**Neurocognitive Mechanisms for Abstract Concepts**

**Workshop and panel discussion at the Berlin School of Mind and Brain**

**Date: 7.9.2017, 14-19h** **Location: Luisenstraße 56, Berlin, Festsaal**

Little is known about the mechanisms underlying the processing of abstract concepts. How are abstract meanings processed by our mind and brain, how do they emerge, how are they interlinked with symbols or emerge in the use of these symbols? Part of the problem in finding an agreement on these questions is the fact that the word "abstract" itself has quite different meanings (or usages) and the abstractness of the words "democracy", "beauty", "love" and "everyone" may be categorically different. Therefore, it might be a good strategy to focus on one small and circumscribed problem, the detailed description of a few, or even just one, abstract concept(s).

Therefore, the panelists of this discussion round will elaborate their thoughts on specific abstract concepts of their own choice. Different types of abstract concepts may be addressed, for example the following: Abstract-perceptual concepts, as for example BEAUTIFUL, may be considered to relate to features of objects, abstract-action-related ones such as FORCEFUL to features of actions, and abstract-social ones such as DEMOCRATIC to ways of interacting between people. Abstract-internal concepts can relate to emotional states (HAPPY) – or to internal states that may appear as internalized versions of overt actions (THOUGHTFUL, where the thoughts can be made explicit as verbal utterances). Abstract-mathematical (SEVEN, MINUS) and abstract-logical concepts (AND, NOT) offer further fundamentally different subcategories. Considering examples from this rich set, will it be possible to define and meticulously describe these concepts with all their facets? Can we capture aspects of the neurobiological substrate underpinning them? And which theoretical frameworks succeed in providing workable models?

World renowned specialists from philosophy and linguistics, biology and neuroscience, mathematics and physics, and psychology and cognitive science along with local researchers from Berlin will contribute to this effort, which may, ideally, lead to a model of one or more abstract concepts all participants approve. In case this optimal outcome will not be achieved, there may still be much to learn about the nature of concepts and the suitability of theoretical approaches to semantics, conceptual processing and the neural basis of our mind.

**Final Program:**

**14:00h Friedemann Pulvermüller**, Berlin: Introduction; abstract symbolic grounding of CAUSE

**14:20h Guy Dove**, Louisville: Abstract concepts – Important questions to address

**15:00h Anna Borghi**, Rome: What do recent data tell us about abstract concepts?

**15:40h Claudia Gianelli**, Potsdam: Linguistic and individual differences: a challenge for the study of (abstract) concepts?

**15:55h Luigi Grisoni**, Berlin: Brain indicators of semantic prediction and resolution in affirmative and negated sentence processing

*16:10h Coffee break*

**16:30h Michael A. Arbib**, Los Angeles, San Diego: The Embodiment of the Octoplus

**17:10h Art Glenberg,** Phoenix/Tempe: How embodiment explains abstract concepts

**17:50h Panel Discussion**; chaired by **Michael Pauen**, Berlin

*18:30h Reception*