



# **Global Arts and Psychology Student Conference (GAPS2017)**

28-29 April 2017

Boston, Graz, La Plata, Sheffield, Sydney

## **Global Program and Abstracts**

Graz: Mozartgasse 3, EG: 23.02, 23.03, 23.01, Studio

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### **1. Introduction**

GAPS is about the arts and the people who create and appreciate them, from a psychological perspective. The arts include auditory arts (music, sound design), visual arts (painting, architecture), literature, drama, opera, digital arts, and so on. We will focus on music. There will be about 8 research presentations at each hub. There will also be 3 keynotes, which will be viewed by all hubs.

To our knowledge, GAPS will be the world's first semi-virtual academic conference. GAPS will strike a new balance between face-to-face and virtual communication, and between activities on different continents, to create a truly global conference. Every talk will be both live and virtual — presented to a live local audience and viewed elsewhere, either in real time or with a time delay. Live and virtual presentations will run in parallel at every hub. In July 2018, the new format will be scaled up for the international music psychology conference ICMPC15/ESCOM10.

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## 2. Participating hubs and organization

### *Graz:*

Centre for Systematic Musicology

University of Graz

Austria



Conference Manager: Maximilian Burkard

Vice-Manager: Julia Ebner

Technical Manager: Nils Meyer-Kahlen

Programming Manager: Theresa Schallmoser

Promotion Manager: Hanna Pell

Refreshments Manager: Magdalena Ramsey

Room manager: Michael Schlott

Senior organizer: Richard Parncutt

### *Sydney:*

School of the Arts and Media

University of South Wales

Australia



Conference Manager: Riza Veloso

Technical Manager: Anthony Chmiel

Programming Manager: Marco Susino

Promotion Manager: Thomas Dickson

Senior organizer: Emery Schubert

*Sheffield:*

Department of Music

Sheffield University

UK



The  
University  
Of  
Sheffield.

Conference Manager: Shen Li

Technical Manager: Caroline Curwen

Programming Manager: Tim Metcalfe

Promotion Manager: Ioanna Filippidi

Conference Assistant: Nicola Pennil

Senior organizer: Renee Timmers

*La Plata:*

Laboratorio para el Estudio de la Experiencia Musical

Universidad Nacional de La Plata

Argentina



UNIVERSIDAD  
NACIONAL  
DE LA PLATA

Conference Managers: Alejandro Pereira Ghiena and Joaquín Pérez

Technical Manager: Sebastián Castro

Programming Manager: Camila Beltramone

Promotion Manager: Matías Tanco

Refreshments Manager: Demián Alimenti Bel

Room manager: Alejandro Ordás

Language Manager: Nicolás Alessandrini

Senior Organizer: Isabel Martinez

*Boston:*

Friedman School of Nutrition Science and Policy

Tufts University

USA



**Tufts**  
UNIVERSITY

Conference manager: Victoria Chase and Parke Wilde

Rooms manager: Mehreen Ismael

Program manager: Inbar Vanek, Andrea Norton, Ola Ozernov-Palchik

Refreshment manager: Victoria Chase

Senior academic organizer: Parke Wilde, Friedman School of Nutrition Science and Policy, Tufts University, Boston USA, assisted by Ani Patel (Dept. of Psychology, Tufts University), Morwaread M. Farbood (Dept. of Music and Performing Arts Professions, New York University), and Andrea Norton (Beth Israel Deaconess Medical Center, Boston)

*Tonal center in music performance: searching for embodied cues in the temporal unfolding of the musician's performance*

### Background

In tonal music, the “center” is the most resilient metaphor for the tonic note. Both in music theory and in the music notation systems, there were developed visual representations and schematic models to explain the relations between tones in a musical piece. To provide a definition of the tonal center, with the tonic as the highest hierarchical event of the tonal system, it is necessary to involve a complexity of meanings brought about by different concepts like pitch, intervals, harmony, and scales, among others. In this paper, we assume that the tonal center is understood and structured through metaphorical mappings from a small set of fundamental experiential concepts, in the way of Lakoff & Johnson's Conceptual Metaphor Theory. Previous experimental work in music cognition showed that dynamic, imaginative representations of image-schemas serve cross-domain mapping processes that are used to produce metaphorical interpretations of musical sound in the cognition of prolongational structures.

### Aim

The aim of this work is to study the performer's movement linked to the experience of tonal center. After defining the relations between the tonal unfolding of a musical piece and the analogical/metaphorical representations of musical tones in space, we discuss the tonal center as an embodied concept in music cognition.

### Method

An observational study was run on the performance of Mozart's K. 333, 1. First, we analyzed its tonal structure using a Schenkerian approach. Second, we performed an annotated movement observation of Lang Lang's professional broadcast, using ANVIL, aimed at describing the spatial orientation of head and torso's movements. Third, we registered -using a Motion Capture System- the Mozart's performance by a professional pianist (+20 of experience). Movement analysis generated a temporal trajectory of the head's markers related to the hip's marker (body's center of gravity) taken from an upper view of the performer's movements.

### Results

It was predicted that the spatial trajectories might be related to cross-domain mapping processes involving image-schemas instantiated in performance. Results show movements oriented towards spatial locations that appear to function like centers of attraction at different structural moments: (i) movements around the balance position's center were found throughout the initial tonic prolongation; (ii) an increasing tendency to move away from the body center onto peripheral space accompanied music direction onto the structural dominant of the phrase; (iii) return to the initial body center position after the first theme's cadence; and (iv) modulation process redirected movement's tendency around a different center position before the second theme.

### Conclusions

Musician's body trajectories in performance were interpreted as terms of center/periphery image-schemas, formed in different locations of the performance's space. They are understood as embodied cues that support a metaphorical cognition of the tonal center as it unfolds dynamically in time. Future research will inquire the meanings of movement performance in the spectators' experience of tonal center. Direct correspondences between movement and sound production can also be studied in relation to conventional meanings of gestures in social cognition about tonality and performance, and how these are involved in metaphorical music cognition.

**Keywords:** embodied music cognition, performance, tonality, center, metaphor

**Topics:** Cognition, memory and language, Performance and timing, Structure, tonality and metre