

THE ROLE OF HEARING AND LISTENING IN THE PERFORMER OF CLASSICAL MUSIC

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SUMMARY. The paper aims to highlight the role of hearing and listening in the performance of classical music, an aspect that the interpreter must be aware of. Being busy with the visual aspect (if the piece is played with score) or stressed playing by heart, besides mastering technical difficulties, the interpreter partially neglects hearing, the essence of music. The interpreter has to deal with the listening by an audience. For this, he / she must know some acoustic and cognitive laws, how the hearing generally works, and how to convey a message through the performance. Moreover, he / she has to hear in advance, in his inner hearing the sounds he / she are going to play. During the play, the interpreter has also to listen to what he / she is playing or singing, and rectify or increase the sound quality, if it is not satisfactory.

Keywords: musical hearing, listening, psychoacoustics, inner hearing, music cognition

1. Introduction

The essence of the music is the hearing and the listening. About the ‘inner hearing’ of composers and conductors, as well as listening to music by an audience, has been written. However, the role of the hearing and listening by the interpreter has not been much considered. Performers are too busy with the visual part of the score and the motor one, to face technical challenges, often forgetting that music is a form of communication between people through the sense of hearing.

This paper aims to make performers and pedagogues aware of hearing the music inside, in their brains, and listening to it while playing, both in order to increase the sound quality and expressiveness.

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The performer is a mediator between the composer and the audience: he must imagine the sonority that the composer intended and had projected through the score, to convey it through his / her instrument or voice to the audience.

In order to imagine the sonority, one must train the musical hearing. Musical hearing is "the aptitude of perceiving the sense of sound succession, consciously memorizing and rendering such successions".² As Nedelcuț et Al. wrote, "Developing musical hearing is a goal for professional musicians, as the ability governs the entire pallet of musical theoretical subjects".³ In the music universities, academies and conservatories there are hearing training and other theoretical disciplines, which are studied. Theoretical disciplines as harmony, counterpoint, forms analysis, acoustics contribute to rational hearing, where other centers of the brains are required, besides the hearing one.

In this paper we will consider the classical vocal and instrumental music only, which is notated in the score, covering the baroque until the music of the second half of the 20th century in Western Europe, excluding the musical experiments.

We will speak about the training of musical hearing that includes the technical hearing, i.e. if the pedal is well used at piano, the bow does not make a gash at string instruments etc. To this we recommend to interpreters to pay attention to the acoustic phenomena, as echo, resonance, oscillations of a string or of a low sound at the piano or organ.

We will add the way of music hearing and of processing the music information by the interpreter and by the listener.

Finally, we will stress the inner hearing in the performer, which implies the hearing in advance of what is written in the score and then playing it, fact possible after a lot of experience of guided listening to classical music. Imagining the sound before playing it, will bring much expressiveness and will increase the quality of the sound. Listening to what and how the interpreter has played by him- / herself is important too, to observe if the auditory result corresponds with the image created in the inner hearing. If not, he / she will try again, until becoming content. This is possible in daily practice or in the rehearsals.

² Sava, Iosif; Vartolomei, Luminița, *Dicționar de muzică (Music Dictionary)*, Editura științifică și enciclopedică, București, 1979, p. 17.

³ Nedelcuț, Nelida; Constantin Rîpă; Lucian Ghișă, "Procedee de dezvoltare a auzului muzical prin exerciții mediate de TIC / Methods of Developing Musical Hearing through ICT-mediated Exercises". În *Tehnologii informatice și de comunicație în domeniul muzical*, p. 35.

2. Hearing

2.1 Training of Musical Hearing

The hearing is trained in the universities of music, music academies, conservatories and schools of music. In the most cases singular pitches and lengths are to be recognized. The training is based on the piano, rarely on others instruments and this only in a higher degree at music universities. As Mário Cardoso et al. wrote, dictates, solfeggio, stereotypical melodies that are used as hearing training have a little artistic value.⁴ The authors propose a multidimensional model of auditory education for learning and recognizing musical elements (rhythmic-metrical, melodic-harmonic, expressive, stylistic, instrumental), in order to increase the artistic quality of the performers. For the authors this “contributes to the development of the auditory sensitivity, fundamental in the building of a conscious and comprehensive execution of the musical discourse”.⁵ Thus, the tones are heard in relation to the previous and the next ones, not isolated. Here one speaks about musical structures, as motives or phrases.

