

International Conference

INTERDISCIPLINARY
PERSPECTIVES ON

COHERENCE

AND

DISORDERS

OF THE

EMBODIED SELF



August Klett: Wurmlöcher (1919) Collection Prinzhorn, Heidelberg

13 – 15 November, 2008, Heidelberg, Germany

**Dept. of General Psychiatry, University of Heidelberg
Dept. of Psychosomatic Medicine, Technical University of Munich**

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European Research Training Network "DISCOS:
Disorders and Coherence of the Embodied Self"
Marie Curie Actions / 6th EU Framework Programme





DISCOS Disorders and Coherence of the Embodied Self:
A Marie Curie Research Training Network
Sixth EU Framework Programme





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Old Lecture Hall
University of Heidelberg

Welcome Address

Dear Colleagues,

Welcome to Heidelberg and the International Conference 'Interdisciplinary Perspectives on Coherence and Disorders of the Embodied Self'. During the last decade, philosophical, psychological and neurobiological approaches to the self have increasingly overcome their disciplinary constraints and entered into a productive dialogue. Different levels of self-awareness such as the 'core' or 'minimal self' and the 'extended' or 'narrative self' have been distinguished and investigated from a phenomenological, developmental and neuro-cognitive perspective. In this context, disorders of self-experience have also attracted growing attention. The concept of embodiment may serve as a crucial junction for integrating these different approaches into a common framework. This idea has inspired the European Marie-Curie Research Training Network "Disorders and Coherence of the Embodied Self" (DISCOS), a consortium of 10 European research facilities which organizes this conference.

The conference is aimed at creating an interdisciplinary forum for the exchange of ideas on the themes of embodiment, self-awareness and its disorders. Special emphasis is placed on

- the interplay of biological and social factors for establishing self-coherence
- the relevance of intersubjectivity and intercorporeality for the development of the self
- neuropsychiatric disorders of the embodied self, their nature and origins therapeutic and ethical consequences.

A number of distinguished speakers have been invited for the conference. We look forward to a stimulating exchange of views and to fruitful discussions.



Thomas Fuchs
General Psychiatry
University of Heidelberg



Peter Henningsen
Psychosomatic Medicine
Technical University of Munich

Programme Schedule

Thursday Afternoon

13:00 **OPENING AND WELCOME**

PROF. BERNHARD EITEL

Rector of the University of Heidelberg

PROF. CHRISTOPH MUNDT

PROF. THOMAS FUCHS

Dept. of Psychiatry, Center for Psychosocial Medicine, Heidelberg

Philosophy

WHAT MAKES UP A SELF? SELF COHERENCE AND ITS ORIGINS

CHAIR: THOMAS FUCHS, HEIDELBERG

14:00 **DAN ZAHAVI: MINIMAL SELF AND NARRATIVE SELF:**

A DISTINCTION IN NEED OF REFINEMENT

14:40 **THOMAS METZINGER:**

OUT OF THE BODY AND INTO THE MIND

15:20 **DAN HUTTO: COMPOSING OURSELVES:**

EMBODIED ENGAGEMENTS AND NARRATIVE EXTENSION

16:00 **BREAK**

16:30 **Alternative Perspective Talk:**

YVES ROSSETTI: ORIGINS OF THE SELF AND THE BODY:

HOW DO THEY COMMUNICATE AFTER BRAIN LESION?

17:10 **Structured Discussion:**

HANNE DE JAEGHER, HEIDELBERG; JOEL W. KRUEGER, COPENHAGEN;

LORNA LEES, MUNICH

19:00 **POSTER SESSION 1**

Programme Schedule

Friday morning - Neuroscience

BRAIN, CONSCIOUSNESS AND SELF

CHAIR:CHRISTOPH MUNDT, HEIDELBERG

09:00 **STEVEN LAUREYS:** IS THERE ANYBODY IN THERE?
BRAIN FUNCTION IN DISORDERS OF CONSCIOUSNESS

9:40 **VITTORIO GALLESE:**
EMBODIED SIMULATION AND ITS ROLE IN INTERSUBJECTIVITY

10:20 **KAI VOGLEY:**
SELF-CONSCIOUSNESS AND SOCIAL COGNITION

11:00 BREAK

11:30 Alternative Perspective Talk

EVAN THOMPSON: EMBODIED SELF-AWARENESS
AND THE “RESTING STATE”: A NEUROPHENOMENOLOGICAL APPROACH

12:15 Structured Discussion:
ATHENA DEMERTZI, LIÈGE; SILVIA SALERNO, LYON; RACHEL WOODS,
PARMA

13:00 DISCOS NODE LEADER MEETING

Programme Schedule

Friday Afternoon - Developmental Psychology

IS THERE A SELF WITHOUT SELVES?

DEVELOPMENT OF SELF AND INTERSUBJECTIVITY

CHAIR: PETER HENNINGSSEN, MUNICH; HENNING SCHAUENBURG, HEIDELBERG

14:00 **PHILIPPE ROCHAT:**

ME AND MINE IN EARLY DEVELOPMENT

14:40 PETER AND JESSICA HOBSON: THE DEVELOPMENT OF SELF/OTHER-AWARENESS: A PERSPECTIVE FROM AUTISM

15:20 **GYÖRGY GERGELY:**

ATTACHMENT, MENTALISATION, AND INTERSUBJECTIVITY: THE DEVELOPMENT OF THE REPRESENTATIONAL AFFECTIVE SELF.

16:00 BREAK

16:30 Alternative Perspective Talk:

THOMAS FUCHS AND HANNE DE JAEGHER:

NON-REPRESENTATIONAL INTERSUBJECTIVITY

17:10 Structured Discussion:

MIKOLAJ HERNIK, LONDON; ÁGNES KOVÁCS & ERNŐ TÉGLÁS, BUDAPEST

18:15 **POSTER SESSION 2**

20:00 SOCIAL EVENT

Abstracts of Lectures

PETER FONAGY

Anna Freud Centre, London, UK

Treatment outcome of mentalisation-based interventions for self-pathology

This paper will describe the structure and key components of an outpatient treatment program for suicidal severely self-harming women and men with a diagnosis of borderline personality disorder. There is accumulating evidence that borderline PD responds to psychological therapies of various kinds, including DBT, CBT, CAT, TFP and SFT. So far MBT has only been tested as part of a day treatment program. We have recently completed the treatment of 136 patients randomly assigned to structured clinical management or MBT. MBT was superior to structured clinical management (SCM) in reducing self-harm, hospitalization and suicide rates. The results suggest that MBT is an effective component of an outpatient as well as a partial hospital package and superior to an active control treatment. We found no specific or global predictors of treatment outcome in the first phase of data analysis and we were not able to demonstrate that improvements in mentalization explained the clinical effectiveness in MBT.

THOMAS FUCHS, HANNE DE-JAEGHER

Department of General Psychiatry, Section Phenomenological and Psychopathological Psychiatry, Centre for Psychosocial Medicine, University of Heidelberg, Germany

Non-Representational Intersubjectivity

Current theories of intersubjectivity are mainly based on a representationalist view: Concepts such as theory of mind, simulation or mentalization all have in common that they conceive of social understanding as a projection of inner representations onto others. The person who perceives another does not actually interact with her, but with internal models or simulations of her actions. Research into the “social brain”, particularly into the mirror neuron system, has favoured a third-person-paradigm of social cognition as a passive observation of others’ behaviour, attributing it to an inferential, simulative or projective process in the individual brain.

In our paper, we will present an alternative concept of intersubjectivity as an ongoing, dynamic process of participatory sense-making. Social understanding, as it develops in early infancy, is not realized as a “single snapshot” activity of one individual, but arises in the course of a moment-to-moment interaction and coordination of two subjects. This process includes components of bodily resonance and imitation, rhythmic co-variation of gestures, facial and vocal expression, affect attunement, in-phase or phase-delayed behaviour, and recurrent sequences of matches, mismatches and repair. Primary intersubjectivity, then, is not a solitary task of deciphering or simulating the movements of others, but means skillful coping in social interactions and generating common meaning through them.

