

KOSMOS DIALOGUE 2017



# MUSIC, EMOTION, AND VISUAL IMAGERY

Humboldt-Universität zu Berlin

June 1 - 3, 2017





# KOSMOS Dialogue 'Music, Emotion, and Visual Imagery'

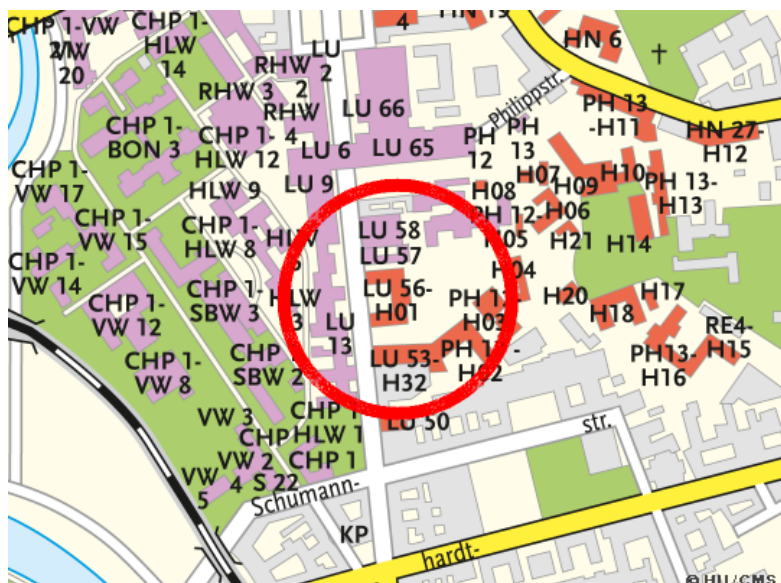
**Humboldt-Universität zu Berlin**

**June 1-3, 2017**

# GENERAL INFORMATION

## KOSMOS Venue

Festsaal, 2<sup>nd</sup> floor, Luisenstraße 56, 10117 Berlin



## WLAN

If you would like to connect to a WLAN at the venue, the preferred network is 'eduroam'. If you don't have access to 'eduroam', you can also login via 'HU-Meeting'. Username and password are provided at the registration desk.

## Shared folder

We created a public Dropbox folder (<http://bit.ly/KOSMOS-EMUVIS-2017>) where we will share relevant material during and after the event.

## Places for lunch near KOSMOS venue

Café Frau Schneider (Luisenstr. 13 – just across the road)

Bäckerei Thürmann (Luisenstr. 46)

## KOSMOS Dinner (June 2, 8pm)

Restaurant "Esszimmer" (Scharnhorststr. 28/29, 10115 Berlin)

## Funding

This KOSMOS Dialogue is generously supported by Future Concept resources of Humboldt-Universität zu Berlin through the Excellence Initiative of the German Federal Government and its Federal States.

## Special thanks to our student assistants:

Ye-Young Hwang

Céline Couson

**KOSMOS Dialogue 'Music, Emotion, and Visual Imagery'**  
**Humboldt-Universität zu Berlin, June 1-3, 2017**  
**Festsaal, 2<sup>nd</sup> floor, Luisenstr. 56,**  
**10117 Berlin**

## **PROGRAMME**

### **June 1**

12.00 Registration | Meet and Greet

13.00-

14.00 Introduction to KOSMOS Dialogue 'Music, Emotion, and Visual Imagery'  
by M. Küssner, A. Weinreich (HU Berlin) and T. Eerola (Durham  
University)

M. Küssner and T. Eerola: Preliminary findings from an online survey on  
music, emotion and visual imagery

A. Weinreich: Measuring emotions: methods and concepts

14.00-

15.00 *Archetypes and Narratives (chair: George Athanasopoulos)*

Expressing archetypes through music: a use case for employing  
archetypes to navigate the emotional and imaginary content of the  
listening experience (C. Wong, D. Müllensiefen, S. Keller, Goldsmiths,  
University of London)

