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Aesthetically Warranted Emotions in the Theme of the Final Movement of Beethoven's Piano Sonata Op.10 No.3

ABSTRACT

In a video commentary, pianist and conductor Daniel Barenboim (2016) discussed the dangers of verbal descriptions of music by presenting two seemingly contradictory explanations about the 'meaning' of the theme of the final movement of Beethoven's Piano Sonata Op.10/3 given by pianists Edwin Fischer and Claudio Arrau. We examined the tempo and dynamic fluctuations obtained from the studio recordings of this theme by Fischer in 1948 and 1954, and by Arrau in 1964 and 1985 by using the Sonic Visualiser software (Cannam et al., 2010), and interpreted these results by using Steve Larson's (2012) theory of musical forces, and Robert Hatten's (2018) theory of virtual agency in western music. According to our analyses, the differences in the performances of Fischer and Arrau can be metaphorically correlated with the different meanings these pianists attributed to Beethoven's theme. We concluded that the seemingly contradictory verbal descriptions of these pianists indicate different aesthetically warranted emotions they aimed to communicate through their performances of Beethoven's theme.

KEYWORDS

Music semiotics

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The issue of musical meaning has been controversial among many practitioners and philosophers of music. This should not come as a surprise considering that music can be experienced as meaningful even when this ‘meaning’ cannot be put into words. Words may become inadequate in describing the direct impression of a moving musical experience. Conductor and pianist Daniel Barenboim (2016) expressed his skepticism about the validity of verbal descriptions of music in a video commentary, in which he discusses two contrasting emotional observations given by pianists Edwin Fischer and Claudio Arrau on the last movement of Beethoven’s Piano Sonata Op.10 No.3. The following is a transcription of Barenboim’s words from that video:

“When I was a child I went to the master class of Edwin Fischer, great Swiss pianist, one of the greatest musicians I think I ever met. And he taught, gave a lesson, on the last movement of this sonata, which goes something like this... [Barenboim plays the movement until measure 9]... and he spent the whole lesson talking about the humor in this music. And the humor showed itself by these three notes at the beginning [Barenboim plays these notes] being interrupted by the silence, and being repeated again [Barenboim plays the three notes again]. And he thought this was a perfect example of humor in music. [Barenboim plays the opening measures again, saying “hah-ha!” during the rests]... and it was very convincing. And I remember the person who was playing the piano had great difficulty to express what the great master was telling him, but he tried and he did somewhat.

Quite a few years later I went to a recital of another great pianist that I greatly admired – Claudio Arrau. Claudio Arrau was one of the most serious musicians that ever came on this earth. He was able to see the dark side and the tragic side in the most innocent music. And I went to have dinner with him after his concert. And he gave me a long lecture about the tragic nature of the last movement of Beethoven’s sonata Op.10 No.3. “Just imagine”, he said to me, “just imagine: three notes, immediately interrupted, as if they are dying. Then comes again, and again they are interrupted. It’s the inability of these three notes to become something continuous and create a melody. This is the very essence of tragic expression in music.” [Barenboim plays the first eight measures of the movement with a serious expression on his face]... and then the music gets going. For me this has remained a perfect example of the danger of choosing adjectives to explain the music. Music can really only be explained through sound.” (Barenboim, 2016)

In the above remarks, Barenboim reiterated the common motto of musical formalism, which had already been expressed in the 19th century by the influential music critic

Eduard Hanslick. Hanslick viewed instrumental music as a formal abstract construction, and likened music to architecture or dancing – other arts that brought forward “beautiful relationships without content” (Hanslick, 1994: 82-83). He argued that while everybody could evaluate and describe the emotional impact of a piece subjectively, “its content is nothing but the audible tonal forms; since music speaks not merely by means of tones, it speaks only tones” (Hanslick, 1994: 83). Likewise, Stravinsky questioned the whole enterprise of musical signification by asking “do we not, in truth, ask the impossible of music when we expect it to express feelings, to translate dramatic situations, even to imitate nature?” (Stravinsky, 1947: 77). In the early 21st century, the philosopher Peter Kivy stated that the concept of “meaning” had no relevance for purely instrumental music which is devoid of direct semantic associations (Kivy, 2007: 152). He argued that discussion about musical meaning was not possible without watering down the concept of ‘meaning’ – it is not only that music is meaningless according to Kivy, but using the concept of meaning is a mistake to describe music. Kivy further argued that using the word ‘meaning’ did not give musicologists the “license to talk the talk of the interpreters of the literary and representational arts”, and “they get the word, but nothing more” (Kivy, 2007: 149).

Yet, in spite of all the above objections, one frequently encounters metaphorical allusions or poetic associations about the meaning of music, and such verbal discussions are especially valuable for performers. As Leech-Wilkinson (2009) observes, “there is no more efficient way of communicating to a student performer how to shape a piece in a particular way than to tell her how to feel or what to imagine the music is evoking” (Leech-Wilkinson, 2009: chapter 6, paragraph 49). A considerable amount of information about the desired phrasing, articulation, or rhythmic characteristics of a certain piece of music can be communicated effectively by commenting on its mood, character, or meaning; and in some cases, such a metaphorical route may be much more efficient and practical than explicitly specifying note durations or intensities (Leech-Wilkinson, 2009: chapter 6, paragraph 49). Likewise, any meaning that can be communicated by a piece of music depends upon an actualized or imagined musical performance. While “the score is an attempt to define the boundaries for future performances” (Bowen, 2001: 425), it is the performance that brings out a specific realization, “creating meaning within the structural affordances of compositions, meaning that cannot itself be encompassed