From this point of view, explanations of social cognition on a one-way basis can only have limited value:

- (1) Research on special brain modules only singles out one section or fragment of the ongoing cycles of interaction. In fact, neuronal mirror systems can only fulfill their functions as being embedded in a situational and intentional context.
- (2) Concepts of social cognition on the basis of individual simulation or mentalization are derived from secondary forms of intersubjectivity which rather arise from states of detached observation or disturbed interaction. Despite those special developments, non-representational intersubjectivity remains the basis of our everyday social understanding.

VITTORIO GALLESE

Department of Neuroscience, Section Physiology, Faculty of Medicine
University of Parma, Italy

Embodied simulation and its role in intersubjectivity.

Our seemingly effortless capacity of conceiving of the acting bodies inhabiting our social world as *goal-oriented persons* like us depends on the constitution of a shared “we-centric space. I have proposed that this shared manifold space can be characterized at the functional level as *embodied simulation*, a basic functional mechanism by means of which our brain/body system models its interactions with the world.

The mirror neuron system and other mirroring mechanisms in our brain represent sub-personal instantiations of embodied simulation. Embodied simulation provides a new empirically based notion of intersubjectivity, viewed first and foremost as intercorporeity. At difference with standard accounts of Simulation Theory, I qualify simulation as embodied in order to characterize it as a mandatory, pre-rational, non-introspectionist process. The Folk-Psychological model of mind reading proposed by standard accounts of Simulation Theory does not apply to the pre-linguistic and non-metarepresentational character of embodied simulation. Embodied simulation is in fact challenging the notion that Folk-psychology is the sole account of interpersonal understanding. Before and below mind reading is intercorporeity as the main source of knowledge we directly gather about others. Parallel to the detached third-person sensory description of the observed social stimuli, internal non-linguistic “representations” of the body-states associated with actions, emotions, and sensations are evoked in the observer, as if he or she were performing a similar action or experiencing a similar emotion or sensation. It must be stressed that the term “representation” is used here very differently from its standard meaning in classic cognitive science and analytic philosophy. It refers to a particular type of content, generated by the relations that our situated and inter-acting brain-body system instantiates with the world of others. Such content is pre-linguistic and pre-theoretical, but nevertheless has attributes normally and uniquely attributed to conceptual content.

By means of an isomorphic format we can map others’ actions onto our own motor representations, as well as others’ emotions and sensations onto our own visceromotor and somatosensory representations. Social cognition is not *only* explicitly reasoning about the contents of someone else’s mind. Our brains, and those of other primates, appear to have developed a basic functional mechanism, embodied simulation, which gives us a direct insight of other minds thus enabling our capacity to empathize with others.

This proposal opens new perspectives on our understanding of autism and other psychopathological states such as schizophrenia. It can also shed new light on the mechanisms at work in psychotherapeutic relations.

GYÖRGY GERGELY

Developmental Cognitive Science Centre, Central European University,
Budapest, Hungary

Attachment, mentalisation, and intersubjectivity: The development of the representational affective self.

Infant-directed parental mentalization (Fonagy et al., 2002; Meins, Fernyhough, Fradley, & Tuckey, 2001) and contingent affect-mirroring interactions (Gergely & Watson, 1996, 1999;) have long been thought to causally contribute to the development of the representational affective and introspective self (Gergely & Unoka, 2008) and to the internalization of affect-regulative mentalizing strategies of emotional self-regulation and self-control. Earlier research tended to focus on the impact of maternal mind-mindedness on infant attachment security and later competence in passing theory of mind tasks in early childhood (Fonagy et al. 1997; Meins et al. 1998, 2003; Meins, Fernyhough, Wainwright, Das Gupta, Fradley, & Tuckey, 2002), but the causal linking mechanisms mediating these hypothesized developmental effects and underlying the (relatively weak and sometimes contradictory) correlational findings have not been sufficiently specified or demonstrated. Building on the new cognitive developmental theory of 'natural pedagogy' (Gergely & Csibra, 2006; Gergely & Unoka, 2008) the present research takes a different approach: it investigates the cognitive developmental effects of a specific factor of mind-minded parental affect-regulative interactions, namely, the "markedness" of parental emotion-expressive referential communications on later representational competence in using pretend play as a mentalizing strategy for affective self-regulation. Here we report the results of a longitudinal study showing that a) a parental disposition to employ "marked" forms of ostensive-referential communications during affect-regulative interactions at 12 months of age in the Mirror Interaction Task (Koos & Gergely, 2001) predicts higher level of representational competence in a battery of pretend play tasks at 3-4 years of age (Futo, Koos, & Gergely, in prep.), and b) that measures of maternal mind-mindedness and mentalizing soothing strategies together predict later ability to use elaborative pretend play as a mentalizing cognitive strategy to cope with experimentally induced affective conflict and stress. The implications of these results for models of the development of the representational affective self and the emergence of self-reflective mentalizing strategies of emotional self-control are discussed.

PETER HENNINGSSEN

Clinic for Psychosomatic Medicine and Psychotherapy, Technical University of Munich, Germany

Disordered self on many levels - any chance for therapeutic integration?

One of the aims of DISCOS is to map out therapeutical and ethical implications of a multi-level model of the embodied self and its disorders. The aim of this talk is to indicate some aspects of this part of the project.

Promotion of an integrative therapeutic perspective within DISCOS needs a pragmatic least common denominator of what the self is about across the scientific disciplines, irrespective of their differences.

Two examples for a least common denominator of an interdisciplinary understanding of the self are:

- the importance of intentional person-environment interactions
- the significance of “lower”, e.g. sensori-motor processes in explaining “higher”, e.g. cognitive processes.

In terms of therapy for disorders of the self this would imply, among others:

- that therapeutic interventions, be they “psychological” or “biological”, always have inter-level effects that need to be monitored regularly.
- that therapy, biological as well as psychological, always implies a therapist who is an active participant and not only an external observer.
- that the aims of therapy cannot be determined in a fixed way beforehand
- that the evaluation of therapies has to transcend current evidence based medicine with its reliance on randomized controlled trials, e.g. through systematic consideration of hypothesized mechanisms of change and context effects in so-called realist reviews.

Implications like these could help to define a common denominator also for therapeutic approaches to disorders of the self and hence help to bridge old polarities between biomedical and interpersonal models of therapeutic approaches.

PETER AND JESSICA HOBSON

Tavistock Clinic and Institute of Child Health, University College, London, UK

The development of self/other-awareness: A perspective from autism.

How far, and in which respects, does self-awareness entail awareness of other selves? What are the mechanisms by which pre-reflective awareness of self-other relations is achieved?

These are among the questions we are addressing from the perspective of developmental psychopathology, and specifically through studies of early childhood autism. We shall present evidence that there are dissociable components to self-awareness. We argue that distinctively human forms of self-awareness depend upon intersubjective relations structured by the propensity to identify with the attitudes of others. This propensity has profound implications for a young child's experience (and in due course, understanding) of self and others as persons with minds.

DANIEL HUTTO

School of Humanities, University of Hertfordshire de Havilland Campus,
Hatfield, UK

Composing Ourselves: Embodied Engagements and Narrative Extensions

Selves are formed not found. Although ordinary language encourages us to believe that the term 'self' is a class noun, only philosophical confusion ensues if we think of selves as naming special sorts of referent (e.g., Cartesian egos and the like). Against this common tendency, I will try to motivate the idea that we will make best sense of talk of different kinds of selves (e.g., embodied, narrative – and finer distinctions within these categories) by focusing on the activities and interactions (developmental and sustaining) that are criterial for such attributions. In this context, I introduce and motivate my radical enactivist account of basic forms of intersubjectivity (which are best understood as non-representational, unprincipled, embodied engagements). I then show (in sketch) how these interactions can be extended by socio-cultural narrative practices in ways that allow more sophisticated folk psychological (FP) competences to emerge. The result is a suitably modest account of 'selfhood' that explains why disruption to the sustaining activities (i.e. the ability to interactively engage with others or produce/consume relevant narratives) results in disorders to the formation and maintenance of different kinds of selves. I illustrate this by considering the case of autism (but the conclusion generalizes).