Music-evoked narratives as a potential source of visual imagery (J.  
Vuoskoski, University of Oxford)

- *Coffee break* -

15.30-

16.30 *Performance and Gesture (chair: Sebastian Klotz)*

Opera, emotions and visual imagery. *La bohème*: image schemas and  
metaphorical interpretation (S. Gerothanasi, Aristotle University of  
Thessaloniki)

"Don't sing it with the face of a dead fish!" Can Imagery Stimulate a Vocal  
Response in Choral Rehearsals? (M. Black, University of Leeds)

- *Break* -

18.00-

19.30 Public lecture by Prof. Tuomas Eerola (Durham University) on "How music  
evokes emotions" followed by a reception (chair: Sebastian Klotz)

## June 2

9.00-

10.30 *Mechanisms and Structures (chair: Mats Küssner)*

The timing of musically elicited emotions and visual imagery responses  
(R. Day & B. Thompson, Macquarie University)

Emotional Associations Evoked by Structural Properties of Musical Scales  
and Abstract Visual Shapes (F. Moss, M. Rohrmeier & F. Bravo,  
Technische Universität Dresden)

Visual Imagery during Music-Evoked Sadness: Perspectives from  
Cognitive Psychology and Neuroscience (L. Taruffi, Freie Universität  
Berlin)

- *Coffee break* -

11.00-

12.30 *Interventions and Applications (chair: Jörg Fachner)*

Influence of interval size on imagery during Guided Imagery and Music  
(GIM) Therapy (H. Dukic & R. Parncutt, University of Graz)

Measuring and mediating fear responses with musical and visual stimuli  
(J. Williams & D.A.H. Williams, Imperial College London / Plymouth  
University)

GIM and monochord – Imagery, relaxation and brain processing in  
receptive music therapy settings (J. Fachner, Anglia Ruskin University)

- *Lunch break* -

14.00-

15.30 *Absorption and Consciousness (chair: Jin Hyun Kim)*

Listening with the Mind's Eye: The role of Visual Imagery in Music  
Listening (G. Presicce, University of Hull)

In and Beyond the Concert Hall – Influences of the interaction  
between music perception and visual perception on the emotional state of  
the listener in different concert situations (R. Vulto, Utrecht University)

Absorption in a Glance: Examining the Structure of Consciousness in  
Response to Self-chosen Music (T. Vroegh, MPI for Empirical Aesthetics)

- *Coffee break* -

16.00-

18.00 Working in small groups:

What do we know about music, emotion, and visual imagery?

- Collecting and exchanging research ideas

- Defining priority topics and designs
- Preparing short presentations for Day3

18.00 Tour and hands-on demonstration of the Erich von Hornbostel Audio Emergence Lab (HAEL) at the Institute of Musicology and Media Studies (Am Kupfergraben 5, 10117 Berlin)

20.00 KOSMOS Dinner at Restaurant "Esszimmer" (Scharnhorststr. 28/29, 10115 Berlin)

### **June 3**

9.30-

12.00 Summary and Future Directions

- Short presentations followed by discussions
- Strategic development

*- Lunch and farewell -*

## ABSTRACTS

### Day 1

12.00 Registration | Meet and Greet

13.00-

14.00 Introduction to KOSMOS Dialogue 'Music, Emotion, and Visual Imagery' by M. Küssner, A. Weinreich (HU Berlin) and T. Eerola (Durham University)

M. Küssner and T. Eerola: Preliminary findings from an online survey on music, emotion and visual imagery

A. Weinreich: Measuring emotions: methods and concepts

14.00-

15.00 *Archetypes and Narratives* (chair: George Athanasopoulos)

**Expressing archetypes through music: a use case for employing archetypes to navigate the emotional and imaginary content of the listening experience** (C. Wong, D. Müllensiefen, S. Keller, Goldsmiths, University of London)

Archetypes, from a Jungian perspective, are symbols or motifs that appear to be universally present in individual psyches. Archetypal frameworks (events, settings, character types) inform how we construct narratives - stories with emotional arcs and imagery - and are regularly used to connect to an audience through visual and written content. They can therefore serve to navigate the emotional and imaginary content of the listening experience. We present a study that establishes some systematic links between psychoacoustic properties, mood/affect and character archetypes.

