarising conclusion.
- The chapter's *discussion* part broaches, among other things, some problems with the technical equipment, different ways of using the visual tools, different interpretations of the employed piano excerpts as well as different approaches towards music.

6.1. Method and design of the study

In the present Study B, the system for notating metrical 'points of gravity' was empirically tested for the first time. In addition, the Melody Phrasing Curve was employed with principally the same design as in Study A (cf. 5.1.1.). However, after having tested some different solutions I finally decided to use a device displaying a dynamical scale consisting of six horizontal lines located beneath and parallel to copied systems of the printed score (cf. Appendix B1-3). The advantage of this location is that the printed score will not be covered by the hand when drawing curves, except for if the participants happen to be left-handed. The reason for using a dynamical scale with six horizontal lines was to enable a more varied illustration of the experienced dynamic fluctuations of the melody part.

In order to shed more light on the participants' different ways of using the given visual tools and the variation in shape between their drawn phrasing curves, their illustrations of the music, as well as some of their expressed attitudes towards music, have been categorised in a way inspired by a phenomenographical method (Marton & Booth, 1997). However, since music might generally be considered as a very ambiguous and manifold phenomenon, the boundaries between the extracted categories are not as distinct as in a study representing a typical phenomenographical approach.

In the following, the participants are introduced, after which the motives for selecting the musical excerpts of this study are presented. In the subsequent two sections, the technical equipment and the interviews are discussed, respectively. The study's design and setup are described including an account of the general information presented to the participants at the first briefing. Finally, the work of structuring data and the analysis are presented, ending with a discussion of the study's validity, reliability and credibility.

6.1.1. Participants

The four participating musicians had been selected according to the following criteria:

- They should be experienced professional musicians
- They should be able of performing the employed musical excerpts on the piano
- They should have the possibility of reserving time for all the meetings of the study

The reason for selecting only experienced professional musicians was that the respective designs of the two visual tools employed are supposed to be based on some established conventions of melody phrasing (cf. Chapter 2 and 3), wherefore the participants ought to be thoroughly initiated into these traditions through their respective educations and professions. By selecting experienced musicians, the risk of influencing and burdening younger people in the middle of their education was also avoided. The visual tools used in this study might in fact be considered as comprising intrinsic musical ideas, which are not obvious to music students. Furthermore, it seems to me as if music students are often busy and lacking enough time to prepare musical performances of compositions such as those of the present study (cf. Fridell, 1999), whereas in this respect professional musicians are usually more experienced and skilled. On the other hand, it might sometimes be hard to introduce contingent new aspects of regarding music to mature people being already moulded by their respective musical backgrounds. Nevertheless, from a scientific perspective, it may be an advantage to ask experienced musicians to evaluate the two visual tools, because it is more likely that they will express important critical comments. It might also be noted that the musicians were selected because of being available when carrying out the study. Since the present study covered six separate meetings in all, including the very first briefing, it was not quite easy to find appropriate participants being able to meet up so many times.

Moreover, the participants were specialised in varying fields of music, hopefully bringing a diverse and abundant collection of data to the study. Due to their different specialities, it was likely that many diverging musical ideas would emerge. Finally, when selecting participants it was also desirable that they should be equally divided into men and women, thereby elucidating possible gender aspects.

The participants had all graduated from academies of music and were all active in various professional musical contexts. For ethical reasons, they were promised anonymousness. Consequently, their names within this study are all feigned. It was my ambition to find appropriate names that do not appear as too odd. Moreover, one of these names was actually suggested by the participant in question at the first meeting. As concerns the other three participants, they were all informed about their pseudonyms when I sent them text files with the compiled versions of the respective interviews for comments. No one objected to their feigned names.

Participant number 1; *Paul*
Paul, 38 years old, has acquired a concert pianist diploma. At present, he is employed at one of the academies of music in Sweden as professor of 'Musical Studies and Interpretation'. In addition, Paul is also active as piano soloist, chamber musician, accompanist and piano teacher.

Participant number 2; *Jane*
Jane, 41 years old, has graduated as music teacher specialised in piano and singing. She has also spent two years abroad as an exchange student. At present, she teaches singing, piano, music theory and ensemble music at the 'Arts programme' of an upper secondary school. In addition, she has been active as an accompanist and rehearsal pianist.

Participant number 3; *Simon*
Simon, 39 years old, has studied classical piano, and he has spent one year abroad as exchange student. At present, he is employed at one of the academies of music in Sweden as professor of 'Musical Studies and Interpretation' and chamber music. At present, he is also active as composer and conductor. In addition, he has worked as a rehearsal pianist, chamber musician and piano accompanist.

Participant number 4; *Olga*
Olga, 39 years old, has graduated as church musician, and she has also acquired a choral conductor diploma. She has studied singing and conducting abroad with the focus on early musical and performance practises. At present, Olga is active as choral director, singer, teacher and accompanist.

6.1.2. Musical excerpts

According to the results of the previous study, the participants sometimes seem to have interpreted the concept of perceived dynamical progression of the melody part in a broader sense than expected (cf. 5.5.2.5.). These results also suggest that the Melody Phrasing Curve functions in accordance with its intended purpose particularly in classical piano compositions with a clear homophonic character and less complex in a structural sense (cf. 5.4.). Maybe it is easier to focus specifically on the dynamical progression of the melody part in a more restricted sense in this kind of music compared to in music that is structurally more complex and with the melody part appearing in a less clear relief to the other voices. In the view of these previous results, only classical piano compositions with a lucid homophonic structure have been selected for the purpose of further testing the Melody Phrasing Curve together with the system for notating points of gravity. However, the two Beethoven excerpts employed may be considered as somewhat more complex in a structural sense than the Mozart excerpt of this study (the musical excerpts are indicated in the text below).

In the view of the special purpose of this PhD project (cf. 1.3.), it is my conclusion that the verbal instructions for how to use the visual tools ought to be very clear, making their intended function more lucid to the participants (cf. 5.5.3.). It is also my impression that the participants could do with a longer time of preparation, in order to get used to working with these visual tools. Therefore, the present study includes several meetings focusing on three different musical excerpts. The two first excerpts are thus supposed to serve primarily as preparation tasks, giving the participants an opportunity to train, in order to feel gradually more convenient when working with the visual tools employed.

In the present study, musical excerpts from the following three classical piano compositions have been employed:

1) W. A. Mozart: Sonata in B flat major, KV 333 (315c), composed in Linz, 1783, excerpt from the *second* movement: Andante cantabile
2) L. van Beethoven: Sonata in C major, op. 53, composed 1803/04, 'dem Grafen Ferdinand von Waldstein gewidmet' ('dedicated to the earl Ferdinand von Waldstein'), *second* movement: Introduzione / Adagio molto
3) L. van Beethoven: Sonata in d minor, op. 31 no. 2, composed 1801/02, ('der Sturm') excerpt from the *second* movement: Adagio

When referring to the compositions in the text, the first musical excerpt has been labelled *Mozart*, the second one *Beethoven A*, and the third excerpt *Beethoven B*.

In order to represent the composition as originally notated by the composers themselves, only copies of Urtext (original) editions have been applied in the specially designed scores of this study. Thus, the score of the Mozart excerpt emanates from Bärenreiter Urtext, Edition BA 4862, published by Wolfgang Plath /Wolfgang Rehm, Kassel, 1986/2002 (fifth edition). The scores of the two Beethoven excerpts, respectively, retrieved from the second volume of the Beethoven Sonatas, emanate from Litolff / Peters Urtext, Edition 8100b, published by Claudio Arrau with a musicological revision made by Lothar Hoffman / Erbrech, Frankfurt, 1978.

When asking the participants if they were previously familiar with the musical excerpts used in this study, *Paul* answered that he had only played the musical excerpt number 2 from the Waldstein Sonata (*Beethoven A*).

Jane had only played the musical excerpt number 3 from Beethoven's sonata in d minor (*Beethoven B*), although she was familiar with all of the three musical excerpts.

Simon had played the slow movement of the musical excerpt number 1 from Mozart's Sonata Köchel 333 (*Mozart*), as well as the slow movement of the Waldstein Sonata.

Olga, considering herself primarily a singer and conductor, had not previously played any of the musical excerpts employed.

6.1.3. Technical equipment

All the musical performances, the first briefing, as well as the interviews were filmed with a Panasonic NV-GS180 video camera equipped with an enclosed microphone. Unfortunately, I was not aware that the recording of the sound was based on the system of so-called Automatic Gain Control (AGC), which had some less favourable consequences for evaluating the usefulness of the dynamic phrasing curves, a problem that will be further ventilated at the end of this chapter.

The instrument of the room where the meetings took place was a grand Steinway piano of smaller size. The shape of the room was oblong with the piano placed along one of the long wall. The window was located at the short side of the room. For practical reasons the video camera

was put on a table opposite the piano stool close to the window at a distance of about two and a half meters.

As a complement to the video recordings mentioned, all the meetings, including the first briefing, were entirely recorded on audio tape from the beginning to the end with a portable Sony Digital Audio TCD-D3 DAT-tape recorder. At this occasion, a Sony Electret Condenser Stereo Microphone ECM-959A was used. This equipment was placed behind me on another table beside that of the video camera and at a somewhat bigger distance from the piano stool. By recording the meetings in these two parallel ways, even the participants' verbal comments while watching and listening to the video films together with me, were documented.

During the last years there has been an immense technical development. Therefore, when carrying out the study I did not realise that it would be possible to synchronise the video recordings to the audio recordings, enabling a considerably improved sound quality. Furthermore, the PhD project may be considered as a low-budget project. As a consequence of this, I neither had no access to a sound technician, nor to any assistant specialised in video filming.

For the purpose of watching video films together with the participants during the individual meetings, the study room had been furnished with a TV-monitor. This monitor was equipped with a simple enclosed amplifier and a monophonic loudspeaker. Unfortunately, the quality of the sound was limited.

The reason for using a video camera was that a film might give a better comprehensive view of the performance in question compared to just listening to an audio tape. In addition to its function of supporting the memory, a film enables an observation of the interplay between actions, movements and expressions which otherwise remains invisible to the naked eye (Rønholt, Holgersen, Fink-Jensen & Nielsen, 2003). Even if the sound quality of a digital audio tape is indeed superior to that of a video film, I preferred using the latter medium for the purpose of watching the filmed musical performances together with the respective musicians. Listening to an audio tape together would have demanded the application of an external amplifier and a pair of loudspeakers, and furthermore, the visual impression of the total performance would be missing. Another possibility would have been to let the musicians listen to the audio tapes of their corresponding performances by means of only a headset, but in this case I would not be able to study the participants' reactions in relation to the sounding musical events, causing a temporary break of the communicative interchange between me and them.

6.1.4. Interviews

In this study, no fixed inquiry sheet was used. Although the questions were spontaneously formulated at the very moment, I was nevertheless aware of which different musical topics I wanted to discuss with the participants during the sessions.

Initially, the participants were asked to tell a little about their respective musical backgrounds. After that, they were asked to describe briefly in what way they had accomplished the tasks at home, as well as their general reactions. They were also requested to explain their visual illustrations verbally at the same time as moving a pencil along the bars of the specially designed score.

The questions of the interviews dealt with the following topics:

- general impressions and reactions
- the characteristics of the musical excerpts
- the participants' ideas of musical interpretation
- the participants' comments on their musical performances
- equilibrium between musical spontaneity and intellectual reflection
- revision of original musical ideas in the moment of performing
- comparison between each participant's two illustrated versions of Beethoven B
- comparison between two colleagues' illustrations of the same performance
- different ways of using the two visual tools
- evaluation of the usefulness of the visual tools, as well as the design of the study

6.1.5. Design and setup of the study

In all, the study comprised six meeting days including that of the first briefing, and it was carried out during the spring semester of 2007 at one of the academies of music in Sweden. All of the individual meetings were supposed to last about one hour.

No one learned exactly what was going to happen during the meetings. The reason for this was that it might be favourable to carry out a more spontaneous study with the participants not being too much informed in advance, not least for the purpose of giving space for free reflections. Telling the participants all the study's details would probably have influenced the outcome in an undesirable direction.

At the first briefing (16th of February), all participants were gathered except for Jane. However, a DVD disc copy of the video film recorded at this occasion, containing all the general information and necessary instructions, was sent to her together with two copies of the specially designed score displaying the *Mozart* excerpt, enabling her to prepare the task for the first individual meeting taking place on the 2nd of March.

The meetings of the study were scheduled as follows:

First briefing (16th of February): general information and instructions to all of the gathered participants. At the end of the meeting, two copies of the specially designed score displaying the *Mozart* excerpt (*Appendix B1*) were distributed to each one of the participating musicians. They were also asked to prepare a live performance at the first individual meeting and to bring one copy of the specially designed score with their respective illustrations of musical interpretative ideas by means of the mentioned two visual tools employed in this study.

First individual meeting (2nd of March): submission of the visual illustrations made at home, performance and recording of the Mozart excerpt, watching and listening to the video film together, in-depth interview, giving the participant an opportunity to make comments on his/her performance. At the end of the meeting, two copies of the specially designed score displaying the *Beethoven A* excerpt (*Appendix B2*) were distributed, constituting the task for the following individual meeting: visual illustrations of musical interpretative ideas, as well as the preparation of a live performance.

Second individual meeting (9th of March): submission of the visual illustrations made at home, performance and recording of the Beethoven A excerpt, watching and listening to the video film together, in-depth interview giving the participant an opportunity to make comments on his/her

performance. At the end of the meeting, two copies of the specially designed score displaying the *Beethoven B* excerpt (*Appendix B3*) were distributed, constituting the task for the following individual meeting: visual illustrations of musical interpretative ideas, as well as the preparation of a live performance.

Third individual meeting (16th of March): submission of the visual illustrations made at home, performance and recording of the Beethoven B excerpt. After that, the participant was asked to illustrate the music once again by means of this study's two visual tools, this time *on the spot* as personally perceived when watching the filmed performance. Finally, a short in-depth interview was accomplished, giving the participant an opportunity to make comments.

Fourth individual meeting (20th of April): watching the video film of an unknown *colleague* performing the Beethoven B excerpt, this time with the TV monitor screen switched off. While listening, each participant was asked to illustrate the music of the selected colleague's filmed performance *on the spot* as personally perceived. After that, we listened to and watched together the participant's *own* performance of the same music filmed at the previous meeting, this time while giving the participant an opportunity to compare and study the corresponding copies of the *two* previously illustrated and submitted versions of which the first version was accomplished at home before the third individual meeting, whereas the second version was accomplished on the spot during the previous meeting. The session ended with a very short interview, giving the participant an opportunity to make short comments.

Sessions of the fifth meeting day (27th of April): each participant met up *twice* during the day. At one time the participant was confronted with the unknown colleague, whose recording of the Beethoven B excerpt he/she had illustrated at the fourth individual meeting. At another time the participant met another colleague, who had illustrated the participant's own recording, also at the fourth individual meeting without knowing who was performing. This means that at each of the last day's four meetings, two participants out of totally four were present at the same time. Thus, each participant had the opportunity to meet *two* different participating colleagues out of three during the day, according to a settled schedule made up by me in advance.

Thus, each one of the meetings during the last day dealt with one specific recorded interpretative version of the Beethoven B excerpt that had been illustrated by both of the two present colleagues. They were asked to listen to the recording twice at the same time as studying copies with the visual illustrations. The first time, each participant watched the video film in question while studying the illustrations made by the *other* colleague. The second time, each one of the two participants watched the same film with *both* of the two illustrated versions in hand, comparing the one made by the performer him-/herself to the other one made by the visiting colleague. After that, the actual recorded musical performance was discussed, and the two participants had the opportunity to comment freely on their respective visual illustrations. Finally, there was time for free discussions including personal reflections. At this occasion, the participants were also asked to evaluate the visual tools employed, as well as the study as such.

6.1.6. General information and instructions at the first briefing

At the first briefing, Paul, Simon, Olga, as well as one of my supervisors were present. The entire session has been documented on video film and audio tape.

Firstly, I introduced myself and told a little about my own background as a musician, teacher and researcher. After that, I told the participants about the study's intended purpose, as well as its design. They were also informed that the study would comprise musical performances, visual illustrations and in-depth interviews. I informed them that I was primarily interested in their own musical ideas and reflections as expressed verbally and visually, for which reason it was my intention to adopt a somewhat neutral attitude during the meetings. Although the requirements

did not need to correspond to those of, for example, a CD disc recording, the musical performances were supposed to be on about the same level as a smaller concert performance. However, the study was supposed to focus primarily on the participants' interpretative descriptions of the music rather than assessing the performances as such. This does not exclude that when analysing the data, I compared the characteristics within the recorded musical performances to the participants' visual illustrations and their verbal statements.

The participants were promised a modest economic compensation for their contribution. A condition for this was that they had taken part in all of the meetings included in the study. For this reason, everybody was asked to sign a special contract. Even though the participants had been ensured anonymity (cf. 6.1.1.), they gave their permission that selected film clips from the study could be performed at presentations in different research contexts. The participants also permitted one colleague to acquaint him/herself with the actual filmed musical performances of the Beethoven B excerpt at the study's fourth and fifth meeting days (cf. 6.1.5.).

A preliminary schedule for all of the study's meetings was distributed for being approval by the participants. I pointed out the importance of refraining from collaboration with any colleague, and that all kinds of elucidating questions should be put to me directly. The first part of the briefing ended with the distribution of copies of the special score displaying the Mozart excerpt, which was the task that should be accomplished before the first individual meeting.

As a complement to my verbal instructions, some transparent pictures were displayed on a screen (e.g. 3.1., Images 3-7). The different musical aspects were also demonstrated by me in sounding form on the piano during the session. Before giving any further explanations, I strongly recommended the participants to make notes in order to better memorise the information. They were also free to put questions whenever something appeared as unclear to them. Furthermore, I also made some regular stops, giving them more space to reflect and ask clarifying questions.

Firstly, a picture displaying different prosodic metrical feet of verse corresponding to falling and rising rhythmic structures was explained in accordance with a system presented by Cooper and Meyer (1960) (cf. 3.1.4.). After that, my system for notating metrical points of gravity in the score was explained. The two symbols for weak and strong points of gravity (*stars* and *crosses*, respectively) were supposed to coincide primarily with the metrical *strong* beats of the bars (cf. 3.1.5., Image 4). The points of gravity conditioned by the musical 'gear box' (cf. 3.1.14.) was then exemplified by means of samples extracted from the scores of different compositions. I also performed these samples on the piano. Since the study comprised the illustration of three different musical excerpts (cf. 6.1.2.), I decided to anticipate a few bars of the participants' first task (the Mozart excerpt) by suggesting some possible alternative interpretative solutions for how to notate points of gravity in the initial phrase. The study was in fact intended to focus primarily on the *third* musical excerpt, Beethoven B, and the two first musical excerpts might be considered as excerpts serving as a kind of pilot studies in the total process of preparing the participants to get used to working with the two visual tools.

Before explaining the intended use of the Melody Phrasing Curve, I stressed the importance of discriminating thoroughly between the different functions of the two visual tools. The notation of a composition's metrically stressed points of gravity was supposed to be primarily linked to the aspects of 'timing' and the personal experience of the musical phrases' 'movement' or 'direction', rather than to *dynamic* emphasis. This also means that to some extent the points of gravity might advantageously be expressed musically by means of *agogic* stretches in favour of stabilising the rhythm and shaping the impression of metrical periods (cf. 3.1.11.), whereas the Melody Phrasing Curve is intended to designate exclusively the fluctuating dynamics of the melody part within a certain performance as personally perceived. In this way, the respective functions of the two visuals tools are intended to complement each other: the points of gravity might thus give a hint of the music's *time* aspect, whereas the continuous phrasing curves focus

on illustrating the personal experience of changing loud and soft *dynamic* nuances within a performance. Consequently, the device of the Melody Phrasing Curve is not supposed to emulate a curve indicating the physical *amplitudes*, or to mirror the perceived degree of musical *tension* (cf. 2.3.).

Besides, the phrasing curve should be dynamically *calibrated* to the performed nuances of the musical excerpt in question as personally experienced, which means that the curve was supposed to touch the uppermost horizontal line of the device's dynamic scale at least once in each one of the three excerpts. On the other hand, a curve touching the nethermost dynamic line was supposed to correspond to an almost inaudible dynamic level, which means that under normal circumstances the phrasing curve should not be drawn on such a low level. In order to get a preliminary overview of the span of the dynamical levels within the recorded musical excerpts, the participants were asked to start by listening to the recording in question from the beginning to the end without stops. They were also recommended to make small notes into their devices indicating the most evident dynamic high points.

The participants were also asked to draw their respective phrasing curves departing from the *ring mark* located at the beginning of the specially designed score, beneath and to the left of the horizontal dynamic lines. The reason for this was that the beginning of the participants' drawn curves was supposed to illustrate their personal experience of the connection between the preceding 'silence' in a musical sense and the first sounding notes, in accordance with the idea that normally a piece of music will be experienced as starting before the onset of the very first tone. I used the metaphor of 'inhalation' or inner preparation before the music begins to sound. In this way, I hoped that the shape of the phrasing curves' initial parts would indirectly illustrate the performed dynamic character at the beginning of the compositions in question. Furthermore, the phrasing curve was supposed to be drawn continuously, which means that it should proceed through all composed rests without falling down to the dynamic level of zero. The reason for this was that under normal circumstances, a composed rest will not be experienced as a complete silence in a musical sense. The dynamics of the music are usually experienced as proceeding through all the rests like a kind of remaining reverberation (cf. 2.2.).

I continued the session by underlining that the participants' illustrations should not be regarded as important in themselves. The crucial thing was the communicative process as such, evoking them to express their own musical thoughts and reflections while working with the musical excerpts with the aid of the visual tools. This also means that the visual tools were just intended to illustrate the complex musical experience in very rough outlines without too many details, and that the oncoming performances should rather not be affected too much by the fact that the participants had previously illustrated the music visually. Preferably, the participants should play as they used to do in other musical contexts, without trying to adapt their performances to the function of the visual tools. Nevertheless, the purpose of the illustrations was to mirror some of their interpretative ideas of the music. Even if someone would purportedly assess a certain musical version as less convincing, all kinds of interpretative solutions might still be illustrated in respect of the experienced dynamical progression of the melody part, and the points of gravity within the performance in question.

The task that was supposed to be accomplished before the first individual meeting implied thus the preparation of a musical performance of the Mozart excerpt, as well as the illustrations of some of the participants' interpretative intentions as expressed by themselves by means of the two visual tools. The two kinds of illustrations should be notated on the same copied pages of the specially designed score displaying the musical excerpt. It was up to the participants themselves to decide in which order they preferred to accomplish the two mentioned parts of the task at home. However, at the first individual meeting I asked them about this.

Finally, without explaining all details I gave notice that everybody would meet one of their colleagues, giving feedback at the very last meeting day. The participants were also encouraged to reflect autonomously and to keep a critical attitude towards the different elements of the study. At the end of the briefing, I expressed my wish that the study's tasks would be experienced as inspiring rather than onerous.

It is my impression that the participants reacted in a very positive and interested way. The information spontaneously lead up to a free and lively discussion between all the present persons concerning to what extent it might be possible to express musical interpretative matters by other means than music itself, and to what extent musical thoughts can be verbally formulated or visually illustrated. At this occasion, Simon declared his supposition that many musicians seem to be afraid of talking too much about interpretative matters because of the risk of corrupting the music's emotional expressions. In many cases, some kind of a contradiction may prevail between intellectual reflections and the emotional aspects of artistic activities. The discussion went on broaching the problem of achieving a delicate equilibrium between analytic awareness and emotional spontaneity. Olga claimed that awareness might be considered as a basic condition for feeling more free and safe in a musical sense. She opposed against trusting too much in the 'inspiration of the moment'. By reflecting deeper, the musical structure appears in a clearer way, she added. Even Paul expressed his conviction that tasks like these might contribute to the creation of more solid musical structures. Simon supposed that you learn constantly in order to *unlearn*. However, it might be favourable now and then to take a step backwards and start reflecting anew, he continued. Simon also thought that by being pushed to formulate musical ideas in a situation like this you might expand your musical consciousness.

6.1.7. Analysis

Having gathered the data material consisting of copies containing the participants' visual illustrations from all the meetings, video films and audio tapes of the in-depth interviews, as well as their recorded performances of the three musical excerpts employed, the study's analysis was carried out in 2007 during the autumn semester. Firstly, the visual illustrations were scanned into images being processed by means of the software Adobe Photoshop in principally the same way as was the case in Study A (cf. 5.1.3), in order to make the analytical work more efficient and convenient. The video films were all transferred into the software Windows Movie Maker, enabling a closer study of all the filmed sequences. The sounding content of all the digital audio tape recordings was thoroughly studied as well.

The next step was to structure and categorise the entire data material. A compilation of all the individual interviews was made, and the corresponding text files were sent to the participants for comments and feedback. However, I did not receive any comments from none of them.

Since the present Study B was supposed to focus on the communicative process and the participants' expressed ideas concerning musical interpretation, the comparison between their respective visual illustrations has not been carried out in such a detailed way as was the case in Study A. Nevertheless, their illustrations of each one of the three musical excerpts have been compared in respect of their general shape, indicated dynamic high points, notated metrical points of gravity, as well as diverging stylistic features. The two illustrated versions of the recorded Beethoven B excerpt made by each one of the participants at home and on the spot at the third individual meeting, respectively, have also been compared. Finally, the illustrated versions made by both of the participating colleagues at each of the last meetings representing one and the same performance of Beethoven B were compared, in order to study the musicians' different ways of using the visual tools and to get a hint of their underlying diverging musical experiences as visually expressed by themselves.

6.1.8. Validity, reliability and credibility

A condition for evaluating the contingent usefulness of the study's two visual tools in respect of their intended purpose is that the participants have used them in approximately the same way in accordance with the instructions presented at the first briefing. The analytical work with the computer software has enabled an advanced comparison between all the illustrations of the music in many possible ways. The illustrations have also been compared to the corresponding sounding performances. By meeting the participants many times, I had also the opportunity to ask questions concerning varying musical subjects time and again, in this way avoiding unnecessary misunderstandings. Moreover, by letting the participants comment several times on their own musical performances as well as on their illustrations of the music, they had the opportunity to revise their positions at will at any time as the study proceeded. When being confronted with one of their colleagues at the very last meeting day, each musician also got feedback from the colleague in question, which gave further space for arguments supporting different standpoints in the succeeding fruitful discussions.

By studying the copies of the musical illustrations made by the participants in relation to the corresponding musical recordings, as well as to their verbal comments as expressed by themselves during the interviews, it has been possible to discern some different ways of using the two visual tools employed in this study.

In order to reduce the risk of misinterpreting the participants' statements as much as possible, the recorded interviews with each one of them were compiled into text files and sent to them for comments (cf. 6.1.7.). The only one who answered was Simon for the reason of giving me the reference to a book (Branscombe, 1991) that was mentioned in one of the interviews when discussing the choice of tempi. Furthermore, I was also in contact with Olga in a musical context at a later occasion, and according to what she told me then, she seemed to be pleased with the text that I had sent to her. My conclusion is that none of the participants had found anything particular to comment on when reading the text files. At the same time as sending them the texts from the respective interviews, I also informed them that I would henceforth allow myself the right to make subjective interpretations of all their statements in the further process of analysing the data.

When structuring the data material according to the specific musical subjects broached during the sessions, some different attitudes towards music became evident. This work was accomplished after the process of comparing and analysing the visual illustrations of the study's musical excerpts, the content of the video films, as well as that of the recorded musical performances and interviews. These extracted and categorised attitudes will be presented at the end of the succeeding section.

6.2. Results

In this section, the acquired results of Study B are presented. The results are extracted from an analysis of the gathered data consisting partly of musical performances and in-depth interviews recorded on video films as well as on audio tape, partly of the participants' drawings and notations illustrating their personal experiences of the musical excerpts employed. The presentation has been structured into different subjects. Firstly, my subjective impression of the participating musicians is described based on observations made during the study. The next section deals with the participants' different ways of accomplishing the visual tasks, *at home* before each of the three first meetings, as well as *on the spot* at the third and the fourth individual meetings. In the next sections, the participants' illustrations of each of their three musical performances are described and commented, after which the participants' comments on the delicate balance between visual notations and musical spontaneity are related. A section follows focusing on different aspects of the participants' musical performances. The succeeding section deals with the participants' illustrations of one of their colleague's recorded performance. The seventh section is a summation of the participants' discussions and explanations of their different ways of using visual tools. Finally, the participants' evaluation of the study is presented, followed by a summarising conclusion drawn from the analysis of the study's entire material.

In contrast to what was the case in Study A, the visual tools were not used only by expert *listeners* for the purpose of *illustrating* musical experiences. In Study B, the tools were also used by professional musicians for the purpose of *planning* and preparing their own performances of selected piano excerpts, as well as for *evaluating* certain interpretative ideas when listening to the recordings of these performances. Every recording of the *Beethoven B* excerpt (cf. 6.1.2.) has thus been illustrated from *three* different perspectives, of which the first illustrations were supposed to represent some of the musician's interpretative ideas *before* performing, the second illustrations the musician's musical experiences when *listening* to the recording in question, whereas the third illustrations were supposed to illustrate some aspects of a *colleague's musical experiences* when listening to the same recording. Accordingly, each one of the four participants' performances of *Beethoven B* has been illustrated by means of three sets of visual illustrations. This means that there are in all twelve sets of illustrations to this piano excerpt.

Considering the great amount of musical illustrations, I have decided not to display all the participants' visual illustrations in this book (cf. 5.2.). In order to compare and construe the individual illustrations, a special software program is needed (Adobe Photoshop). Far from all computers are equipped with this software program, for which reason I have decided not to supply this book with any CD or DVD either.

Instead, I have chosen to exemplify a few of the aspects broached in this chapter by means of images displaying the corresponding parts of the participants' visual illustrations. In most cases, each colour represents the illustrations made by one specific participant. Thus, *Paul's* illustrations are *red*, *Jane's blue*, *Simon's green*, whereas *Olga's* illustrations are *orange*. The participants' *first* illustrated version of the musical excerpt *Beethoven B* has a *light* colour, whereas the *second* illustrated version has a *medium* colour tone. However, the illustrations representing the same recording, although made by *another* of the colleagues, has a *dark* tone within the frames of the *same* colour as that of the performer's *own* illustrations.

Since this presentation has not been supplemented with images in all cases, there are instead references to the appendixes B1-3. This means that all kinds of data in this text indicating the pages of the musical excerpts, the systems of the pages, as well as the specific bar numbers, refer to the participants' specially designed scores, which are all displayed at the end of this book. The data of the *Mozart* excerpt refers thus to *Appendix B1*, that of *Beethoven A* to *Appendix B2*, and the data of *Beethoven B* to *Appendix B3*.

The concept of *definitive dynamic high point* corresponds to the part of a participant's drawn phrasing curve reaching the uppermost horizontal line of the special score's dynamical scale.

6.2.1. General impression of the participating musicians

This section may be considered as a subjective description of my personal impressions from the individual meetings with the participants, as well as from observations that were made when studying the documented video films.

To me, all of the participating musicians seemed to be strong and colourful personalities with a lot of experiences from different areas within the frames of the field of classical music. *Paul* was the only one who considered himself exclusively as a pianist. However, *Simon's* specialities as composer and conductor did not seem to be at the expense of his excellent piano technique. *Jane* and *Olga* considered themselves primarily as singers. In the interviews, the two latter participants often demonstrated their musical thoughts in sounding form by singing and playing selected sections of the musical excerpts on the piano. It is my personal impression that they played in a particularly relaxed and flowing way at these occasions. When being recorded, Olga often expressed loud critical comments to her own ongoing performance.

At the first individual meetings, *Paul* sometimes looked concentrated and serious, maybe even a little tense with an active body language. A possible interpretation might be that Paul felt a little nervous to begin with, maybe partly because of his well-intended quest of being beneficial to the study. At the interviews, he seemed thoughtful, taking his time before answering the questions.

Jane looked naturally relaxed. When playing, she seemed to be concentrated without bothering about smaller mistakes. Sometimes, she appeared to be a little shy and short-spoken, with long moments of silence before replying the questions. However, when giving her an opportunity to express her musical thoughts freely, she opened up talking a lot more.

To me, Jane also seemed to have a personal aspiration for consensus of opinion. Not wanting to argue with anybody, I sometimes felt a little uncertain if she always told me what she really meant at heart. When meeting her colleagues, it is my impression that she moved a little into the background. For example, she tended to turn to them asking for their opinion.

During the study, *Simon* often used ample and expressive bodily gestures when playing as well as when talking. To me, he seemed to be temperamental and full of sparkling energy. He smiled and laughed frequently during our meetings, and once having started talking it was almost impossible to stop him, a matter on which he also commented himself time and again.

When Simon met Paul at the fifth meeting of the study, it is my impression that a situation imprinted by a mutual competition between them heated up for a short while (cf. 6.2.6.3.). At the same time, they seemed to aspire for achieving some kind of consensus, which might be interpreted as an attempt of getting their respective views confirmed by the other part, maybe due to an imagined fear of being criticised.

These participants seemed to have known each other for a long time, for which reason they might have spoken in an extraordinarily open way. When Paul played a section from Beethoven B, Simon reacted with a great deal of admiration to his colleague's skills.

To me, *Olga* generally used gentle hand movements when playing, and in the interviews she tended to reinforce her thoughts with colourful gestures and by using a lot of metaphors. When expressing her musical ideas, she sometimes seemed to be quite definite.

At the fifth meeting, Olga and Jane looked rather pleased, maybe because of meeting a colleague. During the interview, a certain consensus between the two participants seemed to develop, among other things resulting in their mutual questioning of some elements within the study.

Particularly at the *fourth* meetings, all of the participants looked more or less tired. An interpretation of this might be that the study's task of illustrating one of their colleagues' recording on the spot had demanded a lot of energy and concentration. The *fifth* meetings of the study might be described as more easy going, sometimes with lots of jokes and laughter. The discussions often went on freely without me asking any direct questions.

6.2.2. Different ways of accomplishing the visual tasks

According to what they told, the participants had used different strategies when accomplishing the visual tasks *at home* before each one of the three first meetings, and they also used different strategies when illustrating the recordings *on the spot* at the study's *third* and *fourth* meetings.

When illustrating the *Mozart* excerpt at home,

- Paul and Jane started by *playing*, after which they notated the points of gravity, and finally, they drew the dynamic phrasing curve
- Simon started by *reflecting* on the composition's structure *before* playing at the same time as drawing his phrasing curve, and finally, he notated the points of gravity
- Olga *analysed* the music according to a method that she was used to employ, after which she accomplished the visual task

When illustrating *Beethoven A*,

- Jane and Simon made a rough *outline*, revising their notations while playing the music on the piano
- Olga *analysed* the composition according to her own method, after which she played it through, and finally, she accomplished the visual illustrations

This means that in this case, *Jane* as did also *Simon*, started by accomplishing the task *without playing the music*.

When illustrating *Beethoven B*,

- Jane made an *outline*, revising the notations while playing the music on the piano
- Simon started by *playing* the music through several times, after which he accomplished the visual task, and finally, he revised his notations while playing the music once again
- Olga started by just *playing* the musical excerpt several times, after which she analysed the composition while writing some notations into the score, and finally, she accomplished the visual task

At the *third* meeting, as each one of the participating musicians was asked to illustrate his/her own recording of *Beethoven B* on the spot,

- Paul and Olga started by drawing the phrasing curve, after which they marked out the points of gravity
- Jane and Simon started by marking out the points of gravity, after which they drew the phrasing curve

At these occasions, Jane as well as Paul claimed that when accomplishing the task at home they had been able to spend a lot more of preparation time for reflecting, making interpretative decisions, and shaping the phrasing curve.

At the *fourth* meeting, as each one of the participants was asked to illustrate one of their colleagues' recording of *Beethoven B*,

- Paul started by drawing the phrasing curve, after which he notated the points of gravity
- Jane, Simon, and Olga started by notating the points of gravity, after which they drew the phrasing curve

At this occasion, *Paul* guessed who was playing, but I abstained from further comments on this matter.

When accomplishing the visual task, *Jane* sometimes sang, probably in order to get a clearer image of the sounding music. At this occasion, she guessed spontaneously that it was a 'guy' who played.

In spite of some self-critical comments made by his colleague, which were perfectly audible on the video tape, *Simon* abstained from any speculations about who had played. As for him, he did not think that this would change his notations.

When listening to her colleague's recording, *Olga* could pick out a soft affirmation on the video tape, whereupon she stated dryly that 'it was a lady'.

Conclusion of different ways of accomplishing the visual tasks

The results indicate that the participating musicians sometimes *changed strategies* from one meeting to another, for example, by changing the *order* of using the visual tools included in the task. Some participants seemed to have alternated between the two strategies of *playing* the music before accomplishing the task and making notations *without* playing any music, revising them afterwards while playing the pieces on the piano.

When studying the participants' use of different strategies, two main characteristics were observed:

- the use of *musical analysis* (for example, Olga using her own method)
- *exploration* in order to find out the best way of accomplishing the tasks

6.2.3. The participants' visual illustrations

In this section, the participants' visual notations illustrating the study's musical excerpts are described briefly. Firstly, the *beginnings* of the participant's phrasing curves illustrating *Mozart* and *Beethoven A* are discussed, after which follows a description of their notations illustrating each one of the used musical excerpts. Since I have compared the illustrations to my own impressions of their recordings, some subjective remarks assessing the degree of correspondence between the illustrations and the sounding music are interjected. The reason for this comparison was to investigate the contingent benefit of the visual tools for the purpose of illustrating certain features within the sounding music, serving as an aid when discussing interpretative matters.

6.2.3.1. The beginnings of the participants' drawn phrasing curves

According to my instructions at the first briefing, the beginnings of the participants' drawn phrasing curves were supposed to illustrate their personal experience of the connection between the preceding 'silence' in a musical sense and the first notes (cf. 6.1.6.). When explaining this, I used the metaphor of 'inhalation' or inner preparation before the music begins to sound. At the interviews, I also asked the participants to describe their experience of this musical aspect verbally.

Paul described his experience of the *Mozart* excerpt as preceded by a rhythmic crotchet with some activity, illustrated by an evenly rising phrasing curve. *Jane* described her experience of the first chord as preceded by a calm rhythmic crotchet, illustrated by a stepwise rising curve. *Simon* explained his somewhat diverging experience: The music is preceded by a calm 'inhalation', as if 'gliding' gradually into the piece. The music has already started in the 'silence', he explained. His curve starts with a smooth ascent towards a notated very low dynamic level.

According to his description, *Paul* had imagined the first beat of *Beethoven A* as preceded by a rhythmic quaver, not something 'slipping' but rather a silent upbeat beginning with *more* activity and 'falling down' dynamically before the music starts to sound. This was illustrated by a curve falling down slightly from a somewhat higher dynamic level before the first beat of the score. *Jane* described the 'inhalation' of the movement as slow and not exactly rhythmical, creating a more 'mystical' musical character. Her curve begins by falling down slightly, after which it rises stepwise towards the first beat of the score. As was also the case in the Mozart excerpt, *Simon's* curve indicates a small ascent towards a notated very low dynamic level. He described his intention of illustrating a very calm start with the music emerging out of something almost 'inaudible'. The 'inhalation' is not supposed to be rhythmical but rather *gliding* without any fixed tempo.

Olga described her experience of the *Mozart* excerpt as preceded by a calm crotchet with a *singing technical impulse* creating activity in the *first* part of the silent upbeat. For this reason, her phrasing curve does *not* start exactly in the *ring mark* indicating the intended point of departure located at the beginning of the specially designed score, beneath and to the left of the parallel dynamic lines (cf. 6.1.6.). Instead, it starts from a position somewhat *above* the ring mark, after which it falls down a bit and moves up again towards a noted level supposed to illustrate the dynamic at the onset of the sounding music.

In *Beethoven A*, Olga's drawn curve started from above as well, this time completely outside the ring mark from a rather *high* position indicating an average dynamic level, after which it falls down to a notated dynamic level of *zero*, rising up only slightly at the point corresponding to the onset of the sounding music. Olga explained the shape of this part of her curve as an illustration of an 'active inhalation' that begins rather high up. *Paul* expressed a similar idea with a silent upbeat starting with *more* activity after which it falls down dynamically, although he had, in contrast to Olga, drawn his curve from the prescribed ring mark.

Since I suspected that Olga had misinterpreted my instructions concerning the function of the phrasing curve's initial part, I tried to clarify myself during the interview:

I: Even an active inhalation should be preceded by something, or…?	I: Även den aktiva inandningen måste ju föregås av någonting, eller…?
Olga: Yes, it is preceded by my thought. Do you know how a singer breathes? You who have worked with… (singers)?	Olga: Ja, den förgås av min tanke. Vet du hur en sångare andas in? Du som har jobbat med… (sångare)?

Here, Olga continued by describing some technical concerns crucial to a singer.

I: Does that mean that the impulse of your thought is also implied in your curve?	I: Så tankeimpulsen kan också vara med i din kurva?
Olga: No, this is a *physical* impulse! My physical impulse is rather intense, and that is why it begins high up.	Olga: Nej, det här är en *fysisk* impuls! Min fysiska impuls är ganska kraftig, och därför börjar den högt.

I tried to make myself understood a last time:

I: But would it not be possible to start drawing from the ring mark going up and *after that* going down again? Because before it starts there is in a way a *thought*.	I: Men kan man inte börja från ringen och sen gå upp och *sen* gå ned? För att det är liksom *tanken* innan det sätter igång.
Olga: No! How should that be done?	Olga: Nej! Hur skulle man göra då?

Here, I referred to the metaphor of a conductor raising his arms before indicating the silent upbeat. However, in the view of the tempo and the special rhythm of the music Olga expressed her opinion that this was not a very good idea:

The tempo and the rhythm make it impossible to inhale in a powerless way. To me, it is like that! …Otherwise, it is not possible.	Tempot och rytmen gör att man inte kan ha en slapp inandning. För mig är det så! …Annars går det inte.

At this point, I realised that the gap between our different views was too big. Due to the risk of damaging the good mood at our meetings and because of respecting Olga's integrity, I decided to leave the discussion (cf. Kvale, 1997).

Apparently, it was important to Olga to feel free drawing the beginning of the phrasing curves in her own way, maybe due to her identity as a singer who has to pay attention to special singing technical concerns. This means that although the suggested visual tool was supposed to facilitate the communication of musical matters, she might in this case instead have experienced it as an obstacle to communicate from these premises.

As a consequence of her special view, Olga illustrated *Beethoven B* by starting her phrasing curve from a position high above the ring mark as well. However, when studying Olga's curve illustrating *Jane's* recorded performance made at the fourth meeting, I noticed that this time Olga had drawn a curve that was departing precisely from the ring mark in accordance with my instructions at the briefing. A possible explanation to this might be that since another participant was playing the piece, Olga could not as easily enter into the imagination of singing the music herself, which could otherwise provoke associations to technical concerns.

Conclusion of the beginnings of the participants' drawn phrasing curves

According to the participants' comments, as well as to the parts of their phrasing curves illustrating the beginning of the respective musical excerpt, they seemed to have experienced the 'silent' upbeats in very diverging ways. Since no clear patterns could be discerned, maybe because of the instructions having been experienced as indistinct and abstract, I decided to leave this aspect when studying the participants' illustrations of the third musical excerpt, Beethoven B.

6.2.3.2. Illustrations of the Mozart excerpt

In their phrasing curves illustrating the *Mozart* excerpt, Paul, Jane, and Olga had all notated a definitive dynamic high point in bar 27. In conformity with Olga, Jane had also notated a high point in the corresponding bar 23. Even if Simon had notated a high dynamic level in bar 27 as well, he had located the *strongest* high point in bar 18, followed by a notated quick dynamic decline towards the first beat of bar 19. In bar 18, Jane and Olga had also notated a dynamic top in their respective phrasing curves. Simon explained his choice of the strongest high point at this spot by referring to his inner imagination of a *dialogue* between two different sides of a person's mentality: one introverted dreaming side and one more concrete and extroverted. As a consequence of this

musical idea, the prescribed subito piano effect in bar 19 was experienced as expressing a sudden transition from the extroverted musical character into a more introverted character.

When comparing the participants' notated *points of gravity*, there seems to be some similarities. For example, all of the four participants had notated strong points of gravity on the first beat of the bars 14 and 18 in the first page of the score, as well as on the *second* beat of the bars 7 and 20, respectively.

These similarities between the participants' illustrations might be explained by the rather simple and lucid musical style, giving rise to related musical ideas when interpreting the piece.

Paul had drawn a *phrasing curve* with smooth lines indicating a rather wide range of dynamic amplitude. In my view, his curve seems to correspond well with his temperamental and dynamically varied performance. He had notated *points of gravity* on almost every first beat of the bars, and sometimes on other beats as well, though most of them being weak (*star* symbol, cf. 6.1.6.). Fortunately Paul did not bring out all of these points of gravity clearly in his performance; otherwise the music might have adopted a somewhat heavy character.

It is my impression that the shape of *Jane's phrasing curve* has a somewhat 'hilly topography' indicating a rather wide range of dynamic amplitude. When comparing her phrasing curve to the recording, the curve seems to illustrate the dynamic fluctuations in a plausible way. She had notated *points of gravity*, weak or strong, on the first beat of almost every bar and sometimes also on other beats, for example, on the third beats of bar 14 and 16, respectively. Due to the rather slow tempo, the many notated points of gravity appeared extra clearly in her performance. Jane admitted that the phrases of Wiener classical music seem to be lucid in themselves, for which reason it might be an advantage playing with less 'stresses'.

Simon explained the straight shape of his *phrasing curve* by expressing his intention of focusing primarily on the *big musical lines* without too many details. Consequently, in my ears Simon seemed to perform the musical excerpt with some dynamic details that had not been illustrated in his drawn curve. The dramatic and temperamental character of his performance cannot be visually traced in his phrasing curve. To me, the notated *points of gravity* do not appear clearly in his performance either.

Olga's drawn *phrasing curve* illustrating the Mozart excerpt looks very 'hilly' indicating a wide range of dynamic amplitude. There are a lot of notated definitive high points, and in some cases she had even crossed the prescribed limits of the dynamical scale by drawing parts of her curve above the uppermost horizontal line. According to the specific shape of her curve, I could easily get the impression that she had played the piece in a very dramatic way, but in my ears this was *not* the case. To me, Olga seemed to have interpreted Mozart's music in a pleasant dynamically balanced classical style.

She also claimed that the dynamic fluctuations of the composition should depend more on the *harmonic* progression than on the melody's varying pitch contour. Instead of playing with a crescendo, a melodic interval implying the dissolution of a dissonance up to a higher pitch should be performed by means of a diminuendo, she exemplified (cf. 5.2.1.1.).

