

Intersubjectivity and Temporality in the Choral Performance: A study about temporal information sources for choristers.

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INTERSUBJECTIVITY AND TEMPORALITY IN THE CHORAL PERFORMANCE: A STUDY ABOUT TEMPORAL INFORMATION SOURCES FOR CHORISTERS

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INTRODUCTION

This research aims at examining choral performance as an embodied, intersubjective, and temporally organized practice of meaning. Choral research tradition focused mainly on the role of the conductor as determinant of the performance. Choral practice, however, would be the result of the entrained activity that occurs within the choir, also involving participants other than the choir conductor; it follows from this assumption that the way choir participants perform their individual and/or synchronized actions may affect the performance of the choir as a whole. The present proposal intends to carry out such examination. The study will focus on the synchronized interaction that occurs between both the choral conductor and the singers and between the singers themselves as intentional agents that contribute to the make-up of choral performance.

AIMS

- I. Investigating the nature of the temporal interaction among participants in the choir.
- II. Analyzing the temporal information sources that make viable such interaction.
- III. Acquire training in the use of the new analytical tools suitable to perform motion capture analysis and sound analysis of the collected empirical data arising from the observation of the relationship between the conductor's gesture and the singers' sound attack.

WHAT ARE WE CURRENTLY DOING?

EXPERIMENT I: TAPPING TASK

INTRODUCTION. It was developed a theoretical model that proposes a preliminary analysis of the relationships that take place in the context of choral performance; it posits multiple relations of synchrony between singers-conductor (audiovisual) and singer-singer (auditory) that account for the complexity of the temporal phases that are present in the synchronized activity of choral performance.

AIM. Identify which of the sources of temporal information (visual/auditory) that is being perceived in an audiovisual choral performance influences most the beat induction during a tapping task of sync with the perceived performance.

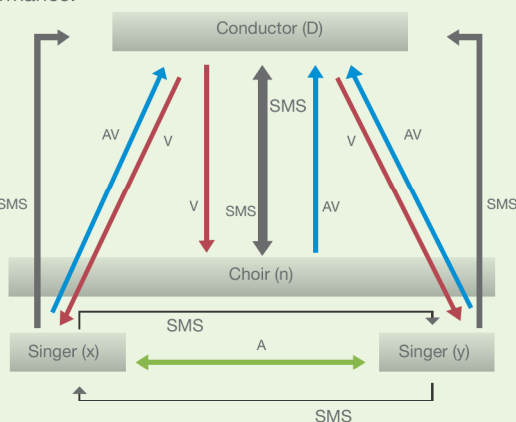
METHOD. Stimuli: Three video-recorded clips of a choral performance. Each clip was presented in three conditions with two modalities: i) unimodal (c1 visual; c2 auditory) and ii) bimodal (c3 audiovisual). **Subjects:** Adults (n= 30) divided in two groups with different musical training. **Procedure:** Participants were asked to view and/or listen to each clip and to simultaneously tap the visually (c1), aurally (c2) and/or audio-visually (c3) induced beat, pressing a computer key while synchronizing with the perceived stimulus.

PREDICTIONS. It will be analyzed how auditory, visual or audiovisual cues impact on performance accuracy and clarity of beat communication during performance. It is predicted that synchronized responses with the stimuli will depend more on auditory than on visual information. Therefore c1 (visual) will show the most variability in temporal tapping distribution; while c2 (auditory) will show the opposite; finally in c3 (audiovisual) the tapping variability will approach the performance found in c2.

RESULTS. i) Participants' responses were recorded and registered as marks -showing each precise event attack- that appear as a succession of temporal inputs in the timeline visualization provided by the software analyzer (Sony Vegas Pro 11.0). ii) A normalized beat timing profile was calculated adding the successive inter-onset-interval lapses and dividing the total duration of the tapping sequence by the total number of taps. iii) The input values of each trail will be contrasted to the normalized beat timing profile with the aim of obtaining the mean/standard deviation temporal profile of each participant in each condition. It is expected to analyze inter/within-subjects differences running statistical analysis of repeated measures of variance. Analyses of results are still in process.

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- Synchronization relationships conductor-singers (AV: audiovisual cue)
- Synchronization relationships singer-singer (A: auditory cue)
- Synchronization relationships singers-conductor (V: visual and AV cue)
- Synchronization relationships by two error correction processes (SMS: Sensorimotor Synchronization = CDF: phase correction + CDP: period correction)



WHAT IS EXPECTED TO DO IN THE ISSSM 2012

EXPERIMENT II

In the stage that follows, experimental testing is expected to be run with the purpose of i) identifying which attributes of the choral performance are cues that performers (conductor and singers) use to interact with each other, and ii) analyzing which of those attributes are most influential in the temporal coordination between singers and conductor. It is expected that the use of some of the new analytical tools (sound and motion capture techniques)

contributes to collect and analyze the empirical data, helping in the identification of both sources of visual, auditory and/or audiovisual temporal information that are most significant to match the accomplishment of singers and conductor during the choral performance. Besides, it is expected to learn more about the statistical analysis of data collected using the software available in the summer school to obtain progress and the current research.

DISCUSSION

Results will enhance the analysis of choral performance as a complex, social interactive activity, introducing analytical categories that are not taken into consideration by traditional practice in choral music. In order to study the temporal domain in the choir, it is impossible to tackle the communicative process in a unidirectional way, focusing only on the gestures of the conductor and relating them to the resulting sound of the whole chorus. This analysis would rather approach a multiple-way communication process (conductor-choristers, choristers-conductor, choristers-choristers) with the various interrelationships in and from within the group. This study is particularly important for building a choral conducting pedagogy that values the multiple network of communicative activity that takes place within the choral environment.

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