

# 19<sup>th</sup> Herbstakademie

## Embodied Aesthetics: Resonance in Perception, Expression and Therapy

October 5<sup>th</sup> – 7<sup>th</sup>, 2017  
in Heidelberg, Germany

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## **WELCOME ADDRESS**

Dear participants,

We are happy to welcome you to the 19th Herbstakademie in beautiful Heidelberg, Germany. Embodied Aesthetics is part of the series of Herbstakademie meetings dedicated to the topic of complex systems and synergetics in psychology, neuroscience and related disciplines. Several previous conferences of the series have focused on embodiment.

This year, we will address theoretical and applied questions of embodiment:

- What is the role of the body in feeling and thinking, particularly concerning the experience of beauty? We bodily resonate with aesthetic experiences when we appreciate art and unexpected insights. In art-making, we thrive and experience agency and self-congruence. How can an embodied aesthetics be conceptualized?
- Which novel perspectives can the embodiment approach offer to creative arts therapies, psychotherapy, and artistic expression?
- How can clinicians and psychotherapists incorporate embodiment, such as nonverbal synchrony, into their work?
- What role does the experience and embodiment of beauty play for health?

We are happy to convene outstanding researchers from many different disciplines, who will broaden our perspectives on the topic. Participants and presenters work in areas such as empirical aesthetics, psychology, neuroscience, sociology, creative arts therapy, psychotherapy, and dynamic systems research.

We are confident that these three days and the workshops on the day before the conference will offer new insights and encounters, and leave you richer than before.

A warm welcome to all of you,

Sabine Koch, Thomas Fuchs & Wolfgang Tschacher

## PROGRAM

| Wednesday Oct 4 <sup>th</sup>   | Thursday Oct 5 <sup>th</sup>  |
|---|---|
| <p style="text-align: center;"><b>Thursday to Friday:</b> venue of the main conference (registration, sessions and keynotes):<br/>Neue Universität / New University, Universitätsplatz, 69117 Heidelberg</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p style="text-align: center;">14.00-18.00</p> <p style="text-align: center;"><b>Pre-conference workshops</b></p> <p><b>I. Johannes Michalak: Embodiment in Mindfulness</b><br/>venue: Evangelische Studentengemeinde, Karl-Jaspers-Haus, Plöck 66, 69117 Heidelberg</p> <p><b>II. Lily Martin &amp; Birgitt Bodingbauer: Embodied Aesthetics of Flow</b><br/>venue: Yoga-Zentrum Bergheim, Bergheimer-Str. 125, 69115 Heidelberg</p> <p><b>III. Miriam Kyselo: Bodily Explorations of the Enactive Self</b><br/>venue: Susan Holze-Apell, Praxis für Physiotherapie &amp; Yoga, Landhausstr.17, 69115 Heidelberg</p> </div> <p style="text-align: center;">20.00h <b>Informal Get-Together</b><br/>Zeughaus-Mensa im Marstall (open till 22h), 69117 Heidelberg</p> | <p style="text-align: center;"><b>8.15 Registration</b><br/>venue: Neue Universität, Universitätsplatz, 69117 Heidelberg</p> <p style="text-align: center;"><b>9.00-9.15 Welcome Address (HS 14) (Tschacher/Fuchs/Koch)</b></p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p><b>9.15-10.00 Hermann Haken</b> (represented by the organizers) 10.00-10.30 Coffee break</p> <p><b>10.45-11.30 Winfried Menninghaus (HS 14)</b></p> <p><b>11.30-12.00 Sabine Koch &amp; Lily Martin (HS 14)</b></p> <p><b>12.00-12.30 Wolfgang Tschacher (HS 14)</b></p> </div> <p style="text-align: center;">12.30 – 14.00 <i>Lunch Break</i> and<br/><b>Poster Session I</b> (13.10-13.55, Senatsaal) (Chair: Koch) Bialy; Koch &amp; Mergheim; Lange &amp; Koch; Maus-Hermes et al; Mergheim et al; Moulder et al; Ruiz Fernández et al; Vara et al</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p style="text-align: center;">14.00-15.20 Parallel sessions</p> <p style="text-align: center;"><b>Session 1a: Interdisciplinary Embodied Aesthetics (HS 14)</b><br/>(Sarasso et al; Himberg, Laroche; Elliott)</p> <p style="text-align: center;"><b>Session 1b: Embodied Emotion Regulation (HS 15)</b> (Pollatos; Weineck; Hauke; Pietrzak)</p> </div> <p style="text-align: center;">Coffee break</p> <p style="text-align: center;"><b>15.45 – 16.30 Sander Koole</b> (keynote)</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p style="text-align: center;">16.40-17.50 Parallel sessions</p> <p style="text-align: center;"><b>Session 2a: Facing Beauty (Social Psychology Session) (HS 14)</b><br/>(Häfner; Stocker et al; Sicorello et al)</p> <p style="text-align: center;"><b>Session 2b: Embodied Diagnostics (HS 15)</b><br/>(Herbert; Francesetti &amp; Roubal; Schley)</p> </div> <p style="text-align: center;">18.00-18.30h<br/>Discussion</p> <p style="text-align: center;">19.00-20.00h <b>Tour of the Prinzhorn Collection</b><br/>with S. Frohoff (presenter) and T. Röske<br/>Sammlung Prinzhorn, Voßstr. 2, 69115 Heidelberg</p> |

## Friday Oct 6<sup>th</sup>

### 8.15 – 9.00 BodyMind Wake-Up

venue: Neue Universität, im Innenhof

#### 9.15-10.00 Hartmut Rosa (HS 14)

10.15-10.45 Coffee Break

#### 10.45-11.30 Claus-Christian Carbon (HS14)

#### 11.30-12.15 Andrea Schiavio (HS 14)

12.15 – 13.30 *Lunch break* and

#### Poster Session II (12.40-13.25, Senatsaal)

Adiarde; Bergmann et al; Cervera Torres;  
Miragall et al; Quinten; Schneider & Baumann;  
Schoch; Tosi

13.30-14.50 Parallel sessions

**Session 3a: Embodied Music Psychology**  
(HS 14) (Loaiza; Bizzari & Guareschi; D. Fuchs et al;  
Nadyrova, Panteleva & Ceschi)

**Session 3b: Aesthetics and the Pre-reflective**  
**(Kopenhagen Symposium) (HS 15)**  
(Høffding; Hansen; Levin; Roald)

**Session 3c: Embodied Art Therapy (HS 5)**  
(Gaete; Huss; Riemer & Wirth; Schoch)

Coffee break

15.20-16.40 Parallel sessions

**Session 4a: Measuring Embodied Aesthetics**  
**(Paris Symposium) (Senatsaal)**  
(Laroche et al; Joufflineau et al; Himberg, Buchkowski et  
al; Gaudeau et al)

**Session 4b: Embodied Music Therapy for**  
**Autism (HS 14)**  
(Zapata-Fonseca et al;  
Bergmann et al; Halstead et al; Schmid & Mössler)

**Session 4c: Dance Therapy &**  
**Body Disturbance (HS 15)**  
(Çatay & Plevin; Samaritter; Kykyri et al; Alaimo)

Short Break

16.50 – 18.00 Parallel Sessions

**Session 5a: Gestalt Therapy (HS 14)**  
(Roubal & Francesetti; La Rosa & Tosi)

**Session 5b: Embodied Drama Therapy &**  
**Theatre (Senatsaal)**  
(Feniger-Schaal; Malini & Repossi; Klees)

**20.30 Conference Party** (with DJ Nina)  
venue: Psychiatric Hospital, Haus 1, Grand Movement  
Therapy Room, Voßstr. 2-4, 69115 Heidelberg

## Saturday Oct 7<sup>th</sup>

### 8.15 – 9.00 BodyMind Wake-Up

venue: Neue Universität, im Innenhof

9.15-10.50 Parallel sessions

**Session 6a: Motor Resonance in Art**  
**Perception & Embodied Metaphors (HS 14)**  
(Lauschke; Mittelberg; Athanasiadou; Madeira)

Coffee break

**11.20-12.05 Vittorio Gallese (HS 14)**

**12.05-12.50 Thomas Fuchs (HS 14)**

**Final discussion (end by 13.00)**

## **ABSTRACTS – ORAL PRESENTATIONS**

*(in alphabetical order)*

**Silvia ALAIMO**, Catania (Italy)

**Hunger for... relationship – Finding the beauty of the contact through resensitizing bodily boundaries. Embodied aesthetic perspective in Binge Eating Disorder treatment.**

My work was born from a precious clinical and human experience of leading a psychotherapy group with obese women with Binge Eating Disorder, lasted 7 years. The body is the main protagonist of this specific symptoms – increasing size and weight leads to a sort of desensitization from emotions, perceived as 'uncomfortable' and removing spontaneity and beauty in the contact with other.

Eating is not only a nutritional act, but something deeply archaic that puts us in relationship with each other from our origins. It is the first embodied relational experience. Fat and emotions are inverse proportionally connected. The excess of 'matter', represented by the fat, recalls the absence of a '*mater*' dimension (from latin 'mother'). This anesthetizes deepest needs towards an unreachable 'thou', which remain in the background and are never realized. So, aggressive energy is retroflexed in the body through swallowing food together all uncomfortable situations.

As Gestalt therapists, we can read 'how' the person experiences it, not so much to interpret, but to support in self-discovery and spontaneous contact with the environment. The group setting is like a 'sacred enclosure', which provides a relational ground to feel the sense of own bodily boundaries through membership with and differentiation from others, rebuilding a 'second skin', which defines a new identity.

This aesthetic embodied perspective reduces the distance between the physical body (Körper) and the lived body (Leib) through support to the intentionality of contact, getting a new integrity and femininity, solid boundaries, suitable to the energy that flows into the body now spontaneous, visible through breathing, posture, gestures and the different ways to bring oneself into the world.

**Alexandra ATHANASIADOU, Athens (Greece)**

### **Visual Readings of Philosophical Metaphors**

We usually understand philosophical metaphors as literary devices. Yet many metaphors provoke interesting mental images; why do we still read them as *descriptions* and not as *structured images*, as enriched diagrams, with juxtapositions, similarities, tensions and significant details that can give us more information on the argument/concept/idea they are referring to? It has been many decades now that we have become visually literate – why not use this skill outside its ascribed field?

This paper presents a model of visual reading of philosophical metaphors. It proposes a diagrammatic depiction of the mental images that are created from philosophical metaphors; it performs a *visual reading* and discusses their result. This visual reading results from the common practices that we use to understand pictures, foremost photographs. Once we are confronted with a photograph, (and after/while recognizing its content) we *scan* the syntax of the image looking for: a) patterns or similarities and b) significant details. Accordingly, this *look* can be applied to the diagrammatic depiction of the mental images created by philosophical metaphors, in order to bring in different results to the cognitive value of the metaphor.

By this *visual reading* I am interested in setting questions regarding concept making and the role that images play in it – from the point of view of aesthetics. It is a model that embraces subjectivity and can lead to different kinds of investigations. One can locate the similarities or groupings of certain motifs, patterns or schemas by making various comparisons in the text of the same author, in the whole of his work or in different philosophers. Ideally it could come into dialogue with other disciplines and see if this model could intersect with psychological experiments.

**Thomas BERGMANN, Manuel HEINRICH, Matthias ZIEGLER, Isabel DZIOBEK, Albert DIEFENBACHER & Tanja SAPPOK, Berlin (Germany)**

### **What does music reveal about autism? Validation of the Music-based Scale for Autism Diagnostics (MUSAD)**

Background: Every fourth person with intellectual disability (ID) has a co-occurring Autism Spectrum Disorder (ASD), which often remains undetected until adulthood. The MUSAD was developed to improve the assessment in adults with ID and reduced verbal abilities. This semi-structured approach uses a music-based interactional framework to assess a broad variety of diagnostic

relevant behaviours associated with ASD. The current study aims to assess the reliability and diagnostic validity of the MUSAD to promote its clinical usability. Methods: The sample consisted of 129 adults with ID and suspected ASD. Based on ICD-criteria, 78 persons were finally diagnosed with ASD in an expert consensus conference. Selection criteria for the MUSAD algorithm items were: low rate of missing data, good discriminant validity ( $\text{Gamma} >.5$ ;  $r >.3$ ), high inter-rater-reliability ( $\text{ICC} >.7$ ) and a wide range of item difficulties. Calculation of inter-rater-reliability was based on the scorings of 3 independent experts in 25 consensus cases measured by the intraclass correlation coefficient (ICC). A ROC-analysis was run to assess the cut-point for the newly developed algorithm.

Results: Twenty items were selected referring to ASD symptomatology (14 social interaction, 5 restricted & repetitive behaviors, 1 item to motor coordination). Item difficulties ranged from .04 to .74. Inter-rater reliability was good ( $M = .768$ , range .673 – .895). The diagnostic algorithm based on the selected items showed a sensitivity/specificity of 82/77 %, the AUC was .79.

Conclusions: The MUSAD is a valid and reliable instrument to support clinicians diagnosing ASD in adults on a lower level of functioning.

**Valeria BIZZARI\* & Carlo GUARESCHI\*\*, \*Pisa (Italy), \*\*Cork (Ireland)**

### **Bodily memory and joint actions in music practice and therapy**

The aim of our talk is to analyze the link between embodied memory and joint actions in those psychopathologies that involve intersubjective disruptions.

In the first part, drawing on phenomenology (Merleau-Ponty 1962, Husserl 1989) we briefly emphasize the role of corporeality in the development of self-awareness and intersubjective understanding.

In particular, we account for the existence of an intercorporeal/interkinaesthetic dimension of bodily memory, which seems to be fundamental for joint actions and for the arise of a sense of belonging to a community or a group. Then, we focus on psychopathology, claiming that a disruption of bodily memory necessarily involves a deficit in intersubjective domain, causing different problems both in intersubjective understanding and in self-consciousness.

We tried to test our thesis participating at music therapy laboratories attended by adult subjects with social disorders, which we have interviewed by means of a qualitative, semi-structured test. In fact, music experience seems to be essentially relational, as well as deeply linked with corporeality.

From a methodological point of view, our work is addressed to understand how a qualitative experience such as music practice can influence the development of a first-person perspective and the relation between subject-

ivity and intersubjectivity. Furthermore, music practice is interesting because it clearly illustrates the essential link among self, others and ecological factors (Schiavio 2017; Fuchs, De Jaegher 2009), elements which are intertwined more specifically in intercorporeal memory, which is fundamental for joint actions and for the development of a shared awareness.

The result is the emphasis on an *enactive intercorporeal bodily memory*, whose importance could lead to hypothesize other kinds of therapies based on bodily practices and on the repetition of bodily gestures.

**Claus-Christian CARBON**, Bamberg (Germany)

### **Challenges and solutions of measuring embodied aesthetics**

Embodied aesthetics is about making and experiencing bodily correlates of aesthetic processing. Typically, these correlates are related to pre-linguistic cognitive, emotional and sensory-perceptual processes—they are the expression of the organism-environment transactions. As such they offer a great opportunity to reveal and analyze aesthetic reactions, which are typically very difficult to grasp due to their quality of referring to inner mental states. Until now, however, research lacks standardized methods of addressing embodied aesthetics. In the present paper, I will present some methods from the M<sup>5</sup>oX toolbox, which the Forschungsgruppe EPÆG (Ergonomics, Psychological Aesthetics, Gestalt; Bamberg / Germany) have developed to enable standardized testing in the field of empirical aesthetics, inter alia the emotional footprint, the affective face reader and the holistic body analyzer. By employing the emotional footprint, we gain information on the general mode of observers being attracted to or averted from an aesthetic object via posturographic analysis. Through the affective face reader we are able to track the emotional state by analyzing facial expressions. The holistic body analyzer allows investigating the overall motor program of a targeted person. Combining these rather implicit research methods with more explicit ones like verbal protocolling or think-aloud techniques, we can make embodied aesthetics traceable, measurable and analyzable in order to enrich the knowledge base of aesthetic appreciation, experience and reactions.