within a purely structural description" (Cook, 2013: 68). Consequently, the meaning of pieces cannot be conceived without explicit or implicit reference to actual or imagined performances. It is impossible to imagine scores without imagining them sounding as in a performance. Furthermore, "manners of performance have become absorbed into the scholarly imagination of scores" (Leech-Wilkinson, 2012: paragraph 1.7), which means that when music scholars analyse scores, they imagine them sounding in the current performance style. Cook (2001a) observes that a performance does not expose or express the meaning retained in the score, and that the act of performance "should be seen as a source of signification in its own right", and "a source of musical meaning" (Cook, 2001a: 247). Because musical meaning is constructed through performance, "meaning is emergent: it is not reproduced in but created through the act of performance" (Cook, 2001b: 179). Therefore, Cook concludes that it is false to assume that a certain meaning is communicated by a piece, but instead a piece of music provides "the potential for specific meanings to emerge under specific circumstances" (Cook, 2001b: 180).

Since musical meaning depends on interpretation, the conflicting descriptions by Fischer and Arrau that Barenboim (2016) reported about the theme of the final rondo movement of Beethoven's sonata Op.10 No.3, reflect the meanings that these pianists attributed to this piece. Accordingly, Arrau portrayed the theme as 'tragic', whereas Fischer described it as being 'humorous'; Fischer also wrote about the same movement that "the Finale is full of humor reminding us of Beethoven's liking for jokes and puns" (Fischer, 1959: 40). Arguably, these pianists must have strived to communicate these diverse meanings in their performances, even though it is possible that various listeners do not perceive or experience specifically these meanings articulated by these pianists. As Cross (2005) observes, a performance of music creates a sense of 'aboutness' while possibly conveying somewhat disparate meanings for performer and listener, or for two different listeners, or even several different meanings for a single listener at different times, resulting in a condition which Cross termed as *floating intentionality* (Cross, 2005: 30). Certainly, due to the floating intentionality of music, what the listeners perceive in performances of Fischer and Arrau may not exactly be the meanings intended by these pianists. On the other hand, as Leech-Wilkinson (2012) argues the performance style and the manner of execution makes a great difference to the emergent musical meaning: "different manners of performance of the same musical material can trigger very different (and accurate)

assessments by listeners of the intended emotional expression" (Leech-Wilkinson, 2012: paragraph 3.2).

Given the opposing affective meanings Fischer and Arrau verbally attributed to Beethoven's theme under consideration (tragic vs. humorous), it is reasonable to expect that these meanings are somehow conveyed through the different interpretative choices made by these pianists. This situation brings forward several questions: How can different performers interpret the same musical passage in order to bring out two seemingly conflicting feelings (tragic vs. humorous)? What are the differences in their performances? And how are these differences correlated metaphorically with the adjectives these pianists used while explaining the meaning of this theme?

This article will strive to answer the above questions by analysing Fischer's and Arrau's performances of the theme of the final movement of Beethoven's Sonata Op.10 No.3. Tempo and dynamic fluctuations from four different studio recordings of the theme performed by these pianists are obtained by using the *Sonic Visualiser* software developed by Cannam et al. (2010), and the results are interpreted by referring to the theoretical frameworks provided by Steve Larson's (2012) theory of *musical forces* and Robert Hatten's (2018) theory of *virtual agency* in music. In order to find out how different predispositions about this theme's 'meaning' may affect musical performances, we studied the differences in the performances of Fischer and Arrau, and explored whether these differences could correlate with the conflicting verbal interpretations given by these musicians. Our purpose is certainly not to provide a verbal translation for the musical meaning, since we agree with Cook's (2001b) statement that "the aim [for the analysis of musical meaning] should not be to translate meaning into words, but rather to attend to the conditions of its emergence" (Cook, 2001b: 190).

Before we discuss the interpretations of Fischer and Arrau in detail, we present in the following section a brief introduction to Larson's (2012) and Hatten's (2018) theories, which we utilized as our theoretical framework.

Theory of Musical Forces and the Theory of Virtual Agency

The focus of Steve Larson's (2012) theory of *musical forces* is musical meaning generated by expectations arising from musical movement. Larson (2012) theorizes that melodic

movement is governed by three musical forces which he identifies as *gravity*, *magnetism*, and *inertia*. In Larson's theory, gravity is the tendency of a melody to move downwards (Larson, 2012: 83); magnetism "is the tendency of an unstable note to move to the closest stable pitch", which can be determined by Schenkerian prolongation reductions (Larson, 2012: 92); and finally, inertia is "the tendency of a pattern of motion to continue in the same fashion". Larson (2012) claims that the above forces determine our melodic expectations in tonal music in such a way that we expect the music to progress smoothly under the influence of melodic forces in stepwise manner, forming simple closed shapes:

"Experienced listeners of tonal music expect melodic completions in which the musical forces of gravity, magnetism, and inertia control operations on alphabets in hierarchies of elaboration whose stepwise displacements of auralized traces create simple closed shapes." (Larson, 2012: 110)

