

Audiation: What to Listen for?

Abstract. If audiation is the skill to write down what the inner ear imagines, then audiation implies notation. Therefore audiation is the result of a process of learning. This can be problematic if audiation is applied to the process of composition. To compose implies finding new ways of creating music, while audiation on the other hand relies on the learned ways of creating meaning in music. This tension between audiation and composition will be discussed in this paper.

To understand better the interaction between these related fields we will turn to the music of Steve Reich and Gérard Grisey. Both composers are interested in the concept of gradual change, and are invested in the perception of change in reaction to the abstract music of their predecessors. In spite of the obvious similarities, their music is very different. In addition a very specific idea, the distortion of re-recording by a tape recorder is discussed in *Mémoire/Érosion* by Murail and Alvin Lucier's composition *I am sitting in a room*. The similar ideas about sound result in quite different musical applications. These similarities and differences of the comparisons will be placed in the perspective of the philosophy of Michael Polanyi, and in particular his concept of focus in creating meaning.

With this theoretical framework from Polanyi's philosophy, different attitudes of listening are clarified: is music using sound to create a discourse; or is music the unfolding of sound without a discourse. Bringing this back into the context of audiation, and specifically to the tension between audiation and composition a broader picture arises. How does the composer create meaning through sound, and how is this particular way of audiation communicated in the score? This may clarify the framework a composer is working with, and perhaps the compositional process itself.

Keywords: audiation, notation, meaning, Polanyi, perception, process, experimental music, spectral music.

Prologue

The ability to hear music by imagining the sounds is crucial for any composer. Yet, the role of audiation in the compositional process is not often discussed. When studying with Luc Brewaeys (1959–2015) – he was well known for his jokes – he once asked me “*what is a good composer?*” and answered by saying “*a good composer hears what he writes*”. And he continued “*but do you know what makes an excellent composer?*” and the answer following was: “*an excellent composer writes what he hears*”. While this seems a silly play with words, I believe Luc Brewaeys meant that this little pun pointed at something more. Something that is difficult to put into words. Let us attempt to clarify this relation between audiation and composition. Perhaps this can help to understand better the compositional process itself.

1. What is audiation?

First, let us consider what audiation is. Most commonly one would say that it is the ability to notate what is heard. Audiation is an important skill that is part of musical training. In dictation: (1) the students notate what they (think they) hear; (2) they correct mistakes; (3) reflect on why they made a mistake; and this process is repeated until the students have reached the level of audiation that is required. None of this is new, however, when audiation is considered the concept of notation is assumed. Audiation is therefore not only the training of the ear, but also teaching the concepts of notation. To make this connection with notation explicit is important if we are interested in exploring the connection between composition and audiation. Indeed a score as *Pression* by Helmut Lachenmann, or *Anticredos* by Trevor Wishart (Example 1) seem not typical when we think of dictation in the context of musical training. So what has prompted composers such as Lachenmann, Wishart, and many others to reinvent the notation?

2. Audiation in Relation to Musical Notation

Understanding the connection between audiation and notation brings out the complexity of audiation in composition. Composers have developed many different kinds of notation, which might imply changes in the way they audiate. To get a more concrete idea of these changes, some examples will be discussed below with the purpose of showing the variety in notation. The question will be how notation affects the performance and what the reasons for doing so are.

Example 2 shows the beginning of *Last Pieces* for piano solo by Morton Feldman. No meter is indicated; no rhythm; and the pitches have no stems. Besides the pitches, the only indication is “Slow. Soft. Durations are free.” Despite the apparent freedom to the performer, the intention is unambiguously clear. The improvisational character of this piece would be difficult to notate in traditional rhythmic notation, and – most likely – the free floating character of the sounds would not be the same. Therefore, Feldman has chosen the best notation possible for his music: the apparent lack of rhythm is not a weakness but instead forces the performer to focus on the sound precisely in the way Feldman wanted.