In this study, Olga insisted on using her *own* symbols for illustrating 'points of gravity' according to a system indicating *three* different degrees of intensity. The reason for this, she said, was that when analysing music she was used to employ this kind of visual system. Since her system indicating 'points of gravity' in *two* higher degrees of noticeable intensity, contingently corresponding to the present study's system of strong and weak points of gravity, aside from the lowest degree within Olga's system indicating the rhythmically *unstressed* notes, I assessed her notated symbols to be principally compatible with the symbols of this study. By neglecting her notations of the lowest degree of intensity indicating only unstressed notes, her symbols were

simply *translated* into the system used in this study in order to enable a comparison to the other participating musicians' notations.

Olga had mostly notated *points of gravity* on the first beats of the bars. However, at the anacrusis consisting of three quavers preceding the first beat of bar 22, *all* of the quaver notes had been defined as points of gravity. These notations might be interpreted as indicating expressive *dynamic* stresses rather than points of gravity in a metrical sense.

6.2.3.3. Illustrations of Beethoven A

In the musical excerpt *Beethoven A*, all of the participants had located a definitive dynamic high point to bar 24, preceded by a long crescendo and succeeded by an equally long diminuendo. All *phrasing curves* rise a bit from the very last tone of the movement, maybe expressing some kind of musical expectation before the third movement.

As concerns the participants' detected *points of gravity*, there seems to be some divergences. These divergences might be explained by the more complex structure of the composition compared to that of the Mozart excerpt, giving rise to the participants' focus on many different musical aspects when interpreting the piece.

Paul had drawn a rather straight and elongated *phrasing curve* indicating a generally low dynamic level, although with some clear tops. At the interview, he claimed that it would have been indeed possible to draw a curve displaying more details, but to him the big musical lines were of most interest. When listening to Paul's recording at the same time as studying his corresponding drawn curve, the curve seems to illustrate the performance in a plausible way.

In the beginning of the movement, Paul had notated mostly *weak points of gravity*, for example, on the metrically stressed rests of bar 2 and 4, as well as on notes marked with *sf* in the printed edition. In the second system of page two, Paul had notated many points of gravity, weak as well as strong. In my ears, there seems to be even more points of gravity than notated in his performance, probably as a consequence of his choice of a rather slow tempo.

Paul explained two of his points of gravity by telling that the musical context made him experience a kind of 'stresses' precisely on the *rests* located on the first beats of the bars 2 and 4, respectively (cf. 2.2., Figure 1 and Image 1). When the second theme is introduced in bar 10, Paul had intentionally notated a strong point of gravity *between* the grace note and the first beat of the bar, which was said to illustrate the first beat being expressively *delayed*.

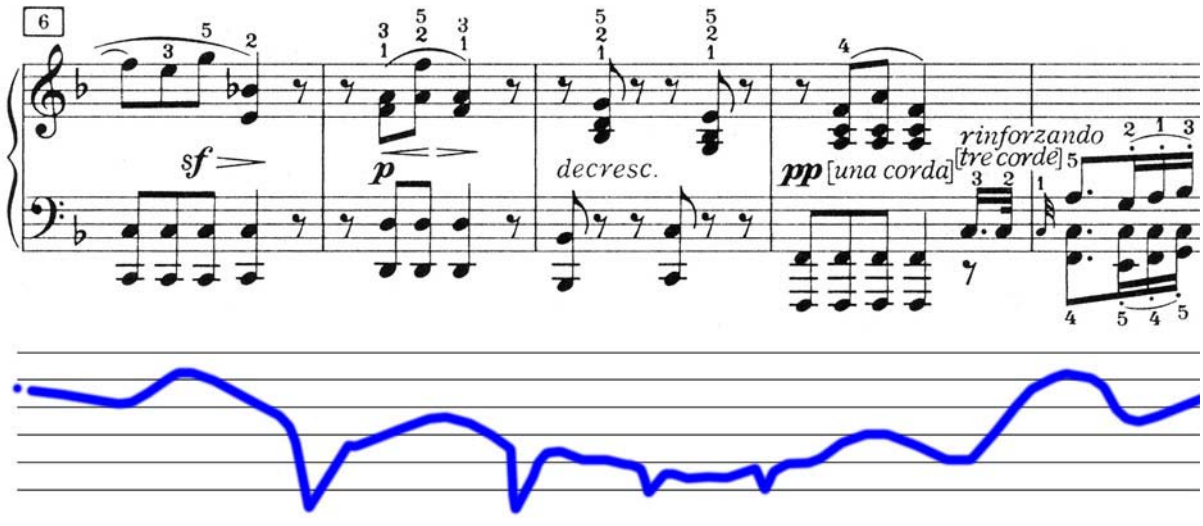

Image 27: Jane's phrasing curve illustrating the bars 6-10 of Beethoven A

Jane's phrasing curve looks 'angular' with a somewhat 'hilly topography', furnished with some outstanding 'dips' dropping down all the way to a notated dynamic level of zero on all of the *rests*, for example, in the bars 2, 4 and 6-8, the latter being displayed in Image 27. I have interpreted the special shape of her curve as an attempt to describe the piece's changing dynamics in a way reminding of a physical *amplitude* curve rather than an illustration of the dynamics as personally *perceived* (cf. 5.5.2.2.). When listening to her recorded performance, Jane assessed her curve to be somewhat 'funny' ('tokig') compared to how she actually played.

In conformity with the notations of Paul, Jane had notated *points of gravity*, although *strong* ones, on the *rests* located on the first beat of the bars 2 and 4, respectively, as well as on all the notes marked *sf* in the first page of the score. At the crescendo section beginning in bar 21, she had notated weak points of gravity closely. In my ears, her points of gravity were generally performed by means of *dynamic* accents and not by means of *agogic* stretches in favour of stabilising the rhythm, for example, at the rests of the bars 2 and 4 (cf. 3.1.11.).

The *phrasing curve* drawn by *Simon* looks straight and elongated, indicating generally a low dynamic level. When listening to his recording, I take notice of some dynamic details not being represented in his curve. For example, he launches the crescendo from bar 21 somewhat quickly, which in my ears gives rise to a static impression because of the early loud nuance not enabling the crescendo to continue all the way up to the dynamic culmination notated in the bars 24-25. In my ears, Simon also seems to let go of the dynamic intensity after the culmination somewhat earlier than notated.

Already before having listened to the recording, Simon claimed that he was perfectly aware of the fact that some parts of his curve illustrated the music in an irrelevant way. After having listened, he also said that he could imagine complementing his notations with some extra *points of gravity*.

I asked Simon about the purpose of notating points of gravity on the *second* metrically unstressed beats of the bars 2 and 4, respectively (cf. Image 28). He replied that due to the composed *rests* on the first beats, he was not able to experience these beats as stressed. Instead, the onset of the *off-beat chords* was said to be experienced as stressed by him. The rests were experienced as belonging to the *preceding* bars, he explained. The off-beat chords also change the harmony, which was said to have provoked his experience of points of gravity located to the second beat instead of to the first beat. Nevertheless, when the theme is repeated from the bar 17 without any rests in the musically corresponding bars 18 and 20, Simon had notated weak points of gravity on the *first* beats, which might be explained by the fact that in this case the harmonic changes are anticipated by the notes of the first beats.

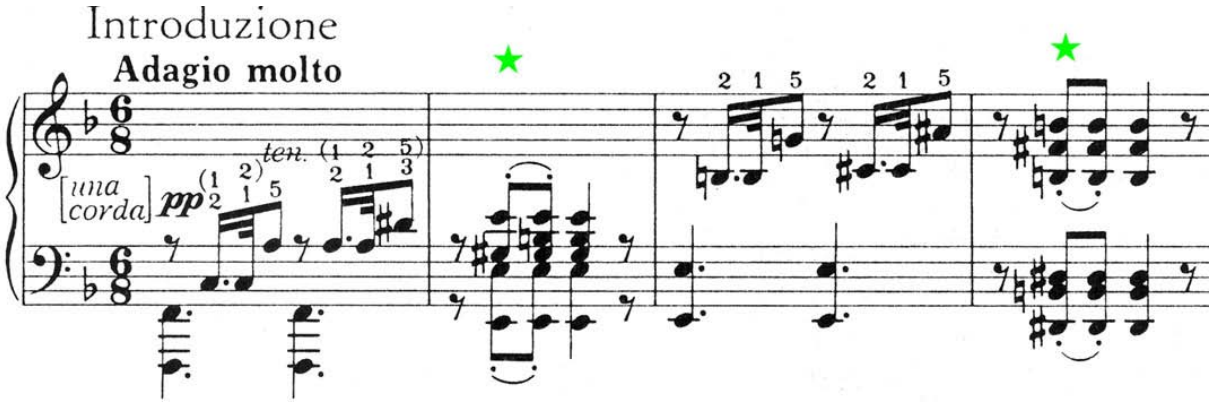

Image 28: Simon's notated points of gravity in the first four bars of Beethoven A

As explained by me at the briefing, the points of gravity were supposed to indicate emphasis conditioned by the piece's *metrical* structure, more or less in accordance with the printed division of the bars. In the light of this, the consequence of Simon's argumentation would be that in a corresponding *imagined* score, each one of the movement's two first metrical periods built up by two unified bars in six beats to a measure, should instead be notated as divided into one bar in *seven* beats to a measure plus one bar in *five* beats to a measure! When asking Simon if this was what he had really meant, he replied that he considered the music as a kind of rhythmic *improvisation* without any fixed pulse, in this way provoking a special musical tension:

> That is to say, I like… I think that it is interesting, if you know roughly… what is expected, it is interesting to test… some other solutions as well.
>
> Nämen, jag gillar… jag tycker det är intressant om man vet ungefär …vad som förväntas, så är det intressant att prova…lite andra lösningar också.

By changing a composition's metrical division in this way, the musical significance might be experienced as transformed to a corresponding extent, at least in the view of some traditional conventions for how to interpret classical music (e.g. cf. 1.1.3.: Newman, 1984; Schirmer, 1915/1943). It is nevertheless fascinating that music may also be interpreted in such an unconventional way. Simon supposed that he had some side of disobedience in his personality appearing as a tendency of not always following 'the usual ways'. Since these results do not seem to fall directly into the main purpose of this study, I decided to leave this issue.

Olga's phrasing curve had been notated on a generally low dynamic level, particularly in the first page of her score. To me, the part of the curve illustrating the introduction of the movement does not correspond to the rather loud dynamic of her performance at this place. From bar 10, however, the curve seems to represent the sounding music in a plausible way. Olga had notated particularly *weak points of gravity* densely. In contrast to Paul and Jane, she had *not* notated any points of gravity on the metrically stressed rests of the bars 2 and 4, respectively. Generally, her notations seem to be primarily linked to *dynamic* stresses rather than to stresses conditioned by the bar-line meter.

When comparing the participants' *phrasing curves* illustrating the musical excerpt *Beethoven A*, *Paul's* and *Simon's* curves both look rather straight. The curve drawn by *Jane* as well as the one drawn by *Olga* looks rather 'hilly'. However, Jane's curve diverges from those of the other participants in respect of its 'jagged' shape. Nevertheless, the phrasing curves drawn by Jane and Olga, respectively, seem still to have some stylistic features in common on the one hand, whereas the curves drawn by Paul and Simon might be interpreted as stylistically interrelated on the other.

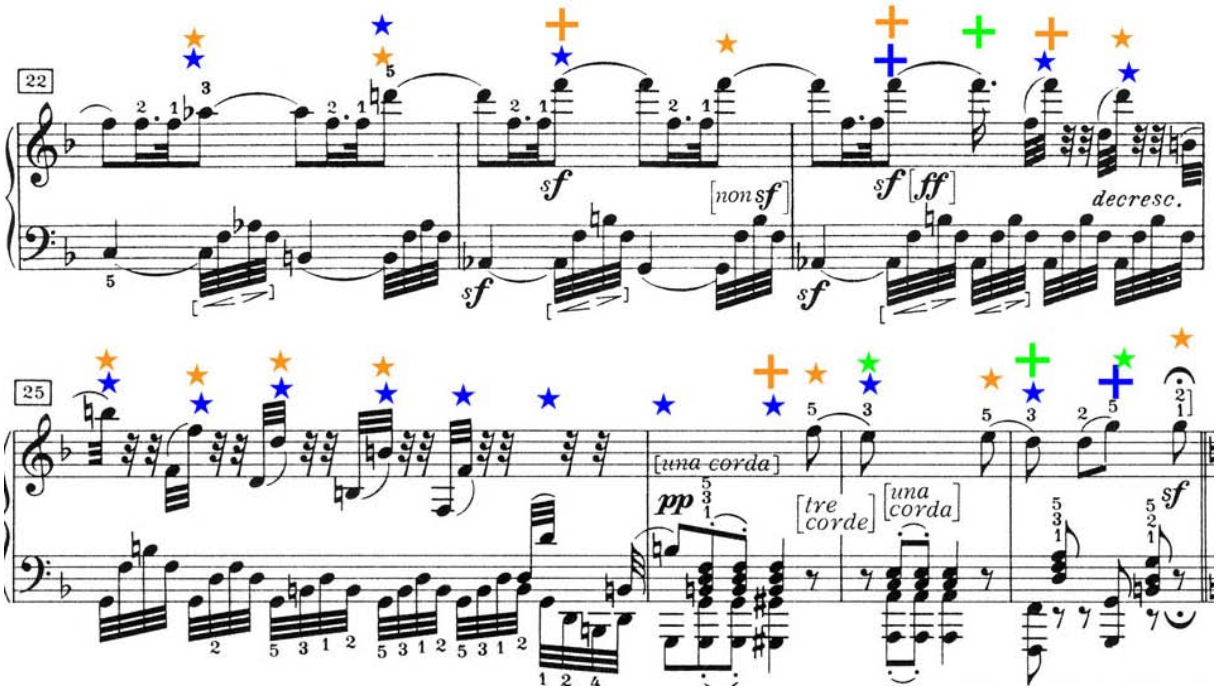

Image 29: Jane's (blue), Olga's (orange), and Simon's (green) notated points of gravity in the bars 22-28 of Beethoven A

All of the participants, except for Simon, had defined the *syncopations* marked *sf* in the bars 10 and 12 as *points of gravity*. In the bars 22-25 of the score's second page displayed in Image 29, Jane as well as Olga had notated points of gravity on most of the syncopated notes. In this section, Simon had, as opposed to the other participants, settled for *one* single strong point of gravity: on the fourth beat of bar 24.

On the very last fermata note of the movement, Olga had notated a weak point of gravity, whereas Paul had notated a strong point of gravity on this note. Here, Jane and Simon had not notated any point of gravity at all.

6.2.3.4. Illustrations of Beethoven B

In this section, a summation of the data emanating from the participants' two respective versions of illustrations is presented, as well as a selection of their verbal comments explaining these illustrations.

When comparing the participants' *phrasing curves*, they seem all to have notated a definitive high point in the bar 42 of the musical excerpt, as well as a kind of prolonged dynamic culmination in the bars 56-57. Furthermore, all curves indicate a steep and sudden dynamic decline towards the last system of the fourth page. The mentioned similarities might be interpreted as an indication that the participants had experienced the piece's dynamics in a related way.

As regards the participants' notated *points of gravity*, they are diverging a lot. In many cases, they seem to represent *dynamic* accents rather than the intended *metrically* stressed notes.

Paul's illustrations

The *first version* of Paul's *phrasing curve* illustrating Beethoven B looks rather straight, indicating generally an average dynamic level except for some notated 'humps'. When comparing and discussing Paul's two sets of visual illustrations to Beethoven B at the *fourth* individual meeting with him, we could both observe that his *second* curve drawn on the spot reminded very much of the first one made at home. Image 30 displays his two curves illustrating the bars 48-51. Paul

commented on the resemblance admitting that although you try to stay open and neutral, you have probably already built up a clear inner image of the music, which means that there is always a risk that you will *hear* what you have originally planned to do. Nevertheless, Paul claimed that he generally experienced his original interpretative intentions being put into sounding music, even if he could have imagined bringing out more of dynamic contrasts in his performance.

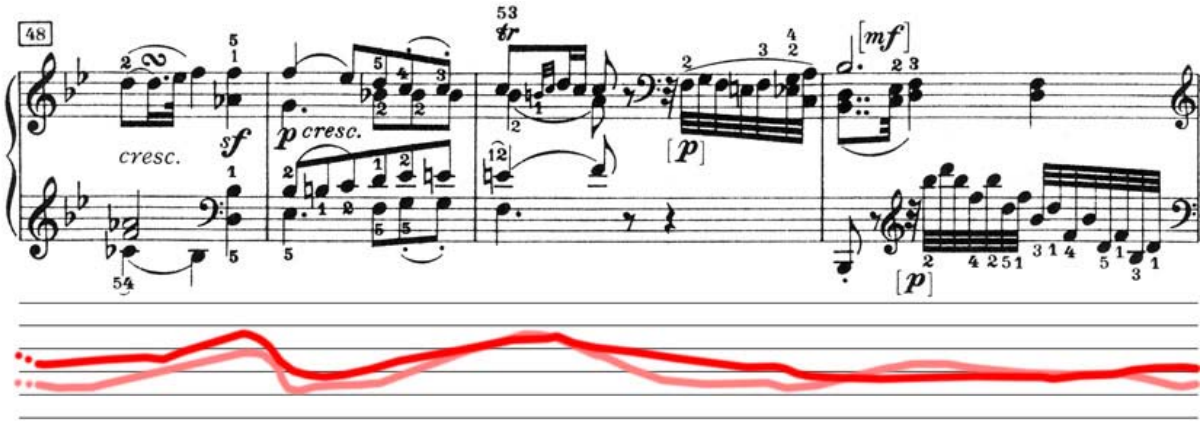

Image 30: Paul's first (light colour) and second phrasing curve (darker colour) illustrating the bars 48-51 of Beethoven B

In the second page of the score, however, Paul had drawn a more even phrasing curve indicating a slightly higher dynamic level in his second version compared to in the first version of his curve made at home. This was particularly the case at the cantabile section beginning in bar 31. The reason for this was said to be his personal experience of a louder sound level when listening to the recording, although he had really preferred a softer nuance in this section. The technically bad reproduction of the sound equalising the dynamic contrasts of the performance might have contributed to this impression, he suggested.

To me, *both* of Paul's phrasing curves seem to illustrate the dynamics of his recording in a relatively plausible way, except in some sections where the recording's rather loud sound level is represented by means of a curve indicating a rather low dynamic level. In the last page of the score, Paul's *second* drawn curve seems to illustrate the small dynamic fluctuations within his performance in a more accurate way compared to his first curve.

In his *first* illustrated version, Paul had not notated so many *points of gravity* in the score. However, at the extended dynamic high point in the bars 56 and 57 he had notated weak points of gravity on all beats within the bars. When listening to the recording at the third meeting, he claimed that his original points of gravity did not correspond to his own experience because of appearing more ambiguous than imagined.

In his *second* illustrated version Paul had illustrated the first page with even *less* points of gravity in accordance with his personal experience when listening to the recording, which however was said not to be of any disadvantage. Maybe this was the result of our discussions as regards the intended function of the notated points of gravity, Paul explained.

Nevertheless, from the second page of the musical excerpt, Paul had notated *more* points of gravity in the second of his two illustrated versions. One possible reason for this, Paul explained, might be that his 'ear was more attentive' when listening to the recording, for which reason he had attempted to notate the points of gravity more carefully. In some bars notated points of gravity occur on the *third* beat. Paul explained these as stresses linked to the 'phrasing' rather than to the meter of the composition.

Jane's illustrations

Jane's *first phrasing curve* looks a little 'hilly' with notated dynamic tops at the *sf* marks on the *third* beats of the bars 6, 12, and 15, respectively. When listening she supposed that she had spontaneously played a little differently at the very moment of the recording, because she had experienced her performance diverging in some sense from the shape of her first phrasing curve. According to her, she had however nothing against parting with her original interpretative plan.

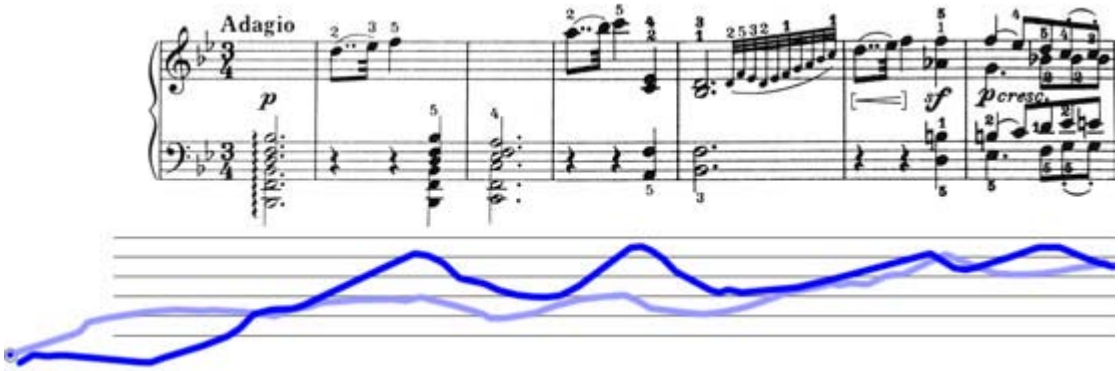

Image 31: Jane's first (light colour) and second phrasing curve (darker colour) illustrating the bars 1-7 of Beethoven B

Compared to her first curve, Jane drew a curve indicating a generally higher dynamic level the *second* time, particularly in the first page of the special score. The latter curve looked even more 'hilly' with sharp 'tops', often on the *third* beats, for example, in the bars 2, 4, and 44, respectively. Image 31 reveals the somewhat diverging shapes of Jane's two curves in the first bars. However, in the cantabile section beginning in bar 31 the two versions look more alike.

When discussing Jane's notated dynamic tops on the third beats of some bars, she explained that she had spontaneously notated some of these 'tops' on the third beat, because when listening she really experienced her performance in that way. She had also noticed that many tones of the recording appeared as stressed, although the music was not at all intended to sound like that. Furthermore, she claimed that she had experienced her recording as generally louder than anticipated. The technically bad reproduction of the sound may be one reason for this, she supposed, but it might also have something to do with her insufficient instrumental control. After all, she did not assess her performance as especially negative. Maybe she had spontaneously played with more dynamic contrasts and with more of musical energy and emotions when being recorded, Jane thought.

The effect of the subito piano dynamics, for example, in bar 50, had been illustrated with a curve falling down *less* in Jane's second curve. She explained that she had really intended to play with clear subito effects, but when listening she claimed that she did not experience these effects standing out in the way she had imagined.

In the section with the demisemiquaver roulades close to the end of the musical excerpt, Jane's second curve tends to fall down dynamically at some places, for example, between the bars 52 and 53, and it indicates moreover a slightly lower dynamic level. When the pitch of the melody notes moves down you will easily experience the dynamics like that, Jane explained. Originally, she had intended to play more evenly in a dynamic sense. After all, this was not a disadvantage to the performance, she claimed.

To me, Jane's phrasing curves represent the changing dynamics of her performance fairly well, particularly the curve of her *second* version, but maybe this curve is still not plausible in all cases. For example, in the first two systems of page one I did not experience her performance

being as loud as notated in the curve, and in my ears the demisemiquaver roulades at the end of the excerpt do not give rise to the notated dynamical falls of Jane's second curve.

In her *first* illustrated version, Jane had defined the second beat of bar 15 marked *f* as a strong *point of gravity*. However, this notation is absent in her second version. In the cantabile section beginning in bar 31, there are closely notated points of gravity, mostly on the first beat within each bar. In the section with the demisemiquaver roulades close to the end, the points of gravity are sometimes occurring on the *second* beats, for example, in bar 52.

When listening to her recording, Jane asked herself which notes were the most 'stressed' in the introduction part of the musical excerpt: the *first* or the *second* beats. She told that she experienced a tendency of movement towards the *second* beats. Sometimes it may be hard to decide which notes are more stressed than the others, she reflected:

I think it is possible to do this in different ways.	Man kan göra olika, tycker jag.

This statement seems to be consistent with *Paul's* expressed opinion that the function of the points of gravity might be interpreted in different ways. It is up to the musician to decide where the points of gravity should be located, he supposed.

In her *second* version, Jane had notated more of strong points of gravity in the first page of the special score, on the first beat of almost every bar. In the cantabile section beginning in bar 31, however, Jane had notated somewhat *less* strong points of gravity. Between the bars 39-47, notated points of gravity, weak or strong, are often occurring on the *second* beats. When asked, Jane declared that she regretted this. In this case, she assessed her notations of the *first* version to be more relevant. However, in the bars 54, 56, and 57, she insisted that she had experienced the second beats as stressed, for which reason she had notated points of gravity at these places. Nevertheless, Jane concluded that in a musical sense she did not think that this impression was of any direct disadvantage. In my ears, Jane's second version of the notated points of gravity seems to represent her recorded performance in the most relevant way.

<u>Simon's illustrations</u>

Simon's *first phrasing curve* looks generally very straight with some smaller ascents. The part of the curve illustrating the rhythmic triplet figures in the left hand part of bar 38 had been notated on the extraordinarily low dynamic level of almost zero, which is by right supposed to represent an almost inaudibly soft nuance.

When comparing Simon's two illustrated versions of the musical excerpt at the same time as listening to his recording, we could both ascertain that the two phrasing curves looked very alike, sometimes almost identical, as revealed in Image 32 displaying the curves in the first bars of the excerpt. However, from the second system of the first page his *second* curve indicates a somewhat lower dynamic level than his first drawn curve. This was said to be in accordance with his acoustical impression when listening to the recording. In other respects, he claimed that he had succeeded fairly well in bringing out his interpretative ideas. When being recorded, his ambition had been to express his original plan. Nevertheless, he told that he had tried to listen to the recording with an open mind and without prejudices, although he admitted that he might still have been affected by his original musical ideas when listening.

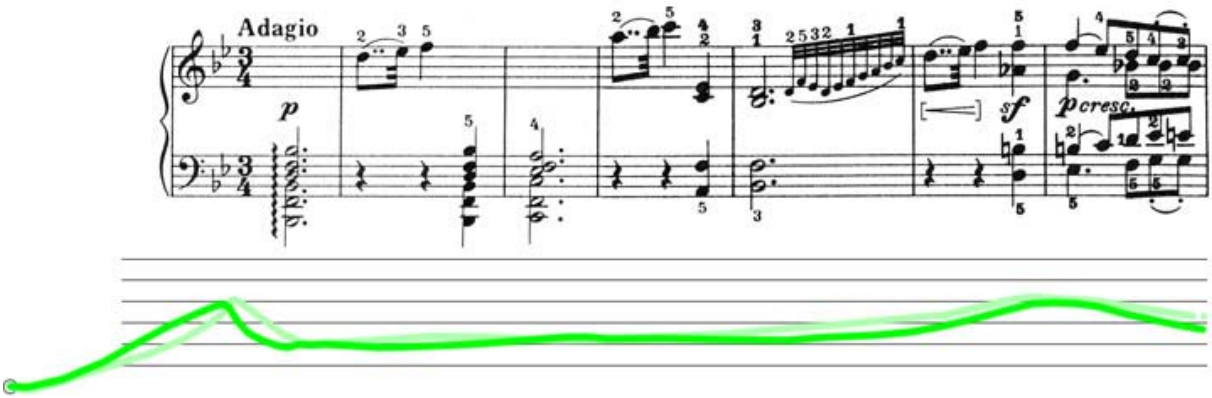

Image 32: Simon's first (light colour) and second phrasing curve (darker colour) illustrating the bars 1-7 of Beethoven B

Simon declared his opinion that it is not so interesting to know whether you have succeeded in realising your original musical intentions. The *thoughts* and the *reflections* which come up when working with the music are most important.

When listening to Simon's recorded performance, I sometimes experience small dynamic fluctuations not having been illustrated in any of his two phrasing curves. The lack of dynamic details in his curves might be explained by Simon's expressed intention of drawing a 'dynamic curve line' focusing on the big musical lines without many details, avoiding the interpreter's freedom of movement to be restrained.

In his *first* illustrated version, Simon had often notated *strong points of gravity* on the *third* beats followed by weak points of gravity located on the first beats of the succeeding bars, which is the case already in the beginning of the musical excerpt, for example, in the bars 2, 4, and 6. These kinds of notated points of gravity might be interpreted as conditioned by the *harmonic* progression of the music rather than the composition's bar-line *meter*. In the same way, the notated points of gravity on the *second* beats of the bars 39-42 seem to be based on the music's harmonic progression, maybe also on its rhythmic structure.

The *second* version of Simon's notated points of gravity resembles his first notations, even if he had generally notated somewhat *less* points of gravity. This was said to be considered as positive in favour of longer musical lines, although it was not made on purpose. When listening, he could simply not discern any more points of gravity, he said.

In the last page of the score, Simon refrained to notate any points of gravity at all. However, in the first page there are more of *strong* points of gravity in his second version. In the second page, he had also added some weak points of gravity on the *third* beats, for example, in bar 31 and 35. Simon claimed that the harmonic variations from bar 43 made him frustrated, because of giving rise to the experience of rhythmically *displaced* points of gravity.

<u>Olga's illustrations</u>

Olga's *first phrasing curve* looks rather 'hilly', particularly in the beginning, and sometimes it falls down to a notated extraordinarily low dynamic level. An example of this is at the entrance of the rhythmic triplet figures in the left hand part of bar 17, where the curve had even been notated *beneath* the bottom horizontal line of the device's dynamical scale.

As a contrast to the otherwise quickly changing shape of her curve, she had notated a dynamic top preceded by a long and straight crescendo just before the piano subito effect of bar 27. The part of her curve illustrating the dynamics of the cantabile section from bar 31 looks rather straight, as well as the section with the demisemiquaver roulades close to the end.

The *second* curve looks even 'hillier' than the first one, particularly in the first page of the score. Olga had notated some smaller dynamic ascents on the *third* beats, for example, in bar 4, and sometimes also on the *second* beats. She explained this shape by referring to the specific 'percussive' character of the piano instrument with its permanently changing amplitudes, inevitable random dynamic accents and constantly decaying tones. What you hear is subjective, Olga pointed out. For example, the distinction between a forte nuance and pitches in the high register seems to be diffuse. Furthermore, the bad reproduction of the sound 'cuts the decibels'. Everything sounds louder, more jangling and uniform than in a live performance, she stated. Olga also expressed her opinion that the shape of the phrasing curves was too subjectively related to the personal experience of the dynamics, which rules out every attempt to make a precise notation.

Olga told that she had drawn a curve that was sometimes diverging purposely from the first curve. For example, the second curve indicates a generally higher dynamic level, which was said to be in accordance with the special way that she had spontaneously chosen to play at the moment of the recording in order to maintain the musical tension better. The first illustrations were described by Olga as *idealistic*, whereas her second illustrations were more *pragmatic*.

She motivated her special way of performing the music by referring to her impression of the piano sound inevitably affecting the perceived dynamics, particularly when playing in a *slow* tempo. It does not work with too soft nuances, because then you will lose energy, Olga explained. This was said to be the reason for her spontaneous corrections of the originally planned nuances at the moment of the recording. As a consequence of her performance in a louder dynamic nuance, she drew a new curve generally indicating a higher dynamic level.

The notated piano subito effects had also been modified in Olga's second curve, for example, between the bars 15 and 16, which means that the curve does not fall down as much as in the first version. The subito effects should not be exaggerated either, Olga commented. The extraordinary low dynamic levels of Olga's first curve, for example, at the rhythmic triplet figures of the left hand part from bar 17, had also been modified to somewhat more relevant dynamic levels, at least in my view when paying attention to the nuances within her sounding performance.

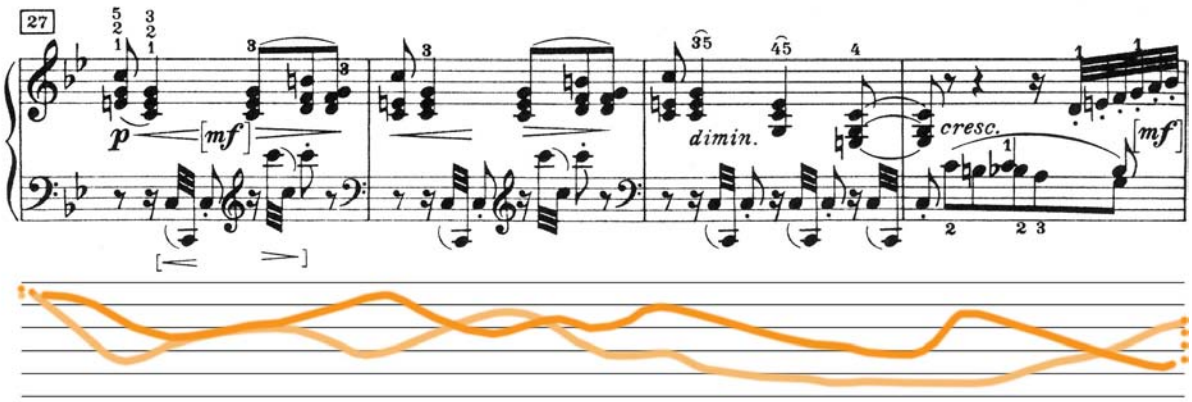

Image 33: Olga's first (light colour) and second phrasing curve (darker colour) illustrating the bars 27-30 of Beethoven B

As displayed in Image 33, in the bars 27 and 28 of her curve Olga had notated some dynamic details diverging from the corresponding notations in the first curve. According to her, she had felt it as wrong to follow the crescendo and diminuendo marks within the printed edition of the composition, for which reason she had spontaneously chosen to revise the printed dynamics of the two bars by simply playing quite *contrary* to what is prescribed. Olga told that she had planned

to be obedient in the first place, to be a 'brave pupil' reproducing the dynamics exactly as indicated, but at the moment of the recording she became conscious that she just could *not* play in that way and she did not want to play like that either. An interpretation of this is that Olga had experienced it as unnatural playing a crescendo when the melody moves down in the register and a diminuendo when it returns upwards. *In this case*, Olga seems to have preferred to play the melody according to a usual convention for how to perform classical compositions, saying that the pitch contour should normally be dynamically reinforced (cf. 6.2.3.2.; cf. 2.5.1.).

In the section with the demisemiquaver roulades close to the end, some parts of Olga's curve were missing in her second version. The reason for this was said to be her 'amazement' when listening to the recording at this place. The reproduction of the performance sounded constantly 'boisterous', for which reason she had chosen to draw a phrasing curve on a notated high dynamic level flowing more evenly compared to the corresponding part of her first curve.

Olga claimed that her dynamic 'listening curve' drawn on the spot represented her recorded performance in a more plausible way than her first 'planning curve'. This is also my personal impression after having listened to the recording. Bearing in mind that Olga complained repeatedly about the bad reproduction of the sound, the rather relevant shape of her drawn phrasing curve might be interpreted as indicating Olga's ability to still perceive the musical dynamics behind the alleged acoustical obstacles.

Maybe she was a little unfair to herself when illustrating the section with the demisemiquaver roulades close to the end by means of a curve indicating a constantly loud nuance. After all, in my ears there seems to be some dynamic fluctuations at this place of her performance which have not been illustrated equally well in the second version of her first phrasing curve.

In her *first* illustrated version, Olga had notated *points of gravity* densely in the two first pages of the score. In many cases, there are notations on metrically unstressed beats. For example, in the bars 18 and 22, respectively, Olga had defined every crotchet note as a 'weak point of gravity'. In the cantabile section beginning in bar 31, weak points of gravity are occurring frequently on the *third* beats. In many cases, the notated points of gravity seem to indicate expressive emotional emphasis, for example, on all the melody notes of the third beat within bar 36.

In the first page of Olga's *second* version, she had notated even more points of gravity, and sometimes on other notes than the first time. She explained this revision by referring partly to her experience of the piece's harmonic progression. From bar 17, however, her notations seem to be more or less the same as in the first version. In the cantabile section beginning in bar 31, Olga had notated somewhat more points of gravity in her second illustrated version, which she assessed as a more relevant representation of the sounding music.

Personally, in most cases I interpret Olga's 'points of gravity' as *emotional* and *expressive* emphases rather than emphases conditioned by the composition's bar-line *meter*, which means that the distinction between metrically stressed and unstressed beats is invisible in her notations. As displayed in Image 34, the third beat of bar 33 is an example of this: *all* the semiquavers had been defined as weak points of gravity. In the bars 56-57, all the syncopated crotchet notes had been defined as strong points of gravity. Olga explained the latter strong points of gravity by alluding to the loud and clattering sound of the recording.

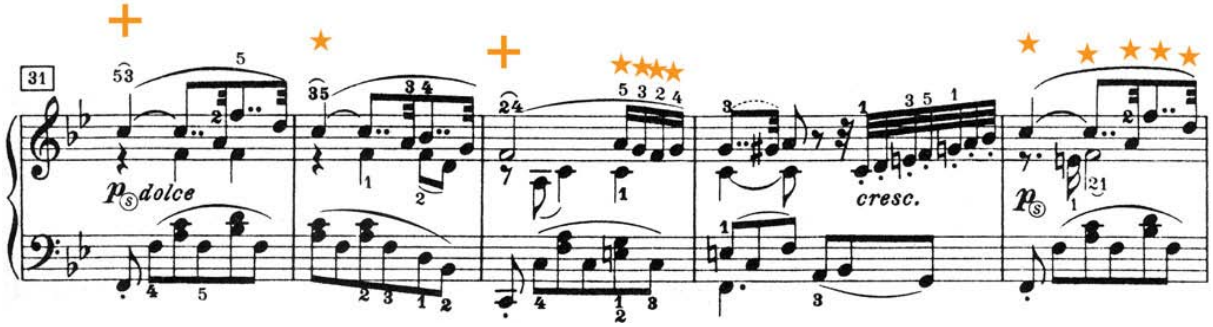

Image 34: Olga's notated points of gravity in the bars 31-35 of Beethoven B

Conclusion of the illustrations of Beethoven B

In the second illustrated version of Beethoven B, Paul's as well as Simon's *phrasing curves* resembled their respective first curves, whereas Jane and Olga seemed to have drawn 'hillier' phrasing curves the second time indicating a somewhat higher dynamic level.

When studying the participants' notated *points of gravity*, they seem to have interpreted the function of this visual tool differently. In many cases, their notations seem to be linked to *dynamic* stresses occurring on unstressed beats, to emotionally *expressive* emphasis or to notes imprinted by the piece's *harmonic* progression as well as its *rhythmic* structure.

Thus, the participants' different ways of using visual tools, as well as some of their verbal comments to this, might be summarised as follows:

Phrasing curves displaying big musical lines without many details (Paul, Simon)

Phrasing curves with a 'hilly' shape displaying many details (Jane, Olga)

Participant assessing the second phrasing curve to be most relevant (Olga)

Second phrasing curve resembling the first curve (Paul, Simon)

Revision of the notated dynamic levels when listening (all of the participants)

Participants experiencing the notated points of gravity as ambiguous (Paul, Jane)

Musical structure displacing the location of the points of gravity (Simon)

Participant using her own system for notating points of gravity (Olga)

Participant notating *more* of points of gravity after listening (Olga)

Participants notating *less* of points of gravity after listening (Paul, Simon)

Participant *revising* her points of gravity after listening (Jane)

Participants admitting that they might have been affected by their musical ideas (Paul, Simon)

Participant claiming that he notated more carefully when listening to the recording (Paul)

6.2.4. Summary of the participants' visual illustrations

When comparing all of the participants' visual notations illustrating the piano excerpts of this study, some patterns could be discerned. On a general level, some similarities between the participants' *phrasing curves* illustrating the big musical lines were observed. For example, they seemed to have agreed about the location of many dynamic high points within the musical excerpts. However, on a more detailed level, there seems to be many divergences between the stylistic shapes of the individual phrasing curves.

As exemplified in the Images 35-38 below, *three* different kinds of phrasing curves were found: one represented by Simon's drawn curves displaying big musical lines with few details (cf. Image 37), one represented by Jane and Olga, respectively, with a more 'hilly' shape displaying

many details and quick dynamical changes (cf. Images 36 and 38, respectively), and one represented by Paul in the middle between the mentioned two, displaying mainly the big musical lines but equipped also with more dynamic details than that of Simon (cf. Image 35).

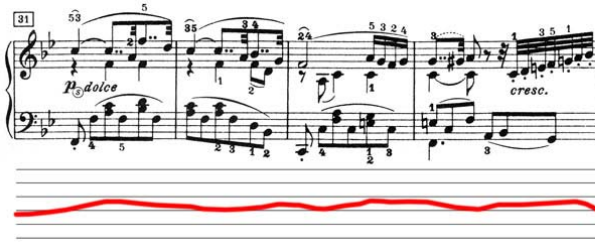

Image 35: Shape of Paul's phrasing curve in the bars 31-34 of Beethoven B

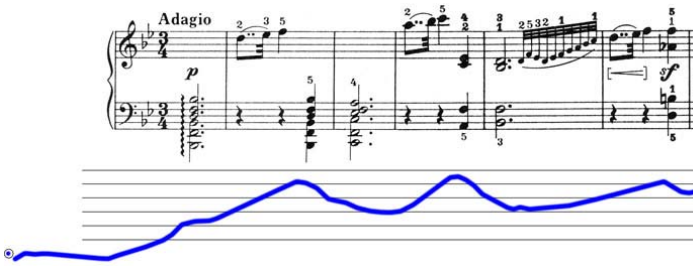

Image 36: Shape of Jane's phrasing curve in the bars 1-6 of Beethoven B

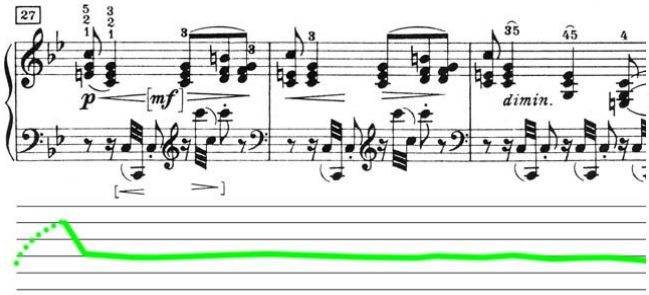

Image 37: Shape of Simon's phrasing curve in the bars 27-29 of Beethoven B

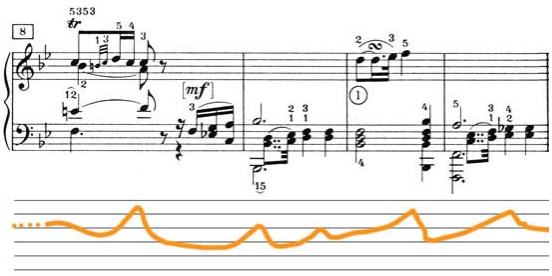

Image 38: Shape of Olga's phrasing curve in the bars 8-11 of Beethoven B

As concerns the participants' notated *points of gravity*, they have often been located to metrically unstressed beats, which means that they primarily seem to represent different kinds of performed *dynamic* stresses.

The analysis of the visual illustrations, as well as of the participants' own comments, seems to reveal the following general attitudes towards music:

- musicians *exploring* the deeper layers of the music
- the *disobedient* musician
- the *obedient* musician
- musicians focusing on *details*
- musicians focusing on *big musical lines*

The comments express a lot of reflections and musical thoughts, which might be interpreted as the participants' endeavours to find new solutions exploring further the depths of the music. Olga's discussed concerns about following the printed dynamic marks of the bars 27 and 28 in Beethoven B might be interpreted as revealing her choice between adopting an obedient and a disobedient attitude. Firstly, she had intended to be a 'brave pupil' performing the bars according to the prescribed dynamics, but at the recording she played it otherwise, because she realised that she was just not able to play like that. Jane and Olga had drawn quickly changing phrasing curves, which might be interpreted as their focus on musical details. Simon's curve, however, seems instead to reveal a focus on the composition's big musical lines.

6.2.5. Notations and spontaneity

In this section, a summation of the participants' comments on the balance between abiding by different visual notations and the need for musical spontaneity is presented. Firstly, their different attitudes towards notations are broached, after which follows a discussion focusing on the problem of feeling limited or not. In this study, all participants seemed to have a positive view in favour of reflection and music theory, which will be further discussed at the end of the section.

Paul declared that he had generally attempted to realise his original musical ideas, for which reason the performances were supposed to correspond to his original visual illustrations. As regards the musical excerpt *Beethoven B*, he explained that he had tried to focus on the sounding music when being recorded at the same time as realising the decisions he had made up at home.

Even if *Jane* seemed to appreciate the endeavour for achieving clearer musical ideas, she pointed out that this should rather not be at the expense of spontaneity and freedom when performing music. She declared that she would feel uncomfortable playing exactly according to her notations. On the other hand, it may be an advantage to stick to some basic musical ideas, so that you do not suddenly change everything, for example, in the context of playing chamber music.

Jane claimed that she is not used to concentrate so much on what she has planned when playing. Instead, she tries to focus on the wholeness of the composition. When listening to her recording of *Beethoven B*, Jane explained that the music sounded a little different than imagined, which however did not bother her so much. She told that she had experienced a liberalisation from the original plans when being recorded. You are free to depart from your plans, but every deviation results in new musical consequences, she concluded.

Simon claimed that he had followed his original notations without feeling limited by them. *Olga* declared that she was anxious of fulfilling the interpretative version that she had determined at home. Too much of spontaneity might result in consequences throughout the entire interpretative version, Olga claimed.

The feeling of musical freedom was bigger when playing from a 'pure' score without any extra notations written in, *Jane* claimed, which was also the case from the study's second meeting. She said that she plays preferably *by heart*. On the other hand, *Olga* declared that she would have preferred to play from a score with her own fingerings and structural analyses written in.

Jane claimed that she certainly knew which notes that were supposed to be 'stressed', but she still felt a little inhibited when playing, mostly due to her notations distracting the musical overview. Nevertheless, at the same time she said that it was an advantage to depart from a pre-determined basic model indicating the phrases and the high points:

> It feels easier to have decided in advance, because then you can play out better, I think.
>
> Det känns friare att ha bestämt innan, för då kan man mera spela ut, tycker jag.

According to *Paul*, he did not feel musically inhibited by having excogitated the music:

> Thus, the theories make us free in a way.
>
> Alltså, teorierna gör ju oss fria någonstans.

Simon pointed out that the musical ideas should rather 'be integrated with your body' ('sätta sig i kroppen'), so that you know what you want to do, and you do not have to search for the appropriate musical expression. There is still space for spontaneity and freedom. The visual tools as used by him were said to make everything *clear* without implying any feelings of being limited. You will get an elaborated basic image of the music that may be revised at pleasure, Simon claimed.

> I experience the version that I have worked out as natural to me. Then it will be something that is felt… it is not *far-fetched* but then it is settled, so it is not such a big problem for that matter to learn the form of the music by heart… I know for sure how I consider this matter.
>
> Den version jag har jobbat mig fram till känns att den blir naturlig för mig. Då blir det någonting som känns… det är inte *sökt* utan då ligger det så, så egentligen är det inte så stort problem att lära sig själva formen utantill…Jag vet hur jag ser på det.