138 instrumental musical clips (19 seconds long) were derived from 600 tracks sourced from a commercial music library, selected by controlling for 5 psychoacoustic properties (tempo, dynamic loudness, dynamic changes, pitch range, brightness). Properties were measured using the MIR Toolbox implementation (v1.6) in Matlab. Participants (lab-based = 48, online = 145) were asked to listen to a selection of the clips (each once only) and rate suitability of each clip for 6 different archetypal figures (e.g. suitability for representing a Hero, Lover, Jester).

Multiple linear regression models yielded significant psychoacoustic predictors for Jester and Sage ( $p < .001$ ) with consistent correlates in studies of mood, affect and emotion. Jester's association with faster tempi and Sage with slower tempi have correlates with kinaesthetics (e.g. agitated versus slow/smooth expressive arm movement, expressive vocal theory, emotional interpretation of fast or slow footsteps), and Hevner's mood/affect adjective circle (mischief, whimsy versus dignity, serenity). Clips more highly rated for Jester exhibited higher timbral brightness with staccato, arpeggiated notes, associated with gaiety and agitation; clips for

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Sage demonstrated stronger associations with duller sounding or ambient instrumentation.

**Music-evoked narratives as a potential source of visual imagery** (J. Vuoskoski, University of Oxford)

What gives rise to visual imagery on the context of music listening? In this talk I will consider the possibility that music-evoked visual imagery may stem from our innate tendency to make sense of the world and our experiences through the construction narratives, as well as the frequent pairing of music and narrative content in our daily lives. I will also present the results of an empirical study that investigated the effects of short narrative descriptions on the emotions and visual imagery evoked by a piece of unfamiliar, instrumental music. Two groups of participants (both  $n = 30$ ) were provided with two different descriptions regarding the original context of a sad-sounding piece of film music; a description of a concentration camp scene or a description of a nature documentary. The induced emotions were measured as objectively as possible using indirect memory and judgment tasks. The results of the two groups were then compared to previously collected data ( $N = 60$ ), where participants listened to either the same, sad-sounding piece of music without a description, or to neutral-sounding music. The results suggest that the narrative descriptions indeed influenced the emotional effects of the music, as the sad description appeared to intensify the sadness induced by the sad-sounding piece. I suggest that the narrative descriptions may have enhanced emotion induction via the *visual imagery* mechanism, as 80% of participants in both groups reported thinking about imagery related to the narrative descriptions provided.

- Coffee break -

15.30-

16.30 *Performance and Gesture* (chair: Sebastian Klotz)

**Opera, emotions and visual imagery. *La bohème*: image schemas and metaphorical interpretation** (S. Gerotheranasi, Aristotle University of Thessaloniki)

My presentation deals with the ways in which music and visual imagery interact in creating an affective response in opera. My aim is to carry out an interpretative approach of specific scenes of the opera *La bohème* by Giacomo Puccini and libretto by Luigi Illica and Giuseppe Giacosa. The focus is on the recurring musical motifs that carry dramaturgical function and reflect certain parameters of the libretto. The variation of the recurring musical motifs in terms of orchestration, pitch, tonal area, among others, is not accidental. It gives rise to metaphorical interpretations that prompt from basic image schemas such as horizontality or verticality. The musical motifs and the image schematic experience are reinforced through the parameters of the libretto. I will try to show how dramatic and poetic parameters of the libretto together with the recurring musical motifs elicit powerful emotional reactions. Special focus will be assigned on specific



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scenes of the opera in order to show how the production and the interpretation of metaphors, based on image schemas, give rise to emotions.

