

A Pianist's Approach to Complex Musical Material in Ligeti's Études

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Abstract

This article deals with performer's experiences in handling the pianistic challenges in the demanding études of György Ligeti (1923–2006). The article analyses possible approaches to the complicated musical material and describes how to master the études as effectively as possible through specific practice methods.

Ligeti's études are among the most complex pieces of piano music, demanding exceptional virtuosity and concentration from the pianist. An important structural component of the études is complicated polyrhythm, which makes learning and performing them particularly intense mentally. There are many polymetric passages where the pianist must choose which metre to proceed from in cognitive terms in order to achieve both technical confidence and the desired musical effect. The author gives examples of experiments with different metrical feelings in the work process and describes different technical and mental practice methods which prove useful for learning Ligeti's études.

The research is based on the author's experiences while practising and performing Ligeti's études, analysing notes taken during the preparatory phase. The main method is self reflection. In addition, other pianists' thoughts have been gathered from conversations, master classes and literature.

The études of György Ligeti (1923–2006) are among the greatest achievements in the solo piano repertoire of the second half of the 20th century. Performing them demands exceptional virtuosity and concentration from the pianist. The main characteristic feature throughout these works is Ligeti's use of polyrhythms and polymetricism, and this places considerable demands on the pianist. In addition to the rhythms, the études are also polyphonic in other aspects: the lines are intertwined and there is an abundance of polydynamics. Often there appears an illusion of many independent layers moving at different speeds. At the same time the études are extremely demanding technically, and learning and memorising them requires great patience from the pianist.

In my doctoral thesis *A Pianist's Approach to Learning Ligeti's Études*¹ I dealt with pianists' experiences while practising and performing Ligeti's études. The aim was to analyse a pianist's approach to complex musical material and highlight methods which have proven to be fruitful through experience. I relied mainly on my experi-

ence using the self reflection method. Reflection is often defined as a cognitive process through which one learns from experience, either individually or in association with others (Benammar 2004). The method is often claimed to be conducive to deeper learning as it allows one to create and systematize conscious knowledge of one's self-perception (Moon 2004). In the process of practising a musical instrument, reflection helps one to gain an awareness of one's weaknesses and find solutions for making improvements (Parncutt 2007). Reflections on my own experiences are derived from notes and score markings taken during practice sessions and master classes. In many cases I was able to draw parallels between my own thoughts and the experiences of other pianists. Interesting discussions about playing Ligeti's études occurred during conversations in which other pianists explained the notes they had added to their own musical texts and recalled useful practice techniques. Numerous examples of the notes made during the practice process may be found in my research.

¹ The doctoral thesis (in Estonian) was defended at the Estonian Academy of Music and Theatre in 2017 (supervisor Professor Kerri Kotta), http://www.ema.edu.ee/vaitekirjad/doktor/Kristi_Kapten.pdf.

The current article is based on several sections of my doctoral thesis in which I analysed how to find a suitable rhythmic feeling in a polymetric texture, described different types of useful practice techniques and discussed the memorisation process.

1. Internal rhythmical organisation

For a pianist, capturing the rhythmical feeling of a work of music is one of the most important foundations for creating a convincing performance. Well-judged rhythmical understanding supports technical fluidity, imparts a clear character to the music and, consequently, gives consistency to the work's dramatic structure. Rhythmic cognition is also related to breathing and has a direct influence on phrasing.

By internal rhythmical organisation I mean the rhythmical thinking which is only in the pianist's mind, concealed from the listener's ear. This might, for example, be the abstract division of rhythmic groups, which is not detectable in terms of audible accents. Also hidden from the listener is the way a performer may feel the music in "invisible" periods, which are not noted in the musical text. For example, if the musical text contains a passage which moves in minims, from which there is a transition to semiquaver movement, then the final minims before the new period might be mentally divided into semiquavers so as to achieve a smoother transition. Such a mental division is particularly useful when the tempo slows (*ritenuto*). Finding a suitable rhythmic mindset always depends on the specific musical situation. I believe that many pianists think in rhythmic periods different from those in the printed music instinctively and without being aware of doing so; there are situations however, where such a choice should be made consciously.

In Ligeti's études, where the pianist must manage long and intensive polyrhythmic passages, the question of inner rhythmic organisation is particularly important. It is necessary to create an audible impression of many equal and independent rhythmic patterns; but as these are all performed by one artist, the organised execution of the material requires that the performer must have some internal metre on which to rely. In the polymetric sections where the two hands are playing completely different rhythmic patterns the pianist cannot devote full attention to leading with both, and must therefore decide which part is leading at any given moment. Such choices occur frequently in the études.

In the étude "L'escalier du diable" the poly-metric element first emerges clearly in bar 11 (Example 1). Here the pianist can proceed from the rhythm of either the left or the right hand. When choosing a pace, two main questions should be taken into account: 1) the pianist's technical confidence and mastery of the material; 2) the musical idea that the interpreter wishes to create in sound and convey to the audience.

In more traditional music this question is generally easier to resolve, because the same choice generally serves both purposes: the one which creates a more confident feeling when playing the piece is generally also better-suited to the character of the work and sounds more convincing. In the case of Ligeti's études, however, the issue is more complex: presenting the material requires a strong sense of certainty and control, whereas the effect that the composer is seeking is often one of irregularity or chaos. Some sort of balance must thus be found through the choices made by the performer.

The pianist's choices for sensing a rhythmic base in Ligeti's études have been admirably de-

Example 1. "L'escalier du diable", bar 11.