Both, hearing of isolated tones as well as of phrases, can be trained, as Altenmüller writes: through auditory training neuronal networks change⁶. In an advanced state, by the professional musicians, besides the auditory sense, other centers of the cortex were activated, leading to associations.⁷

2.2 Training in Technical Hearing

The technical hearing in the performance refers to the capacity to hear those elements, which disturb the musical discourse, as unintentional noises. This kind of hearing is expected from sound engineers. They have to adjust the sound to the hall, to fit the sound dosages, to take the echo and the resonance into account.

About the training in technical-acoustical hearing by the interpreter has not been much written. This can be obviously heard by listeners and by sound engineers, but less by the interpreters. Performers are advised to evaluate their own playing / singing in technical-acoustical terms. They could hear, for example, if the piano pedal is adequately used in correlation with the hall. The string players could pay attention to avoid the scratch on

⁴ Cardoso, Mário; Morgado, Elsa; Silva, Levi, “Os efeitos de uma proposta didática de Educação Auditiva na performance musical / The effects of didactic proposal of Hearing Education in musical performance”. In *Per Musi. Belo Horizont: UFMG*, 2018, p. 2.

⁵ Ibidem, p. 7.

⁶ Altenmüller, Eckart, *Vom Neandertal in die Philharmonie*. Springer-Verlag, Berlin, 2018, p. 167.

⁷ Pitiș, Ana; Ioana Minei, *Tratat de artă pianistică [Treatise of Piano Art]*, 2nd edition (1st edition - Editura Muzicală, București, 1982). Grafoart, București, 2025, p. 85.

the string. For all instruments the loud sounds have to be rounded, not harsh. Dem Urmă wrote that the attack and the release of the sound are perceived by the ear as noises: the sudden is the attack of the performer, the more intense is the noise⁸. By singing, the high tones have to be not constricted. Every instrument / voice has technical means for avoiding unintentional noises. It is essential, firstly, to hear what problem there is, and secondly, to use the special means in order to solve it.

Acoustical elements could be also helpful. Thus, the echo can be heard especially by the organists, who play in churches and can help them to do an appropriate registration, as well as to wait between one section of the piece, which ends, and the new one, which starts. The release of a sound could be heard by all instruments, even if the room or hall has no echo, in order to know when to begin other section or movement.

2.3 Psiho-acoustics and Musical Aspects

Dem. Urmă wrote that the laws of the expressiveness are stronger than the laws of acoustics⁹. The interpreter brings an expressive dimension to the objectivity of the sounds. The impression of the audience is that he / she brings life to the physical sounds. He / she has to communicate with the audience, which has to be emotionally impressed. The interpreter transcends the physical-acoustic side of the instrument: "...what the auditory apparatus «delivers» to the conscience is something more than a simple transformation of what it receives."¹⁰ The performer brings more intensity and color to the intrinsic intensity and timbre of the instrument (parameters which are not exactly notated in the score). This appears as expressiveness, the sound being humanized, having warmth. In this sense, Ana Pitiș and Ioana Minei wrote that the score notation refers only to the objective, acoustic sounds, lifeless. Further the two authors argued that audio and mental operations have to be implicated in the performance act. As a result, the sounds become an own good of the hearing and of the human brain: "In this activity – that apparently the interpreter made only with the hearing – several zones of the cortex participate, which give «something besides» to the sounds, confer them any psychological dimensions."¹¹

⁸ Urmă, Dem., *Acustică și Muzică [Acoustics and Music]*, 2nd edition (1st edition - Editura științifică și enciclopedică, București, 1982). Grafoart, București, 2022, p. 343.

⁹ Ibidem, p. 361.

¹⁰ Ibidem.