**Zeynep ÇATAY & Marcia PLEVIN, Istanbul (Turkey)**

### **A Way to Embodiment: Transformational Body Tracings**

The purpose of this paper is to describe the use of a visual medium, the full body outline, or as we are naming it, the "transformational body tracing" (TBT) for the development of embodiment. The TBT's have been used in Creative Movement training where they were filled in by the movers throughout their movement process. As such they became a visual aesthetic diary where movers journaled the transformation in their body sense over time. The students returned to the same TBT's and filled them out at certain points throughout the weekend-long seminars. They also took time to do reflective writing about what their TBT's meant and at times transferred what they perceived in their body outlines back to their bodies and moved in response to their body outlines. Photographs of the body outlines at different points over the course of the seminar were taken and catalogued digitally in time so that we could follow the progression of each mover's TBT.

This paper will examine the mechanisms through which this particular use of this visual tool aids in the growth of embodiment. We believe that the feedback loop of action, perception and reflection that is formed allows for an integration and expansion of the expressive and perceptive functions. The maturation of a body image on paper over time with visual elements of line and color provides more differentiated information to the mover about her/his body sense and creates further impulse for movement. Thus, there is an active, creative and aesthetic dialogue between the moving body and the body that appears on paper. The aim of this presentation is to delineate the dynamics of this process. We will also explore which important elements of the body sense (i.e. body centres, body connections, ground etc.) emerge on the TBTs and how they form pathways toward expansion of body awareness through examination of examples of catalogued images.

**Mark A. ELLIOTT, Galway (Ireland)**

### **A theory on the function of golden sectioning in neuro-cognitive systems**

The coding of complex events requires a dynamic neural mechanism capable of reconfiguring to accommodate an ever-changing event structure. Dynamic binding, in which neural assemblies adopt oscillatory codes to facilitate inter-neural synchronisation, have been considered one means by which neurons may multiplex: neurons may switch the phase or frequency of firing to leave existing and form novel neural assemblies, thus avoiding a 'superposition catastrophe'. Superposition catastrophe refers to the situation where all neurons

adopt the same frequency at the same phase of firing, rendering all events as an undifferentiable unity. Neuronal assemblies show oscillatory patterning, which tends to support this view. However, meta-analysis of resting state EEG reveals that neuronal activity does not synchronise between frequencies separated in close proximity to the golden section (Pletzer, Kerschbaum & Klimiesch, 2010). This has been described in terms of a framework to describe functional properties and limits in functional properties of neural activity (Klimesch, 2013).

The golden section,  $\varphi = (1 + \sqrt{5})/2 = 1.618\dots$  and its companion  $\varphi = 1/\varphi = \varphi - 1 = 0.618\dots$ , are irrational numbers, which appear in natural growth patterns. Some believe  $\varphi$  confers aesthetic appeal, and visual compositions that include golden sectioning result in substantially slower reaction times than at surrounding ratios, which suggests a link. The slowed reaction times are argued to come about due to reduced inter-neural synchronisation during spatial-frequency coding (Elliott, Kelly, Friedel, Brodsky & Mulcahy, 2014). In this paper, I advance the idea that the golden-section relation (as well possibly as other non-commensurable relations between neural-firing frequencies) engenders temporary states of 'artificial desynchronisation'. These desynchronisations may be considered as structure for a dynamic manifold, around which the dynamical systems bringing about the uninterrupted flow of conscious experience may evolve. As long as the 'golden-section relation' is maintained between neural activities, not only is superposition catastrophe guaranteed not to occur, but there will always be a set of desynchronised neurons available to rapidly form dynamic manifolds, with which other neurons may subsequently synchronise.

By this interpretation, maintaining golden-sectioning in neural dynamics would be one way to maintain the degrees of freedom required for rapid system evolution, and revolution, and as such, the means by which changing event structures may be coded. This interpretation identifies golden sectioning with the ability to code change, the corollary of which is a relation to the maintenance of experiential continuity over time. The golden-section as a vehicle to experiencing the aesthetic in art may be a derivative of this function.

**Rinat FENIGER-SCHAAL**, Haifa (Israel)

### **The embodiment of attachment: Assessing adults' interaction using the mirror game**

In the study that will be presented, we used the mirror game to explore the embodiment of attachment in adulthood. The *mirror game* is a common exercise in theatre practice (Spolin, 1999), used to promote actors' ability to

enter and remain in a state of togetherness (Schechner 1994). The MG is also an aesthetic experience when two people are creating movement together taking into consideration space, time, body, and the encounter between the two players, thriving for synchrony.

Forty-eight participants (22 females, mean age = 33.2,  $SD = 7.3$ ) played the mirror game with gender-matched expert players. In addition, participants were interviewed on the AAI (Adult Attachment Interview, George, Kaplan, & Main, 1996) to assess their quality of attachment. All mirror games were videotaped. To analyse the data we developed the “mirror game scales” that coded the non-verbal behaviour during the movement interaction, using 22 parameters. Using statistical methods we reduced the scales into two dimensions referred to as “together” and “free”. The “free” subscale was significantly correlated to the AAI classification ( $t(46) = 7.858, p = 0.000$ ), so that participants with secure attachment on the AAI demonstrated expressions like: rich use of body movements and openness to explore, while playing the mirror game. The results point to the non-verbal expression of attachment. This exploratory data analysis suggests that a dyadic movement interaction tap into the implicit knowledge of attachment. Hence, the results bring to focus the embodiment of attachment and its possible clinical and research implication.

**Gianni FRANCESETTI\* & Jan ROUBAL\*\*, \*Torino (Italy), \*\*Brno (Czech Republic)**

### **The aesthetic diagnosis in Gestalt psychotherapy**

From a Gestalt psychotherapy perspective it is possible to distinguish two kinds of diagnostic processes: an extrinsic and an intrinsic diagnosis. The first is the result of comparing what the clinician observes with a diagnostic system (DSM, ICD, etc.). The second one, according to Gestalt psychology, is based on the criteria that are intrinsic to the process of the Gestalt formation. Since it is based on the sensorial perception by the clinician and it is not the result of using an external system, this diagnosis is called intrinsic or aesthetic (i.e. based on the senses). Aesthetic evaluation is a pre-reflexive, embodied and preverbal process. By this evaluation the clinician can adjust the process of co-creation of the field during the therapeutic session, and so the aesthetic diagnostic process is immediately and already a therapeutic intervention. The depressive experiences, and the depressive co-created fields, are presented as an example of this perspective on diagnostic and therapeutic processes.

**Sonja FROHOFF**, Mannheim (Germany)

### **The Meaning of Resonance for the Understanding of Artworks of the Prinzhorn Collection**

The famous Prinzhorn Collection in Heidelberg, Germany, holds extraordinary artworks, originated from psychiatric institutions between 1880-1920. Many of the artists were diagnosed with dementia praecox or later schizophrenia at a time, when psychiatry was still a fairly new field of research and patients received only little medication and no psychotherapy. The pieces were collected between 1919 and 1921 by the psychiatrist and art historian Hans Prinzhorn (1886-1933). His significant book „Artistry of the Mentally Ill“ (1922) changed the view on the so far disregarded "art of the insane" and influenced various debates. How can we understand those pieces, confronting us with contexts between art and disease? Prinzhorn systematically integrated the meaning of resonance for the expression process in his thoughts. He argues that resonance is basic for every expression movement, which would be inherent to all formations. By valuing the meaning of resonance for the shaping process, he supports his argument to view all the works primarily as “objective condensations of expression” (“objektive Ausdrucksniederschläge”) and therefore taking them seriously – aside from any rating as art. But, whereas he values the meaning of resonance for the expression process, he insinuates that the works lack potential for resonance in the reception. The disease behind the creations would hinder the possibility for resonance with the pieces. According to him this is the only feature, which allows us to distinguish and recognise them as creations of schizophrenics. In my talk, I will first analyse why this view is problematic. Secondly, by looking at some pieces of Edmund Träger (1875-1957) I will show how resonance is significant for the reception process and generally fosters an understanding of the Prinzhorn pieces. Thereby I will carve out and comment on basic structures of bodily resonance in aesthetic experience in general.

**Dominik FUCHS, Martin KNAUER, Stephan JÜNGLING & Petra FRIEDRICH**, Kempten (Germany)

### **Interactive Musical Sonification for Balance Training**

Interactive sonification is the use of non-speech audio to convey information within a human–computer interface. The approach is increasingly being used for individuals with neurological diseases, for example to compensate for proprioception deficits in balance training. In this exploratory study, we tried to incorporate principles of music therapy into balance training with a certified

medical device. The aim was to evaluate the feasibility and acceptance of this approach.

20 healthy participants ( $M = 43$ ,  $SD = 13.78$ , f/m = 7/13) were guided through a balance training that involved a target detection mode and interactive musical sonification. Within one out of five different musical genres, sonification models consisting of samples of musical instruments could be used to improvise over a precomposed looped backing track by changing the center of gravity in a previously defined two-dimensional space.

Questions regarding subjective attitudes with values from 0 (very low) to 10 (very high) were estimating the experienced pleasure of the exercise ( $M = 8.36$ ,  $SD = 1.59$ ), the understanding of the connection between movement and sound ( $M = 8.62$ ,  $SD = 2.05$ ), the motivation to move ( $M = 7.84$ ,  $SD = 2.28$ ), and the ratings for the sonification models. The sonification models of the musical mode were perceived significantly more pleasurable than the more functional and simple models for target detection,  $t(19) = -2.84$ ,  $p = 0.01$ .

Interactive musical sonification appears to be a well-received and easily feasible approach to incorporate into balance training with a medical device. It may therefore be a valuable tool to improve patients' motivation, compliance and the feeling of self-efficacy in neurological rehabilitation. We will carry out further research to evaluate this approach in a clinical context.

**Thomas FUCHS**, Heidelberg (Germany)

### **The principle of resonance: affectivity, interaffectivity, and neurobiology**

The notion of resonance takes root in acoustics and the mechanics of oscillation; it refers to bodies and systems that are attuned to one another by their own vibrations. Resonance implies a dynamical as well as a rhythmical element and thus establishes a temporally overarching relation between the systems involved. It may serve as a basic principle for understanding interacting systems within the paradigms of embodiment and enactivism.

After presenting a general concept of resonance, it will be applied to three areas:

- (1) Emotions may be conceived as a circular interaction between the perceived affective qualities of the environment on the one hand and *bodily resonance* on the other hand, including both sensations and anticipated actions.
- (2) On this basis, interaffectivity and empathy will be described as being based on *interbodily resonance*, which is mediated by bodily expressions and impressions creating a resonant loop.

(3) Finally, an analysis of perception will lead to a concept of the *brain as an organ of resonance*, the rhythmical oscillations of which continually establish a coherence between organism and environment.

These insights will be finally applied to aesthetic perception, conceived as a embodied resonance with art work and other aesthetic objects.

**Maria Isabel GAETE CELIS**, Santiago de Chile (Chile)

### **Art-therapy: Healing the Embodied Self through playing and creativity**

The present work is aimed at introducing Art-therapy as inherent embodied psychotherapeutic technique using playing and creativity by means of sensory-motor functions, the sense of ownership of the body that creates the art-work, and the sense of authorship of the art-work itself. This technique also allows exposing patients to a 'transitional-space' (Winnicott, 1971), by means of the white sheet, and the therapist presence in which patients express themselves as *embodied and intersubjective selves*. The patient creates an object that takes part of the outside reality and of him/herself at the same time as the author. Three Art-therapy works of different clinical cases will be presented: a woman with a diagnosis of fibromyalgia, and two with diagnosis of eating disorder. All cases gave their informed consent for presenting their art-works at the present conference. The *biography by images technique* will be exposed as an innovative form of working with the biography of patients. It allows to rediscover their bodily selves, their changes through time, and frequently to recall embodied sensations, which give valuable psychotherapeutic material. The *artistic expression of conflicts technique* will also be exposed that allows to obtain a multi-dimensional and embodied view of patient conflicts. Usually these two art-work techniques give the material that organize the complete psychotherapeutic process providing images, sensations, emotions, affects and the embodied experience of creating the art-work itself. I will discuss the scope and limits of the Art-therapy technique as a fully embodied psychotherapeutic tool.

**Vittorio GALLESE**, Parma (Italy) / London (United Kingdom) / New York (USA)

### **The problem of images. A view from the brain-body.**

By exploiting the empirical approach of neuroscience and physiology, we can investigate the brain-body mechanisms enabling our interactions with the world, shedding light on the potential functional antecedents of our cognitive

skills and at the same time measuring the influence exerted by human cultural evolution onto the very same cognitive skills. In so doing we can deconstruct some of the concepts we normally use when referring to intersubjectivity or to aesthetics and art, as well as when referring to the experience we make of them.

Experimental aesthetics will be discussed in relation with current neuroscientific approaches to art and aesthetics. We can now look at the aesthetic-symbolic dimension of human existence not only from a semiotic-hermeneutic perspective, but starting from the dimension of bodily presence. According to Hans Gumbrecht (2004) aesthetic experience involves two components: one deals with meaning, the other one with presence. The notion of presence entails the bodily involvement of image beholders through a synesthetic multimodal relationship with the artistic/cultural artifact.

Cognitive neuroscience can surrender us from the forced choice between the totalizing relativism of social constructivism, which doesn't leave any room to the constitutive role of the body in cognition, and the deterministic scientism of some quarters of evolutionary psychology, which aims at explaining art exclusively in terms of adaptation and modularity. I will present empirical results of our research showing that the creative expressive processes characterizing our species, in spite of their progressive abstraction and externalization from the body, keep their bodily ties intact. Creative expression is tied to the body not only because the body is instrument of creative expression, but also because it is the main medium allowing its experience.

**Matthieu GAUDEAU, Laura HICKS, Clint LUTES, Mandoline WHITLESEY, Asaf BACHRACH, Paris (France)**

### **Togetherness and the embodied aesthetics of participatory art: A dance improvisation workshop proposal**

Collective dance improvisation (e.g. traditional dances, social dancing, contact improvisation) is a participatory, relational and embodied art form which eschews standard concepts in the field of aesthetics. We propose that a subjective sense of "togetherness" associated with such practices is central to the aesthetic experience of the participants and spectators.

The study of "togetherness" has been gaining interest within social neuroscience and psychology (De Jaegher & Di Paolo, 2007). Togetherness has been reported and studied in a variety of contexts but in particular in the case of joint-movement or joint-action. The focus of most of these studies and associated theoretical models has been temporal synchronicity and/or mirroring of movement between partners (Dahan et al., 2016).

Our transdisciplinary project “from joint improvisation to interaction” (ICI), where dancers, scientists, and philosophers research together through movement, includes studio explorations of the emergence and dynamics of togetherness during dance improvisation. By confronting our practices of improvisation with empirical research mentioned earlier, we observe that while the empirical research focuses on synchrony, togetherness in dance improvisation is not limited to it. Phenomenologically, it seemed to us that togetherness is less the consequence of synchrony per se than of the subtle intersubjective negotiations it requires.