The musical score for Example 1, bar 11, is presented in a two-staff format. The top staff is the right hand, and the bottom staff is the left hand. The tempo is marked 'capriccioso'. The right hand starts with a melodic line in G major, marked 'tre corde' and 'mf'. The left hand has a more rhythmic accompaniment. Dynamics include 'cresc.', 'p', and 'cresc.'. The score is marked with a '(>)' symbol above the right hand in the second half of the bar.

scribed by pianist Ian Pace (Pace 2012). Pace attributes the fundamental character of the études to the effect of irregularity and chaos, the game between (perceived) regularity and irregularity, which ensues from lines, harmony, rhythm and texture (Pace 2012: 180). He examines the extent to which the interpreter's choices in performance can affect the overall impression of the musical character.

Much depends on the degree of stability or instability [the performers] wish to project; this is made apparent via the extent to which the more adventurous rhythmic elements are played either as localised deviations ultimately leading to resolution (which would produce a greater sense of stability), or elements which continually threaten to upset precarious elements of regularity and regular metre (Pace 2012: 186).

In the case of Example 1 (bar 11 of "L'escalier du diable"), the more stable approach would be to select the left hand part as the basis for performance, because it consists of familiar groups of two and three quavers, which are shorter and easier to follow. It is the right hand's five and seven note figures that disturb the stability of the whole. The right hand figures are marked *capriccioso* and are also louder in terms of their dynamic markings than the left hand part: consequently, the decision to highlight the more outwardly attractive right hand part would be musically justified.

In his article Pace examines several études where the performer can choose between different rhythmic patterns when establishing which one to use as their foundation. For example, in Étude No. 1, "Désordre", it is up to the pianist

from the start to decide whether the left or right hand leads – i.e. which hand's basic metre shall be the base which the other varies. From a pianist's point of view it would be most natural to rely on the left, since the bass register is more resonant and ensures a more steady foundation. The left also remains in a stable 4/4 time signature, while the right hand's rhythm groups start gradually to shorten a quaver at a time. However, such an approach would create the impression that the étude is in 4/4 time, and that the right hand accents only play the role of syncopations. When led by the right hand part, on the other hand, an impression of instability would already emerge from the fourth bar. In this case, neither line would be foregrounded at the expense of the other (Pace 2012: 186). In Étude No. 4, "Fanfares", there is also the danger of creating the impression of a piece with a 4/4 time signature and syncopated rhythms if the pianist relies too heavily on the steady *ostinato* motif which runs through the étude (Pace 2012: 188) (Example 2).

For almost the whole duration of the étude "Fanfares" the *ostinato* must be played in a much quieter dynamic than the irregular rhythmic groups of the other part. It is especially important to maintain the correct balance of sound, with the right hand melody always at the forefront, and the accents must be clearly highlighted. This is the only way the rhythmic groups consisting of 11 quavers in the upper part can attain the leading position and help avoid the emergence of the feeling of a regular metre (Pace 2012: 188).

Pace clearly favours a rhythmic orientation based on the elements which create an irregular soundscape. I find, however, that while performing technically and mentally demanding polymetric passages the pianist should still rely

Example 2. "Fanfares", bars 37–40. The left hand has a quiet *ostinato*.

primarily on choices which ensure confidence and technical security, even if his/her artistic endeavour is to create the feeling of irregularity. If one loses control of the material, then the chaotic effect will not have any impact. Moreover, the audible impression may not necessarily reflect the choice that the pianist has made at a particular moment. By being aware of the risks just mentioned, the pianist can develop each voice independently so that each part can achieve the sound effect that the performer is striving towards. Considering again the choice pertaining to bar 11 of the étude "L'escalier du diable" (Example 1), the listener should not be able to identify which part the pianist is relying on during the performance. The aim is to achieve a soundscape consisting of two independently running lines, whether these are in the foreground or in the background in the pianist's thinking. To accomplish this the pianist must constantly alternate his or her focus during the practising process, basing his/her attention first on one pattern and then on the other, so as to master the ability to rely on either one at any given moment. If, however, focusing on one pattern rather than the other establishes a firmer support for maintaining control of the whole, then this is

the one on which the pianist should rely during performance. In the case of Example 1 this would be the left hand.

In the previous example, finding an internal rhythm depended on the choice between two rhythmic patterns. In some études, however, there are situations where it seems more fitting to be led by the combined rhythm of the multiple voices or, instead, to select a regular 4/4 metre (or other regular metre) as a basis. For example, I came across such solutions in the process of learning Étude No. 10 "Der Zauberlehrling". Polymetricity enters this étude in bar 67 (Example 3).

Initially the question of picking up the rhythmic patterns seemed easier here than, for example, in the étude "L'escalier du diable". The accents in both hands are always positioned at the beginning of rhythmical groups, and the groups themselves are technically quite convenient and comfortable to play. I first learnt the rhythmic patterns of both hands in what could be called a conjoined fashion. The dots marked in Example 4 indicate the internal metre (in the current case the sum of the so-called conjoined metres): the larger dots indicate accented and the smaller dots weak beats.

Example 3. "Der Zauberlehrling", bars 67–72.

The musical score for Example 3, "Der Zauberlehrling", bars 67–72, is presented in two systems. The first system (bars 67–70) shows a piano part with two staves. The right hand (treble clef) and left hand (bass clef) both play complex rhythmic patterns. The first system includes markings for "cresc. poco a poco", "pp", and "poco a poco tre corde". The second system (bars 70–72) continues the piece, with markings for "(cresc.) p". The score features complex rhythmic patterns with accents and dynamic markings.