STEVEN LAUREYS

Coma Science Group, University of Liège, Liège, Belgium

Is there anybody in there? Brain function in disorders of consciousness

Patients in a vegetative state (VS) and minimally conscious state (MCS) continue to pose problems in terms of their diagnosis, prognosis and treatment. Consciousness is a subjective first-person experience which study has remained the field of philosophy for the past millennia. That time has finally changed and empirical evidence from functional neuroimaging is offering a genuine glimpse on the solution to the infamous mind-body conundrum. New technological and scientific advances offer the neurological community unique ways to improve our understanding and management of severely brain damaged patients.

Good medical management starts by making a correct diagnosis. There is an irreducible limitation in knowing for certain whether any other being is conscious. Vegetative patients can move extensively and clinical studies have shown how difficult it is to differentiate reflex or 'automatic' from voluntary or 'willed' movements. This results in an underestimation of behavioural signs of consciousness and hence a misdiagnosis, estimated to occur in about one third to nearly half of chronically vegetative patients.

PET and fMRI studies have not yet shown to be reliable markers of recovery of consciousness. However, they have permitted to reject the ancient view that vegetative patients are neocortically dead or a-pallic. A succession of neuroimaging data has shown cerebral activation in isolated and disconnected islands of "lower level" cortices or "pallium" in response to auditory, visual, somatosensory and noxious stimuli. Functional neuroimaging studies have also provided scientific evidence that residual brain function in VS is very different from the brain's integrative capacity in MCS. These studies have confirmed that VS and MCS truly are different physiological entities. However, in the absence of a full understanding of the neural correlates of consciousness, even a normal activation in response to passive sensory stimulation cannot be taken as incontestable proof of consciousness. In contrast, repeated and prolonged activation in response to the instruction to perform a mental imagery task would provide undeniable evidence of voluntary task-dependent brain activity, and hence of consciousness. This groundbreaking approach was recently validated in healthy controls and has been successfully applied to identify conscious perception in a – so far unique – patient behaviourally diagnosed as being in a post-traumatic VS.

Brain computer interfaces (BCI) permit communication via voluntary EEG control, without any motor involvement. Technological improvements in such devices now enable locked-in patients to control their surroundings in ways never possible before. BCI can not only be employed as a communication instrument in LIS but also as a diagnostic tool in disorders of consciousness. It is thrilling to witness the use of this powerful approach in the assessment of possible residual consciousness in patients clinically diagnosed as “VS” or “MCS”. The question of what it feels like to be minimally conscious has not yet been solved but the technology to at least try to answer the issue is now existing.

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The Neurology of Consciousness, Laureys S and Tononi G (Eds), Academic Press, NY, 2008

The changing spectrum of coma Laureys S, Boly M Nature Clinical Practice Neurology, 2008

Death, unconsciousness and the brain, Laureys S Nature Reviews Neuroscience, 11 (2005) 899-909

Self-consciousness in non-communicative patients, Laureys S, Perrin F, Brédart S Consciousness & Cognition, 16 (2007) 722-741

Perception of pain in the minimally conscious state with PET activation: an observational study Boly M, Faymonville ME, Schnakers C, Peigneux P, Lambermont B, Phillips C, Lancellotti P, Luxen A, Lamy M, Moonen G, Maquet P, Laureys S Lancet Neurology, published online October 6 2008

THOMAS METZINGER

Department of Philosophy, Johannes Gutenberg University of Mainz, Germany

Out of the Body and into the Mind

How can a conscious self emerge from the physical dynamics unfolding within an embodied brain? And how exactly is the appearance of such a conscious self related to the subjectivity of our target phenomenon – to the fact that it seems to be tied to individual first-person perspectives? Self-consciousness is not just another form of phenomenal content, and the conscious experience of selfhood is not just one detail problem among many others. If we aim at a comprehensive theory of consciousness which is conceptually coherent and firmly grounded in empirical data, then the phenomenal self will have to be right at the center of our efforts.

I will briefly show how, metaphysically, no such things as selves actually exist and sketch a theory of the phenomenal self. In support of this claim I will also present new empirical data from an interdisciplinary project in which we try to experimentally generate whole-body illusions and artificial out-of-body experiences in a virtual reality setting. Empirically, I will propose a scientific research program for “minimal phenomenal selfhood”, i.e., a strategy that attempts to isolate the neurofunctional correlates of the simplest form of self-awareness.

Recommended reading

- (2003). *Being No One. The Self-Model Theory of Subjectivity*. Cambridge, MA: MIT Press.
- (2007). Self Models. Scholarpedia, p. 24066 http://www.scholarpedia.org/article/Self_Models
- (2008). Empirical perspectives from the self-model theory of subjectivity: A brief summary with examples. In Rahul Banerjee and Bikas K. Chakrabarti (eds.), *Progress in Brain Research*, 168: 215-246. Amsterdam: Elsevier.

JOSEF PARNAS

Center for subjectivity, University of Copenhagen, Copenhagen, Denmark

The structure of the self as seen through the prism of psychopathology of schizophrenia

The concept of schizophrenia is extremely fuzzy and its conceptual validity only rarely addressed. There is no reason to believe that contemporary DSM and ICD definitions are superior to other diagnostic algorithms.

In this presentation, it is argued that schizophrenia is constitutively linked to disorders of self-experience, pointing to the problems of "minimal self". Philosophical and empirical aspects of this proposal are presented.

PHILIPPE ROCHAT

Department of Psychology, Emory University of Atlanta, Atlanta, USA

Me and Mine in early development

By the time children are reportedly recognizing themselves in mirrors (18-24 months), they begin to show signs of self-conscious emotions and concerns for others. They become explicit in their claim of possession and entitlement by using possessives such as “Mine!” (meaning “not yours!”). I will present research and theoretical ideas on the origins and the developmental emergence of such coalesced pattern of behaviors.

First, I review a few among many studies demonstrating that early on infants discriminate what is caused by their own actions, and what is not. This represents a first implicit (perception-action) level of ownership that is constitutive of a pre-conceptual “ecological” sense of self. Potential mechanisms underlying this primary sense of ownership (e.g., mirror system and multi-modal treatment capacity that are prescribed from birth) are necessary, but not sufficient for the development of the conceptual sense of self that emerges by the end of the second year. This development is rooted in triadic social exchanges involving self and others in relation to physical objects.

By 9 months, parallel to explicit joint engagement and re-engagement of others in triadic exchanges, infants begin to manifest an explicit sense of possession via claim of exclusivity, the weariness of stranger and sometime acute affective investments into “transitional” objects for comfort and self-regulation in the face of separation. From then on, children become explicit about what they own as well as their sense of entitlements in relation to others. They start to identify themselves in objects they own, objectifying the self in the process as well as discovering the social power of explicit ownership for the control of social affiliation, reputation, and the gain of recognition from others. I discuss this process that finds its roots in infancy and would deserve much more empirical scrutiny.

YVES ROSSETTI

Institut National de la Santé et de la Recherche Médicale, INSERM, Bron and University Claude Bernard Lyon I, France

Origins of the self and the body: how do they communicate after brain lesion?

Brain lesions do affect sensory and motor capacities of the body and/or cognitive functions which include self awareness and recognition. Neglect patients often cumulate the two categories of handicap. As a top-down effect of their neurological condition, neglect patients often present with anosognosia of their sensori-motor deficits or hemiasomatognosia. This classical clinical observation suggests that the higher level cognitive function can be dissociated from the lower level or more peripheral ones. Interestingly recent results suggest that similar effects can be observed in healthy subjects when signal processing is challenged, which point to an inherent bias to reject ownership of body parts. This may explain why patients often show rejection of body parts but do not show self attribution of other's body parts. Conversely, the most effective interventions on the neglect syndrome are achieved through bottom-up interventions: vestibular stimulation and prism adaptation are two main striking examples of sensory or sensori-motor interventions that produce unexpected therapeutic benefits on the patient's higher level functions. These interventions suggest in turn that sensori-motor functions can powerfully affect cognition. Examples for this paradoxical specific communication between 'the self' and 'the body' will be described in neglect and other patients. It will be argued that explicit communication between the body and the self can be strongly disrupted when simultaneously the higher cognitive levels can be implicitly fed with powerful information which may reorganise their function.