In order to shed further light on the subtleties of how and when "togetherness" occurs, we designed variations on existing paradigms (such as the mirror game, Noy et al 2011 and conversational turn taking, Himberg et al, 2015) and created novel improvisational scores inspired by work of Lisa Nelson, Meg Stuart and others. In this workshop we will share movement tasks in different frames. First with reference to the scientific questions we are researching, second as an experiential and performative exploration (with potential therapeutic applications). The last part of the workshop will be dedicated to a verbal exchange regarding the experience.

**Michael HÄFNER**, Berlin (Germany)

**Facing beauty: Facial muscle activity and the comparative construction of the self**

It is amazing to what extent others influence how we conceive of ourselves, not only because self-perceptions are highly malleable in the first place, but also and especially because of the speed and subtlety at which this influence may take place. Quite often, we are not even aware of the fact that we are comparing to the (beauty) standards surrounding us, nor that the latter are posing standards at all. The sheer presence of others is enough to influence how people construct themselves. Even though many studies established the notion that social comparisons can and in fact do occur spontaneously or implicitly, not much is known yet about the underlying psychological processes. Based on earlier research (Häfner & Schubert, 2009), I propose that immediate, embodied experiences of social closeness versus distance play an important role in the determination of the direction of implicit comparisons. Specifically, I assume that interpersonal distance/closeness is embodied by facial muscle movements of the Corrugator and the Zygomaticus, which in turn predict social comparison direction. I will present evidence from two studies showing that unobtrusive manipulations inducing a smile yield to assimilation with respect to a beauty standard whereas inducing a frown lead participants to construct themselves in contrast to a given beauty standard. Practical implications of this research will be discussed, also in the light of ongoing research with Botox-patients.

**Hermann HAKEN**, Stuttgart (Germany)

**What can Synergetics contribute to embodied aesthetics?**

I deal with perception and action (e.g. movements) using results from Synergetics, a comprehensive mathematical theory of the self-organized formation (“emergence”) of spatial, temporal, or functional structures in complex systems. I illustrate basic concepts such as order parameters (OPs), enslavement, complexity reduction, circular causality – first by examples of well-known collective, spontaneous modes of human behavior such as rhythmic clapping of hands etc., and then by face recognition. The role played by OPs depends on context. In the case of face (or pattern) recognition, an OP represents the concept of an individual face (action of mind) and it enslaves the action (firing rates) of neurons (body). This insight allows me to interpret syndromes as order parameters playing their mind/body double role. I present criteria for the identification of OPs and discuss their general properties

including error correction and "remedy" of deficiencies. Contact is made with a recent work on embodied aesthetics. My approach includes the saturation of attention at various time scales (ambiguous figures and fashion). Adopting a psychological perspective, I discuss some ingredients of beauty such as proportionality and symmetry, but also the importance of irregularities.

**Jill HALSTEAD, Karin MÖSSLER & Wolfgang SCHMID, Bergen (Norway)**

### **Kinesthetic recognition in video analysis: Working with felt sense in music therapy research**

In this paper we will present work from an in-progress study into the role of kinesthetic recognition in video analysis of music therapy sessions with children with autism. We will reflect on the shared, collective process of video analysis between three researchers and describe how understandings emerged through a "felt sense" (Gendlin 1981, Allegranti 2011) and kinetic transference and countertransference (La Barre, 2013). As attunement processes have been found to predict changes in social skills in children with autism (Mössler et al, 2017), we are especially interested in how these processes occur and how they are mediated corporeally. When conducting video analysis, attunement processes occur between the viewer and the viewed, as researchers resonate with the scenes that unfold on screen. Through a process of joint attention during video study from music therapy sessions, we were able to identify shared moments of kinesthetic recognition at concurrent time points which were foundational in our emerging understanding for the ongoing attunement process between the child and the music therapist. Hence, we believe that our own kinetic, tactile kinesthetic sense underpins our understanding of how attunement processes can shape relationships. We will argue that *modalities of kinesthetic* awareness (Sheets-Johnstone, 2011) ground social interactions, and are foundational in the process of attunement. Consequently, we will explore the role of kinesthesia in intersubjective experience in music therapy and discuss therapeutic stances that enable both the child and the therapist to engage their bodies to create a feeling of connectedness.

**Jannik M. HANSEN**, Copenhagen (Denmark)

### **Empathy and aesthetic experience**

Within current phenomenology, empathy is restricted to a face-to-face encounter between, at least, two embodied subjects while empathic relations between real subjects and fictional subjects are seen as derivative. Considering descriptions of aesthetic experiences collected through a range of semi-structured interviews this conception of empathy can be challenged. Descriptive statements such as: “I see the picture, and then it sees me”, or “I become active with the work (...) but it is hard to describe, because it is a feeling that it creates” exemplifies how the work of art in the aesthetic experience is endowed with a peculiar sense of subjectivity suggesting that empathy has a constitutive function. As such we are confronted with a paradox: conceptually empathy denotes the constitutive achievement motivated by a meeting between living, embodied subjects. Experientially empathy seems to occur not just in relation to subjects but also in relation to a special kind of object, namely the aesthetic object. How are we to understand these experiential aspects of aesthetic experiences?

In this paper I will argue that empathy is central to aesthetic experience. It constitutes not another embodied mind but what has been termed an “indirect other” (Roald, 2015): a form of presence of the other, lacking the mundane demands normally required in empathetic encounters yet enabling a form of affective interaction with the potential of co-constituting the perceiving subject and the aesthetic object. It will furthermore be argued that these achievements are founded in special forms of inter-corporeality (Merleau-ponty, 1964) and inter-affectivity (Fuchs, 2016; De Jaegher, 2015), characterized by bodily resonance between the expression of the aesthetic object and the affective dimensions of the pre-reflective self (Fuchs, 2016). The discussion will provide empirically informed insights into the intersubjective dimension of the aesthetic experience relevant to psychology, phenomenology and aesthetics.

**Gernot HAUKE**, München (Germany)

### **Mapping the Embodied Emotional Mind: talking therapies are not enough**

Problematic situations are mostly connected with a network of different emotions with contradictory action impulses. In clinical practice this can be taken into account by developing an “Emotional Field” (Hauke & Dall’Occhio, 2013, 2015). The Emotional Field draws its theoretical underpinnings from the dual systems theory of the Reflective and Impulsive system (Strack & Deutsch, 2004). Being able to understand and differentiate different emotions and their

accompanying body sensations is important for the success of acceptance and change of these emotions and to develop more adaptive behaviours. The problematic situation for the client is evoked by a simulation of a scene with the highest impact of emotions. By carefully exploring bodily sensations and signals generated from the simulation in the emotional field discrete emotions are consciously available and labelled. By using embodiment techniques drawn from empirical research (e.g., body postures, breathing patterns, gestures) clients gain clarity about their primary and secondary emotions (Sulz, 1994, Fruzzetti et al. 2008). Not only basic, but also more complex emotions (e.g. shame) are understood more deeply and reflected upon regarding their function for the self and in interaction with others. The distinction between the suppressed primary emotion and the blocking secondary emotions is decisive for the further work in successfully mastering their problematic situations. Applications of the method of the emotional field is shown through a single case study presentation.

**Beate HERBERT**, Tübingen/Munich (Germany)

**“The sense of beauty is anchored in one’s body”: Interoception shapes aesthetic experience of visual arts**

“Aesthetics” includes perception and sensation and represents a relevant topic of philosophy and psychology from its very beginnings. The idea of ‘embodiment’ recognizes the interdependency of mind, body and environment and highlights that these entities overlap. Interoception, the processing and perception of physiological signals, is a fundamental basis of processes of ‘embodied cognition’, and shapes the ‘bodily self’. Dimensions of interoception, such as interoceptive perception accuracy, are represented in the interoceptive neural network, with the insula as relevant interface, that is suggested to connect interoceptive and exteroceptive representations and linking these with higher-order emotion and cognition. The interoceptive network is also activated during the experience of artworks. According to these lines of empirical and conceptual evidence, this study examined for the first time, if how we sense our own body is relevant for how we experience visual arts by using standardized paradigms of assessing interoceptive accuracy and aesthetic appreciation of visual artworks. 45 healthy participants evaluated representational and non-representational paintings presented on a computer screen by using the Art Reception Survey (ARS) that was designed according to models of aesthetic experience, and that measures relevant constituents of aesthetic experience, i.e. cognitive, affective and self-referential aspects. Additionally, participants accomplished a standard heartbeat tracking test,

filled in questionnaires assessing general interest in artworks and positive and negative affect. Controlling for individual interest and experience in arts, results show a positive association of individual interoceptive accuracy and cognitive stimulation, positive attraction and self-reference: interoceptively sensitive persons were more intellectually intrigued by the painting, showed more positive, profound emotional engagement of beauty, and felt a more intense self-referential, personal connection to the paintings, evoking past memories or emotions. Sensing one's body from the inside significantly shapes dimensions of aesthetic experience of visual artwork. Results corroborate the role of interoception in aesthetically 'sensing' the external world.

**Tommi HIMBERG\***, **Megan BUCHKOWSKI\*/\*\***, **Marc THOMPSON\*\*** & **Asaf BACHRACH\*\*\***, \*Espoo (Finland), \*\*Jyväskylä (Finland) \*\*\*Paris (France)

### **Four-way mirror game as a measure of group attunement**

Dyadic hand movement mirroring has been studied as a measure of dyadic intersubjectivity. We designed a four-person mirror game to study embodied interaction and the subjective experience of togetherness, and how the socio-affective effects of interaction are linked to measures of movement synchronisation.

In three pilot studies, four persons (N=12) played a two-minute mirror game before and after engaging in either 1) synchronised group movement, 2) dyadic music improvisation, or, 3) dyadic, non-synchronised collaboration. During the game, participants stood in a circle with their right arms extended, and were asked to follow each other's hand movements, sharing leadership. From motion capture data, we calculated cross-correlations of fingertip accelerations (CC) to quantify synchrony and lags between performers.

In 2/3 of pilot groups, average CC was higher in post-improv games. This can indicate learning effects, but participants reported that they felt the post-improv game was easier because of increased social bonding. The four-player setting generates "conflicts" as participants must decide which partner to engage with and whether to mirror or mimic lateral movements. In post-improv games, the performers were better at implicitly adopting joint strategies, especially pilot group 1, whom the intervening task primed to minimise the distance between hands.

In post-improv games, participants were better synchronised with their dyadic task partners than others. Further studies will show whether this is a more general effect of preferential synchrony with the person next to you on the circle, as the effect was also noticed in pilot group 1 where the intervening improvisation was done in a group.

The 4-way mirror game is a viable tool for studying togetherness in embodied interaction. It could serve as a measure of interpersonal attunement in conjunction with music/dance therapy, especially for social disorders, as mirroring teaches detecting subtle social cues such as mutuality.

**Tommi HIMBERG\***, **Julien LAROCHE\*\***, **Simone DALLA BELLA\*\*\*/\*\*\*\*** & **Asaf BACHRACH\*\***, \*Espoo (Finland), \*\*Paris (France), \*\*\*Montpellier (France), \*\*\*\*Montreal (Canada)

### **Coming together by staying apart: A novel ‘rhythmic battle’ task for the study of group cohesion and resilience**

Collective performances in dance and music require a fine balance between group behaviour and individual goals. When encountering external distractions, the group needs to strengthen their within-group coupling. A model of this situation is *congado* (Lucas, Clayton & Leante, 2011), in which marching bands have to resist entraining to other groups, as losing one’s tempo means losing something of one’s identity. In this pilot study, we tested cohesion within the in-group, and resilience to influence from an out-group in a ‘rhythmic battle’ dance improvisation score.

Ten participants were randomly divided into two groups (G1 & G2). Each group was assigned to a different tempo and was asked to come up with a group rhythm, by clapping, clicking, or stepping along a metronome beeping at that tempo (stage 1). After rhythmic patterns had been established, metronomes were turned off and the groups started interacting with each other, first being stationary (stage 2), then moving towards and around each other (stage 3).

Each participant wore 5 accelerometers, whose data were synchronised. Data from the three axes were combined to a single time series of absolute acceleration per sensor. Continuous measures of synchrony within and between groups were calculated using a Kuramoto model.

The pilot ended in G2’s ‘victory’, as some members of G1 entrained with G2 in stage 3. This is observable in the different evolution of the within-group and the between-groups measures showing a weaker internal synchrony of G1 in stage 2.

The pilot demonstrates the sensitivity of Kuramoto models in quantifying group synchronisation, as the measures trace observed behaviours well. More data will be collected with the goal to analyse individual participants’ influence on each other and with respect to the groups’ outcome. Inter-individual and group measures of entrainment will be correlated with subjective measures of group identification (Aron et al. 1992).

**Simon HØFFDING**, Copenhagen (Denmark)

### **Subjectivity in aesthetic experience: A phenomenological challenge to enactivism?**

This paper investigates the constitution of subjectivity in the intense aesthetic encounter and makes a 1) methodological and a 2) conceptual point.

1) Classical aestheticians such as Boullough (1907), Lipps (1903), and Dufrenne (1973) share the conviction that the essence of aesthetic experience consists in “losing oneself” in the art object, forming a “subject-object totality”. I term this the “oneness thesis”. Recent investigations of art experience in phenomenological psychology conducted as qualitative interviews at the National Gallery of Denmark reveal that the oneness thesis cannot be backed by empirical evidence, because it mischaracterizes the nature of the pre-reflective self-awareness involved: intense aesthetic experience does not primarily consist in a “merging”, but is rather constituted as a dynamic and systemic exchange between the subject and the aesthetic object, a process by which subjectivity is enriched, as characterized in Roald’s recent work on “Intrapellation” (2015).

2) While Roald provides detailed descriptions of intrapellation, coming from phenomenological psychology, she does not provide strict definitions of its nature, nor does she address its conditions of possibility. To anchor her work further philosophically, I argue that it can advantageously be interpreted in enactionist terms (Thompson 2007), not least because enactionism provides an effective framework for explaining the relation between on the one hand, the bodily self and its environment as a dynamically coupled, relational domain, and on the other hand, subjectivity as self-generating and self-maintaining. In other words, when applied to aesthetic experience, enactive cognition can explain a stable and self-generated subjectivity that is also transformable (or intrapellatable) when interacting with art.

Thus, this paper shows how empirically informed phenomenological psychology can requalify classical aesthetic theory, but also how enactive and embodied paradigms of cognition can ground insights in aesthetics.

**Ephrat HUSS, Charlotte B. SPITZER & Jack J. SPITZER**, Beer-Sheva (Israel)

### **Accessing Social Marginalization through the Body in Space**

The aesthetic tension in art can be created through the interrelationship between body – or subject, and background – or context. This is true in visual art, as in the tension between figure and background, tune and accompanying music, actor and props, and dancer and stage. This means that drawings of the self within background are an excellent place to understand the drawers'

embodied experience of social reality. Perceptual theory points to the evolutionary need to differentiate between figure and background to assess dangerous situations such as a tiger against a background of the jungle. Thus, the relationship between body – or figure, and its background is the way that we make sense of experience. Western psychology and medicine tend towards a subjective and decontextualized presentation of the self and of the body, while a social critical stand will aim to position the self within social context. This presentation will analyze a set of ten body-drawings and their phenomenological explanation by the artists, who are a group of impoverished indigenous Bedouin women in Israel. The analyses of the women of their art in terms of the relationship between subject and background as body within social context will be shown to help shift embodied pain from the subject onto the marginalizing social reality. Once the source of pain is identified as outside of the body, emerging from the background, then the body becomes a potential site of resistance. I will discuss implications for using the aesthetic connection between the body – subject and background – social context, in art not as a diagnostic tool as is common with visual art in psychology, but as a Freirean tool for reducing psychological pain through raising critical consciousness of and thus resistance to social marginalization rather than taking the pain into the body.