The lengths of the rhythmic groups are irregular, and initially it was quite laborious to assimilate such a pattern; at the time, however, this seemed to be the only possible solution. On reaching bar 94 (Example 5), however, trying to follow an internal metre stemming from accents turned out to be a hindrance. The accents at this point are only in the right hand (at the top of a repeated descending passage consisting of nine notes),

while the material in the left hand is technically very uncomfortable – without balancing metric reference points it felt unnatural to play it in a fast tempo and with an *ff* dynamic. To achieve a better balance between the two hands I tried to approach it with a different metre. At first I tried to think in groups of four, through which I achieved a notably more technically confident feeling than before. Increasing the tempo, the four-based me-

Example 4. “Der Zauberlehrling”, bars 67–72. The dots indicate the accented and weak beats of the internal metre.

Example 5. “Der Zauberlehrling”, bars 94–95. The dots represent the internal metres of four and six.

tre started to become a little clumsy and I then tried to think in groups of six, which made the movement more rapid.

Most of the audible accents now occurred as counter-beats to the feeling of the metre, but a regular internal metre put both hands into a more equal position and gave better control of the material. After that I experimented with the previous passage (bars 67–93) with a metre based on groups of six.

A regular mental metre helped simplify the learning of the musical text. Instead of learning rhythmic groups of irregular lengths (3+3+3+3+4+3+3+2+2+4 quavers etc.), all the groups were now equal for me, and the rhythm inside each group became clear. However, when speeding up the tempo a metre based on groups of six began to seem clumsy, because very many of the accents function as counter-rhythms (particularly often, for example, in bars 69 and 70), so I turned back to the metric feeling originally obtained (based on the overall metre obtained from adding the two metres). Now the musical text was much more familiar, because I had practised it in other cognitive contexts as well. In bars 94–96 I prefer to stick with the regular metric feeling (of six). In these bars, which mark the culmination of

the whole section (*ff-crescendo-ffff*) occurs, Ligeti has written *poco allargando* (slightly broadening), after which the material from the beginning of the étude returns *subito pp* (bar 97). With regard to the regular metre, most of the accents do actually form a counter-rhythm to the internal metre, but I think that in these bars a little “entanglement” is musically justified.

I also approached the middle section of the étude “L’escalier du diable” with a regular internal metre. There it is sensible to mentally divide one subsection of a bar into eighths, and I divided the 12 quavers into groups of four (Example 7).

One possibility with this étude would be to start from the upper part. In a way, it would even be easier to learn the material in this way, because then the base becomes a regularly repeating motif (2+3 quavers) (Example 8).

For the sake of variety, and to test myself, I tried that for a while. However, I still think that the first option (a regular internal metre of four) works better, because the voices are in a more equal position than when leading from the upper voice, and the audible result is more layered, meaning that the voices receive equal attention.

This kind of experimentation with its back and forth movement in the search for different metri-

Example 6. “Der Zauberlehrling”, bars 67–72 with a metre of six.

cal feeling is time consuming, but I find that it is a necessary part of the process of learning Ligeti's études. Pianists Simon Smith and Fredrik Ullén, with whom I discussed the process of studying the études at length, agreed that practising from a new metric angle gives the feeling of learning another work entirely, but that it is the best way to develop layered rhythms (Smith, conversation 26.10.2016; Ullén, conversation 11.02.2017). Discussing, in her doctoral thesis, the different ways of feeling the polyrhythmic facets in the

étude "Fém", Elisa Järvi aptly uses the word "kaleidoscope" in the title of her work (Järvi 2011). Approaching the same material from a slightly different rhythmic angle, the audio picture is completely different. A similar feeling arises when rehearsing polymetric material and this makes the practice process difficult, though very interesting.

The choice of metre is not something that should be final; but such choices should be made continuously during the process of working with the étude, and should be based on questions of

Example 7. "L'escalier du diable", bar 31.

(31) *tutta la forza, minaccioso e maestoso*
fffff
 (sostenuto pedal / Tonhaltepedal)
 + sost. ped. / Tonhalteped.

Example 8. "L'escalier du diable", bar 31, rhythmic base derived from the upper part.

(31) *tutta la forza, minaccioso e maestoso*
fffff
 (sostenuto pedal / Tonhaltepedal)

technical confidence and on the desired sound effects. These choices should also be changed from time to time, according to the ways of feeling different metres. If it seems that relying on one rhythmic pattern is taken for granted so that it becomes dangerously habitual, the passage should be practised from another angle for a while (mainly on occasions where there is a choice between rhythmic patterns in two hands). This method not only ensures alertness, but also allows the performer to take account of the multilayer construction. To maintain the balance between stability and irregularity, one must preserve the freedom to choose. Methods of practice should not focus on one perception, but should encourage flexibility.

2. Fruitful methods for practising the musical material

In this section I draw conclusions about the methods of practice tried and tested in my work process, pointing out fruitful practice principles and demonstrating specific practice methods which, in my experience, have proven the most effective. I draw parallels and comparisons with other pianists' thoughts and demonstrate specific ways of practising both on the keyboard and away from the keyboard, as well as ways in which the two approaches can be combined.

