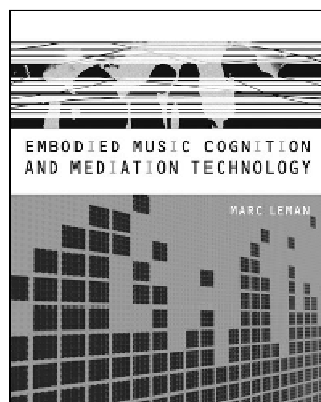


**Dancing about music, rather than talking about  
(the musical mind's) architecture:  
a review of Marc Leman's *Embodied Music Cognition  
and Mediation Technology***

Author: Marc Leman  
Publisher: MIT Press  
Release date: 2007  
Number of pages: 320

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Leman's latest book is a refreshing treatment for the traditional (by which I mean: disembodied) cognitive science of music. What is more, the book serves as a starting point of an almost natural (given the recent variety of empirical data from empirical musicology and the studies on musical gestures, musical movement and the biomechanics of the body) application of the paradigm of embodied cognition into musical research, this work most certainly stands as a manifesto of the paradigm of what the author calls the theory of embodied music cognition (hereafter: EMC). By the means of looking at the role of the body in music processing, Leman's work encourages us to shift away from the classical (disembodied) research on music (including aesthetics, and more generally: philosophy of music, still relying mainly on the linguistic descriptions of, for instance, musical experience), hence, the reference to the Frank Zappa quote<sup>57</sup> in the title of this review. *Embodied Music Cognition and Mediation Technology* is exciting due to its being grounded in the out-

<sup>57</sup> "Talking about music is like dancing about architecture". The actual source of the quote is unknown, yet it is often attributed to Frank Zappa.

comes of empirical research, as pursued mostly by Marc Leman in his laboratory based at the University of Gent, Belgium.<sup>58</sup>

Not only is Leman's attempt at providing tools for answering the questions of how the body shapes our musical minds inspiring, but it may also serve as a welcoming invitation for theorists (including philosophers) to this field of study. In the preface to the book, the author nicely states:

*I thought that such a unifying approach could be of value to a broad range of scholars and students with backgrounds in musicology, philosophy, engineering, physics, psychology, and neuroscience. However, I realize that my ambition is a very tall order and that this book is just the starting point of that idea. In that sense, this book is more a philosophical essay about the foundations of music research and a journey into possibilities rather than a survey of all empirical research results that would support my viewpoint. [p. XI]*

And, in my opinion – and looking at the history of my own research – an inspiring starting point it is! Interestingly enough, as the title suggest, Leman's study consists of the provision of the EMC paradigm and the technology of mediating between the musical experience (“mind”) and the sound energy (“matter”). The book is based on a hypothesis regarding the nature of musical communication, namely that the abovementioned mind/matter relationship is based on the idea of the human body as a biologically designed mediator which transfers an idea, or a mental representation, into a material or energetic form; this two-way mediation process is seen by the author as constrained by bodily movements that are herein assumed to play the central role in all sorts of musical activities [p. XII]. Thus, EMC assumes that the musical mind results from the embodied interactions with music.

The following review consists of a short and superficial description of the structure and the contents of the book.<sup>59</sup> The first chapter of the volume introduces the practice of music signification, being the main theme of the book. This practice, according to Leman, is based on musical experiences, but it also involves music description when these experiences are communicated. Herein Leman argues in favor of the practice of musical signification which is based on action and the action-based descriptions of music. As such, this approach holds that the natural mediator for music (the human body) can be extended (with artificial mediation technologies) so that the mental activity can cross the traditional boundaries (of the skull) into (musical, digital or virtual) environments that cannot otherwise be accessed by the natural mediator. Interestingly enough – and sadly for those who thought about the very idea of extended cognition while reading this description –

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<sup>58</sup> Lab's interesting website with a number of research articles: <http://www.ipem.ugent.be/> (University of Gent Institute for Psychoacoustics and Electronic Music).

<sup>59</sup> For a sharp and detailed critique of the book see: Schiavio & Menin (in press).

Leman does not go into details here. Yet, it is obvious that this approach carries certain promises for the development and application of a variety of philosophical theories. The book can be divided into two parts (the chapters from the third to the fifth are focused on the development of a theory of embodied music cognition, while the very application of this theory is discussed in the sixth and the seventh chapter). The second chapter of *Embodied Music Cognition and Mediation Technology* provides a historical and (quite inadequate, to be honest...) philosophical overview of the major music research paradigms that seem to be important as the background for author's deliberations. In this chapter, Leman starts with the ancient Greek philosophy, goes through Descartes (and the misfortune that he caused for the philosophy of mind) while focusing on the differences between the disembodied and the embodied approaches to music, and describing the role of the empirical approaches and technology in the modern music research. In the following, third chapter, the author starts constructing what he dubs the "ecological model" for understanding how subjects can achieve the transformation from physical energy to cultural abstractions. Here, Leman shortly mentions the famous work by Varela, et. al. (1991). The fourth chapter focuses on the coupling of action and perception while aiming to investigate how music can be understood as having an action-based and goal-directed character. In the following, fifth chapter, Leman explores different examples of the degrees of corporeal engagement to music: from synchronization to attuning and to empathy, and from observation to imitation and to emotional engagement. In the two (sixth and seventh) concluding chapters of the book, the author examines the utility of EMC in the two core areas of the modern music research, namely: (1) the interaction with musical instruments (that is, how to build mediation tools that allow for a spontaneous expression of artistic ideas; interestingly, the author still does not provide any application of extended cognition!) and secondly, (2) the musical search and retrieval (namely: how to build mediation tools that allow the search for and retrieval of music in a database of a digital music library).

To conclude, Marc Leman's ambitious book most certainly serves as a promising attempt to include music cognition into the broader research paradigm of embodied cognitive science. The book may be especially interesting for those researchers and academic audience who have grown dissatisfied with the traditional (disembodied) cognitive science and psychology of music. It is also definitely worth recommending to researchers working in other fields, as the ideas presented in *Embodied Music Cognition and Mediation Technology* almost beg for further development (for instance, in philosophy: for the application of extended cognition hypothesis in the chapters on musical instruments and mediation technologies, as suggested above). So... let the music begin.

### **Bibliography**

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University of Gent Institute for Psychoacoustics and Electronic Music's website: <http://www.ipem.ugent.be/>