**Giulia INNOCENTI MALINI & Alessia REPOSSI, Milano (Italy)**

### **Theatre as a bridge to the community**

This presentation is based on the activities of “Il teatro come ponte per la comunità”, a project which started over 15 years ago and is still running. It includes two social theatre laboratories active at the Magenta's Psychiatry Department.

In this theatrical practice, which follows the method of Teatro Sociale, the experience of vision is embodied in the actoral and authoral work and is linked to the action, the relationship and the representation. It is an embodied aesthetic that has multiple effects on the experience and produces care resources for the individual, the group and the broader social context.

The integration of three different points of view – Gestalt psychotherapy, community psychiatry and Teatro Sociale – allowed us to create a bridge between the relational dimension, the group, the perception and the expressive theatrical path.

Using a multi-perspective vision (theatrical and clinical) we want to explore these resources and try to explain how the theatrical practice – a specific form of embodied aesthetic – can take care of the different needs of mental health.

**Coline JOUFFLINEAU, Coralie VINCENT & Asaf BACHRACH, Paris (France)**

**Slowed dance spectating and changes in time perception: A dialogue between aesthetics and cognitive science on zeitlupe in contemporary art**

The co-presence of bodies inherent to live performance coupled with the movement qualities of the dancers underlies the audience's kinesthetic empathy (Foster, 2011). We were interested to quantify a change in "body-mind" state of the spectators brought about by a live rendition of Gourfink's unique choreography that uses a contemplative practice to produce an extremely slow and hypnotic dance. Phenomenological studies of her work report a number of body-mind effects including a change in temporal perception (Gioffredi, 2008). We wanted to quantify changes in temporal perception, test for their specificity and assess their relation to changes in physiological rhythms (Joufflineau & Bachrach 2016).

We combined physiological monitoring and subjective reports with two measures of temporal cognition before and after a 40-min live performance (12 subjects): a Spontaneous Tempo Production (STP) task (McAuley et al., 2006) and a task assessing the temporal window inducing the Apparent Motion effect (AM) (Marusich & Gilden, 2014). The same temporal tasks (14 subjects) were tested with a control choreography with a distinctly different quality of movement.

Post-performance, we observed a significant slowing down of STP ( $t=15.01$ ,  $p<2e-16$ ), while AM was reported with longer temporal intervals between the flickering dots ( $t=4.017$ ,  $p<6.53e-05$ ). Neither of these effects was observed in the control condition. Revealing correlations were found between subjective reports concerning kinesthetic attention and the size of the effects. Correlations with changes in physiological data are being analyzed.

The STP results indicate a slowing of the internal tempo of spectators. The AM results suggest an expansion of the "specious present" (Varela, 1999). The absence of similar results in the control condition argues that these effects were due to the specific quality of Gourfink's choreography, and that contagion of body-mind states (Godard, 1994) should be included in the concept of interpersonal resonance.

**Simone KLEES**, Berlin/Ottersberg (Germany)

### **Embodiment and Aesthetic Distance in Dramatherapy – Limits and Benefits for Patients with Chronic Pain Syndrome (CPS)**

Embodiment and aesthetic experiences are basic principles in dramatherapy. In one northern German hospital, dramatherapy is part of a multimodal short-term therapy for patients with chronic pain syndrome (CPS). In my presentation, I will give examples from dramatherapy groups and talk about some of the experiences CPS patients have made. As a creative arts therapy, dramatherapy offers specific ways to express emotions and thoughts in *dramatic reality* with the body. One of its effects is to find or rediscover resources every human being can access: the ability to play and imagine. Acting out different scenes and stories offers an intuitive aesthetic access to reality – different from everyday life. Patients are invited to evaluate attitudes and feelings in a safe space, achieved through *aesthetic distance*. In embodying various roles – acting and performing in different realities – patients get the chance to experience dramatic relief and reinforce self-awareness.

**Sabine KOCH & Lily MARTIN**, Heidelberg (Germany)

### **A Model of Embodied Aesthetics: Grounding therapeutic factors of arts therapies**

The Arts Therapies – healing and stabilizing patients by using the power of music, dance, art and drama: what makes them a particular source of healing? Therapeutic factors of arts therapies next to their very medium (e.g., music, movement, visual art) include play, enactment, expression, nonverbal communication, symbol, and the aesthetic experience. The aesthetic experience is conceptualized to encompass active and receptive aspects of beauty and authenticity, flow, and the experienced unison with another person, object, or oneself.

In the absence of an aesthetic model for the arts therapies in clinical psychology and cognitive sciences, that includes active art-making, a model of embodied aesthetics is introduced to ground the therapeutic factors of arts therapies theoretically (Fuchs & Koch, 2014; Koch, 2017). The model addresses the expression and the impression side (active & receptive side) of the aesthetic experience and is discussed regarding its explanatory value for the arts therapies.

**Sander L. KOOLE**, Amsterdam (Netherlands)

### **Synchrony in Psychotherapy: A Social-Cognitive Neuroscience Approach**

During psychotherapy, patient and therapist often spontaneously synchronize their vocal pitch, bodily movements, and even their physiological processes. These seemingly subtle nonverbal processes may play a key role in the working relationship between patient and therapist, by promoting social rapport and emotion regulation. However, little is known about how different forms of synchrony (neural, physiological, behavioral) combine in the therapeutic relationship.

To address this question, we recently proposed the *INterpersonal SYNChrony (In-Sync) model* of psychotherapy (Koole & Tschacher, 2016). According to the model, movement synchrony fosters inter-brain coupling between patient and therapist. Inter-brain coupling may provide patient and therapist with access to another's internal states, which facilitates common understanding and emotional sharing. Over time, these interpersonal exchanges may improve patients' emotion-regulatory capacities and related therapeutic outcomes.

The In-Sync model suggests that key features of the therapeutic relationship occur during emotional sharing. I will present recent studies in which we used an emotional sharing paradigm to experimentally test key predictions of the In-Sync model. The resulting insights may be used to enrich online psychotherapy and to enhance interpersonal skills training.

**Virpi-Liisa KYKYRI, Anu KARVONEN, Markku PENTTONEN, Jukka KAARTINEN & Jaakko SEIKKULA**, Jyväskylä (Finland)

### **Embodied qualities in experiences of moments involving sense of connection and disconnection in couple therapy**

In the social sciences and in psychotherapy research there has been an increasing interest in the relational, affective, and embodied aspects of interactions. The Relational Mind project, conducted at the University of Jyväskylä and funded by the Finnish Academy, focuses on these aspects in couple therapy at the verbal, non-verbal and autonomic nervous system (ANS) levels, covering also participants' experiences of the interaction.

In this presentation, we focus on one episode, within which a key problem in a couple's relationship, their experience of mutual disconnection, was addressed and processed in couple therapy session. In individual stimulated recall interviews, both spouses labeled this episode as being one of the most important ones in their therapy. It evoked high emotional involvement in the interview, which both spouses reported to be even higher than in the actual

therapy interaction. One moment within the episode was labeled as “aha moment” by the female client; during it, she had realized a new perspective. While watching this moment in the interview, the female client reported feelings of a renewed connection with her husband.

The selected episode opens up a possibility to learn about the embodied qualities of clients’ experiences of mutual connection and disconnection, as these were felt in the session and observed and re-lived in the interview. The focus will be on the spouses’ verbal and nonverbal behaviors and ANS responses (skin conductance, heart rate, respiration), as these were observable during important moments of the selected episode in the session, as well as during the individual interviews. Implications for theory, research and practice are discussed.

**Julien LAROCHE**, Paris (France)

### **Transpersonal aesthetics: Bodily autonomy and interactions in collective creativity**

Collective improvisation is a situation of creativity during which the content of an aesthetical performance is made up on the spot. The performed creation can only exist through the participant’s bodily activity and the peculiar unfolding of their interactions. Therefore, the explanation of such a collective achievement and the description of the processes that underlie it cannot be reduced to operations happening in isolated minds, as traditional cognitive sciences might suggest.

We rather propose a dynamical, enactive account of collective creation in which creativity emerges from the regulated blending of autonomous expressivity and interactive coupling between co-performers, both being made possible by bodily engagement. In our epistemological context, the dynamics of the interaction process itself plays a role in the constitution of individual behaviors and experiences. In the context of collaborative performance, creativity is thus not just an individual skill; it also implies the co-regulation of the interaction process itself, so that the collective performance is shaped as a whole through the interactions between its constituent parts. Even more so, the co-regulation itself can become the source of creativity. In this perspective, transpersonal aesthetics can emerge when involved individuals retain their expressive autonomy during their coupled interactions, while the interaction patterns get an autonomy of their own as well.

By presenting some work on a pedagogical method which uses improvisation both as a mean and as an end in the process of learning, we will show how the interaction process and its co-regulation can enhance creativity both at the

individual and the collective level. More generally, we will show how the study of collaborative creativity can help practitioners in developing techniques that enhance and foster creativity.

**Roberta LA ROSA**, Milano (Italy)

**Embodied aesthetics in Gestalt Therapy: A case study on sexual issues and femininity**

According to Gestalt Therapy approach, the self is a function of the field of the organism-environment, and here and now it summarizes all the relational bodily and social patterns during the previous contacts (*Es* and personality functions) and the intentionality that supports the present contact (ego function) (M. Spagnuolo Lobb, 2013). Gestalt Therapy principles (aesthetics, embodied experience, phenomenology, contact and field) and relational aesthetic knowledge (M. Spagnuolo Lobb, 2016) will be explored and it will be presented how the principles work during the therapeutic process in a case study of sexual problems and gynaecological phobia.

**Roberta LA ROSA, Alessia REPOSSI & Silvia TOSI**, Milano (Italy)

**Swing, pause, fall, go: Creative movements between self and the world**

For Gestalt therapy, movement does not belong only to the individuality of human being; we must consider it in a relational way of reciprocal exchange between individual and the world. We think it is fundamental to consider the way how everyone moves in the world (moving of the body) that leads her/him to have and to build experiences. The perception of the own movement and of the movement of the other is the ground for awareness, to perceive is first of all to feel the body: every experience is an embodied experience.

Neurosciences teach us that our brain is structured to vibrate (resonate) to intentional movement of the other. Every contact movement between self and the environment has a lot of meaning: it is bond and possibility, is developmental experience and source of discomfort.

In this presentation we will illustrate our study through the results of application of these movements to the therapeutic process and through a short exercise and experience we will propose to participants.

**Marion LAUSCHKE**, Berlin (Germany)

### **Motor resonance in art psychology and embodied aesthetics**

The term “motor resonance”, nowadays frequently used to conceive of action understanding in both cognitive psychology and neuroscience, surprisingly originates in art psychology. Already in the beginning of the 20th century, philosopher and psychologist Richard Müller-Freienfels used the notion to describe the potency of images to move their beholders. He based his thesis on the empirical research by Hugo Münsterberg, who criticized the model of a serial sequence of stimulus-conscious perception-response. This paper follows the largely forgotten traces of Müller-Freienfels and other psychologists of the first decades of the 20th century in order to support the proposition that the perceptibility of images cannot be reduced to visuality. It will be shown that unconscious bodily interactions prime the interpretations of pictures. The beholder can become aware of these interactions via kinesthetic perception that leads to aesthetic experience. On this account, aesthetic experience has to be conceived of as embodied experience.

**Kasper LEVIN**, Copenhagen (Denmark)

### **Phenomenology of Movement and Aesthetic Experience**

The French phenomenologist Mikel Dufrenne argues in his book *Phénoménologie de l'expérience esthétique* (1953) that in aesthetic experience “our body submits to the object, allowing itself to be moved by the object” (Dufrenne 1973, p.57). In this paper, I will investigate the ramifications of this account and show the consequences for an empirical approach to this phenomenon.

The phenomenological account of movement, described as immanent to sensation in experience, primarily builds on Merleau-Ponty's notion of synesthetic perception and the reversibility between sensing and being sensed. In his later work, in which his dialogue with art intensified, this “chiasmic” aspect of movement or “inter-corporeal being” approximates a more radical notion of aesthetic experience, described as something which does not only refer to the domain of the sensible, but moreover to the constitution of sensations as such. In this perspective, the painting does not simply stand before us as a visual representation, but rather something that cross-modally unifies our senses in “the coming-to-itself of the visible”.

In his book *Francis Bacon: Logique de la Sensation* (1981) Gilles Deleuze, lending from Merleau-Ponty and Henri Maldiney, refers to this radical phenomenological interpretation of aesthetic experience as “the pathic moment”, which he argues entails that the aesthetic experience constitutes a

nonrepresentative moment in which we are faced with an “existential communication” between each domain of sensation – i.e. rhythm as a crossmodal or amodal force of movement present in aesthetic experience. To operationalize this aspect of movement, I will show how discussions and research in developmental psychology can inform and inspire an empirical approach to aesthetic experiences.

**Juan M. LOAIZA**, Belfast (United Kingdom)

**The Social Dynamics of Musical Taste: A link between the micro-level of individual sense-making and the social macro level**

Approaches to embodiment in music and arts assume forms of ontological and methodological individualism seemingly by default. Such approaches explain the processes of aesthetic experience within the boundaries of the individual's body and within a narrow temporal range. In consequence, the practices and habits of taste at the level of social groups tend to be neglected. In the light of individualistic views, embodiment re-describes old-fashioned ideas regarding the lone cognitive agent with the addition of ‘online’ and ‘extended’ processes said to be characteristic of the body in the world.

The proposal is to expand the unit of analysis of embodied aesthetics. The level needed corresponds to systems of community participation with thick histories of group interaction and group identity. The proposal is thus to study both a multi-person system and a multi-temporal range. In this view, embodiment and sociality need to imply one another. Persons in communities of practice mutually co-animate and participate in each other's sense-making. Questions of identity and taste become central to this inquiry. The proposal is thus to provide an account in which the occurrence of individual aesthetic sense-making is understood as a local achievement of multi-person and multi-timescale dynamics.

The proposal will bring together recent conceptualisations of the enactive approach, systems theory, and the abundant qualitative corpus of social anthropology of musical practices and communities of practice. Finally the proposal will point to ways of understanding well-being through musical practice in relation to notions of community caring practices, sense of belonging and identity.

**Luis António P. D. MADEIRA**, Lisboa (Portugal)

### **The role of settings and situations on disturbed self experiences**

Depersonalization and derealisation experiences are frequent in the context of mental and neurological disorders and are considered in non-pathological states – such as those induced by drugs, trauma and even specific settings. This keynote reviews conceptual and empirical inputs of phenomena (e.g. experience of uncanniness) and syndromes (e.g. Stendhal Syndrome, intellectual aura and dreamy states). It further encompasses a discussion on the explanations (particularly psychoanalytical and neuroscientific paradigms) and understandings (particularly that of the engaged epistemology including changes of embodiment, enactment and attunement of reality) for these phenomena. These include understandings of the socio-relational complexity of human experience and embodiment revolutionized the understanding of meaning as no longer confined to the subject and now emerging from dynamic and permanently re-situated embodied interactions with the world (objects and shared histories) and other's (visible and invisible communication). Together, this phenomenological and epistemological analysis aims to provide insight into the complexity of these experiences as they occur in specific settings bettering their use in clinical practice and research - particularly the implications on the existence of identical experiences or phenomenological similes to experiences considered in mental disorders.