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- Rode G., Pisella L., Rossetti Y., Farnè A., Boisson D. (2003) Bottom-up transfer of visuo-motor plasticity. Prism adaptation. *Progress in Brain Research*. 273-287.

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- Rode G., Luauté J., Klos T., Courtois-Jacquín J., Revol P., Pisella P., Holmes N.P., Boisson D., Rossetti Y. Bottom-up visuo-manual adaptation: consequences for spatial cognition In: Sensorimotor Foundations of Higher Cognition, Attention and Performance XXII, P. Haggard, Y. Rossetti and M. Kawato (Eds), Oxford University Press, 2007.

GERD RUDOLF

Department for Psychosomatic Medicine, Centre of Psychosocial Medicine of the University of Heidelberg, Germany

The Impact of Structural Functioning for the Embodied Self

As psychotherapists in the field of psychosomatic medicine we cannot think of the self but as embodied, especially reflecting the conditions of early development in early childhood. In psychodynamic treatment two types of disorders led us into great difficulties for a long time - personality disorders and somatoform disorders - until we changed our etiological and pathogenetic hypotheses and our psychodynamic view. On the basis of Operationalized Psychodynamic Diagnostic (OPD) we started to differentiate between pathology on a high structural level of unconscious conflicts and the lower level of structural deficiencies concerning functions like self reflection, object perception, regulating and communicating of affects, empathy, understanding bodily signals, internalising gut relational experience and so on. Focusing therapeutic work on these points - similar to Fonagy's Mentalization Based Treatment or Heigl's Interactional Method - we were enabled to cooperate actively even with difficult patients and to develop structural tools, using a therapeutic attitude of parenting. This concept of a modified psychodynamic psychotherapy, which will be discussed in detail, has a great resonance in inpatient psychotherapy as well as in outpatient treatment, especially for patients with structural deficiencies across different diagnosis (e.g. in personality and somatoform disorders) and especially in adolescent and young adults.

EVAN THOMPSON

Department of Philosophy, University of Toronto, Toronto, Canada

**Embodied self-awareness and the "resting state":
a neurophenomenological approach**

Neuroimaging studies that examine spontaneous fluctuations of activity in task-free conditions (the so-called resting state) suggest the brain is always active in self-generated and organized ways. But what is the meaning of this intrinsic distributed activity? According to one proposal, a unifying concept for understanding this activity is that of the self: During rest when one has no task to perform one is in a state oriented towards the self. Yet both the notion of the self and the notion of the resting state remain ill-defined. The resting state is defined in a purely negative way by the absence of task instructions ("lie still, stay awake"). Most likely this means subjects think about whatever they tend habitually to think about, so the precise mental processes and their timing remain essentially uncontrolled. How much of the observed intrinsic activity is due to unconstrained behaviour (e.g., mind wandering) and how much is due to activity that persists across states and conditions? It is difficult to know without more information about mental processes during 'rest'. This lecture makes the following neurophenomenological proposal: Individuals who can stabilize and flexibly switch between various modes of self-awareness, including nonintrusively monitoring their own mental activities from moment to moment, can internally modulate the resting state and provide detailed phenomenological information about its various components. Certain types of meditation train these abilities, so by working with meditators as experimental participants, neuroscientists may be able to probe intrinsic activity via the resting state in more precise ways. This lecture will present evidence to support this proposal.

KAI VOGLEY

Department of Psychiatry and Psychotherapy, University of Cologne, Cologne, Germany

Neural correlates of social cognition

The objective of this presentation is to conceptualize social cognition comprising self-other-distinction and self-other-exchange from the perspectives of neurophilosophy, cognitive neuroscience, and psychiatry. This includes

- (1) the conceptualisation of the relation between both cognitive domains assuming a complementary relation between self-other-distinction and -exchange,
- (2) the overview of the neural correlates of social cognition in relation to each other and to the default mode of brain function
- (3) the reconstruction of mental disorders in a metapathology framework integrating psychopathology and neuropathology.

DAN ZAHAVI

Center for Subjectivity Research, University of Copenhagen, Copenhagen, Denmark

Minimal self and narrative self: A distinction in need of refinement

Two central concepts have repeatedly resurfaced in recent discussions of the self: the notions of minimal and narrative self. In my talk, I will discuss both notions and first question the adequacy of some of the prevailing definitions. I will then argue that there is a crucial aspect of selfhood that neither concepts really address. Drawing on both classical (Mead, Sartre) and more contemporary (Tomasello, Hobson, Reddy) discussions, I will examine a specific pre-linguistic form of sociality that seems to have a direct impact on the constitution of self. I will discuss to what extent our experience of and adaptation of the other's attitude towards ourselves might change, enrich or distort our self-understanding.

Abstracts of Poster Presentations

STEPHAN BENDER, MD^{1,2} **JOHANNES SCHRÖDER, MD**³, **FRANZ RESCH, MD**¹,
MATTHIAS WEISBROD, MD^{2,4}

¹ Department of Child and Adolescent Psychiatry, Centre of Psychosocial Medicine of the University of Heidelberg, Germany

² Department of General Psychiatry, Centre of Psychosocial Medicine of the University of Heidelberg, Germany

³ Section of Geriatric Psychiatry, Centre of Psychosocial Medicine of the University of Heidelberg, Germany

⁴ Section of Experimental Psychopathology, Centre of Psychosocial Medicine of the University of Heidelberg, Germany

Schizophrenia-specific deficit in focal motor activation during the movement stages related to the conscious perception of the intention to move

Introduction: The neuronal mechanisms behind schizophrenia-specific first-rank symptoms are not fully understood. However, focal motor system activation during advanced movement programming and execution is supposed to be crucial for the subjective intention to move and the feeling-of-agency. Deficits in this respect could result in a vulnerability for schizophrenia-specific symptoms related to a disturbed “self”, manifesting themselves on the other hand as neurological soft signs.

Methods: We analyzed multi-channel lateralized movement-related potentials during choice reaction movements in 16 schizophrenic/schizoaffective patients with predominant negative symptoms, 18 patients with a non-psychotic major depression (clinical control group) and two healthy control groups age-matched to the patients (20/23 subjects). We compared cortical motor activation to the activation by refferent sensory feedback: A reduction of frontal action-related activation could lead to relative over-activation by sensory feedback in schizophrenia, a pattern known from passive movements.

Results: A significant reduction of lateralized (pre-)motor and superior parietal activation immediately preceding movement execution was found only in schizophrenic patients but not major depression. In contrast, dipole source analysis indicated rather unimpaired sensorimotor cortex activation by refferent feedback.

Conclusions: Reduced focused action-related motor system activation was associated with reduced parietal pre-movement activation but preserved activation to refferent sensory feedback, creating an imbalance between ‘efference copy’ and sensory input specifically in schizophrenic/schizoaffective patients. It could reflect a trait linking negative symptoms and executive control

deficits with a vulnerability for psychotic symptoms (more easily disturbed feeling-of-agency leading to first-rank symptoms). Depressive symptoms could be distinguished on a neurophysiological level from schizophrenic negative symptoms.

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Dialectic Mentalization Based Therapy for severe Somatoform disorders (D-MBT-S)

Eikenboom, Center for Psychosomatic Medicine in Zeist, The Netherlands, is a tertiary referral clinic. Our patients have a long history of unsuccessful treatment, both medical and psychiatric. Cognitive Behaviour Therapy, what is mostly used for patients with Somatically Unexplained Physical Symptoms (SUPS) is often not sufficiently effective in these very complex patients.

This poster presents a transdiagnostic multifactorial explanatory model, called Dialectic Mentalization Based Therapy for severe Somatoform disorders (D-MBT-S).

Impaired mentalization of primary representations of the body (body-mentalization) plays a central role, together with the following factors: 1) problematic attention and perception; 2) low acceptance of symptoms and the restrictions they imply; and 3) negative systemic influences. A body-mentalization-based treatment is described. In Dutch we call this model MAMS (Mentalization, Acceptation, Modulation, Systemic Work)

Research has shown that this integrative approach significantly improves the quality of life diminishes psychopathology and cuts down medical costs.