Importance of Creativity

I find that in the process of learning and practising new complex musical material, creativity is a very important factor. Pianists often treat the musical text rather inventively, practising in ways that do

not exactly resemble what is written in the musical text. With a creative (even playful) approach to the musical material, one learns to perceive it from as many different angles and aspects as possible. Such an approach also encourages effective learning, because it keeps the mind alert. As Fredrik Ullén also acknowledged, the mind works best when it is motivated (Ullén, conversation 11.02.2017). Motivation and alertness are vital for learning Ligeti's extremely demanding music, and therefore pianists' practice techniques can be quite original when tackling the études.

Creative ways of practising usually evolve spontaneously during the practice process. I remember, for example, the process of learning a section of the étude "Der Zauberlehrling": here I practised passages as chords, wherever possible (so as to grasp the whole group at a time), and also tried to play the part of one hand, group by group, with the notes in the opposite order (Example 9).

I played the right hand as written, while playing the left hand groups from the last note to the first. (After the bars in the example the groups become even longer than 4 notes). Practising in this manner I learnt to think of the length of the groups in advance and to be aware of where they were going.

When learning to understand the material, pianist Fredrik Ullén considers it useful to remove one component or another (for example one voice). In the études "Désordre" and "Fanfares" he only practised the accents, to get used to the melodic lines (Ullén, conversation 11.02.2017). In the étude "Touches bloquées" he considered bars

Example 9. "Der Zauberlehrling", bars 82–83. The numbers denote the order of playing the left hand notes, the diagonal lines connect the notes I played together.

The image shows a musical score for two staves, treble and bass clef. The right staff (treble clef) contains a melodic line with accents on each note. The left staff (bass clef) contains a descending sequence of notes with fingerings 4, 3, 2, 1. Diagonal lines connect the notes in the left hand to show the order of playing from last to first. A 'cresc. poco a poco' marking is present in the right hand.

Example 10. “Touches Bloquées”, bars 83–87.

76–88, in which the pianist must play octaves at a very fast tempo, to be the most demanding. He approached the material one bar at a time, adding more bars one after the other only when the single bars seemed totally assured. When combining the bars he liked working from back to front. With respect to the next musical example, for instance, his system was as follows: having acquired the content of the five bars separately, he first played bar 87, then bars 86–87, then tried to play 85–86–87 and so on, until he could play the whole section without interruption (Example 10). The reason for practising the section backwards, highlighted by Ullén himself, is that in this way the laborious process was simply more interesting and kept him more alert.

Technical Efficiency

It is important to ensure that one's technique is always as efficient as possible and that there are no superfluous movements. To achieve speed it is necessary to develop reactions in which the hand moves to the next key in the most direct possible route. It is useful to practice in a very slow tempo, observing that when a finger is playing one key, the next finger is already in susceptible contact with the next key to be played. Training this sort of reaction in the finger muscles, where two sequential fingers are ready to play simultaneously, is the premise to achieving an extremely fast tempo. A good example of the importance of slow practice and economic movements can be drawn from my experience of practising the étude “Der Zauberlehrling”. The opening part requires extremely fast repetition, where different hands must play the same key one after the other. Practising slowly

and meticulously I ensured that whenever the repeated key is pressed down for the second time, it is pressed down as soon as the key allows, not waiting for it to rise the whole way up from the first of the repeated notes. (Example 11).

Practising on the Keyboard

To acquire the accent patterns in rhythmically irregular sections it is useful to practise by playing only the accented notes in each hand, or by playing the part of one hand in full while only playing accented notes of the other.

This helps to learn to know and audibly distinguish the lines formed by the accents. A useful technique is to play the accented notes with sound and all others without sound (without depressing the keys). When practising in this way, it is important to feel contact with the keys in all the fingers, not only the ones which create a sound. The purpose of this is to strengthen muscular reaction, to control the relation of the sound be-

Example 11. “Der Zauberlehrling”, beginning.

The notes repeated between the two hands are indicated.

Example 12. "L'escalier du diable", bar 22. The added vertical lines indicate coinciding accents in the right and left hand parts.

The image shows a musical score for two staves, likely piano and left hand. The top staff is in treble clef and the bottom staff is in bass clef. Both staves contain complex rhythmic patterns with many notes, some of which are accented. Vertical lines connect corresponding notes between the two staves, indicating coinciding accents. The score includes dynamic markings such as '(cresc.)' and 'ff cresc.'. The number '15' is written above the first staff, and '(22)' is written below the first staff. The music is in a key with one sharp (F#).

tween accented and non-accented notes. In order to be fully aware and to feel the work of the finger muscles, this must be done in an extremely slow tempo. Practising in such a way can be intensely laborious, as initially the fingers which should be playing inaudibly tend to mirror the action of the fingers that play with sound, but training the finger reactions in this way greatly improves rhythmic precision and clarity.

Another practising technique that I find very beneficial when it comes to differentiating the feeling of the fingers between the accented and non-accented notes is to duplicate the accented notes (i.e. playing them twice) while playing all the other notes only once (Example 13). When notes are in quavers, then the accents sound like two semiquavers.

This also requires effort to ensure that the hand which is playing non-accented (singular) notes does not mirror the accented duplication of the other hand's note. As long as the hand or finger playing non-accented notes has a reflex to mirror the reaction of the accented note being

played at the same time, it is likely that when playing the original version the hand in question will create a louder sound than is required. Therefore, these two practice techniques are particularly useful to achieve the clearest possible audible differentiation in the rhythmic patterns.

In addition to focusing on the accentual and polyrhythmic feeling, it also pays to play the material *legato* from time to time, without accents.