**Winfried MENNINGHAUS**, Frankfurt (Germany)

### **Being moved by films and poems: Elicitors, affective nature, physiology**

Ever since Horace, Cicero and Quintilian, rhetoric and poetics stipulate that it is one of the prime goals of the arts to move (*movere*) the audience.

The lecture presents a series of studies aimed at establishing "being moved" as a genuine emotion concept and at revealing its role in aesthetic enjoyment. A special focus is placed on the physiology of feelings of being moved.

**Irene MITTELBERG**, Aachen (Germany)

### **Experiential Essence: Felt Qualities of Meaning in Artworks and Their Gestural Enactments**

Analyzing visual artworks and their gestural enactments, this paper explores the role dynamic embodied structures play as driving forces in the constitution and interpretation of visual, bodily signs. The underlying assumption is that

despite their metonymic sparseness, abstract depictions in paintings and “descriptive gestures, those forerunners of line drawing” (Arnheim 1969: 117; Mittelberg & Waugh 2014; Müller 1998) enable interpreters to relate to the actions represented or performed in front of them based on internalized patterns of cognitive, physical and aesthetic experiences (e.g., Bredekamp 2010; Gallese & Lakoff 2005).

It is proposed that some of the essential facets of experience exhibited in selected paintings, student drawings, and coverbal gestures, may be motivated and structured by image and force schemata (Johnson 1987; Krois et al. 2007; Lakoff 2006; Talmy 1983). As gesture research has shown, communicative body movements and posture may reflect schemata such as PATH, OBJECT, CONTAINER, CENTER-PERIPHERY, SUPPORT, BALANCE, etc. (Cienki 2005; Mittelberg 2010). Such schemata seem to mediate not only multimodal processes of experiencing and interpreting the world, but also the gestural enacting of inner images, emotional states, and aesthetic impressions (Mittelberg 2013).

Building on an image schema analysis of three paintings by Paul Klee, in which human figures take center stage and try to stay balanced while being exposed to various physical forces, a comparison is made with video and kinetic data recordings of three native speakers of American English describing their encounter with the same artworks inside a motion-capture lab ([www.humtec.rwth-aachen.de/nmlab](http://www.humtec.rwth-aachen.de/nmlab)). Crucially, reinstating from memory their perceptual experience of formal and semantic qualities of the artworks, all speakers employed both external and artifact-internal viewpoints (Mittelberg in press; Sweetser 2013).

The paper aims to offer glimpses at felt qualities of experience and meaning (Johnson 2007), thus shedding light on some physical dimensions of people’s subjective understanding of artworks, which may be seen as “exemplary cases of embodied, immanent meaning” (Johnson 2007: 234; Turner 2006).

**Damilya NADYROVA\***, **Yulia PANTELEEVA\*\*** & **Grazia CESCHI\*\***, \*Kazan (Russia), \*\*Genève (Switzerland)

### **Mirroring and embodiment in the recognition of musical emotions**

Music as a means of art therapy has been used for a long time, but the mechanisms of its emotional impact on a person are still not fully understood. Therefore, the question of the mechanisms of the communication of emotions in music is of key importance not only for musicology, but also for music therapy. According to the theory model of embodied aesthetics for the art therapies (Geuther, Koch), art gives an opportunity for self-expression of individuality and emotion regulation. Musical activity enables non-verbal cognition of the

spiritual world of another (composer, performer, and partner for performing). In addition, this can be carried out both on the intersubjective and on the intrasubjective level, that is, as a form of self-knowledge, an inner dialogue with oneself. The latter circumstance can be of particular value in psychotherapy. Based on the foregoing, it can be assumed that the therapeutic effect of music is partly due to the similarity of mechanisms for the transfer of emotions in music and in real life. Analysis and interpretation of the available experimental data have shown that both these communicative processes are really built on a single principle, based on the mirroring of the elements of expression of the observed object (music or another person). However, in musical activity, they acquire a specific form associated with auditory primary perception. With deeper cognition, the mechanisms of bodily modeling of expressive elements in one's own body (at different levels – from internal ideomotor reactions to real actions involving the whole body) are included. It should be noted that methods based on embodied simulation in one form or another have long been successfully used in music education, especially in the musical upbringing of children.

**Tania PIETRZAK**, Melbourne (Australia)

### **Clinical Applications of Embodied Interventions: A focus on conflicted couples**

Aims and hypotheses: To foster emotional regulation, multifaceted empathy and partner satisfaction in conflicted couples via emotional activation in the Emotional Field and embodiment methods. The aim was to increase understanding of couples' previous hidden emotion and intentions. The three hypotheses were: a) that the treatment group will: show statistically significant and meaningful increases in measures of empathy, relationship satisfaction, a more secure attachment style and decreases after treatment in measures of depression; b) Increases will occur in participants understanding of their emotions and core schemas during conflict and understand their partner's intentions and hidden emotions; and c) The wait list control group will show no statistically significant or meaningful improvements over time.

Method: Twenty subjects (10 couples) participated in the study and were assigned to a treatment or wait list control group. Measures were taken of the participants' affective and cognitive empathy, relationship satisfaction, attachment style in close relationships and depression. The treatment group was given 20 hours of group intervention that included three core treatment components: a) establishing group cohesion, b) focus on self-including understanding and regulating one's own emotional survival strategy. Group members were used as a vitalizing function via embodied imitation to enhance

body empathy. Individual behavioral goals for each couple were then identified, c) interaction focus – couples shared their emotional survival strategy via imitation and together developed solutions via synchronised cooperative movements.

Results: Repeated measures multivariate ANOVA showed meaningful increases for the treatment group in satisfaction and empathy compared to the control group. There were no significant changes in the treatment group's depression and attachment style in general close relationships.

Conclusion: Embodiment techniques such as imitation and synchronised movement helps conflicted couples to develop body empathy and improves relationship satisfaction.

**Olga POLLATOS**, Ulm (Germany)

### **The role of interoceptive abilities in the embodiment of emotion regulation**

There is ample evidence that differences in interoceptive abilities are related to various aspects of emotion processing. Recent research highlights that specifically a greater accuracy in detecting one's bodily state (interoceptive accuracy, IAcc) facilitates the regulation of emotional responses. Using EEG and the presentation of negative pictures, participants were instructed to use re-appraisal as emotion regulation strategy to downregulate their negative affect. Higher IAcc was associated with both a higher degree of subjective change in arousal as well as a greater change in the visual evoked potential (P300 amplitude) reflecting central aspects of emotion regulation. In another experimental paradigm (cyberball game) participants were ostracised and related stress was assessed. Higher IAcc was associated with a better regulation of negative affect. Detecting bodily changes more accurately might create advantages in the discrimination and regulation of different emotional states and might therefore constitute an essential prerequisite for effective emotion regulation. This might be especially interesting for clinical populations as shown in a clinical setting.

**Tone ROALD**, Copenhagen (Denmark)

### **The Present Body**

Ideas about the role of the body in aesthetics have a peculiar intellectual history. On the one hand, this is a history in which aesthetic experience has been linked to affect, and where affect, in turn, has been linked to the body.

On the other hand, it is a history in which the body has rarely featured as a topic in its own right, despite the increasing interest in embodiment across the academy over the past three decades. In order to address this gap between an interest in affect and a lack of attention to the body in aesthetics, we conducted a qualitative study on the nature of the body in aesthetic experiences. Working within the field of phenomenological psychology, we interviewed museum visitors about their intense experiences with art at the National Art Gallery as well as Esbjerg Museum of Art in Denmark. These results show that aesthetic experience is characterized by bodily reversibility as affective presentations. These findings will be used to disentangle conceptual inaccuracies between bodily ambiguity and reversibility in Maurice Merleau-Ponty's work on the affective body-subject as well as to discuss similarities and differences between bodily experience and affect in the works of Thomas Fuchs, Maurice Merleau-Ponty and Maxine Sheets-Johnstone. It follows that although the body has been rather absent in the intellectual history of aesthetics, it is irreversibly present in experiences with art.

**Hartmut ROSA**, Jena (Germany)

### **Attraction, Repulsion and Indifference: The Concept of Resonance as a Mode of Relating to the World**

The keynote seeks to clarify and define the concept of resonance as a particular mode of being in and relating to the world. This mode is characterized by four core elements: First, resonance implies (bodily) affection by some external source. Second, it involves an active, embodied 'answer' that bestows self-efficacy. Third, this leads to a transformation of the experiencing subject. But fourth, processes of resonance cannot be instrumentally controlled or designed, they involve an intrinsic element of elusiveness (Unverfügbarkeit). Of course, aesthetic experiences can be interpreted as paradigm cases for processes of resonance. As such, resonance is 'alienation's other', for alienation is a mode of being in and relating to the world in which the world is experienced as silent or as hostile. Furthermore, the lecture seeks to identify three 'axes' of resonance: A horizontal or social axis that implies relationships between subjects, a material or diagonal axis that refers to relationships between subjects and things/artefacts/objects, and a vertical axis that is established between subjects and 'the world' as an ultimate totality ('Das Umgreifende' in the sense of Karl Jaspers). In this latter realm, art and nature can be identified as central spheres of resonance for modernity.

**Jan ROUBAL\* & Gianni FRANCESETTI\*\***, \*Brno (Czech Republic), \*\*Torino (Italy)

### **How to maintain joy and creativity when immersed in the depression with the client: Therapists' own experiences and working strategies with depressed clients**

Psychotherapists experience a client's depression themselves. It seems inevitable when attuning to and remaining open to the existential human meeting with the client. The client and the therapist are in this way „depressing together.“ Therapist 1 says: *“It happens to me ... that I fall into it somehow. Down. I am saying to myself: ‘This is so terribly hopeless. It’s no wonder at all that there is no way out’”*; Therapist 2 says: *“When I am sitting with him there, I feel a terrible tiredness... As if I will not be able to raise my hand anymore”*. These are examples from the research, which will be presented and which provides a detailed Grounded Theory of how psychotherapists experience a relationship with depressive clients during a psychotherapy session. Results of this research enable us to deduce strategies to cope with our own experiences and to enhance the therapeutic relationship. We suggest possible approaches for the therapist and examples of practical steps with these particular, depressive, clients.

**Rosemarie SAMARITTER**, Rotterdam/Heerlen (Netherlands)

### **Aliens or Alliances: An aesthetic perspective to mental health**

The Arts and especially dance and music are present in many public health domains. The specific contributions of art-based practices to wellbeing and mental health have been widely discussed in the literature (e.g. Dosamantes-Beaudry, 2003; Wiedenhofer et al. 2016). Arts-informed structures offer the opportunity to articulate and express experiential content through embodied (inter-)action. Through arts based interventions, the therapist addresses in the patient the potential for sensing, for play and improvisation, for being an agent and maker in aesthetic procedures (Feder & Feder, 1980). The therapist will guide the patient towards aesthetic moments that create a zone of proximal development, into which the therapeutic dyad can unfold. The aesthetic moment here is understood as a simultaneity of inward deepening of lived experience and outward appreciation of and meaning assignment to a phenomenon or event (Gadamer, 1960). This simultaneity is crucial for the aesthesis, in that it is not a matter of a particular series of acts or activities that can be performed subsequently, but rather a complex event in which inward experience and outward appreciation are defining each other and evolve within the dynamics of the enactively engaged therapist-patient system (Koch

& Fishman, 2011). In the case of dance therapy, the therapist will seek to provoke this simultaneity in the patient's exploration of mutually shared movements, in which the inner experience of deepened sense of self occurs entangled with the appreciation of a shared object of attention that presents itself within the shared movement experience.

The presentation will discuss an arts-informed, aesthetic perspective to mental health as this has been developed in the project *Aliens or Alliances* that has been conducted for Codarts Master of Arts Therapy Programme Rotterdam (NL).

**Pietro SARASSO, Irene RONGA, Raffaella RICCI & Marco NEPPI-MODONA,**  
Torino (Italy)

**Investigation of the relationship between Aesthetic pleasingness, RTs and neurophysiological indexes of visual processing efficiency during the observation of abstract images**

Recent neuroaesthetical research suggested the existence of a relationship between aesthetic pleasure and the dynamics of the perceivers' neural processing: the efficacy of stimulus processing has been hypothesized to be positively correlated with individual aesthetic response. In the present study, we specifically aimed at measuring the relation between aesthetic pleasure and visual processing of abstract black-and-white images at both a behavioural and a physiological level.

58 healthy subjects participated to a visual search task experiment, in which they had to identify the presence/absence of a grey dot against a noisy background by pressing a button on the keyboard as fast as possible. Backgrounds were randomly generated by the computer, according to the power law  $1/f^B$ , which enabled us to specify the chosen  $B$  exponent, in order to control the background spatial frequencies spectral power. 21 different categories of backgrounds were created with  $B$  exponents values ranging from 0.8 to 2.8. At the end of the experiment subjects rated the images aesthetic pleasingness on a 10-points Likert scale. Subjective aesthetic judgments replicated the data present in the literature, peaking for stimuli with a  $B$  exponent value close to 2. Furthermore, response times were found to be inversely correlated to aesthetic pleasingness level.

In a second experiment, 5 image categories with  $B$  values equal to 0.8, 1.2, 1.6, 2, 2.4 and 2.8 were presented to 13 healthy subjects while recording EEG activity. More appreciated images show an enhancement in electrophysiological indexes of early attentional processing such as C1 and N1 components.

These components are known to correlate with the efficiency of visual sensory processing.

We interpret these findings speculating that beauty appreciation might emerge as a result of a hedonic marking of stimulus processing efficiency. These rewarding activations might have evolved to signal where it is most profitable for the sensory system to invest attentional and processing resources in order to optimize the process of knowledge acquisition.

**Andrea SCHIAVIO**, Graz (Austria)

### **Embodied Action and the roots of Musicality**

The role our bodily power of action plays in shaping mental life is drawing increasing attention from cross-disciplinary scholarship in brain, mind, and subjectivity. In particular, it is posited that our body is actively involved in doing much of the work that we previously assumed was done solely by the brain. This has led a number of researchers to suggest that cognitive processes are co-constituted by the biological complexity of the entire living organism, rather than being fully realized through brain-bound manipulations of abstract symbols. This talk will address such claim in the context of music cognition, exploring empirical research associated with music-making and musical learning in both adults and infants. Novel findings will be discussed through the enactive principles of 'sense-making' and 'embodiment', showing that corporeal experience is fundamental for the flourishing of one's musical identity and cultural integration, the recollection of musical excerpts in memory, and the early understanding of audio-visual synchronicity. These insights serve a theoretical and a practical purpose: first, they might inspire a richer understanding of what action entails in human musicality; second, they might offer relevant support to the growing number of music theorists who highlight the importance of educational settings based in creative action, real-time collaborations, and experiential openness.

