

## ACOUSTICS2008/2789 Toward synthesis tools using 'evocation' as control parameters

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This study addresses the design of synthesis tool controlled by high-level parameters, such as mental evocations induced by sounds. As a first approach, we considered sounds evoking motions and we addressed 3 main questions: What are the different categories of motion? What are the common acoustic features of sounds within a category? How to synthesize sounds that evokes specific motions? We gathered samples used by electro-acoustic music composers as a framework for their compositions and synthesized sounds. Then we effectuated a two-steps listening test. The first part aims at determining these different motion categories. It consisted in a free categorization task in which listeners build their own groups of sounds as function of evoked motions. The second part aims at determining a set of sounds characteristic of each of these categories. It consisted in a constrained categorization task with predefined categories represented by prototypical sounds (deduced from free categorization task). We used a feature selection method to highlight most relevant signal descriptors for each category. Finally, designing a synthesis tool implies the calibration of these descriptors (a specific range of values for each category) and their control (leading to address the inverse problem). These aspects are currently being investigated.