Larson metaphorically extends his observations on pitch relations to the temporal organization of music. He claims that musical inertia, which is a pattern's tendency to carry on in like manner, is crucial for metrical or rhythmical organization of music, since the listeners expect the continuation of the same pattern (Larson, 2012: 143). Larson posits that the hierarchical organization of musical time is a direct consequence of our hierarchical experience of physical motion, leading to the hierarchical perception of durational patterns (Larson, 2012: 145). Building on Hatten's observation that "gestures may also be hierarchically organized, in that larger gestures can be comprised of smaller gestures" (Hatten, 2004: 94), Larson states that hierarchical organization of musical gestures results in the metrical hierarchy of music (Larson, 2012: 145). Just as a physical motion is a "move from stability through instability then back again to stability", musical motion, in tonal music, tends to initiate from metrically stable temporal positions and terminate also on stable metrical positions (Larson, 2012: 145). Hence, metrically stable beats can be viewed as acting as temporal magnets, allowing Larson to posit the concept of *rhythmic magnetism*, which is analogous to melodic magnetism (Larson, 2012: 147). Just as an unstable pitch resolves to the closest stable pitch, the beginnings and endings of musical gestures tend to gravitate towards the closest metrically stable locations. Like tonal stability, metric stability is also relative and depends on the context. Larson's idea of rhythmic magnetism can account for the "metrical dissonance" concept of Krebs (1999): when a musical gesture fits within the boundaries of stable metrical locations, it is said to be metrically consonant; conversely, when a gesture does not coincide within

stable metrical locations (as in a syncopation or two-against-three rhythmic pattern) it produces a metrical dissonance (Larson, 2012: 165).

Building on Larson's (2012) theory of musical forces, theories of embodied cognition (Johnson, 2007; Cox, 2016), and observations on gestural communication of music (Hatten 2004; Pierce 2007), Hatten (2018) advances a theory of *virtual agency* for Western art music. Hatten's (2018) theory, first of all implies that when we hear a musical movement, we infer, or engage with, a virtual agent moving in a virtual environment. Secondly, any quality we may infer from the musical movement of such a virtual agent will metaphorically constitute our perceived sense of the embodied movements and gestural characteristics of the virtual agent. Thirdly, Hatten (2018) posits that, for tonal music, the virtual environment in which such a virtual agent moves is determined by Larson's (2012) musical forces of gravity, magnetism, and inertia. A virtual agent may yield to these musical forces, and in this scenario the forces will drag the agent to the nearest most stable pitch; or a virtual agent may willfully engage in an energetic movement in the same direction of these forces, which will be reflected in the energetic shaping of musical movement by an increase in speed or an increase in volume; or the virtual agent may counteract the musical forces and move by a step or leap in the opposite direction. Note that in the case of opposing the virtual environmental forces, such a movement "would require additional energy, and the requisite energy cannot be provided by the three musical forces if it contradicts each of them", and therefore "we are compelled to infer some kind of agency capable of generating what might be called initiatory energy" (Hatten 2018: 49). Eventually our ability to infer embodied motion metaphorically from musical motion rests on "hearing a succession of pitches as motivated by an energetic agency that can counteract as well as give in to the virtual environmental forces of gravity, magnetism, and inertia" (Hatten 2018: 49).

In Hatten's (2018) theory, melodic movement is synonymous with the movement of the musical virtual agent under the influence of these forces, and through the energetic shaping of this movement we can make inferences metaphorically about the energy investment by the agent and the qualities of the agent's gestures and embodied motion. Within this analytical framework, the theory of musical forces provides the laws of motion operating in the virtual musical world, just as laws of physics determine our expectations about motion in the physical world we live in. Hence our perception of

musical gestures metaphorically correlates with the movements of an inferred virtual musical agent; based on the qualities of these movements, we may make inferences about the energetic disposition, the intentionality, or the psychological state of that virtual agent – just as we may make similar inferences from the physical movements of a person that we observe from a distance.

Analyses of Fischer's and Arrau's Performances of Theme of the Fourth Movement of Beethoven's Piano Sonata Op.10 No.3

Both Fischer's and Arrau's descriptions of the theme of the final movement of Beethoven's Sonata Op.10 No.3 specifically mention the three-note motif that opens the movement. In Barenboim's (2016) video commentary, Arrau's description is presented as follows: "just imagine: three notes, immediately interrupted, as if they are dying. Then comes again, and again they are interrupted. It's the inability of these three notes to become something continuous and create a melody". On the other hand, Fischer (1959) provides a very different description for the same three-note motif in his book on Beethoven's piano sonatas, which goes as "the player must have a vivid sense of the questioning and answering, the continual running hither and thither, the hide-and-seek game that Beethoven carries on with the three notes of the subject" (Fischer, 1959: 41). Beethoven's theme is given below in Figure 1, and each occurrence of the three-note motif is also indicated on the score.