**Wilfried SCHLEY**, Zürich (Switzerland)

### **INTUS x 3 : Resonance based interaction – The Leap from Teaching to Learning**

INTUS 3 produces a relevant contribution to de-stressing the teacher, combined with an increase of learning intensity and teaching quality. In this system, you bring your own energy to bear, with agility and awareness, and at the

same time act mindfully. In each module, we use online coaches and film scenes to lead you through the experience.

- Module 1: Basic Attitude of a Resonant Relationship “sensing needs and wants empathically”

You accept what you encounter, you intuitively understand the scene as a whole, you see the situation through a lens that emphasizes potential, and you empathically sense needs and wants – those of your pupils as well as your own. This way you can remain, even in conflict situations, relaxed and solution-oriented, and in contact with yourself and with your pupils. In these films, we stop the action at certain points so that don’t see how the teacher will intervene. This hiatus gives you time to grasp the situation and focus your perceptions, while staying grounded in the Basic Attitude: You will be able to sense needs and wants empathically, intuitively understand situations holistically, recognize potentials using a resource-oriented lens, and accept whatever you encounter.

- Module 2: Dialogic Interventions "intuitively giving over to what is happening in the relationship"

You will learn to perceive scenes while being grounded in the Basic Attitude. You will fine-tune your intuition, and this will sensitize your resonance. The teacher’s interventions are based in the Basic Attitude, which means being in contact. In the scenes, you will precisely observe whether or not the colleague is in contact when he makes his interventions. The competency model of dialogic intervention is about intuitively letting yourself go with what is happening in the relationship. It is not based on intentionality, nor is it achieved through logical reasoning. The Basic Attitude helps you to avoid getting caught up in old patterns of value judgements and emotional irritation. You stay in contact with what is happening, and are capable of dialogue. In the films, you get a sense of: how needs and wants become empathically accessible and lead to solutions, how regarding the scenes holistically increases your ability to create and modify the atmosphere, how presence and authority develop out of acceptance, and how a resource-oriented approach makes it possible to recognize your own destructive patterns and act accordingly.

- Module 3: Body language “Students clearly reveal their mental states and feelings, and these affect you, the teacher, directly”

Now our online coach Oliver Posener shows you how to read your pupils’ body language: Students clearly reveal their mental states and feelings, and this gives you a direct window into their wants and needs. If you pay attention to these impressions, you can use them in your interactions. In the scenes, you sense the interactions bilaterally: you take part in a shared atmosphere between the two. Using screenshots helps you develop your ability to read body language. You learn to intuitively recognize the significance of facial

expressions. This gives you the ability to sense, in the heat of the moment, what the situation is emotionally about.

- Module 4: Compass “for a good orientation, take a detour through relationship”

This module is about using the interactive structure of learning as a compass. Dr. Helga Breuninger shows how you can grasp and locate interactions both in the relationship dialogue and the learning dialogue. With interactive structures as your compass, you are in a position to decide in the immediate situation what to do. You learn how to take a detour via relationship as the quickest way to successful learning outcomes. John Hattie gives us his insight: „Wherever we direct our attention, our energy follows.” But sometimes it doesn’t work. A typical failed interaction lets you reflect on this experience in self-coaching. You can use these as learning opportunities.

- Module 5: Personalized Learning “who works harder, you or your students?”

I will show you how to use personalized learning to set up your school day more efficiently and significantly relieve some of the pressure on yourself. “Don’t Work Harder Than Your Students”! The learning designs for personalized learning help create the conditions for cooperative learning. You activate your students and encourage a good climate for independent learning. Stress-free, you can follow the learning process and figure out what’s happening. Personalized learning makes a fundamental difference in your relationship to teaching. It redefines your professional approach. Building on that, it comes quite naturally to work within the concept of inclusion. Diversity, integration and talent development will no longer be irksome extra homework. Instead, they are formed as natural results of personalization.

It’s learning as flow.

**Wolfgang SCHMID & Karin MÖSSLER, Bergen (Norway)**

### **What’s this adorable noise? Relational qualities in music therapy with children with autism**

Background: Shaping sensory perceptions, regulating affective dynamics, or joining attention are abilities that enable human beings to relate. Children with an autism spectrum condition (ASC) can face challenges in all of these areas. However, their bodily and emotional expressions form and inform relational abilities. By creating music that is embodied and attuned to the child’s relational resources, therapists might effectively empower the child’s social skills on a generalized level. To examine the impact of a therapeutic relationship that is grounded in the body and situated in the context was the aim of the present paper.

**Methodology:** A predictor study including music therapy sessions from 48 children with ASC, aged 4-7, has been conducted. Music therapy was provided weekly over a period of 5 months. Generalized interaction skills were measured using the Autism Diagnostic Observation Schedule (ADOS) and the Social Responsiveness Scale (SRS) questionnaire at baseline, 5 and 12 months. The therapeutic relationship was assessed using the evaluation tool for Assessing the Quality of Relationship (AQR). Associations between the therapeutic relationship and generalized outcomes have been analyzed using a linear mixed effect model.

**Results:** This study found that the therapeutic relationship predicts generalized changes in social skills in children with ASC. Significant interaction effects could be found both for the ADOS Social Affect domain at 12 months ( $B = -3.89$ ;  $CI = -7.51, -0.26$ ;  $p = 0.0399$ ) and the SRS at 5 months ( $B = -23.46$ ;  $CI = -45.63, -1.29$ ;  $p = 0.0426$ ).

**Conclusions:** These results emphasize a therapeutic relationship, in which the therapist attunes to the child's expressions musically and emotionally, as important mechanism of change. These results might contrast a behavioristic paradigm in autism treatment.

**Maurizio Leonardo SICORELLO\***, **Jasmina STEVANOV\*\*/\*\***, **Heiko HECHT\*** & **Hiroshi ASHIDA\*\***, \*Mainz (Germany), \*\*Kyoto (Japan)

### **Effect of Gaze on Personal Space: A Japanese-German Cross-Cultural Study**

The Equilibrium Theory (Argyle & Dean, 1965) assumes a compensatory relationship between eye contact and interaction distance which people utilize to attain and maintain a comfortable level of intimacy in social situations: e.g. too much eye-contact of a conversation partner can be compensated with larger interpersonal distances. While cultural differences in gazing behavior and interaction distance are consistently reported, it is still unclear whether the effect of direct gaze on interaction distance varies across cultures as well. We compared the effect of direct gaze on interpersonal distance between Japanese and German students in a laboratory task, using averaged faces with manipulated gaze direction. In line with previous findings, we confirmed that Japanese participants prefer larger interpersonal distances than Germans. There was neither a significant main effect of gaze direction nor a significant interaction between gaze direction and nationality on distance. Bayes factors were calculated to assess whether the absence of significant interactions with nationality can be interpreted as cross-cultural generalizability. There was strong evidence against a main effect of gaze direction on distance ( $BF = 11.9$ ). Still, a Bayes factor of 8.12 indicated that the data were more likely to occur

under a model including the interaction between gaze direction and nationality compared to a model including only the main effects. Direct gaze led to smaller distances for Germans and larger distances for Japanese. These findings speak against the cross-cultural generalizability of the effect of eye contact on intimacy, but are equivocal as Frequentist and Bayesian inference diverged.

**Kurt STOCKER\***, **Asha-Naima FERRANTE\*\***, **Gregor HASLER\*\*** & **Matthias Hartmann\***, \*Zürich, \*\*Bern (Switzerland)

### **Counteracting sadness and depression with the beauty of the upright posture? A BSM (Bodily Sensation Map) study**

Early accounts of depression have emphasized the bodily and spatial (downward) aspects of depression: “The ‘de-pressed,’ with his head bent, his shoulders lowered, his arms fallen to his sides, with his slow, short steps, succumbs to the pressure which pushes him down.”

Contemporary embodied findings have confirmed that depression is associated with such aspects as slumped posture, slow walking speed, and interoceptively reported deactivation of regions corresponding to the human walking apparatus – the latter measured with bodily sensation maps (BSMs). In healthy individuals, we investigate whether upright posture can alleviate sadness/ depression, and whether this shows in corresponding changes in bodily sensation.

Inducing sadness (movies) is followed by an upright (one group)/slumped (other group) 30-minute posture exercise. BSM, Profile of Mood State (POMS), and Beck Depression Inventory (BDI) are administered before sadness induction and after posture intervention; BSM additionally also after sadness induction. We predict that inducing sadness leads to interoceptive deactivation of the entire body for both groups, and that upright posture will support the overcoming of negative emotions more effectively than the slumped posture (more activation of the entire body and lower POMS/BDI scores). Furthermore, as a replication of another study, the posture intervention is combined with a task involving negative and positive memories, predicting more recall/ recognition of positive memories for upright posture. Artists have long recognized another aspect of upright posture: beauty. In Milton’s *Paradise Lost*, Adam and Eve appear as “of far nobler shape, erect and tall, / God-like erect ... in their looks divine / The image of their glorious Maker shone.” We will also discuss the role of beauty and upright posture in depression treatment (mainly in the context of the social competition hypothesis of depression). The overall aim of our study is to make a first step toward treatment in depression that makes explicit use of its bodily and spatial dimension.

**Wolfgang TSCHACHER**, Bern (Switzerland)

### **Nonverbal synchrony – Measuring bodily resonance in psychotherapy and aesthetic appreciation**

It has become increasingly evident that embodiment plays a considerable role in psychotherapeutic interaction, even in purely 'cognitive' psychotherapy. In addition to this, I believe that significant change events in psychotherapy are analogical to moments of aesthetic immersion in the arts.

Making such statements is nice, but how can we measure this? Firstly, we developed methods how to operationalize the embodied synchronization and resonance between people. Therapeutic interaction is grounded in therapists' and clients' posture, body motion, physiology, i.e. in their bodies. Our empirical projects have, for instance, supported the idea that the affective quality of alliance<sup>1</sup> is embodied by the degree of nonverbal synchrony between therapist and patient<sup>2</sup>. Embodied synchrony was found associated with positive affect in conversing dyads, with personality features of patients such as attachment styles and interpersonal problems. The strong affective quality of resonance<sup>3</sup> is probably what is experienced as aesthetic moments in the appreciation of artworks. We have started to measure such synchrony in concert audiences.

Secondly, the synchrony methodology allowed defining *nowness* as the duration of significant synchrony<sup>4</sup>. By this measure we may be in a position to better understand therapeutic presence, a core variable of the alliance in psychotherapy.

Even if acknowledged and utilized by practitioners, embodied resonance is still widely uncharted territory for academic psychotherapy research. The evidence accumulated so far suggests that the degree of nonverbal and physiological synchrony may be a pivotal predictor of emotional features of therapeutic interaction, and of aesthetic moments.

**Felicitas WEINECK**, Ulm (Germany)

### **Potential pathways to improve interoceptive ability**

Previous research has shown that deficits in interoception are linked to impairments in emotional awareness and may represent a potential risk factor for the development of psychiatric disorders (Murphy et al., 2017). Despite the growing knowledge that interoceptive ability is crucial to emotional regulation, there are very few interventions available to improve interoceptive ability in clinical populations. We aim to inform participants about recent preliminary research to improve interoceptive ability including mindfulness, enhancing self-focus (e.g. by looking in a mirror; using autobiographical narratives) and the

manipulation of power. For example, Kunstman et al. (2016) found that state interoceptive accuracy could be improved through an experimental manipulation of power in individuals with high levels of body dysmorphia. We will also present some preliminary data looking at the effects of manipulation of power on interoceptive abilities of healthy students at Ulm University. Potential applications of the manipulation of power to clinical populations are explored.

**Leonardo ZAPATA-FONSECA\***, **Dobromir DOTOV\*\***, **Ruben FOSSION\***, **Tom FROESE\***, **Leonhard SCHILBACH\*\*\*** & **Bert TIMMERMANS\*\*\*\***, \*Mexico City, \*\*Juriquilla (Mexico), \*\*\*München (Germany), \*\*\*\*Aberdeen (United Kingdom)

### **Quantifying movement patterns during embodied interaction: High-functioning autism as a case study**

People with high-functioning autism (HFA) usually present restricted and repetitive patterns both in movement and behaviour. Recently, it has been proposed to study psychopathologies as social interaction disorders, HFA being one of the most studied cases. Particularly, these patients seem to have important difficulties in everyday ongoing social interactions. Embodied accounts of cognition have suggested that, instead of smoothly interacting pre-reflectively, autistic population rely mainly on introspection or simulation routines in most everyday situations. Using a minimalistic paradigm known as the perceptual crossing experiment (PCE) we studied real-time interaction in pairs of healthy participants and HFA individuals, as well as in pairs of healthy participants. This constrained setup aims to isolate the interaction-aspect of reactivity, i.e., action contingency. However, it has been proven to be a suitable paradigm for eliciting forms of alignment found in more complex real-life social interactions.

In the PCE, pairs of blindfolded participants are embodied as avatars in a one-dimensional and looped virtual space and move their avatars with a mouse. A tactile vibration stimulus is delivered whenever the avatar crosses another object in the space. Each player can encounter three objects: a static decoy, the avatar of the other player, and a mobile “shadow” that copies the other player’s avatar movements at a constant distance and that is not reactive in that the other does not receive any feedback when her “shadow” is encountered. Hence, the only event when both partners receive feedback simultaneously is when they cross each other’s avatar. The task is to mark these encounters but not those with the decoy or partner’s “shadow” via button press.

We analysed the participants' movement trajectories during a PCE by applying a multi-scale time-series method called intra-daily variability (*IV*), which quantifies how much small-scale and large-scale components contribute to the variance of any given time series. *IV* excludes the trend of the signal by computing the derivative of the original time series. Hence, the players' positions (*X*) were turned into velocities (*X'*), and we computed variances as a function of different resolution factors (*P*) and normalized to the variance of *X'*:

$$IV(P) = \text{Var}(X'_p) / \text{Var}(X')$$

Thus, this relative measure made possible the comparison within and between samples. Our preliminary results show distinct velocity profiles within and between pairs, directly related to participants' movement patterns. The time-series from the PCE can be interpreted as active strategies for solving the task, encompassing both sensitive and motor components.

In this sense, it can be said that control-control pairs converge towards a similar strategy, i.e., their movement trajectories tend to be less variable between successive sessions and across all scales. In contrast, control participants of the HFA-control pairs are rather stable across all scales, without significantly changing their velocity profiles according to sessions. Furthermore, the variability observed in autistic population's movements has a significant increase for larger scales but a decrease for smaller scales in consecutive sessions. Consequently, the strategies of the HFA-control pairs seem to diverge across sessions.

With the present research, we support previous work and propose an objective way for quantifying clinically relevant behaviours, namely, the movement profiles of HFA patients during a perceptual interactive task. Moreover, two-person real-time experimental paradigms and a time-series approach promise to have important clinical implications, by complementing subjective assessments, and by objectively characterising psychopathologies when regarded as social interaction disorders.