To achieve the independence of the rhythmic patterns, while practising it is worth changing what might be called the leading hand (in the pianist's mind). In Example 14 the points of reference stemming from the accents in line with each other are marked with the capital letters A, B, C, and D, the sections connecting them are indicated ab_1 (right hand), ab_2 (left hand), bc_1 , bc_2 etc. Based on this, the pianist concentrates for example on the patterns ab_1 - bc_2 - cd_1 , simultaneously playing the whole material in its original form with both hands together.

In her doctoral thesis, Mihyun Lee points out specific methods of practice which are useful to

Example 13. The places in the original music where accented notes are duplicated have been changed by hand to semiquavers.

The image shows a musical score for two staves, similar to Example 12. The top staff is in treble clef and the bottom staff is in bass clef. Both staves contain complex rhythmic patterns with many notes, some of which are accented. The score includes dynamic markings such as '(cresc.)' and 'ff cresc.'. The number '15' is written above the first staff, and '(22)' is written below the first staff. The music is in a key with one sharp (F#).

Example 14. The points of reference and the sections between them in the left and right hand are denoted separately.

The image shows a musical score for two hands, treble and bass clef. The score is divided into four sections labeled A, B, C, and D. Above the staves, points of reference are marked as ab_1 , ab_2 , bc_1 , bc_2 , cd_1 , and cd_2 . A rehearsal mark '15' is present at the beginning of the first staff.

apply while studying the complex material of the études “Désordre” and “L’escalier du diable” (Lee 2015: 47, 48). Similarly to what has been described so far, her recommendations to practice with separate hands, to play the accented notes with separate and with both hands, and to play the part of one hand in its completeness while only playing the accents of the other hand. She also considers it important to practice the fast and rhythmically disordered sections slowly in an even legato from time to time. In addition, Lee suggests using a metronome and playing only the accented notes to its rhythm.

Practising Away from the Keyboard

I find it extremely useful to practise mentally, without using the piano. This type of approach to practice includes imagining a piece or its sections and playing it in the imagination, both while looking at the music and from memory, conducting, humming, articulating rhythms and drumming the piece on a table or other surface.

Mental practice requires especially strong concentration and it is very effective for this very reason. Playing an étude or a passage in the imagination is the fastest way to reveal where the weak points in one’s grasp of the work lie. Playing on the piano helps with audible resonance and often masks the mental uncertainties by means of automation and muscle memory. When playing in the imagination the whole responsibility lies with mental concentration. If some place does not work when playing, then practising mentally is the fastest way to identify the problem. If everything is successful and feels natural when playing in the mind, the issue is most likely a technical one – it is necessary to change the fingering,

make sure movements are as efficient as possible, practice reaction times, and so on. If, however, the mind falters when imagining the music or the structure of the work seems illogical, then technical practice will be of no use – something must be changed in the thinking (the arrangement of the material, the organisation of internal rhythm, or something of the kind).

When choosing an internal metre this is a very useful method. For example, in the search for a metre for the étude “Der Zauberlehrling” described above I found a more suitable metre through such a mental approach. Having practised the polymetric passage with a regular internal metre (in six), I learned the notes faster than if I had practised using a “combined” metre, but technically it remained clumsy. Trying to practise the section in my mind – first slowly, then gradually faster – I realised that thinking in six I was unlikely to achieve adequate fluency at a fast tempo with even the most efficient motions, and I decided to turn back to the earlier feeling because it also worked mentally.

When learning musical material it is extremely useful to articulate it verbally. Rhythms can be articulated with any syllables that feel natural. For example, during practice I have used the syllables “ti” for accented and “ta” for non-accented notes.

It is useful to practice drumming on a table or other similar surface, as in this way it is possible to bring together the feeling of the finger muscles and the imagination. I discovered this to be a good method when practising the complex pedal part of “L’escalier du diable”. Without sound it was possible to work slowly and rationally, clarifying the coordination between the rhythms of the hands and pedals.

Mihyun Lee also recommends drumming on a table or other flat surface as a mental practice technique. She finds it a necessary approach while in the first stages of learning the étude "L'escalier du diable". She suggests that before practising on the keyboard, the pianist should drum the rhythms on a flat surface so as to understand them both physically and mentally (Lee 2015: 66–67). Personally I have never tried acquiring a new work mentally before playing it on the keyboard, but I believe it could be another fruitful approach.

Combining the two approaches

Naturally it is possible to practice "away from the keyboard" while sitting at the keyboard. This offers many possibilities to integrate mental and keyboard playing.

While learning a rhythmically demanding texture it is useful to play one part with one hand while drumming a pulsating bass or the rhythm of the other hand, for example on the body of the piano. Simon Smith used this technique in the places where there are longer note values but where the feeling should originate from pulsing quavers. Smith also recalled that in the initial stage of learning many of the études he mentally practised on a digital piano, because its sound was considerably drier and more homogenous than an acoustic instrument (if desired the instrument could be made completely silent), and this enabled him to focus on the work of the finger muscles and particularly on accurate rhythmic timing (Smith, conversation 26.10.2016). In a way this is also a combined technique, because while the playing happens on a keyboard, the advantage is similar to mental practice – the focus is not distracted by the sound.

A technique which requires considerable effort and which, in my opinion, is a lot of help in terms of achieving independence of the rhythmic patterns, is to play only one hand's part while simultaneously articulating vocally that of the other. In Example 15 the voiced syllables are given for the right hand part: while articulating that, the left hand part should be played as normal.