**“Don’t sing it with the face of a dead fish!” Can Imagery Stimulate a Vocal Response in Choral Rehearsals?** (M. Black, University of Leeds)

- What is visual imagery and how does it manifest itself in choral rehearsals?
- Is imagery able to create a change in singers’ vocal responses?
- When singers encounter imagery, how do they know how to respond?
- Is imagery only useful in creating expression?

These questions will be answered in the presentation based on part of my PhD thesis which examined the use of imagery in choral rehearsals. The research sought to establish the types of imagery used and whether and how they were understood by singers. The research established what role imagery plays in choral directing pedagogy and what implications this has for choral directors’ practice.

The investigation was completed over five years and adopted a multi-method approach, using videoed observations, questionnaires and interviews; twenty-one directors and over 300 choir members across 15 choirs contributed to the research.

A series of choral rehearsals was examined focussing on the occurrences of imagery and how they affected the sung responses. The results were analysed and a series of findings produced. The functions of imagery were established and the research resulted in the creation of a typology of imagery as used in choral rehearsals.

- Break -

18.00-

19.30 Public lecture by Prof. Tuomas Eerola (Durham University) on “How music evokes emotions” followed by a reception (chair: Sebastian Klotz)

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## Day 2

9.00-

10.30 *Mechanisms and Structures* (chair: Mats Küssner)

### **The timing of musically elicited emotions and visual imagery responses** (R. Day & B. Thompson, Macquarie University)

Motivated by Juslin and Västfjäll's (2008) call to investigate 'underlying mechanisms', an initial questionnaire study asked participants who reported 'yes' to experiencing visual imagery during a listening task, whether the imagery occurred prior to feeling an emotion or afterwards. Results indicated that more participants reported feeling an emotion before experiencing imagery than the reverse scenario. Following this, a response time study (N=49) involving a key-press task, found that mean response times for participants to *feel* an emotion were significantly longer than *recognising* an emotion, but significantly shorter than *experiencing* a visual image, when they listened to 30 musical stimuli, 20 seconds in length.

Additional non-parametric correlations between self-report measures of *valence*, *arousal*, *imagery vividness* and *response times* support the possibility that visual imagery 'emerges' from emotional experiences or that imagery is mediated by emotions elicited by other mechanisms such as *brain stem reflexes* or *evaluative conditioning*. However, it is also possible that the two experiences occur independently and neither one causes the other. The aim of the next study is to carry out a path analysis in order to investigate this relationship further. Imagery collected in the two studies and reported by participants feature similar kinds of themes as mentioned previously, these being landscapes and scenes from nature, references to past events, movement, colour and shape.

My presentation will report these results and ideas for future studies.

### **Emotional Associations Evoked by Structural Properties of Musical Scales and Abstract Visual Shapes** (F. Moss, M. Rohrmeier & F. Bravo, Technische Universität Dresden)

Artists and scientists have attempted to explore and identify systematic relationships between the auditory and visual domains. Empirical evidence indicates that cross-modal matches, for example between music and colors, might be mediated by emotion. Through its structural characteristics, music is able to elicit a wide spectrum of affective associations. Associations evoked by musical structures may influence attention, memory and comprehension processes. However, important questions underlying the nature of these correspondences still remain unanswered. This paper will describe our current empirical work, aimed at addressing the following three questions: i) What other factors within the musical structure, beyond the classically studied variables of tempo (slow/fast) and mode (minor/major), are able to generate music-visual correspondences? Specifically, we investigate certain structural properties of sets of tones such as cardinality, generatedness, well-formedness, and transpositional symmetry by their systematic manipulation, resulting in diatonic, pentatonic, hexatonic, octatonic, and whole-tone scales, as well

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as in natural hexachords. ii) Are there specific links between these structural properties in music and visual features, such as: value, line, shape, volume, space, and texture? iii) Can cross-modal relationships between music and visual information be supported by more abstract features such as the three emotional dimensions of valence, arousal and potency? The present research project examines how music evoked associations, and particularly those induced by certain structural properties of scales, may function as subconscious mnemonic cues for the cognitive system, consequently affecting processes that can go beyond the already studied music-color relationships, by modulating cross-modal correspondences with other basic visual design elements.

