

Factors Affecting the Choice of Performed Tempo

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Abstract: From musical practice, it is evident that a given melody may be played at different speeds, spanning a certain range. Indeed, musicians base their interpretation just on the possibility of selecting any other speed within that range, provided that their choice allows them to preserve the required expressive content. Our proposal is to investigate the range of speeds of performed melodies, and the features it possibly depends on. To achieve this task, we single out two main factors as possibly influencing the suitability of tempo for a given melody: (a) *expressivity* and (b) *musical structure and grouping*. We hereby discuss the results of an experiment shedding some light on the first aspect – i.e. the role of expressivity on the rendering speed. Discourse on musical structures is the subject of a complementary study currently in progress, and will be presented in a subsequent paper. Experimental stimuli are 4 musical pieces – 2 flute baroque-style melodies and 2 string quartets from the classical period. Stimuli consist of 2 series of 7 differently randomized speeds for each piece performance. 12 trained musicians (6 pianists, 1 flutist, 1 clarinetist, 1 horn player, 1 conductor, 1 singer, 1 guitarist) are asked to rate each stimulus with a mark, spanning between “extremely slow” and “extremely fast” boundaries. Participants were divided into two groups, and underwent the same trials played with 2 different expressive purposes: (a) inexpressive MIDI realizations of the score played by a computer (i.e., nominal), and (b) expressive (i.e., professional recorded renderings). Responses collected on working cards are processed by statistical data analysis. Intermediate mean values are interpreted as the “best” performance speed, and distributions of values account for the degree of tolerance in the rendering choice. Our findings show that participants generally tend to choose an “optimal” speed in melody performance, independently on the musical style (baroque or classical) and on instrumental ensemble. It seems that both the character of the piece (fast or slow) and the expressive rendering mode (nominal or expressive) influence the preferred speed, as well as its distribution inside a range of acceptability: faster character pieces (i.e. *Allegro*) generally require slower velocities distributed within a narrower range, while slower character pieces (i.e. *Adagio*) are tuned with faster velocities distributed within a wider range. Chosen velocities are also affected by the addition of expressive elements, which return them shifted to higher values. Experiments like that presented hereby provide a strategy to connect psychoacoustical (i.e. any acoustical cue relevant for expressive rendering) and musicological aspects of the performed tempo. Our findings also indicate a possible and alternative way of teaching musical topics in Music Academies: by stimulating analytical reasoning (with presentation of results of this kind) into academic curricular paths, teachers can lead students to build logical and scientific categories useful to consciously discipline their artistic activity.