

Embodied Cognition Applied to Timbre and Musical Appreciation: Theoretical Foundation

Rafael Ferrer

Abstract: Perception can be explained as a system in which dynamic interactions between the components of that system are the constituents of its existence more than the elements themselves (Zeleny, 1980). Such a system can be used to model the cognition of musical phenomena by considering human auditory schemata and the sonic environment as two components in constant interaction (Kaipainen, 1996). The paradigm of embodied cognition (Leman, 2007; Godøy, 2006) synthesises these ecological views, where the listener can be considered as an adaptive device (Reybrouck, 2005).

Through active interaction with the sonic environment, human beings develop a categorisation of musical phenomena (Dura, 2006), including the sounding qualities or timbre (Bregman, 1990). Currently, there are no clear definition or general theory for timbre, and this disadvantage diminishes its relevance to the appreciation of music. A more inclusive perspective aimed to observe not only the components of the system (i.e. perception, acoustic features, society and culture) but also the interactions between them, would contribute to a better understanding of timbre and its role in music. The aim of this is to primarily:

- To identify the processes involved in the perception of timbre within the paradigm of embodied cognition.
- To formulate a solid ecological framework for the linking of the environment-human system, to support further arguments on the influence of timbre (as a sonic environment) in the music appreciation schemata.

The term “timbral environments” is introduced to help in the explanation of the dynamic relations emerging between the human body and specific timbral environments. This research will provide a summary of arguments to support the idea that timbral features are determinant cues for the appreciation of music, probably as relevant as other structural components, such as melody or form. It will provide an epistemological framework for the study of timbre as a sonic environment attached to particular cultures of music production-consumption. Furthermore, this effort is the theoretical foundation for research that will investigate the existing forces that shape the emergence and functionality of perceptual schemata of timbre, targeted to understand the relations between timbre, musical preference and personality.