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A dynamical view of the emergence of self, and its application to understanding psychosis

Psychotic manifestations challenge the notion of a singular unified autonomous self. It is possible to recast the basic ontology of person-hood by identifying two layers of organisation that are related as constituent and emergent levels, respectively. The phenomenal world of subjective experience (the 'P-world') constitutes the first layer. P-worlds are the autonomous dynamical systems that function as basic constituents. In keeping with the interpretation of immediate experience provided in various Eastern philosophical traditions and recent constructivist theories of cognition, immediate experience is not separable into an experiencer and an experience. P-worlds interact however, and the result of their interaction is the joint creation of a shared world, generating emergent organization at a higher level, typically associated with shared belief and culture. The notion of self then appears as a carefully maintained state of equilibrium between the two levels. Looked at in this light, many psychotic symptoms may be characterized as a disturbed relation between the endogenous dynamic of the P-world and the exogenous influences arising from the emergent social environment of that P-world. Intersubjectivity, in this view, is the generation of dynamical structure between P-worlds, while the endogenous dynamic of the P-world is best considered from a biological point of view. Although in its infancy, this approach suggests that the concepts and tools of dynamical systems theory may be fruitfully brought to bear in our understanding, and perhaps treatment, of psychosis. This, it is to be hoped, might provide an alternative to purely somatic accounts of psychosis.

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Behavioral Quantification of the resting state

Background: Despite neuroimaging evidence that awareness of environment (external) and of self (internal) are anticorrelated, switching their activation at an average rate of 0.06 Hz (Boly et al., 2008, Soddu unpublished data), little is known about the behavioural quantification of the resting state. The present study provides behavioural data on the relationship between external and internal awareness.

Methods: 31 healthy volunteers were in a resting condition (i.e. sitting with eyes closed), avoiding structural thinking (e.g. counting). 66 auditory beeps were presented at random intervals via headphones. The participants' task was to rate on a keyboard their external and internal awareness state as it was before the presentation of the stimulus on a 4-point scale (0 = absent; 1 = mild; 2 = moderate 3 = maximal). The content of awareness was identified via thought sampling.

Results: At the individual level, 24/31 subjects showed significant anticorrelation between internal and external awareness (1/31 positive correlation, 6/31 no significant correlation, $p < .05$). At the population level, Spearman's r was calculated at $-.44$, ($p < 0.02$ two-tailed). On average, the switching from internal to external occurred at 0.05Hz (range: 0.01-0.1Hz).

Self-reports for external awareness included auditory (100% subjects), somesthetic (90%), olfactory (20%), visual (10%) and experiment-related (10%) content ($p < 0.000$).

Self-reports for internal awareness included experiment-related thoughts (80% subjects), autobiographical (65%), somesthetic (25%), inner speech (20%) and mental imagery (10%) ($p < 0.001$).

Discussion: Our results confirm the predicted anticorrelation between internal and external awareness. The temporal dynamics of external to internal switch is in line with previous neuroimaging data. Our study bridges the cognitive and physiological characteristics of the brain 'default' resting state activity.

References

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Schizophrenic disembodiment: the ghost in the machine

Within contemporary debates on how to best understand schizophrenia, its symptoms and their coherence, we can roughly discern three different strands. On the one hand, Frith et.al. regard schizophrenia as primarily a meta-representational deficit, whereas Huber & Klosterkötter et.al. on the other hand refer to an accumulation of basic neurological defects. In between the meta and the basic level we can find the phenomenological perspective, whose proponents (Fuchs, Parnas, Sass, Zahavi) argue that we can best understand schizophrenia as a disturbance of the basic, or minimal, embodied self. Our aim is to make a case for the phenomenological viewpoint by elaborating on how embodiment is affected in schizophrenia.

Interviews with young schizophrenic patients show how their natural intentionality in perceiving, acting, feeling, and thinking is disturbed. The body is no longer the tacit background mediator, the lived body or *Leib*, but instead turns into an object or *Körper*. Normally our body and its body memory enable a natural flow in our doings, as the incarnation of what we learn increases our familiarity with others and our surroundings. In schizophrenia, however, the body becomes an object: the more or less steerable appendix of the mind. The body does not provide a natural access to the world any longer, and familiarity and common sense give way to alienation of the self, others, and the world.

In reaction, the patients try to compensate this loss by retreating in automatisms (the body functions on its own, as a machine), or in hyper-reflectivity (the mind detachedly observes and constructs). A middle way, a flexible switching from doing to deliberating and vice versa is strikingly absent. This lack of modulation fundamentally alters the phenomenology of the respective experiences. Schizophrenic automatisms are not the same as our habits, in the same way that hyper-reflectivity differs from attentive deliberation. Our flexibility in everyday actions depends precisely on the embodiment of the self – as is shown by schizophrenic experiences in which the self functions more like a Ryleian “ghost in a machine”.

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Empathy in schizophrenia: Impaired resonance?

Background: Resonance is the phenomenon of one person unconsciously mirroring the motor actions of another person. This shared representation serves as a basis for sharing physiological and emotional states of others and is an important component of empathy. Contagious laughing and contagious yawning are examples of resonance. In the interpersonal contact with individuals with schizophrenia we can often experience impaired empathic resonance. The aim of our study is to determine differences in empathic resonance – in terms of contagion by yawning and laughing – in individuals with schizophrenia and healthy controls.

Methods: We presented video sequences of yawning, laughing or neutral faces to 43 schizophrenia outpatients and 45 healthy controls. Participants were video-taped during the stimulation and rated regarding contagion by yawning and laughing. In addition, we assessed self-rated empathic abilities (Interpersonal Reactivity Index), psychopathology (PANSS), social dysfunction (Social Dysfunction Index) and executive functions (Stroop, Fluency).

Results: Individuals with schizophrenia showed lower contagion rates for yawning and laughing. Self-rated empathic concern showed no group difference and did not correlate with contagion. Low rate of contagion by laughing correlated with the schizophrenia negative syndrome and with social dysfunction.

Conclusion/future perspectives: We conclude that impaired resonance is a handicap for individuals with schizophrenia in social life. Blunted observable resonance does not necessarily reflect reduced subjective empathic concern. As next step, we plan to add a measure of deficits in self-other distinction (Alien-hand experiment, Tickling) as a possible mediator between resonance input, personal stress and (maybe subsequently) blunted output.

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Self-Knowledge, Knowledge of Others, and ‘the thing called love’

Wittgenstein argued that the capacity to ascribe mental states to oneself cannot on its own explain how we possess mental state concepts that apply both to ourselves and others. Wittgenstein’s solution is that primitive self-ascriptions of mental states are expressive, i.e. verbal extensions of e.g. pain-behaviour. But this doesn’t solve the problem, since the only mental states we can express are our own: concepts which Wittgenstein rightly insists are univocal across first- and third-person applications threaten to disintegrate into pairs of concepts, one applicable in the third person (based on behavioural criteria), the other applicable in the first person (based on nothing).

I draw on recent work on child-caregiver interaction to fill the gaps in Wittgenstein’s account. We do express some mental states before acquiring any mental concepts. But to acquire mental concepts, others must be available to recognize our expressions for what they are, and to reflect our mental states back to us in a form that we can recognize as representations of them rather than as simultaneous instantiations of those same states by another. As shown by Fonagy, Hobson and others, the capacity to think of oneself in mental state terms develops further in children whose caregivers are attuned, i.e. can recognize the child’s expressions for what they are, and can tolerate them, and so do not merely ‘catch’ the child’s mental states themselves. Since both attunement and tolerance manifest ‘the thing called love’ (Winnicott), loving nurture is crucial in developing the capacity for self-knowledge. Psychoanalytically inspired work in child development thus amplifies and corrects Wittgenstein’s treatment of the other minds problem: in order to explain how the capacity for self-knowledge develops via others’ knowledge of us, the other must be thought of as a loving other.