When asking *Paul*, he did not experience that he would have played differently without visual tools, even if he admitted that you might get governed by the musical version you have chosen to illustrate, which diminishes the space of spontaneity. Visual illustrations displaying musical events might have a *corrupting* as well as a *reinforcing* impact when interpreting music, Paul claimed. Although feeling somewhat inhibited by her notations, *Jane* declared that she still liked to stick to a basic model as a point of departure for the musical interpretation.

Paul expressed his opinion that in a study like this you will make clear musical *decisions* by asking yourself questions. According to *Jane*, excogitating things before learning a piece of music is basically positive, but in an ulterior phase this might corrupt the spontaneous musical expressions. *Simon* claimed that when mastering the 'basic framework', you may feel freer and more spontaneous. A profound musical understanding makes you play better. It is crucial to get used to reflect and really *listen* to the music, he underlined. When carrying out the visual task, *Olga* declared that she felt 'forced' to make some musical decisions. According to her, she is used to analyse music without feeling inhibited. The musical analysis makes you feel *free*:

> But I am against so-called musical… 'spontaneity', and I definitely object to people who *show off* their ignorance by claiming: '— Bah, I do not need that and it is surely not necessary…!'
>
> Men jag är ju motståndare till musikalisk… "spontanitet", och jag är definitivt motståndare till att man skall sitta och *kokettera* med sin okunnighet genom att säga: — "Äh, jag behöver inte det där och det skall väl inte behövas…!"

A comparison between the participants' expressed views on notations and spontaneity might thus be summarised in the following way:

> Musical analysis might give rise to a feeling of freedom (all the participants)
> Participants *not* feeling inhibited by their notations (Paul, Simon, Olga)
> Visual tools might clarify the music without limited freedom (Simon, Olga)
> Participant claiming that the notations diminish the feeling of freedom (Jane)
> Participant preferring playing by heart (Jane)
> It is crucial to concentrate on the music itself when performing (Jane)
> Participant preferring her own system of notations (Olga)

The discussion about notation and spontaneity might be interpreted as revealing two basic attitudes towards music among the participating musicians:

- *musical analysis* considered as a crucial matter
- visual tools might clarify musical ideas and function as a trigger, or a springboard, for further *exploration* of the music's interpretative possibilities

6.2.6. Musical performances of the participants

This section focuses on different aspects within the participants' recorded performances. Firstly, the participants' own experiences of the musical excerpts are described, whereupon follows some of their comments on the corresponding performances. The choice of tempi is also broached, and finally, some interpretative problems of special interest will be discussed.

6.2.6.1. The characteristics of the musical excerpts as described by the participants

It is my impression that all of the participating musicians were particularly happy and relaxed when they had the opportunity to describe their experiences of the musical excerpts freely.

Mozart

The Mozart excerpt was described by *Olga* as well as by *Simon* as some kind of *dialogue*. Olga described her imagination of a conversation between a philosopher and poet. Simon told that he had rather imagined the piece as a dialogue between two different sides within one and the same personality, of which the one side is introverted and the other extroverted (cf. 3.1.1.: Edlund, 1992).

Beethoven A

When describing the characteristics of Beethoven A, Paul, Jane, and Simon often used the word *improvisatory*. According to Paul, the groping harmonies contribute to the improvisatory atmosphere of the music. The movement was described by Simon as an intermezzo or an improvisatory recitative building up a gradual expectation. Jane claimed that the piece should not be performed statically but in a free and improvisatory way.

The three participants mentioned also described the movement by using words like introverted and searching, mystic, ascetic and naked, fragile, susceptible, serious, thoughtful, and 'gloomy' with a 'deserted feeling'.

According to Simon, the music sounds a little 'uneasy' to begin with, after which the melody becomes 'excited' with a chasing dramatic character towards the end of the movement. The short melodious section of the bars 10-17 seems to be more 'hopeful', but as to the rest the music sounds *threatening*, in some parts even with a sentiment of horrifying fear, he claimed. Although Olga described the movement as expressing something 'uncertain', she seemed to have experienced the movement in a more light-hearted way by alluding to her experience of 'a thinking spirit on his way' ('en tänkande ande på väg'). Initially, you feel a 'cold wind blowing', she explained. Beethoven gives a *lecture*; he is a dignified, mature man and a philosopher, 'the secret guide' conducting Pamino and Pamina through the temple of trials.

Thus, when describing the characteristics of the movement, the participants sometimes associated with different phenomena *outside* the very musical world. Jane told that the composition made her think of the naked walls of Beethoven's flat in Vienna. At the cantabile section from bar 10 Olga explained her experience of a kind of *conversation*: somebody is presenting his thesis in front of an audience, lively responded by laughter and comments. In another section, Olga associated with a 'big balloon rising at the horizon'. However, when being asked she denied thinking in images; her associations are rather linked to different *phenomena* within the surrounding world. The music has the power of expressing profound human

conditions, and sometimes it might be experienced as a 'comforting hand on your cheek', she explained.

Paul told that he had experienced a long, 'inexorable' crescendo towards the dynamic culmination in bar 24, a culmination that is 'remaining' for a while. According to Olga, this dynamic culmination was supposed to be experienced almost as noise. Beethoven 'makes a fuss', the instrument rattles and the 'hammers keep on striking the strings'.

The very last tone of the movement is described as a little *bell* by Paul, and to Simon it is a *triangle* opening up for something new to happen.

Beethoven B

Also Beethoven B was described as being of an improvisatory, searching and ascetic character. According to Jane, the employed second movement of the sonata sounds more *elevated* than the first movement.

Paul told that he had experienced the music as expressing a warm and humble spirit. At the rhythmic figures beginning in bar 17, the melody begins to be more prominent transforming the music into a *story* telling about something inevitable that is going to happen. At this occasion, I asked Paul if he had experienced the music as 'dangerous' or 'friendly':

I don't know at the beginning, but you will know *later on*… (searching for words) …it is *exciting*!	Det vet jag inte i början, det vet man *sen*… (söker orden) …den är *spännande*!

There seems to be some sort of 'activity' in the music that might well flare up, Paul claimed. However, according to him, everything opens up at the cantabile section beginning in bar 31: here it is light, beautiful and *happy*. After that, the music does not seem to be pleasant any more because of the harmonic dissonances. Nevertheless, Beethoven brings everything to a stop in time, he explained. When the main theme is repeated from bar 43, Paul described the music as *imploring* and more flowing compared to at the initial part of the movement.

Simon described the atmosphere in the initial section, as well as in the cantabile section from bar 31, as primarily *light-hearted* without mourning. Later on, the music becomes more threatening and dramatic, partly due to the very special harmonies.

According to Olga, the music is of a generally *sunny* character. In the cantabile section from bar 31, a *Musa* comes in and starts singing. Olga described her experience of the crescendos succeeded by surprising piano subito nuances, for example, between the bars 22-23 and 26-27, respectively, as if somebody would offer a 'candy', but suddenly withdraws the saucer full of sweets. The repetition of the main theme from bar 43 made Olga think of a baritone or a cello. The music adopts a rich sound with exciting harmonies and intensified musical flow.

Paul described the rhythmic triplet figures of the left hand part beginning in bar 17 as a kind of *signals*. Simon did not characterise them as anything disquieting, even if they seem to forebode something that is going to happen further on. The rhythmic figures were said to have the function of an engine creating motive power that pushes the music forwards. Olga described these rhythmic figures in a similar way: They might be considered as markers of tension expressing something that is going on. Olga told me that she imagined a stage covered by 'smoke' at this place. By means of the rhythmic figures, the energy is maintained in spite of the slow tempo, which makes the music flow forwards, she explained. Bearing in mind that Olga often made associations to different instruments of a symphony orchestra, I asked her if the rhythmic figures might have made her think of some other instrument. She replied that it reminded of a *kettle-drum* with loosely stretched skin and hard drumsticks, but there are *no black bands on it*! The character is *not* sad at all, she concluded.

The demisemiquaver roulades beginning in bar 51 were described by Paul as a soft 'wind' or a kind of running cascade reinforcing a *positive* feeling. Simon told that he had experienced the basic atmosphere of this section as light, even if the rhythm and the roulades seem to create a certain amount of tension and perturbation. It is as if the music has begun to move in another direction, Simon explained. Olga described the roulades as a 'waterfall' in the background, reinforcing the inherent tension of the music.

When Simon was confronted with his colleague Paul at the study's last meeting, they discussed their diverging views on the character of the cantabile section beginning in bar 31. To Simon, the melody has a light and almost naïve character, but Paul seemed to have experienced the melody in a more *beautiful* way. Simon described the melody as a tune 'whistled by a little boy gladly walking along the road'. In his view, Paul's interpretation of the melody sounded more like

a somewhat older romantic…, a girl who has just fallen in love and who is able to shape her…	…en lite äldre romantisk… en tjej som precis har blivit förälskad och kan forma sin…

Simon continued describing his own experience of the melody as straight and articulated:

It does not pretend to be *noble*!	Den försöker inte vara *fin*!

Paul replied that in order to make him think of Simon's 'whistling, the music should have been composed more in the style of Mozart. Then Simon wondered if Beethoven's music always had to be experienced as serious and never naïve. Even if Beethoven's music is not serious in all cases, Paul explained that he was not able to distinguish a character like Mozart's *Papageno* in this very section of the piece. Simon replied that Mozart could indeed be serious as well. The way you choose to interpret a composition depends on the musical context, Paul claimed. Then Simon asked him if his choice of playing the cantabile section so seriously was linked to his experience of the introduction's character. Paul answered in denial and alluded to his experience of an extra dose of 'love' at this place.

Simon: Does that mean that you would have played it in another way, if the melody had not been linked to the introduction of the movement?	Simon: Hade du då spelat det annorlunda om melodin varit lösryckt från inledningen?
Paul: Of course, I am always affected by what I have played before.	Paul: Jag blir naturligtvis påverkad av det jag spelat innan.
Simon: And to me it is the other way around! It is urgent that there is a *contrast* to the serious introduction. There ought to be a counterweight and a new *colour*.	Simon: Och för mig är det tvärtom! Det måste vara en *kontrast* till den allvarliga inledningen! Det måste bryta av och bli *färg*.

Paul answered that Simon's ideas was by no means in opposition to his own intentions. However, at this place he strived for a 'light', *friendly* and maybe more polished character.

<u>Comparison between the participants' descriptions</u>

There seems to be many similarities between the participants' experiences of the characteristics of the musical excerpts as expressed by themselves.

In both of the *Beethoven* excerpts, the participants used words like 'ascetic', 'groping', 'introverted', 'improvisatory', and sometimes they alluded to the 'inevitable fate' when describing

the specific atmosphere. In *Beethoven A*, Jane had paid attention to the underlying 'choleric' personality of the composer breaking through the music now and then, whereas Paul described some sort of underlying 'activity' that might flare up in *Beethoven B*.

Paul described the very last tone of *Beethoven A* as a little *bell*, and to Simon it sounded like a *triangle*. The rhythmic figures in the left hand part of *Beethoven B* were described by Paul as some kind of signals. To Simon, they pushed the music forwards foreboding something to happen further on. Olga described them as markers of tension maintaining the musical energy flowing forwards and expressing that something is going on.

According to Paul, the demisemiquaver roulades close to the end of the excerpt might be imagined as a soft 'wind' or a running cascade. To Olga, they were supposed to sound like a waterfall in the background.

Apparently, all of the participants seemed to have focused on the light-hearted and happy aspects of Beethoven's composing style, even if Simon told that he had also experienced some other sections as dramatic, threatening and fearful. Olga denied the existence of any kind of sorrow or gloominess in this music. Instead, she described the composer as a mature lecturer and philosopher or the secret guide in the temple of trials.

The participants often used metaphors, imaginations and associations to different phenomena when expressing their experiences of the music. To me, the participants' verbal descriptions of the piano excerpts employed reveal a rich inner life. Their respective interpretative ideas when preparing their performances of the music seem to have been thoroughly considered in advance.

In my view, the participants' ways of describing the musical excerpts indicate the existence of two main personal characteristics:

- *imagination* and a rich inner life
- a desire of *exploring* further the potential depths of the music

6.2.6.2. The participants commenting on their own performances

This section deals with matters based on the participants' own comments of their recorded performances. In the descriptions of each participant's recordings some subjective remarks made by me have been interjected. These remarks should not be understood as any criticism for its own sake. The purpose has rather been to explore whether characteristics within the participants' performances could be traced in their corresponding illustrations. If so, the used visual tools might function as an aid facilitating the communication of musical interpretation.

Paul's performances

Paul's comments indicate that he seemed to be very anxious about performing the musical excerpts with big dynamic contrasts. In my ears, he played indeed with big dynamic contrasts in all of the excerpts. When interviewing Paul immediately after the recording of the *Mozart* excerpt, as an experiment he was asked to play the beginning of the piece in a way that might correspond to a visual illustration with sparsely notated points of gravity. When playing like that, I personally experienced a better musical flow. Musical interpretations of distinct classical compositions expressing a very dramatic character might easily diminish the impression of *simplicity* considered as typical of this musical style. Sometimes a performance might appear stronger in an emotional sense if the expressive measures are more economically selected and not closely packed together.

After having listened to his recording of *Beethoven A*, Paul told me that he was more satisfied than dissatisfied. Sometimes the 'phrasing curve' could have expressed more of dynamic contrasts, he claimed. As I understand this, he alluded to the sounding *performance* and not to the specific shape of his phrasing curve. At this occasion, Paul mentioned one probable reason for playing with restrained dynamic contrast: the nuance *mf* as marked in the printed edition.

Furthermore, he said that he was concerned with the composed rests and how precisely they ought to be performed.

In my ears, Paul performed the initial section of the movement beautifully, soft and tender with an emotionally concentrated atmosphere. To me, the shape of the corresponding part of Pauls' phrasing curve, indicating a constant low dynamic level, seems to represent the musical character of this section well. When listening to the long crescendo beginning in bar 21 towards the piece's dynamic culmination in bar 24, I personally missed the effect of speeding up the tempo slightly in order to increase the dynamical intensification. Paul's own visual illustrations might shed light on the somewhat static character of this section: According to his phrasing curve, the crescendo starts late and close to the culmination point. In the bars preceding this dynamic culmination he had notated points of gravity densely. The effect of bringing out all these notated points of gravity might stop up the experience of a movement towards the dynamic culmination (cf. Clarce, 1990; Shove & Repp, 1995; Friberg & Battel, 2002). This might be described as if driving a car on an uphill road while simultaneously applying the brakes.

When listening to the recording of *Beethoven B*, Paul assessed his performance as uniform because of lacking dynamic contrasts. Nevertheless, Paul claimed that he found it much more worthwhile to *listen* to the music compared to just performing it. Your inner feeling is not always in accordance with the final product, he supposed. He pointed out that it is necessary to use the *ears* more often. However, the different elements of the performance still were assessed as positively 'combined', although in another way than planned.

As Paul was asked to illustrate his recording of Beethoven B on the spot, he kept claiming that he would have tried to realise more of dynamic contrasts in his performance than he was able to perceive when listening. In spite of that, he claimed that the realisation of his original musical plans still seemed to meet up to the requirements.

When Paul was confronted with his colleague Jane, *she* claimed to have experienced the dynamics of his recording as very varied, which she had also illustrated by means of her somewhat 'hilly' and quickly moving phrasing curve. Paul replied that he believed that Jane might have been more sensitive to the touch of every single key and the 'percussive' character of the piano compared to the way he had experienced this himself:

Well, you keep trying to be an *illusionist*.	För man försöker ju vara *illusionist* alltså.

At this occasion, I alluded to Gärdenfors (1996/1999), who claims that the 'filling-in-mechanisms' (p. 64) ('ifyllnadsmekanismer') of the human brain enables the creation of illusions, and to Meyer (1967), who claims that in music single tones tend to be perceived as grouped into melody phrases.

Paul continued by commenting on his dissatisfaction of the melodious sections which should rather be played in a more dolce character. Jane replied that this impression might be due to the technically inferior sound reproduction. If he had the opportunity to play the Beethoven excerpt once again, he would probably have tried to play these very sections in a softer dynamic, Paul declared. He also underlined that the instrument and the room of the music are crucial aspects that have to be considered, as well as the way you experience the music at the very moment of performing it.

When being confronted with Jane's experience of the many points of gravity within Paul's performance as illustrated by her, Paul expressed his unquestionable intention of avoiding this impression. This avoidance is particularly important in melodious sections, where the 'stresses' cannot really be justified in that specific context, Paul explained. As an example of this, he mentioned the highest *f* notes of the melody phrase in the bars 31 and 35, respectively, which had both been marked as points of gravity in Jane's illustration of his recording. It is certainly true

that he himself had chosen to mark out the first *f* in bar 31 with a *star* (weak point of gravity) when illustrating the recording. However, he had not marked any corresponding point of gravity in bar 35, whereas Jane had marked out the *f* note in this bar even as a *strong* point of gravity. This impression of extra points of gravity in the cantabile section was said to be totally contrary to Paul's interpretative intentions. Nevertheless, Jane insisted that she had experienced a rather loud dynamic at this place.

Paul concluded by claiming that after all, there seemed to be many similarities between their respective illustrations of his recording, which supported him in his conviction that aside from the section with the many points of gravity discussed above, much of his musical intentions had been put into effect in his performance. Jane had however drawn a phrasing curve with a more 'undulating' shape in accordance with her experience of the music.

If he had the chance to perform the piece once again, Paul claimed that he would have practiced a little more on the section with the demisemiquaver roulades close to the end. According to him, this section appeared as somewhat 'sluggish'. He also said that he could imagine bringing out the *subito* piano effects in a clearer way.

Furthermore, Paul told that he would have liked to adopt his colleague Simon's idea of bringing out the hemiola rhythm in the demisemiquaver section close to the end. On the other hand, when listening to Paul's recording it is my impression that he had already succeeded in bringing out this hemiola rhythm spontaneously.

Jane's performances

When listening to her recordings, Jane sometimes criticised her own 'heavily stumbling' ('stolpiga') play. Generally, she had chosen to perform the musical excerpts in rather slow tempi. In my view, these slow tempi might aggravate keeping the musical lines together, particularly when playing an instrument like piano with constantly decaying tones. A slow tempo might also provoke the impression of stresses whenever a key is struck.

After having listened to her recording of the *Mozart* excerpt, Jane said that she would have preferred playing softer in the first page and with generally more of dynamic contrasts. When being interviewed, Jane sometimes demonstrated her musical thoughts by singing and playing on the piano. In these situations, I experienced her musicianship as more relaxed. An interpretation of this might be that she felt nervous when being recorded.

In her special score of the *Mozart* excerpt, Jane had notated quite many points of gravity. An interpretation of this might be that she had interpreted the visual task as if she were supposed to notate a certain amount of points of gravity in the score. When being asked to play the beginning of the excerpt corresponding to an imagined illustration with sparsely notated points of gravity, the music sounded more fluent in my ears. Jane commented that she had really nothing against playing the piece in this way.

According to Jane, she experienced her recording of *Beethoven A* roughly as she would have imagined. However, in the beginning she would have liked a more coherently flowing musical line. Since the last note of the melody part in bar 5 (*f*) is prolonged by being tied to the first beat of bar 6, it decays a little when being played on a piano. For this reason, Jane told that she had chosen to *adapt* the dynamic level of the decaying note to the succeeding note *e* by playing the latter note somewhat softer (cf. 2.2: Figure 1).

When listening to Jane's recording, the effect of speeding up the tempo slightly towards the culmination point in bar 24 sounds convincing in my ears (cf. Friberg & Battel, 2002). She had illustrated this section of the piece by means of a phrasing curve indicating a continuous crescendo with just a few notated weak points of gravity, which seems to correspond to the character of her sounding performance.

In the bars 2, 4 as well as 7, Beethoven has composed rests on the metrically stressed beats. Here, I experienced Jane playing slightly out of rhythm. In order to prevent a rhythmically confusing impact, the strong beats might be a little prolonged by means of so-called durative emphasis (cf. 3.1.11.), even if the strong beats happen to coincide with the composed rests in this case. In other words, I experienced Jane performing the rests too shortly, for which reason the tones of the entire phrase did not appear as connected (cf. Meyer, 1996). Maybe this phenomenon might be linked to the specific shape of the corresponding part of Jane's drawn phrasing curve, falling down steeply to the notated dynamic level of zero exactly where the metrically stressed rests are occurring. According to my instructions, the phrasing curve was supposed to illustrate the music's dynamical progression as *perceived* by a person instead of imitating an amplitude curve indicating the physical dynamic levels measured in decibels (cf. 2.3.). Normally, no tone within a piece of music will be experienced as *isolated*, but related to the preceding and succeeding tones (cf. 2.2.).

As concerns the recording of *Beethoven B*, Jane claimed that it sounded roughly as imagined, although not always. However, at the *third* meeting when illustrating her recording on the spot, Jane complained that everything sounded louder than intended. After all, she still seemed to be *pleased* with her recording, even if she would have preferred bigger dynamic contrasts and a somewhat quicker tempo in favour of more coherent musical lines. The dynamic subito effects in bar 50 were not clear enough, Jane continued, and the demisemiquaver section close to the end could have been performed in a quicker tempo.

In contrast to Jane's comments at the third meeting, she stated that she was *not at all pleased* with her playing when being confronted with her colleague Olga. She explained that she had experienced some difficulties bringing out the soft nuances. Nevertheless, she said that she was still satisfied with the initial section of the excerpt, although she would have preferred more flow and a better legato character. Maybe it would have helped speeding up the tempo slightly combined with a few extra dynamic measures, she supposed. She would also have preferred playing the cantabile section from bar 31 with a more coherent musical line.

At the interviews Jane seemed to have realised that a slightly quicker tempo might have worked better, at least in some sections. As I interpret her comments, there seems to have been a conflict between her wish to play slowly and her self-critical reactions when listening to the recording. Furthermore, she also told that she had found it hard to put the soft dynamics into effect. Maybe Jane's expressed criticism can be traced in the visual illustrations of her own recording: a phrasing curve displaying a 'hilly topography' with some notated very high 'peaks', as well as notated points of gravity on practically all of the bars' first beats, which might give rise to the impression of the bigger musical lines as divided into smaller segments.

Simon's performances

In my ears, Simon performed some sections of the *Mozart* excerpt temperamentally with many quick dynamical changes within the single phrases. At the same time, Simon declared that he imagines music in long coherent lines. When discussing the classical style of Mozart, Simon wondered if his performance might have been of a too 'romantic' character.

When interviewing Simon immediately after his recording, I asked him to play the beginning of the Mozart excerpt one again in a way that might correspond to an imagined visual illustration with sparsely notated points of gravity. To me, his play sounded simpler and more tasteful this time. However, Simon did not seem to like this way of playing. When leaving out so many points of gravity, you do not do pay enough attention to the harmonies, he pointed out.

According to his comments, Simon seemed to be particularly concerned with the *harmonic* progression of a composition. In my view, there seems to be some kind of a contradiction between Simon's expressed wish to focus on the interesting harmonies on the one hand, and his

strivings to shape long coherent musical lines on the other. Paying too much attention to the details 'along the road', so to speak, might if it comes to the worst result in stopping the natural movement forwards in tempo, giving rise to an impression of fragmented musical lines.

In my view, the quick dynamical changes of his performance are not visible in his straight-looking phrasing curve, even if its shape covering a large range of amplitude seems to correspond to his intention of playing the piece with big dynamic contrasts.

When listening to *Beethoven A*, Simon claimed to have succeeded in realising his original musical plans. According to him, his visual illustrations seemed to correspond fairly well to the performance. He commented on his somewhat 'extreme' tendencies, and that he often 'likes to express himself generously' ('tar gärna ut svängarna'.).

In my ears, Simon performed the initial section of the movement in a beautifully concentrated atmosphere. The corresponding part of his drawn phrasing curve indicating a very soft dynamic level might be interpreted as mirroring this special character. In some other sections of the movement, I experienced him to be almost a little 'wild'. When studying his visual illustrations I cannot really trace these temperamental sides.

According to Simon, he could indeed have drawn a phrasing curve expressing more of musical details, but he had found it more fruitful with a curve displaying exclusively the big dynamic lines, in this way leaving space for the musician's interpretative freedom. This explanation seems to be a plausible reason for some obvious divergences between the performed dynamics and the shape of the corresponding parts within his phrasing curve.

After having listened to *Beethoven B*, Simon declared that he did not get any different image of the music compared to what he had before, although he admitted that everything did not come out exactly in the same way as intended. The reason for this was said to be his inner image of the composition that had remained *unclear* ever since he started to play it. The other two musical excerpts of this study were much easier to figure out, he claimed.

In my ears, the initial section of Simon's performance sounded calm and beautiful. However, I experienced his temperamental sides waking up a bit too early, for example, by speeding up the tempo considerably. Bearing in mind that the excerpt represents the second slow movement of a sonata that is in many respects composed in a traditional classical style, it seems doubtful to me to grant the music with an exaggerated dramatic character.

When being confronted with his colleague Paul, Simon commented that he could imagine working a little more on the shape of double dotted rhythm with demisemiquavers notes in the right hand part of the cantabile section beginning in bar 31. However, in general you keep trying to realise the musical ideas that you had in the first place, Simon explained. In contrast to Paul, Simon had chosen to interpret the melody at this place as simple and naïve. In Simon's ears, Paul played it more beautifully with more of 'body' than naivety.

Simon criticised his own performance of the hemiola rhythm, in the section with the demisemiquaver roulades close to the end, because of not appearing clearly enough. He would still have preferred to keep a rich expanded sound without making any compromises as concerns the clearness of the hemiolas for this reason. On the other hand, this rhythm should not sound like baroque music either, Simon commented. The specific harmonies of the bars' second and third beats make the experience of points of gravity displaced, he complained. He said that he had felt it as frustrating that Beethoven gradually builds up expectations in his music by means of periods, patterns, and structures, after which he breaks everything down again.

To me, Simon played the mentioned section intensely and virtuously without making any technical mistakes. The corresponding part of his phrasing curve indicates a continuously high dynamic level, which might be interpreted as mirroring this intense character in an adequate way.

Aside from in this section, the rather straight and moderate shape of Simon's curve does not seem to mirror the temperamental liveliness of his performance.

Olga's performances

When performing the *Mozart* excerpt, Olga sometimes extended the left hand part by playing with parallel octaves. At the interview, she explained this by alluding to her tendency of imagining music in an orchestral way.

After having listened to her recording, Olga stated that it did *not* sound as she had imagined, partly because of the bad reproduction of the sound. She also claimed that when listening, you will always run the risk of being affected by your own ideas of how the music should sound.

Olga's phrasing curve indicates a large range of dynamic amplitude, and she had also notated many points of gravity in her special score. To me, the notated big contrasts between low and high dynamic levels seem to be less striking in her performance.

In all of the interviews, Olga demonstrated her musical thoughts by singing and playing. In the same way as Jane, her musicianship appeared as more relaxed at these occasions. An interpretation of this might be that they both felt a little nervous when being recorded.

Olga criticised her own playing when listening to her recording of *Beethoven A*, and she ascertained that it might be necessary to exaggerate the musical expressions in order to realise certain interpretative ideas:

> …a great deal of the interpretation, or actually the per-formance, exists in my *head* and now I really begin to be interested in how much of my personal conception about the effect, and to what extent… how much does the listener actually perceive?
>
> …väldigt mycket av tolkningen, om man så säger, framförandet, finns i mitt *huvud* och nu börjar jag verkligen intressera mig: Hur mycket är min egen föreställning om effekten och hur mycket är… hur mycket når egentligen åhöraren?

In some other sections of the recording, Olga thought that it sounded about as expected. She explained her intention of keeping the initial part of the movement in a soft nuance allowing the harmonies to create the impression of an increasing intensity without playing louder. At this place, I experienced Olga playing rather loudly in spite of her expressed intentions. If so, the beginning of her phrasing curve indicating a constantly low dynamic level does not represent the dynamic level of her performance at the corresponding place. An explanation might be Olga's declaration that she felt that the instrument was hard to master. When playing the piece, she complained about her feeling of not coming down 'into' the keys, which made her feel lost.

Olga also claimed that she should have played the first beats within each bar a little *later*. At this occasion, she referred to a statement made by the eminent baroque harpist *Andrew Lawrence King* saying that 'the first beat in the bar should always be late and solid'.

I have understood these comments as alluding especially to the composed rests on the first beat of the bars 2, 4, and 7, respectively. In my ears, Olga performed the rests in a somewhat arrhythmic way. In order to maintain the rhythmic balance, such metrically stressed rests might be advantageously performed by means of durative emphasis (cf. 3.1.11.).

While listening to her recording of *Beethoven B*, Olga expressed a lot of self-critical comments. As was also the case when listening to the previous musical excerpt, she complained that everything sounded loud and that her own inner 'auditory image' did not correspond to what she heard. Nevertheless, she admitted that the music still sounded beautiful sometimes, although she would have preferred playing softer in the cantabile section beginning in bar 31.

When listening to her recording at the fourth meeting, Olga kept criticising her technical problems at the section with the demisemiquaver roulades close to the end of the excerpt. At this place, she would have preferred a more 'shimmering' sound, but instead everything sounded generally 'noisy'. She commented on her colleague's recording as representing a more 'safe' version because of her choice of a slower tempo. Olga's *second* phrasing curve drawn on the spot looks somewhat 'hilly', indicating a large range of dynamic amplitude, maybe illustrating her alleged impression of the recording's too loud dynamics.

Conclusion drawn from the participants' comments on their own performances
All of the musicians participating in the study seemed to have listened to their respective recordings attentively with self-critical ears. In some cases, they seemed to be rather satisfied with their performances.

However, Jane seemed to be more self-critical when being confronted with her colleague Olga compared to what she had intimated at the preceding meetings. It should be underlined that there had been an interval of more than a month between the third and the fourth meetings focusing on Beethoven B, which might explain Jane reconsidering her previous assessment of the performance. Another explanation might be that she had not expressed what she really felt in the first place because of feeling shy in front of a researcher focusing on her play. A third possible explanation might be that when being confronted with Olga, she felt anxious about the colleague's contingent critical remarks, for which reason she wanted to make clear that she was perfectly aware of the recording's negative aspects.

The participants' performances as well as their comments expressed at the interviews might be interpreted as revealing the following different attitudes towards music:

- focus on small *details*
- focus on *big musical lines*
- endeavour of *analysing* musical elements
- inner *imagination*
- *exploration* of the music

This categorisation is not supposed to be linked to any single participants (cf. 4.5.). For example, according to his comments Simon seems to have focused on smaller *details* (harmonies, rhythms, etc.) as well as on *big musical lines*, which means that he might be considered as a representative of two different categories. When reflecting on their own musical interpretations, the participants often alluded to their interest in *analysing* music. The use of metaphors describing the compositions' characteristics seems to reveal a lot of *imagination* implying also the participants' wish to *explore* the deeper layers of the music.

6.2.6.3. Comments on the choice of tempi

This section deals with the participants' individual choice of tempi when performing the piano excerpts of this study. In the interviews, the participants often referred to the appropriate relationship between a chosen tempo and different aspects within the music, such as the rhythmic structure and the fluctuating dynamics. Paul and Olga expressed their endeavour of keeping a *constant* tempo throughout the compositions. However, after having checked with a metronome I realised that none of the participants had played the excerpts with a constant tempo.

The tempi of Paul's performances

When discussing the *Mozart* excerpt, Paul claimed that the tempo you choose will inevitably affect in what way the music is perceived. He also thought that it is harder to keep the phrases together in a slow tempo. As concerns the musical excerpt *Beethoven A*, the composed syncopations and the specific rhythmic structure facilitate playing in a relatively slow tempo, he supposed.

In *Beethoven B*, Paul's tempo was fluctuating a little around an average of about the *crotchet* note to equal *44* beats per minute. He declared that he was a little 'confused' because of not being able to find the appropriate tempo. Since he wanted to maintain the same tempo throughout the musical excerpt, he decided to adapt the tempo to the technically somewhat demanding demisemiquaver roulades close to the end. However, he admitted that a fixed tempo does not exclude a little bit of 'movement forwards' in some sections.

Paul also questioned the necessity of performing the double dotted rhythm within the melody part of the cantabile section beginning in bar 31 exactly as prescribed in the printed edition. The notes should not be played too 'literally', he claimed. Instead you ought to give space to a certain flexibility, which means that it might be necessary to 'stretch' the rhythm a little. Personally, I agree with his performed modification of the rhythm at this place, which makes the melody appear in a smoother way. Paul expressed his supposition that only an 'analyst' would be disturbed by this kind of freer interpretation.

The tempo of Jane's performance

In her recording of *Beethoven B*, Jane's tempo seems to fluctuate rather much around an average of about the *quaver* note to equal *66*, which means the *crotchet* note to equal *33* beats per minute. She expressed her conviction that the performance of this piece in a slow tempo based on the *quaver* notes was musically justified. This was said to be inspired, among other things, by a record with the eminent Russian pianist *Emil Giles*.

Nevertheless, in the interviews Jane admitted that in some sections she had found it hard to make the music flow. When being confronted with Olga, Jane assessed her own recording as 'heavily stumbling' ('stolpig'). Maybe a somewhat quicker tempo would have helped, she reflected. On the other hand, she really liked performing the piece in a slow tempo.

At the fifth meeting, Jane and Olga discussed the double dotted rhythm within the melody part of the cantabile section beginning in bar 31. In some respects, this rhythm indicates a slow tempo, Olga claimed. However, the movement has still been notated in *three* beats to a measure, she continued. To her, the movement might be described as a kind of 'Sarabande' in which the first bar is like a 'portal' and the second the stressed 'capital' bar. In this way, a logical rhythmic pattern is established with stresses on the first beats of every second bar, she claimed.

At this occasion, Olga went up to the piano demonstrating her musical ideas of this section. To me, she expressed her thoughts in a convincing way: The *double* dotted notes of the melody part enable a preserved tension even in a slow tempo, but in a quicker tempo they would sound peculiar. On the other hand, if the notes had been composed in a *single* dotted rhythm, the music would have totally lost its elasticity in a slow tempo. In this latter case, a quicker tempo would have been more appropriate.

This means that the composed rhythmic structure speaks in favour of a slow tempo, Olga continued. However, it is still crucial to create the illusion of legato and a movement forwards in time. According to her, the section should sound like a melodious song. This means that although they had performed the excerpt in somewhat diverging tempi, Jane and Olga agreed that the prescribed 'Adagio' should be interpreted as a basically slow tempo.

The tempo of Simon's performance

In Simon's performance of the musical excerpt *Beethoven B*, the tempo seems to fluctuate a lot with an average around the *crotchet* note to equal *50*. One reason for his choice of a relatively fast tempo was said to be his experience of the second theme's special character. Although a slow tempo is prescribed in the printed edition, there should still be a coherent line implying a movement forwards in the music, he pointed out.

At the fifth meeting, I retold Olga's idea about the correlation between the double dotted rhythm in the cantabile section beginning in bar 31 and the appropriate tempo of the piece. According to her, this rhythm speaks in favour of a slow tempo. Therefore, I asked Simon about his view on this matter. As I experience his performance he had in fact played the excerpt in a rather fast tempo at the same time as articulating the double dotted rhythm very sharply. The character of his performance at this place indicates that Olga's idea might not always be valid.

Simon answered that the second theme's light-hearted character appears to advantage in a quicker tempo. He told that he had imagined the melody as something that might be performed by an *instrument* rather than a *song*.

At this occasion, I also asked Simon about his tendency, at least as experienced by me, of playing virtually all the dotted notes within all the musical excerpts sharply, as if they had been notated as *double* dotted notes. He answered that he strived for shaping clarity and significant musical *characters*, in this way preventing the music to sound boring and ironed out. When performing, he thus wanted to create a dramatic atmosphere with many contrasts giving form to different voices. All kinds of thoughts that you want to communicate in different contexts presuppose a legible formulation by the originator, Simon pointed out.

However, to Simon's colleague Paul the melody of the cantabile section appeared primarily as a melodious song. When the two participants discussed this matter at the fifth meeting, Paul went up to the piano and demonstrated his interpretation of the melody's double dotted rhythm, whereupon Simon exclaimed, obviously deeply impressed:

It is wonderful, fantastic! It is just that I cannot play like that.	Det är underbart, fantastiskt! Men det är bara det att jag inte kan spela så.

Thus, Simon assessed Paul's version to sound more convincing than his own. Paul answered that he was perfectly aware that he did *not* perform the demisemiquaver notes in a precise way, but he did not want to play them precisely either. You will have to give some extra space to the 'violin bow' or to an imagined singer facilitating the preparation of the intervals, he claimed.

After all, Paul concluded that he had experienced their respective tempi as basically similar. However, when comparing the two participants' tempi by means of a metronome, I noticed that Simon had played the piece faster than Paul.

The tempo of Olga's performance

In Olga's recording of the piano excerpt *Beethoven B*, the tempo fluctuated considerably with an average at about the *crotchet* note to equal *36* beats per minute. She described the piano as a 'percussion instrument', and this insight was said to be of vital importance when choosing an appropriate tempo. In a too slow tempo, it does not work with soft nuances, because you will run the risk of losing energy, Olga claimed.

It will be transformed into film music… a story about a smashed mirror or something, or… *icicles*, you will not hear it.	Det blir ju filmmusik… som handlar om en sönderslagen spegel eller någonting, eller… *isdroppar*, det hörs ju inte.

On the other hand, Olga continued, a somewhat faster tempo makes it possible to play with softer dynamic nuances. She explained that when performing the excerpt, she had modified the dynamics in the very moment by playing spontaneously *louder* compared to what she had planned to do when preparing the piece at home. The main reason for her choice of a slow tempo was said to be the technically demanding section with the demisemiquaver roulades close to the end.

If she had felt more confident in a technical sense, Olga told that she would have preferred a faster tempo based on her experience of the cantabile section beginning in bar 31. The melody should sound like a song, she claimed. At this occasion, I asked her if she could imagine changing the tempo a bit from one section to another. —'Absolutely not!', Olga answered without hesitation. When checking her recorded tempo with the metronome, however, I noticed that she played with rather big temporal fluctuations.

Olga continued by reflecting on the tempo marking 'Adagio'. In view of the special character of the cantabile section, this marking is misleading, she claimed. Then I asked her if she thought that Beethoven had done a mistake when prescribing a slow tempo to the movement.

No, but maybe Beethoven wanted to give us a challenge… to figure out, how do we solve this? About in the same way as you have given us a task: How do we solve this?	Nej, men Beethoven vill väl ge oss en uppgift… och se hur löser vi det här? Ungefär som du har gett oss en uppgift: Hur löser vi det här?

The initial part of the piece won't bear any too slow tempo either, Olga claimed and went up to the piano demonstrating her reflections in sounding form: —'You will fall asleep'.

Olga comments indicate that she had experienced her recording as far too slow. An interpretation of this might be that she had experienced a conflict between her endeavour of keeping one and the same time throughout the piece on the one hand and her alleged finger technical problems forcing her to play the piece in a slower tempo on the other. When meeting Simon at the study's fifth meeting, she declared that she had still played a bit too fast in the view of her limited technical skills, which means that she had chosen to give up a more correct performance 'sacrificing' the precision of the demisemiquaver roulades.

Retelling what she had been taught during her conductor education, Olga insisted that you should rather not change the tempo in the middle of a piece, particularly not because of lacking technical skills. In that case, you should consider playing another composition instead, she stated. In contrast to her statements, Simon, who is a conductor as well, declared that he had nothing against some fluctuations within the tempo. For example, in a classical sonata form the tempo of the second theme may differ slightly from that of the main theme.

Referring to what is asserted in a book dealing with, among other things, Mozart's opera 'Die Zauberflöte' (Branscombe, 1991), Simon presented the theory that musicians of the eighteenth century might have played generally faster compared to what is usually the case today. One of the indications mentioned in the book supporting this theory is the documented precise duration of the performance of Mozart's opera from the start until the end, all according to written reliable sources from that time. Nowadays, 'Adagio' is often interpreted as a very slow tempo, Simon continued. He supposed that a probable reason for this is that the music of the classic epoch tended to be based primarily on *rhythm*, whereas the music of the succeeding romantic epoch, focusing mainly on the harmonic progression and *sonority*, might have opened up the way for choosing relatively slow tempi, which seems still to be the case in present time. A focus on harmonies and the beauty of sound demands more space of time, Simon concluded.

Conclusion of the choices of tempi

A comparison between the participants' comments on their individual choices of tempi might be summarised in the following way:

Participant preferring a slow tempo (Jane)
Participants preferring a somewhat quicker tempo (Paul, Simon, and Olga)
Choice of a tempo based on the demisemiquaver roulades (Paul, Olga)
Tempo and dynamics relating to each other (Olga)
Participants preferring a constant tempo (Paul, Olga)
Participants allowing some fluctuations of the tempo (Jane, Simon)
Participants striving for musical flow at the cantabile section (all participants)
Double dotted melody notes speaking in favour of a slower tempo (Olga)
Shape of the melody allows playing the double dotted notes freely (Paul)
Character of the music reinforced with sharp double dotted notes (Simon)

The participants' comments on their individual choices of tempo might also be interpreted as revealing the following different attitudes:

- *analysing* musicians reflecting on different aspects of the musical excerpts
- musicians *exploring* interpretative possibilities
- *obedient* musicians
- *disobedient* musicians
- musicians focusing on musical *details*

As I interpret the participants' comments, they seemed all to have *reflected* a lot on the music, considering different interpretative solutions. They also seemed to have been interested in *exploring* the music including smaller *details*. One example of this is Simon's expressed concerns about bringing out different musical characters. Paul's rhythmically free performance of the double dotted notes within the cantabile section of Beethoven B might be considered as an example of 'creative *disobedience*' in relation to the prescribed rhythm within the printed edition. Another example of positive disobedience is Olga's doubt about the interpretation of the tempo marking 'Adagio'. On the other hand, Paul's and Olga's expressed conviction that you should keep a constant tempo throughout a composition might be interpreted as an expression of *obedience* towards certain conventions of classical music, maybe influenced by what they had been taught by their respective music professors.

6.2.6.4. Interpretative problems of special interest

This section broaches some problems of special interest in the context of the participants interpreting their musical excerpts.

Since I had noticed that *Paul* varied his performance of the *turns* (It. 'gruppeti') within the melody part of Beethoven B from one time to another, I asked him why. Paul replied that this was motivated by the specific musical context in which the turns were occurring. Generally, he did not want to perform them sharply. I continued by asking him about his inconsistent way of treating the sustain pedal, at the demisemiquaver anacrusis of the right hand part in bar 30 on the one hand, and at the almost identical demisemiquaver anacrusis of bar 34 on the other. In bar 30, he seemed to play with the sustain pedal pressed down, whereas he seemed to play the corresponding anacrusis in bar 34 without using any sustain pedal at all. Paul admitted this, but he told that this was not made on purpose. He supposed that he had used the sustain pedal

spontaneously the first time in order to introduce the succeeding *dolce* character contrasting to the character of the previous musical section, whereas he had played without any pedal in the corresponding bar 34 because of the dolce character being already established.

Simon explained his experience of Beethoven B as a composition with an unnatural form, giving rise to the impression of the elements revolving randomly in circles without any deliberate goal:

> I can feel that… when finding a solution I normally want to feel… some sort of a flash of an idea or impulse that *there* it is… that somehow there is an inner logic.
>
> Det som jag kan känna är att… jag brukar alltid vilja att när man hittar en lösning, så skall det kännas… att det klickar till på något sätt eller var man känner att *där* blev det… att det liksom finns en inre logik.

The pieces of a puzzle should fit together, Simon continued. In the same way, it is crucial to find a key to the composer's intentions. It is frustrating that Beethoven builds up metrical periods and musical structures which he later on *neglects*, Simon thought. The musical expectations are never fulfilled, and the composer seems to break them without *finesse*. An example of this, Simon explained, is in the initial part of the musical excerpt, where metrical periods of two unified bars are established. However, as the piece progresses, the perceived points of gravity seem to be displaced towards the *second* beat of the bars due to the rhythm of the harmonies. As I have understood Simon, he alluded to the section where the theme is repeated from bar 43. If this had been Mozart instead, nothing like that would have happened, he continued. Breaking the patterns in a more logical way does not necessarily mean that the music is boring. Here it seems like telling a funny story to which there is no point at the end, Simon declared. The 'story' seems to be 'far-fetched' and it ends with a 'banal anticlimax' ('platt fall').

When being confronted with his colleague Paul at the last meeting of this study, the latter participant opposed Simon's complaints. Paul told that he had experienced Beethoven's way of breaking expectations as something *radical* in a positive sense:

> I think it is pretty 'cool' in a way!
>
> Jag tycker det är lite "fräckt" så där!

If I have understood Simon correctly, he might have experienced the diminished *ninth* chords on the *second* beat of every second bar from bar 43 as some kinds of *stresses*. I went up to the piano demonstrating some possible solutions for avoiding the strong beats to be perceived as displaced. For example, the first beat within the bar might be performed with an agogic 'stretch' followed by a diminuendo towards the second beat. Simon insisted however on externalising his experience of the music as confusing, which means that my sounding demonstration did not seem to have made any impact on him. The problem might be explained by Simon's probable tendency of focusing particularly on the interchange between the harmonies and the composed rhythm. Presumably, the music appeared to him as rhythmically displaced due to his special experience of the ninth chords.

As to Paul, he did not seem to be disturbed by this at all. He claimed that breaking the expectations you have been lulled into is typical of Beethoven's musical style, for example, by means of accents and *sfz* marks. I do not understand that kind of 'humour', Simon replied.

When recording Beethoven B, *Olga* played spontaneously louder and with more of stresses than she had planned to do in the first place. The reason for this was said to be her endeavour of maintaining the musical tension in the relatively slow tempo. She explained her sudden reassessment by alluding to her experience of the piano's percussive sound at the moment of the recording:

> Yes, it is marked piano, I *know* indeed that it should be soft, *but* I cannot really play softer than this. I cannot play…
>
> Ja, det står piano, jag vet *om* att det är svagt. *Men* jag kan ju inte spela det svagare än så här. Jag kan ju inte spela…

Olga tested different interpretative solutions on the piano. Suddenly she exclaimed:

> But *Yes*, I can!!… *Ooh*, this was hard! My whole conception of the world collapses!… Oh, how beautiful *this* is!
>
> *Jo*, det kan jag ju!!… Men *usch* vad besvärligt! Hela min världsbild rasar!… Nämen, vad vackert *det* blev!

Now Olga tested to play in a really *soft* dynamic without bothering about the slow tempo.

> Please, cut out what I said! Oh, it is indeed possible to do like this as well!
>
> Men stryk det jag sa! Å, det går verkligen att göra så här också!