It is difficult here to separate the mental and the physical. While articulating the musical material in a metrically accented part, the playing hand has a tendency to play louder (even when there is no accent in its part), and vice-versa, when there is no accent in the playing hand, it is also difficult to convincingly articulate the accents with the voice. Separating the functions of the two hands and achieving independence requires a notable degree of concentration and is quite laborious. However, after specifically investing effort into this technique, the grasp of the complex material when later playing both hands together on the piano is enjoyably natural. This way I have, in a sense, come closest to the feeling that my attention is divided exactly in half and that both rhythmic patterns are led completely equally.

When playing the études by heart I have often implemented a technique where at the piano I play the whole étude mentally, but at some points I decide to "play along" on the keyboard. It is of benefit to join in with the mental performance in this way at certain salient points of change or at some particular point of reference. With reference to Example 14, it might work in this way: ab mentally, bc on the keyboard, cd mentally again (the notation ab, bc and cd refer to specific sections in both hands at a time, which means $ab = ab_1 + ab_2$). There are many possible variations and the mo-

Example 15. "L'escalier du diable", voiced articulation of the right hand part.

15

(22)

ti - ta - ta - ti - ta - ti - ta - ti - ta - ti - ta - ti

ments of alternation should always be selected so as to be as new and unexpected as possible.

3. Memorisation

When performing Ligeti's études, the question of whether they should be played from memory arises. Memorising études with such dense musical material and sophisticated sound language requires immense commitment and concentration on the part of the pianist. Preparing to perform the études from memory demands extremely thorough concentration and much additional work. Though in concert programmes individual études are often performed from memory, when performing them in a larger number pianists usually use the music as a support.

Speaking to other pianists, I asked them about their preferences. Simon Smith said that he has not performed them from memory, because he sees no need or direct advantage in the exercise (Smith, conversation 26.10.2016). Fredrik Ullén also plays from music. He said he had played a few études from memory in the past, but admitted that it had not been the best idea (Ullén, conversation 11.02.2017). However, both these pianists generally prefer to play from music, also when performing more traditional repertoire. I discussed this also with Lauri Väinmaa, who generally prefers to perform solo works from memory for greater inspiration and technical and expressive freedom. With Ligeti's études, however, he finds that the situation is the opposite. Due to the dense information in the music and the very precise guidelines, for example for dynamics and pedal work, playing them by heart and reproducing the material in memory requires a great deal of effort and leaves less energy for the performance. For this reason it is more useful to keep the music in view (Väinmaa, conversation 11.03.2016).

Having the music in view during performance can also be helpful, since many pianists mark the music with useful guidelines, using, for example, different colours or other individually developed forms of notation to differentiate the various musical parameters. For material with such a multilayered texture and such precise nuances as Ligeti's études, it can be very helpful to draw up a clear plan for performance. For the polyrhythmic layers the pianist can note, for example, which line he/she will use as the basis for his/her interpretative choices.

Jeffrey Burns, a pianist devoted to playing new music, takes the opinion in the article "Neue Klaviermusik auswendig gespielt" that to ensure appreciation of new works it is especially important to play them from memory. With traditional music, playing without music is normal, because it allows the performer to embrace the music.

The work becomes part of the performer, who is constantly thinking of the piece and getting new ideas for performing it. The same should be true for modern music – in this case a high quality performance of the work is even more vital, because its reception and critical reaction to it depend on this. (Burns 1997: 179).

Burns's article suggests an attitude that performing from the music on the concert stage points to inadequate preparation. While this might often be the case, I would not directly associate the issue of playing from music or from memory with the quality of the performance, a factor which certainly differs according to both the performer and the work involved. For example, both Smith and Ullén, and also one of the most famous performers of Ligeti's piano music, Pierre-Laurent Aimard (whose impressive concert performance of Ligeti's études I heard on 23rd August 2013 in Edinburgh) all play from music, but the profundity and quality of their performances cannot be questioned.

Personally I feel, like Burns, that to find a deeper contact with the material I must memorise it. Moreover, while preparing Ligeti's études I have become aware that it is only after I have held the work in my memory for a while that my performance becomes convincing, allowing the details and the qualities that have developed over time to become effective. Once the études have been memorised, however, it is another question entirely whether they should be performed with the music or without it. When performing them during a concert, it depends on many factors: how many études are in the programme, how intense the rest of the programme is, whether it is possible to delve into the material as deeply as is necessary in order to play them from memory before the specific performance, and so on.

Since memorising is, in my experience, an important stage in learning the études thoroughly, in the next section I will consider the memorisation process itself.

The Memorisation Process

The pianist relies on different types of memory when performing a piece by heart. Muscle memory, eye or visual memory, ear or aural memory, and analytical or intellectual memory are all actively involved (Smith 2016: 19). I believe that the proportional use of different types of memory varies according to the repertoire and the nature of the specific work. While playing Ligeti from memory I feel that I rely more for support on muscle and visual memory. Since complex techniques and combinations require great intensity in the reactions of the finger muscles when practising, the proportion of muscle memory in the process is very large. For the visual mental image in Ligeti's études I concentrate rather on the musical text than the keys. The motion on the keyboard is mostly fluid, so there isn't any need to look constantly at the keyboard. Aural memory here is not so precise, because the soundscape is very dense, covers many registers and is atonal. Often there is an illusion of a continuous stream of sound, and in a fast tempo it is hard to follow with the ear. In the slower and more lyrical études (for example "Arc-en-ciel"), on the other hand, the aural memory is more actively involved.