The image shows a page of a musical score for percussion instruments. At the top, it is labeled 'Page 5' and '2/4 4/4'. The score is divided into several staves, each labeled with a number (1, 2, 3, 4, 5, 6) and 'SD'. The instruments are identified as 'Cymbal' and 'Drum'. The score includes various musical notations such as notes, rests, and dynamic markings like 'mf' and 'f'. There are also annotations like 'ordered TEXTURE' and 'TEXTURE'. The score is highly detailed with many small markings and arrows indicating specific performance instructions.

Example 1. Page 5 from *Anticredos* by Wishart

Slow. Soft. Durations are free.

The image shows a musical score fragment for piano. It consists of two systems of staves. The first system has a treble clef staff and a bass clef staff. The second system also has a treble clef staff and a bass clef staff. The music is written in a slow, soft style with free durations. The notes are mostly quarter and half notes, with some rests. The key signature has one flat (B-flat).

Example 2. Beginning of *Last pieces* by Feldman

The opening of *Atmosphères* by Gyorgy Ligeti is the next example (a score fragment is not provided as the score is well known and because it would be too small to be legible). In this composition Ligeti creates textures of different densities, dynamics, and ranges. This is a play with abstract properties of sound in the sense that there is no melody or harmony to guide the listener, and at the same time it exposes sound in its raw unpolished form allowing a direct expression without any attempt to temper this unmitigated experience. To achieve this Ligeti seems to use traditional notation. Without any question, the practical reasons when working with a large orchestra are important. However, Ligeti redefined notation: bar lines are no longer an indication of meter. The score is more akin to the final edit of a sound editor where you can see the sounds in time. We can conclude that Ligeti has manipulated the notation to his compositional needs, facilitating to transmit his own compositional ideas by eliminating the aspect of notation (meter in particular) that would distract from his intentions.

(1) the dynamic level of the second violin should match the other instruments

sostenuto, poco rubato $\frac{3}{4}$ $\text{♩} = 40$ $\frac{5}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ $\frac{5}{4}$ subito $\text{♩} = 60$

Violin 1
Violin 2
Alto
Cello
Elect./DMP 7

Example 3. First page of *Nymphéa* by Saariaho

The third example shows the beginning of *Nymphéa* by Kaja Saariaho. Using sounds on an axis from noise to pure sound is one of Saariaho's main preoccupations. To communicate this, she developed an additional sign in her scores: a black line the thickness of which indicates the amount of noisiness. While the score looks conventional besides the black lines, the sound of Saariaho's music is marked by the transitions to and from distortion. Often the pitches are not recognizable any more, leaving the black lines as the most prominent factor in the score.

The fourth and last example is a series of three short excerpts from the first movement of the second symphony by Witold Lutosławski. The first excerpt shows the brass with limited pitches and repeated staccato notes in a prominent role. The simultaneous playing of the ten brass instruments results in a controlled rhythmic chaos. Even though the character is very different, the technique is similar to the example by Feldman. Again, the result could not have been written out in rhythmic detail without changing the character. The second excerpt shows the same technique, but it is worth noticing that here Lutosławski has included a few noticeable legato markings. They are indeed remarkable because these are the first legato signs in this composition. Excerpt 3 then, following shortly after, completes the journey by emphasizing legato. Until here (number 8 in the score), Lutosławski has realized a gradual discovery of legato starting from staccato. It needs to be added that this is not the end of the first movement, and from here on Lutosławski plays with all the materials at hand. Also to be noted is that the emphasis on articulation may stick out in the beginning, but the use of harmony, pitch, and timbre becomes very important for the development of the form of this movement, in particular the legato material in the double reeds.

It is clear that the previous examples are not an analysis of the pieces. However, they do show a variety of ways to notate, mostly as a deviation from traditional notation. This variety points to a particular focus on sound that the composer wants to communicate with – or even to impose on – the performers and the listeners.