Conclusion of interpretative problems of special interest

Olga seems thus to have discovered new interpretative solutions during the study. Nevertheless, to me her arguments in favour of playing the melody part louder due to the slow tempo are still perfectly consistent. I have heard the same kind of musical advice in many other musical contexts. The piano is indeed an instrument with an inexorably decaying sound created by every key struck, which means that when playing too slow and too soft it might be hard to emulate the shape of a coherent melody. Aside from this, Olga's discovery indicates that sometimes people may be receptive, opening up to wider mental horizons, which in this case implies a bigger range of musical interpretative options compared to a previous, more restrained view.

The participants' discussions about special interpretative problems might be summarised as follows:

> Performance of the melodious 'turns' adapted to the musical context (Paul)
> Use of the sustain pedal adapted to the musical context (Paul)
> Structure and form of the composition experienced as unnatural (Simon)
> Strong beats experienced as displaced because of the harmonies (Simon)
> Melodies played louder in a slow tempo (Olga)
> Discovery of new interpretative solutions during the study (Olga)

The participants' comments on these issues might also be interpreted as revealing the following attitudes:

- *analyses* and reflections on the music
- *exploration* of new interpretative solutions
- focus on musical *details*
- focus on *big musical lines*

Paul's varied performance of the melodious 'turns' as well as his treatment of the sustain pedal adapted to the specific musical context might be interpreted as revealing an *analytical* and reflecting attitude. His explanations also indicate a focus on musical *details*. Olga *explored* new interpretative solutions during the study. Simon's expressed frustration when interpreting the Beethoven excerpt seems to reveal a conflict that had arisen between his endeavours of detecting *big musical lines* and his alleged experience of the composition's inconsistency.

6.2.7. Two participants' illustrations of one and the same recorded performance

This section deals, among other things, with each participant's illustrations of one of their colleagues' recording of *Beethoven B*. These visual illustrations have been compared to the performing musician's own illustrations of the recording. At the study's fifth meeting, each participant met the colleague who had illustrated his/her recording, whereupon the two participants had the opportunity to discuss the performances and illustrations freely. Some subjective remarks concerning the plausibility of the illustrations have been interjected in this section as well.

6.2.7.1. Paul being confronted with Jane at the fifth meeting of the study

After having compared the two sets of illustrations of *Paul's* recording, I started by summarising my personal impression of the characteristics of the visiting colleague *Jane's phrasing curve*, as well as of the one drawn by Paul when listening to his own recording: Jane's curve looks somewhat 'hillier' than that of Paul, and it has also been notated on a generally higher dynamic level, as exemplified in Image 39, displaying the participants' illustrations of the bars 48-51. Paul's curve has generally a more even shape indicating a low-voiced nuance. Nevertheless, some similarities between the two curves may still be discerned, although the notated dynamic fluctuations within Jane's curve seem to be somewhat magnified compared to how the dynamics appear when listening to the recording.

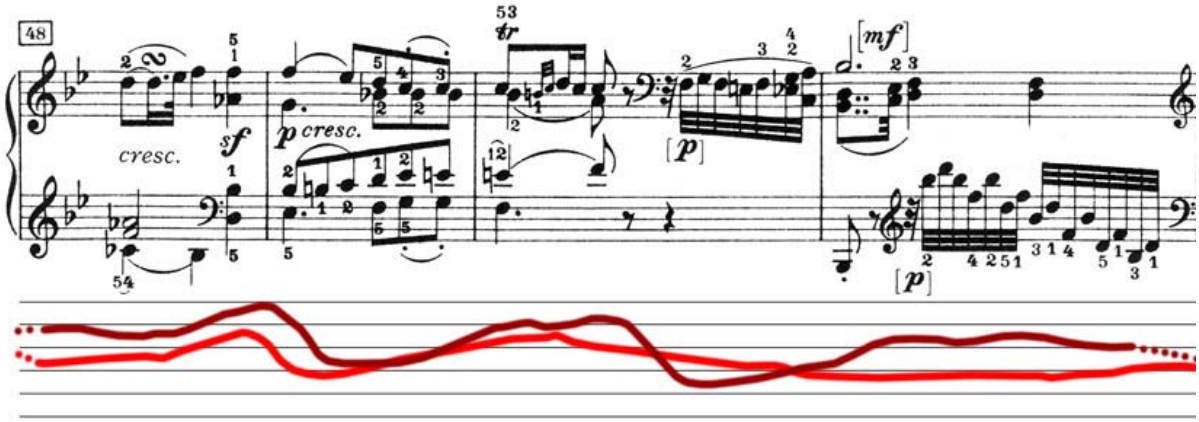

Image 39: Comparison between Paul's phrasing curve (lighter colour) and Jane's phrasing curve (dark colour) illustrating the bars 48-51 of Beethoven B

The two participants' respective phrasing curves both indicate a dynamic high point on the third beat of bar 15, as well as a dynamic decline just before bar 17. They had both notated a dynamic high point in bar 42, as well as on the second beat of bar 57. In contrast to Paul, the part of Jane's curve illustrating the section with the demisemiquavers roulades close to the end seems to follow primarily the *pitch contour* of the demisemiquaver notes rather than the *dynamics* of the principal melody part.

According to Jane, the dynamics of Paul's recording appeared as varied in a positive sense, for which reason she had chosen to draw a curve with a somewhat 'hilly' shape. She admitted however that Paul's own curve looked very *clear*.

Paul speculated about some possible reasons for the different shapes of their respective drawings. He wondered if a person's degree of tolerance towards the technically bad reproduction of the sound might have an influence on the specific shape. Maybe Jane was able to apprehend more of the music behind this obstacle, Paul guessed. Anyhow, her curve looked more interesting than his own, he ascertained. He had still observed many common features between their curves. The big dynamic 'sweeps' matched up well, although their respective curves seemed to display different dynamic 'layers'. Besides, the fact that they had both excogitated and performed the piece themselves might also have mattered when illustrating the music, Paul supposed. He thought that Jane might have experienced the recording as more dynamically fluctuating, whereas he on his part had experienced it in smoother 'sweeps'.

Paul also wondered if Jane might have used a special drawing *style* in all of her illustrations. The question is to what extent the shape of her curve was really imprinted by the characteristics of his recording, Paul reflected. However, in spite of Jane's personal drawing style I noticed that her curve illustrating her *own* recording looked very different compared to her curve illustrating Paul's recording. An interpretation of this might be that Jane had really attempted to illustrate her *experience* of the special dynamic characteristics within each one of the two recordings.

When illustrating Paul's recording, Jane had notated more of *points of gravity* than Paul himself in the first page of the special score, sometimes also on different notes. In the second page, their notations seemed to have more in common. In the last page, however, the two participants' notations of points of gravity were sometimes even *reversed* in relation to each other.

After my summation, the two participants silently compared their respective notations of points of gravity. Paul expressed his opinion that the concept of point of gravity might give rise to some ambivalence. For example, how should a crescendo succeeded by a subito piano be illustrated? The anacrusis preceding the sudden piano nuance in bar 31 may be experienced as musically *affected*, Paul claimed. For this reason, Paul had notated a point of gravity at this place, although he was not quite sure if this was relevant. Even if you *experience* the music in a similar way, you cannot take it for granted that you *interpret* the same tones as 'stressed'.

Jane asked Paul if he had interpreted the concept of points of gravity as 'stresses' or as symbols indicating the phrase's *direction* or the musical points towards which you are *aiming*. Paul claimed that he had used the 'crosses' (*strong* points of gravity) as a symbol for the direction, and something that needs *space* because of *diverging* from the other notes. Then Jane asked Paul again if he had interpreted the strong points of gravity as related to a *loud* dynamic level, whereupon Paul replied that he had interpreted the 'crosses' as indicating something more *important* than the 'star' symbol (*weak* point of gravity).

Here, I interjected explaining that the *curve* was reserved for designating exclusively the perceived *dynamics*, whereas the function of the *points of gravity* was supposed to be linked to the *metrically stressed beats* within a performance, advantageously expressed by means of *agogic* stretches (cf. 3.1.11.). Here, Jane demonstrated her interpretation of the piano subito nuance in bar 31 by singing and moving her hands. The effect of the sudden dynamical change does not at all contradict the basic movement towards the first beat of the bar, she claimed. Paul nodded in approval, but he wondered if this should be illustrated with a 'cross' or a 'star'. As regards the points of gravity, Jane supposed that she had indicated more of musical 'directions' than Paul. For example, she told that she had experienced the highest pitch of the melody part (the *f*) in bar 35 as a strong high point. Paul had on his part notated a little 'star' on the corresponding note in the bar *31*, but in contrast to Jane he had not notated any point of gravity at all on the *f* of bar 35. She insisted that she had experienced a loud dynamic in this bar.

Generally, Paul seemed to be pleased with Jane's feedback. He declared that he had experienced her phrasing curve illustrating big dynamic contrasts as particularly exciting. After all, Paul concluded, they had both largely followed a 'similar stock exchange development' ('liknande utveckling på börsen'), which, excepting the cantabile section beginning in bar 31, might be considered as a confirmation of his interpretative ideas being brought out in the performance. His ideas had however been illustrated by Jane in a more 'wavy' shape in accordance with *her* personal experience of the recording.

In my view, Jane's *phrasing curve* seems to correspond to Paul's recording in a generally more adequate way than his own curve, even if the illustrated big dynamic contrasts might be considered as somewhat exaggerated compared to how they appear when listening to the recording. However, I have not been able to discern the notated dynamic decline as notated in Jane's phrasing curve on the second beat of bar 40. When listening to this section, I rather experience a continuous crescendo. In the section with the demisemiquaver roulades beginning in bar 51, I experience some dynamic fluctuations not being illustrated in Paul's own curve. In Jane's curve, however, these dynamics had been illustrated clearly.

To me, Jane's notated *points of gravity* as well as those of Paul seem to be relatively plausible, although they are sometimes diverging. These divergences might be explained by the fact that music is generally an ambiguous phenomenon that may give rise to different experiences. If a musician has chosen to perform a composition in a deliberately ambiguous way, these different experiences will not be considered as a problem, but if the musician in question wants to express a specific idea, it may be necessary to perform the music in a particularly distinct way. The problem of experiencing things ambiguously may be explained metaphorically with reference to the Danish psychologist Edgar Rubin's famous picture of the figure-ground vase (Rubin, 1921).

6.2.7.2. Jane being confronted with Olga at the fifth meeting of the study

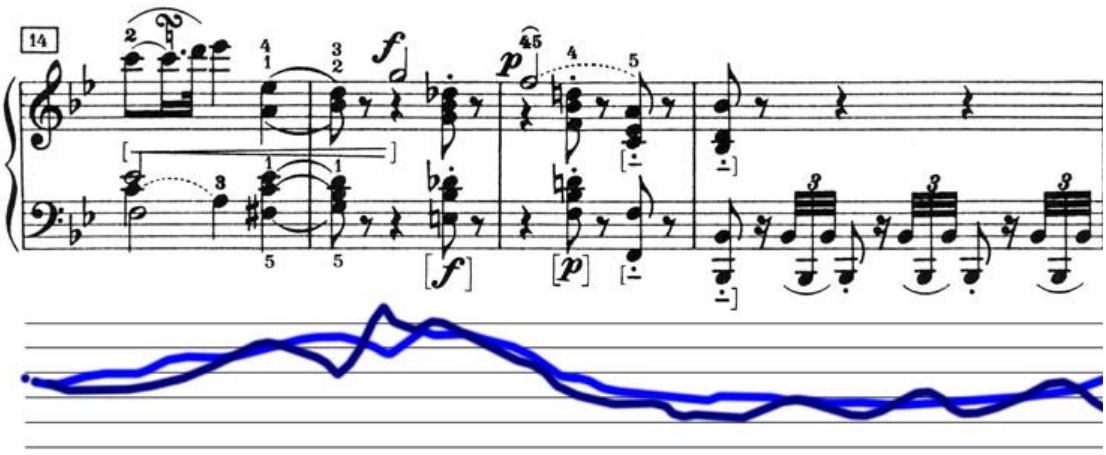

Image 40: Comparison between Jane's phrasing curve (lighter colour) and Olga's phrasing curve (dark colour) illustrating the bars 14-17 of Beethoven B

After we had listened to *Jane's* recording, I started by summing up my personal impression of the characteristics of the visiting colleague *Olga's phrasing curve*, as well as the characteristics of Jane's own latest phrasing curve: Initially, the shape of the two curves seems both to have adopted a 'hilly topography' indicating quick dynamical changes, but in the first and the second systems of the first page, Jane's curve has been notated on a higher dynamic level. However, from bar 11 the two curves have been notated on about the same dynamic level, as exemplified in the Image 40 displaying the participants' illustrations of the bars 14-17. From this point, it is generally Olga's curve that looks 'hilliest' and 'waviest'.

In the second page of the special score, the two participants' respective phrasing curves look more alike, particularly in the *first* system. From the second system of the third page, the two curves are diverging a lot again. In the last page, Olga had drawn a rather straight curve indicating a constantly high dynamic level, whereas the curve drawn by Jane tends to display longer waves. In bar 55, the curve drawn by the latter participant indicates a temporarily somewhat softer dynamic.

Jane declared that she was fascinated by the many notated dynamic details within Olga's *phrasing curve*. Basically, the two curves do not look that different, she said. Olga replied that she had decided to be a 'clever student' illustrating the music in a detailed way. At this occasion, Jane described herself as rather self-critical, for which reason she had chosen to draw a curve with a straighter shape at places where the music sounded dynamically uniform. After all, it seems as if we have reflected in a similar way, Olga stated. For example, both curves indicate a dynamic ascent on the third beat of the second bar followed by a descent towards the first beat of the succeeding bar, although they had notated somewhat different dynamic levels. Maybe the truth is to be found somewhere in the middle, Jane commented.

She also explained that she had sometimes felt it as difficult to perform in a soft dynamic, partly due to some technical problems and the special acoustics of the room. According to Jane, her own curve did not match the sounding music in the last page, because when listening to the recording everything sounded louder. In this section, the curve drawn by her colleague seemed to illustrate the dynamics in a more relevant way, she supposed. Here, Olga interjected by pointing out that the technically bad reproduction of the sound made the music sound louder and more boisterous than in real life.

The two participants' notated *points of gravity* are diverging a lot, particularly in the second and third page of the special score. Jane pointed out that when listening to the recording, she had experienced the points of gravity 'differently' than imagined, and they did not appear as clearly as intended either. On the whole, her musical ideas did not come out exactly as she had imagined.

Jane reflected that the first B flat major chord may be experienced as 'emerging' out of something happening previously in a musical sense, as an 'elevation of energy' compared to at the closure of the sonata's first movement ending in a d minor chord. Consequently, the movement's first chord may be defined as a 'slowly increasing' high point, which could have been illustrated by means of a weak point of gravity, she thought.

Olga formulated a similar idea by describing the excerpt's first chord as 'rising from the bottom sediment'. She declared that she was not familiar with the first movement, for which reason she had chosen to consider the musical excerpt as something free-standing. Without referring back to the previous movement, the first bar of the second movement may be described as a grand 'portal', she said. The piece does not really begin until the *second* bar. Our musical experience always depends on the context in which a tone appears, she concluded.

To me, the *phrasing curve* drawn by Olga represents the dynamic fluctuations of Jane's recording in a rather relevant way, although in some cases Olga seems to have had difficulties calibrating her curve to the device's dynamical scale. For example, in the first system of the page her curve displays a low dynamic level, whereas it suddenly indicates a rather high dynamic level in the second system. When listening to the corresponding place of the recording, I cannot really perceive such big dynamic differences. However, in the cantabile section beginning in bar 31 the shape of her evenly moving curve seems to represent the recording in a more plausible way. In bar 58 of the last page, Olga's curve does not indicate any diminuendo but remains on a notated relatively high dynamic level. In my ears, Jane played in a much softer dynamic at this place.

After all, there seems to be some similarities between the two participants' drawn phrasing curves. However, Jane's curve generally indicates a somewhat higher dynamic level. In spite of

Olga's contingent problem of calibrating the dynamic levels, I still assess her phrasing curve to represent the dynamics of the recording more relevantly than Jane's own curve.

When studying Olga's notated *points of gravity* at the same time as listening to Jane's recording, it is my impression that Olga had focused mainly on the *dynamic* stresses of the music. In some cases, her notations might be interpreted as indicating primarily some *expressive* musical emphasis, for example, in the melody part's anacrusis to bar 31, or on all of the melody's semiquavers on the third beat of bar 33. When comparing the two participants' notated points of gravity illustrating Jane's recording, their respective illustrations seem to diverge a lot.

6.2.7.3. Simon being confronted with Paul at the fifth meeting of the study

After we had listened to *Simon's* recording, I started by summing up my personal description of the characteristics of *Paul's*, as well as Simon's own *phrasing curve*: Paul's phrasing curve seems to display more dynamic details than that of Simon, and sometimes it also indicates a somewhat higher dynamic level. Simon's curve looks straighter with longer 'waves', as exemplified in Image 41 displaying the participants' illustrations of the bars 14-17. Aside from the different stylistic characteristics of the curves, there seems still to be some similarities, a fact that Paul called attention to during the discussion.

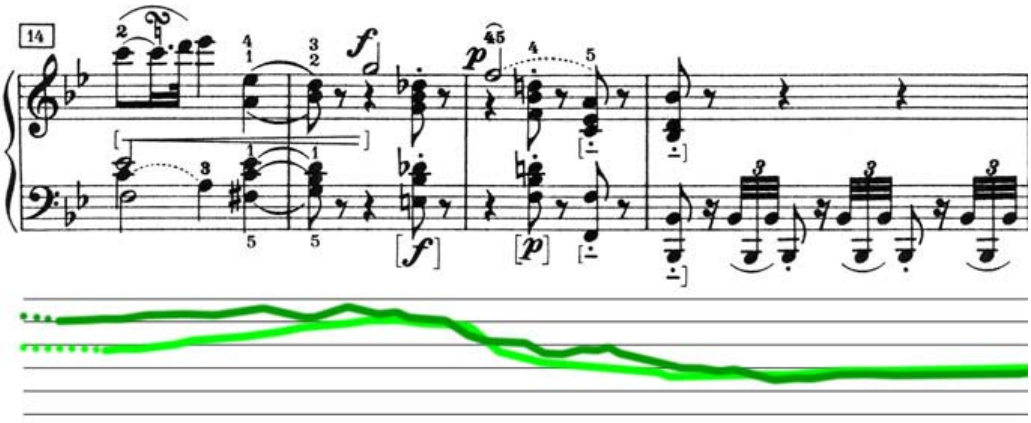

Image 41: Comparison between Simon's phrasing curve (lighter colour) and Paul's phrasing curve (dark colour) illustrating the bars 14-17 of Beethoven B

Alluding to his colleague's alleged 'quick' personality, Paul told that he had expected Simon's curves to look different. For example, the part of Simon's curve illustrating the cantabile section with 'elongated waves' seemed to contradict his idea of a lively 'whistling boy'. Simon explained his curve's straight shape by describing his fancy of a boy walking 'straight as an arrow' along the road 'in a constantly happy mood' ('glad och med jämnt humör').

In conformity with Simon's visions, Paul told that he had also strived towards focusing on the music in bigger 'sweeps'. Aside from the 'bumpy' shape of his phrasing curve, he explained that he could observe a certain degree of accordance between his and Simon's curves.

Paul supposed that his curve's shape indicating somewhat higher dynamic levels than that of Simon might have been due to his experience of the reproduced sound of the recording. He had attempted to be veracious about what he really *heard*, subject to how it would have sounded in a live performance. In that case, the soft dynamics would have appeared clearer, he thought.

Simon had notated a little more of *points of gravity* than Paul, particularly in the first page of the score. The resemblance between the two participants' notations seemed to be only average. According to Paul, some similarities could still be observed, for example, in the section beginning in bar 18. He also called attention to Simon's notated point of gravity on the *third* beat of bar 10.

What is it that *actually* 'needs space', Paul asked. Simon explained his notations by suggesting that he might have notated points of gravity on a more *detailed* hierarchic level with a higher visual resolution. Maybe Paul had primarily notated the 'skeleton' in itself, he continued, whereas he had chosen to put down his notations on a more detailed architectonic level.

In the last page of the score, Simon explained the divergences between their respective notations by alluding to his focus on the music's implicit hemiola rhythm. Paul declared that he had experienced a kind of 'tumultuous' sound at this place, a big musical package with long 'sweeps'. Maybe he should have notated a 'star' (weak point of gravity) in between. As regards the hemiola rhythm, Simon supposed that in a performance it would be possible to bring out the points of gravity in a clearer way.

Paul's *phrasing curve* looks more detailed than Simon's own curve, and generally it also indicates a higher dynamic level, maybe mirroring the characteristics of Simon's temperamental performance in a somewhat more pertinent way. However, when listening to the recording it is my impression that Paul's curve matches the music only averagely. One example of this is the diminuendo in bar 15 that might have been illustrated by drawing a quicker dynamic decline. Sometimes, Simon's own curve appears as more relevant to me, although he seems to have notated exaggeratedly low dynamic levels in some cases compared to how they appear when listening to the recording.

As regards the two participants' notated *points of gravity*, Paul seems to have detected at least some *metrically* conditioned stresses. In my view, Simon's notations seem to be preferentially linked to *dynamic* stresses conditioned by the music's rhythm and harmonies.

6.2.7.4. Olga being confronted with Simon at the fifth meeting of the study

After we had listened to *Olga's* recording, I started by summarising my personal impression of the characteristics of *Simon's phrasing curve* compared to the characteristics of Olga's own phrasing curve: Olga's curve might be described as 'hilly' with sharp tops, particularly in the first page of the score, whereas Simon's curve looks straight and simplified with long 'waves' and few details, as exemplified in Image 42 displaying the participants' illustrations of the bars 8-13.

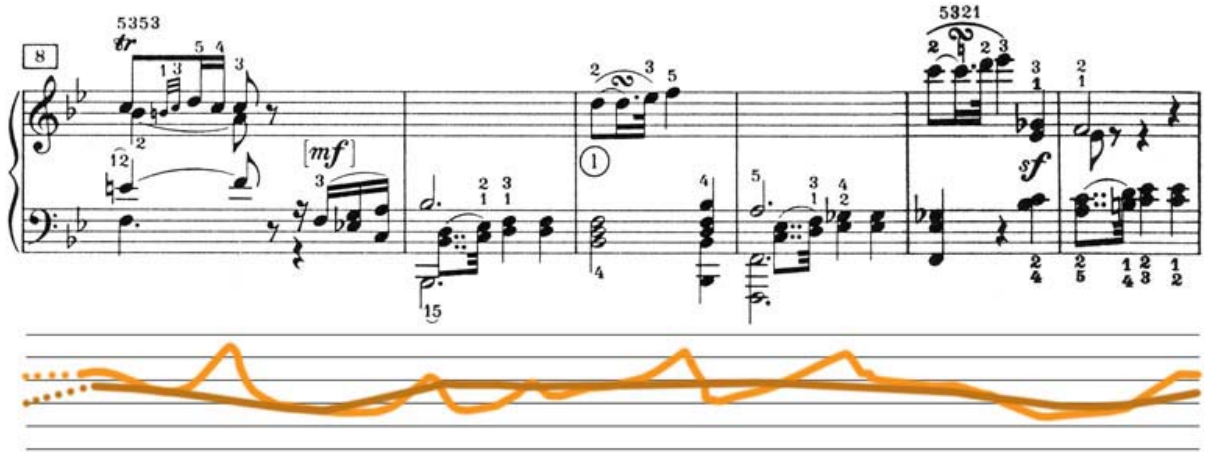

Image 42: Comparison between Olga's phrasing curve (lighter colour) and Simon's phrasing curve (dark colour) illustrating the bars 8-13 of Beethoven B

Anyhow, there seems still to be some similarities between the two curves, for example, at the dynamic decline towards the first beat of bar 17. However, the sudden deep dynamic fall towards bar 58 as notated in Olga's curve is absent in Simon's curve.

Olga had notated considerably more *points of gravity* in her score than Simon. Except for in the section with the demisemiquaver roulades close to the end, there seems to be a lot of divergences between the two participants' notations. Apparently, they had interpreted the concept of 'point of gravity' differently.

When comparing the two participants' *phrasing curves* at the same time as listening to Olga's recording, it is my impression that her own curve illustrates the dynamics of the performance in a somewhat more relevant and detailed way than the phrasing curve drawn by Simon. However, this is not to say that Olga's curve seems to be plausible in all cases. Sometimes she had notated an exaggeratedly low dynamic level, for example, at the rhythmic triplet figures in the left hand part beginning in bar 17. On the other hand, Simon seems occasionally to have notated his curve on a too high dynamic level, for example, in the second system of page two. The comparison between the participants' two curves is aggravated by their very diverging drawing styles.

When notating the *points of gravity*, both of the participants seem to have focused on the performance's dynamic and harmonic events rather than on the metrically stressed notes. Nevertheless, in my view Simon's notations seem to represent the sounding music in a somewhat more relevant way than those of Olga.

6.2.7.5. Conclusions drawn from the participants' illustrations of the same recording

After having studied the participants' illustrations of one and the same performance, as well as their comments on this, I could extract the following categories:

Participants drawing phrasing curves displaying many details (Jane, Olga)
Participant drawing curves with big musical lines and few details (Simon)
Participant drawing curves with big musical lines and some details (Paul)
Participants drawing phrasing curves indicating quick dynamical changes (Jane, Olga)
Participants drawing phrasing curves with a straighter shape (Paul, Simon)
Participants illustrating the dynamics more relevantly than the performer (Jane, Olga)
Participants illustrating the dynamics of their own performances relevantly (Simon, Olga)
Points of gravity representing primarily dynamic stresses (Paul, Simon, Olga)
Points of gravity indicating the musical phrases' direction (Paul, Jane)
Points of gravity representing musical events that needs 'space' (Paul)

Thus, when using the visual tools of this study the participants seemed to have adopted some different notating styles. Some similarities between the participants' *phrasing curves* illustrating one and the same performance could still be detected. In many cases, the participants had notated diverging *points of gravity*. Apparently, they had interpreted the function of this tool differently. Olga had used her own system for notating points of gravity, probably referring to dynamic stresses rather than to metrically stressed notes. The results also suggest a focus on *big musical lines* as well as on smaller *details*.

6.2.8. Participants discussing different ways of using visual tools

In this section, the participants' comments on their different strategies of using the study's visual tools will be presented. Different kinds of phrasing curves are discussed, as well as the discrepancy between the participants' individual interpretations of the concept of 'point of gravity'.

6.2.8.1. Underlying incitements

Olga described humorously the difference between her first phrasing curve illustrating the *planned* performance of Beethoven B and her second curve illustrating the *recording*. The first curve was

said to represent some 'platonic ideals' and the second one the 'poor reality'. Olga also described the difference between *Simon's* curve and the curve drawn by herself illustrating her own recording in a similar way:

He lives in the true world; I live in my own self-perception.	Han lever i den sanna världen, jag i min egen självuppfattning.

Simon declared that he had primarily focused on *where* the musical lines were aiming, for which reason he had chosen to draw a simplified phrasing curve in favour of a better lucidity. The *basic model* was said to be more important than the many musical fluctuations within the frames of this model. Simon underlined that visual illustrations should rather not function as a 'straitjacket'. The musical details should be subordinated to the music's general impact on a listener. Too many details might 'stop up' the flow, which means that you get 'stuck'. Simon admitted that he might have 'gone too far' in his conclusions about the ideal way of illustrating music. However, he insisted that he had not styled his phrasing curve just in order to 'satisfy' the researcher.

As to Olga, she supposed that she had strived to notate more precisely attempting to illustrate the music the way she perceived it. For this reason, she had chosen to notate points of gravity according to her own system with a scale indicating three differentiated levels.

6.2.8.2. Possible reasons for illustrating the dynamics differently

Olga and *Simon* also discussed the 'percussive' character of the piano sound. The experience of accents and constantly decaying tones is striking, Olga claimed. As to Simon, the melody was said to 'sing' within his head. When listening and illustrating his experiences, he had the ambition of *bridging* the specific character of the instrument and the reproduction of the recorded sound:

Playing the piano is an illusory activity, and you ought to do… it is to delude the ears when striking the key, and when you strike the next one and you kind of catch it in the curve when it is on its way down in order to create an impression that they are connected, because as a matter of fact they are not!	Pianospel är ju illusionsverksamhet, och man skall göra… det är alltså att lura öronen när du tar tonen och när du tar nästa och att du fångar den liksom i kurvan, när den är på väg ned för att du skall uppleva att de hänger ihop, för egentligen gör de ju inte det!

Olga demonstrated her interpretation of bar 9 in the musical excerpt Beethoven B by playing and singing. She told that she had associated this bar with the onset of woodwind instruments. In the view of this vision, she expressed her frustration hearing dynamic 'tops and valleys'.

At this point, the discussion became extraordinarily lively and intense:

Olga: Maybe this is also a result of the fact that I have not got over what you called… the percussive …character of the piano, which makes it an illusory activity…	Olga: Kanske är det här också ett resultat av (att) jag inte har kommit förbi det som du sa: pianots perkussiva …natur som gör att det blir en illusionsverksamhet…
Simon: No, but do you know…?	Simon: Nej men…vet du…?
O: …that there should be lines.	O: …att det skall vara linjer.

Here, Simon cheered up formulating his brilliant idea:

S (interrupting): Do you know what I think this is? I think it has something to do with… since you are also a *singer*, you *know* how a real legato works…	S (avbryter): Vet du vad jag tror att det är? Jag tror att det beror på att… i och med att du är *sångerska* också så blir det att du *vet* hur ett riktigt legato kan fungera…

O: I feel it physically…

S: Yes… and this means…

O: But I can't get it here!

S: No. But therefore I also think that… you sort of feel that you have it *inside* of you, or you know that this is the way it should be, and this means that you *let go* a little, whereas when I play the piano I feel… I can't sing, but I sing…

O: Oh yes, everybody can sing!

S: Yes of course, but that's not what I mean. I don't sing because I want to spare my neighbours, because… you become kind of… (laughter) And then you feel like this… the thing is that I miss a natural outlet for the singing legato… (Olga starts singing spontaneously) …and then you…

O: Yes, yes…

S: …I want to do *everything* I can to bring it out from the piano, whereas you feel in a way that… you don't *have to* prove anything, because you know you can fix that while singing.

O: Yes!

S: And then the explanation might be as simple as…

O: I think we agree on that matter…

S: …piano…A *piano* functions the way it does and I accept that, but I *refuse* to feel that… it is not… I *shall* even if I will fail; I kind of try every time and again to get those lines…

O: Yes, exactly!

S: But then I think that you have… you sort of bring them out all the same.

O: I think that we, what you… (Jane enters for the next session)

O: Jag känner det fysiskt…

S: Ja…och därför så…

O: Men jag får det inte här!

S: Nej. Men därför så tror jag också att… då känner du på något sätt att du *har* det redan *i* dig eller du vet att det är så här det skall vara och då blir det lite grand att du *släpper* det, medan att jag känner när jag spelar piano… jag kan inte sjunga, men jag sjunger…

O: Jodå, alla kan sjunga!

S: Jo men alltså, jag menar inte så utan jag menar alltså…Jag gör ju inte det. Jag sjunger inte för jag vill skydda min omgivning för att… man blir liksom… (skratt) Och då känner man så här att… att grejen med det här är att jag inte har det naturliga utloppet för legatosången eller legato… (Olga börjar sjunga spontant) …och då blir det att man…

O: Ja, ja…

S: …jag vill göra *allting* jag kan för att få fram det i pianot, medan du på ett sätt känner att …jamen du *behöver* inte bevisa det för du vet att du kan fixa det när du sjunger.

O: Ja!

S: Och då kan det vara en sådan enkel förklaring att…

O: Egentligen tror jag vi möts…

S: …piano… *Piano* är liksom så och jag släpper det liksom, medan jag *vägrar* att känna att… det är inte… jag *ska* även om jag inte lyckas så försöker man varje gång försöker man försöker att få de här linjerna liksom…

O: Precis, precis!

S: Men då tror jag att du har… du får ut det ändå liksom.

O: Jag tror att vi, det här du… (Jane kommer in inför nästa möte)

S: Oops! Somebody is coming…

O: …what you bring up now… What you bring up I think it is… this is probably the point of intersection… where we meet.

S: Yes, I think so too.

O: Because I am always aware of that 'stroking' feeling forwards, but when playing I *hear*… I hear ding-a-lings up and down…this is the reason why my lines are that jagged. After all, I want to bring out the same feeling as in your… mountainous lines.

S: Yes, but then I think that…

O: We definitely agree!

S (laughing): But we have never been at odds, have we?

O (concluding): We experience it in the same way but from our individual viewpoints we describe it differently. Moreover, I have my form analysis, which has not been included, and that is my frame of reference! And then… the legato lives.

S: Ojdå! Nu kommer det någon…

O: …det du tar upp nu… Det du tar upp nu tror jag är … liksom, det är nog skärningspunkten …det är där vi möts.

S: Ja, jag tror det också.

O: För att jag känner hela tiden den här "strykande" känslan framåt men jag *hör* när jag spelar… så hör jag bip, bop, upp och ner… och då blir det de här taggiga linjerna. För jag vill ju att det skall vara den känslan som i dina… fjälliknande linjer.

S: Jamen då tror jag att…

O: Vi är absolut överens

S (skrattar). Jamen vi har väl aldrig varit opponenter?

O (konkluderar): Vi uppfattar det på samma sätt men utifrån våra utgångspunkter så beskriver vi det på annat sätt. Och jag har dessutom min formanalys som inte finns med och där är min ram! Och sen… lever ett legato.

6.2.8.3. Phrasing curves displaying big musical lines or musical details

When *Simon* discussed with his visiting colleague *Paul* on the last meeting day, they ascertained that Paul's phrasing curve looked much straighter than those of Jane and Olga, respectively, although it was not as straight as Simon's curve. Paul considered himself as an instrumentalist, but he told that he had been working a lot with singers. In the light of Simon's theory, that has been broached in the previous paragraph explaining the diverging perspectives of pianists and singers, the somewhat more detailed shape of Paul's curve might be interpreted as pervaded by his work with vocalists. If so, his phrasing curve might be considered as representing an intermediary stage between that of Simon and those drawn by the singers Jane and Olga.

On account of this interpretation, Paul interjected that Simon is also used to work with symphonic music by composing big musical 'packages'. The proportions of this kind of music are on the whole big and dense, which might have affected Simon's view on music, Paul supposed. From an *orchestral* perspective, you have to focus on the big lines without getting stuck with all the details, Simon replied. Furthermore, it is a matter of *aesthetics*, he continued, *how* you listen and what you want to bring out. Working with details is interesting, but if you lose the big perspectives the music might sound 'muddled' ('plottrig').

At this occasion, Paul wondered to what extent the curves might express some personal *preferences*. How come you make a curve the way you do? Even if you try to be true to what you think you hear, it is likely that the shape of the curve will be stained by your personal view:

> At the same time you will always carry your musical views with you, the way you experience it, how… and, for example, also how you react to a tone strictly acoustically, how it actually functions, whether it falls down or not, and if you *care* about this when listening or not. After all, according to their illustrations, the female colleagues seemed to have reacted to this to a greater extent.
>
> Men samtidigt så har man med sig hur man ser på musik, hur man ser på det, hur… och till exempel också hur man förhåller sig till en ton rent alltså akustiskt, hur den faktiskt funkar, om den dalar eller inte, och om man bryr sig *om* det i sitt lyssnande eller inte. Av allt att döma tog de kvinnliga kollegorna med sig detta i större grad i sitt sätt att skriva.

Simon replied that *his* idea was to *leave* out some details, partly for the sake of clearness, partly because of not constraining the musician's freedom. In an educational context, you should give space for many different interpretative solutions, he concluded.

Here, Paul asked his colleague if he had found that his *first* phrasing curve made at home matched his experience when listening to the recording of Beethoven B. Simon replied that he had only noticed a few things diverging from his original musical ideas as expressed in this curve. Personally, I can verify the striking similarities between Simon's two sets of curves.

Paul drew attention to the difference between drawing a curve in the capacity of *interpreter* being able to apprehend the basic ideas behind all the notations on the one hand, and in the capacity of *listener* with an open mind on the other, because in the latter case the curve might look totally different. Then you might take special notice of the 'decaying' sound. Paul supposed that he was more *impartial* when drawing his *second* curve.

Simon told that he had felt the same. However, you will always be framed by your special view on music and in this special case how you have interpreted the task. We are all persons who interpret things differently, which will inevitably result in discrepancies; we are not 'cast in the same mould', Simon stated.

6.2.8.4. Musical phrases

Through his work with singers, *Paul* told that he had developed a certain approach towards musical phrases and breathing. *Jane* pointed out that when playing an instrument you have to 'breathe' in order to make the phrases appear clearly (cf. 2.6.; 3.1.1.). Paul interjected by claiming that when a singer breathes there will inevitably be a dynamic 'dip', which is not the case when playing an instrument like the piano. I underlined that there are at least two principally different ways of breathing, of which one is executed with maintained musical intensity, whereas the other is more linked to a dynamical relaxation. The first kind might be described as breathing with musical *direction*, Paul replied. Jane explained her intention of focusing on the musical lines, but there might also happen a lot in a dynamic sense *within* the frames of a musical line, she pointed out. Paul underlined that he had not been so much affected by the 'percussive' character of the piano sound when drawing his curve. To him, *sound* and *melody* based on the underlying *rhythm* were crucial musical elements rendering the music comprehensible to the audience. Here, Jane answered that when detecting the *points of gravity* she had focused particularly on the *rhythm*.

6.2.8.5. Descriptive and didactic phrasing curves

I asked *Paul* if he considered his second phrasing curve to be primarily *descriptive*, *illustrating* the dynamic characteristics of a given performance, or *didactic*, *demonstrating* how the piece was supposed to be played according to a specific interpretative version. He replied that he

considered his curve as more didactic than descriptive. Compared to the curve drawn by *Jane*, he described his own curve as representing bigger 'valleys' covering longer laps of time. The shape of the curve might also depend on the chosen 'resolution' of the dynamical scale, Paul supposed.

Olga described her phrasing curve as primarily *descriptive* in *two* respects; it might be a visual representation of what you *hear* or what you *intend* to play. Here, I interjected by drawing attention to the contingent usefulness of drawing phrasing curves in an explicit educational context for the purpose of *illustrating* the perceived dynamics of a performance, for example, in order to give feedback to a music student. Olga declared that she had also imagined her curve as a visual representation *demonstrating* to somebody how a piece might be performed.

In this discussion, Olga admitted that she probably had a tendency of illustrating accents and the persistent decays of the piano sound in her phrasing curves. She also expressed her belief that the stylistic similarities between her own curve and that of Jane in respect of the striking 'hilly' shape might be due to the fact that they were both singers. At this occasion, she alluded to Simon, who regarded the piano as an instrument for creating 'illusions', for which reason he told that he strived to bridge the specific 'reality of the piano' by focusing on the big inherent musical lines.

If being asked to illustrate the sound of, for example, strings or wind instruments, Olga supposed that she would have been able to focus more on the big musical lines without drawing so many bends. Bearing in mind that the curve was supposed to illustrate the *perceived* dynamics of a piece, she had found it difficult to draw a curve representing her experience in an adequate way. This seems to be very subjective and different from one person to another. Furthermore, you might easily get blocked by your own musical thoughts, she underlined. This means that you do not always hear how it really sounds.

6.2.8.6. Different interpretations of the concept of 'point of gravity'

When meeting *Jane*, *Olga* explained her special system for notating 'stresses in different hierarchies'. As Jane interpreted Olga's notations, they were linked primarily to the *dynamics* of the piece. She had on her part interpreted the concept of 'point of gravity' as a note that you go for in the music, which has not necessarily anything to do with dynamics. Interpreted like that, Olga suggested a new concept: 'point of gravity conditioned by musical form' ('formmässig tyngdpunkt'). If so, it might be a little problematic to determine if a 'high point' is 'dynamically conditioned' or 'conditioned by musical form', she claimed. As for her, she had accomplished the task from a strictly dynamic approach. Jane supposed that the divergences between their respective notations might have been due to their different interpretations of this concept.

Of course, you might also notate an *agogic* 'high point', for example, in a section with a piano nuance, Olga commented, but in the present study she had not really found any tool for this. I tried once again to explain the originally intended function of the 'points of gravity'. When admitting that I had found it difficult to explain this concept unequivocally, Olga replied quickly off the mark:

It is not! Just take a look: is it a stressed or an unstressed bar?	Det är det inte alls det! Det är bara att se: Är det en stark eller svag takt?

Simon assessed Olga's special system for notating points of gravity as very 'artistic'. When discussing the intended function of the system for notating points of gravity, Olga commented that now she understood Simon's notations better.

When meeting *Simon*, *Paul* pointed out that it should not be taken for granted that everyone understands the *point of gravity symbols* in exactly the same way. He said that he had sometimes notated a point of gravity in sections with a soft nuance indicating the *endpoint* of the phrase or on a note needing extra 'space'. If he had not asked so many questions during the study, Paul supposed that he would have notated in a similar way as Simon.

At this occasion, the latter participant suggested the concept of 'emotional point of gravity' instead. If the study's purpose was to achieve an optimal accordance between the participants, the function of the visual tools should have been explained more precisely already at the first briefing, Simon thought. He wondered if the interpretation of the visual tools was deliberately supposed to be left open to the participants themselves. Now it seemed as if everyone had interpreted the instructions differently, which might have given rise to some confusion.

6.2.8.7. Summation of the participants' comments on different ways of using visual tools

When visually illustrating aspects of a musical performance as personally perceived, there is always a risk that the illustrations might be affected by a priori musical ideas. In other words, it may be hard to listen neutrally, because you will partly 'hear' what you already have in your mind. *Olga* expressed this problem by distinguishing between 'idealistic' and 'realistic' phrasing curves.

The participants discussed how *detailed* a phrasing curve should be. You may focus on musical details *within* the phrases, or you may focus primarily on the big musical lines. *Olga* seemed to have paid particular attention to the instrument's special character, among other things, by attempting to illustrate the strikes of the keys and the decays of the tones. She admitted that her sensitivity as regards the piano sound may be due to her profession as a singer used to experience music in long legato lines. On the other hand, *Paul* and *Simon* seemed to have challenged the special impression emanating from the special piano sound by trying to 'bridge' the instrument's character in order to create the 'illusion' of big coherent lines. Paul supposed that the different shapes of the curves might also depend on the chosen 'resolution' of the dynamical scale. Simon motivated the straight shape of his phrasing curves by drawing attention to the need for interpretative freedom, not least in explicit educational contexts.

When comparing the shapes of the phrasing curves in respect of their fullness of details, *Olga's* curve seems to display most details, followed by the curve drawn by *Jane*, whereas *Paul's* curve seems to represent more of the big musical lines, but still with a certain amount of details. The straight curve drawn by *Simon* seems to represent the opposite pole of Olga's curve by displaying mainly the general musical lines without many details.

A phrasing curve might also be used for different purposes. For example, it might illustrate a musician's interpretative ideas *before* performing, or it might illustrate the personal experience of a *sounding performance*. In the interviews, *Olga* called the first one 'planning curve' and the second one 'listening curve'.

The phrasing curve might also be defined as *descriptive* or *didactic*. A typical descriptive curve might be a detailed illustration of a composition's dynamics as experienced by a person, whereas a typical didactic curve might be defined as the visual representation of how a certain composition should be performed in accordance with a given interpretative version. A phrasing curve might also represent both kinds simultaneously.

In summary, a phrasing curve may be

- idealistic
- realistic
- displaying many details
- focusing on the big musical lines
- an illustration of a musician's interpretative ideas *before* performing
- an illustration of a sounding performance as personally experienced
- descriptive
- didactic

Each phrasing curve may represent different combinations of these aspects simultaneously.

Apparently, the participants had interpreted the concept of '*point of gravity*' differently. In many cases, their notations might be interpreted as representing *dynamic* stresses based on harmonic, rhythmical or emotional elements within the music, rather than stressed notes from a perspective focusing on the music's bar-line *meter*. Some of the participants' notations were also said to be motivated by the experienced *direction* of the musical phrases, or by notes needing extra *space*. When discussing the originally intended function of notating points of gravity, *Olga* suggested the concept of 'point of gravity conditioned by musical form', whereas *Simon* instead suggested the concept of 'emotional point of gravity'.

6.2.9. Participants evaluating the study

In this section, the participants' general assessments of the setup of the study are presented, including their ratings of the two visual tools' usefulness as an aid facilitating the communication of matters linked to musical interpretation in different educational contexts. Two of the participants declared that they really missed some kind of a forum for discussing musical interpretation.

6.2.9.1. Evaluation of the visual tools used in this study

Paul told that he had felt most positive when working with the *phrasing curve*, because he felt this tool as more concrete compared to the system for notating points of gravity, which he considered as ambiguous. He expressed some doubts as regards the latter system, since he had experienced the points of gravity as vague and based on the *relative* proportions between different musical elements. According to him, the phrasing curve was clear enough and it had functioned as well when *planning* his performances of the piano excerpts as when *illustrating* the corresponding recordings.

When being asked to evaluate the visual tools of this study, *Jane* claimed that it was a 'plus point that you have to reflect carefully' in order to detect the location of the 'stresses' within the music. Jane supposed that the visual tools might function as well when planning your musical interpretation as when illustrating the performance from a listener's perspective. Nevertheless, she claimed that she preferred the system of symbols indicating *points of gravity*. The Melody Phrasing Curve had not been that useful, even if she did not feel troubled by it either. Once having decided the location of the points of gravity in a piece, they may also appear in the performance, Jane supposed, but as to the 'loudness', this aspect will be performed differently from one time to another.

The disadvantage was that you cannot focus on your notations all the time, Jane said. You should rather pay attention to your *playing*. When performing music, you do not want to feel tied up by notations and what you have planned in advance, she underlined. From the second meeting of the study, the participants played the excerpts from an 'empty' score without any notations written in. Then she had been able to leave her original ideas behind, Jane explained.

To *Simon*, the visual tools made everything very *clear*, at least in the way he had used them. They would probably function equally well for planning the music as for illustrating a sounding performance, he supposed. Simon declared that he was particularly positive to the system for notating *points of gravity* differentiated in two 'degrees of intensity'. He had also found the 'dynamic curve line' good, but it should rather not be used in a too *detailed* way because of limiting the performer's freedom of musical movement. It is enough to know the big musical lines and where the harmonies and the melody are aiming, Simon stated.

To *Olga*, the illustrations meant that she was 'forced' to reflect on her musical interpretation. Visual tools might serve as an aid for musical reflections and for reassessing musical ideas. You will be aware of different interpretative solutions, Olga supposed. However, she would have preferred to keep her *own* score with fingerings, harmonic analyses and the structure of the

musical phrases written in. Moreover, she was used to analyse compositions thoroughly as she had been taught during her own music education. When studying different scores in her capacity of conductor, she told that she reflected constantly on the music.