¹¹ Pitiș, Ana; Ioana Minei, *Teoria comportamentului pianistic [The Theory of the Pianistic Behavior]*, 2nd edition (1st edition – Editura Sfântul Gheorghe-Vechi, București, 1997). Grafoart, București, 2023, p. 16.

For conveying meaning and coherence to the music the constitutive elements of a piece have to be fragmented or grouped in unities by the interpreter, because “not the sounds, but their organization in significant units (...) impact the listener”.¹²

The notes represent frequencies that have to be different regarding the intensity, according to the content of the natural harmonics of the spectrum, where the frequencies have different intensities. Knowing that a high sound has less harmonics compared with a low one, it is recommended to be played with more intensity, in order to have a balance between the registers.

Like the pitches, the lengths are treated in relation to each other. They depend on the musical context. Thus, they become relatives. One speaks here about their qualitative, not about their quantitative aspect. As Victor Giuleanu wrote: “In music, the *absolute* (objective) *measurement* of the lengths, as in physics – i.e. through unities of solar time (minutes and seconds) – constitutes an exception, because the relative (subjective) *measurement* is characteristic for the works of art, which allows that the act of interpretation is not mechanical, but permanently a creative act – intimately connected with the emotional content of these works, with the sensitivity, taste and personality of the artist.”¹³

Referring to the intensity, the interpreter will make few differences between the sounds, between the previous and the next sound, even if they are notated in the same nuance (for example soft, in *piano*). Pitiș and Minei observed that thus the ear makes more timbre difference than intensity difference between the sounds: the higher a tone is, the more brilliant it appears.¹⁴ In this way timbre is related to frequency and intensity.

Timbre depends on the characteristics of the instrument (number and intensity of harmonics, formants), but in the same time has to be created by the performer through technical means. As the author wrote in an article, “the instrumentalist has not to reduce the play on the physical qualities of the instrument, but to create an expressive and emotional timbre with help of technical means.”¹⁵ Timbre is one of the elements, which varies from interpreter to interpreter through the presence and combinations of the harmonics, even if they play the same piece in the same velocity (tempo) and with the same intensity. It depends on breath pressure, the position of lips in combination with the keys by wind instruments, velocity of bowing, place

¹² Szilágyi, Ana, “La pensée musicale dans l'interprétation et son rôle dans l'exécution expressive”. In *Bulletin of the Transilvania University of Brașov*, Series VIII: Performing Arts, Vol. 16 (65), No. 2, 2023, p. 147.

¹³ Giuleanu, Victor, *Tratat de teoria muzicii*. Editura Muzicală, București, 1986, p. 73.

¹⁴ Pitiș, 2025, p. 92.

¹⁵ Szilágyi, Ana, “Timbre in the Musical Performance as a Result of Audio-Mental Operations”. In *Global Journal of Human Social Science*, Volume XXI, Issue XIII, 2001, p. 15.

and the quantity of the bow as well as vibrato by string instruments (pitch oscillation, which can varies in amplitude and velocity, named vibrato), touché by piano through the velocity and the height one attacks the key from, the position of the tongue by brass instruments.

2.4 Music cognition and musical meaning

Hearing is a complex process that includes audio and mental operations. The acoustic signal will be processed and transformed by the brain into information, which will be added to the other information saved in the memory. This information can be musical or extra-musical, the last one depending on the associations people do. It is important for an interpreter to know how the brain processes the music and strive to create something that goes beyond what has been heard.

Referring strictly to music, the performer has to organize the tones after music rules to bring order and coherence in the musical discourse. Thus, he / she will find a musical meaning reading the musical text: he / she will see the phrases and will delimit them, observing the melodic harmonic or rhythmical climax. The climax could be stressed, for example using a ritardando or a specific articulation, besides the dynamics. Regarding the form, it is important to see the similarities or differences of the phrases, changing the timbre in the different ones.

Comparing music with the language, they are phonetic similarities. Both have the same parameters: pitch, timbre, velocity (tempo), and loudness. The musical meaning is more subjective. It depends on music experience, culture and live experiences of the listeners, but also of the performer. Regarding the music meaning from the view of embodied cognitive sciences, "our brain decodes what we are hearing into processable patterns – and we simultaneously and unconsciously conceptualize it in terms of metaphors drawn from previous bodily experiences with the world"¹⁶.