**Visual Imagery during Music-Evoked Sadness: Perspectives from Cognitive Psychology and Neuroscience** (L. Taruffi, Freie Universität Berlin)

A significant part of our waking hours consists of periods of spontaneous streams of thoughts, which are remarkably rich and include, for example, visual imagery, daydreams and fantasies, mentalizing about other people, recollection of past memories, reflecting on personal concerns or goals, and future planning. Can these particular mental states, also referred to as “mind-wandering” or “daydreaming”, be modulated by music? Results from a *thought probing* experiment, in which 216 participants listened to two different types of music (evoking sadness and happiness, respectively) and had to report their mental experiences during the music, show that: (i) sad music increases mind-wandering episodes compared with happy music, and (ii) mind-wandering during both types of music takes place predominantly in the form of visual imagery. Moreover, a content analysis of participants’ thought-reports during the music indicates that the visual images differ as a function of the emotion evoked by the music (sadness and happiness). Specifically, images during the sad condition mainly referred to emotions and natural elements, while images during the happy condition were characterized by dancing scenes. Additional results from a separate fMRI experiment suggest that visual imagery during sad music is enhanced in listeners with high scores on a self-report measure of trait empathy, as pointed by the high eigenvector centrality values found in the primary visual cortex. All together, the findings underscore a strong link between visual imagery and music-evoked emotions and offer novel insights for future investigations on the topic.

- *Coffee break* -

11.00-

12.30 *Interventions and Applications* (chair: Jörg Fachner)

**Influence of interval size on imagery during Guided Imagery and Music (GIM) Therapy** (H. Dukic & R. Parncutt, University of Graz)

We are developing a new approach to musical narrativity in which we compare musical structure with stories told spontaneously by music therapy clients. In GIM, clients experience imagery (social and physical

situations) that appears to be evoked by music and has a narrative structure related to music's temporal structure (Bonny, 1995).

Firstly, we hypothesized that musical movement triggers movement in the imagery: The more a musical piece is perceived to move, the more the imagery will move. To test this, the first author conducted standard GIM sessions with 23 clients using Bonny's "Nurturing" programme (7 compositions, 30min). Everything the clients said while the music was playing was transcribed in MAXQDA. Each sentence was then mapped onto one of 3 imagery types: scenery (client observes), action (client acts), and presence (characters appear). Most clients experienced the same imagery types in the same music passages.

In Britten's piece the ratio (scenery:action:presence) was 63:25:12; Walton's piece 100:0:0; Berlioz's first piece 51:25:24; Berlioz's second piece 43:12:45; Puccini's piece 61:20:19; Massenet's piece 58:23:19; Canteloube's piece 54:18:28.

We then asked 11 professional musicians to listen to the 7 compositions in the same order as the clients did. Their task was to rate each composition on a continuous scale from 'smooth' (value 0) to 'jumpy' (value 1) using a slider in Psychopy.

The pieces that musicians judged as most smooth were also the pieces that evoked the most 'scenery' imagery, confirming our hypothesis. A Pearson correlation was used to determine the correlation between 'jumpiness' value and each imagery type; 'scenery' ( $R=-0.86$ ), 'action' ( $R=0.67$ ), 'presence' ( $R=0.69$ ).

