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Sound as epistemic construct and music as experience: new perspectives on musical sense-making

ABSTRACT

Background

Music is a temporal and sounding art. It is characterised most typically by its articulation over time, balancing between actual sensation and representation by the listener. Music analysis, on the other hand, has a tradition of sense-making by abstracting from mere sensory experience to verbal and abstract categories. As such, it relies on signs rather than sensory realia and deals with music at a symbolic level of abstraction outside of the time of actual unfolding. This is a semiotic approach to musical sense-making, with signs as tools to mediate between the sounds and our reactions to the sounds. There is, however, a tension between the actual sensory experience, proceeding in real time, and the representation at a symbolic level that proceeds outside of the time of actual unfolding (Reybrouck 2010, 2015b). Sensory objects, in fact, come into being only if they are perceived. This is the old nominalist claim of Berkeley who stated that "esse est aut percipi aut percipere" and which has made it possible to formalize sensory objects as ideas, reducing perception to verbal and abstract categories. Perceptual judgments, however, rely on sensory qualities as well. As such, there has been a kind of paradigm shift in recent musicological research, which stresses the role of the musical experience and the way we make sense of it (Määttänen 1993, Westerland 2002). Rather than conceiving of music as an artefact, as something 'out there', to be analysed in a rather static way, it is possible to conceive of music as a temporal art that is instantiated only when it sounds. Dealing with music, then, entails an ongoing process of sense-making that relies on continuous epistemic interactions with the sounds.

Aims

The aim of this contribution is to bring together music, analysis and experience (Maeder & Reybrouck 2015, 2016). It can be questioned whether music is an ontological or an epistemological category, to be conceived as a structure or artefact, or as something that must be heard or listened to in order to be meaningful. Music analysis, in this view, should rely not only on a static and symbolic description of the music, but also on a dynamic-vectorial approach that keeps step with the sonorous unfolding over time.

Results and implications

This contribution revolves around the concepts of analysis and experience. The concept of *analysis* is conceived from a musical and a more general point of view. Both approaches deal with the act of examining in detail the constitution or structure of something. As such, analysis is aimed at dissolving, dissecting, and distilling in order to put apart the ingredients of a larger whole. To analyse, however, is only one of the cognitive operations we can perform on the sounding music. The concept has been elaborated already by Leibniz who argued for the dissection of a larger whole in smaller parts on

which arithmetic and algebraic operations could be performed. By introducing an *algebra of thoughts* he aimed at finding through analysis the prime factors of human thinking in order to conclude synthetically on new possibilities relying essentially on the basic operations of analysing and combining, somewhat analogous to Aristotle's distinction between *lytic* and *thetic* operations.

Crucial in this approach is the focus of attention which can be directed either to discrete particulars or to a more synoptic overview. Much depends here on the temporal representation which may provide a different kind of perspective on the music with a distinction between synoptic types of representations as against moment-to-moment overviews. The concepts of *perspective* and *resolution* have been proposed in this context (Godøy 1997), with resolution referring to the resolving power of our perceptual processing and perspective to the distance we take with respect to the sounding music. With respect to *resolution*, there is a difference between high-resolution processing of the sound (about 10 milliseconds) and the processing in terms of perceptual units (2 - 3 seconds) which allow event identification over time (Wittmann & Pöppel 1999-2000). At a still more overarching level, it is even possible to grasp simultaneously a succession of representations in memory or imagination in one single act of consciousness (Reybrouck, 2001, 2004). This summing up is not articulated over time, as a series of successive representations, but entails a relational consciousness which embraces at a glance a whole field of imagery and representation. As such, it is possible to direct our attention, in a kind of mental pointing, to discrete slices of time as well as to larger temporal spans. The concept of *perspective*, on the other hand, is related to the concept of resolution: we can stay very close to the music and process the sounding articulation in a moment-to-moment history that reflects the idiosyncrasies of the sensory particulars, but we can resume these particulars also in a more distant way by summing up the sounding impressions in memory and imagery. We then move from an analytic to a more synthetic way of processing of the sound.

The concept of *experience*, on the other hand, is conceived from a dynamic-vectorial approach to musical sense-making by stressing the importance of the moment-to-moment history of the epistemic interactions with the music as it sounds. Starting from some older philosophical writings by Dewey and James who stressed the importance of having an experience (Dewey 1958[1934]) and the role of knowledge-by-acquaintance (James 1976[1912]) as the kind of knowledge we have of a thing by its presentation to the senses, these claims are translated to the realm of music. Experiencing music, in this way, provides richness and fullness of perception which is both an experiential and a conceptual matter. These older insights have received new impetus from more recent contributions in the domain of enactive and embodied cognition in cognitive linguistics ((Johnson 1987, Lakoff 1987, Varela, Thompson & Rosch 1991) and from empirical findings from neurobiology and psychobiology (see Reybrouck 2001, 2005, 2008) with as major new development the con-

tinuous registering of reactions to sounding music as exemplified in the *neurobiology* and *psychobiology of perception* (Uttal 2001; Reybrouck 2013).

There are, as such, different levels of processing of the sounding music with at the lowest level mere *sensation* or detection of the musical signal. At a higher level comes *perception*, which involves a relatively immediate, personal and mental reaction but without the perceiver intervening consciously in this reaction. At the highest level there is *cognition*, which makes it possible to acquire, to record, to evoke and use the knowledge that was acquired through sensory and perceptual processes. It is here that predications and conceptualizations come in with a major distinction between continuous and discrete processing of the sound. Sensory perception, in fact, is continuous as the sound signal is mostly characterized by a continuous articulation over time. Sense-making, on the contrary, can be reduced to acts of mental pointing to the music, as a kind of episodic acts of focal attention. It can be conceived, however, also as a kind of continuous gesture that tracks the sonorous articulation over time. As such, musical sense-making is a combined approach of *processual predications* and *episodic nominalisations*: the former follow the temporal evolution of a situation and involve a continuous series of states that represent different phases of the process as occupying a continuous series of points in conceived time; the latter refer to just a single instance of the process (Langacker, 1987).

This distinction is related to the in time /outside of time dichotomy (Xenakis, 1963). Listening in real time is characterised by a kind of perceptual bonding (in time); conceptualizing about music can take distance from the sensory unfolding over time (outside of time). It allows the listener to recapitulate previous and future impressions in imagery in relying both on memory and representation, and this brings us back to the distinction between analysis and experience. Experience is continuous and proceeding 'in time'. It celebrates the richness and fullness of the sounding signal; analysis, on the contrary is characterised by distance and polarisation between the listener and the music.

Conclusion and perspectives

The aim of this contribution was to elaborate on the experiential approach to music in an attempt to bring together analysis and experience. Rather than conceiving of them as opposed to each other, they are brought in relation to the dynamics of representation that spans a continuum between step-by-step processing and synoptic overview in an attempt to go beyond traditional dichotomies which revolve around the discrete/continuous and the in time/outside of time approach to music knowledge construction.

Keywords

cognition musicale, épistémologie musicale, perception musicale, signification musicale, psychologie de la musique

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