When *Jane* met Olga, the latter participant declared that she was indeed positive to the use of visual tools, particularly in combination with a thorough analysis of the music's harmonic structure and form. In order to get an overview of the crucial things, it is all about analysing the harmonic structure. To her, this was more urgent than drawing a dynamic curve:

> When I know the rooms of a house, I am free to walk around in that house. Without having studied the plans of the house, I will not be able to build it up. Studying the plans corresponds to analysing the musical structure.
>
> När jag vet att huset har de här rummen, då kan jag gå omkring i det här huset. Jag kan inte bygga upp huset om jag inte vet ritningen. Ritningen är den formmässiga analysen.

After having stripped the music, only the harmonic 'skeleton' remains, Olga continued. Then she experiences a particular joy playing the composition the way it has been composed with the harmonic skeleton 'plastered' again. When being aware of the harmonic structure, you will also understand the dynamical progression, she claimed. You have to arrange the elements pursuant to their degrees of significance. From this view, a dynamic curve, like the one used in this study, did not make sense to her. Here, Jane pointed out that the music's 'vertical' aspects ought to be considered as equally important as its 'horizontal' aspects. Referring primarily to her own system, Olga concluded that by analysing music you will be a better musician.

The visual tools might be used in different ways, *Paul* reflected. For example, you may chose to make up a rough outline facilitating a musical overview, but this belongs to an initial stage when learning a piece of music. On a higher level, it is likely that you will gradually pay more attention to musical details. Using visual tools when preparing musical performances may develop a higher degree of awareness and concentration. Generally, the printed score cannot relate everything that happens, Paul underlined. It tends to be relative and ambiguous, for example, when indicating different kinds of articulations or dynamic nuances. By using the visual tools of this study he told that he was helped into 'coming to quicker decisions in a version' ('bli påverkad till att ta snabbare beslut i en version').

6.2.9.2. Using visual tools in explicitly educational contexts

In explicitly *educational* contexts, the *Melody Phrasing Curve* might be useful, *Paul* thought. As for himself, this tool might also clarify musical ideas and serve as an aid for the purpose of assessing your own recorded performances. However, when performing music in a concert hall visual tools are less useful, he underlined, because the artist's degree of musical *maturity* cannot be changed that easily.

In contrast to Paul, *Olga* expressed her opinion that the phrasing curve would *not* function in educational contexts because of its arbitrary appearance. Everyone would interpret it differently.

Simon thought that my draft of visual tools would be useful as learning aids. He told that he was already used working with points of gravity and musical lines, although not by means of exactly the same tools. For practical reasons, it may be easier to notate directly into the printed score, he supposed. It is important to allow music pupils or students to notate what they like in the score. Another method is to let the teacher *model* the composition in question by simply playing it. This might then be the point of departure for a further discussion, Simon proposed.

The visual tools of this study may launch musical reflections, Simon thought. When 'being forced to reflect' I became more aware of things I already knew, and in this way your understanding might constantly grasp deeper levels of awareness. This expanded consciousness may indeed be perceived also by the audience, he supposed. In some cases, even an uninitiated listener will experience that something has 'happened':

People are able to hear a lot *more* than musicians think!	Människor hör mycket *mer* än vad folk som är musiker tror!

Maybe they cannot understand how the music is constructed from an analytical perspective, but the *expressed emotions* will still come through, he thought.

Simon told that he always felt positive to lucidity and awareness instead of all the 'blurred' things. To go for spontaneity, instinct, intuition and feelings may be good, but these aspects should rather be consciously combined. Even your inner thoughts and dreams might be clarified and verbally formulated. People will be more and more aware of the need for hard work, knowledge, studies and analyses, he supposed.

Jane claimed that the notations of *points of gravity* might be useful in the educational context of high school pupils studying music. Using this kind of a visual tool might increase their awareness of the music's direction and 'high points'. However, as concerns the use of a phrasing curve in this context she seemed to be more sceptical.

To high school pupils, it is always good to listen to the teacher's advice for the purpose of getting something to stay with, Jane supposed, but gradually they should begin excogitating what they want to do by themselves. What *kind* of symbols you prefer to use is of less importance; it is the idea that counts. High school pupils are already used to write and reflect, but to children and beginners the visual tools would appear as too abstract. Jane concluded that visual tools may be useful on a certain initial stage, but in an advanced *artistic* stage they would probably not be that useful, even if artists have to plan their musical interpretations as well.

Olga claimed that she would hardly use a dynamic curve for the purpose of persuading a student to *follow* the corresponding notations when playing. On the whole, she did not feel convenient with this kind of a 'graphical' illustration. In educational contexts, it appears as too imprecise. The 'tendencies' and the directions of the music are the crucial things. As regards her own drawn 'descriptive' curve, it did not seem to work either, although she had attempted to illustrate her performance by using the curve as an instrument for musical analyses. However, she admitted that she does *not* teach piano, for which reason she has no experiences working with piano pupils.

Alluding to her own system for making notations in the score, Olga expressed her conviction that her notated 'high and low points' or 'hierarchy of stresses' indicating three degrees of intensity were of more use. She told me that she used this system herself in her capacity of conductor, singer and professor of singing. Contingently, the dynamic curve might work as an instrument for musical analyses when being used occasionally by a pupil who wants to understand the phrasing more precisely, she supposed. However, the prescriptions within the printed score indicate the dynamics of the composition in question in a sufficiently clear way. Furthermore, the musical form and the stylistic characteristics of the composition are likewise crucial elements, and in this context, the teacher has the important mission of *modelling* the performance to the pupils.

6.2.9.3. Focusing on big musical lines

When discussing *Simon's* special way of drawing phrasing curves, he claimed that abstaining from a too detailed notation does not necessarily mean that you will lose your 'artistic' perspective. His ambition of expressing musical ideas to the students in a simple and lucid way was also valid for himself:

When something is clear, you may feel freer… like with the subdivisions.	När någonting blir tydligare, så kan man också bli friare… med underindelningarna liksom.

According to him, music students tend to get stuck with technical matters and isolated musical elements. What is important and what is supposed to be adornments? The big musical lines must not be destroyed by details, Simon stated.

Olga replied that she had started accomplishing the study's visual task by analysing the structure and the harmonies of the actual musical excerpt in order *not* to get stuck with futilities. By means of this method, the harmonic keystones of the piece appeared clearly, which means that she had achieved the desired musical overview. Furthermore, the fact that she felt 'forced' to be very 'accurate' when illustrating the music resulted in some conscious decisions and an experience of more 'freedom' improving her play, she supposed.

When being asked to illustrate her recorded performance on the spot, Olga told that she decided to draw a somewhat simpler phrasing curve compared to the first curve made at home. Nevertheless, her second curve had still a 'hilly' shape, 'just like the Alps', she laughed. Her first curve might rather be considered as an 'ideal curve' ('önskekurva'). After all, she said that she had experienced the musical ideas of her performance as much *better* than her original interpretative ideas illustrated by means of the first curve.

Simon explained the shape of his curve by referring to his endeavour of surveying the entire piece. Maybe he was thinking too much, he supposed. He told that he was searching for an 'intellectual' entrance to music within some fixed frames without restraining the creation of musical expressions.

Olga alluded to her own 'strict' frames represented by her notations made at home in accordance with her own specific system. In the score, she had thoroughly indicated the musical form, the metrical periods as well as a simplification of the harmonic progression.

You didn't catch that (in the performance)?	Uppfattades inte det?

6.2.9.4. Lacking a forum for musical reflections and discussions

Simon told me that he really missed a forum for musical *reflections*. There is rarely time to 'bandy' musical ideas with your colleagues. When communicating, new ideas may be born, Simon thought. For example, when listening to his colleague Paul's performance of the cantabile section (cf. 6.2.6.3.) he got a totally new idea, which he had at first believed was not possible. Originally, he had just considered the melody as simple and naïve without 'curlicues'.

At this occasion, I pointed out that all musicians do not like talking too much; for example, conductors who explain their intentions verbally while rehearsing might easily become unpopular. As for Simon, his wish for discussing musical matters was apparently greater than that of many of his colleagues. He had noticed that many musicians just want to *play*. Anyway, you have to respect people's different views, he stated. Sometimes it would however be interesting to dive deeper into the music. Of course, you may also speculate too much, he thought, but after all, I have a lot of ideas which I would love to ventilate with other people. Simon explained that his interest was caught by reflections on what you want to bring out in a performance and what makes the music sound convincing, rather than pure musicological analyses.

His participation in the study had also inspired him to practice in a more concentrated way, Simon claimed. When playing solo you feel freer than when playing with other people. In the latter case, you have to adapt to the instrumental and technical restraints of your co-musicians. For example, you will have to pay attention to the length of a violinist's bow or the amount of air when playing a wind instrument. In this study, Simon told that he had felt like 'visiting verdant valleys' ('på grönbete'). However, he did not like the two musical excerpts composed by Beethoven as much as the Mozart excerpt. Unlike the alleged one-sided music of Beethoven, Mozart's music was said to include more of contrasts and different characters.

In spite of her critical remarks, *Olga* claimed that she had experienced the study in a primarily positive way. The visual tasks had made her reflect on the music. Visual illustrations do not need to be obtuse tools; they might function as unequivocal representatives of the music.

> Making good music, it is about understanding the… transmission of energy and the levels of energy between different sections.
>
> Att göra bra musik, det handlar ju om att ha en förståelse för… energiöverföringen och energinivån mellan olika avsnitt.

'Analysing music in a distinct way' is a neglected subject, not sufficiently considered in higher music education, Olga stated. Here, *Jane* interjected by telling that she had also been taught to analyse the musical structure and to search for high and low points, although she had never before run across the idea of *drawing* continuous dynamic lines. However, she admitted that this may be an interesting aspect. All the while when studying abroad, her teacher reminded her of paying attention to the musical *lines*. Maybe this was typical of some special musical traditions, Jane speculated, but the music's 'vertical' aspects are also important.

6.2.9.5. Conclusions drawn from the participants' evaluation

It is my impression that the four musicians had enjoyed participating in this study. All of them seemed to be positive to the use of visual tools in general. According to them, visual tools might serve as triggers for setting off musical reflections. However, in explicit concert situations they are not needed, *Paul* and *Jane* underlined. As to Jane, she prefers playing by heart, not feeling inhibited by any notations. She also claimed that the *choice* of visual symbols is of less importance; it is the musical ideas that count. *Simon* expressed a similar view by claiming that it is up to each person to decide the kind of notations that work best. For practical reasons, he recommends musicians to notate directly into the score instead of using a special device. *Olga* told that she was used to apply her own symbols for analysing music by writing memorandums into the score. Simon as well as Olga pointed out the importance of the teacher's demonstrating role of modelling the performance to the music students as a starting point for verbal discussions. The latter participants desiderated a forum for broaching musical interpretative matters.

Paul, Jane, and Simon supposed that visual tools might be useful as an aid for *planning* musical interpretations, as well as for *illustrating* a given performance.

When asked to assess the contingent usefulness of the two visual tools of this study,

- Paul preferred the Melody Phrasing Curve because of being experienced as *concrete*
- Jane thought that the curve was *not* useful; you play with different dynamics each time
- Simon thought that a curve should be drawn with few details with space for freedom
- Olga assessed the phrasing curve to be *arbitrary*

In contrast to Simon, Paul seemed to believe in the virtue of using visual tools elaborately, at least on a higher musical level.

- Paul assessed the system for notating points of gravity as *ambiguous*
- Jane and Simon *preferred* the system for notating points of gravity
- Olga preferred her *own* system for notating 'points of gravity'

In educational contexts,

- Paul thought that the *phrasing curve* would be useful
- Jane thought that the *points of gravity* would be useful when teaching high school pupils
- Simon was mostly positive to the *points of gravity*
- Olga would never use a *phrasing curve* like this

The participants' comments on these issues might also be summed up as follows:

Visual tools in general may deepen the musical awareness (all participants)
Visual tools may work for illustrating musical ideas and performances (all participants)
Visual tools may inhibit a focus on the music in itself (Jane)
Visual tools should display more details on a higher level (Paul))
Visual tools should display just the big lines in educational contexts (Simon)
The phrasing curve is the most *concrete* of the two visual tools (Paul)
The phrasing curve may be *useful* in educational contexts (Paul)
The phrasing curve seems to be *arbitrary* and *useless* (Jane, Olga)
The system for notating points of gravity is the *best* tool (Jane, Simon, and Olga)
The points of gravity may be *useful* in educational contexts (Jane, Simon, and Olga)
The system for notating points of gravity seem to be *ambiguous* (Paul)

6.2.9.6. Some complaints

Jane, *Paul* and *Olga* told that they had reacted negatively to the technically bad reproduction of the recorded sound. Jane declared that she had experienced the bass register as too dominating. Paul thought that it was still possible to perceive the changing dynamics of the recorded sound. To me, the relevant shape of Olga's drawn phrasing curve illustrating Beethoven B may be interpreted as supporting the supposition that she had been able to perceive the performed dynamics in spite of the bad sound (cf. 6.2.3.4., p. 160).

Olga also complained about the creaking piano stool. Paul and Olga drew attention to the bad maintenance of the institution's equipment of musical instruments. According to Jane and Olga, they did not like the piano of this study at all. Jane said that she had experienced the sound as too 'sharp'. Olga did not like the piano, because she felt that it was difficult to master and it did not seem to respond to the intended musical effect.

When recording Jane's version of the musical excerpt Beethoven B, the piano had an occasionally deficient key. I was impressed by the fact that she chose to perform the piece anyway without bothering. She also seemed to be able to counterbalance the strike of the bad key perfectly by means of an extraordinary soft and smooth touch. When listening to her recorded performance I could not perceive anything unusual because of this problem.

6.2.10. Summation of the study's results and answers to the research questions

6.2.10.1. Research questions

The research questions of the present study were formulated as follows:

A: *In what different ways do professional musicians use two given visual tools intended to illustrate their personal experiences of the dynamical progression of the melody part and the metrical points of gravity, respectively, within three classical piano excerpts?*

B: *Which musical thoughts and ideas come up when these musicians interpret, illustrate and perform musical excerpts from three classical piano compositions?*

C: *Which different musical approaches are revealed in this study?*

Since none of these questions can be answered in one single sentence, I have chosen to present a summation of this study's results structured according to the issues of each one of the three research questions mentioned.

6.2.10.2. Summation of the study

A: During the study, the participants explored different strategies of accomplishing the visual tasks. One participant insisted on using her own symbols for notating points of gravity, which were afterwards translated into the suggested symbols of this study in order to enable a comparison to the other participants' notations.

When comparing the four participants' *phrasing curves* illustrating each of the piano excerpts employed in this study, some similarities could be observed on a general level. The results suggest that the participants had apprehended the general dynamic features of the three excerpts in a related way.

In the Mozart excerpt, some similarities between the participants' notations of *points of gravity* were observed. However, in the two Beethoven excerpts, there seems to be many discrepancies between the participants' notated points of gravity. The similarities in the Mozart excerpt might be explained by the lucid structure of this musical style, whereas the divergences between the participants' notations of points of gravity illustrating the two Beethoven excerpts might be explained by the participants' different interpretations of the concept of 'point of gravity', which seems to be revealed notably in music often considered as somewhat more complex in a structural sense. In many cases, their notations seem to be linked to dynamic stresses based on harmonic, rhythmical or emotional elements within the music rather than to emphasis linked to the music's bar-line *meter* (cf. 3.1.)

When comparing the participants' two sets of *phrasing curves* illustrating their respective performances of Beethoven B, Paul's and Simon's *second* curves resembled their first curves drawn at home, whereas Jane's and Olga's curves looked 'hillier', displaying a somewhat higher dynamic level the second time.

When comparing the *phrasing curves* drawn by two different participants illustrating one and the same recording of Beethoven B, some similarities in respect of the indicated general dynamics could be observed, although the participants seemed to have adopted some diverging individual notating styles. In many cases their notated *points of gravity* were diverging a lot.

A study of the individual stylistic shapes of the participants' phrasing curves reveals some specific features. The curves drawn by Jane and Olga looked both rather 'hilly' displaying many dynamic details, whereas the curves drawn by Paul and Simon looked straight, displaying less dynamic details. Simon's drawn curves seemed to display mainly the big musical lines, whereas the shape of Jane's and Olga's respective curves seemed to display quick dynamical changes. The curve drawn by Paul might be categorised as representing a position in the middle between the

mentioned two kinds of phrasing curves, displaying mainly the big musical lines, but also equipped with some dynamic details.

When drawing her curves, Olga claimed to be negatively affected by the instrument's characteristically decaying sound, maybe because of her profession as a singer experiencing music in long legato lines. Paul and Simon seemed to have neglected this special impression of the piano sound by focusing instead on the music's coherent lines. Simon motivated the particularly straight shape of his phrasing curves by emphasising the need for leaving space to the performer's interpretative freedom.

Three participants supposed that the visual tools might function as an aid for *planning* musical interpretations as well as for *illustrating* a given performance. This also means that the Melody Phrasing Curve may be used for different purposes. It might illustrate a musician's interpretative ideas before performing, or it might illustrate the personal experience of a sounding performance.

A phrasing curve might also be described as descriptive or didactic. A typical *descriptive* curve might be defined as a detailed illustration of the changing dynamics within a given composition as personally experienced. The purpose of a typical *didactic* curve might be to visually demonstrate to somebody how the dynamics of a composition should be performed according to a settled interpretative version. A phrasing curve might be a representative of one or several of the mentioned aspects simultaneously.

All the participants expressed their conviction that visual tools in general might contribute to clarifying musical ideas, and that they might serve as a trigger inspiring musicians to reflect on musical matters and explore new interpretative solutions. However, the notations should rather not be used in a way inhibiting the expressive spontaneity of the musical performance. Two participants thought that the choice of visual tools and symbols is of less importance. One participant preferred using her own system for the purpose of clarifying the structure of a given composition. Two participants emphasised the teacher's demonstrating role, modelling the performance to the music students as a starting point for verbal discussions. They also desiderated a forum for broaching interpretative matters.

When being asked to evaluate the two visual tools of this study, one participant told that he preferred the phrasing curve because of its concrete character. The same participant assessed the system for notating points of gravity to be ambiguous. The other participants preferred the use of symbols indicating points of gravity. One of them assessed the phrasing curve to be arbitrary, and she also preferred her own system for notating points of gravity.

In explicit educational contexts, Paul thought that the phrasing curve could be useful, whereas the other participants thought that the system for notating points of gravity would be of more use. One participant told that she would never use a visual tool like the phrasing curve because she thought it was superfluous.

A condition for assessing the usefulness of the visuals tools as instruments facilitating the communication of musical interpretative matters was that the involved musicians had interpreted their intended functions in roughly the same way. The results of this study indicate that when illustrating one and the same performance, the participants' drawn phrasing curves have more in common than their notations of points of gravity. A possible conclusion might be that among the two visual tools of this study, the phrasing curve would be the most useful for the purpose of communicating matters related to musical interpretation. Nevertheless, in spite of the many divergences between the participants' notated points of gravity, which were probably caused by their different interpretations of this concept, three of them preferred using this visual tool rather than the Melody Phrasing Curve.

B: According to their comments, the participants seemed to have interpreted many of the characteristics of the musical excerpts in a similar way. For example, all of them seemed to have focused mainly on the light-hearted aspects of Beethoven's composing style. When discussing the appropriate tempi of the musical excerpts, some participants referred to the relationship between tempo and some other musical aspects, as for example, the dynamics of the music. Two of the participants expressed their endeavour of keeping a constant tempo throughout the Beethoven B excerpt, but when checking with a metronome, none of the participants seems to have played the piece in a constant tempo.

C: The results of the study might be interpreted as revealing some different explorative as well as reproductive approaches towards music (cf. Hultberg, 2000). These explorative and reproductive approaches do not have to be mutually exclusionary; musicianship on a higher level may include a balance between both the mentioned aspects.

All the participants seemed to agree about the importance of theoretical knowledge and musical *analysis* for the purpose of experiencing more freedom in a musical sense. The participants' comments on the characteristics of the musical excerpts employed in this study, on their recorded performances, as well as on their respective visual illustrations of these excerpts, seem to reveal a lot of *reflections* indicating their endeavour to analyse music and explore new interpretative solutions. Some participants *explored* new ways of interpreting the music during the study. Their verbal descriptions also reveal a great deal of *imagination* and visionary musical ideas. However, musical imagination in itself does not have to be linked to a corresponding endeavour to further explore the music's interpretative possibilities, for which reason I have chosen to present these two approaches as two different categories. One of the participants' questioning of some markings within the printed score, as well as her doubts about some elements within this study, might be interpreted as revealing a '*disobedient*' musical attitude in a positive sense. However, being disobedient might imply a loyalty to something else. This means that she may be *obedient* to musical valuations and ideals to which she is more used, perhaps emanating from her own music education, as well as from experiences in her capacity of professional musician. Furthermore, the participants' visual illustrations, as well as their verbal comments, might be interpreted as indicating a focus on *musical details* as well as on *big musical lines*.

Hence, when meeting the participants of this study the following different attitudes towards music were revealed:

a) The analytical and reflecting musician

b) The musician expressing fantasy and imagination in a positive sense

c) The exploring musician

d) The obedient musician

e) The disobedient musician

f) The musician focusing on smaller musical details

g) The musician focusing on big musical lines

6.3. Discussion

In this part, the following topics will be discussed based on the results of Study B:

- problems caused by the technical equipment
- visual tools
- different musical approaches

The section ends with some brief conclusions.

6.3.1. Problems caused by the technical equipment

All the performances and interviews were recorded by means of a video camera (cf. 6.1.3.). The advantage of using a camera was partly that the films enabled a more complete overview, including a visual impression of all the musical performances and the interviews (Rønholt et al, 2003), partly that I thus had the opportunity to watch and study the performances on the spot together with each one of the musicians. It is my impression that these moments of listening to the recordings together contributed to building up a sense of confidence between me and the participants, also giving rise to a favourable ambiance and a gradually more relaxed communication.

One clear disadvantage, caused by the video camera employed, and the equipment for reproducing the recordings, was that the sound quality proved to be far from optimal. However, for the purpose of analysing the data material, all the meetings were also recorded on audio tape with a considerably better sound quality.

According to their comments, the participants had noticed the technically bad reproduction of the sound. Unfortunately, the piano was not in perfect condition either. After all, Paul told that he was still able to perceive the changing dynamics of the reproduced sound. By all accounts, the visual shapes of the participants' drawn phrasing curves indicate that in most cases they seem to represent the changing dynamics of the recorded performances in a plausible way. It is also my impression that the study generated a redundant outcome that sheds sufficient light on the research questions. Obviously, the disadvantages mentioned had not caused any serious problems.

Bearing in mind that I am not a technical specialist, I was not familiar with the recently developed method of synchronising video recordings to audio recordings when carrying out the study, which would have enabled a considerably improved sound quality. Furthermore, since this PhD project may be considered as a low-budget project, I was assisted neither by a sound engineer nor by a cameraman.

6.3.2. Visual tools

The notated expression marks of a traditional score may be interpreted either as *descriptions* of some inherent aspects of the composition in question, or as *prescriptions* intended to guide the performer to take certain musical measures when performing. In a corresponding way, the two visual tools of the present study may serve either for the purpose of *illustrating* some aspects of a given composition as personally perceived, or for the purpose of *demonstrating* these aspects within a special performance of the composition to someone, for example, in educational situations.

6.3.2.1. Possible ways of using the visual tools

The study might be characterised as explorative within the frames of which the visual tools have been used primarily as *research* instruments, investigating thereby only *indirectly* their contingent usefulness in musical communicative contexts. Nevertheless, the participants used them for the purpose of *planning* and preparing their performances of the selected piano excerpts, and for the

purpose of *illustrating* and *evaluating* their own recorded performances, as well as those of the other musicians. Furthermore, the visual tools were used in different ways illustrating either a lot of details or just the big musical lines. They are also supposed to illustrate aspects of a given performance independently of its level or quality.

When accomplishing their tasks, the participants used different strategies. In some cases they started by playing the excerpts through, after which they illustrated their planned performance visually, and in some other cases they started by drawing a rough outline, after which they revised their illustrations while playing on the piano. It may also be possible to use one of these strategies for one of the tools and the other strategy for the other tool. The illustrations may be accomplished at home without any time limit, or on the spot within a limited time.

6.3.2.2. Participants' evaluation of the visual tools

According to their comments, the musicians all seemed to be generally positive to the use of visual tools. Visual tools may deepen the musical awareness, although it should be up to the musicians themselves to choose which tools they prefer to use. Moreover, visual notations must not be used in a way impeding the spontaneous expressions of the performance. In educational situations, the teacher's role as a model in a musical sense was said to be as important as the use of visual tools. As I have interpreted their statements, the participants appraised the virtue of launching *personal reflections* as the most worthwhile property of the visual tools employed.

Nevertheless, the participants expressed their impression that the visual tools might work equally well for planning performances, as well as for illustrating a certain performance. However, this does not necessarily mean that they would use these very tools in their own professions. In view of the results indicating that the *Melody Phrasing Curve* in most cases had functioned satisfactorily as an instrument for illustrating the general dynamical progression of the melody part as personally experienced, I was a little surprised that only one participant said that he preferred this visual tool to the other tool. Paul claimed that he had experienced the phrasing curve as more useful because of being the most concrete, whereas he had experienced the system for notating points of gravity as ambiguous.

A question that arises is if this preference might be linked to a typical pianistic perspective. Paul was the only one of the participants who considered himself primarily as a pianist. Moreover, although being supposed to be based on some general conventions for how to perform classical music, the special design of the Melody Phrasing Curve was to some extent an idea emanating from my own professional experiences of music in my capacity of pianist. In this context, it might also be of interest that I really did not know about the phrasing curve designed by the famous pianist Paul Badura-Skoda (Skoda, 1957) expressing principally the same interpretative ideas as those of the Melody Phrasing Curve used in this study. Skoda used his curve in order to clarify his views on how to perform Mozart's music.

The results also indicate that the participants had interpreted the system for notating points of gravity very differently among themselves. Nevertheless, three of the four participants claimed that they had preferred this system to the phrasing curve. They told that they had experienced the system for notating points of gravity as useful, whereas they had experienced the phrasing curve as arbitrary and being of less use. An explanation might be that without initially realising their diverging interpretations of the concept of point of gravity, they might have felt freer and more convenient when being left using the corresponding visual tool at their own discretion.

6.3.2.3. Participants using the visual tools in diverging ways

One condition for evaluating the relevancy and the contingent usefulness of the study's two visual tools, in respect of their intended delimited purpose of facilitating the communication between musicians discussing the corresponding matters related to musical interpretation (cf. 1.3.), was that the participants had used them approximately in the same way in accordance with

the instructions at the briefing. Moreover, there should be observable similarities between the notations when illustrating one and the same performance (cf. 6.1.8.). As I have interpreted the results, *the Melody Phrasing Curve* seems to function as a visual tool for approximately illustrating the experienced dynamic features of the melody part in the homophonic classical piano compositions employed. This means that the phrasing curves drawn by the participants seem to mirror the experienced fluctuating dynamics of the melody part also in Beethoven's somewhat more complex musical style. As to the system for notating *points of gravity*, the discrepancies between the participants' illustrations were sometimes striking.

As was also the case in Study A (cf. 5.2.1.3., p. 94), the participants seemed to have been a little confused when asked to illustrate their experience of the dynamic transition between the preceding 'silence' in a musical sense and the onset of the first sounding chord or tone. An example of this is the discussion with Olga about this matter. She refused to draw her curve from the starting point, as prescribed in the special device, on the grounds of her associations to some singing technical concerns (cf. 6.2.3.1.). These associations might have been partly provoked by me because of using the metaphor of 'inhalation' at the briefing. Nevertheless, the conception of imagining an inner dynamical preparation before producing a tone seems to be an established convention (e.g. cf. 2.7.3.). However, it is my impression that the participants were not entirely acquainted with the idea of illustrating this musical aspect, at least not by means of a drawn curve, maybe also because my instructions were perceived as unclear.

Aside from this, a comparison between the participants' drawn phrasing curves illustrating the same performances reveals many similarities in respect of the general dynamic shape, as well as notated high and low points. In most cases, the differences seem to be due to their diverging drawing styles. For example, the curves drawn by the participating men generally displayed big musical lines with few details, whereas the curves drawn by the women looked more 'hilly', equipped with a lot of quickly changing details. According to the participants' own comments (e.g. cf. 6.2.8.2.), this might have had something to do with their different ways of experiencing the specific piano sound. Thus, when listening to piano music, it seems to be possible to focus either on big coherent musical lines, or on the characteristic piano sound with its more or less articulated attacks followed by constantly decaying tones. At this occasion, Paul expressed his ambition of being an *illusionist* creating the illusion of big coherent lines when performing. To some extent, the musicians' respective main identities of being either instrumentalists or singers may have affected their different ways of experiencing and illustrating the music. A question that may arise is whether the participating singers would have illustrated music performed on another instrument differently.

Apparently, the participants had interpreted the concept of 'point of gravity' in very diverging ways. As an example of this, Jane told that her notations were supposed to refer to the 'direction' of the phrases, whereas Paul associated with tones 'needing space'. In many cases, the notated points of gravity seem to simply represent distinct dynamic stresses. For example, Olga's own statements indicate that she had focused primarily on dynamical 'high points'. She also insisted on using her own accustomed symbols for illustrating 'points of gravity'. I accepted this, because to begin with I thought that they were compatible and translatable to this study's common symbols for notating points of gravity. However, after having analysed her illustrations and her comments at the interviews I realised that Olga had focused mainly on dynamic stresses, which sheds further light on her doubts concerning the usefulness of the Melody Phrasing Curve. Because if interpreting the system for notating points of gravity in this way, it might indeed appear as odd being asked to illustrate the same experienced dynamics *twice* by means of two different tools. Moreover, Olga thought that the intended dynamics of a composition appears in a sufficiently clear way by means of the prescribed expression marks of the printed score.

In some sections, Jane and Simon described their experience of points of gravity being ambiguous, and in Beethoven B the latter participant described them as *dislocated* because of the

music's harmonic progression. At one of the interviews, Simon suggested the term 'emotional point of gravity' instead, in order to make this concept easier to grasp, whereas Olga suggested 'point of gravity conditioned by musical form' ('formmässig tyngdpunkt') (cf. 6.2.8.6.). In my view, none of these suggestions seem to correspond entirely with the intended function of the metrical points of gravity. Nevertheless, metrically conditioned points of gravity may well be performed by means of dynamic stresses, as well as by other emphases (cf. 3.1.11.). However, this does not mean that all kinds of dynamic stresses are linked to musical meter.

After all, in some cases the notated points of gravity seemed to refer primarily to the metrically strong beats, for example, at the composed stresses in the bars two and four, respectively, of Beethoven A (cf. 6.2.3.3.). As opposed to the notations of Simon questioning the composed metrical division, Paul and Jane seemed to have interpreted these rests as metrical points of gravity.

The participants' confusion as concerns the concept of point of gravity might also be partly linked to their, at least in my ears, sparse use of *durative* emphasis for the purpose of bringing out metrically stressed beats. Maybe this was also the reason for my experience of rhythmic instability in some parts of their performances.

In a study carried out by Edlund (1993, 1994, 1996), the author concludes that durative emphasis seems to be less effective for the purpose of conveying the notated metrical organisation to the listeners. On the other hand, *inverted* durative emphasis (emphasis of shorter duration) was frequently used by the participating musicians. However, Edlund admits that they might have adopted different individual playing styles.

In the view of my own experiences in my capacity of professional musician, I still consider durative emphasis understood as subtle durative 'stretches', sometimes in combination with other emphases, as a very useful means of expression for the purpose of conveying the notated metrical organisation of a certain composition to the listeners (3.1.11.-3.1.15.). I also remember my organ professor recommending his students to use durative emphasis in order to create the illusion of stresses when performing on the organ. Furthermore, this seems to be an established convention, at least when performing distinct classical compositions. For example, Leopold Mozart claimed that the strong beats should be longer and performed with more intensity compared to the weak beats (Clynes, 1983). It would also be interesting to study measures taken by world-famous artists for the purpose of creating the impression of rhythmic stability in their performances.

Considering the participant's diverging ways of notating points of gravity, it is my conclusion that the relevancy of this very visual tool could *not* be fully evaluated in respect of its contingent usefulness as a visual tool for facilitating the communication between musicians discussing the interpretation of the corresponding metrical aspects. Maybe the instructions at the briefing were not clear enough. This explanation is moreover supported by Simon wondering whether the purpose of the study had been to achieve an optimal accordance between the participants' notations (6.2.8.6.). If so, the function of the visual tools should have been explained more precisely, he thought. To him, it seemed as if everyone had interpreted the instructions in their own different ways.

6.3.3. Different musical approaches

In this section, the participants' different interpretations of the piano excerpts, their views on music theory and analysis, as well as their different approaches towards music are discussed.

6.3.3.1. Different interpretations of the piano excerpts employed

According to their visual illustrations and their verbal statements, the musicians seemed to have experienced the piano excerpts employed in a related way. It is my impression that they described the special characters of the compositions in a positive mood with a lot of joy and imagination.

It is my impression that all of the participants listened to their recorded performances of the musical excerpts attentively and with self-critical ears. When being asked to illustrate their respective performances on the spot as experienced by themselves when listening to the recordings, they often revised their visual illustrations made at home. This might be interpreted as a support for the benefit of recording performances in order to give musicians the opportunity to reassess a certain interpretative version.

However, when listening to a certain recording, the experience of the music might be biased by some a priori musical ideas. For this reason, it might sometimes be advantageous to ask a music colleague commenting on the performance. In this study, the colleague's comments might be interpreted as a support for the benefit of receiving musical feedback from other people (cf. (Juslin & Persson, 2002).

6.3.3.2. Choice of tempi

The participants told that when performing they had based their different tempi on the perceived dynamics and characters of the musical excerpts. In some cases, however, they had chosen a somewhat slower tempo because of some technical concerns. Jane said that she had focused on the quaver rhythm when performing Beethoven B, although she admitted that it sounded a little heavy when listening. Simon seemed to express a somewhat contradictious view by claiming that he strived to focus on big musical lines on the one hand and that he insisted on playing the Mozart excerpt with many performed points of gravity due to his experience of the harmonic progression on the other. To me, playing with densely occurring points of gravity or stresses might easily give rise to a somewhat heavy character.

When discussing the appropriate tempi of the musical excerpts, at least two participants (Paul and Olga) expressed explicitly their endeavour of keeping a more or less *constant* tempo throughout the musical excerpts. However, a great number of artists advice against performing music in a too metronomic way. Karajan (cf. Osborne, 1989), Brendel (1982), Horowitz (cf. Schonberg, 1992), as well as Walter (1958) seem all to have distinguished between playing rhythmically and sticking to a constant tempo (cf. 2.8.). For example, Walter (1958) thinks that although there should always be a fundamental tempo maintaining the unity of the piece of music, the tempo is still relative and should adapt constantly to the changes of the music. Casals went one step further by claiming that music should be performed in a constant rubato (Corredor, 1954; Blum, 1977), whereas Furtwängler seems to have applied a kind of 'phrasing rubati' (Furtwängler, 1996). Celibidache expressed his opinion that the 'inner' tempo of a piece of music has nothing to do with the measurable speed (cf. Weiler, 1993). According to him, clearness is important, and when the music is multiplex, more time will be needed.

However, I did not understand the participants' expressed endeavour of keeping a constant tempo as an ambition for playing in a metronomic way. The issue discussed was whether it might be considered as justifiable to slow down the tempo in technically more complicated sections. In my view, technical difficulties may sometimes be partly disguised by slowing down the tempo slightly if needed, particularly if this measure is combined with a convincing appropriate musical expression neutralising the effect of the changed tempo.

6.3.3.3. Views on music theory and analysis

According to their comments in the interviews, all of the four participants expressed an analytical and reflecting approach towards music. Many of their statements might be interpreted as denoting a certain concern about the importance of acquiring theoretical knowledge of music. For example, Paul claimed that 'the theories make us free in a way' (cf. 6.2.5.). Jane appreciated a clear image of the music and said that she felt more free after deciding the musical interpretation in broad outlines before a performance. In a similar way, Olga claimed that all kinds of analyses are beneficial making you feel free in a musical sense. Simon expressed his experience that to him this study's visual tools had served as an aid making things clearer. You get a fundamental image of the music that may be modified at will, he thought.

A question that may arise is why the participants expressed such a positive view on music theory and analysis. To some extent, this might be explained by the fact that they had all graduated from academies of music, which also means that they have been educated in accordance with a classical conservatory tradition, in the frames of which theoretical knowledge has a prominent role. Accordingly, music theory and analysis seem to represent the participants' principal method for finding appropriate interpretative versions in the process of preparing musical performances.

However, there are many different theoretical approaches towards music, and it cannot be taken for granted that the participants meant that they have a positive attitude to all kinds of musical analyses when emphasising the principal role of theoretical knowledge of music. Apparently, in general the participants had already found their own ways of interpreting music, for which reason they did not experience any urgent demand of introducing new tools such as those of this study.

For example, Jane underlined that a focus on the music's 'vertical' aspect was as important as a focus on its 'horizontal' (melodic) aspect. To Simon, the crucial thing seemed to be the big musical lines implying the harmonic and melodic progression. Everything else, including musical ideas and emotions, will emerge by itself, he thought.

Olga told that in her capacity of conductor she was used to study scores and to reflect on music. She preferred using her own system for analysing music that she had been taught during her music education. This system implied the indication of 'high points' on different hierarchical levels, as well as notations of fingerings, harmonic analyses and the structure of the musical phrases. This method was experienced by her as superior in relation to her special requisites. According to Olga, such an analytical work makes all 'stresses' and other musical elements appear by itself. From this it might be concluded that the visual tools of the present study did not appear as especially useful to her because of her profession as an experienced musician already perfectly aware of how to prepare and interpret classical compositions.

In other words, musical analysis seems to be used by the participants as their instrument for personal musical reflections in a similar way as the intended use of the visual tools employed in this study. To me, some kind of connection seems to prevail between the intended function of the study's visual tools and the methods which were usually employed by the participants for the purpose of settling a certain interpretative version of a composition.

6.3.3.4. Combining different approaches towards music

In addition to the discussed *analytical* and *reflecting* approaches to music, the participants' visual illustrations, as well as their verbal comments indicate that they have paid attention not only to *the big musical lines* but also to a lot of *musical details*.

The participants also expressed a critical and questioning attitude in a positive sense during all of the study's meetings. In some cases, they challenged the markings within the printed score, as well as some inherent elements of the compositions. Olga's refusal to follow my instructions for

how to draw the initial part of the phrasing curves might be designated as a sign of '*disobedience*', but certainly not in a negative sense. At the same time the participants seem to have *respected* the traditions and conventions of performing classical music.

The participants' descriptions of the characteristics of the musical excerpts reveal a rich inner life, *fantasy*, and *imagination* linked to the process of musical interpretation (cf. 6.2.6.1.). When preparing the musical excerpts at home they seem to have reflected a lot, and the results indicate moreover a desire of *exploring* new interpretative solutions. For example, Olga discovered new interpretative options at one of the study's meetings (cf. 6.2.6.4.).

Obviously it is doubtful whether musicians in general are as open-minded as the participants of this study. Further research is needed in order to determine to what extent the participating musicians may be considered as typical in respect of their different approaches to the music.

Hence, a musicianship may be imprinted by one or several of these broached factors. Maybe the unification of all the properties mentioned would represent an ideal musical balance between intellect and emotions in accordance with the issues discussed in the section *1.1.1.*

Apparently, there exists a great amount of musical issues that may be discussed between musicians. The idea of establishing some kind of a forum for further discussing matters linked to musical interpretation was also positively received by the participants. At least two of the participants desiderated such a forum for musical reflections and discussions. Olga told that the visual tasks of this study had 'forced' her to reflect deeper on the music. In order to make good music it is crucial to understand the 'transmission of energy and the level of energy in different sections', Olga thought. 'Analysing music in a pure way' is a neglected subject not considered enough in the higher music education, she concluded (cf. 6.2.9.4.). Simon expressed his opinion that when communicating musical issues, new ideas might be born. He would like to dive deeper ventilating musical ideas with other people. However, he had noticed that some of his colleagues did not share his interest in discussing musical matters. To Simon, interpretative issues focusing on the problem of bringing out musical ideas in a convincing way during a performance were said to be more interesting than strict musicological analyses.

6.3.4. Conclusions

It is my impression that the musicians had generally reacted very positively and that they all enjoyed participating in the study. Their statements revealed an open-minded and spontaneous attitude during all of the study's meetings. Furthermore, the questions of the interviews were formulated in a way that gave plenty of scope for free discussions. By meeting the participants several times and by comparing the participants' verbal statements to their recorded performances, as well as with their different visual illustrations, it is my impression that I have received a relatively integrated and plausible overview of their different standpoints.

When listening to their recorded performances, the participants often revealed a self-critical attitude, being apt to revising their previous standpoints. From this it might be concluded that in educational contexts in a broad sense it may be very helpful to musicians to listen to their own performances. Furthermore, it may also be profitable to get feedback from someone else listening to the same performances.

In many cases, the participant's drawn phrasing curves illustrating one of their colleagues' recordings seem to be at least as relevant as the illustrations made by the performers themselves. Furthermore, when listening to the participants' recordings at the same time as studying their drawn curves, it is my impression that many dynamic characteristics within their visual illustrations correspond fairly well to the corresponding features of the sounding performances.

A conclusion might be that the visual tools would serve, not only as a starting point for verbal discussions between musicians, but also as an aid facilitating the communication of interpretative

matters, at least when dealing with classical pieces of a clear homophonic structure, like the piano excerpts of this study.

The visual tools may also be considered as triggers inspiring musicians to reflect deeper on the music when preparing a performance. Moreover, the results of this study reveal a redundant amount of musical interpretative matters that ought to be further discussed. Therefore, it might be considered as crucial to establish some kind of a forum for diving deeper into the large and partly unexplored sphere of musical interpretation. In the following chapter, this will be further elaborated and discussed.

Chapter 7: FINAL DISCUSSION

In this final chapter, some of the issues already broached in the previous chapters will be further discussed, and combined in new ways and contexts with the aim of achieving a more comprehensive overview of the results of the PhD project. The following subjects will be discussed:

- General accounts of the PhD project
- Evaluation of the two visual tools
- Cultural tools for interpreting classical music
- Gender aspects
- Educational implications
- Further research: ways to proceed

The chapter ends with some concluding remarks.

7.1. General accounts of the PhD project

As mentioned in the beginning of this book, the point of departure of this project was my special interest in the interpretation of classical music. It is my impression that the relationship between what musicians actually do and which measures they take when performing music on the one hand, and the way the music will be experienced by the audience on the other, represents an immense and relatively unexplored research field. In Study B, the participant Simon explicitly expressed his interest in thoroughly investigating how to make the music sound convincing, and how to bring out different musical ideas in a performance.

However, in contrast to the participants of this study, there might be musicians objecting to the idea that musical thoughts could be expressed by other means than music itself. On the other hand, music comprises an emotional side as well as an intellectual side, which means that there is not necessarily an opposition between intellectual reasoning and the music's emotional qualities. The results of the PhD project indicate that theoretical knowledge may indeed function as an aid for the purpose of systematising and structuring practical musical experiences.

In many cases, it may be difficult to explain and discuss musical ideas, experiences, emotions, and other issues related to musical interpretation in a comprehensible way by means of just the verbal language. For this reason, it may be advantageous to combine several alternative ways of communicating musical matters; something that seems hard to express in one medium might be easier expressed through another medium. The results of this project have revealed that *visual* illustrations in particular can sometimes be of a great help for the purpose of explaining musical issues in a clearer way. This does not mean that visual illustrations could, or should, replace verbal language, but when discussing musical matters they might function as an important complement.

Since I was particularly concerned about the communicative aspect, this induced me to explore alternative methods intended to serve as a complement to the ordinary ways of communicating issues related to musical interpretation. Accordingly, the two visual tools in this project were developed and tested in the hope of finding appropriate instruments facilitating the communication between musicians, to get hold of the many unexplored issues of musical interpretation, and for the purpose of encircling musical problems in order to find efficient practical solutions. Bearing in mind that these visual tools were designed only for the purpose of expressing *subjective* musical experiences by means of illustrations drawn by *free hand*, no perfect

isomorphic accordance was expected between the sounding music and the visual illustrations. My ambition was just to clarify musical ideas in a simple way. According to the results of this project, the Melody Phrasing Curve in particular seems to have functioned sufficiently in relationship to its defined purpose.

Although music is a subjectively experienced phenomenon, it has the power of creating experiences shared by several human beings. This is also confirmed by the results indicating that, according to their comments and visual illustrations, the participants had often experienced the musical excerpts in a similar way enabling a fruitful communication about melody phrasing.

Accordingly, in order to study *different* musical ideas and experiences, the visual tools should mirror certain defined and commonly agreed musical aspects. The results of Study A and B may be interpreted as supporting the idea that visual illustrations of aspects linked particularly to melody phrasing may serve as common reference points.

Hence, the general purpose of the PhD project, aiming to develop and test the relevancy of two special visual tools proposed for facilitating the communication between musicians of matters linked to musical interpretation, has been fulfilled. This purpose also implied the exploration of thoughts coming up when these visual tools were used as instruments for illustrating musical experiences.

The common research questions of the PhD project were formulated as follows (cf. 1.3.):

a) To what extent could visual tools facilitate the communication between musicians of matters linked to musical interpretation?

b) Which thoughts come up when professional musicians illustrate their musical experiences by means of specially designed visual tools?

The results indicate that the use of visual tools in general may facilitate the communication of musical matters between musicians, something that will be further discussed in the consecutive sections of this chapter. The results of Study B in particular indicate that the special visual tools of this project seem to have functioned as triggers launching many fruitful discussions between the participants about musical issues linked to musical interpretation. The participants' musical thoughts, as verbally and visually expressed by themselves during the meetings of Study B, might be summarised into two main categories representing the two corresponding approaches:

- Musicians respecting conventions and traditions within the sphere of classical music
- Musicians searching for new interpretative solutions exploring the music's expressive potential

7.2. Evaluation of the two visual tools

In this section, the two visual tools, the Melody Phrasing Curve and the system for notating points of gravity, are evaluated and discussed on the basis of the results of the PhD project. The section ends by broaching the participants' evaluation of the visual tools.

7.2.1. The Melody Phrasing Curve

In accordance with its special purpose, Study A focused on testing the Melody Phrasing Curve, intended to illustrate the perceived dynamics of the melody part from the perspective of music professors listening to recorded piano excerpts. In Study B, this visual tool was also applied by professional musicians in the practical context of preparing their own musical performances of selected piano compositions, together with the other visual tool intended for notating metrical points of gravity. In the in-depth-interviews, the musicians' specific musical ideas were further discussed.