### **Measuring and mediating fear responses with musical and visual stimuli** (J. Williams & D.A.H. Williams, Imperial College London / Plymouth University)

Certain species, often labelled 'non-charismatic', can provoke negative emotional responses (including fear), making it difficult to garner funding to support ongoing conservation efforts [1]. Discussion alone cannot always overcome these responses. Music can cause physical reactions in the listener, including the mediation of pain, and the induction of specific emotional states [2], [3]. Thus the combination of music with multimodal presentation of non-charismatic species under threat in Zoo or Aquarium contexts, presents an opportunity to mediate negative emotional responses in an attempt to address this challenge. Traditional emotional response measurement often uses self-report techniques, which can be problematic when differentiating between perceived and induced responses. This paper proposes the use of a paradigm combining self-report with biophysiological measurement in order to investigate the influence which music and visual imagery might exert on these emotional states. Animals which provoke negative responses can then be further investigated by means of simultaneous presentation with different types of auditory stimulus, in tandem with images of the animals in question, other visual stimulus materials and images of species to which positive responses are generally invoked. The responses will be correlated to determine whether there is any change, dependent on the order of stimulus presentation, and multimodal stimulus set, and thus determine a best-practice guide to assist future planning efforts. As well as emotional state mediation, this work has the potential to assist in creating more

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immersive and engaging curatorial exhibits in order to reach potential donors more effectively.

**GIM and monochord – Imagery, relaxation and brain processing in receptive music therapy settings** (J. Fachner, Anglia Ruskin University)

This paper reports and reviews investigations into GIM and monochord applications in MT settings. Receptive music therapy (RMT) focuses on music listening together with a music therapist (MT). One well established approach is Guided Imagery in Music (GIM) in which a MT accompanies and guides the imagery of a client (Grocke & Wigram, 2007).

The author et al. recorded EEG during rest, relaxation induction (ASC) and a specific GIM listening program (Imagery). EEG data was compared against a normative EEG/LORETA database investigating artefact-free rest, ASC and pivotal parts of the music listening preceding verbal response. Selections were based on an independent GIM therapist's ratings of separately analysed verbal responses. Client's responses report a deep relaxation and vivid imagery response which was reflected on theta and beta ranges and corresponding cuneus activity.

RMT investigations focusing on the imagery and brain processes evoked from the droning sounds and vibrations while lying on a body monochord being played from the MT:

The author et al. investigated the specific monochord relaxation response in a group psychotherapy setting elicited frontal and occipital beta changes compared to rest, resembling participant's responses. Cancer patient's EEG responses relaxing on a monochord compared to a verbal muscle relaxation induction showed different EEG responses in frontal areas (Lee et al 2012). Comparing monochord relaxation against verbal mindfulness induction in palliative care settings reported differences in evoked imagery and in cardiovascular data indicating a more distinct trophotropic activity compared to mindfulness induction (Warth et al 2016). Both approaches indicate the re-creative and salutogenic potential of using imagery and music for therapeutic purposes.

- Lunch break -

14.00-

15.30 *Absorption and Consciousness* (chair: Jin Hyun Kim)

**Listening with the Mind's Eye: The role of Visual Imagery in Music Listening** (G. Presicce, University of Hull)

A recently conducted exploratory study empirically investigated listeners' responses to solo piano music, more specifically in terms of engagement levels – *feeling compelled, drawn in, connected to what is happening in the music* (Schubert, Vincs & Stevens, 2013) – and music-induced visual imagery, often defined as 'seeing with the mind's eye' (Lacey & Lawson, 2013). Although visual imagery and engagement with the music have been increasingly explored over the past two decades, remarkably little work has investigated the relationship between the two. Potential links do exist, however: visual imagery is described as one of the key mechanisms

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underlying listeners' emotional reactivity during music listening (Juslin et al., 2010; Juslin, 2013), for example, suggesting a possible common ground between imagery and engagement.