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Temporal and expressive patterns of infant empathy

Young infants have been found able to perceive and respond appropriately to emotional changes in “significant others” during face-to-face interactions. Considering that perceiving another’s emotional experience and responding appropriately to the perceived emotional change in the other determines the observer’s capacity for empathy, the present study attempted to describe the temporal and expressive patterns of 8 and 18-week infants’ empathy. Twenty-one mother-infant pairs participated in the study. A five-minute face-to-face interaction was videotaped for each pair at 8 and 18 weeks. Infant empathic episodes occurring during these face-to-face mother-infant interactions were first identified. These infant empathic episodes were, then, micro-analyzed by use of the software Observer 4.0. It was found that infant empathic episodes were more often than not initiated by the concurrent occurrence of three infant behaviors: facial expression of concern/apprehension, emotional attention and widened eye pupils (“bright eyes”). The occurrence of these three behaviors was more likely to be observed either simultaneously or up to a second after the emotional change in the mother. This temporal and expressive pattern of infant empathy was more likely to be observed after a negative, than after a positive, emotional change in the mother.

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**The schizophrenic influencing machine as an expression of the
disordered structure of the “minimal self”.**

Background: Many schizophrenic patients experience Schneiderian first-rank symptoms such as delusions of alien control. The schizophrenic influencing machine demonstrates a particular form of this kind of delusions. In the history of psychiatry several cases have been published which describe schizophrenics who presented this interesting psychopathological phenomenon. Recent psychiatric research also analyzed patients who felt manipulated and impaired by contemporary technologies. Many present-day authors consider schizophrenia to be a psychiatric disorder that is based on the disturbance of the pre-reflective self-awareness or “minimal self”. This disturbance is reflected in the phenomenon of the schizophrenic influencing machine.

Methods: The method applied for the study of schizophrenic influencing machines and their origin rooted in the disorders of the “minimal self” consists in the phenomenological analysis of two clinical vignettes.

Results: The historical and modern literature we analyzed shows significant increase of interest towards the phenomenological description and analysis of self-disorders. Both patients we presented here exemplify the delusions of technical alien control. In addition these cases illustrate the disordered aspects of the “minimal self” such as loss of the feeling of mineness and the resulting “inversion of the intentionality”.

Conclusion: The main goal of this contribution is to explore some issues of the “minimal self” in the context of a phenomenological description and analysis of two clinical cases. We postulate that the schizophrenic delusions of alien control may be in general interpreted as being based on the disorders of the “minimal self”. We argue that the disturbed feeling of mineness, especially loss of the sense of agency and ownership, and the resulting “inversion of the intentionality” give rise to the schizophrenic influencing machine.

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Distinct cortical networks for the detection and identification of human body

In the human brain information about bodies and faces is processed in specialized cortical regions named EBA and FBA (extrastriate and fusiform body area) and OFA and FFA (occipital and fusiform face area), respectively. Here we investigate with functional magnetic resonance imaging (fMRI) the cortical networks responsible for the identification of individual bodies and the distinction between 'self' and 'others'. To this end we presented subjects with images of unfamiliar and familiar bodies and their own body. We identified separate networks for body-detection (processing body related information), body-identification (processing of information relating to individual bodies) and self-identification (distinction of self from others). Body detection involves the EBA in both hemispheres, and in the right hemisphere: the FBA and areas in the IPL (inferior parietal lobe). Body identification involves areas in the inferior frontal gyrus (IFG) of both hemispheres and in the right hemisphere areas in the medial frontal gyrus (MFG), in the cingulate gyrus (CG), in the central (CS) and the post-central sulcus (PCS), in the inferior parietal lobe (IPL) and the FBA. When the recognition of one's own body is contrasted to the identification of familiar bodies, differential activation is observed in areas of the inferior parietal lobe (IPL) and inferior parietal sulcus (IPS) of the right hemisphere, and in the posterior orbital gyrus (pOrbG) and in the lateral occipital gyrus (LOG) of the left hemisphere. Thus, identification of individual bodies and self-other distinction involve in addition to the classical occipito-parietal network a parieto-frontal network. Interestingly, the EBA shows no differential activation for distinctions between familiar or unfamiliar bodies or recognition of one's own body.

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Living with voices and sounds unheard by others

Background: Experiences of voices and sounds (V/S) unheard by others have traditionally been seen as symptoms of a disordered self; an important diagnostic criterion and factor in the evaluation of the psychotic patients' clinical status and treatment. Little attention has therefore been directed towards how the V/S can be experienced by the patients themselves. Recent reports assert that V/S are meaningful experiences and that one should assist patients troubled by V/S in modifying their beliefs about the V/S they hear, in order to enhance their coping skills.

Aim: Gain insight into the meaning of living with experiences of hearing V/S in persons with a psychotic disorder (A), and their next of kin (B).

Method: A phenomenological - hermeneutical approach to audio taped and transcribed narrative interviews.

Pilot study: 1-2 interviews with four persons in group A (2 of each sex, ages 30-45, with an average of approximately 11 years experience of hearing V/S).

Preliminary results/reflections: During the encounters with the interviewees and through the analysis of the narratives, living with V/S came forth as a lonesome struggle; a struggle regarding both the efforts of relating to the puzzling albeit meaningful experiences of V/S, and resisting the preconceived notions of others. In the process of sharing their personal experiences, the interviewees sketched a landscape of coherence that does not resonate with the notion of a disordered self. Would perceiving the V/S as embodied experiences enhance greater understanding and improved interventions?

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Self-Disorders and Theoretical Concepts of Disease

Health and disease are value-laden terms that reflect the existence or non-existence of medical conditions that may be valued or disvalued. Their usage in the absence of further information about the state of the mind is insufficient, because it can only tell us how the person feels about their state of mind. Further information is required in a therapeutic setting, however, because an accurate judgement of whether or not the patient has a disvalued condition requires a rational agent to make the judgement, and in the case of self-disorder rationality is not guaranteed. There is also the possibility of disagreement between therapist and patient: in terms of self-disorders, the normative experience of the patient is as important as the state description.

Health and disease are statements of fact about the value placed upon a condition. They do not inform us of anything inherent in the condition, and in a medical context they should not be treated as though they do. It is necessary to include a concomitant state description of the state of the mind. The state description here is a statement or set of statements of objective fact about physical or mental states.

What is important in most cases is the subjective experience of the patient: if a person feels that there is a problem, then the medical staff involved must determine what that problem is. The statement of health or otherwise, along with detailed state descriptions, is useful in determining what, if any, condition is present.

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Induction of Acute Dissociative Symptoms by Videostimulation in Multisomatoform Disorder Patients: Preliminary Behavioral and Psychophysiological Results

Dissociation is a temporary, partial or complete split “between memories of the past, awareness of identity and immediate sensations, and control of bodily movements” (ICD 10, version 2007). We examined a method for inducing acute dissociative symptoms in the laboratory with 13 patients currently suffering from 3 or more medically unexplained physical symptoms (Kroenke et al. 1997), and 21 healthy subjects. Participants filled out a standardized questionnaire assessing acute psychological and somatic dissociative symptoms before and after being presented a 2-minute long video of a minor facial cosmetic surgery. Psychophysiological data was recorded before and during stimulation. In comparison to healthy subjects, patients tended to report significantly more somatic symptoms post-stimulation, and had a significantly stronger psychophysiological response. Results suggest that the presented stimulus could potentially be used as an instrument not only to deepen our understanding of basic mechanisms underlying dissociation (e.g. individual differences, cognitive and emotional reactions, etc), but also in related clinical work.

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EEG time course and activation during pre-reflective and reflective self-reference in schizophrenia

The wide range of ego-pathology symptoms in schizophrenic patients has been associated with dysfunctional activation in frontal and parietal cortices. Here we investigated whether the time course and localisation of the activation occurring during a self-referential processing task is different in schizophrenic patients with present psychotic symptoms compared to a matched healthy control group.

While a continuous 32-channel EEG was recorded subjects read personal pronouns (pre-reflective self condition) and evaluated trait adjectives in reference to the self or a close friend (reflective self condition). Low-resolution brain electromagnetic tomography (LORETA) was used for statistical brain imaging. Ego-pathology was assessed using the Examination of Anomalous Self Experience (EASE), a battery of neuropsychological and psychopathological tests and scales provided information about their cognitive and psychopathological function level.

