

Music performance and the mediality of acoustic music instruments: an Activity Theory Perspective

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Intro and problem - Music performance is all about the expressive communication of artistic ideas. To express these ideas to an audience, musicians depend on their musical instrument. Within the embodied music cognition paradigm the musical instrument is considered to be a multimodal technology that mediates between the performers mind (musical ideas) and physical energy (the sounding music) (Leman, 2007). But what exactly does this mediating role consist of? Is the musical instrument a mere material channel through which pre-defined meaning is transferred to the listener? Or does it play a constitutive role for the generation and communication of musical meaning?

Approach - The idea that a medium shapes meaning is captured by the notion of mediality (e.g. Seifert, Kim, & Moore, 2008). It refers to the disposition of the medium and its operations that establish a specific relationship between medium (musical instrument) and mediated (musical ideas). This paper presents a theoretical investigation of the mediality of acoustic music instruments by appealing to Activity Theory. This theory holds that the human mind is conceived of as the product of our interaction with people and artefacts in the context of everyday activity (Kaptelinin & Nardi, 2006). Through a set of principles (e.g. merging of activity and consciousness, object-orientedness, internalization and externalization), this theoretical framework provides useful concepts (e.g. Object, operations, functional organ) to investigate the influence of the musical instrument on the different processes that shape the performance and the way it is experienced by the performer. We focus on the principle of mediation (i.e. every human activity is mediated by material and psychological artefacts) and its elaboration in the Instrumental Approach (e.g. Rabardel, 1995).

Results - The application of an Activity Theory perspective to the role of the musical instrument for music performance forms a strong fundament for the assumption that the instrument is not a mere transfer channel but a constitutive part of musical meaning. As a technological mediator of music performance, it determines the goal-directedness of the performance and the way the performance is structured in the musician's consciousness. Thereby it determines the interaction between musician and musical environment and shapes the musician's subjective experience. This medial character of musical instruments results from the mechanism that underlies mediation, namely the formation of a human-artefact system that transcends a mere physical coupling (Kaptelinin, 1996). From the Instrumental Approach we learn that on the one hand the musical instrument has a major influence on the musician cognitive processing through the shaping of specific mental schemes (*instrumentation*). On the other hand the musician influences the musical instrument by attributing it specific functions (*instrumentalization*) (Trouche, 2004). Due to this reciprocal influence the musical instrument evolves from a more or less opaque artefact into a transparent "functional organ" or "instrument", that is a functionally integrated, goal-oriented configuration of internal (musician) and external (musical artefact) resources (Kaptelinin, 1996). In this way the musical instrument influences the attribution of musical meaning that is based on the process of corporeal intentionality (Leman, 2007). It becomes a constitutive part of the intentional meanings of the performer rather than being a mere transfer channel.

Implications - Understanding of the processes that constitute the mediality of an artefact is required to provide a solid basis for the development of didactic methods for instrumental music teaching. It provides a top down strategy for the design of new interactive music systems for both performance and education. Experiments are being setup to validate and further refine the theoretical research on the instrument-performer relation.

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