The phenomenon of sound cannot be represented completely in one single notation. Therefore to notate means to choose, more precisely: to choose which aspect of sound to focus on. So in the four examples discussed above, each of these composers had a different sound in mind to shape their compositions. Through their notation they did convey this new way of listening, resulting in the scores as we know them. New or adjusted notation systems are therefore the result of a different kind of audiation. It reveals how a composer listens and how we are invited to listen.

The image displays three musical excerpts from Lutosławski's Symphony No. 2, first movement. The first excerpt shows woodwinds (trbe, cor.) and strings (tbn) with a 'cresc.' marking. The second excerpt features flute (fl.), 5 tom-toms (5 tomt.), and cello (cel.) with a 'P.G.2'' marking. The third excerpt shows oboe (ob.) and c.ing. with a 'P.G.' marking and a '2/4' time signature.

Example 4. Three excerpts from Lutosławski – Symphony No. 2, first movement

3. Audiation: An Attitude Towards Sound

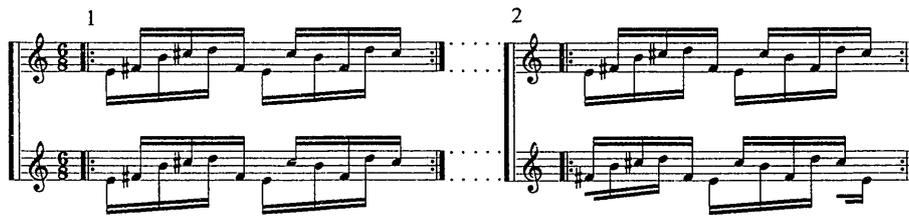
The connection between audiation and notation being clarified, it also has become clear that this poses challenges for the connection between composition and audiation. These challenges are the result of different attitudes towards sound, and how the composer wants the listener to experience the sound. Therefore, it might be useful to consider how composers use sound, leaving the aspect of notation aside.

The topic of how composers use sound is too large. Sound can be used in many ways: think for example of the heated debate in the 19th century between absolute music and programmatic music. The question at the time was whether or not musical sound could refer to external elements. In the 20th century composers found a multitude of different applications: *musique d'ameublement* by Satie; *Gebrauchsmusik* by Paul Hindemith; musical references by Alfred Schnittke; raw primitivism in *Le Sacre du Printemps* by Stravinsky; folk music by Kodály and Bartók; a structuralist approach by serial composers; the appropriation of exotic elements to build a new language by Messiaen etc. No need to continue the list! One cannot compare these composers and their approach to sound as they have very different intentions. What is needed is a very clear delineated comparison, with scientific clarity.

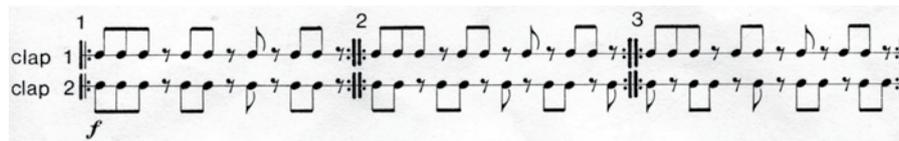
For such a comparison the similarities between Gérard Grisey – or the spectralists on the one hand – and Steve Reich – or American experimentalists on the other hand – are too striking to ignore. Reich (1968) remarks: “I am interested in perceptible processes. I want to be able to hear the process happening throughout the sounding music.” And also: “What I’m interested in is a compositional process and a sounding music that are one and the same thing.” And Grisey (Grisey & Fineberg 2000) writes the following about spectral music: “Coming into being in the mid-seventies, ... spectral music offered a formal organization and sonic material

that came directly from the physics of sound, as discovered through science and microphonic access.” And more specifically on musical form: “From its beginnings, this music has been characterized by the hypnotic power of slowness and by a virtual obsession with continuity, thresholds, transience, and dynamic forms.” As Jérôme Baillet (2000: 65–74) explained, Grisey often took breathing as a model for form. Breathing-in represents the transition from relaxation to tension; and breathing-out represents the transition from tension to relaxation. It is interesting to see how both Grisey and Reich are interested in sound, and in the perception of sound. They are not interested in abstract constructions as a compositional method; this is to be understood as a reaction against serialism for Grisey, and against Cage in the case of Reich. From their interest in perception and making the audibility of a process a priority, they developed musical forms based on gradual processes. Next we will investigate how they applied these concepts in their music.