## POSTER SESSIONS

### Session I - Thursday October 5<sup>th</sup>, 13.10 – 13.55

- I-1 Kamila **BIALY**: Sociology of contacting. Inspiration from the philosophy of perception and Gestalt therapy
- I-2 Sabine C. **KOCH**, Katja **MERGHEIM**, Judith **RAEKE**, Dorothee v. **MOREAU** & Thomas K. **HILLECKE**: The Embodied Self in Parkinson's Disease: Effects of a Single Tango Intervention on Psychological Health Outcomes and Aesthetic Experience
- I-3 Gudrun **LANGE** & Sabine **KOCH**: The effect of active creation on human health
- I-4 Susanne **MAUS-HERMES**, Kerstin **SCHOCH** & Constanze **SCHULZE**: Art therapy for the activation of body perception in chronic pain patients: an explorative study in multi-modal pain therapy (MMPT)
- I-5 Katja **MERGHEIM** & Sabine C. **KOCH**: Experiencing beauty. The healing factor of aesthetic experience in art therapies and its relevance for Parkinson disease
- I-6 Robert G. **MOULDER**, Steven M. **BOKER**, Fabian **RAMSEYER** & Wolfgang **TSCHACHER**: Methods to assess nonverbal synchrony
- I-7 Dolores **VARA**, Marta **MIRAGALL**, Ausiàs **CEBOLLA** & Rosa M. **BAÑOS**: Changing the motivation to achieve a goal through approach body movements

## Session II - Friday October 6<sup>th</sup>, 12.40 – 13.25

- II-1 Sandra **ADIARTE**: One soul, one body - Methodology of Laban Movement Analysis in therapeutic and scientific practice
- II-2 Thomas **BERGMANN**, Joana **BIRKNER** & Tanja **SAPPOK**: AutCom – Evaluation of a multimodal group training program supporting adults with autism and intellectual disability
- II-3 Sergio **CERVERA TORRES**: Emotion in the hand: A direct interaction with emotional pictures on a touchscreen influences their valence evaluation
- II-4 Marta **MIRAGALL**, Ernestina **ETCHEMENDY**, Ausiàs **CEBOLLA** & Rosa M. **BAÑOS**: Manipulating the body posture in women with body dissatisfaction
- II-5 Susanne **QUINTEN**: The common ground of mixed-abled creative art – Embodied participation
- II-6 Stefan **SCHNEIDER** & Ricarda Emma **BAUMANN**: Sensing gravity: A phenomenological investigation of somatic learning in Taijiquan
- II-7 Kerstin **SCHOCH**: Where art thou? Necessity and development of a quantitative psychometric rating instrument measuring pictorial expression (RizbA)
- II-8 Silvia **TOSI**: Spontaneity and intentionality of contact: A modality of working with children, their parents and their world

## **POSTER – ABSTRACTS**

*(in alphabetical order)*

**Sandra ADIARTE**, Heidelberg (Germany)

### **One soul, one body – Methodology of Laban Movement Analysis in therapeutic and scientific practice**

As movement therapists, we use our body mindfully to resonate during the entire therapeutic process, as we offer our clients regaining mental stability, self-regulation and awareness about their self and kinesthetic sense (Capello P. P. in Chaiklin & Wengrower, 2009). In therapeutic sessions our clients reveal their embodied personal history through their unique move-mental appearance as they share their actual state of mind, which is carried by this one and only, unique body (Damasio, 2000). Clients and therapists, like performers and audiences, design their shared spaces in varying levels of embodied synchrony (Storch & Tschacher, 2014). The appearing patterns and rhythms of communication and behaviors color the shared space, like a brush colors a canvas.

As opposed to thorough psychological anamnesis, structured observational assessment of the move-mental appearance of clients, however, is neither part of the training in health-related professions nor extensively considered during diagnostics in psychological theory and practice. Laban Movement Analysis (LMA) trains practitioners to observe, evaluate and notate any movement of the human body (AdiarTE, 2016) and appears to be a suitable tool for movement analysis in scientific contexts. LMA trained observers capture kinematic and non-kinematic features of macro and micro patterns of human movements (Lourens, van Berkel & Barakova, 2010, Studd & Cox, 2013) using a specific set of categories which are based on Rudolf von Laban's artistic work and analytical theories. Potentiality and difficulties in using the LMA framework for professional and scientific use are exemplified and discussed.

**Thomas BERGMANN, Joana BIRKNER & Tanja SAPPOK, Berlin (Germany)**

**AutCom – Evaluation of a multimodal group training program supporting adults with autism and intellectual disability**

**Aims:** Even though autism spectrum disorder (ASD) is a lifelong condition frequently co-occurring with intellectual disability (ID), there is a lack of structured treatment concepts supporting adults with ID and ASD. The Autism Competence Group (AutCom) is a newly developed, mixed-gender group training to foster social, emotional and executive skills. AutCom combines an educational approach with musical-bodily interventions. Setting and course were structured considering ASD-typical features. This study aims to evaluate the program's efficacy and appropriateness.

**Methods:** A group of 6 adults completed the program including 16 sessions, conducted by a music therapist and a psychology student. A gender and IQ matched control group was selected from the waiting list, receiving treatment as usual. Efficacy was assessed by a pre-post-comparison of self-reports and external assessments. Outcome variables were measured by established scales: social responsiveness (SRS), challenging behavior (ABC, MOAS), quality of life (POS), appropriateness (ZUF); social, emotional and executive skills by a self developed questionnaire.

**Results:** In the self-assessment, competences increased in all domains. The external assessment showed higher improvements on most scales for the treatment group compared to controls. All participants showed high ZUF-scores, indicating appropriateness and broad acceptance of the program.

**Conclusions:** AutCom is a promising approach fostering social and emotional skills, which was highly accepted by the participants. The combination of musical-bodily interventions and educational principles showed to be very suitable for adults with ID and ASD.

**Thomas BERGMANN, Rosemarie CAMATTA, Joanna BIRKNER & Tanja SAPPOK  
Berlin (Germany)**

**Vision, concretism, repetitism. Typical artistic design features in drawings of adults with autism and intellectual disability**

**Aims:** Many people with Autism Spectrum Disorders (ASD) show photographic memory and visual strength. Artists with high-functioning autism enrich the world of art with their unique designs and aesthetics. Geometric forms, serial structures and the combination of images and writings are described as characteristic features. However, the artistic expression of individuals with ASD

and intellectual disability (ID) has been less noted up to now. This study assesses which specific design features can be found specifically for this group. Methods: In order to develop a list of design characteristics, 120 paintings of individuals with and without ASD were systematically sifted. Reoccurring features in the area of form (e.g. arrangement) and content (e.g. realism) were assessed and grouped to these categories including various subdomains. The list of characteristics was tested psychometrically using a sample of patients with ASD and an age and IQ matched control group (N = 40). All paintings were rated by three independent and blinded experts. Inter-rater-reliability was measured by the mean absolute agreement. The selection of items was based on their discriminant validity ( $\Phi > .20$ ).

Results: Overall, 60 design features were identified and grouped to the categories 'form' and 'content' and the different subdomains. Inter-rater-reliability showed to be good (M = 82.6%). Nine items discriminated distinctly between individuals with and without ASD, whereof *line structure* and *repetition* showed to be significant markers.

Conclusions: Also in adults with ID and ASD, the artwork displays specific formal design features. This may give important diagnostic clues and support the diagnostic process in this group.

**Kamila BIALY**, Lodz (Poland)

### **Sociology of contacting. Inspiration from the philosophy of perception and Gestalt therapy**

Inspired by Lambert Wiesing "The Philosophy of Perception" I turn from the primacy of the perceiver to the primacy of perception to see some major advantages of this non-dualistic approach for understanding socio-cultural processes in late modernity as well as the social sciences discourse concerning the late-capitalistic societies. For the same reason, I apply the Gestalt therapy approach where, similarly, the first and primary reality becomes a contacting/withdrawing process. In both of these constellations the "I" becomes one pole in a relation, a mere correlate, and thus no more a "worldless" subject seeking in vain resonance (Hartmut Rosa) or denying there is one. The phenomenological notion of "intentionality", and respectively, Gestalt therapy focus on physiological excitement and growth (aggression as "ad-gredere") overcome a dual disjunctive motivation ascribed to human beings in Western philosophy, i.e. instrumental and social. The poster presentation is an attempt to show that the given perspective offers a way out of the impasse present both in social reality and the social sciences discourse between colluding sides of too fluid and too fixed ways of being and knowing, where an already mentioned

worldless subject is either confused/confluent with the reality (and its enchanting ideology of freedom, participation, individualism) or isolated (and so egotised, disenchanting and obsessed with interpreting and deconstructing) from it.

**Sergio CERVERA TORRES**, Tübingen (Germany)

### **Emotion in the hand: A direct interaction with emotional pictures on a touchscreen influences their valence evaluation**

Recently, two lines of research have reported important effects of hand and/or related arm movements on the processing of emotional valence: (a) research on near-hand space suggesting that placing the hands in close spatial proximity to valence-laden stimuli increases the visuospatial attention to the stimuli compared to a distant placement of the hands; and (b) research on embodied cognition suggesting that hand and related arm movements (e.g., rightward-leftward, upward-downward, or forward-backward) are associated to the processing of valence-laden stimuli. These findings might be very relevant in environments with direct stimuli interaction through hand- or related arm movements as for example when using touchscreen technologies. Surprisingly little is known about the potential influence of such direct interactions on the valence processing of emotional stimuli. Accordingly, in three different studies we examined the effects of direct interaction on the valence evaluation of emotional pictures using a large-scaled touchscreen monitor. For this purpose, in a first session, 180 participants judged the valence of twenty positive and twenty negative pictures on a Likert scale ranging from 1 (very negative) to 9 (very positive), without directly interacting with the pictures (i.e., valence evaluation without hand interaction). In a second session, participants judged the valence after touching and subsequently moving the pictures on the touchscreen (i.e., valence evaluation with hand interaction) either rightward or leftward (Study 1), upward or downward (Study 2), or forward or backward (Study 3). We calculated the valence change between the first and the second session (i.e., valence evaluation with hand interaction minus valence evaluation without hand interaction). The results of all studies highlight an important point: The valence evaluation of the emotional pictures differs depending on whether a direct interaction with the picture has taken place or not.

**Sabine C. KOCH\*/\*\*, Katja MERGHEIM\*, Judith RAEKE\*, Dorothee v. MOREAU\*, & Thomas K. HILLECKE\*, \*Heidelberg, \*\*Alfter (Germany)**

### **The Embodied Self in Parkinson's Disease: Effects of a Single Tango Intervention on Psychological Health Outcomes and Aesthetic Experience**

There is convergent evidence that Tango Argentino brings health benefits to Parkinson patients. This has been found for functional variables such as balance and gait, as well as for quality of life, but has not yet been shown for psychological variables. In our study, 34 Parkinson patients were tested in three workshop groups. They practiced dance exercises and Tango Argentino. After the tango intervention, we observed an increase in well-being, body self-efficacy, and outcome expectancies – all central health- and commitment-related factors. Furthermore, participants experienced an increase in beauty of their own movements. We suspect that the aesthetic experience in dance may be an important therapeutic factor -- in addition to functional and psychological factors identified so far -- possibly mediating several outcomes of dance and other arts-based interventions. A controlled study is necessary for further empirical validation of the role of the aesthetic experience for health.

**Ronit LAND**, Remscheid (Germany)

### **The interconnectedness of cognition and aesthetic perception in dance improvisation**

In my presentation, I would like to describe an interactive working group, dealing with the implementations of body-mind healing encounter based on the improvisational work of Anna Halprins Life-Art process. This method deals with the inquiring mind, searching for the different aspects of understanding body expression and has, in my opinion, a high relevance to contemporary neuro-research.

Some of the main points to be worked out at this unit:

- \* Freedom of choice and responsibility, in working with artistic/embodied material.
- \* Integration of emotion and soma-aesthetic memory.
- \* The correspondence of the I-you-we perception. The social space and the impulses for an intersubjective reciprocation (based on the principals of M. Buber).
- \* Movement transfer and movement semiotics and their translation into personal awareness and communication (based on the principals of E. Levinas).
- \* The focus of verbal dialog vis-à-vis nonverbal dialog.

The dynamics of creation and re-creation of dance could be looked at, as a cycle of generating internal phantasy, trying to communicate creative exploration with different minds. The cycles of exploration are non-linear and integrate emotion and creative cognition. Each process involves awareness, body-memory, decision (responsibility) and action. The direct and, of course, nonverbal perception of movers and witnesses, all implementing mirror neurons, happening in space and time, trains the cognitive and attentional capacities of both groups.

My aim is to pay attention to the interconnectedness of cognition and aesthetic perception, as well as looking at this phenomenon as a possibility of developing human capacities.

**Gudrun LANGE & Sabine KOCH, Heidelberg (Germany)**

### **The effect of active creation on human health**

Arts therapies are part of biopsychosocial health care. Creation is an important part of arts therapies interventions. The active part of art making in respect to arts therapies has not yet been thoroughly researched. The present study commits to this field of research using a Triangulation Design. In an artistic inquiry, representing the qualitative side of this research, art making was actively done by N=44 student participants in a free choice of the artistic material, vocabulary was found to express the experiences during these processes, and a creation was composed by the researcher (GL) based on the developed artistic materials. Based on the qualitative results the theory model of embodied aesthetics was further developed. On the quantitative side, we hypothesized that the experience of empowerment, freedom, efficacy, and creativity (Sensation of Creation-Scale) mediates the positive effect of active creation on health. These aspects have been collected pre and post art making to then evaluate with the help of mediation analysis in order to test whether they exert an effect on self-efficacy and well-being. Results suggest a significant indirect effect of active creation on both self-efficacy (full mediation) and well-being (partial mediation) mediated by the Sensation of Creation-Scale. The qualitative and quantitative results are being discussed and put in relation to each other in order to shed more light onto the meaning of active creation for human health.

**Susanne MAUS-HERMES, Kerstin SCHOCH & Constanze SCHULZE, Ottersberg (Germany)**

**Art therapy for the activation of body perception in chronic pain patients: an explorative study in multi-modal pain therapy (MMPT)**

Background: A row of art therapeutic interventions have been described to be process- and body oriented. One of these is “Mess painting” as special and artistic-creative intervention (invented by Schottenloher 1994). It is a process-driven and body oriented art therapeutic intervention, trying to stimulate memorization process and thereby intensifying body- and self-perception throughout the creative process.

Hypothesis: Current interdisciplinary approaches in memory- and embodiment research suggest a theoretical foundation for mess painting as an explicit body-oriented intervention. This foundation is needed for further empiric evaluation of potential factors for the effects of this intervention.

Scientific Issue: Is it possible to modify and manualize Mess Painting for the therapy of chronic pain patients in the context of multi-modal pain therapy?

Study design: In an explorative, 2-phase study we gained the theoretical foundation to define Mess Painting as a body oriented intervention in art therapy. During this process, we created a manual for the therapeutical usage of Mess Painting in chronic pain patients, which we will further check for applicability and reliability in multi-modal pain therapy.

Discussion/Limitations: The therapeutical application of Mess Painting as an intervention seems to be a meaningful addition to multi-modal pain therapy under the aspect of embodiment. Based on our theoretically founded and hands-on experienced manual, we are now able to define possible changes in the body perception of chronic pain patients. Besides further evolution of the manual, short-term effects of pain reduction, pain and body-perception need to be further evaluated in art therapy.

