
Timing & Expressive Performance

Pinpointing the Beat: Tapping to Expressive Performances

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Time: Thurs 18 8.30 am, Stream: E Proc. Page: 617-620
Venue: Room G18, Webster Ground

In this study we report on an experiment in which listeners were asked to tap in time with expressively performed music, and compare the results to two other experiments using the same stimuli which investigated beat and tempo perception through other modalities. Many computational models of beat tracking assume that beats correspond with the onset of musical notes; we consider the hypothesis that the beat times are rather given by a curve that is "smoother" than the tempo curve of the note onset times, which nevertheless can be derived from the onset times. The tapping results show a tendency to underestimate the tempo changes, which supports the smoothing hypothesis, and agrees with listening experiments and other tapping studies.

Beat Finding in the Fugues from the Well-Tempered Clavier by J. S. Bach: Human vs Machine Performance

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In this paper we present the results of an experiment to compare a model of beat induction against the tapping performance of human subjects. The model is derived from a neurobiologically based sensorimotor theory of temporal tracking. The human performance data was obtained from 20 subjects tapping the beat to the fugue subjects from the Well-Tempered Clavier by J.S.Bach.

An Alternative to MIDI Data: Analysing Timing and Dynamics of String Performances

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This paper describes an alternative method for analysing timing and dynamics of non-midi performances, focusing on aspects of string performances. The method provides the means for analysing data from participants working under their usual conditions (i.e. on their own instruments, at a music conservatoire, during practice sessions and/or performances) by contrast to midi data, usually collected in less familiar environments. The paper highlights the use of the method in two different studies: the first, involving children cellists (playing and singing) during practice sessions and performances; and the second, comparing performances of advanced music students with that of a commercial recording. The method relies on the use of digital sound editing software (Pro Tools) which allows the researcher to select musical events directly on the soundwaves visible on the computer screen. Although this method was used for both investigations, there are still a few problems to be considered, such as the time consuming factor and the difficulties in determining the offset of musical events, thereby hampering measurements of articulation. Nonetheless, when used consistently, it is possible to obtain timing and dynamic profiles of string performances as a starting point for investigations in "naturalist" performing situations.