1/67 Version

Example 5. Rhythmic motive of *Piano Phase* by Reich with the first rhythmic change

To realize his musical processes Steve Reich focuses on the rhythm. In *Piano Phase* (1967) the motive played by two pianos, gradually moves against itself (one stays steady, the other one speeds up gradually). The result is that the two pianos get out of sync until they are synchronized again, when the motive shifted one note. After completing this process 12 times (the number of notes of the motive) the two pianos are again playing the motive together (Example 5). The form of the music is indeed determined by the process, in a clear transparent way as Reich set out for himself. Reich realizes the same idea with a slightly different technique in *Clapping Music* (1972). In this composition the two performers shift through the rhythmic motif as in *Piano Phase*, except that the shift is by increment, not gradual. Notice that the rhythmic motive in *Clapping Music* includes rests (contrary to *Piano Phase*) so that each shift results in different interlocking rhythms between the two performers (Example 6).

Example 6. Rhythmic motive of *Clapping Music* by Reich with the first two rhythmic changes

Vortex Temporum by Gérard Grisey is inspired by American repetitive music, and especially the rhythmic vitality was a source of admiration. At the same time it is also a critique: where Reich limits the processes mostly to the aspect of rhythm, Grisey wants to integrate all aspects of sound in the process. In *Vortex temporum* the initial source for the material is an arpeggio figure. “The first part of *Vortex Temporum I* ... starts with a melodic undulating cell, and is projected by augmentation on the entire range of frequencies, so that the four pitches that form the initial cell become four separate bands of frequencies”¹ (Baillet 2000: 53) as shown in Example 7. But before Grisey knew the music by Steve Reich, Grisey developed his compositions according to similar principles. As mentioned above, Grisey compared musical form to breathing: from relaxation to tension and back. These transitions between relaxation and tension are made very gradual. As an example the beginning of *Partiels* can be used. The consonant chord of the beginning is gradually transformed through repetitions to the low, noisy cluster at the end of the first section. “During the course of eleven

¹ The translation is mine, the original reads as follows: “La première partie de *Vortex Temporum I* ... débute par une cellule mélodique ondulatoire et s’achève par sa projection ralentie dans toute l’étendue des fréquences, les quatre hauteurs constitutives de la cellule initiale devenant quatre bandes de fréquence séparées.”

repetitions of this sonority, some inharmonic components are gradually introduced to unsettle the initial timbre. ... Inharmonicity is achieved in stages through a downward octave shifting” (Rose 1996). The first chord is based on the overtone spectrum of a trombone and is quite consonant, representing relaxation. At the end of the process the low cluster represents tension. This transition from relaxation to tension is at the same time realized in the rhythm of the double bass leading up to the chord: at the beginning that is regular, at the end of the process it is highly irregular. This is just one example of how Grisey integrates different parameters of sound in his processes.



Example 7. The initial cell of *Vortex Temporum* transforming in blocks of frequencies (or chords)

Both composers use a process to build the musical form. Steve Reich has a very clear principle that is carried out. To achieve this perceptual clarity of the process, Reich reduces all other parameters to extreme simplicity so that our attention is going completely to the process. Therefore the process in the case of Reich coincides with the form. The music of Grisey is different: Grisey works with processes, and they are indeed very audible as well. However a single process does not coincide with the whole composition – with perhaps *Jour, Contre-jour* as an exception. A process for Grisey is part of a larger form, and Grisey keeps control over the process in creating the overall musical form.