**Katja MERGHEIM & Sabine C. KOCH, Heidelberg (Germany)**

**Experiencing beauty. The healing factor of aesthetic experience in art therapies and its relevance for Parkinson disease**

There is an intensive discussion about the factors of effectiveness of the arts therapies and their acknowledgement. We examined the healing factor of aesthetic experience in the arts therapies on the basis of the scientific literature. The theory and results of empirical research from embodiment approaches, phenomenology, movement analysis of the dance therapy and neurobiology entered into a literature review. We looked at the nature of the

aesthetic experience, its effects, and its bodily expression. Aesthetic experience is possible from art perception as well as from art-making in the arts therapies as circular interdependent processes (Koch, 2017). There is evidence from the literature review that the aesthetic experience can cause attention modulation, well-being and free flow, as well as the modulation of emotion, self-efficacy experience, satisfaction of needs, knowledge, and spirituality. The literature suggests that lust, pleasure and the feeling of happiness as well as effort, motivation and creativity increase in aesthetic moments. The vegetative nervous system may find balance. We assume a circularity between body, mind and environment (Fuchs & Koch, 2017), and a high relevance of aesthetic experiences for human beings (Mergheim, 2015). We discuss the empirical findings with regard to the clinical work with patients suffering from Parkinson's Disease and suggest empirical research that needs to follow in order to test the findings of this research.

**Marta MIRAGALL\***, **Ernestina ETCHEMENDY\*\***, **Ausiàs CEBOLLA\*** & **Rosa M. BAÑOS\***, \*Valencia, \*\*Teruel (Spain)

### **Manipulating the body posture in women with body dissatisfaction**

Introduction: Mirror exposure (ME) is one of the main components of the therapy in patients with body image alterations, which consist of observing and describing the own body in a mirror. ME has shown improvements on several outcomes, but more studies are needed to improve its efficacy. From embodied cognition theories, the adoption of an expansive (vs. contractive) body posture has been associated with psychological changes that might help to overcome stressful situations. The objective of this study is to analyze the effect of adopting an expansive (vs. contractive) posture before the ME on self-confidence, happiness, and body image.

Method: The sample was composed of 68 women (age:  $M=21.74$ ,  $SD=3.12$ ; body mass index:  $M=22.60$ ,  $SD=2.66$ ) with body dissatisfaction ( $\geq 81$  in the Body Shape Questionnaire; Cooper et al., 1987). Participants were randomly assigned to the expansive or contractive condition, where the openness of the arms/legs and the back position (upright/slumped) were manipulated for 2 minutes before the ME. Participants filled in a Visual Analog Scale (self-confidence and happiness) and the Body Image States Scale (Cash, 2002).

Results: Parallel multiple mediation analyses showed that the effect of condition on the change in body image was mediated by the change in self-confidence and happiness after the ME, *Indirect effect for self-confidence*,  $b=-.15$ , 95% CI [-.46, -.01], and *happiness*,  $b=-.14$ , 95% CI [-.42, -.02].

Discussion: Adopting a contractive posture provoked a negative change in self-confidence and happiness, which in turns led to a negative change in the body image after the ME. In contrast, an expansive posture improved self-confidence and happiness, leading to a positive change in the body image after the ME. Psychological interventions in women with body dissatisfaction should encourage the adoption of an expansive posture before the exposure.

**Robert G. MOULDER\***, **Steven M. BOKER\***, **Fabian RAMSEYER\*\*** & **Wolfgang TSCHACHER\*\***, \*Charlottesville (USA), \*\*Bern (Switzerland)

### **Methods to assess nonverbal synchrony**

Nonverbal synchrony between individuals (i.e., coordinated motion between individuals engaged in information transfer with one another) is an important component of the way humans communicate. Such synchronous behaviors include eye gaze, head nods, and motions such as hand waving and postural changes. Researchers interested in nonverbal synchrony use multiple methods to quantify these behaviors. Some researchers use behavioral coding to assess synchrony from recorded interactions, some researchers offer surveys which ask questions regarding the perceptions of being in synch with a conversation partner, and still other researchers collect multivariate time series from which researchers derive measures of synchrony. One such measure of nonverbal synchrony from multivariate time series is windowed cross-correlations (WCC). In a WCC framework, two time series are cross-correlated in small windowed sections at multiple time-lags. This process builds a correlation matrix,  $R$ , which can then be used to derive a measure of synchrony. However, because humans are constantly in motion, and these motions follow regular patterns, many metrics of nonverbal synchrony will show some level of synchrony between individuals even when said individuals have not interacted with one another. This concept of pseudo-synchrony makes standard null hypothesis testing methods an unviable option for researchers interested in distinguishing true synchronous behavior from pseudo-synchrony as a significant amount of nonverbal synchrony will always be present in this framework. To solve this problem, we propose methods of surrogate data generation to test for nonverbal synchrony. Each of these surrogate data generation methods creates new null hypotheses, which can then be tested against in order to distinguish true synchronous behavior from pseudo-synchrony. We show through both simulated and real data that this method can be used to reject and fail to reject the new null-hypotheses created by surrogate data generation and discuss implications for future research on nonverbal synchrony.

**Susanne QUINTEN**, Dortmund (Germany)

### **The common ground of mixed-abled creative art – Embodied participation**

Actually there is a significant increasing of inclusive artistic ensembles in cultural festivals and theaters, e.g. the Sommerblut-Festival in Cologne, the Disabled Theater of Jérôme Bel or the European art project Un-Label. The artists of these groups are coming from different divisions of the arts such as music, dance, theater or acrobatic (Interdisciplinarity), they belong to different cultures and speak different languages (Interculturality) and they have special abilities and needs (Mixed-ability). Such a diversity furthers the creative process. But it also mirrors the big potential of interdisciplinary and mixed-ability in the artistic work to develop new ways of communication and understanding, and as a result to further the participation of all. By means of an international project with artists with different abilities and needs, the role of multisensory perception and of multimodal expression for communication and participation is shown in terms of embodied participation (Quinten, 2017).

**Silke RIEMER-WEIDENHAMMER & Thomas WIRTH**, Burgerbrach (Germany)

### **Aesthetic processes in project work in clinical psychosomatic therapy and their effects on patients' inner and outer processes - „Aus dem Rahmen fallen ... um einen neuen Platz zu finden“**

The structure of the creative art therapies in the psychosomatic department of the Steigerwaldklinik Burgebrach is usually associated with thematic work in groups. In accompanying creative and free processes, beside the verbal confrontation patients are given the opportunity to deal with non-verbal, perceptual qualities. At least once a year, a project work is realized that thematically unites the work of all groups for a certain time and ends with a presentation, leaving the familiar framework of a weekly structure and creating a special experience within the therapy. This affects intensively the formation of the climate on the ward and of the respective peer groups.

In this poster, the course of the 2017's project on the topic „Aus dem Rahmen fallen... um einen neuen Platz zu finden“ - what means "to fall out of a frame ... and find a new place"- will be shown, concerning setting and method as well as individual design results. The starting point of the multiprofessional project work including music therapy, body therapy and art therapy was *vicarious failure* as an opportunity for experience and development. In the semi-open setting, a personal resonance space could be created according to the media used. In addition, the resultant concrete designs in the form of cushions, which can now and beyond be used in the studio, have resulted in a resounding

resonance space that offers participants, subsequent patients and team members a more conscious approach to their personal seating.

The questions arising from the project work and its designs on the content, individual and relationship level will briefly be sketched. In particular, the question of the project structure as a time-closed form within a semi-open ward structure will be discussed.

**Stefan SCHNEIDER & Ricarda Emma BAUMANN, Osnabrück (Germany)**

### **Sensing gravity: A phenomenological investigation of somatic learning in Taijiquan**

Continuous improvement of bodily motions, e.g. in smoothing the execution of a golf swing, requires a pre-reflective, albeit subjectively monitored "feel" of the moving body. Movement practices like Butoh, Feldenkrais, or Taijiquan even center on the cultivation of somaesthetic awareness, or the body and movement as subjectively experienced. Ravn distinguishes two dimensions of experience. First, a "pre-reflective, performative dimension", which is not in the foreground of experience, but is rather a background "mode" during movement execution, and second, a reflective "scrutinizing of sensations" in terms of functional concepts.

Combining these notions, movement training can be understood as involving the intended maintenance of a (higher-order) movement quality while processing multifarious proprioceptive and kinematic sensations, some of which are perceived as irritations. Through interpretation of sensations in terms of functionally relevant, e.g. anatomical or kinetic, concepts, movement improvement is possible. The experience of improvement goes along with a reduction of irritations. The acquired simplicity and clarity of experience, which can be conceptualized as a form of "skilled attention", can be perceived as aesthetically pleasing.

To support this thesis, we present a phenomenological investigation of somatic learning in a simple Taijiquan exercise developed by Master Huang Sheng-Shyan (1910-1992): "Connecting heaven and earth". The exercise, which consists in a simple up-down movement of the body along an imagined vertical axis, requires monitoring and understanding systematic bodily changes during movement. Through persistent practice, a clear sense of uprightness in the field of gravity is developed.

At the center of the investigation is a case study involving two practitioners, one novice and one advanced. Detailed phenomenological interviews shed light on the questions: How is advice by teachers integrated into one's

practice? How are sensations interpreted? How does the overall pattern of experience change?

**Kerstin SCHOCH**, Ottersberg, Witten/Herdecke (Germany)

**Where art thou? Necessity and development of a quantitative psychometric rating instrument measuring pictorial expression (RizbA)**

Art therapy assumes that art work is related to differential constructs of the artist. Quantitatively, this hypothesis has barely been proven yet because methods are rare. The Rating Instrument for two-dimensional Pictorial Work (RizbA) is designed to address this necessity. The construct *pictorial expression* is theoretically defined by seven content areas (*representation, color, shape, space, motion, composition, expression*), which combined create the overall construct. Test development is based on art historical and art therapeutic theories and supported empirically.

So far, a test-retest was conducted using a small but representative sample of nine pictures, which were rated by experts ( $n_1 = 12$ ,  $n_2 = 8$ ). The current version of RizbA includes 26 items. Its ability for differentiation between pictorial works ranges between .897 (T1) and .766 (T2), its inter-rater reliability between .525 (T1) and .917 (T2). Test-retest reliability is .919. PCA suggests a four-factor solution, which in large part is consistent across studies. Another study based on large representative samples is currently being conducted and will further investigate reliability and factorial structure.

Before long RizbA will allow an assessment of pictorial expression and the calculation of correlations with a multitude of constructs. As a reliable measurement it opens new perspectives in fundamental art therapeutic and psychological research.

**Silvia TOSI**, Milano (Italy)

**Spontaneity and intentionality of contact: A modality of working with children, their parents and their world**

This poster is based on experiences of working with children in Gestalt therapy. Gestalt has in its theoretical ground many possibilities to develop modalities of working with children. This work is part of a chapter that I wrote with my colleague (Conte & Tosi, in Spagnuolo et al, 2016). I will present a perspective on therapeutic work relying on the concepts of intentionality for growth and creation of a ground as primary support to the contact. The infant is seen as

suffering in a relational and phenomenological field perspective, not as an individual event. I consider the specificity of psychotherapeutic intervention with children as based on the concept of co-creation of the experience, on the centrality of bodily processes and on the “polyphonic development of domains.” These are considered essential competences for contact-making. Because of the typical characteristics of childhood, we can trustingly let our own aesthetic criteria guide us. By following these criteria, we become sensitive to the presence at the boundary of harmony and vitality – or conversely, desensitization, loss of spontaneity and disrupted intentionality of contact. I’ll illustrate my work using clinical cases.

**Dolores VARA, Marta MIRAGALL, Ausiàs CEBOLLA & Rosa M. BAÑOS**, Valencia (Spain)

### **Changing the motivation to achieve a goal through approach body movements**

**Introduction:** Goal achievement motivation is a crucial component of behavior, and it has been associated with emotional and cognitive processes. Recently, embodied cognition theories have also emphasized the role of postures in approach motivation, which assist in goal-directed actions. In fact, leaning-forward body postures increase patterns of neural activation associated with approach motivation. Few studies have analyzed the participation of positive emotions in pursuing goals, and there is no research analyzing jointly the effects of positive emotions and body on approach motivation. This study examines the effects of an approach posture with body movements on cognitions about achieving a goal during a joy induction procedure using virtual reality (VR-MIP).

**Method:** The sample was composed of 85 students ( $M_{age} = 23.92$ ;  $SD = 4.19$ ; 76.5% women) with no depressive symptomatology ( $< 14$  in the BDI-II; Beck, Steer, & Brown, 1996). The sample was divided into three conditions in which posture and movements were manipulated during a joy VR-MIP: a) approach body movements (leaning-forward posture + pedaling on a stationary bicycle); b) non-approach body movements (reclining-backward posture + pedaling on a stationary bicycle); and c) control condition (reclining-backward posture + no movement). All participants completed a Visual Analog Scale (4 questions about approach motivation, perceived competence and planning to achieve a goal).

**Results:** ANCOVAs showed a main effect of condition for the item related to approach motivation “*I am motivated to do it*”,  $F(2,79) = 3.79$ ,  $p = .027$ ,  $\eta_p^2 = .09$ , indicating higher scores in the approach body movements condition than control condition ( $p = .030$ ). **Discussion:** Participants that adopted a leaning-

forward posture and pedaled on a stationary bicycle during the joy VR-MIP were more motivated to achieve their goal. Results suggest the relevance of body posture and movements in the therapy aimed at increasing the motivation to achieve goals.

### ***WORKSHOP ABSTRACTS***

**Miriam KYSELO**, Berlin (Germany)

#### **Enacting the Self – A Bodily Exploration of Self with Others**

This workshop offers an opportunity to explore the dynamics of self-construction in interaction with others at the embodied level of self-experience. Through movement, stillness and touch we will discover in individual and group exercises how feelings of distinction and separation and of openness and connectivity that form part of our everyday social existence find expression in our bodies. In a playful manner, we will raise awareness of our role and position as an individual in a social context that at times aims to engage with, but at others also to disengage from others. The exercises will be based on a mix of guided and improvised activities derived from Yoga, Vipassana meditation practice, and contact improvisation dance. During the practical session participants are invited to bracket scientific or reflexive judgment allowing them for a short period of time to simply be (bodily). After the practical session, we will have a feedback-discussion round in which the workshop participants are then invited to share and reflect on their previous experiences.

**Lily MARTIN & Birgitt BODINGBAUER, Heidelberg (Germany)**

### **Embodied Aesthetics of Flow – Creating „optimal experiences“ through movement**

Within the Creative Arts Therapies, flow is considered to be a part of the aesthetic experience, one of the central therapeutic factors of the field. The “aesthetic experience” in this context refers to any kind of integrated sensory or sensory-emotional experience. Flow – a state of absolute concentration or absorption in an activity – is a well-known psychological concept. Created by Mihaly Csikszentmihalyi in the 1990s, it describes an active state, in which people become so involved in what they do, that the activity becomes spontaneous, almost automatic. People stop being aware of or judging themselves, forget about emotional problems while feeling at the peak of their abilities and in control. According to Csikszentmihalyi flow can be trained and regular flow experiences foster happiness and well-being. Through movement and play we want to explore different ways of entering flow with ourselves, with others and in the group. There will be intense physical activity. Therefore, sportswear is recommended. Ample time for reflection will be provided.

**Johannes MICHALAK, Witten/Herdecke (Germany)**

### **Embodiment in mindfulness-based interventions**

During the past decade, Mindfulness-Based Cognitive Therapy (MBCT) aiming at relapse prevention in depression has been developed and empirically tested. Mindfulness means paying attention to the present moment in a non-judgmental and compassionate way. Most exercises taught during MBCT are based on the development of a heightened awareness of one’s body. The important role of the body is also stressed in the rapidly evolving interdisciplinary field of research termed ‘embodiment’. In the workshop, I will introduce central mindfulness exercises of MBCT. Moreover, the theoretical foundation and empirical evidence on the role of the body in mindfulness practice will be presented.