The results of the first phase of Study A indicate that when the Melody Phrasing Curve was used as an instrument for illustrating aspects within classical piano excerpts of a clear homophonic character, many similarities between the drawn phrasing curves were observed in respect of the notated general dynamic shape and the location of the experienced dynamical high and low points. However, when illustrating music that may be characterised as structurally more complex, with the melody part appearing in a less distinct relief in relation to the other voices of the composition, the phrasing curves were sometimes more diverging. In these cases, the participants seem to have paid attention to different aspects of the music when drawing their curves. A possible reason for this seems to be that they had interpreted the concept of perceived dynamics of the melody part in a broader sense than expected (cf. 5.2.). Furthermore, in some cases the different shapes of the curves might be interpreted as mirroring aspects related to the participants' own professional specialities (cf. 5.2.6.).

From this it might be concluded, that on condition that it would be possible, in a plausible way, to relate the diverging parts of the drawn curves to some corresponding events giving rise to the curves' special shapes within the sounding music, the many possible ways of listening to music with foci on its different aspects could be studied. However, in that case, the specific shapes of the curves, because of being supplied with an additional layer of interpretation, have to be firstly *decoded* in order to find out exactly which musical aspects the drawn phrasing curves in question were supposed to illustrate in every section.

Considering its purpose, Study A did not include any interviews clarifying the special shapes of the participants' phrasing curves. Accordingly, I was not always able to determine for sure which musical events that had induced the participants to draw the diverging parts of their phrasing curves the way they did. Still, in some cases the connections between the diverging parts of the curves and certain corresponding musical events within the piano excerpts seemed to be obvious, for which reason the different phrasing curves were structured into a number of categories referring to the participants' probable foci on different musical aspects.

One condition for the visual tools being useful as alternative means of communication is that the involved persons interpret their function in approximately the same way. The results indicate that if used too freely, the Melody Phrasing Curve would be disqualified for the specific purpose of facilitating the *communication* between musicians in relation to its intended function (1.3.). By being used in a way mirroring not just one single aspect, but a multitude of possible musical aspects, nobody would really know to which aspects the illustrations were supposed to refer. This might be compared to the use of a verbal language, in the frames of which the significance of the words was not definitely settled, rendering all kind of communication impossible.

Since the results of the first phase of Study A indicate that in many cases, although not always, the Melody Phrasing Curve seems to have functioned approximately in accordance with its intended purpose, I decided, when carrying out the second phase of the study, to stick to my original plans of studying the Melody Phrasing Curve exclusively as an instrument for illustrating the perceived dynamical progression of the melody part. The results of this second phase indicate that the participants' phrasing curves illustrating one and the same recorded version of the employed Schumann composition reveal a higher degree of similarity compared to the curves drawn by each participant illustrating three differently performed versions. An interpretation of this might be that when illustrating this kind of homophonic music, the Melody Phrasing Curve seems to function sufficiently as a visual tool in accordance with its intended purpose of mirroring the experienced dynamical progression of the melody part. Accordingly, in the light of this specific purpose, it is my impression that the Melody Phrasing Curve functioned in a somewhat more relevant way in the second phase of Study A, compared to the first phase of the same study. Nevertheless, although being supposed to illustrate the same recorded performances, some discrepancies between the individual phrasing curves were observed in the second phase as well.

When carrying out Study B, based on the results of Study A, only piano excerpts of a clear homophonic character were employed, as described in Chapter 6. In this study, the Melody Phrasing Curve seems to have generally functioned in accordance with my original expectations: When studying the individual phrasing curves, it seems to be possible to get a hint of the experienced dynamical shapes of the melody phrases, as well as of the excerpts' respective dynamical high and low points. This does not mean that the shapes of the individual phrasing curves looked exactly the same, but the different appearances might to a great extent be explained by the participants' diverging drawing styles. For example, when studying the notated dynamics in the phrasing curves drawn by two colleagues illustrating one and the same recorded performance of the employed *Beethoven B* excerpt (cf. 6.1.2.), aside from their different ways of drawing phrasing curves, many similarities could still be observed. According to the participants' comments, their diverging drawing styles might be related to their different ways of experiencing the special character of the piano sound, maybe also influenced by the fact that their respective professional specialities were either instrumentalists or singers. This means that when being asked to illustrate their experience of the dynamical progression of the melody part within the recorded piano performances, the participants seem to have focused either on the music as such, in the shape of a coherent continuum, or on the specific piano sound with its more or less accented onsets followed by constantly decaying tones.

In all, in the present PhD project the Melody Phrasing Curve was tested three times: in the first and second phase of Study A, as well as in Study B. It is my impression that each time, the functionality of this visual tool was somewhat improved in relation to its intended purpose of illustrating the perceived dynamics of the melody part. The reasons for this might partly be the use of only homophonic piano excerpts in the second phase of Study A, as well as in Study B, and partly that my instructions at the briefings were possibly formulated more and more clearly. Furthermore, Study B included several meetings with the participants, giving them a better chance to get used to working with this special tool. Regarding the Beethoven excerpts employed in Study B, although representing a distinct homophonic composition style, this music might still be considered as substantially more complex in a structural sense compared to, for example, the excerpts composed by Mozart. In the light of this, the results of Study B may be interpreted as supporting the contingent usefulness of the Melody Phrasing Curve as a visual tool that has the potential of illustrating, not only compositions with a simple homophonic structure, but also music of a more complex kind, in favour of being applied in the context of musicians discussing matters linked to musical interpretation.

However, an exception to the encouraging results mentioned, are the parts of the drawn phrasing curves supposed to illustrate the experienced transition between the 'silence' preceding the music and the onset of the first tone, as well as the experienced return into the succeeding 'silence' after the music has stopped (cf. 5.1.1.). Concerning this very aspect, no evident accordance between the participants' phrasing curves were observed when illustrating the same recorded performances, except in the Brahms excerpt that was employed in the first phase of Study A .

A question that arises is why the phrasing curves were diverging as much as they did when being supposed to illustrate this special aspect. When designing the Melody Phrasing Curve, as described in Chapter 2, my point of departure was that the experience of a piece of music begins neither with the first sounding tone or chord, nor does it end with the last sounding tone or chord. This idea is indirectly supported by Kurth (1947) as well as by Nielsen (1987) discussing the interchange between the acoustic listening and the inner dynamic forces. The problem might be whether it is at all possible to illustrate the mentioned transition between 'inner' and 'external' dynamics, or vice versa, by means of one and the same visual tool. Nevertheless, Kurth (1947) considers dynamics as purely mental phenomena. This means that also the external dynamics may be considered as a basically internal phenomenon, which also sheds further light on the concept

of 'perceived dynamics' that has been employed in these studies. Moreover, there seems to be many eminent artists who are particularly concerned about the inner preparation of the music's first tone, for example, Casals (Blum, 1972), Klemperer (1973), Brendel (1982), Barenboim (1991), and Furtwängler (1991). The design of Skoda's phrasing curve (Skoda, 1957), indicating a 'crescendo' before the very first tone, seems to illustrate the same kind of inner dynamic activity as well (cf. 2.11, Image 3a). The conception of music as beginning before the onset of the first tone continuing until the last tone has faded out entirely seems thus to be totally in accordance with some conventional views on classical music. In the light of these views, the diverging parts of the phrasing curves illustrating the beginnings and the ends of the piano excerpts, might be interpreted in two ways:

- The participants were not familiar with these conventional views
- My explanations of this very aspect of the Melody Phrasing Curve may not have given rise to any associations to the conventional views mentioned, maybe because the explanations were experienced as unclear by the participants

It is my impression that the second alternative seems to be the most plausible interpretation. When explaining the intended function of the Melody Phrasing Curve at the briefing of the first phase of Study A, I compared the intended shapes of the curves indicating the constantly changing dynamic levels of the melody part, as experienced by the participants, to the amplitudes of an imagined conductor's arm movements and bodily gestures, communicating the desired dynamics to the orchestra. Normally, the movements of the conductor start as an empty upbeat preparing the onset of the first tone or chord. In this context, Barenboim (1991) claims that the conductor's upbeat has an essential influence on the character of the first sound. In a corresponding way, the conductor's movements usually continue until the very last tone at the end of the composition has faded out. In a corresponding way, the experienced dynamical progression of the melody part may be considered as starting already before the first tone, continuing all the way until the last tone has faded out entirely. However, according to the generally diverging shapes of the corresponding parts of the phrasing curves drawn by the participants in Study A, this special musical aspect did not seem to be mirrored in a plausible way.

Instead of being experienced by the participants as elucidating this aspect of the phrasing curves, the conductor metaphor seems to have given rise to some undesired connotations: for example, the participant C associated the idea with some rhythmically complex contemporary classical music, which sometimes has to be conducted by indicating just the beats, the organisation and the coordination between the single voices in a neutral way, leaving the performance of the changing dynamics and emotional characters to the musicians themselves.

Therefore, when explaining the Melody Phrasing Curve at the briefing of Study B, I compared the initial part of the phrasing curve illustrating the experienced connection between the preceding 'silence' and the onset of the first to an *inhalation*. Unfortunately, this metaphor seems to have given rise to undesired connotations as well, since the participant Olga was then imprinted by her associations to special concerns of singing technique.

From this it might be concluded that the 'conductor' metaphor, as well as the 'inhalation' metaphor, seemed to have brought about some confusion instead of clarifying the intended way of drawing the initial and ending parts of the phrasing curves. As a consequence of this, no clear patterns could be discerned in any of the two studies when studying the initial and ending parts of the participants' phrasing curves.

Still, this does not exclude that the illustration of the aspects mentioned would be possible. Maybe I should have refrained from using metaphors on the whole? A possible interpretation of the results, as regards the initial and ending parts of the phrasing curves, might be that the participants perplexed this aspect of their tasks because of my instructions being experienced as

confusing. Consequently, in a future study it might be necessary to consider thoroughly how the presentation of this aspect could be improved without creating any dubiety.

A question that may arise is whether it is at all possible to listen to music while focusing primarily on one single aspect, in this case the perceived dynamics of the melody part. To what extent can a melody be detected in, for example, music that is not markedly homophonic? It is likely that people usually listen to music in a more integrated way, implying the total complex interplay between all the parameters involved in the performance. Consequently, the results of the first phase of Study A indicate that, particularly when illustrating musical excerpts that may be considered as structurally more complex, the participants seem to have focused on different aspects.

Furthermore, it cannot be taken for granted that everybody experiences the melody part in the shape of a coherent and continuous line. Theoretically, someone might even experience melodies as disconnected tones. Music is an ambiguous phenomenon giving rise to many potential experiences. It is certainly true that the special design of the Melody Phrasing Curve might be challenged because of predetermining the user to consider the tones of the melody part as integral elements of a continuous line. On the other hand, according to the literature referred to in Chapter 2, the design of this visual tool is based on conventional views on classical music, and the participants of the two studies were all supposed to be thoroughly initiated into these conventional views. Accordingly, particularly the results of the second phase of Study A and the results of Study B, may be interpreted as though it is indeed possible to focus particularly on the dynamical progression of the melody part when listening to a musical performance, at least when the Melody Phrasing Curve is applied by experienced music professors and musicians.

Although being supposed to illustrate also the structurally somewhat more complex music of the Beethoven excerpts that were employed in Study B, the Melody Phrasing Curve seems to have functioned sufficiently enough in relation to my original expectations, by mirroring high points and low points and the general dynamical shape of the melody phrases in a plausible way. These results support my hypothesis that the dynamics of the melody part can be discriminated even in music of a more complex kind.

As already mentioned, the occurring divergences between the phrasing curves of Study B might be partly explained by the participants' different drawing styles. The results reveal that the special character of the piano sound related to their identities of being either instrumentalists or singers seems to have affected their different ways of experiencing and illustrating the music.

This means that even a presumed focus exclusively on the dynamics of the melody part might bring about diverging experiences from one person to another. The melody may thus be considered as a *mental* phenomenon that emerges ultimately in the listener's mind. Apparently, the listeners' professional specialities seem to exert a decisive impact on the way the music will be experienced, and the melody might also be experienced differently due to the special characteristics of the musical instruments employed. Maybe some people are even capable of choosing between several alternative foci when listening to a musical performance. If so, also the musical *listening* as such might be regarded as an act of musical *interpretation*, in accordance with Clarke's (2005) statements broaching the relationship between perception and action. This means that listening is an interpretative activity that might be compared to, for example, individual considerations when preparing a performance, the realisation of the corresponding musical ideas in the context of performing a composition, as well as verbal expressions and visual illustrations of different musical thoughts.

7.2.2. Points of gravity

In Study B, the system for notating points of gravity was introduced as a complement to the Melody Phrasing Curve. Since my expectations were that the explanation of this very system would need some extra time, this study included many individual meetings. However, in spite of the many meetings, it is my impression, based on the participants' verbally expressed reactions and comments, that I did not fully succeed in explaining this very visual tool in accordance with its originally intended function.

For example, according to her comments, Olga realised that she had focused primarily on dynamical 'high points' instead of different emphases conditioned by the metrical structure when being asked to notate the composition's points of gravity. In spite of that, some other comments indicate that she was well informed about the difference between strong and weak syllables in a musical sense.

The study of the notated points of gravity thus reveals that in many cases the participants seem to have used this visual tool very differently, which was also confirmed by their own observations as verbally expressed at the individual meetings. This seems to have been the case particularly in the Beethoven excerpts, whereas the participants seemed to have used the visual tool in a more similar way when illustrating the experienced metrical division of the employed Mozart excerpt. These results might be explained by the more complex structure of the Beethoven excerpts which might have given rise to some different musical foci. Accordingly, the notated points of gravity were often located to metrically *unstressed* beats, probably representing different dynamic stresses, emotionally expressive emphasis, and notes imprinted by the piece's harmonic progression, as well as by its rhythmic structure.

The question is whether it by any manner of means would be possible to bring the system for notating metrical points of gravity function more into compliance with its intended purpose. According to many traditions of classical music, as expressed by, for example, Beethoven's helpmate Anton Schindler (Newman, 1984) and the Polish pianist, composer, conductor Carl Mikuli, who was also a student of Chopin (Schirmer, 1915/1943), the music's metrical structure might be considered as something crucial (cf. 1.1.3.). Lerdahl and Halle (1990) discuss periodicity and compare the prosody of poetry to music. Cooper and Meyer (1960), as well as Fant, Kruckenberg and Nord (1990), regard meter as a phenomenon created by the music's changing weak and strong syllables. Moreover, Fant, Kruckenberg and Nord consider the tension between meter and rhythm as something musically fruitful. Edlund (1993; 1994; 1996) also discusses the interaction between meter and rhythm. The concept of 'points of gravity' as defined in this PhD project may be described as a system for indirectly detecting what Berry (1985) calls the 'bar-line meter' of a composition. Similarly to the broached possible reasons for the participants' different illustrations of the beginnings and the ends of the piano excerpts, their diverging notations of points of gravity might either be due to their lacking familiarity with the mentioned conventional views on the music's metrical structure, or to my instructions being experienced as unclear. It is my impression that the second alternative is the most plausible explanation of the results.

Due to the participants' diverging interpretations of the system for notating points of gravity, this visual tool could not be entirely evaluated. However, regarding the Melody Phrasing Curve, the function of this visual tool seems to have been gradually improved in relation to its intended purpose every time it was employed in the PhD project, probably because of my instructions being experienced as more and more distinct by the participants. In other words, based on these experiences, the verbal instructions for how to use the system for notating points of gravity ought to be sharpened, making the intended use more lucid before carrying out another study.

Based on the experiences of Study B, this latter visual tool needs to be further tested according to its intended purpose. By means of this system, the expressive use of performed durative emphasis (cf. 3.1.11.), and thereby also indirectly the durational asymmetry between

metrically strong and weak beats (cf. 3.1.15), might be illustrated in a simple way. The metrical division of a performance and the expressive use of the music's inherent 'gear-box' (cf. 3.1.14.) implying the highlighting of different architectonic layers of points of gravity might also be illustrated by means of this visual tool.

7.2.3. The participants' evaluation of the visual tools

All the musicians participating in Study B expressed their appreciation of working with visual tools, which was said to give them a clearer image of the musical excerpts employed. However, the visual tools were not regarded as needed when performing music in concert situations. Furthermore, the participants pointed out that it is the musical ideas as such that are important, not the choice of visual symbols.

Olga was more used to working with her own system of symbols and visual illustrations, which means that, for her part, she did not seem to need any other kinds of visual tools for the purpose of preparing and interpreting musical performances. Accordingly, when performing, she would have preferred to keep her own score with all fingerings and notations indicating the harmonic structure, as well as dynamic stresses written in. As opposed to this, Jane would have preferred to perform the piano excerpts *by heart*, because of then feeling less inhibited and more spontaneous and relaxed in a musical sense.

Bearing in mind that the participants seem to have interpreted the system for notating metrical points of gravity very differently, it may be of interest that three of the four participants still preferred this visual tool. Only Paul preferred the use of the Melody Phrasing Curve that, according to the results, had functioned in the most relevant way in relation to its intended purpose. A possible explanation might be that before realising their diverging interpretation of this visual tool's intended function, they might have felt more free by using the tool at their own discretion.

In summary, in respect of their usefulness as instruments intended to illustrate some defined aspects of melody phrasing as personally perceived, the relevancy of the employed visual tools may be described in the following way:

a) the Melody Phrasing Curve seems to function sufficiently as an instrument for visually illustrating the experienced dynamical progression of the melody part, particularly within homophonic classical compositions

b) *further research* is needed in order to determine whether

- the initial and ending parts of the phrasing curves might be used for illustrating the experienced transition between the 'silence' and the sounding music and the return into the 'silence' after the last tone, respectively
- the phrasing curve might be used as a visual tool for illustrating the experienced dynamical progression of the melody part also in musical pieces of a more complex character, with the melody line appearing in a less clear way
- the system for notating points of gravity might be used as an instrument for illustrating performed metrically conditioned emphasis, and thereby indirectly also the metrical division of a composition

7.3. Cultural tools for interpreting classical music

Alluding to Vygotsky and his concept of *cultural tools*, Säljö (2000) discusses physical artefacts as well as linguistic and intellectual tools, which are the results of experiences originating from people living in the present time as well as in the past. In addition to the two specially designed visual tools that were tested in this PhD project, the following cultural artefacts and tools have been included: compositions, printed scores, musical performances, the piano, the conventions transmitted for how to interpret classical music, recordings, as well as the participants' musical knowledge.

In this section, I will deal with some of these tools used by the participants of Study B, specifically for the purpose of interpreting the employed piano excerpts: theoretical knowledge, visual tools serving as triggers launching musical reflections, and the recordings of the participants' musical performances.

The results of Study B revealed the four participants' high estimation of musical analysis and *theoretical knowledge*. All the participants expressed their opinion that musical analysis may give rise to the feeling of more freedom. However, one participant told that when performing, she felt somewhat inhibited by visual notations on the whole; to her it was crucial to concentrate on the music as such. Nevertheless, when preparing musical performances, different kinds of theoretical knowledge may thus be considered as the participants' accustomed intellectual tools for self-reflection, with the function of guiding them to find out which interpretative version of the composition in question they will finally prefer. This means, that to them theoretical knowledge seemed to have had the same purpose as the intended functions of the two visual tools that were employed in this PhD project.

However, even if the participants seemed to agree about the benefit of theoretical knowledge, they did not necessarily mean the same thing by that. For example, according to their comments, the participants emphasised the importance of paying attention notably to the harmonic progression, not only to melody. Olga insisted on using her own visual symbols for analysing the piano excerpts. To her, the total harmonic structure and the dynamical stresses were essential.

An interpretation of this is that although the participants seemed to be generally positive to the study as well as to the use of visual tools, being musically autonomous and fully qualified to find their own interpretative solutions, they had already chosen their favourite tools. In other words, they did not experience an urgent need for using any additional tools, at least not for the purpose of analysing and preparing musical performances.

In addition to the present PhD project's general purpose of testing the relevancy of two special visual tools proposed for facilitating the communication of matters related to melody phrasing and musical interpretation, different musical thoughts coming up when the tools were applied by the participants of Study B have been explored as well (cf. 1.3.; 3.2.). Accordingly, the results from the interviews revealed a lot about musical thoughts and ideas being verbally expressed and demonstrated by the participants (cf. 6.2.10.2.). Apparently, the work with the two visual tools was useful in other respects as well; it seems to have brought about the important effects of inspiring the participants to

- reflect on the music in a deeper way than otherwise
- express their musical ideas verbally as well as musically
- explore new interpretative solutions

From this it might be concluded that the visual tools seem to have served as *triggers for self-reflection* when preparing and interpreting musical performances. Moreover, the results indicate that the four participants of Study B seem to have been apt to *revise* their previous standpoints

during the course of the study. The lively discussions during the interviews indicate that the visual tools may have the function of making musicians *talk*, particularly on issues related to the process of musical interpretation.

It is my impression that the participating musicians were particularly happy and relaxed when asked to describe their experiences of the musical excerpts verbally. They also expressed their experiences of the employed piano excerpts' musical characteristics in a relatively similar way. For example, all of them seemed to have noticed the light-hearted aspect of Beethoven's composing style. Their descriptions reveal a lot of imagination and a rich inner life as well.

Simon and Olga declared their desideratum of some kind of a forum for broaching reflections about music and interpretative matters. At this occasion, Simon said that the problem of bringing out musical ideas in a convincing way in a performance was more interesting than strict musicological analyses (cf. 6.2.9.4.).

When listening to their *recordings*, the participants of Study B all revealed a self-critical attitude. For example, they often challenged their choice of tempi by referring to the appropriate relationship between tempo and some other musical aspects, such as the rhythmic structure and the performed dynamics. This means that the results might be interpreted as supporting the benefit of recording performances for the purpose of giving musicians an opportunity to reassess their musical ideas (cf. 6.2.9.1.). Sometimes it may also be experienced as advantageous and inspiring to get *feedback* from music colleagues commenting on the performance in question (cf. 6.3.5.).

Accordingly, in addition to the common verbal language, several other cultural tools were used in this project for communicative purposes: theoretical musical knowledge, the specially designed visual tools, as well as the recorded musical performances of the employed piano excerpts. The results indicate that by combining these tools, musical issues linked to musical interpretation might be discussed more deeply than otherwise.

7.4. Gender aspects

In Study A, no clear differences between the participating seven men and the two women were observed. In Study B, however, the phrasing curves drawn by the participating women displayed more of dynamic details compared to the participating men's curves, which looked considerably straighter, representing mainly the bigger musical lines (cf. 6.3.5.). When comparing the participants' two sets of phrasing curves illustrating their performances of Beethoven B, the men's *second* curves drawn on the spot resembled their first curves drawn at home, whereas the women's curves looked even more detailed the second time.

Although the limited number of participants does not permit any general statements regarding gender differences, the following question might still be put: could it be that the participating women were able to perceive more dynamic details when listening to the recordings, or do women sometimes have a tendency of being more heedful when accomplishing tasks like those of Study B? Another plausible explanation, confirmed by the participants' verbal comments, might be that this might have had something to do with their different ways of experiencing the special character of the piano sound, maybe also influenced by their respective professional specialities. In their capacity of experienced singers, the two women had thus experienced the specific piano sound as particularly fluctuating in a dynamical sense (cf. 6.2.8.2.). This means that when being asked to illustrate their experience of the dynamical progression of the melody part within the recorded piano performances, the participating men seem to have focused primarily on the music as such in the shape of a coherent continuum, whereas the participating women seem to have focused more on the specific piano sound, with its more or less accented onsets followed by constantly decaying tones.

On the other hand, the woman who participated in the first phase of Study A, who moreover was an experienced professor of singing as well, had drawn very *straight* phrasing curves displaying few dynamic details (cf. 5.2.6.). Furthermore, as opposed to those drawn by the women of Study B, her curves indicated a generally low dynamic level. This means that no reliable assumptions linked to gender differences can be drawn from these contradictious results.

7.5. Educational implications

In this section, the following subjects are discussed: the benefit of combining many ways of communicating musical matters, musical conventions and exploration of new interpretative solutions, the use of visual tools in educational contexts, as well as some additional educational implications.

7.5.1. Benefit of combining many ways of communicating musical matters

In this PhD project, the visual tools were used primarily as investigative instruments, although they are ultimately intended to be used in explicit musical situations, for example, in educational contexts according to Folkestad's (1996) broader definition of this concept. Considering the difficulty of explaining certain musical thoughts beyond the music's own sphere (cf. 1.2.3.), there might be a need for combining many alternative ways of communicating matters linked to musical interpretation as a complement to the relatively dominating use of verbal language (cf. Woody, 2000). By using appropriate visual tools, the communication between professional musicians as well as between teachers and students in distinct educational contexts might be facilitated.

Since music students, in some cases not yet able of mastering their musical instruments entirely to an extent permitting them to realise performances that represent their interpretative ideas relevantly, the visual tools might serve as an aid in the process of finding efficient practical solutions to the corresponding musical problems. This would allow the students to clarify the intended musical expressions visually as a complement to the verbal language, which would facilitate the teacher's role of guiding them to realise their own ideas musically.

7.5.2. Musical conventions and exploration of new interpretative solutions

Studying thoroughly the score of a given composition may be regarded as an indispensable step when preparing a convincing musical performance, which should not be understood as aiming to achieve a precise reproduction of the printed score. In a corresponding way, mastering an instrument technically might be considered as a basic condition that has to be fulfilled in order to make convincing musical performances. However, in order to catch the audience's attention and touch their hearts, these measures are not always sufficient.

The different approaches towards music that were extracted from the results of Study B might represent some desirable proprieties of a professional musician:

a) The analytical and reflecting musician
b) The musician revealing fantasy and imagination in a positive sense
c) The exploring musician
d) The obedient musician
e) The disobedient musician
f) The musician focusing on smaller musical details
g) The musician focusing on the big musical lines

These categories are not supposed to be related to a certain number of individuals; one and the same individual may represent different categories in different situations (Marton & Booth, 1997).

In accordance with Hultberg's (2000) study of piano students revealing explorative as well as reproductive approaches towards music, the seven categories extracted from Study B might be condensed into two principal approaches representing musicians respecting conventions and traditions within the sphere of classical music on the one hand (e.g. *a* and *d*), and musicians searching for new interpretative solutions by exploring the music's expressive potential on the other (e.g. *b*, *c* and *e*).

The latter principal approach implies a constantly on-going research process within the frames of the musical field. A question that may arise is in what ways this explorative attitude could be best encouraged in educational contexts. Maybe the visual tools used in this PhD project might be of some help.

7.5.3. Use of visual tools in educational contexts

In explicit educational situations, the two visual tools might be used in many possible ways. They might thus be an aid in the context of preparing a performance, for the purpose of *interpreting* and *planning* aspects of melody phrasing, or for *illustrating* these aspects as experienced when listening to a certain performance. Furthermore, in addition to these *descriptive* functions they might have a distinct *didactic* function, for the purpose of *demonstrating* the melody phrasing within a given interpretative version meant to serve as a model to the music student in question. This latter kind of function might be defined as *idealistic*, maybe because of representing also musical ideas causing some technical difficulties that have to be conquered before being realised in a sounding performance, whereas the visual tools used in a way illustrating the experienced melody phrasing of a given performance, independently of its musical level or quality, might be defined as having a more *realistic* function. Moreover, the visual tools may be applied in different ways by displaying a lot of smaller dynamic *details*, or with a focus just on the big *musical lines*.

The Melody Phrasing Curve might also be used for the purpose of indicating the dynamical high and low points as personally experienced by the student, and for illustrating the dynamical disposition of the melody phrases within a certain composition. As regards the system for notating points of gravity, this special visual tool might illustrate the intended expressive use of particularly performed durative emphasis including the resulting durational asymmetry between metrically strong and weak beats. It also enables the illustration of differently applied metrical divisions expressed by means of the inherent 'gear-box' of the music for the purpose of bringing out different architectonic layers of points of gravity in a performance.

None of the visual tools is intended to be used *constantly* in explicit educational contexts; the point is rather to help students to get on track to some important conventions for interpreting and performing classical music, in this case by calling their attention to the importance of reflecting on the location of the metrical points of gravity and the dynamical progression of the melody part.

Furthermore, the special design of the visual tools may be associated with some corresponding prosodic elements of the spoken language. Melody phrases are usually articulated and 'pronounced' by means of dynamics and temporal displacements reminding on the punctuation of verbal sentences (cf. Fridell, 1997). These musical 'punctuations' may thus be performed by means of different kinds of breathing, articulations, caesuras, etc., giving rise to different expressions and significances (cf. 3.1.1.).

Hence, in educational contexts on an advanced level, the two visual tools may be used by students and professors for communicating some defined aspects of melody phrasing. However, nothing excludes that the phrasing curve might be useful also in educational contexts on a less

advanced level. For example, Calissendorff (2006) challenges prejudices determining at which age a child is supposed to learn different skills. Rogoff (2003) also questions a too rigid interpretation of some stage theories generalising what children can be expected to master.

7.5.4. Additional educational implications

In addition to the purpose of facilitating the communication of the defined aspects of melody phrasing, the visual tools might thus be used in educational contexts as

- triggers for activating the musician's self-reflection and for developing a greater awareness when interpreting classical music (cf. 7.3.)
- starting points for verbal discussions between musicians, or between teacher and students
- instruments for providing and receiving musical feedback between colleagues, or between teacher and students

In Study B, the participants seemed to enjoy expressing their own experiences of the characteristics within the employed piano excerpts. Maybe this aspect ought to be particularly emphasised in designing teaching contexts, at least on an advanced level, by establishing a special subject in the frames of which interpretative matters could be closely discussed. Differently interpreted versions of compositions could be studied and discussed, including an analysis of their specific advantages or disadvantages in relation to the emotional impact they might generate in the ears of music listeners.

7.6. Further research: Ways to proceed

According to the results of this PhD project, the research may proceed according to one of the two following approaches:

- In a forthcoming study, the visual tools might be used in a freer way without exclusively referring to the experienced dynamical progression of the melody part and the metrical points of gravity, respectively. In this case, the tools would function primarily as *investigative* instruments combined with in-depth-interviews for the purpose of exploring diverging ways of experiencing music implying people's foci on different aspects when listening to classical compositions. When using the visual tools in this way without being delimited to refer to special aspects of music, they would not serve specifically as instruments for facilitating the communication of musical thoughts between musicians (cf. 7.2.1.1.).
- Another alternative way to proceed would be to continue the investigation of the visual tools' contingent usefulness as instruments functioning in accordance with their respective, originally intended, functions of facilitating the communication between musicians discussing matters linked to musical interpretation.

In both cases, the visual tools would still serve as possible triggers implying their additional function of launching musical reflections and considerations in the context of studying, preparing and performing classical compositions, as well as in the context of musicians, teachers and students discussing musical matters.

Since I am particularly interested in further studying the relationship between what musicians do when performing music and how the music may be experienced by experienced listeners, including thoughts coming up when the visual tools are applied for illustrating specially defined aspects of melody phrasing, I am most inclined to proceed my research according to the second alternative.

A question that may arise is whether it would be possible to further reduce divergences occurring between the individual phrasing curves when illustrating one and the same musical performance. Would it be possible to make the Melody Phrasing Curve function in an even more relevant way in relation to its intended purpose of facilitating the communication of musical thoughts between musicians? Would it be possible to make this visual tool function also for the purpose of illustrating, for example, polyphonic or atonal musical styles? Further research will be needed in order to answer these questions.

As regards the use of the system for notating points of gravity in particular, it seems as if the participants could have needed some more time in order to get used working with this special visual tool. However, accepting to participate in a study does not necessarily mean that experienced musicians would agree to be subject to any educational-like process launched by the researcher. Furthermore, when carrying out a study it is crucial to fully respect the participants' personal integrity. In many cases, professional musicians have already found their own favourite methods for preparing musical performances, which means that it cannot be taken for granted that visual tools such as those of the PhD project will be received with open arms.

By way of suggestion, in a forthcoming research, the visual tools' contingent usefulness could be explored also in music of a more complex kind. As a proposal, a longitudinal descriptive study might be based on the work with a free-tonal piano composition of greater dimensions. The study might imply working with visual tools, musical performances as well as written documentations. By way of preparing the performance of such a composition myself, I would have a favourable opportunity to practically demonstrate the intended function of the two visual tools in a clear way. Based on such documented demonstrations, a number of professional music colleagues might further evaluate the relevancy of the visual tools according to their intended functions.

Thus, by carrying out this kind of study, it would be possible to avoid the following disadvantages:

- complicated explanations of the visual tools' intended function
- the risk of selecting participants not being on the wave-length with the idea of illustrating music visually
- the problem of exploring the relevancy of the visual tools *indirectly*, by using a third party involving the participation of other musicians than the originator himself

All musical illustrations and continuous notes would thus be thoroughly documented. The musical performances would also be documented by means of a video camera and a digital audio recorder. Considering the immense technical development during the last years, the relatively new method of synchronising the video films to the audio recordings might be employed, enabling a considerably improved sound quality when reproducing the films.

7.7. Concluding remarks

It should be underlined that the visual tools of this PhD project are primarily intended to be used as a complement in educational situations where there may be a need for combining several alternative means of communication for the purpose of facilitating the exchange of musical ideas between musicians. Maybe the suggested visual tools have the potential of inspiring music teachers, musicians or researchers to further develop these instruments, making them still more efficient by improving their design and function, and to develop also new kinds of devices for illustrating other musical aspects than those represented by these visual tools.

When teaching classical music, established conventional views of performing music ought to be respected, which means that music students ought to be thoroughly initiated into these conventions. However, at the same time musical conventions might be considered as temporary starting points for a further exploration of the music's interpretative potential. In other words, because of being subject to a gradual transformation, traditional views should rather not be regarded as static phenomena. Consequently, none of the two suggested visual tools should be used in a way forcing pupils or students to adopt specific interpretative solutions, but mainly as an inspiring incitement encouraging them to explore new possible means of expressing themselves musically.

In conclusion, the principal issue of the PhD project has been the problem of musical communication and the exchange of musical thoughts and ideas between musicians including the need for giving space for self-reflection, which may all demand the use of some alternative tools in addition to the verbal language. This problem deserves to be considered when studying and analysing music, as well as when preparing musical performances in educational contexts in a broad sense. This kind of investigations might thus be regarded as situated not only in music education but also in the border area between some related disciplines of musicianship, artistic research, music psychology and musicology. Thus, by introducing this research focusing on the relationship between features within musical performances and the listeners' experiences, I have attempted to touch upon the immense and relatively unexplored field of musical interpretation.

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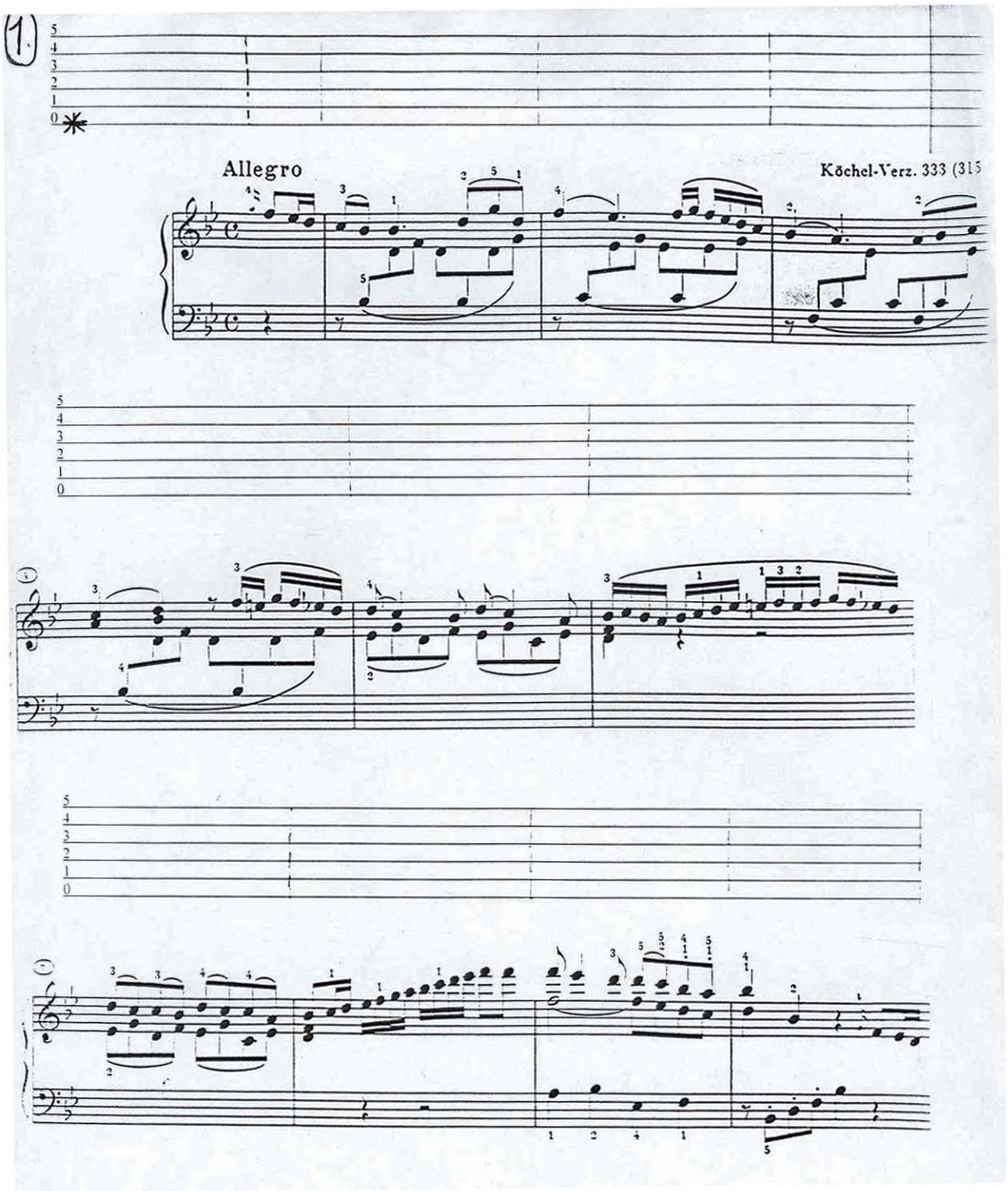
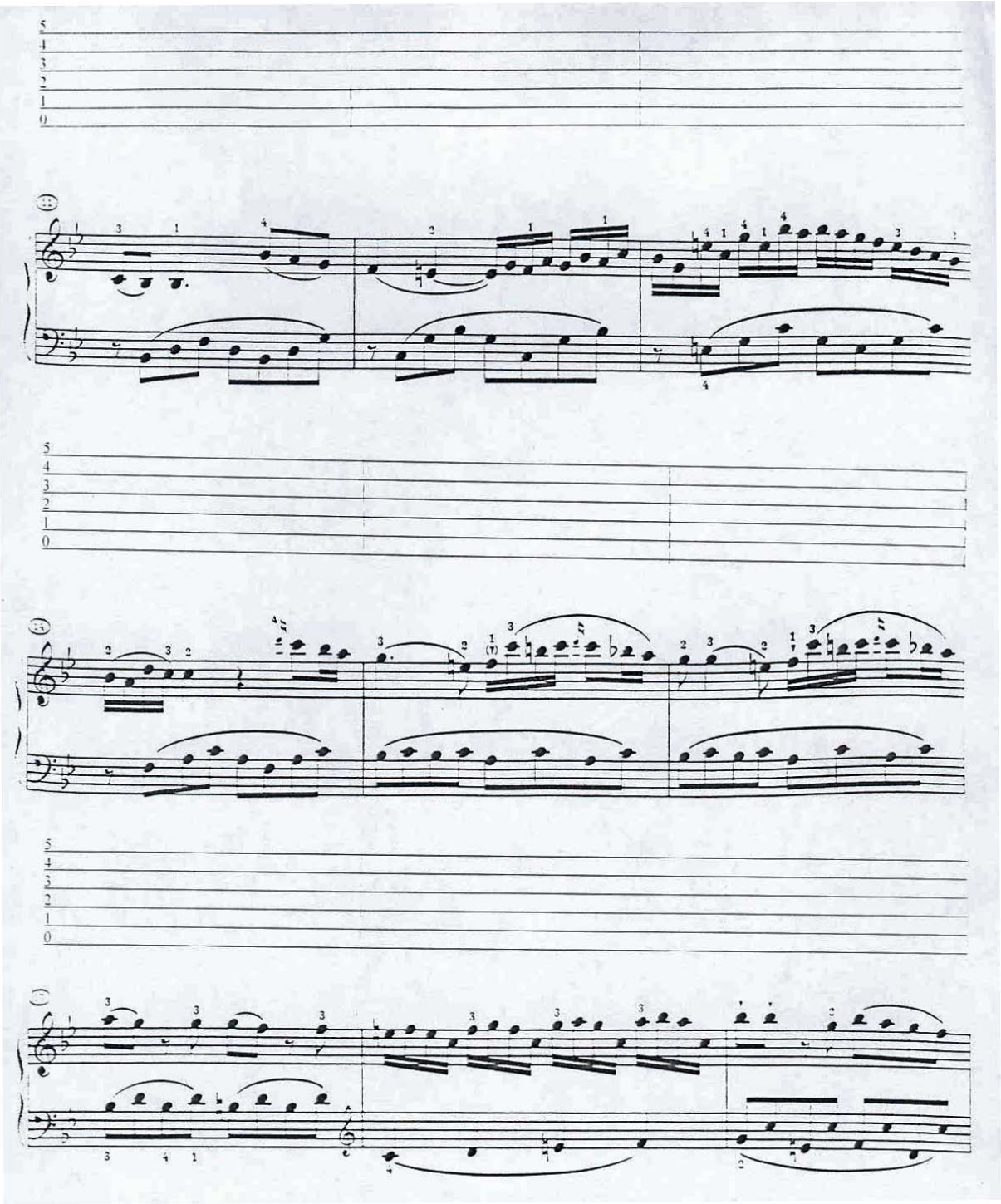
APPENDIXES

A1

W. A. Mozart: from Sonata in B flat major, Köchel 333, first movement



Appendix A 1, Page 2



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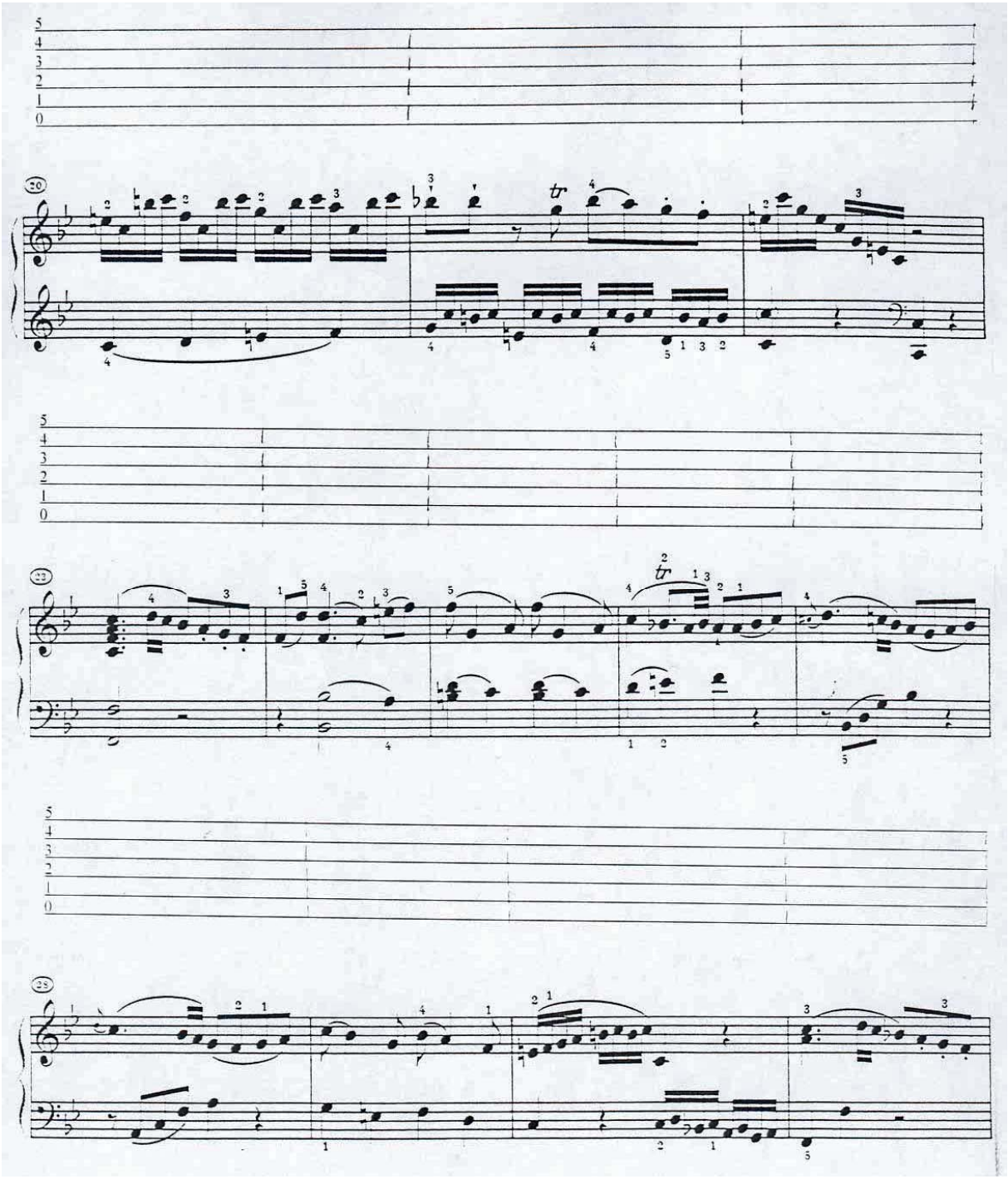