Our hypothesis is that patients suffering impairment on different subscales of the EASE show a different time course and activation in brain regions shown to be involved in the representation of pre-reflective and reflective aspects of the self like ventral and dorsal parts of the medial prefrontal cortex prefrontal cortex, insula and right inferior parietal lobe.

We would like to present preliminary results and compare them with an earlier study on the spatiotemporal EEG-analysis of the pre-reflective and reflective self (Esslen et al., 2008).

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The concept of the self and the utility of methodical reductionism in neuroscience and psychiatry

It is frequent in contemporary neuroscience to assume that the self and its activity – often reduced to “affective” experiences – can be understood as events that result from the activity of the brain or can be identified with them. In some cases, this monistic reduction is proposed as a necessary condition to advance in scientific research. In this poster we aim to show that such statement a) has a weak foundation, b) is not necessary to legitimate neuroscientific research, c) is a problematic guide for research and clinical practice. On the one hand, this monistic hypothesis presents the self either as an illusion or as a product and, because of that, it presupposes and leads to conceiving it in a “terminal” way, as if it were an inert thing. This approach neglects its more typical features, among which are its active character and its intrinsic openness. On the other hand, it provokes that any affirmation of the reality of the self appears as dualistic. So the psychophysical unity to which the self seems make reference is broken, and furthermore, the mind-brain problem becomes insoluble. In our conclusions, we argue that the alternative between dualism and monism as a solution of the body-mind problem is rooted in an inadequate approach to living organisms. Besides, we defend the necessity of a right method to study psychic acts appropriate to accept its essential duality without renouncing to the affirmation of the unity of the living person.

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When picking sides becomes physical:

How affordances drive preferences – if we pay attention to our body

Every situation has an affordance structure, which allows for particular actions in that situation (Gibson, 1979). More specifically, the physical features of a situation make some actions more likely than others. In two experiments, we tested whether participants would use the physical affordance structure of a situation to choose between two alternatives, even if the structural features of the situation were not actually relevant to the alternatives themselves. Participants imagined that they were about to start a table-tennis match and were asked to pick a side of the table-tennis table. We manipulated the physical affordance structure by telling participants to imagine themselves at a certain position in the scene (in front of the table-tennis table, behind it or without instruction) and which hand they were to play with (right vs. left). We hypothesized – and found – that the situations differentially afford choosing one side over the other. For example, when facing the center of the table-tennis table and playing with one's right hand, going to the right is afforded over going to the left, whereas when playing with one's left hand, going to the left is more afforded. A novel finding for embodied cognition research was that the probability of choosing the afforded side depended on the extent to which participants generally ascribe relevance to bodily cues. Thus, the affordance structure of a situation emerges as an interaction between environment and actor and the extent to which such embodiment effects arise can depend on dispositional factors.

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Being self – empowering whoever in how it is to be whatever

Be it an innate feature or a relevant by-product of late Western Life Sciences, others are given a growing right to decide on often so-called natural properties of minds of subjects. Well, soul has almost lost significance in industrialized modern discourse, so mind may be the obvious next target? In Psychiatry, in addition, authorized groups even seem to have a professional obligation to overrule individuals in deciding about what their minds are exactly, how they behave, and what meaning may be behind all this fuss while being happy or sad, sane or mad, good or bad, unborn, alive or dead. Honestly, who knows exactly?

Of course, this has often been criticized under various aspects by some patients, human rights activists or even members of relevant scientific castes. Be it as it is, the return of the 'ghost in the machine' is evident in current Psychiatric thinking, while the human rights perspective is reduced to patients being allowed to behave irrationally if not willing to fit to these premises. But if mind is being made more and more irrelevant, and ones own lively experience doesn't really count anymore even in Psychiatry, who or what exactly will be taking over the fragile realm stretching around the border between sanity and madness? Another Cargo cult?

However, a closer view on this topic may lead back to the primacy of the individual's authority about what it is to be regardless what others may say. Besides empowering whoever in how it is to be whatever, there really seems no good alternative if one would like to know about the mind-embodied self and its inexhaustible affairs.

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Suggestive Effects on the Diameter of Coronary Arteries: Conceptual Issues and Methodological Report

It is well known that the modality how a medical intervention is presented and explained to a patient can be of high relevance for the expected outcome: inducing a positive expectancy to the patient is associated with a better outcome. These effects appear to be stronger in the case of invasive interventions as, e.g., surgery. Two main mechanisms are discussed to account for the beneficial effects of placebo interventions: conscious expectation, and unconscious conditioning (Enck P et al 2008).

There is increasing evidence from the literature that placebo treatments can also alleviate symptoms of angina pectoris. This may be due to placebo-induced changes in central pain processing. However, it has been shown that placebo interventions can affect peripheral organ systems as well. Therefore, the question arises whether placebo effects in angina pectoris may at least partly be due to a cognitively-induced dilatation of cardiac vessels with subsequent increases in cardiac perfusion, and thus pain relief.

An elegant paradigm to demonstrate placebo effects in clinical settings is to compare drugs that are administered either open or hidden, i.e., with and without the knowledge of the patient (Benedetti et al., 2003). At the German Heart Centre of the Technical University Munich 78 patients with a cardiological indication for a coronary angiography were randomized into 4 groups. Patients with myocardial events or stenosis requiring treatment were excluded. Half of the patients were administered 5ml of isotonic saline solution (NaCl 0,9%), the other half a very low-dose and practically ineffective solution of nitroglycerine, both intracoronary applied. Half of each group received treatment “open” with an additional verbal suggestive instruction targeting the expected effect of the treatment, whilst the remainders received treatment in the “hidden” mode. Primary outcome was the coronary diameter of a reference vessel, assessed by quantitative coronary angiography. As secondary outcomes blood pressure, heart rate, actual distress and chest pain were assessed.

Our study aims to describe how mental processes influence bodily manifestations thus leading to an improved embodied self coherence (salutogenesis in sensu Antonowski). A better knowledge of these mechanisms might contribute to the appropriate application of medical treatments as well as to an improvement of their effectiveness and efficacy.

Recommended reading:

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The neurobiological correlates of situated, social cognition

Termed an 'embodied' or 'enactive' approach, it has recently been suggested that human cognition might not only depend upon human beings' mental faculties, but that these might be rooted in perceptual processes drawing upon the individual's interaction with the environment. Based on the assumption that this might be even more relevant with respect to social cognition, a series of studies was conducted in which we investigated the neurobiological correlates of the perception of socially relevant facial expressions (e.g. smiling) depending upon whether oneself is personally addressed as well as the neural correlates of gaze-based joint attention resulting from an engagement in online, social interaction.

Results of our first study show that perception of socially relevant facial expressions correlates with increased activity in zygomaticus major muscle of the human observer regardless of personal involvement constituting a form of facial mimicry. Analyses of the neuroimaging data concordingly demonstrate increased neural activity in classical motor regions (i.e. face motor area), but also show activity in posterior cingulate cortex known to be involved in social cognition. Similarly, results of our second study demonstrate that responding to someone else's gaze behavior recruits motor regions of the brain while simultaneously activating medial parietal cortex.

We suggest that differential activity in these brain regions may subserve the integration of action-related processes as part of a pre-reflective, embodied reaction to the perception of socially relevant cues as well as a reflective representation of self and other as another necessary constituent of social interaction.

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Eesthetic Experience during the observation of Artistic Body Representations

The question that encourages our research is to what extent aesthetic perception is an idiosyncratic experience. A neuroimaging study proposed a common basic mechanism that characterizes the aesthetic sense in a normative fashion, at the core of which are emotion-processing centers (Di Dio et al., 2007). Another interesting proposal is the role of the body and embodiment in aesthetic experiences and the activation of resonance mechanisms during the observation of an artwork (Freedberg & Gallese, 2007).