A second example for the comparison of how composers use sound is a very specific case: the tape recorder as a model. In case a tape recorder is recording and re-recording there appears the process of distortion. This fact has inspired both Tristan Murail and Alvin Lucier in respectively *Mémoire/Érosion* and *I am sitting in a room*. Notwithstanding the shared starting point, there are obvious differences. *I am sitting in a room* is a composition for tape alone, while Murail wrote a work for instrumental ensemble with horn solo. But also the concept itself is slightly different: Murail takes the tape recorder in a loop as the model, in the way it was used to create delay in performances: “I used the principle of the re-injection loop in a purely instrumental piece, *Mémoire/Érosion*, written for horn and nine instruments ... The horn produces sounds that will be recorded by an entirely imaginary set-up. As in a reinjection loop, the listener will hear each phrase played by the horn repeated after a certain interval of time; it is, of course, the other instruments that produce the re-emission. But the initial phrase (or sound) will never be exactly repeated. With each repetition, the process of erosion will be played out” (Murail 2005). This process of erosion is obviously the compositional process that will develop the piece.

Lucier on the other hand makes a recording of himself speaking in *I am sitting in a room*. Then he records the playback of this recording in the same room: “I repeated the process until I had sixteen versions, one original and fifteen copies ... I chose speech to test the space because it is rich in sounds ... It was crucial to avoid poetic references ... I felt that would only get in the way. I wanted the acoustic exploration to be paramount, the room acoustics and its gradual transformation to be the point of the piece” (Lucier 2012).

It is a remarkable coincidence that these two compositions both take the distortion of the tape recorder as initial inspiration. Yet, the similarity of the starting point results in significant differences. Murail uses the tape recorder as a model for his instrumental composition. The relation is clear and audible, however, he keeps the freedom to manipulate the model according to his compositional needs: “The length of the fictional re-injection loop varies between one and three seconds. The changes in duration are sometimes sudden, at other times gradual (which necessitate more complex calculations). One can imagine many other manipulations through composition, for example, to suddenly stop the re-injection process for some of the instruments and throw them in another loop that feeds upon itself (producing a rapid degradation), etc.” (Murail 2005). Murail is using the model of the tape recorder as an inspiration, and uses his imagination to build a composition with this sound based principle. The contrast with Lucier is quite clear: Lucier executes a process, clean and clear. As a result the room frequencies become gradually present while erasing the other frequencies. Lucier (2012) is fascinated by this process: “As the process continued more and more of the resonances of the room came forth; the intelligibility of the speech disappeared. Speech became music. It was magical.”

4. Audiation and Perception

How to understand these differences? The spectral composers take sound as their primary material, and so do the American experimental composers. They are all interested in perception, and integrate this knowledge in their compositions. Yet their compositions are very different. Audiation is not simply a matter of what aspect of sound the composer is focusing on – there is more. The philosophy of Michael Polanyi may offer some insight in what the differences are.

In *Knowing and Being* (1961/69) Polanyi writes: “But the impacts of a tool on our hands are integrated in a way similar to that by which internal stimuli are integrated to form our perceptions: the integrated stimuli are noticed at a distance removed outward from the point where they impinge on us. In this sense impacts of a tool on our hands function as internal stimuli, and a tool functions accordingly as an extension of our hands.” The clarifying example that Polanyi uses is that of a blind man using a stick. A blind man does not focus on how the stick feels but he has integrated the stimuli of the stick and ‘feels’ the surface of what the stick is touching. We – reading this – would not be able to do so, because the focus would be on the stick and how the stick feels in our hand.

Transferring this to music would be asking if we listen to the sound in itself (if the sound stimuli are not integrated), or do we hear the sound as a vehicle for something beyond the sound (if the sound stimuli are integrated). Murail (2005) is clear: “Composition starting from sound is not as one sometimes seems to think, to seek a beautiful sound, but it is an investigation of ways to communicate clearly through sound.” Regardless of what Murail wishes to communicate, his intention to go beyond the sound is obvious. Lucier (2012) on the other hand writes (on the making of *I am sitting in a room*): “While the procedure of the work was repetitive, the rate of change of the resonance went at its own speed. I was careful not to influence the results in any way. ... I wanted the room to do the work.” Lucier has the opposite position: he has no intention with the sound. Once the process has been determined, the only intention is to let the process unfold itself without any influences. Reich (1968) formulates it in this way: “Though I may have the pleasure of discovering musical processes and composing the musical material to run through them, once the process is set up and loaded it runs by itself.” And even clearer: “That area of every a gradual (completely controlled) musical process, where one hears the details of the sound moving out away from intentions, occurring for their own acoustic reasons, is it.” The opposition between the two attitudes is clear: Reich and Lucier want to eliminate intentions as much as possible, while Murail and Grisey intend through their focus on sound to establish communication.

