

Sketching a Theory of Cross Modal Perception of Music Performance

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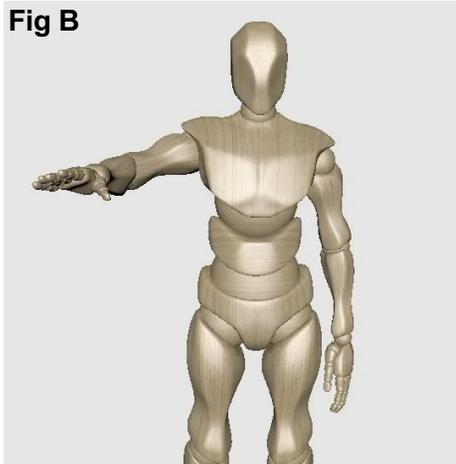
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Introduction

The live performance of popular music can often be thought of as an afterthought to music analysis, relegated to dance studies and media studies. This is odd when one considers the power of cross-modal cognition (Shutz and Lipscomb 2007) which shows the power of the visual modality can have on music, and further when one considers the importance recent studies have placed on movement, gesture specifically (see De Souza 2016; Gardner & Shea 2022; Hatten 2004; Koozin 2011; Lenta 2009; Zbikowski 2017). What is often left out is the role of gesture in the audience's understanding of the piece, and how these performance gestures might better provide an insight into the work for those seeing the performance. Since the role of gesture in conceptualizing thought is supported by scholars whose focus lie outside of music (McNeill 1992; Goldin-Meadow 2003), incorporating these concepts of non-musical gestures into music theory is integral and proves to be useful for the analysis and perception of performance.

This poster foregrounds the role of non-musical gesture in performance and their possible impact on the perception and cognition of those in the audience. Specifically, I argue that by linking visual perception with the gestures made in live music performance, the performance can significantly shape an individual's perception of a piece of music.

Fig B



Methodology

The first way I engage with this problem is to look to corpus studies. In the Gardner Gesture Corpus (Gardner 2022), I analyze the gestures and movements made in 185 live performances over a 10-year span from 2011-2020 of Billboard Chart topping songs. By gesture, I mean the non-choreographed movements that a singer makes with their hands if they were performing without an instrument. I utilize existing gesture taxonomies including Jensenius et al. (2010) and their definitions of communicative and facilitating gestures. I found that within the performances analyzed, gesture occurs 33% of the time (Table A).

Utilizing this information, I conducted an experiment that test how participants experience the continuation of a melody in conjunction with a visual avatar gesturing with either a line across its chest, or by making a circle around its body (Figure B). Participants heard five starting melodies that featured two diatonic melodies, a whole tone melody, an octatonic melody, and a 13-note Bohlen Pierce melody. Participants were asked which fit better, a continuation of the starting melody in the same direction, or if the starting melody changed contour. The results of the experiment shows participants found to have expectations relating to diatonic melodies, specifically that if they see a straight line they expected a change in the contour of the melody, and if they see a circle across the chest they expected the melody to continue in the same direction.

By using this as a blueprint, I have begun to see how these gestures (and other related movements) inform audience expectations in music performance. What I find is gestures similar to the artificial ones in the experiment can be found in music performance and correspond with the various types of melody expectations mentioned above.

Table A

Type of Gesture (Jensenius)	Total Occurrences (of 13697)	Percentage
Total	4562	33.31%
Communicative	3506	25.59%
Facilitating	1056	7.71%



Analysis

I present an analysis of Lorde's song "Team," focusing on the final line of the chorus "I'm kind of over being told to throw my hands up in the air, so there." The three performances are all within a year of each other and take place in Lisbon, Oakland, and the ARIA awards respectively. In each performance her left arm is always moving in a straight line. In the first performance you saw, in Lisbon, she bends over and extends her left arm up in the air, seemingly as high as it will go. During a performance in Oakland, she stands straight up, and begins the line with her hand over her mouth. In the ARIA Awards performance, she does not bend over this time. She stands straight with her left hand out that moves up slightly in a subdued fashion before falling down to her side (Figure C).

The melody from this line is featured in Figure D. It starts off with a contour change and ends with three more. For at least two of the Lorde performances, she makes a clear straight line with her arm. I argue that performances such as this are informing the audience and helping build melodic expectation for concert goers. It is also able to inform analyst in how critically analyze music performance in a way that can capture audience experience.

Selected Bibliography

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