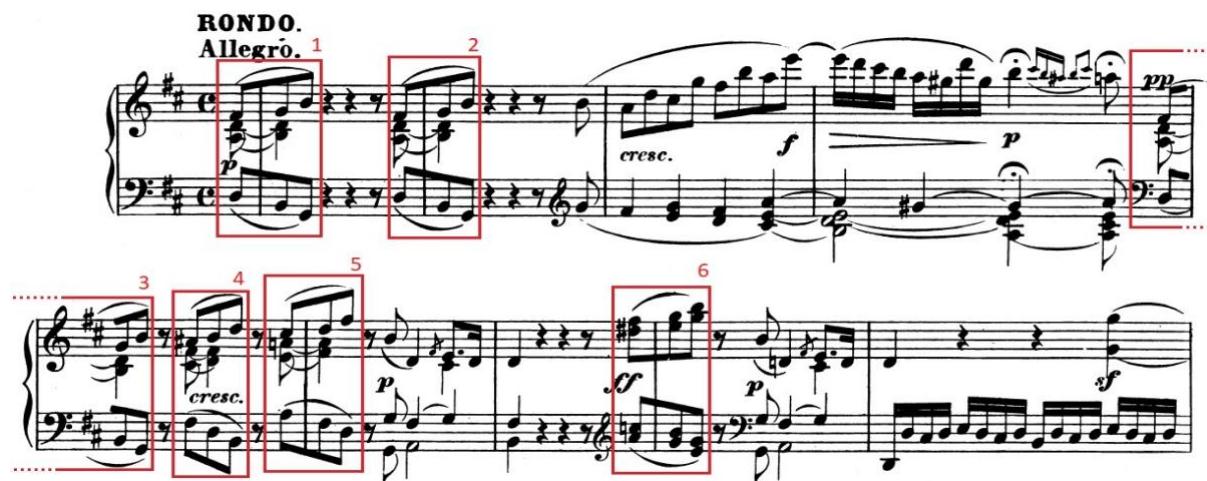


Figure 1. Beginning of the fourth movement of Beethoven's Sonata Op.10 No.3.

As shown in Figure 1, the first three-note motif moves from a root-position D Major chord to a root-position G Major chord, resulting in a I-IV progression, while the two hands

move in contrary motion, expanding the register manually by moving the melodic line up against the gravity. The harmonic movement in question is realized with the onset of the second event of the gesture (melody note G4 harmonized by a IV⁶ chord), and as a result that event is more likely to be heard as a metrical downbeat. Consequently, the beginning of the motif implies an anacrusis; its ending – being metrically inferior to the second event due to the harmonic movement – would likely be perceived as a syncopation.

Larson's (2012) theory of *musical forces* aims to predict the expectations of listeners, and it can also account for the metrical incongruity or the sense of unresolvedness of the opening motif of Beethoven's theme. The rising melodic movement goes against *gravity*, and when the movement gets going, its *inertia* or momentum creates expectancy for the continuation of the upward motion. A listener might have two expectations for the continuation of the gesture as we reach the note B4, depending on which melodic force prevails: these expectations are shown in Figure 2 in panels (b) and (c). The force of inertia favors the movement to continue in a similar fashion, as a rising arpeggio as shown in panel (b) in Figure 2. On the other hand, the force of gravity always pulls the music downwards. If gravity could overcome inertia after the jump from G4 to B4, the melody would be pulled downwards to the stable pitch of A4 with a stepwise motion as shown in panel (c) in Figure 2.

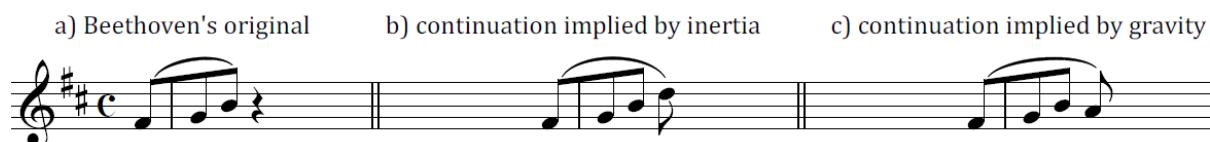


Figure 2. The original motif at the beginning Beethoven's theme, and two hypothetical continuations implied by different melodic forces.

Nevertheless, Beethoven's original motif does not exhibit the hypothetical continuations given in Figure 2; it instead terminates on the note B4 with a syncopation caused by the harmonic movement. This termination violates our melodic expectations arising from the *rhythmic magnetism*, which prefers to coincide the ends of musical gestures with metrically stable locations. Hence the gestural movement does not produce a simple closed shape rhythmically (due to ending on the upbeat) and harmonically (due to ending on the relatively unstable sixth degree of the scale).

We analysed two studio recordings of the theme of the final movement of Beethoven's Op.10 No.3 recorded by Edwin Fischer in 1948 and 1954 (Beethoven, 1995/1948;

Beethoven 1987a/1954), and two recordings by Claudio Arrau made in 1964 and 1985 (Beethoven, 2012/1964; Beethoven 1987b/1985). These analyses were carried out by using the *Sonic Visualiser* software, which is an open-source application developed for music analysis (Cannam et al., 2010). Figure 3 shows the results of the analyses from Fischer's 1948 and 1954 recordings; the results obtained from Arrau's 1964 and 1985 recordings are plotted in Figure 4. The horizontal axis of the plots in Figures 3 and 4 indicate the metric position of the tempo and dynamics readings with respect to measures in the score – hence values at 1 show the readings at the beginning of measure 1, values at 3.75 show the readings at the third beat of measure 3, and so on. The lower graphs in both Figures 3 and 4 indicate the instantaneous tempo at any metric position that is calculated by using the duration between the previous and the current item. Therefore, an upward slope before any point indicates that those events are occurring earlier than the previously established tempo would imply; likewise, a downward slope before any location indicates that those events are delayed with respect to the earlier tempo. The dynamic readings are obtained by following the procedure described in Cook and Leech-Wilkinson (2009), by using the *Smoothed Power* plugin in Sonic Visualiser, and these readings are plotted above the tempo graphs in Figures 3 and 4. Before plotting, the dynamics readings were multiplied by 4 for the ease of visualization above the tempo graphs. Moreover, also for the ease of reading, the lines on the graphs that connect the dynamics readings indicate the events that are gesturally connected without any rests in between them.