Polanyi (1961/1969) elaborates on this difference and describes the perception for each case as follows: “The essential feature throughout is the fact that particulars can be noticed in two different ways. We can be aware of them uncomprehendingly, i.e. in themselves, or understandingly in their participation in a comprehensive entity. In the first case we focus our attention on the isolated particulars; in the second, our attention is directed beyond them to the entity to which they contribute. In the first case therefore we may say that we are aware of the particulars focally; in the second, that we notice them subsidiarily in terms of their participation in a whole.” Polanyi points out that we can focus on our perception – called uncomprehendingly; or we can focus on the meaning that is conveyed through the perception – called comprehendingly. Before continuing the comparison with music, it is good to be reminded that Polanyi was a scientist and philosopher, often writing with medicine in mind. It is beyond question that a medical doctor perceives symptoms of a patient comprehendingly or uncomprehendingly, and that this indeed includes a judgment on the doctor. While the idea of comprehendingly versus uncomprehendingly can be transferred to music, the aspect of judgment is not appropriate. Therefore, it seems more adequate to use the term focal attention. Focal attention seems correct for the American experimentalists such as Reich and Lucier. They are focused on the sound and how it is perceived; listening to the process unfolding itself is all they intend. For the spectralists, their focus on sound is not less, but points to something beyond the sound itself. This communication can be understood (or not), and in that sense it is appropriate to think of the perception as comprehendingly.

Continuing with the differences in perception, Polanyi (1961) remarks with great clarity: “We can formulate this difference in terms of meaning. When we focus on a set of particulars uncomprehendingly, they are relatively meaningless, compared with their significance when noticed subsidiarily within the comprehensive entity to which they contribute. ... In the first case, unспецифичность impedes the analysis of a given meaning; in the second case, it restricts the discovery of an unknown meaning.” It points to a valuable insight – especially in comparison with music: the meaning (the communication) that the spectralists want to establish builds on the expectations from traditional concert music. Spectral music creates a musical discourse: a discourse that is based on the accomplishments of previous generations, with new sounds, but a discourse nonetheless.

While we may be surprised **how** they realize their discourse, we know **what** to expect. The American experimentalists on the other hand have no intentional purpose beyond letting the process unfold. They do not create a discourse; they only focus on the sound and the perception of the sound. They are therefore open to discover anything that might happen.

The difference is therefore a difference of meaning: for the American experimentalists the meaning of sound is in the perception itself – whatever that brings, while for the spectralists the meaning of sound is in the communication – carefully crafted. Obviously the concept of meaning in music is a slippery slope. It is not the intention to clarify meaning or what the meaning is. What is meant by meaning is the fact that music is perceived as meaningful, and how we make sense out of the sounds we hear. How to make sense is to understand: which parameters clarify the stream of sounds, and where the meaning of these sounds lies: is it in the perception itself, or do we become aware of something beyond these sounds through the perception of them? To understand the connection between audiation and composition we need to understand how a composer builds his sound world and how we can make sense of it. The meaning of music – for our purposes – is to understand the intention of the composer.

5. Audiation, Meaning, and Notation

After having spent some thoughts on how sound can be used, it is time to bring notation back in the discussion. Earlier in this article, it was mentioned that: “The phenomenon of sound cannot be represented completely in one single notation.” However, there is a possibility: the waveform. While this is true, it also is useless for the simple reason that the waveform does not convey any meaning. We can see the waveform, but we cannot understand the waveform by looking at it. For notation to be useful, it has to convey meaning.