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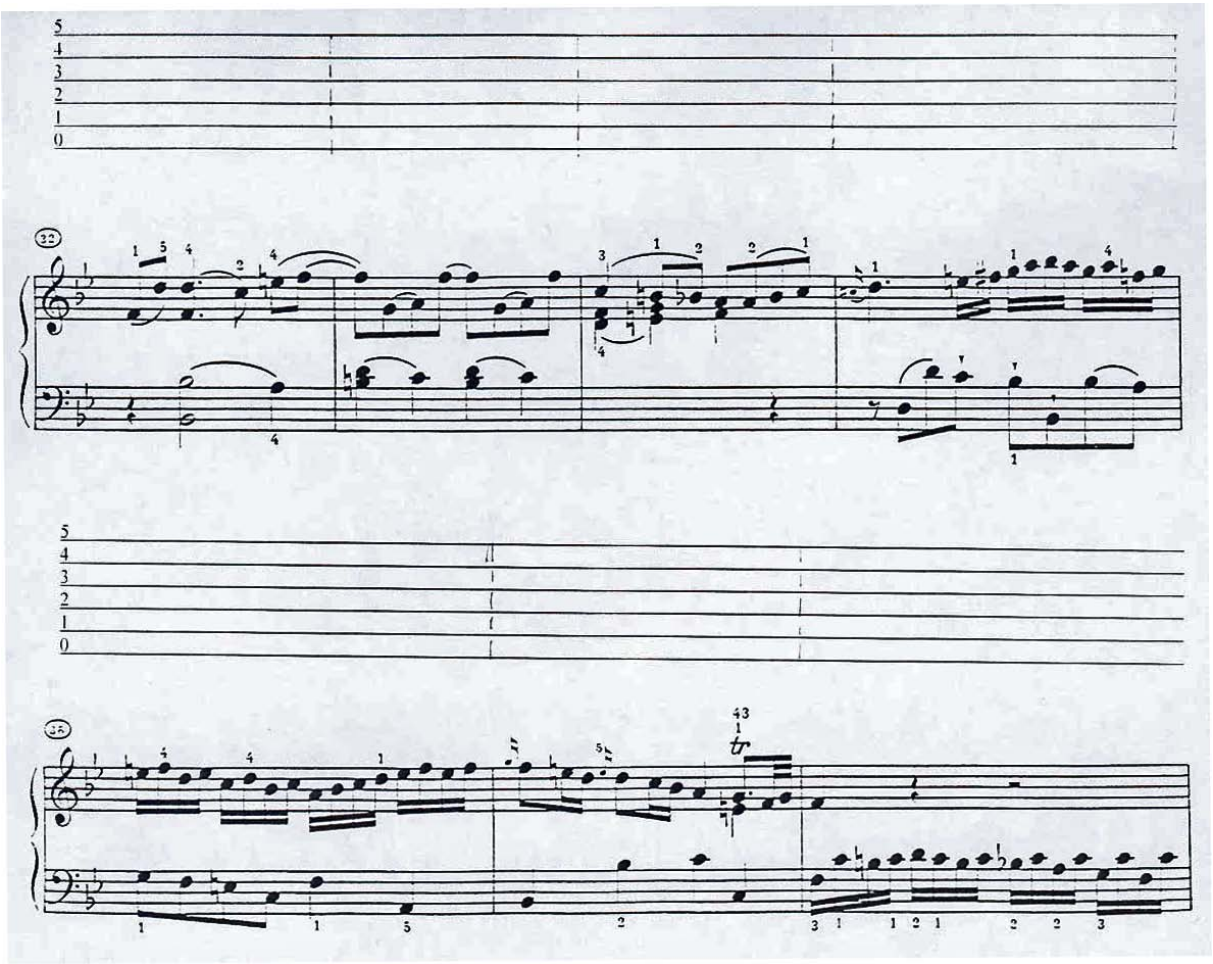
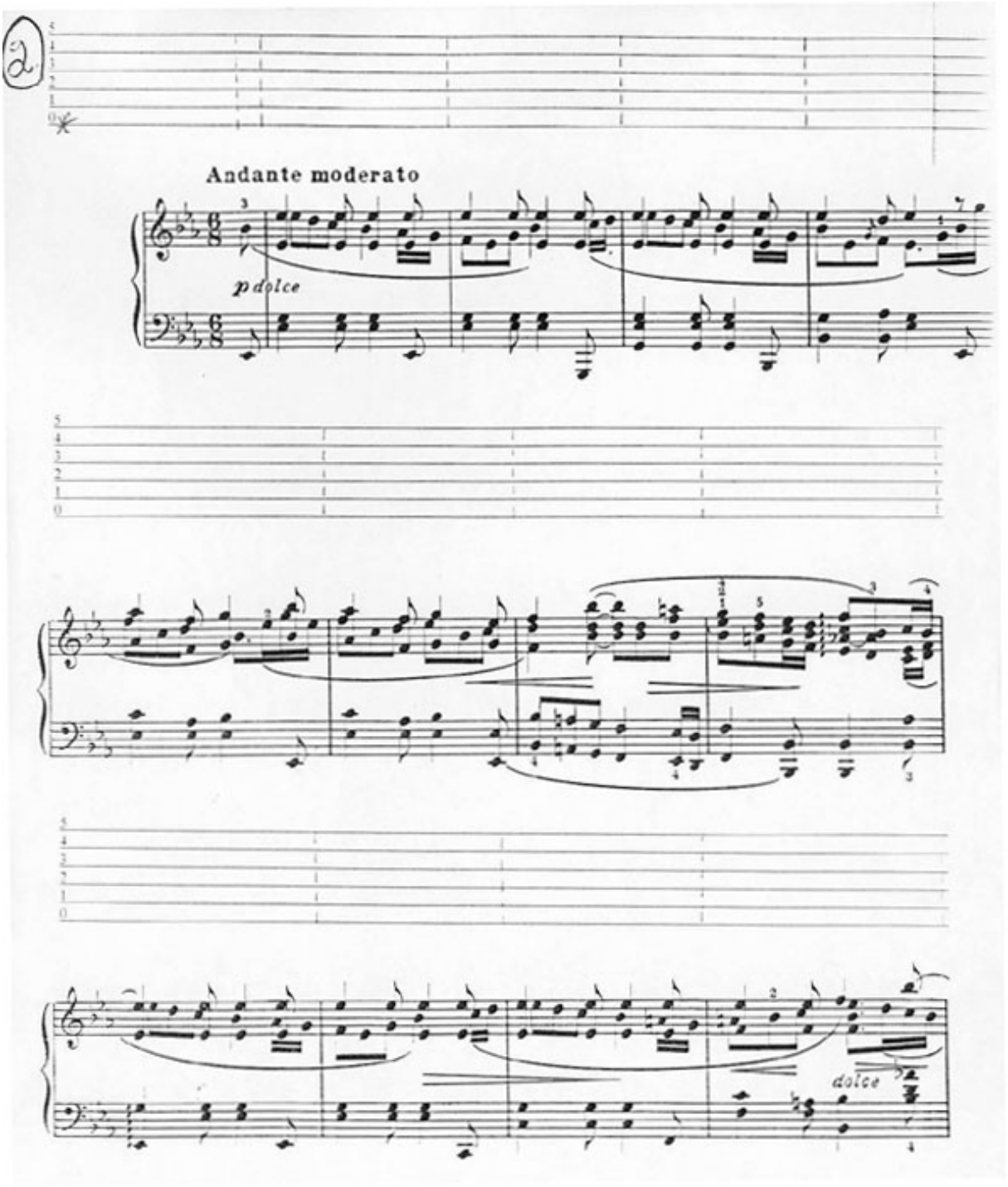


A2

J. Brahms: from Intermezzo in E flat major, op. 117, N° 1



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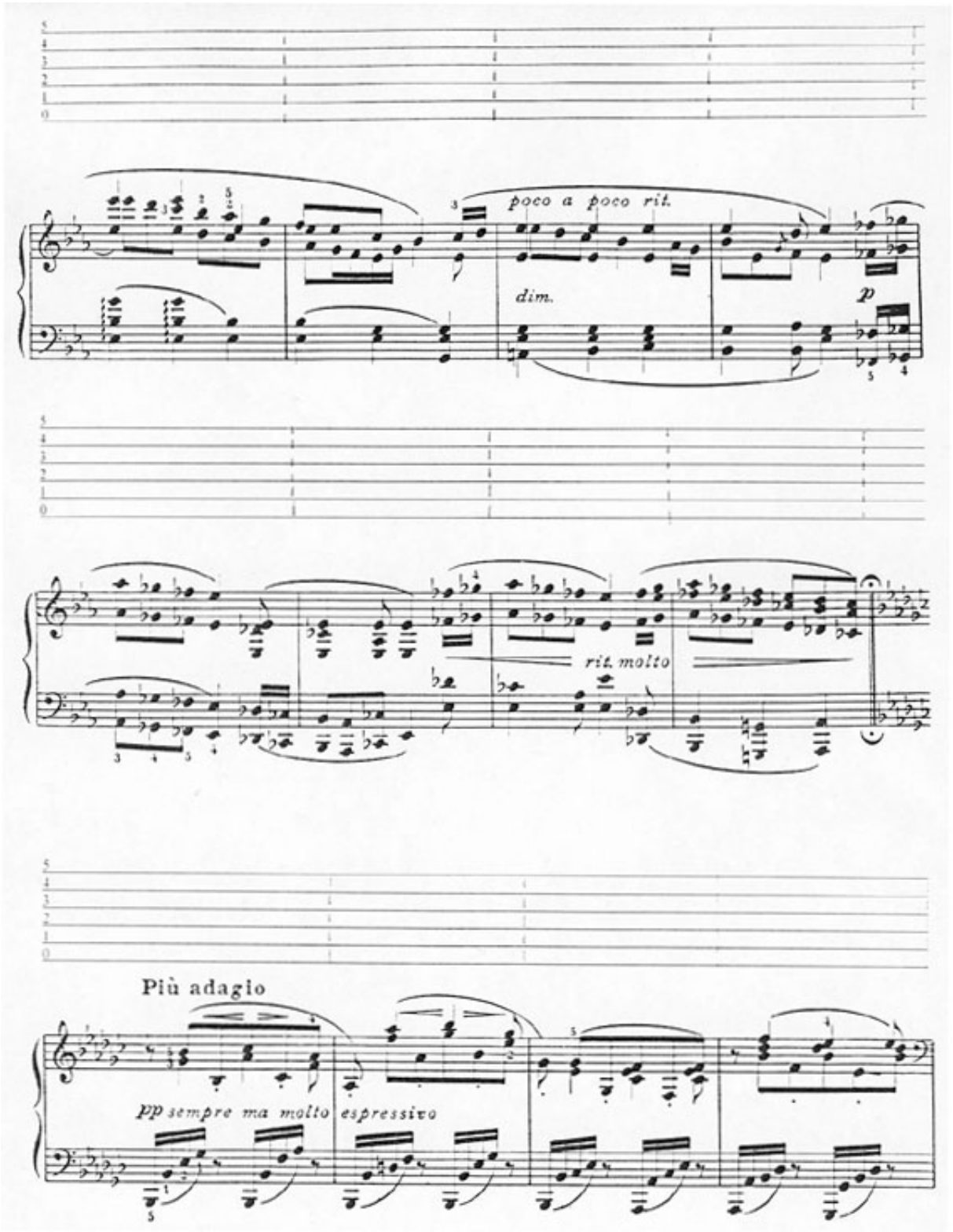

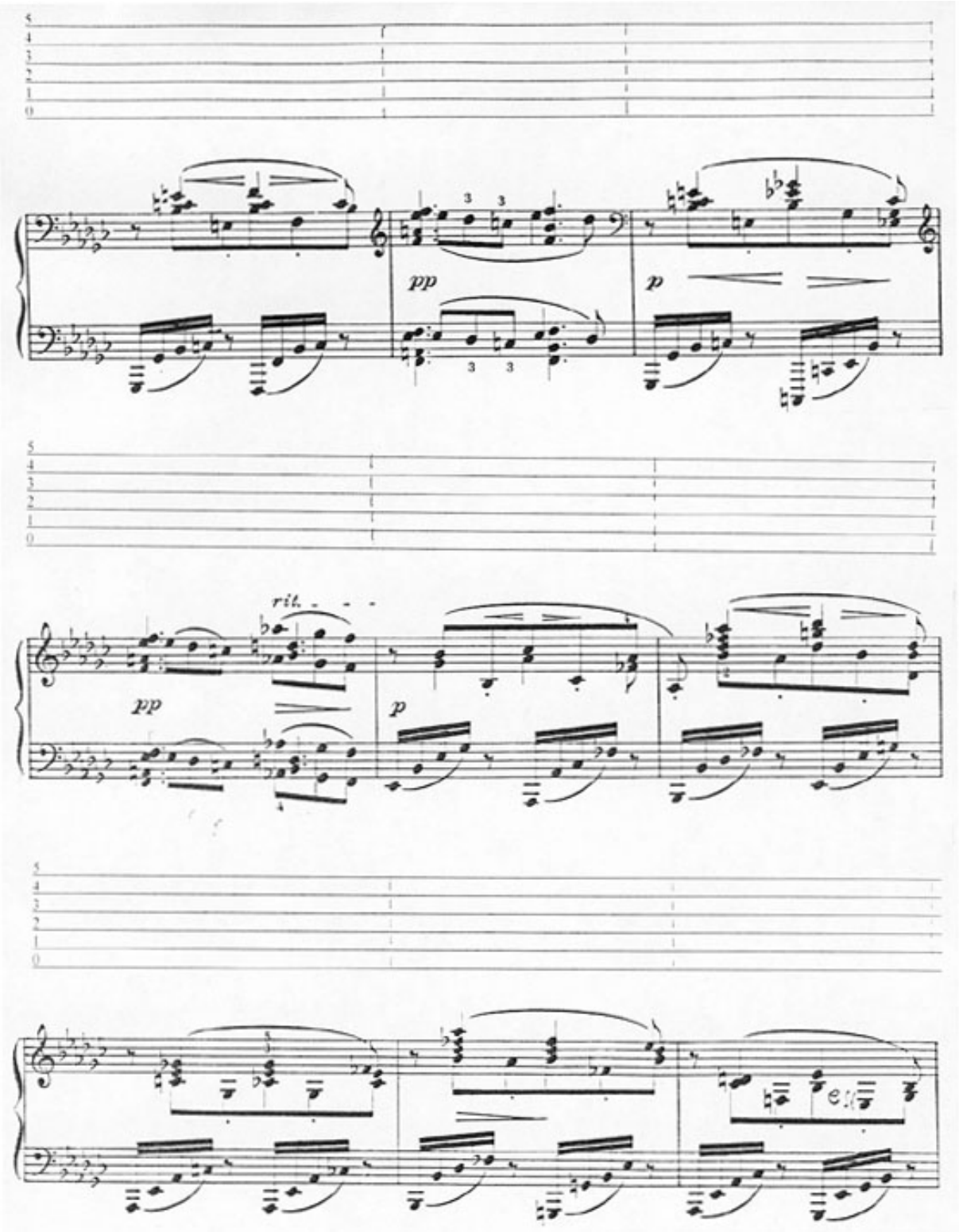
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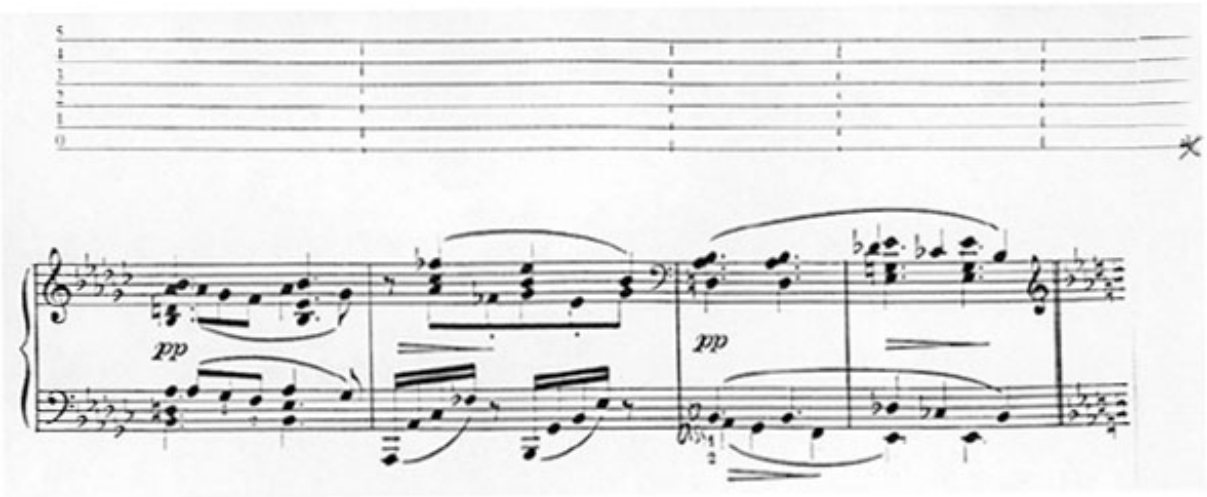
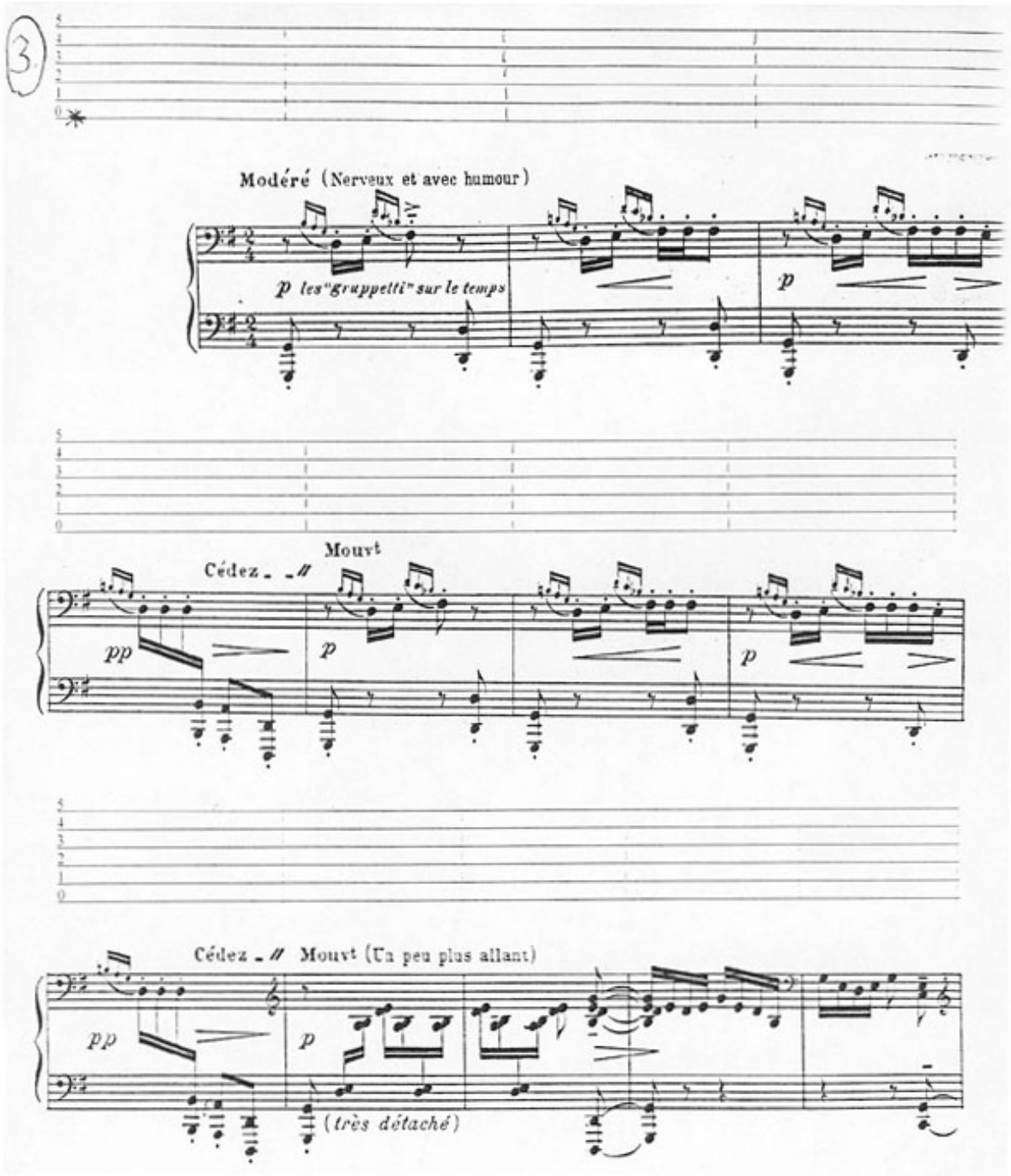
Appendix A 2, Page 4

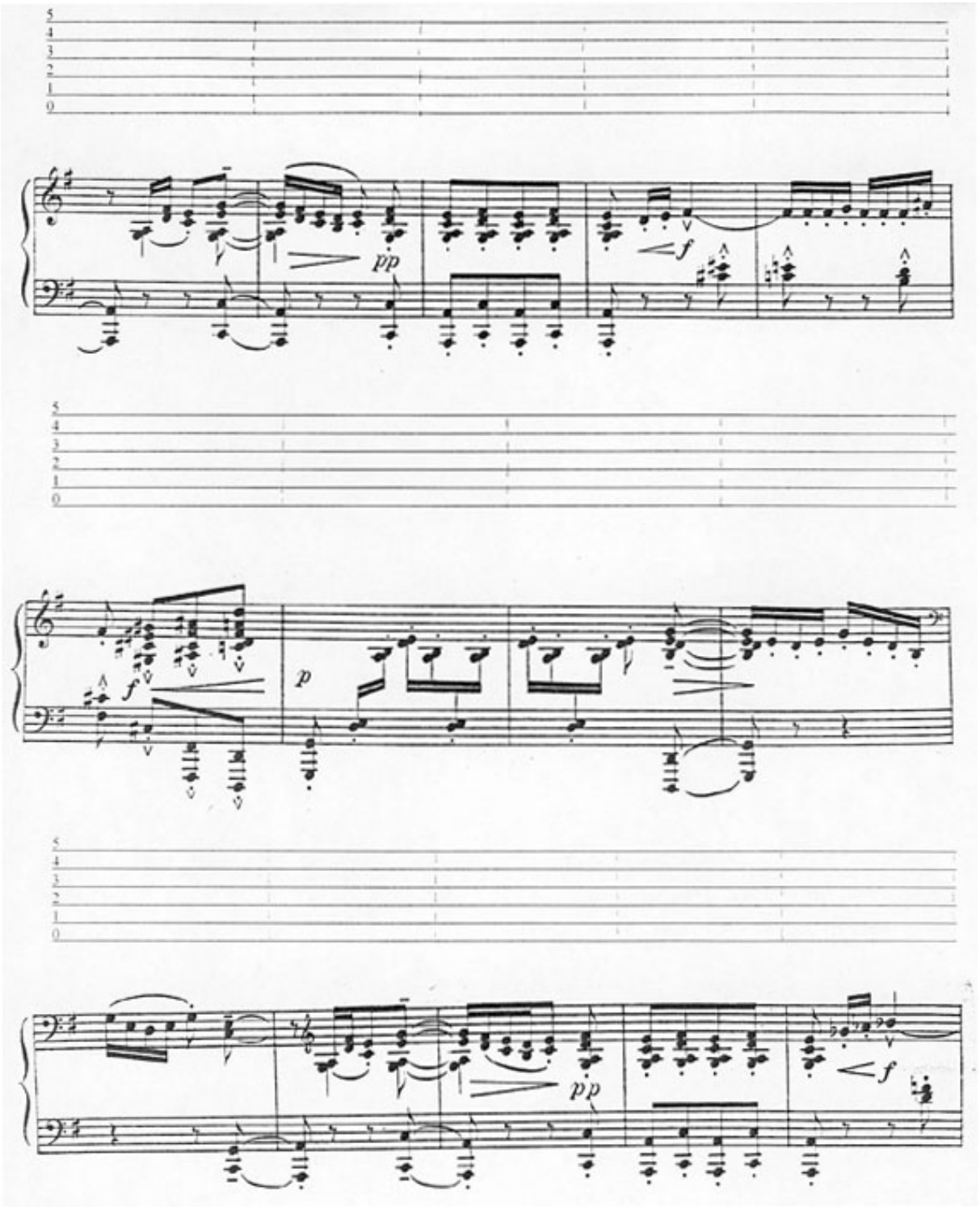


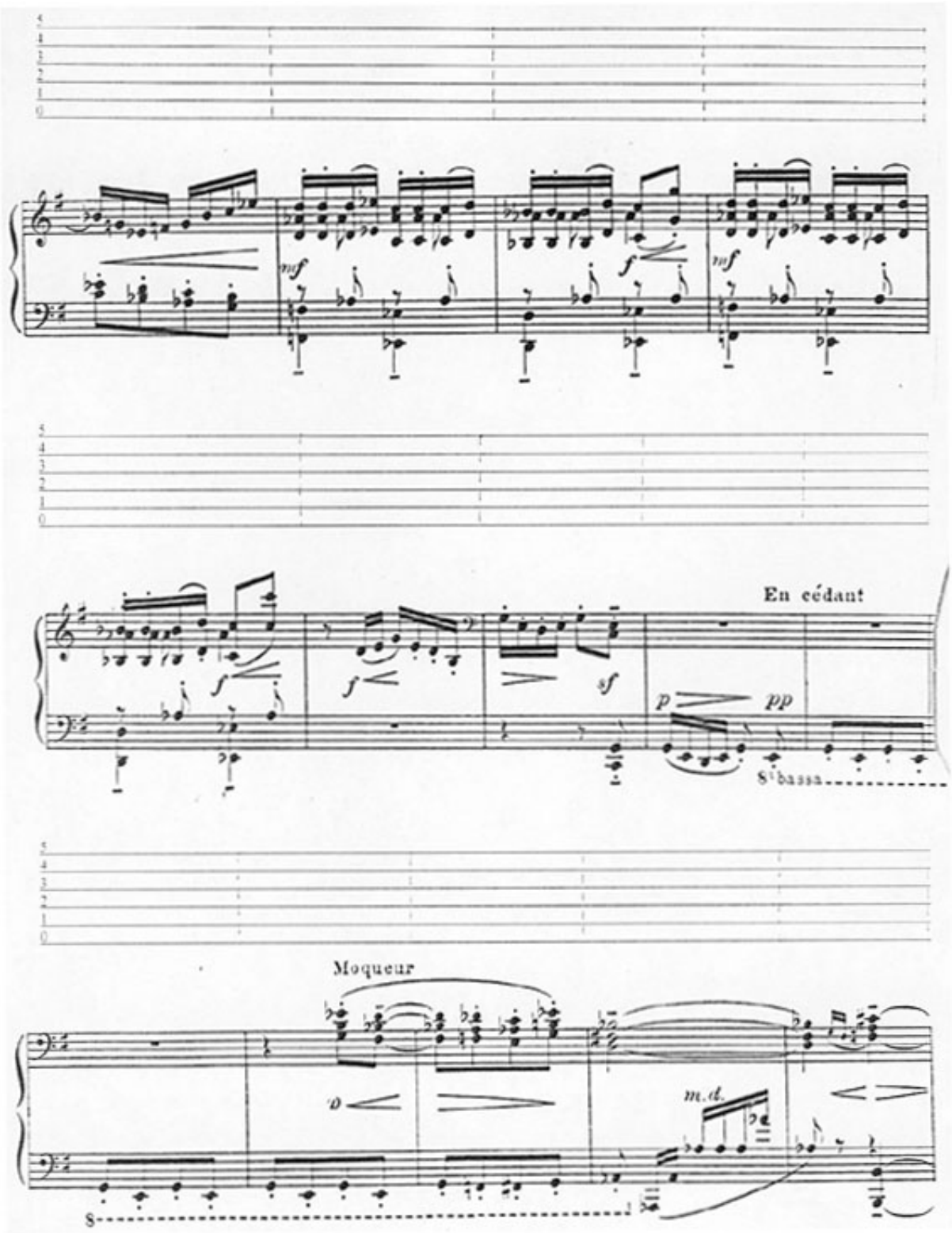
A3

C. Debussy: from 'Préludes pour Piano (1er Livre)', N° 12 ('Minstrels')



Appendix A 3, Page 2

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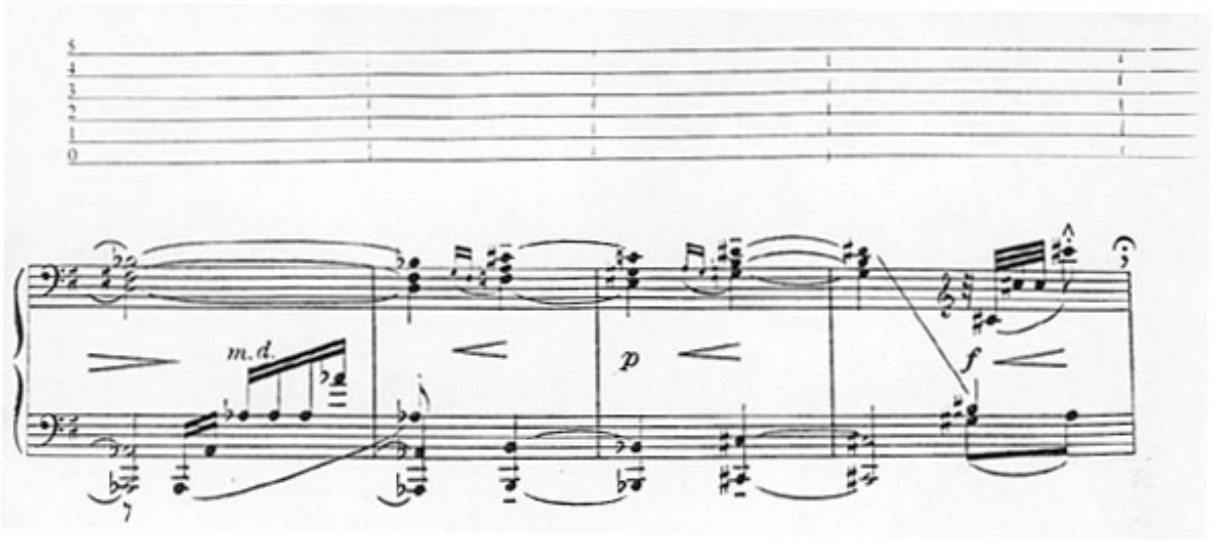
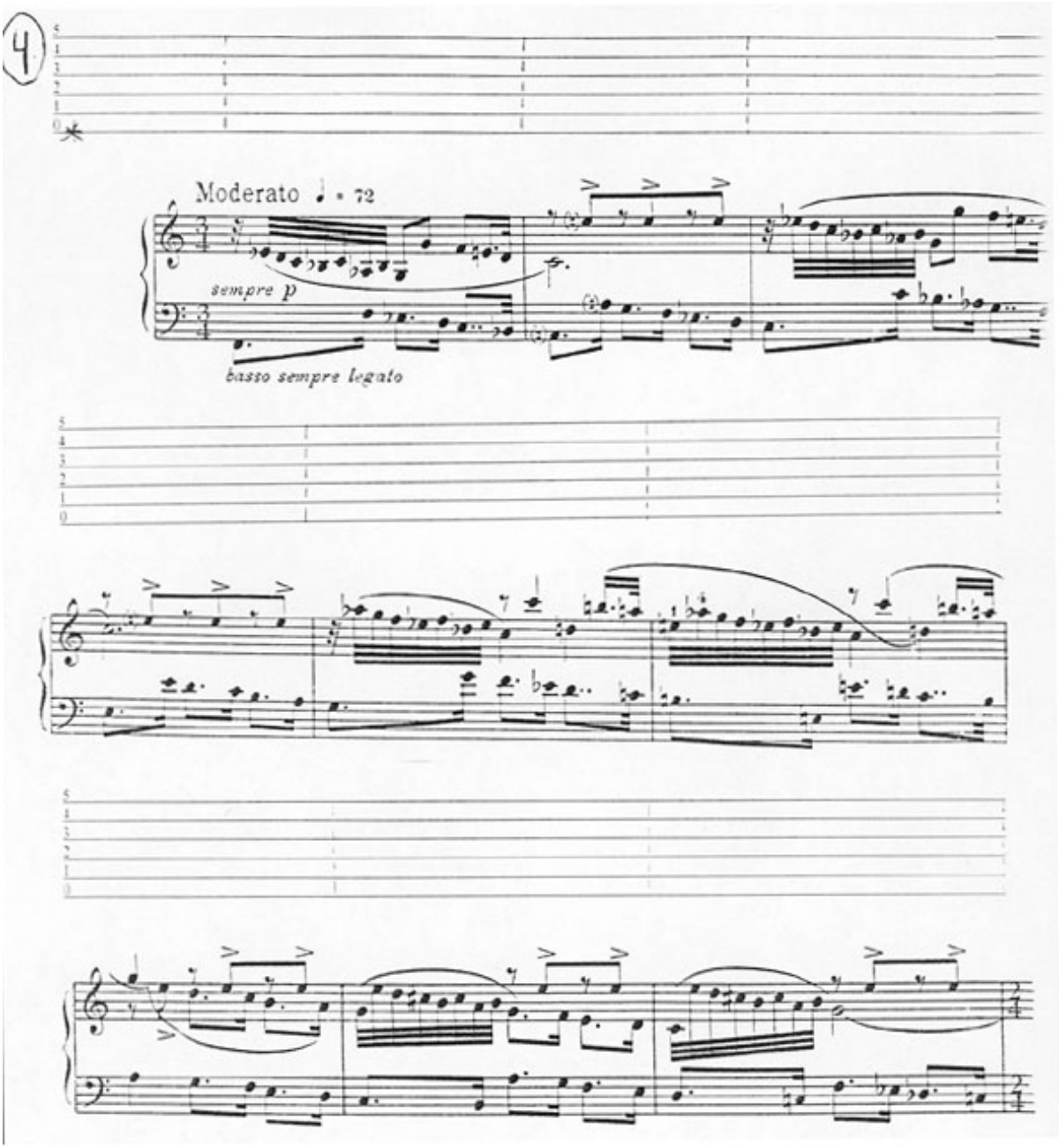
Appendix A 3, Page 4

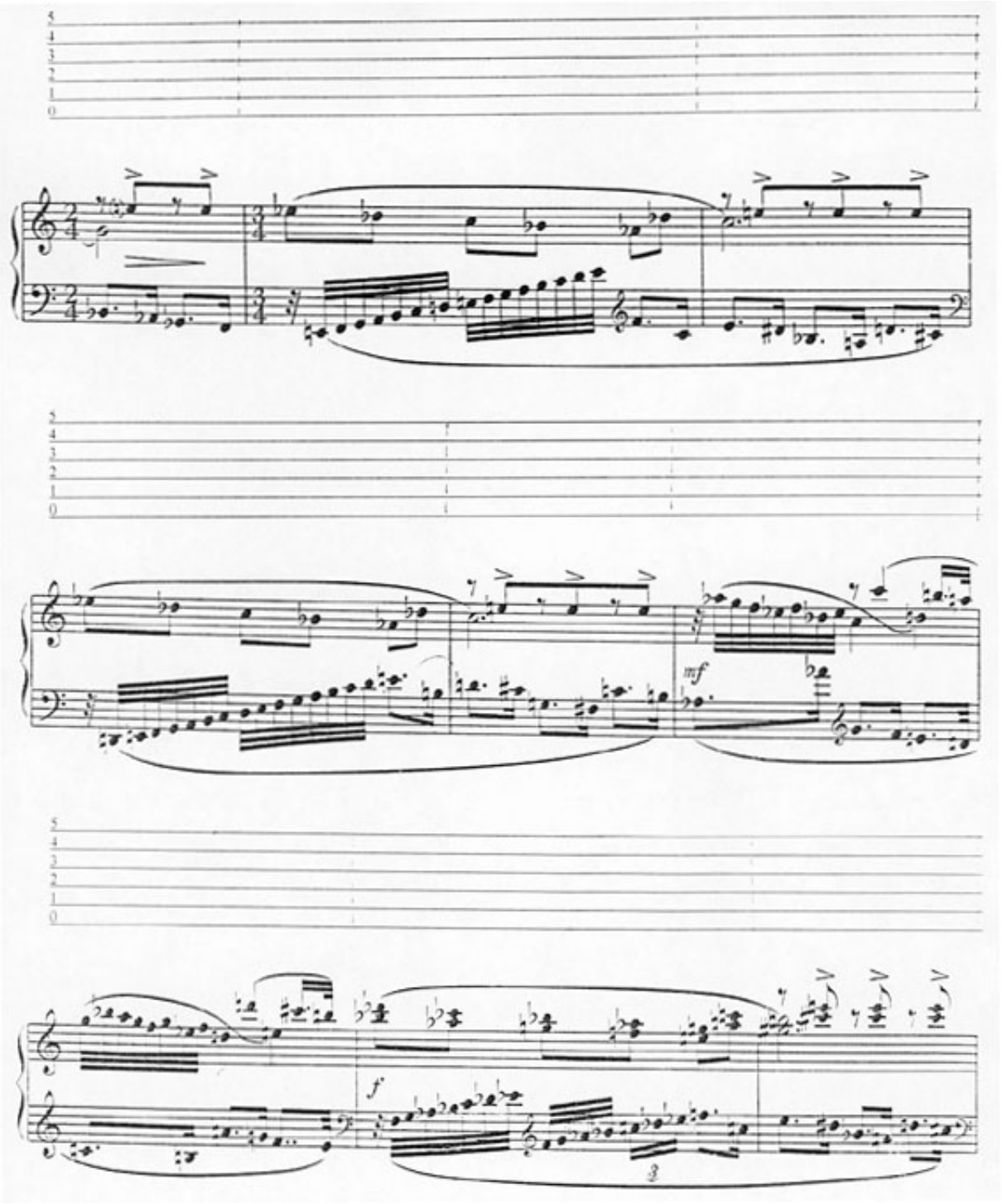


A4

N. V. Bentzon: from 'Træsnit' ('Woodcut'), op. 65



Appendix A 4, Page 2



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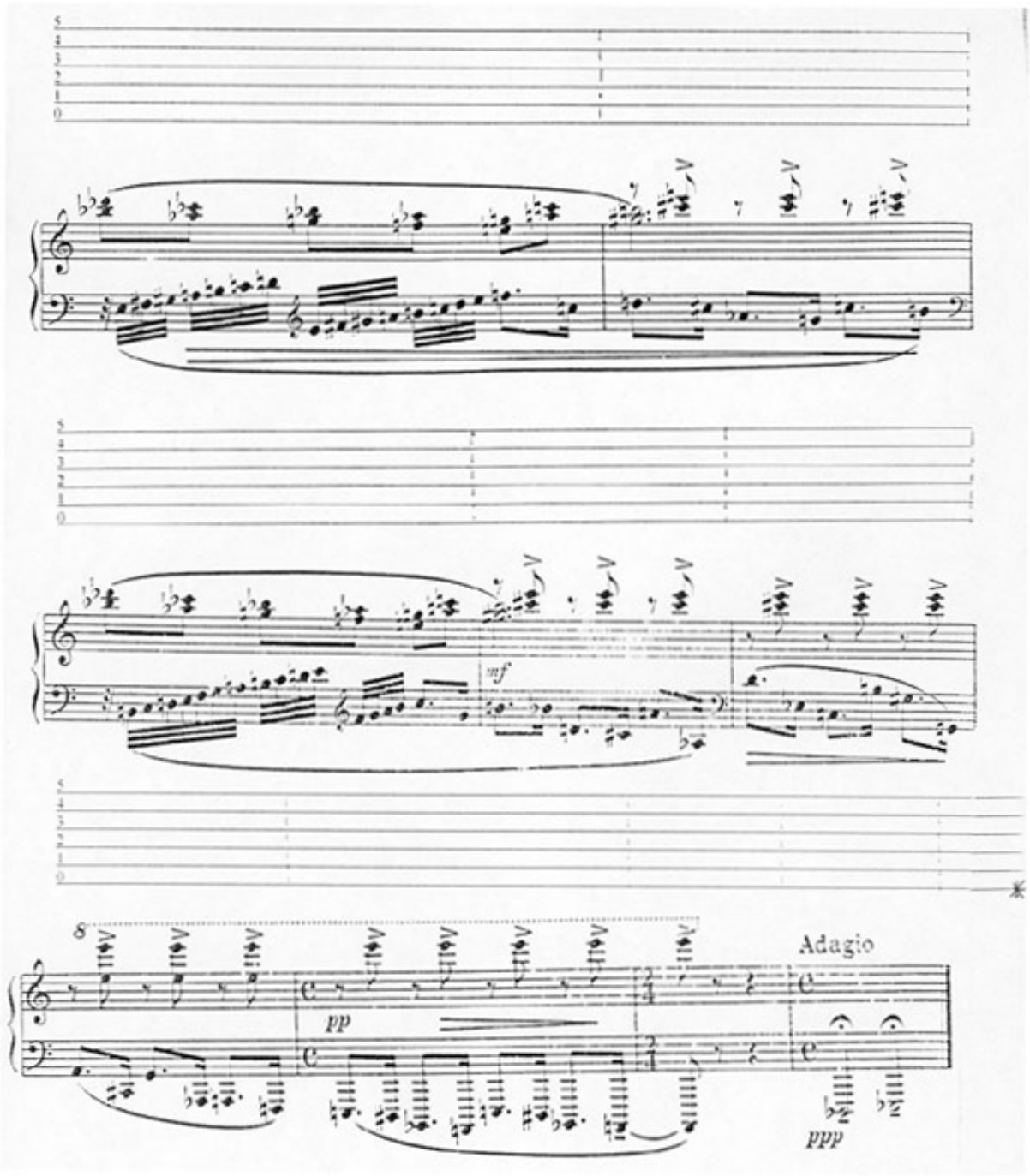
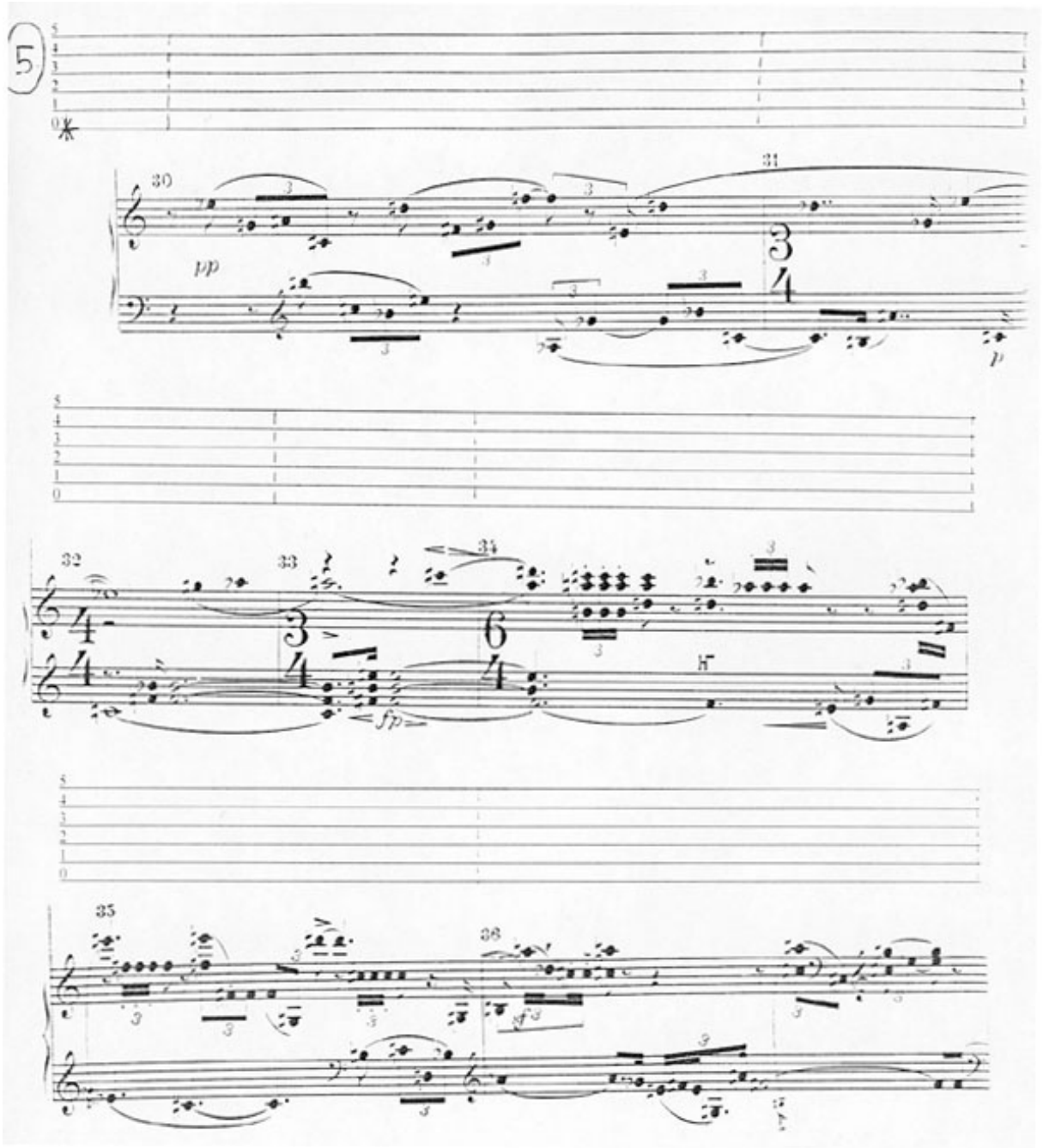
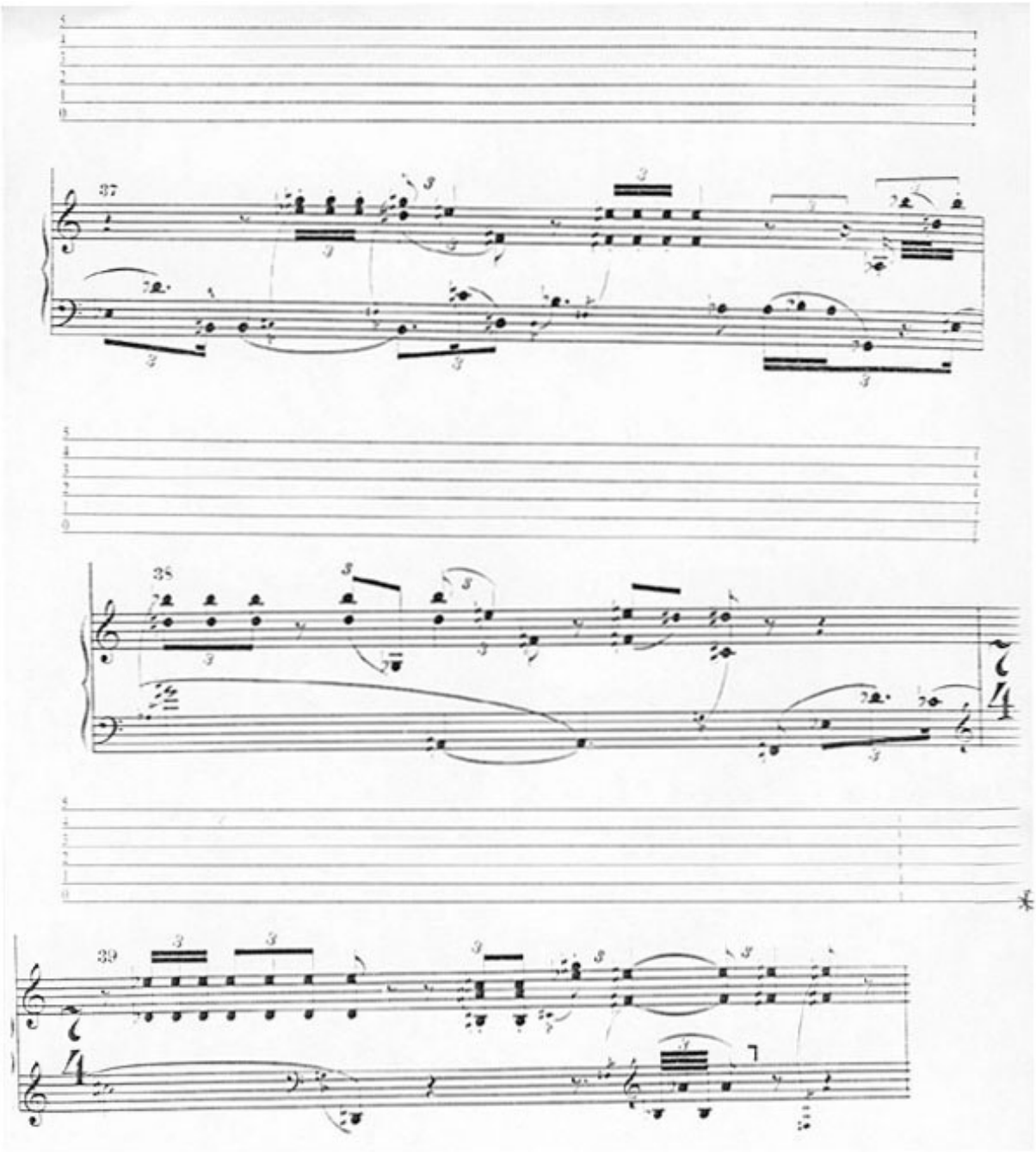