The aim of the present study was to reveal the specificity of aesthetic response to artistic representations of the body. Twenty-eight original Sculptural images and 28 original Real Body images were used. Proportion between body parts was manipulated to create a less beautiful set of images, otherwise identical to the original ones on every other facet. The stimuli were presented in three experimental conditions – observation, aesthetic judgment, proportion judgment.

Preliminary results are based on aesthetic ratings ascribed to the different types of stimuli. GLM analyses revealed that original images were evaluated significantly higher than the modified ones and that the original sculptures were rated higher than real body images. Paired sample t-tests comparing the scores for 'static' and 'dynamic' images further revealed a significant preference for dynamic body postures.

These data support the finding that differences in body proportion have a strong influence on aesthetic judgment for both sculptural representations and real-body images. Additionally, results suggest that aesthetic experience involved in the appraisal of sculptural and real-body images is qualitatively different, the latter being possibly affected by social and/or biological constrains. Finally, the aesthetic preference for dynamic body postures enlightens the involvement of motor system in the aesthetic response.

OLGA SYSOEVA

Laboratory of Human Higher Nervous Activity, Russian Academy of Sciences,
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Genetic determinants of time perception

Perception of time is the essential characteristic of our self-awareness. It is disturbed in some self-disorders, such as schizophrenia, depression, BPDs as well as in Parkinson's disease, dyslexia, ADHD. Pharmacological and neurological data suggest that encoding of minutes and hours are related to the serotonin (5-HT) while perception of durations in a second-range – to the dopamine (DA). Inter-individual differences in time perception, related to temperament, are also known.

In our studies the association between the characteristics of subjective duration encoding and polymorphism of some genes, regulating the activity of 5-HT and DA were studied (athlete and student groups). Carriers of less active genotype of *COMT Val158Met* gene, influencing dopamine destruction (therefore more DA in frontal cortex), significantly overreproduced 1-2 seconds intervals (but not the longer ones of 3-12 seconds!) compared to the carriers of Val/Val and Val/Met polymorphisms. 5-HT_{2a} and MAOA genes, regulating activity of serotonin, influence the subjective time flow in a minutes range (Jasper's test and subjective minute estimation). Supplement EEG study revealed the relationship between DAT gene polymorphisms, individual alpha-frequency and reproduction of 1 second duration.

Therefore, our studies showed that perception of time is partially genetically determined and confirm that different brain mediators take part in this process depending on the time ranges.

Further studies of brain mechanisms of time perception may afford us to stretch subjectively our lifetime and more effectively treat self-disorders.

Rivka Tuval-Mashiach

Department of Psychology, Bar-Ilan University, Israel

Ruptured Selves: Narrative (re)construction of self following a traumatic event

Narrative psychology perceives trauma as a break in the person's self and life story, after which meaning schemes and self-concepts are shaken, and a new adaptation is required. The purpose of this presentation is to demonstrate the processes of self reconstruction in the aftermath of trauma.

Method: Written trauma narratives were collected from 200 survivors of traumatic events, arriving at an emergency room of a central hospital in Israel. Participants were followed at 4 time points, through a period of four months.

At each time, participants completed a semi-structured narrative questionnaire, in which each was asked to describe the traumatic event, and the impact the event has on his beliefs, feelings, and future plans. Each narrative was quantitatively scored by two independent raters on three themes: Coherence of the trauma narrative, ability to find meaning, and perception of the self. For each Participant, data was also collected on PTSD symptoms and diagnosis, using the Clinician administered PTSD scale. This longitudinal design enabled us to follow changes in the trauma narratives through time for each participant, and furthermore, to compare between survivors who later developed PTSD and those who recovered.

Results: Narratives changed through time in all survivors. Low levels of narrative coherence, negative self-perception, and attachment of pervasive meanings to the trauma were predictive of and positively related to PTSD diagnosis.

Discussion: The process of self reconstruction following trauma (and challenges in this process) will be discussed, as well as implications of these findings to the diagnosis and treatment of PTSD.



List of Speakers

Dan Zahavi, Copenhagen, Danmark
Thomas Metzinger, Mainz, Germany
Dan Hutto, Hatfield, United Kingdom
Yves Rossetti, Bron, France
Steven Laureys, Liège, Belgium
Vittorio Gallese, Parma, Italy
Kai Vogeley, Cologne, Germany
Evan Thompson, Toronto, Canada
Philippe Rochat, Atlanta, USA
Jessica Hobson, London, UK
Peter Hobson, London, UK
György Gergely, Budapest, Hungary
Thomas Fuchs, Heidelberg, Germany
Josef Parnas, Copenhagen, Danmark
Peter Henningsen, Munich, Germany
Gerd Rudolf, Heidelberg, Germany
Peter Fonagy, London, United Kingdom



List of Poster Presenters

Stephan Bender, Heidelberg, Germany
Martina Buehring, Zeist, the Netherlands
Fred Cummins, Dublin, Eire
Athena Demertzi, Liege, Belgium
Sanneke De Haan, Heidelberg, Germany
Hanne De Jaegher, Heidelberg, Germany
Helene Haker, Zürich, Switzerland
Edward Harcourt, Oxford, UK
Korina Hatzinikolaou, Athens, Greece
Dusan Hirjak, Heidelberg, Germany
Amra Hodzic, Frankfurt, Germany
Amanda Kaas, Frankfurt, Germany
Anne Martha Kalhovde, Tromsø, Norway
Björn Katzur, Kiel, Germany
Sabine Koch, Heidelberg, Germany
Lorna Lees, Munich, Germany
Alex Lopez-Rolon, Munich, Germany
Max Ludwig, Heidelberg, Germany
Aneela Maqsood, Rawalpindi, Pakistan
Sibylle Metzler, Zürich, Switzerland
José Ignacio Luis Murillo Echarte, Pamplona, Spain
Nina F.E. Regenber, Utrecht, the Netherlands
Joram Ronel, Munich, Germany
Gün R. Semin, Utrecht, The Netherlands
Leonhard Schilbach, Cologne, Germany
Alena Streltsova, Parma, Italy
Olga Sysoeva, Moscow, Russia
Rivka Tuval-Mashiach, Ramat-Gan, Israel



Congress Information

Registration Fees for the Participants Include:

Admission to all scientific sessions

Admission to poster sessions

Conference materials

Coffee breaks

Opening Ceremony and Welcome Reception on Thursday,
13 November 2008

Not included Social event on Friday, 14 November:

Additional fee 40,00 €, undergraduates reduced fee: 30,00 €.

Confirmation

Upon receipt of the full registration fee, each participant will receive a confirmation of registration and payment. Please present this confirmation at the conference counter as proof of your pre-registration.

Registration office

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General and Practical Information

Conference Venue

Old Lecture Hall
University of Heidelberg
Grabengasse 1
D-69117 Heidelberg

Official Language

The official language of the conference is English.

REGISTRATION/INFORMATION DURING THE CONFERENCE

Thursday, Nov 13:	11.00-17.00
Friday, Nov 14:	8.30-17.00
Saturday, Nov 15:	8.30-12.00

Poster Sessions

Posters should be 0.90 m wide and 1.20 m high. The title and authors should appear in bold lettering. The text and illustrations should be readable from a distance of 2 m. There will be two Poster Sessions on Thursday, Nov 13, 19:00 and Friday, Nov 14, 18:30, in which posters will be formally discussed. At least one of the authors should be present at the poster for the duration of the poster session on the designated day.

General and Practical Information

Coffee Breaks

Coffee and refreshments will be provided (free of charge for registered participants) in the adjacent rooms of the conference hall during the official coffee breaks.

Banquet at Prinz Carl Palais, Friday, 14 November, 20:00 h

A banquet will be organised for all participants and their accompanying persons at Prinz Carl Palais. Local food and entertainment will be provided. Price per person: 40,00 € (for undergraduates reduced 30,00 €).

Editorial Office

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Cover Picture

August Klett, „Wurmlöcher“,
Pencil and water colour on drawing paper, dat. 1919.
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Heidelberg



Prinz Carl Palais
Kornmarkt

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Universitätsplatz

Old Lecture Hall
Universitätsplatz

Prinzhorn Collection, Voßstraße 2
in front of the Psychiatric Hospital

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