34 participants provided self-report continuous measures of engagement and visual imagery in response to four complete piano works, through the use of a slider. The continuous data collected enabled an exploration of where in the music and at what levels these responses took place, whilst free annotations and interviews provided an insight on the content of such responses. Examinations of cross-correlation functions between participants' engagement and visual imagery responses in time series analysis (Bailes & Dean, 2012; Dean & Dunsmuir, 2016) revealed a statistical significance. A preliminary overview of the qualitative data suggests that, when imagery was experienced, participants followed *imagery routes* related to eight broad categories: emotion, associations (both musical and visual), topical references to the music, memory or personal experiences, performance perspectives, musical features, narratives and seemingly random responses.

**In and Beyond the Concert Hall – Influences of the interaction between music perception and visual perception on the emotional state of the listener in different concert situations** (R. Vulto, Utrecht University)

'Impressive', 'extraordinary' and 'absorbing' are no exceptional comments made by concertgoers to describe their experience. The emotions expressed in such descriptions are connected to the music as well as to the space in which the concert takes place, and are highly determinative for a positive or negative valence of the musical experience. In a comparative phenomenological investigation, I have looked at the perception of classical music in contrasting surroundings: the concert hall versus other concert situations (e.g. clubs, industrial buildings and open-air concerts). In all situations, the emotional state of the listener is affected by a process of closely intertwined interaction between visual stimuli (perception of the space and the performers) and auditory stimuli (perception of the music and extramusical sounds). For example, seeing the music being performed can intensify the musical experience, but can also distract from it, which leads to a respectively positively or negatively valued experience. The same can be said about visual imagery evoked by the music. So it becomes clear that the auditory perceptions and (mental) visual perceptions of music and space can induce contrasting emotions within the same concert situation, indicating that their interaction plays an essential role in the general valence of the experience. As such observations seem to apply in similar ways to both concerts in the concert hall and other concert situations, I am exploring this interaction and its role in the different situations in my research, which I am glad to present at the KOSMOS Dialogue.

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**Absorption in a Glance: Examining the Structure of Consciousness in Response to Self-chosen Music** (T. Vroegh, MPI for Empirical Aesthetics)

Intentional listening to music has often been linked with changes in mental states, such as absorption. These states are often accompanied with visual imagery, in addition to emotions. Yet, despite its ubiquity, few empirical studies have provided a detailed psycho-phenomenological profile of these altered states. These may, however, be helpful in clarifying how phenomena like imagery and emotions are potentially linked within a broader network of consciousness dimensions. The main aim of this study was to gain insight in the altered consciousness structure when being absorbed while listening to music, while accounting for potentially different types. To this end, participants (N=228) were asked to listen to their preferred piece of music and directly afterwards were requested to fill in the Phenomenology of Consciousness Inventory (PCI; Pekala, 1991) which was employed as state questionnaire in an online survey. The PCI allows for quantifying the structures and patterns of subjective experience along a large number of main- and sub dimensions, including the amount and vividness of imagery. After having cluster-analytically derived at two distinct types of absorption, referred to as 'zoning-in' and 'tuning-in' (cf. Smallwood 2007), 'psygrams' (i.e. clock-like visual diagrams) were used to further evaluate the complex nature of their consciousness structure. Results suggested that, in contrast to imagery, the different quality of felt emotion – mixed emotion vs positive emotion – appeared influential on the creation of these different absorption types. Findings are consistent with theories which suggest that cognition and affect or emotion are inextricably interlinked (e.g. Cupchick, 2013).

- *Coffee break* -

16.00-

18.00 Working in small groups:

What do we know about music, emotion, and visual imagery?