As a result, the meaning that the composer seeks in the sounds of his music is what he/she will try to convey through the notation. Because if he/she succeeds, the performer will know what to pay attention to in the performance, and as a result, will bring the musical message convincingly to the audience. Therefore the score is not a neutral document; it is loaded with intentions from the composer who will give hints small and large of how to listen to his/her music. This is why in the examples of the second part, the respective composers had to adjust the notation: their focus on new or different aspects of sound is important not only because it points to a new ways of listening as has been demonstrated, but it goes further because it points to how the composer creates meaning through sound. In order to make sense of this music, we have to focus on the aspects of sound the composer has chosen.

Even if the composer claims that there is no meaning in his/her music, the score will give an indication of the musical intention. To refer once again to Steve Reich – who does not intend anything subjective in his music – in his scores there are very few indications except the bare minimum, and the indications that remain are very clearly pointing to the process that Reich wants to unfold. His scores are exactly what they should be: a focus on the process without any distraction.

To conclude this exploration about audiation in relation to composition, it is important to understand how composers audiate, what they hear when they listen. This is inseparably connected to how a composer gives meaning to sound. This meaning can vary as we have seen: it can be a focus on a certain parameter of the sound; it also can be in the perception itself; or it can be pointing beyond the sound; and there are undoubtedly many more possibilities of how a composer can use his creativity. However each composer has an intention in creating sound, and how that is happening is precisely what is clarified in the score through notation. Therefore notation, meaning, and audiation are inextricably linked together; one cannot discuss one without touching the others. While this is true for any music, for new music it can be quite problematic as composers continue to reinvent new approaches to sound.

6. Audiation and Performance

With notation so prominently present in the discussion, the interpretation of music should be addressed as well, even if briefly. More specifically the question of what a good performance is, should be addressed. If the notation reflects the way how the composer creates meaning through sound, the performer should create such music that the particular way the composer listens to sound is respected. Is there an ideal performance that the composer has in mind? And is an actual performance an attempt to approach that ideal performance? It rather seems that a score gives guidelines that delineate a ‘playing field’ within which a performance can be realized. Assuming the performer understands the intentions of the composer, he/she can realize the composition in multiple ways that are all correct. Some might be unexpected to the composer, but nonetheless

valid interpretations. This happens every single day to the music of the composers of the standard repertoire, and it is widely accepted. Would it not be healthy if new music had enough performances so that we could experience this practice also for new music?

Naturally, it is possible for mistakes to happen. And if a performer is unfamiliar with the intentions of a composer, the music does not come through as intended. This is obvious and does not need clarification. What might need clarification is that some composers are extremely sensitive to how exactly their music is performed, or the instructions are so novel that it is necessary for the composer to be present during the rehearsals. This is not an indication of a poorly notated score (of course it could be, but let's assume it is not), it probably means the performers and listeners need time to become accustomed to the novelty of that music. At the other extreme, some composers create scores that give a lot of freedom to the performer, such as improvisation or graphic scores. These practices are far from random music that allows anything. As a matter of fact improvisation and performing graphic scores are practices that require a developed skill set and experience. This approach often encourages collaboration where the input of the performers can be valued highly in addition to the score from the composer². Between these extremes there exist a wide variety of ways how music is notated and how sound is approached. This variety is a testimony to the creativity of how composers audiate and communicate their ideas. And while recordings are useful, the aspect of a live performance is invaluable in establishing the repertoire of new music. This is not a quick addition to promote new music: audiation is an activity, and with every performance there is another audiation of the composition performed.

Epilogue

Finally, to conclude this article, let me go back to the beginning, to Luc Brewaeys' witty statement: A good composer hears what he writes, and an excellent composer writes what he hears. As silly as it sounds, it seems to reveal some truth. A composer who hears what he/she writes has good skills, but follows the paths of those who have gone before. A composer who writes what he/she hears has the ability to create meaning with sound, and the different notational approaches are the result of the need to clarify this specific way of audiation.

