Expressive timing in choir: An interactive study between choristers and conductor

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Background
In traditional choral practice it would seem that the chorister’s action is an embodied way of responding to the conductor's gestures and being with the other from a second-person perspective (Gomila, 2003). From a conductor-choir interactive perspective, the choir is understood as a set of individuals who are also in interaction and not as a uniform group subordinated to the conductor. Clayton (2013) proposes three levels of musical entrainment between individuals: intra-individual, intra-group and inter-group, to describe the temporal interactions between singers in choral practice. A multimodal analysis (conductor movement and choir members' asynchronies) is presented to investigate the role of inter- and intra-individual variability in supporting collective (choir) musical performance.

Aims
To identify temporal variability underlying an amateur choral practice through multimodal analysis.

Method
An audiovisual of an amateur choir performance (n=15) simulating a concert environment was recorded. Individual microphones were used to obtain each participant’s voice in separate audio tracks. The capture and analysis of the conductor movement data -taken from the video recording in 2D- was carried out using Tracker software. Timing deviations profiles of each voice for intra-individual sound were obtained by manual detection onset over the sound signal by means of Sonic Visualiser software.

Results
The results showed that tempo is related to rhythmic density hence singers tend to synchronize coinciding with a decrease of rhythmic density. As expected, greater deviations were found at a slower tempo and fewer at a faster tempo. This is relevant because the measure of synchronization was biased by the tempo. Increased movement by the conductor which has to be ahead matched with most singers timing deviations. We observed temporal events that were related and compensated.

Conclusions
The study shows that being together in time is not a one-way linear relationship where the conductor performs an action and the choir responds. The synchrony of what is being sung, and the interaction with whom is conducting, are embodied attuning forms (Leman, 2008). We discuss variability in terms of features of differentiation-undifferentiation within the individual and the group rooted in the conception of social practice in the choir.

References

Consonant length as expressive resource in sung Spanish

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Background
A review of 19th-century Spanish literature on vocal pedagogy (Guzmán, Shifres & Carranza, 2017) found that in classical singing the pronunciation of Spanish is subordinated to an aesthetic canon, which limits the expressive range of speech. According to this canon, vowels have a leading role since they can be sustained, while consonants must be articulated “clearly” but “marked”. Due to these requirements, consonants must be shortened in classical singing (Miller, 1996), which ignores the variability of segmental length in spoken Spanish (Mendoza et al., 2003) and its identity effects on
communication (Carter & Wolford, 2016). Although recent studies compare the expressiveness in speaking and singing (Scherer et al., 2015), the scope of consonant length as expressive resource in sung Spanish is still unknown.

**Aims**

Study the imposition of the aesthetic canon of classical singing on the length of 3 consonants in sung Spanish and how they are articulated outside of that canon in a more spontaneous way.

**Methods**

Ten famous singers’ recordings (5 classical and 5 folk) of a classical chamber song in Spanish (“La Tempranera” by Carlos Guastavino) were phonemically segmented. Since this song is composed in a zamba rhythm (an Argentinian folk dance), it is widely performed by both classical and folk singers. The length of the consonants /l m n/ (which were chosen because they can be sustained) was measured in all available consonant-vowel (CV) syllables, as well as the full syllables that contain them.

**Results**

The correlation between syllable length and consonant length was significant in all cases, which indicates that the consonants /l m n/ keep in proportion with the subsequent vowels. The /l m n/ absolute and relative lengths were higher in folk-style performances (means = .109 s 27.61%) than in classical ones (means = .090 s 21.86%). Nevertheless, the data showed a high length variability in both singing styles.

**Conclusions**

The results show that in Spanish folk singing the consonants /l m n/ in CV syllables tend to be longer than in classical singing. However, although the imposed aesthetic canon seems to have an effect on the classical performances’ pronunciation, the evidence suggests that the length of the consonants /l m n/ is used in an expressive way in both singing styles.

**References**