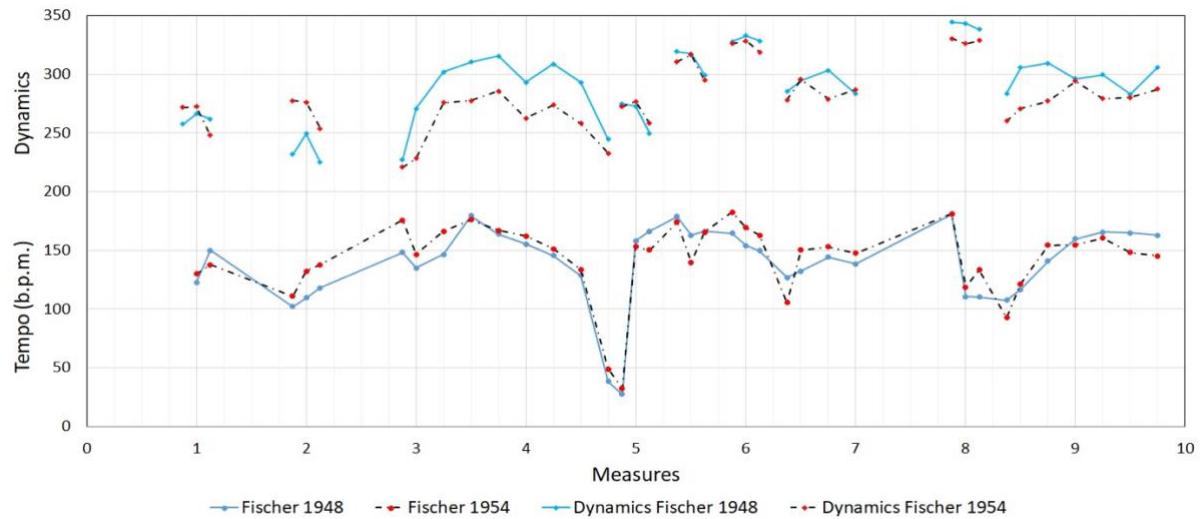


Figure 3. Performance analyses of the theme from Edwin Fischer's 1948 and 1954 recordings of Beethoven's Piano Sonata Op.10 No.3.

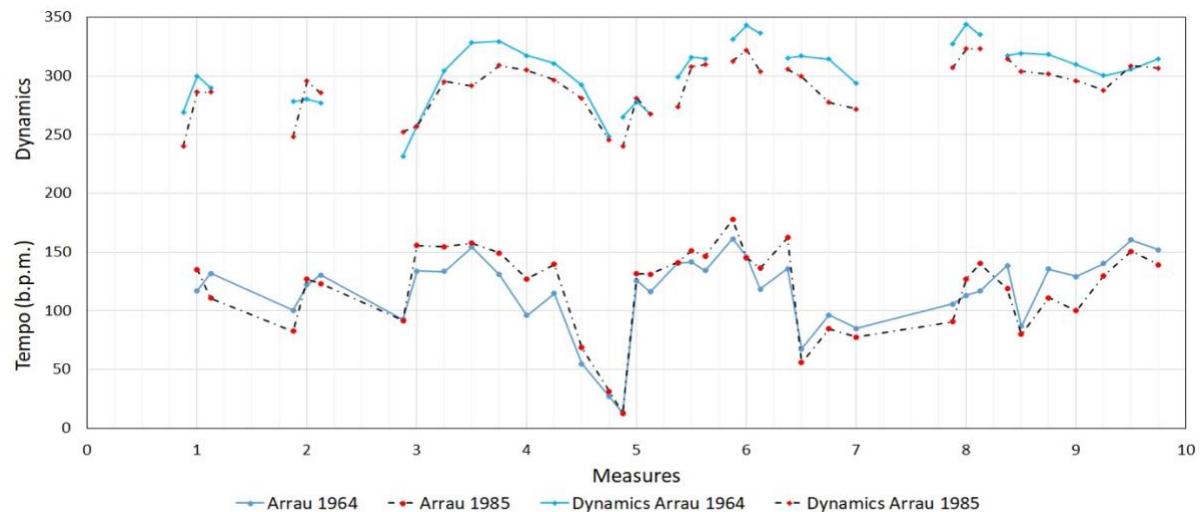


Figure 4. Performance analyses of the theme from Claudio Arrau's 1964 and 1985 recordings of Beethoven's Piano Sonata Op.10 No.3.

The dynamics corresponding to the three-note motifs in Fischer's and Arrau's performances are indicated in Figures 3 and 4 as isolated islands of three values connected with lines at positions 1, 2, 5, 5.5, 6, and 8 – and these positions correspond to three-note motifs numbered as 1, 2, 3, 4 ,5, and 6 in Figure 1. As can be seen in Figures 3 and 4, Fischer and Arrau generally employ distinctive energetic shapes and gestures for these motifs. Fischer's gestures have either a loud-loud-soft pattern or an arch-like shape, and in most of these gestures the last events have significantly lower dynamic values compared to the first two. On the other hand, none of Arrau's gestures have a loud-loud-

soft pattern: his preferred shapes are either soft-loud-loud or arch-like. Moreover, the first event in his gestures is almost always significantly softer.

These gestural shapes presented by Fischer and Arrau correlate with the respective verbal descriptions these pianists gave about the meanings they observed in these gestures.