A5

A. Schönberg: Sonata op. 26 (1924), version for flute and piano edited by Felix Greißle, interlude for piano solo from the third movement

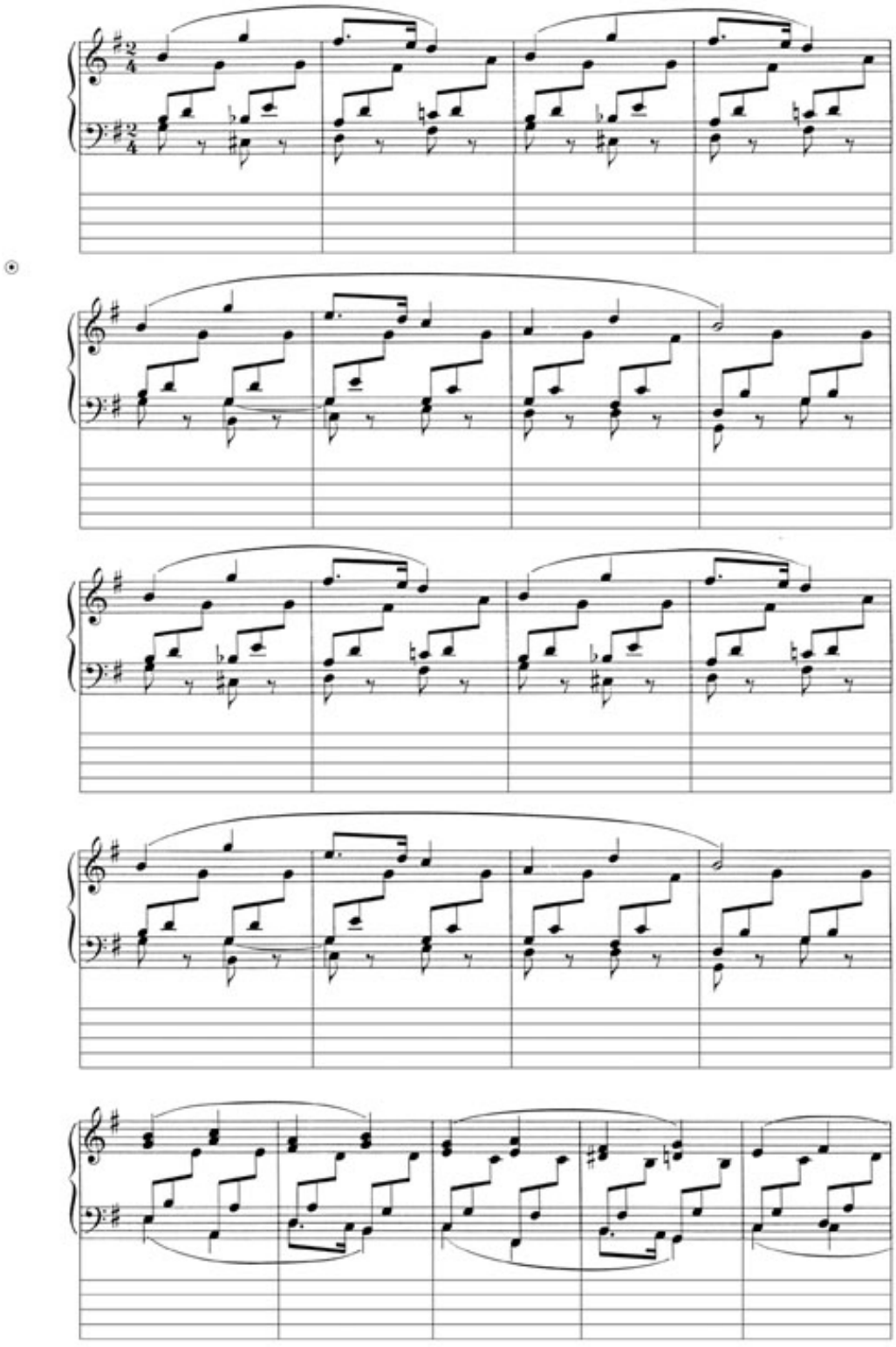


Appendix A 5, Page 2

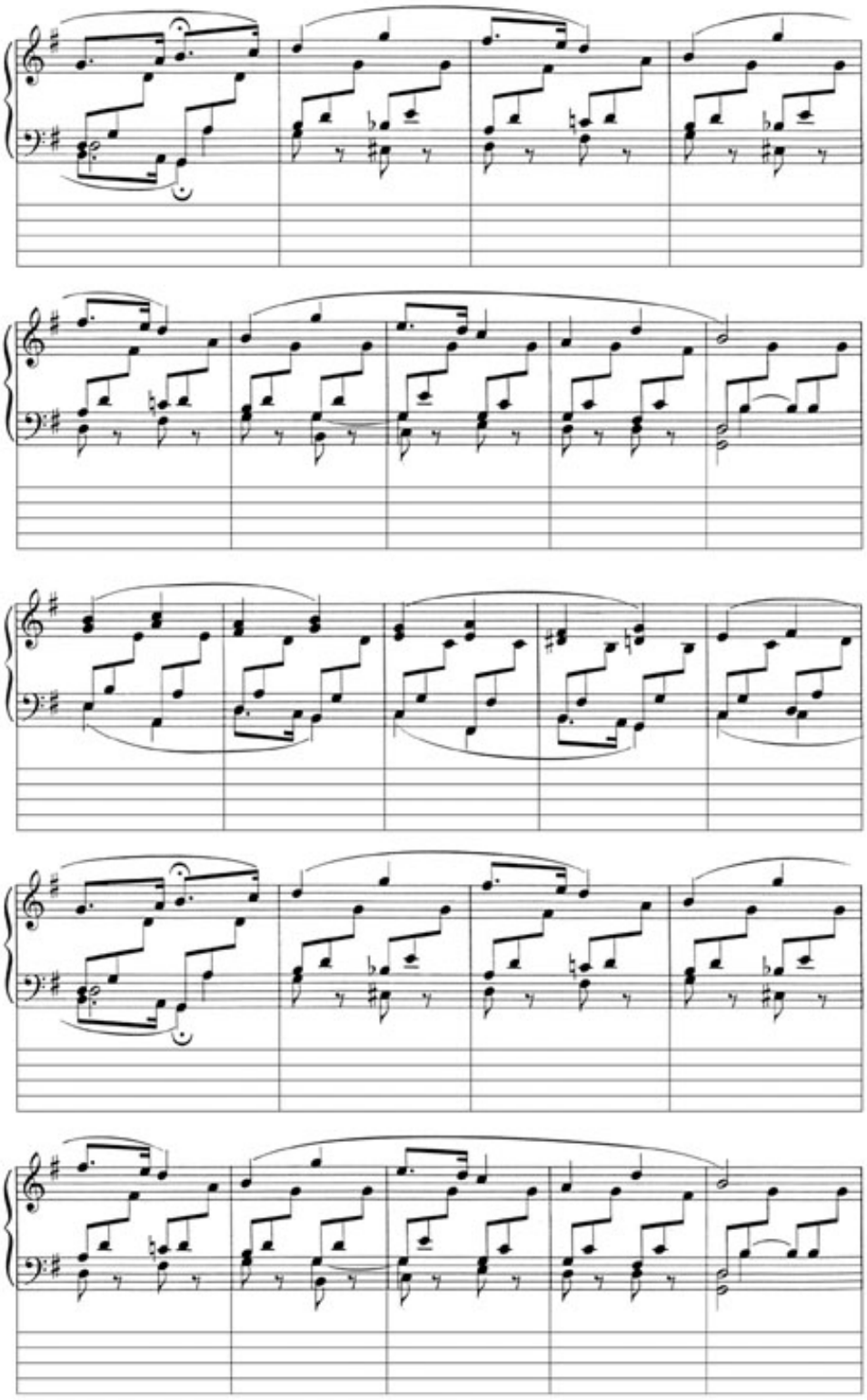


A6

R. Schumann: '*Von fremden Ländern und Menschen*' from 'Kinderscenen', op. 15



Appendix A 6, Page 2



Appendix A7

Technical information valid for the first phase of Study A

Name conventions

The single files have been given the same names as the corresponding layers within the software Photoshop files.

As an example, the scanned image named B_3_1_2.tif refers to the curve drawn by person B, musical excerpt number three, and to the second system of page number one.

The name is thus constructed according to the following principle:

Person_Musical excerpt_Page_System.file extension

As an example, a Photoshop file named 0_4_2.psd contains the curves of all the participating persons for the second page of the musical excerpt number four.

The name is thus constructed according to the following principle:

0_Musical excerpt_Page.file extension

As an example, a Photoshop layer named D_5_2 is part of the Photoshop file 0_5_2.psd, the layer containing the curves drawn by the person D illustrating the second page of the fifth musical excerpt.

The name is constructed according to the following principle:

Person_Musical excerpt_Page

There is also a Photoshop layer named *Background*, which is the scanned image of an empty sheet of the special device that was used for drawing the curves in this study, in this case however without any drawn curves.

As an example, D_5_2 *original* refers to the scanned image of the original curve drawn by person D, illustrating the second page of the musical excerpt number five.

The average curve (M) is a curve that is calculated out of the average of the indicated dynamical levels emanating from all the curves drawn by the persons A, B, C, D, E, F, and G together.

The letter "I" refers to an intentional curve drawn by Ingemar Fridell before carrying out the study. There is also a layer called *I curve original* that is the scanned image of this curve as originally drawn.

Physical is a curve consisting of the upper half contour of the visual representation emanating from the sampled sound file in question (the Schönberg excerpt). There is also a layer called *Physical original*, which is the upper half of the visual representation emanating from the sampled sound file.

Procedure

Empty sheets of the special device for drawing curves that was used in this study for each one of the musical excerpts were scanned without any drawn curves. The corresponding scanned images constitute the background layers of the Photoshop files.

The curves of all of the participating persons' curves were scanned, including the curves drawn by Ingemar Fridell before carrying out the study. The images were saved as *tif* files. Each page of the device contains up to three systems, which were then saved as three separate files.

The images consisting of the individual curves were applied within the Photoshop files of greater dimensions. Each Photoshop file corresponds to a sheet of the device that was used in this study containing up to three systems of curves.

The curves drawn by each one of the participating persons, respectively, were adjusted to fit into the corresponding background layers consisting of the images of the device's empty sheets.

The layers containing the curves of each person were named according to the following principle:

Person_Musical excerpt_Page.

An empty layer was created for each individual. In this layer, the individual curve of the corresponding sheet was applied.

Corrections

When stepping over the limits of the device in relation to the expressed rules for how to draw the curves, parts of an individual curve were replaced by a broken line, as close as possible to the drawn curve but within the limits of the device.

Occurring deviations in relation to the expressed rules have been corrected in the following ways:

1) The curve has stepped *under* the second line of the device counted from below when illustrating the sounding music, under the first line of the device from below *before* the first tone or chord of the excerpt, or under the first line from below *after* the last tone or chord of the excerpt. In those cases, the replacing broken line has been applied along the second line from below or along the first line from below, respectively.

2) The curve has stepped *over* the sixth line of the device counted from below, indicating the maximal dynamical level. The replacing broken line has been applied along the sixth line counted from below from the point where the deviation starts until the point where it returns within the limits of the device again.

3) The indicated dynamical level at the end of a system does not correspond to the indicated dynamical level at the beginning of the next system. A replacing broken line has been applied in order to connect the two differently indicated dynamical levels of the curves.

4) In some cases two different curves occur simultaneously at the same place, but since one of these curves is drawn with a clearer line, the real intention of the person in question seems to be obvious anyway. In this case, a curve has been applied with a *continuous* line in spite of the original deviation in relation to the rules. For example, when one of the two alternative curves appears as considerably less clear compared to the other one being reinforced afterwards by the participant him-/herself, it is the clearest of the two curves that counts.

5) When one single curve is split into two alternative curves not connecting again, it is the suddenly ceasing curve that has been ignored.

6) When a part of the curve splits into two curves that are rejoining again, a new curve replacing the corresponding part has been applied right in the middle of the two drawn alternative curves. In those cases, the distance between the two original alternative curves has not been more than up to one dynamical line of the device, or less.

Average curve

The average curve has been calculated by adding the changing dynamical levels of the curves at regular intervals, each time as indicated by all of the seven participating persons together, after which the constantly changing sums of the individual levels counted at regular intervals were divided by seven. When calculating the average curves of the two employed musical excerpts (Mozart and Schönberg, respectively), the parts containing the replaced curves with the broken lines have been used as well. The intentional curve drawn by Ingemar Fridell before carrying out the study has not been used when calculating the average curve. In order to read the dynamical levels of the individual curves before calculating the corresponding average levels at regular intervals, each system has been divided into 37-38 equally big parts. In cases when some dramatically critical or structurally interesting musical events were occurring, the dynamical levels of the individual curves have been measured even at denser intervals than that.

Physical amplitude curve

In the fifth musical excerpt (from Schönberg opus 26), a visual representation of the sound of the music has been used. This visual representation was created by means of the following procedure:

The musical excerpt was recorded and saved as a so-called wave-file to be opened in the software for editing sound called SoundForge. In this program the sound signal was normalised, which means that it was adapted to the employed quantifying depth. The signal is sampled in stereo at a sampling frequency of 44,1 KHz and a quantifying depth of 16 bites, which corresponds to 65536 different levels of amplitude. By mixing the two stereo channels together, a monophonic version of the normalised signal using 50% of the volume of each channel was created. The visual representation of the signal could now be adjusted permitting its minimal dynamical level to be located along the first line counted from below in the graphical device of the study for drawing curves, and its maximal dynamical level to be located along the sixth line counted from below.

After that, the exact location of every single tone as appearing in the visual representation of the sound signal was identified and marked. Because of the difficulties of managing to accomplish the markings of each individual tone, the recorded sound was reproduced at half of the original speed. This was done without changing the pitch of the music. This kind of procedure can be done in a rather simple way out of the sampled sound, but the procedure of slowing down the speed all the way to the half of the original signal implies at the same time increasing the pitch of the music one whole octave in order to compensate for the low speed. Such a big transformation causes certain undesirable effects. For example, the visual shape of the original sound signal was influenced in a way reminding of an identical signal accompanying the original signal displaced by 0,007 seconds of time.

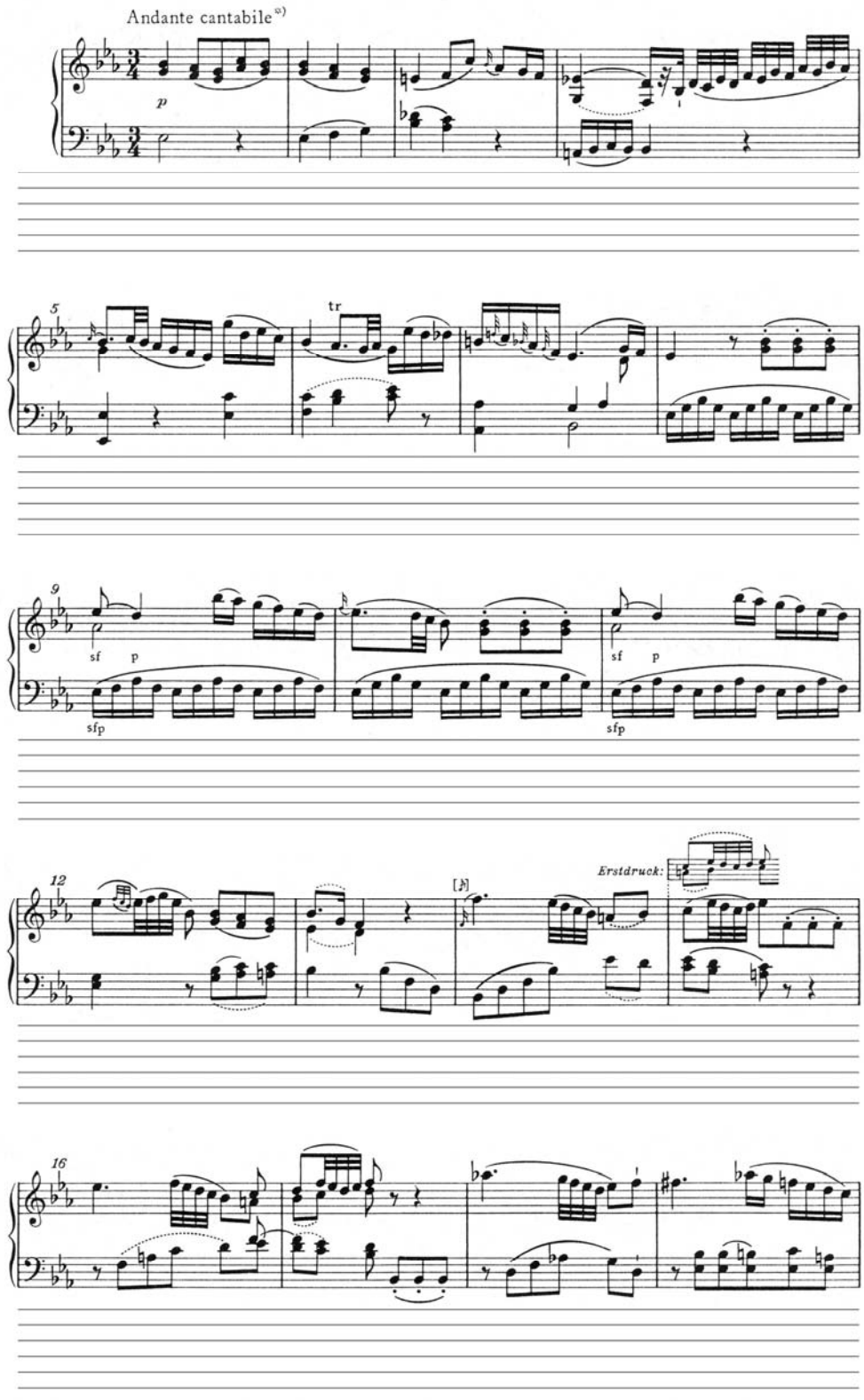
The upper half of the visual representation of the sound signal was copied as an image into Photoshop. Through this procedure, the visual representation was transformed into an image, of which the upper contours remind of a dynamical sound curve. By means of an applied pattern consisting of vertical lines, the new shape of the representation was divided into small parts

corresponding to the distances between the single notes and chords of the musical excerpt, as notated in the printed score. Since sound signals are located equally and horizontally according to a continuous fixed imaginary temporal axis, which is never the case in a printed score, it was necessary to expand or compress every single part of the obtained sound curve, adapting and synchronising it to the distances between each note or each chord of the printed score.

Finally, the visual sound curve was processed by means of the filter called Trace Contour in order to obtain a curve that only shows the upper contour of the dynamical levels in the same device as used for drawing the individual curves by hand.

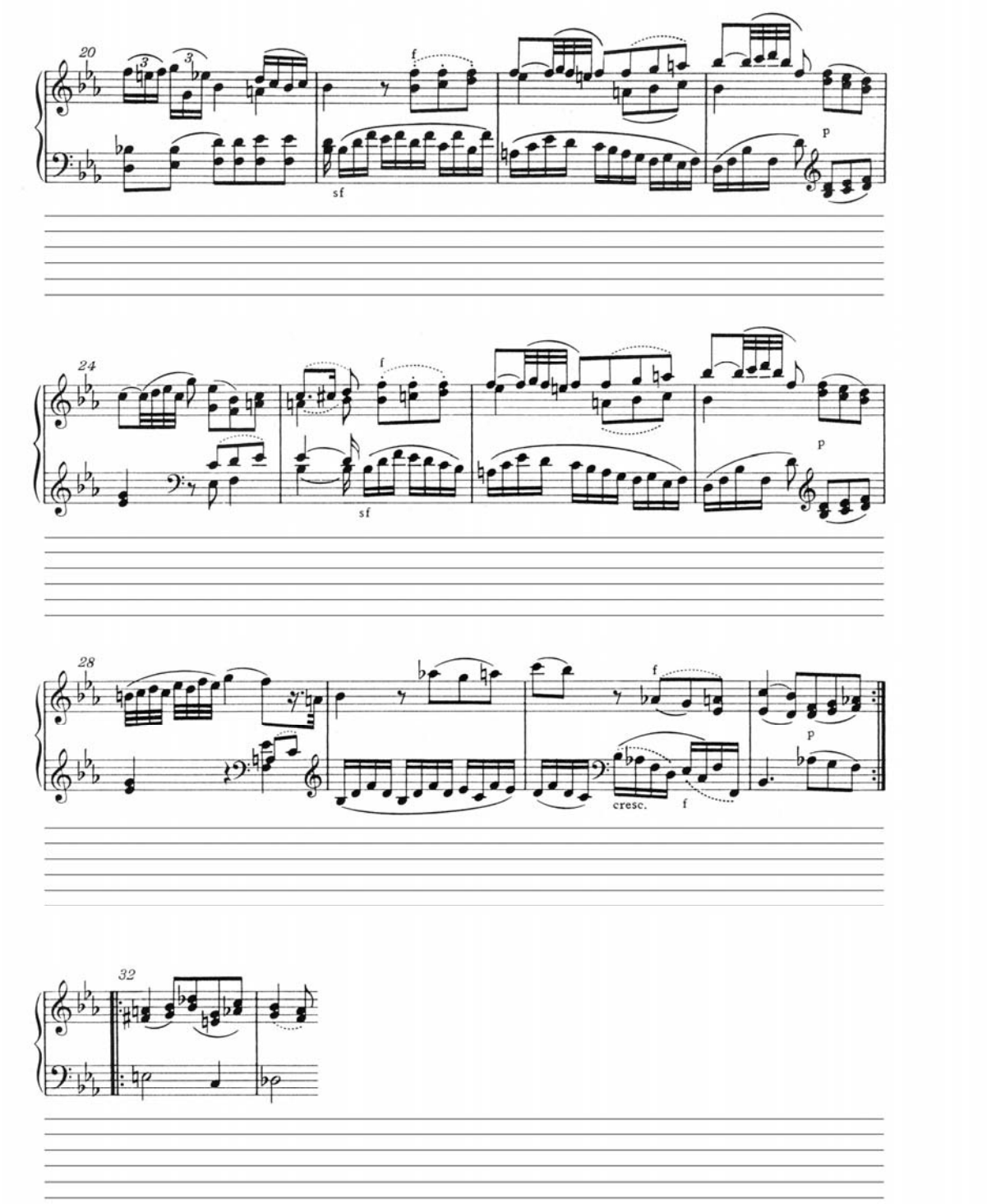
APPENDIX B1

W .A. Mozart: Sonata in B flat major, Köchel 333, excerpt from the second movement



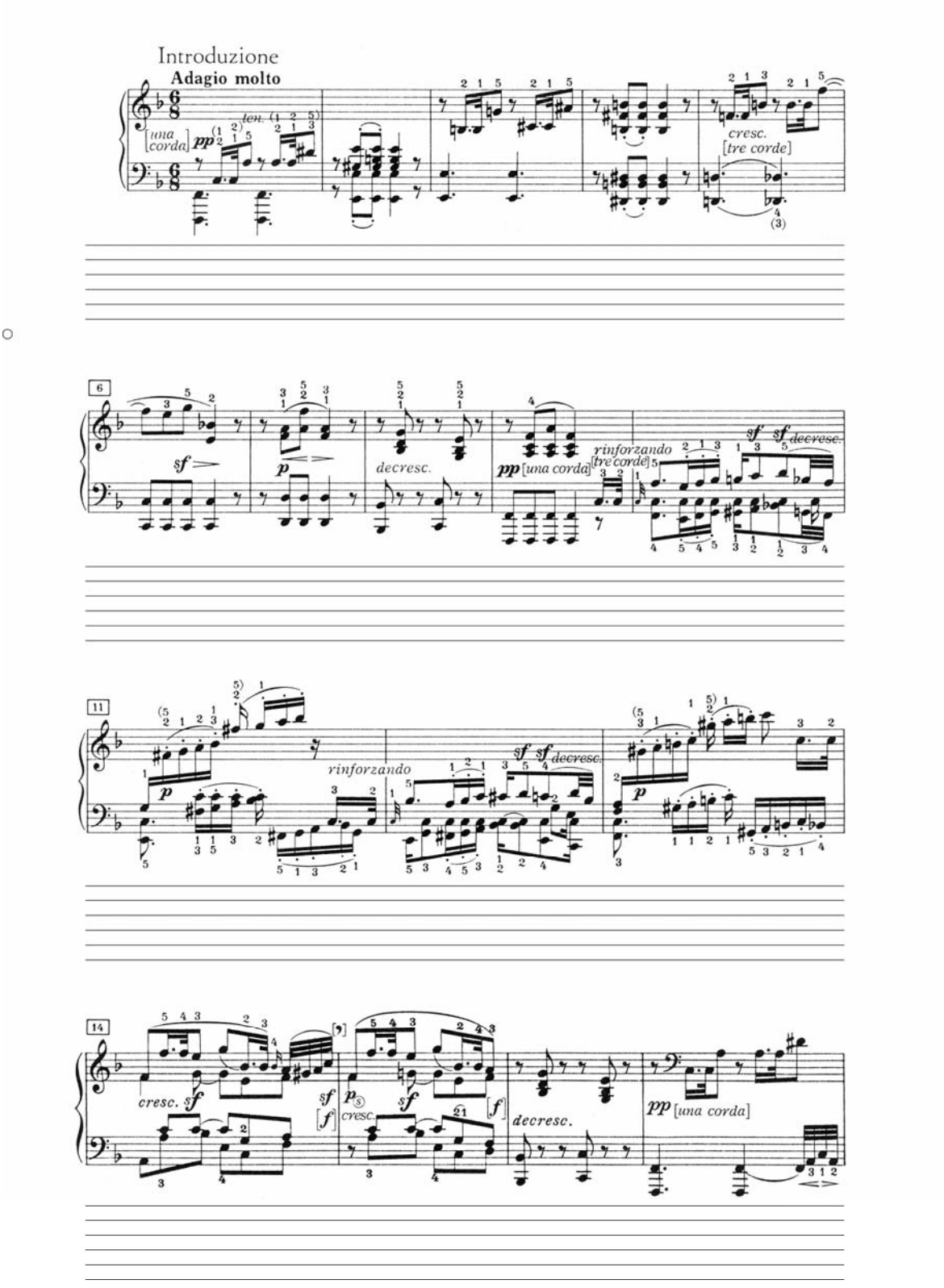
*) Die kleiner gestochenen dynamischen Zeichen sind dem Erstdruck entnommen. / Dynamic marks printed in smaller type are taken from the first edition.

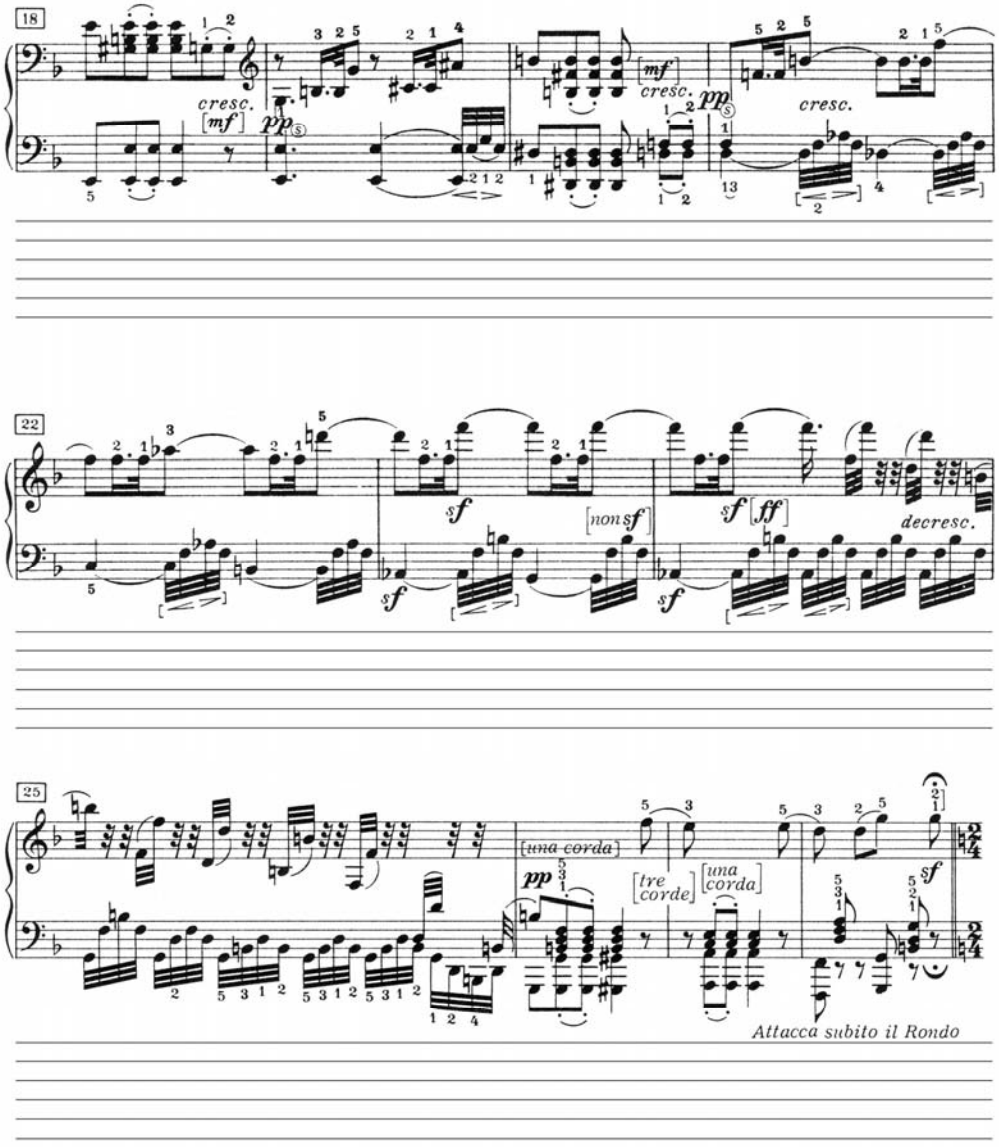
Appendix B1, Page 2



B2

L. van Beethoven: Sonata in C major ('Waldstein'), second movement

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cresc.
pp
cresc.
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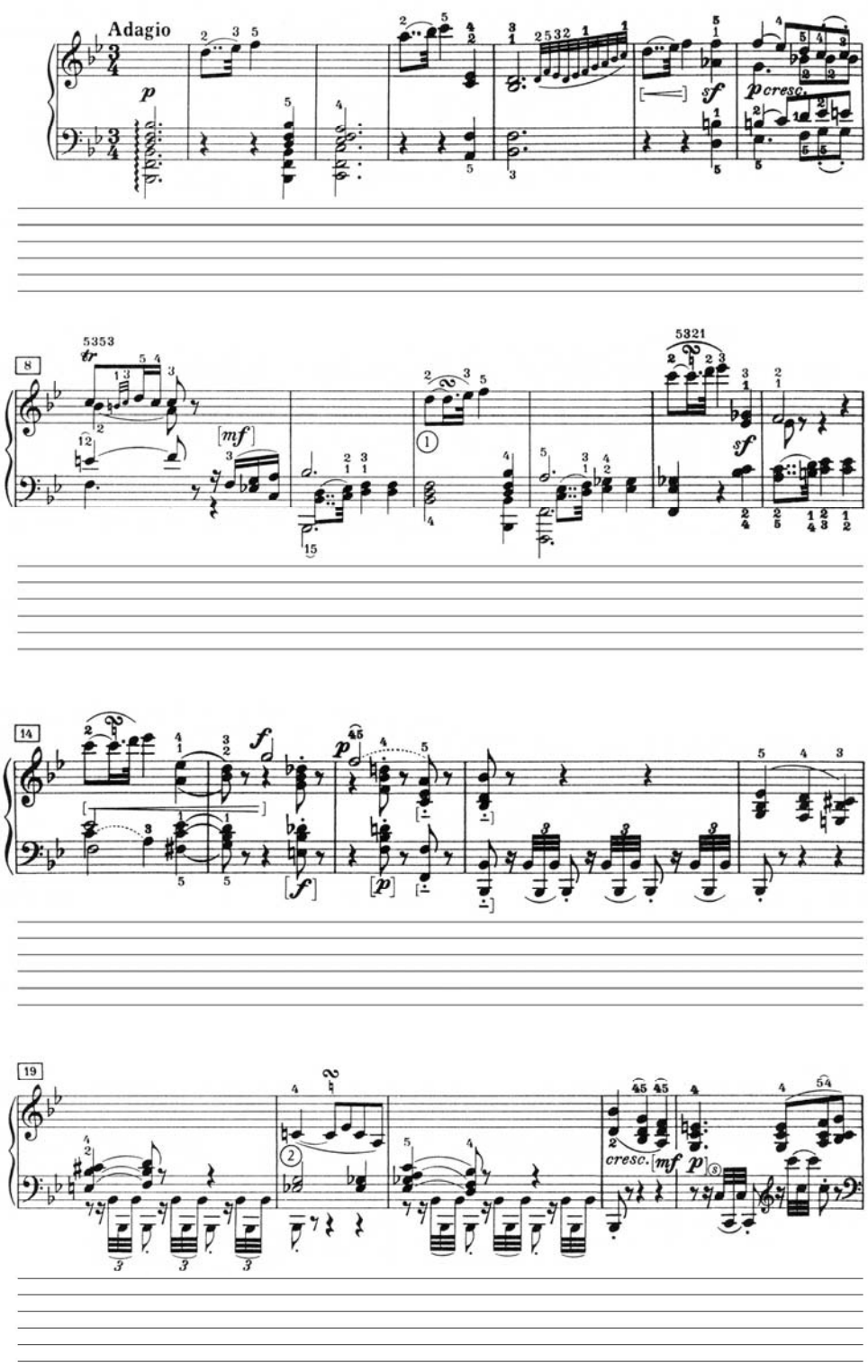
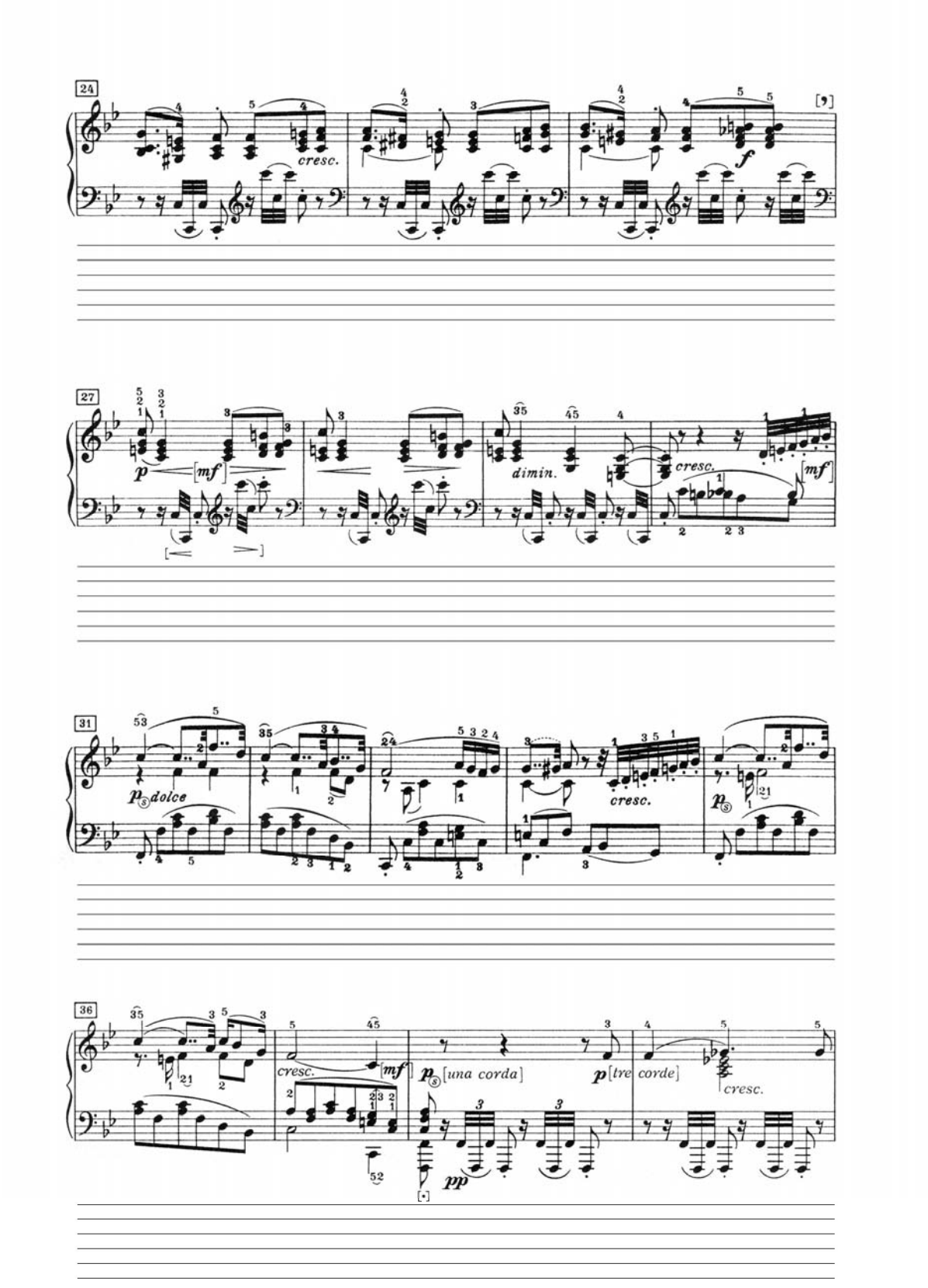
pp
[tre corde]
[una corda]
sf
Attacca subito il Rondo

B3

L. van Beethoven: Sonata in d minor ('der Sturm'), excerpt from the second movement

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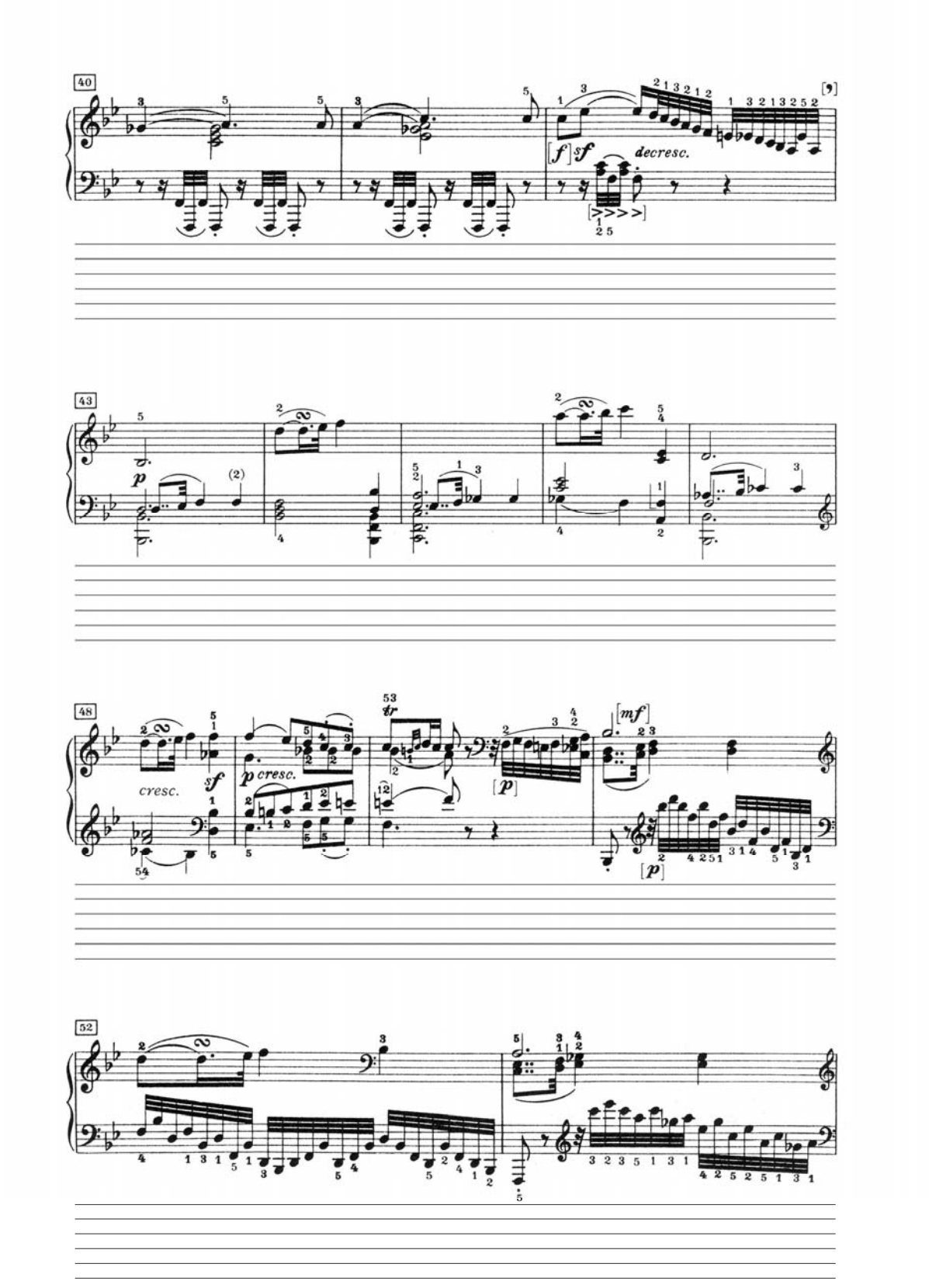
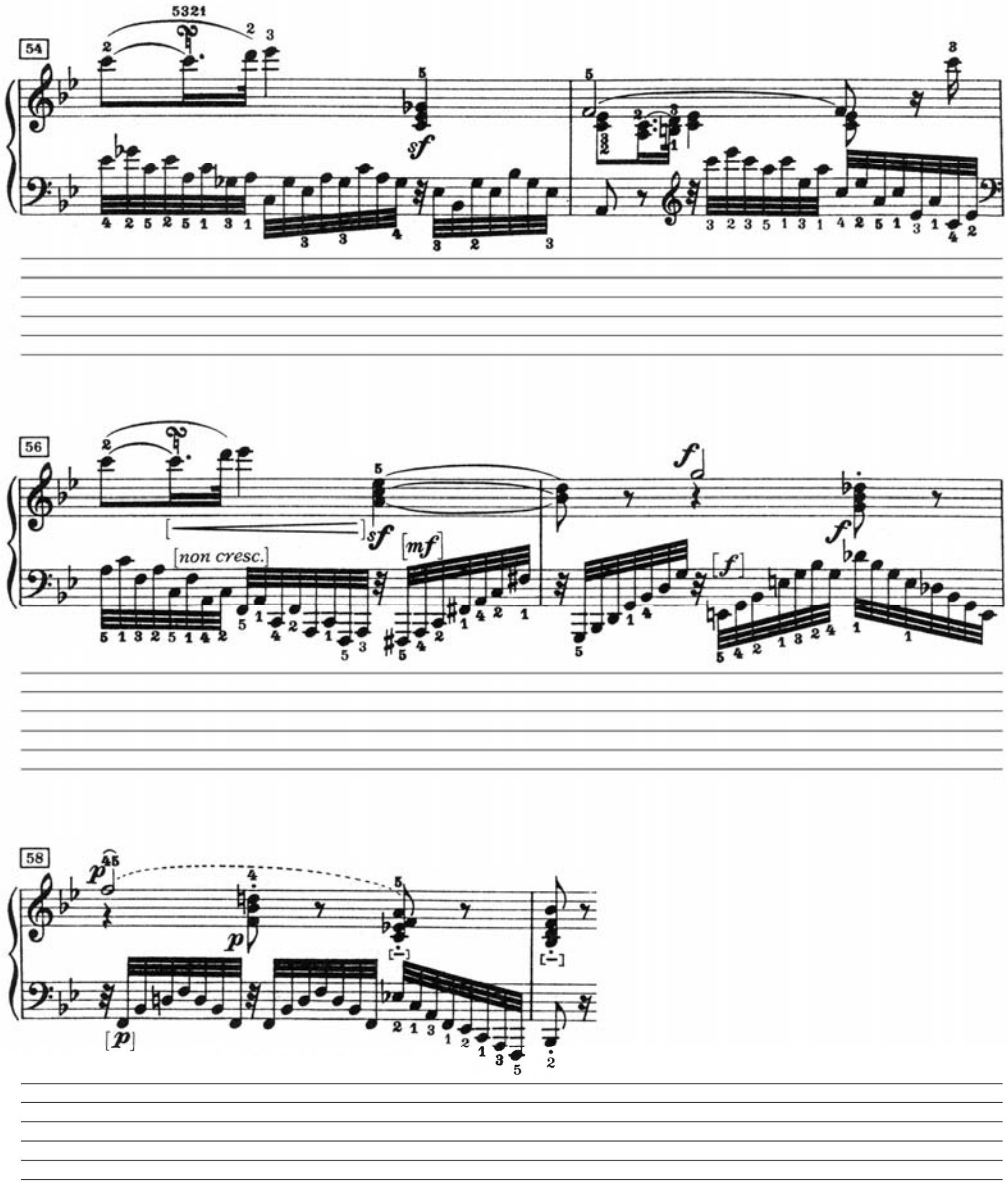
31
p dolce
cresc.
p
36
cresc.
[mf]
p [una corda]
p [tre corde]
cresc.
pp


40
[f] sf
decresc.
43
p
(2)
48
cresc.
sf
p cresc.
53
tr
[p]
[mf]
[p]
52


54
5321
sf
56
[non cresc.]
[sf]
[mf]
f
[f]
58
p
[p]