It is generally accepted that music arouses emotions in the listeners. This is supposed to be because of the association of music with the nonverbal language. Nonverbal language communicates emotions. "Neuropsychological research indicates that certain aspects of music (e.g., timbre) share the same neural resources as speech, whereas others (e.g., tonality) draw on resources that are unique to music. Thus, we argue that musicians communicate to listeners via their performances of music by using emotion-specific patterns of acoustic cues derived from vocal expression of emotion"¹⁷.

¹⁶ Merlino, Julio, "A cognitive concept of musical meaning". In *Percepta*, 7(2), 2020, p.76.

¹⁷ Juslin, Patrik, "Communication of Emotions in Vocal Expression and Music Performance: Different Channels, Same Code?". In *Psychological Bulletin*, Vol. 129, No. 5, 2003, p. 774.

The main emotions are joy, anger, fright etc. These are related in vocal expression and music performance to certain parameters or combination of parameters. "For example, speech rate/ tempo and voice intensity / sound level were typically increased in anger and happiness, whereas they were decreased in sadness and tenderness".¹⁸

2.5 Inner Hearing of the notated music

The inner hearing implies the ability of the performer to first hear what he sees in the score and then to play it. Before concretizing the viewed sign in sound, the performer ideally hears the sound. This gives to his / her play expression, that 'plus' which transcends the physical, mechanic instrument, even the piano. It is known that piano cannot make different intensities, to hold a tone for a long time or to influence the intensity and the pitch of a sound in its lengths. Using the inner hearing and hearing in advance the sounds enriched (with intensity and timbre that are not fully notated in the score), instruments would sound animated and even the piano would sound less mechanically. This presupposes more than simple hearing. It is mental work, based on musical knowledge and experience of the performer of classical music. Ana Pitiş and Ioana Minei, piano teachers, put in center of their interpretation theory the 'audio-mental operations'. These operations take place in the brain of the performer during the performance. They are based on pitch and length ratios, which, in their understanding, evolved by the human being, because "of the existence of certain constant number ratios between the acoustic phenomena of the environment".¹⁹ Therefore, the interpreter should consider the relation between musical elements (pitches or durations) and be aware that only the relations between the sounds make sense. For this, the interpreter has to know the mechanisms of classical music, being familiar with music theory, harmony, counterpoint, musical forms, in order, for example, to phrase or to stress the most important note in a phrase through intensity or little tempo oscillations. Doing always few differences in intensity and timing, the interpreted music could tell something or impress the audience, avoiding the mechanicity. In the same time, the sound quality and the expressiveness increase.

Similarly, Outi Immonen et al. wrote about 'inner hearing', which is "the capacity to imagine in one's mind how the piece of music sounds, how you can hear it".²⁰ The difference between these authors and Pitiş and Minei is

¹⁸ Ibidem, p. 789.

¹⁹ Pitiş 2025, p. 64.

²⁰ Immonen, Outi; Ruokonen, Inkeri; Ruismäki, Heikki, "Elements of Mental Training in Music". In *Procedia. Social and Behavioral Sciences*, 45, 2012, p. 591.

that these authors promote the mental training without instrument, a non-physical training, while the two authors promotes the use of the inner hearing during the concrete playing.

In the last decades many authors have spoken about creating a sound image through sound imagination. This means a mental work, similar to “audio-mental operations” of Pitiş and Minei²¹. Other authors named this “auditory imagery”, which is “the use of mentally creating a vivid aural image of the music in question, the ability to clearly imagine the sound of the music being rehearsed. This pertains not only to pitch and rhythm, but infinite details of dynamics and timbre, articulation, vibrato, expression and style etc.”²²

3. Listening

The organization of the musical discourse is common for the performer and for the listener. Both are accustomed to classical music, with certain melodic, harmonic, rhythmic, formal patterns. This can be achieved through listening to a lot of music (chamber, symphonic, vocal). Listening to classical music from childhood means to be familiar with this kind of music.