Recall that Arrau interpreted the three-note motifs as abruptly interrupted musical statements, and the prominence of soft-loud-loud pattern in the three-note motifs in his 1985 recording (5 out of 6 gestures) especially bring out this sense of sudden interruptions. The last event in the three-note motif is a syncopation due to the harmonic change in the second event, and accenting the syncopated ending significantly exaggerates the feeling of interruption. Arrau's 1964 recording does not exhibit soft-loud-loud gestures as prominently, although the first and fourth motifs from that recording clearly exhibit that pattern (2 out of 6). Nevertheless, the arch-like patterned gestures in Arrau's 1964 performance have louder endings in comparison to their beginnings – the only exception in the 1964 recording is the second motif, but even here the dynamic difference is rather negligible. None of the three-note motifs in Arrau's recordings present a loud-loud-soft pattern, which is abundant in Fischer's performances. Consequently, the general pattern for Arrau's gestures is a relatively soft start and abrupt interruption. Overall, the shapes of Arrau's gestures, which have significantly different dynamic profiles compared to Fischer's gestures, correlate with Arrau's statement: "it's the inability of these three notes to become something continuous and create a melody" (Barenboim, 2016).

On the other hand, Fischer's three-note motifs generally end with events that have significantly softer dynamic levels than the first and the middle event. Such a dynamic patterning correlates with the "hide-and-seek game" metaphor that Fischer mentioned in his description of the theme (Fischer, 1959: 41), since the sudden drops in dynamic level may correlate with intentional vanishing 'out of sight', so to speak. While the loud-loud-soft pattern is absent in the first two gestures of Fischer's 1948 recording, here he plays the second motif like a significantly softer echo of the first motif. This echo creates an illusion of distance, as if the sound source for the second motif is different or located somewhere else. This echo effect may also be interpreted as a 'hide-and-seek game' or it

may otherwise be seen as replacing that with another game – in any case the echo effect projects a feeling of playfulness.

Hatten's (2018) theory of virtual agency in music can provide insights about how Fischer and Arrau aspired to communicate the contrasting meanings they assigned to Beethoven's theme, since the different dynamic shapes they create for the three-note motifs carry hints about the distinctive intentionalities and psychological dispositions of virtual musical agencies implied by their performances.

Compared to Arrau's gestures, Fischer's three-note motifs are much closer to the intentional energetic movements of a humorous musical agent. On the other hand, compared to Fischer's gestures, Arrau's three-note motifs somewhat exaggerate the feeling of interruption, and hence portray a virtual agent whose melodic goal (whose implied movement) is inhibited by some obstacle beyond the agent's control – which can be interpreted as an external power that is not visible to us, or an inner psychological hindrance which prevents the realization of the agent's fulfilment (i.e., uttering a complete melody). Arrau's use of the concept 'tragedy' in his description is very apt in this connection, since the archetypical tragic mythos deals with heroes who are in conflict with supreme powers beyond their understanding, and who are eventually overtaken by those powers because of their ignorance or shortcomings. Hence, in keeping with this interpretation, the melodic interruptions might be seen metaphorically synonymous with not being able to realize one's desires, or not having control over one's destiny or fortune. Also note that Arrau bestows the music with anthropomorphic characters ("three notes... they are dying", etc.), and therefore a kind of virtual agency is implicitly assumed in his explanation.

As can be seen by comparing the tempo graphs given in Figures 3 and 4, Fischer's recordings of Beethoven's theme are relatively faster than Arrau's recordings. The speed of a performance makes a significant difference in the musical meaning communicated to the audience (Leech-Wilkinson, 2012: paragraph 3.5). Due to higher tempi, Fischer's recordings imply musical agents with higher energy levels than those implied by Arrau's recordings, and as a result Fischer's interpretations are less correlated with a tragic expression.

Apart from the dynamic shapes of the three-note motifs and speeds of performances, there are several other significant differences in the recordings of Fischer and Arrau that correlate with the conflicting meanings these pianists aspired to Beethoven's theme under consideration. The sections of the theme where Fischer's and Arrau's interpretations consistently differ are given below in Figure 5.



Figure 5. The sections in the theme where the recordings of Fischer and Arrau have significant differences.

The first section in Figure 5 corresponds to the rests in measure 2. Fischer and Arrau treat these rests differently. As you can see from the tempo graph given in Figure 3, the tempo graphs from both of Fischer's recordings have an upward slope just before the value corresponding to the last eighth-note in measure 2 (corresponding to position 2.875 on the horizontal axis), while Arrau's tempo graphs have a downward slope at the same location. The upward slope in Fischer's tempo graphs indicate that Fischer rushes through the rests in measure 2, whereas Arrau's tempo graphs show that he waits slightly longer than indicated by his previous tempi. Moreover, tempo graphs of both Fischer and Arrau indicate that both pianists wait slightly longer during the rests in measure 1. The difference in Fischer's treatments of the rests in measures 1 and 2 indicates the willful interventions of a virtual musical agent who is intentionally in control of the musical flow, while we do not get a similar clue from Arrau's performances.

The second section in Figure 5 corresponds to the climax of the registral and dynamic growth in measure 3, which is dissipated during measure 4. As can be seen in Figures 3

and 4, both pianists perform measures 3 and 4 with an arch-like phrasing of both tempo and dynamics. Nonetheless, the tempo graphs of Arrau display a downward wedge shape at the beginning of measure 4 indicating that he waits slightly longer during the final beat of measure 3. By doing so, Arrau creates a suspense at the climax, as shown in the second section in Figure 5, just before the reversal of the melodic movement in the direction of musical gravity and the dissipation of the forward momentum. Such a suspense at the climax implies a virtual agent that desires to hold on to the registral peak but who is, nevertheless, unable to resist the pull of gravity. Moreover, the subsequent acceleration during the first beat of measure 4 creates an illusion of tumbling. On the other hand, Fischer's recordings do not exhibit such a suspense, instead they portray an agent that swiftly changes its direction – which is metaphorically in line with his description of the music as “the continual running hither and tither” (Fischer, 1959: 41).