In comparison to a more traditional kind of repertoire, playing Ligeti's études from memory involves analytical memory rather less. While the structures and other details discovered through analysis are essential, they should become as automatic as possible. Thinking about structures and compositional techniques during performance is not possible in the case of the fast-paced Ligeti études since the structures on which their composition is based are too complex.

A handbook on the methodology of teaching piano (*Klaverimängu õpetamise meetodika*) refers to the pianist's attitude as one of the most important prerequisites for memorising: "Interest is an extremely important element, interest and inclination." (Tamberg, Kõlar 1977: 80). The same factor is emphasised by Jeffrey Burns. With regard to memorising music he writes that often people approach him after concerts and express astonishment that such unmelodic music can be memorised and inquire what his method is. Burns assures them that there is no method, there is only determination (Burns 1997: 178). Though there

might not be a direct method, it is definitely worth creating some sort of system for oneself, and this should again be based on organising and dividing up the material. Burns describes his approach to memorising the étude "Désordre": "I divided the étude into very small sections and practised them until I could play them confidently. Then I combined the sections to form larger blocks. Like with a pyramid, the peak depends on how solidly its foundations sit." (Burns 1997: 181).

I believe it also helps to be aware of different types of memory and to be able to pay separate attention to them while practising the études. Muscle memory, which is a great help in Ligeti's études, can be strengthened by many technical practice methods on the keyboard, especially, for example, by practising extremely slowly, feeling the connections between the notes. Playing slowly also strengthens the aural memory, because the ear can better register the sequences. I have noticed that hearing is particularly actively involved when playing with closed eyes, which also makes the muscle reactions more responsive. Tamberg and Kõlar also recommend practising in the dark and with your eyes closed to develop tactile memory (Tamberg, Kõlar 1977: 79). Visual memory becomes secure through mental practice, and studying the sheet music away from the keyboard is also of use to intellectual memory.

Thinking of the practice techniques which have been of use when memorising the études, these are linked to consolidating the points of reference. For example, one could play only these points in order, based on the notation in Example 14: A-B-C-D. While practising from memory I also implemented the combinations A-B-ab-C-bc-D-cd, after playing one reference point I played the next one immediately and only then played the section that connects them. Reaching the end of the section (point B), I "jumped" straight to point C, then played bc, and so on. As I described above in relation to combined practice approaches, it is beneficial to play the sections from memory, alternately in the imagination and on the keyboard – this is a good way to ensure that the mental image and the physical playing are connected with each other. Using a similar principle one can play the points A, B, C and D on the keyboard and the sections ab, bc and cd that connect them in the imagination.

Conclusion

In Ligeti's études the handling of the piano is in itself quite traditional. Most of the pianistic challenges are met in many other piano works, but rarely are these difficulties so many and so densely combined. For this reason, learning the musical material of Ligeti's études requires a great deal of patience and resourcefulness from the pianist.

The work with the études develops both pianistic abilities and practice skills. Pianists are forced to practice especially attentively and to create original techniques. For this reason, discussing the process of practising Ligeti's études is particularly exciting, highlighting as it does the differences and similarities in the thinking of different pianists.

Table. The usefulness of practice techniques to achieve the desired qualities.

Types of practice techniques	Practice techniques	Achievable qualities and skills									
		learning musical text	efficiency	speed	grasp of different voices	grasp of rhythm patterns and polymericity	memorising	muscle memory	hearing memory	visual memory	intellectual memory
On the Keyboard	separate hands	✓			✓	✓	✓				
	by hand positions	✓	✓	✓				✓	✓	✓	✓
	feeling the next key under the finger		✓	✓				✓			
	eyes closed		✓					✓	✓		
	only accentuated notes	✓			✓	✓			✓		
	accentuated notes doubled				✓	✓					
	one part in its entirety, the other only accents	✓			✓	✓					
	accentuated notes with sound, intermediate notes without				✓	✓		✓	✓		
	mentally changing the "leading" rhythmic pattern				✓	✓					
Away from the Keyboard	in the imagination from sheet music	✓				✓	✓			✓	✓
	in the imagination from memory					✓	✓				✓
	articulation					✓	✓				
	drumming	✓				✓		✓			
Combined	one part played, the other articulated				✓	✓					
	one part played, the other drummed	✓			✓	✓					
	sections alternating on the keyboard and in the imagination	✓					✓		✓	✓	✓

The table summarises the most important of the practice techniques described in the article, linking them to the qualities and skills for which they are most useful when working with Ligeti's études.

As can be seen in the table, practising with separate hands and by hand positions are among the most beneficial methods for practising on the keyboard. Many useful practice techniques are related to contrasting the accented and non-accentuated notes. Of the methods that can be practised without using the piano, we may highlight the effectiveness of practising in the imagination both from the music and from memory. The combined practice technique in which sections are played alternately on the piano and in the mind is remarkably beneficial during the memorisation process.

As mentioned above, a creative approach is important to productive practice. This promotes learning the material with versatility and speed. The possibilities for the resourceful handling and learning of the musical material are unlimited. While doing this it is important that the techniques serve a specific objective. Clearly, the whole practice process cannot be carried out with such intense concentration as some of the methods suggested require. A lot of practice takes place instinctively, enjoying the process rather than aiming for a specific purpose at the moment of practice. This is also a very valuable part of the work, as it is often at this time that inspirational

ideas and interesting practice methods emerge. But in this case, too, the practice must be in accordance with the technical and musical aims. Sometimes, if one does not know how to identify or resolve a problem, the practice process might come to a halt. At such times the conscious use of a mental practice or another practice technique learnt from an earlier experience can prove beneficial.