- Collecting and exchanging research ideas
- Defining priority topics and designs
- Preparing short presentations for Day 3

18.00 Tour and hands-on demonstration of the Erich von Hornbostel Audio Emergence Lab (HAEL) at the Institute of Musicology and Media Studies (Am Kupfergraben 5, 10117 Berlin)

20.00 KOSMOS Dinner at Restaurant "Esszimmer" (Scharnhorststr. 28/29, 10115 Berlin)

Saturday, June 3

**Day 3**

9.30-

12.00 Summary and Future Directions

- Short presentations followed by discussions
- Strategic development

*- Lunch and farewell -*



# KOSMOS PARTICIPANTS

Title	Last Name	First Name	Affiliation	Email Address	Principal research areas
Dr.	Athanasopoulos	George	Aristotle University of Thessaloniki	georgenathanasopoulos@gmail.com	Music psychology, ethnomusicology, music sociology, music semiotics
Dr.	Black	Mary	Leeds University	Blackmt1836@gmail.com	Verbal imagery in choral rehearsals
Dr.	Bravo	Fernando	Technische Universität Dresden	fernando.bravo@tu-dresden.de	Neuroscience, Music cognition, Emotion, Theory of Mind, Film-music
	Day	Robina	Macquarie University	robina.day@hdr.mq.edu.au	Musical elicitation of emotions, Visual imagery, Individual differences, Self-reported experiences
	Dukic	Helena	University of Graz		Music psychology, music therapy, Guided imagery and music, music and meaning
Prof. Dr.	Eerola	Tuomas	Durham University	tuomas.eerola@durham.ac.uk	music perception, music and emotions, empirical musicology, computational models, music and movement
Prof. Dr.	Fachner	Jörg	Anglia Ruskin University	jorg.fachner@anglia.ac.uk	Music Therapy, biomarkers, consciousness, brain states, addiction
Dr.	Gerothanasi	Stamatia	Aristotle University of Thessaloniki	matige@mus.auth.gr	Opera, libretto, music dramaturgy, conceptual metaphor, image schemas
Prof. Dr.	Holt	Fabian	Humboldt-Universität zu Berlin	fabian.holt@hu-berlin.de	
Jun.-Prof. Dr.	Kim	Jin Hyun	Humboldt-Universität zu Berlin	jin.hyun.kim@hu-berlin.de	aesthetic experience of music; kinaesthetic empathy; experimental phenomenology of music (neurophenomenology, micro-phenomenological interview techniques); musical interaction (including human-computer and human-robot interaction); experimental music and new media art
Prof. Dr.	Klotz	Sebastian	Humboldt-Universität zu Berlin	sklotz@hu-berlin.de	Musical knowledge systems, musical agency
Dr.	Küssner	Mats	Humboldt-Universität zu Berlin	mats.kuessner@hu-berlin.de	Multimodal perception of music, music and emotion, embodied music cognition, performance science

	Moss	Fabian	Technische Universität Dresden	fabian.moss@tu-dresden.de	Extended Tonality, Musical Syntax, Harmony, Music Theory, Music Cognition
	Presicce	Graziana	University of Hull	g.presicce@2009.hull.ac.uk	Visual Imagery, Engagement, Music Listening, Piano Performance
Dr.	Taruffi	Lila	Freie Universität Berlin	lilataruffi@zedat.fu-berlin.de	music & emotion, mind-wandering, empathy, well-being, alexithymia
	Vroegh	Thijs	Max Planck Institute for Empirical Aesthetics	Thijs.vroegh@aesthetics.mpg.de	Consciousness, absorption, aesthetics, meta-awareness
	Vulto	Renée	Utrecht University	reenevulto@gmail.com	
Dr.	Vuoskoski	Jonna	University of Oxford	jonna.vuoskoski@music.ox.ac.uk	Music and emotion, music and empathy, 'being moved', embodied cognition
Dr.	Weinreich	André	Humboldt-Universität zu Berlin	a.weinreich@hu-berlin.de	
	Williams	Jessica	Independent researcher (affiliated with Paignton Zoo)	jessica.williams115@imperial.ac.uk	Conservation, fear ecology, telemetry, restoration ecology
Dr.	Williams	Duncan	Plymouth University	Duncan.williams@plymouth.ac.uk	Brain computer interfacing, affect, perception
	Wong	Christian	Goldsmiths, University of London	xian.j.wong@gmail.com	Musical similarity, meaning in music, musicality

# NOTES