Therefore, it seems that the concept of what audiation is in an educational situation has been transformed. The goal is not to train aspiring musicians in an established style, but to use audiation in creating something new. From discussing score excerpts, and *Knowing and Being* by Polanyi, the concept of meaning has been crucial: how a composer creates meaning through sound determines how he/she listens and how he/she will use sound in his/her compositions. In this way audiation can be considered to be part of the creative process.

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² The practice of improvisation and graphic scores deserves more attention than this brief mentioning. Fortunately, Roger Redgate elaborates elsewhere in this volume on this tradition.

Audiacija: ką siekiame išgirsti?

Santrauka

Jeigu audiacija yra įgūdis fiksuoti vidinės klausos garsinius vaizdinius, tuomet ji apima ir muzikos notaciją. Vadinasi, audiacija yra mokymosi proceso rezultatas. Šis pirmas pastebėjimas turi reikšmingų pasekmių, nes joks mokymas nėra neutralus. Jei kažkas lavina savo vidinę klausą, tai reiškia, kad edukacinė sistema (mokytojai ir kultūra apskritai) moko, kaip ir ką girdėti ir kaip analizuoti tai, ką girdime. Dar daugiau – nuo to priklauso, kokia prasmė bus priskirta skambesiu. Situacija gali būti probleminė, jei audiacija yra komponavimo proceso dalis. Komponuoti reiškia rasti naują priėjimą prie muzikos kūrimo, o audiacija remiasi jau žinomais muzikinių prasmų kūrimo būdais, ir tai prieštarauja naujų būdų išradinėjimui. Ši įtampa tarp audiacijos ir kompozicijos ir nagrinėjama straipsnyje.

Siekiant geriau atskleisti sąveiką tarp šių susijusių sričių, pasitelkti Steve'o Reicho ir Gérard'o Grisey muzikos pavyzdžiai. Abu kompozitoriai domisi nuoseklaus kismo koncepcija ir daug dėmesio skiria kaitos suvokimo specifikai, oponuodami iki tol dominavusios abstrakčios muzikos atstovams. Nepaisant akivaizdaus idėjinio giminingumo, jų muzika visgi labai skirtinga. Specifinė idėja – perrašytos magnetinės juostos iškraipymas – aptariama Tristano Murailio *Mémoire/Érosion* ir Alvino Lucier *I am sitting in a room* kompozicijų atvejais. Šios idėjos dėl garsinio rezultato yra panašios, tačiau jų įgyvendinimo būdai gana skirtingi.

Lyginamieji panašumai ir skirtumai nagrinėjami iš Michaelio Polanyi filosofijos perspektyvos, ypač pasitelkiant jo kuriamos prasmės suvokimo konceptą. Remiantis šia Polanyi teorine koncepcija, išryškinamos skirtingos klausymo nuostatos: ar muzika yra pasitelkiama kuriant tam tikrą diskursą, ar ji yra paties garso išskleidimas – be diskurso kūrimo.

Grįžtant prie audiacijos konteksto, būtent prie audiacijos ir kompozicijos įtampos, atsiveria platesnis vaizdas. Koks yra garso / skambesio kontekstas? Kokiam konceptiniame kontekste operuoja kompozitorius? Kaip kompozitorius kuria prasmę? Visi šie klausimai rodo daugybę audiacijos ir komponavimo santykio traktavimo būdų. Iš tiesų, audiacijos konceptas padeda ne tik geriau suprasti aptartus Steve'o Reicho, Alvino Lucier, Tristano Murailio ir Gérard'o Grisey kūrinius, bet ir geriau pažinti patį komponavimo procesą. Tai, kaip kompozitorius skambesiu kuria prasmę, yra ypač svarbus aspektas audiacijos ir komponavimo atžvilgiu. Galbūt tai praplės žinias apie turtingą prasmės kūrimo potencialą šiandienos muzikos kontekste.