The third section in Figure 5 corresponds to the part of the continuation phrase that follows the sequential presentation of the third, fourth and fifth three-note motifs – starting with the eight-note rest in measure 6 and continuing with the *piano* phrase that leads to the deceptive cadence. According to the tempo graphs in Figure 3, Fischer, in both of his recordings, elongates the rest between the sequential three-note motifs and the cadential phrase in measure 6, and the dynamics graphs indicate that he starts the cadential phrase *subito-piano*. On the other hand, the tempo graphs in Figure 4 indicate that Arrau does not elongate the rest in measure 6, instead he lingers significantly longer on the following note, B4. Moreover, Arrau's dynamics graphs in measure 6 do not exhibit a *subito-piano* as in Fischer's recordings. The dynamic graphs indicate that Arrau also articulated the B4 in terms of dynamics before performing the gradual decrescendi that lead to the deceptive cadence that resides at the beginning of measure 7.

As shown in Figure 5, the cadential phrase in measure 6 starts on B4 in the melody, and then immediately moves down to D4. The drop from B4 to D4 is the largest consecutive melodic interval in the theme, which Arrau highlights as a dramatic event in his recordings by waiting slightly longer on B4. Also, the tempo graphs in Figure 4 show that Arrau slows down considerably during the cadential phrase in measure 6, and performs this section substantially slower than Fischer (the overall difference of tempi by Arrau and Fischer is almost 50 bpm). Hence, Arrau's recordings attribute a dramatic character to the fall from B4 to D4 and also to the phrase that leads to the deceptive cadence by (1)

trying to hang on to B4 before descending to D4, (2) the substantially slower overall tempi, and (3) gradual diminuendi that lead to the deceptive cadence. Due to these characterizations, Arrau's performances imply virtual agents that attempt to resist the force of the gravity (by trying to hold on to B4), but eventually fall down (to D4), and move around with relatively less amount of energy (implied by the decrease in the tempi and the gradual diminuendi).

On the other hand, in his recordings of the third section in Figure 5, Fischer waits slightly longer on the rest before B4, and performs the descent from B4 to D4 and the remainder of the phrase up until the deceptive cadence quite sprightly and in an agile manner. By elongating the silence at the beginning of the third section of Figure 5, Fischer somewhat isolates the previous sequential build-up (with the three-note motifs) from the following phrase that leads to the deceptive cadence. This separation is further highlighted by the *subito-piano* beginning of the cadential phrase in measure 6. As seen in the dynamic graphs in Figure 3, in his 1948 recording, Fischer performs the phrase leading to the deceptive cadence with a smooth arch-like dynamic shape that has a gentle beginning and ending. While an arc-like dynamic shape for the same phrase is absent in Fischer's 1954 recording, this performance still produces the *subito-piano* and the elongation of the silence.

The sudden shifts in dynamics and register before and after the eight-note rest in measure 6 can be accounted as another game of "hide-and-seek" sustaining the humorous virtual agency implied by Fischer in the earlier sections of the theme, where the eight-note rest in measure 6 (at the beginning of the third section in Figure 5) acts like a boundary separating the previous sequential build-ups and the following (deceptive) cadential phrase. Conversely, as can be seen in the tempo graphs in Figure 4, Arrau rushes through the eight-note rest in measure 6 in his recordings. Moreover, the dynamic graphs in Figure 4 indicate that he performs a longer arch-like shape in measures 5 and 6, rising with the sequential three-note motifs and falling back with the cadential phrase. By treating all these events under a longer arching phrase, Arrau brings out a highlighted dramatic sense of falling that includes not only the local fall from B4 to D4, but also the fall from the rising three-note motifs, suggesting the implied virtual agent's inability to realize his/her melodic goal.

The fourth section of the theme shown in Figure 5 corresponds to the final *fortissimo* three-note motif in the theme. Fischer plays this gesture substantially slower in his recordings (see Figure 3), to the point of absurdly exaggerating the sense of surprise to a comical effect. Arrau also performs this gesture slower than the previous three-note motifs in his recordings, yet his tempi do not create the same exaggerated effect since he takes markedly slower tempi while also performing the previous and following cadential phrases (in the third and fifth sections).

The fifth section shown in Figure 5 includes the final cadential phrase that concludes the theme. Just as it was for the third section that leads to the deceptive cadence, Fischer slightly elongates the eight-note rest in measure 8 in his recordings, while Arrau broadens the following B4 that starts the cadential phrase (see Figures 3 and 4). Likewise, Fischer starts the cadential phrase of measure 8 with a *subito-piano*, whereas Arrau performs the final cadential phrase with a gradual diminuendo. Just as before, Arrau's dynamic phrasing indicates that he envisions a wider phrase connecting the final three-note motif and the cadential phrase under a single dynamic arch. Moreover, while Arrau waits slightly longer on the dominant harmony at the final cadence (causing small wedge-like shapes in the tempo graphs in Figure 4 at the horizontal value of 9), Fischer's recordings do not accentuate the final cadential resolution with tempo fluctuations.