Krasimira Georgeva Fileva-Ruseva wrote about the development of “musical auditory notions”, pointing out the role of memory. Musical auditory notions are “a musical ability, which allows storing sound impressions from varied musical (melodic and metro-rhythmic) sequences in the memory pool”.²³ During the piano lessons, the author recommends the pedagogues to train the memory of the students. Thus, listening to a new music work has to be added to the information that has been stored in memory of the student. Based on listening or playing a piece, the student would be able to “recreate mentally the textural elements, within the work, with the articulation characteristics (marks, timbre nuances), with which we have perceived them”.²⁴

The interpreter must listen to much music paying attention to musical aspects, more rationally than emotionally. Thus, the interpreter can listen to what he has played and adjust the intensity, the color of the sound, as well as to relate the sounds to each other, considering their frequency, intensity, length, tempo. Pitiş and Minei named this activity of listening during the playing

²¹ The *Treatise of piano art* was first published in 1982 by Editura Muzicală in Bucharest.

²² Steenstrup, Kristian, Haumann, Niels Trusbak; Kleber, Boris; Camarasa, Carles; Vuust Peter; Petersen, Bjørn, “Imagine, Sing, Play-Combined Mental, Vocal and Physical Practice Improves Musical Performance”. In *frontiers in Psychology*, Vol. 12, 2021, p. 2.

²³ Georgieva Fileva-Ruseva, Krasimira, “Increasing the quality and enhancing musical auditory notions through professional training in piano”. In *International Journal of Literature and Arts*, Special Issue: Musical Theory, Psychology and Pedagogy, Vol. 2, No.(5-1), 2014, p. 26.

²⁴ Ibidem.

“control hearing”, “which – related with other centers on the cerebral cortex –, appreciates the level of the performance, the degree of the result corresponding to the sound ideal created by the interpreter; thus, he contributes to an eventual correction on the occasion of a new execution”.²⁵ We should mention that the ‘control hearing’ refers to the external sound result, while the ‘inner hearing’ refers to the created sound image, before playing it.

Ivan Bacchi also proposes an active listening and an autoanalysis of the actions proper to the trumpet, as breath, the control of the emission, of the general tension, compressing of the air, attack etc.²⁶ The author points out the importance of a good listening capacity, analyzing a previous event and programming the next one.²⁷

4. Conclusions

This paper has tried to make performers aware of the role of hearing and listening in the performance of classical music. More ways of hearing were discussed (musical hearing, technical hearing), which has to be trained, in order to achieve the ‘inner hearing’, namely the capacity of hearing in advance what is written in the score and then playing it. This will bring expressivity to the play and will improve the sound quality.

The interpreter has not to limit the standard auditory lessons during his / her study of music, but continues to develop the technical hearing, being sensitive to hearing the unintentional sounds, as noises that disturb the musical discourse. Moreover, the tones must be heard in relation to each other, delimited or grouped (it depends on the texture) to make sense for the interpreter. If this occurs, it will also make sense for the audience.

Besides training, knowledge is required. The performer applies the disciplines he / she has learned during the study, such as music theory (harmony, counterpoint, history of music, forms, acoustics) and music cognition, to understand how the brain processes the musical sound. Thus, the relation between psychoacoustics and music was here discussed, as well as the musical meaning.

Music listening goes hand-to-hand with auditory training and knowledge described above. A conscious listening (recommended with the score) of more musical genres stores musical cues in the memory of the performer and makes him / her able to listen to oneself playing, evaluating its quality.

²⁵ Pitiş, Minei, 2023, p. 22.

²⁶ Bacchi, Ivan, “Workshop OPEN LAB. Percezione, problem solving e musica: per una metodologia della consapevolezza”. In *Atti del I Convegno Nazionale ANDA 2024*, pp. 246, 247.

²⁷ Ibidem, p. 252.

As a result, understanding the musical text would simplify the learning of the piece, including the learning by heart, and would direct the attention to the musical aspect and not to fight with the technical difficulties.

Finally, the conscious hearing and listening in the performer have the role to improve the sonority, to bring expressivity, to define the style of the piece, to give life and color, and to convey a message to the audience.

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