Based on the described practice methods one can conclude that to productively learn Ligeti's études, from the point of view of the pianist's work process it is very important to:

- mark on the sheet music notes to organise and structure the musical material;
- approach practising the musical material resourcefully;
- preserve flexibility when playing the polymetric sections, alternating the leading rhythmic patterns during practice;
- pay attention to efficiency and precision during technical practice;
- apply mental practice techniques such as verbal articulation of the rhythms and playing the piece in the imagination;
- combine mental practice techniques with practising on the keyboard;
- pay special attention to different types of memory during the process of memorising the work.

Translated by Christopher Carr and Richard Carr

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Pianisti lähenemine keerulisele muusikalele materjalile Ligeti etüüdides

Kristi Kapten

Artikkel käsitleb interpreedi kogemusi pianistlike väljakutsetega tegelemisel György Ligeti (1923–2006) äärmiselt nõudlikes klaverietüüdides. Arutletakse võimalike meetrilise tunnetuse viiside leidmise üle põlmeetrilises faktuuris, kirjeldatakse etüüdide tulemuslikku omandamist soodustavaid harjutamisvõtteid ja analüüsitakse etüüdide päheõppimise protsessi.

Autor lähtub peamiselt oma kogemustest Ligeti etüüdide harjutamisel ja esitamisel, analüüsidest ettevalmistusprotsessi käigus tehtud üleskirjutusi. Peamiseks uurimismeetodiks on eneserefleksioon. Lisaks on kogutud teiste pianistide mõtteid vestlustest, meistrklassidest ja ka kirjandusest. Olulisemad teemakohased kirjutised on Jeffrey Burnsi „Neue Klaviermusik auswendig gespielt“ (1997) ning Ian Pace'i „Maintaining Disorder: Some Technical and Aesthetic Issues Involved in the Performance of Ligeti's Études for Piano“ (2012).

Ligeti etüüdid kuuluvad kõige keerulisemate klaveriteoste hulka, nõudes pianistilt erakordset virtuosust ning head keskendumisvõimet. Etüüdide oluliseks struktuuralseks komponendiks on keeruline polürütmika, mis muudab nende õppimise ja esitamise eriti pingeliseks just mentaalselt. Artiklis räägitakse sisemise rütmilise organiseerituse tähtsusest etüüdide mängimisel. Kuna pianist ei saa võrdse tähelepanuga juhtida mitut rütmimustrit korraga, on rütmiliselt mitmetahulises faktuuris pianisti ees pidevalt valikud, millistest rütmimustritest juhinduda ning kuidas tunnetada meetrumit. Tunnetuslikult võib vastavalt materjalile juhinduda ühe liini rütmimustrist, mitme liini koondrütmist või hoopis regulaarsest meetrumist. Valikute tegemisel peaks arvestama, milline toimimine tekitab mängides (tehniliselt) kõige kindlama tunde ja milline soodustab soovitud kõlalise ja sisulise mulje tekkimist. Ühest küljest vajab pianist rütmiliselt ebastabiilsete löikude teostamisel kindlat kontrolli, teisest küljest on ebastabiilsed elemendid etüüdides just sisuliseks väärtuseks. Valikute tegemisel tuleb seega leida tasakaal. Tasakaalu säilitamiseks stabiilsuse ja korrapäratuse vahel on oluline olla harjutamisprotsessis paindlik. Pidevalt tuleb katsetada erinevate rütmiliste tunnetustega ning olla võimeline meetrumite vahel ümber lülituma.

Konkreetsete harjutamisvõtete leidmisel ja tulemusliku harjutamise saavutamisel on oluline loomingu- ja leidlik ümberkäimine noodimaterjaliga hoiab tähelepanu erksa ning soodustab teose igakülgset tundmaõppimist. Eraldi kirjeldatakse harjutamisvõtteid, mida saab teostada nii klaveril mängides kui ka klaverist eemal (mentaalselt), ning tuuakse näiteid võimalustest neid kahte lähenemist kombineerida. Klaveril harjutamise juures on kõige olulisem jälgida liigutuste ökonoomsust ja reaktsioonide täpsust. Mentaalne harjutamine on teose omandamisel eriliselt efektiivne, sest see nõuab väga intensiivset keskendumist ja interpretatsiooniliste eesmärkide selgust. Kombineeritud harjutamisvõtetest üheks tulemuslikumaks on mängida ühe käe partiid klaveril ning samal ajal verbaalselt artikleerida teist – erinevate rütmimustrite samaaegse tunnetamise saavutamiseks on see äärmiselt arendav.

Arutletakse ka pianistide erinevate tõekspidamiste üle etüüdide peast mängimise otstarbekuse suhtes. Päheõppimise protsessi analüüsidest kirjeldatakse erinevaid mäluviise, mis muusikateose peast esitamisel on olulised, ning arutletakse, millistest neist just Ligeti etüüdide puhul rohkem abi on. Kui olla teadlik erinevatest mäluviisidest ning osates neile etüüdi harjutades eraldi tähelepanu osutada, on päheõppimise protsess tulemuslikum.

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¹ https://www.ema.edu.ee/vaitekirjad/doktor/Kristi_Kapten.pdf.