Aesthetically Warranted Emotions, Musical Meaning, and Interpretation

Johnson (2017) argues that we make meaningful observations about music through metaphorical correlations and analogies between embodied physical movements and qualities of the musical gestures (Johnson, 2017: 23). Moreover, such meaning is produced by our interaction with our environment (Johnson, 2017: 14). According to this approach,

“The meaning of any object, person, or event is what it affords us and points to by way of some experience we have or might have— either past, present, or future (possible) experience. For example, the meaning of the cup I see before me is actually a complex of actualized and possible experiences, including the visual perspectives I can have about it, the ways I can grasp it and use it to drink, the social contexts in which it plays a role, all the past experiences I've had with this and other cups, and a host of future interactions I might have with it as projected possible meanings.” (Johnson, 2017: 14)

Within this framework, the meaning communicated by a musical gesture is determined by its experienced or imaginable affordances, such as previous musical experiences where similar gestures are used, topical associations of this gesture to different types of musical styles, further associations of these styles to various social experiences (Ratner, 1980; Agawu 1991; Monelle, 2006), mimetic associations of this gesture to different types of expressions across other modalities (Cox, 2016), and embodied meanings communicated by the gesture metaphorically through analogous physical movements.

In that regard, Hatten (2018) proposes the term *aesthetically warranted emotions*, which he defines as those “emotions that are directly motivated by stylistically competent interactions” with the “expressive trajectories” of a piece of music (Hatten, 2018: 179). Such emotions may arise from very low-level physiological reactions to the audiological stimuli in the music (i.e., being shocked by a sudden loud outburst), or they may be triggered by culturally determined symbolic associations attributed to various styles within a musical culture (i.e., court music, peasant music, military music, religious music, etc.). While aesthetically warranted emotions are culturally conditioned, they may still vary among individuals belonging to the same society with different personal histories (Hatten, 2018: 197).

Hatten states that a single performance can never be the ultimate realization of a composition, since a composition is “a placeholder for the ongoing network of interpretations by theorists and historians, listeners, performers, sound engineers, and critics—all of which lead to constantly shifting conceptions of that work for various individuals and communities” (2018: 219). While scores potentially imply multiple possible virtual agencies, the performer’s decisions influence the listener’s inference about musical agency or their selection of a central agency among various alternatives. Consequently, “performers are creative interpreters who bring to bear their stylistic competency and their selection from the vast constellation of sounds and meanings attributable to a work” (Hatten, 2018: 219).

As we have observed in the previous section, the differences in Fischer’s and Arrau’s performances of Beethoven’s theme were correlated with the conflicting musical meanings these pianists aspired to communicate through their musical interpretations. The performances of these two pianists portrayed virtual musical agents that have

different intentionalities: Fischer's recordings implied an energetic and humorous virtual agency, whereas Arrau's performances were set to illustrate a tragic situation where a virtual agent is unable to fulfil its aspirations. The ideas of these pianists about the 'meaning' of this theme affected their different gestural realizations of the three-note motifs shown in Figure 1. While Fischer's recordings consistently established an agile and energetic agency that is actively realizing the musical surface, Arrau's interpretations displayed an agency that seemed to be resisting the reversal of the musical direction or downward descents (the second, third and fifth sections in Figure 5) by lowering the tempi (as if trying unsuccessfully to resist the musical gravity, implying lower energy levels of the agent) or retarding the resolution of the cadential dominants (as if implying a reluctant acceptance of the final resolutions). Fischer's recordings are devoid of such clues that might imply tragic narratives.

Conclusion

Certainly, the meanings that can be attributed to Beethoven's theme are not confined to the ones that were expressed by Fischer and Arrau; other interpretations of the same piece would undoubtedly bring out different meanings that are attributable to this composition. Furthermore, performers never have complete control over listeners' interpretation (Hatten, 2018: 222). As Cross (2014) observes, while listeners experience the intentionality or "aboutness" of a musical performance in similar ways, each listener may experience its emotional content or meaning differently – a quality that Cross identifies as the "floating intentionality" of music (Cross, 2014: 813). Nevertheless, our analyses of Fischer's and Arrau's performances show how the same musical score may enable the expression of two disparate meanings through the portrayal of different musical virtual agencies with different intentionalities and predispositions. Fischer's and Arrau's different realizations of the same piece highlight different meanings and musical narratives, producing contrasting subjective interpretations that emphasize two different aesthetically warranted emotions attributable to Beethoven's composition.

Barenboim's (2016) caution against the "danger of choosing adjectives to explain the music", which he illustrates by reference to Fischer's and Arrau's comments about Beethoven's theme, is advisable since these pianists' remarks reflect their personal interpretations of this piece – and there are arguably many more meanings that could be

attributed to this composition. Likewise, Cook (2001b) distinguishes between “potential” and “actualized” meaning, and cautions against writers that attribute a fixed expressive characteristic to a piece, because while these writers give the impression that they are “simply describing how the music is, when in reality they are in the business of proposing interpretations and so constructing actualized meaning” (Cook, 2001b: 186).

Our analyses show that the different meanings attributed by Fischer and Arrau shaped their interpretations by minute differences in gestures or slight tempo deviations – properties that are somewhat impossible to indicate precisely on the musical score and therefore which may elude the analysis of scores. Moreover, their meaningful interpretations also shaped the way they performed the cadential resolutions and their choices about the phrase structure. While the meanings these pianists attributed to the examined passage determined details of their respective interpretations, their interpretations were also envisioned, in turn, to communicate the meanings they attributed. This circular process is akin to what Gadamer (2004) described as the *hermeneutic circle*, where “the anticipation of meaning in which the whole is envisaged becomes actual understanding when the parts that are determined by the whole themselves also determine this whole” (Gadamer, 2004: 291). Furthermore, the different meanings adopted by Fischer and Arrau enabled them to consolidate their performances by projecting emotional consistencies and facilitating the characterization of strong intentionalities through music.

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