

# Philosophy of Information and Cognition

Whether we are talking about information or knowledge finally we need a medium to close the loop. This track deals with the following questions:

## INFORMATION

- data, information and knowledge (including semantic information and formal epistemology)
- logic and information
- competing concepts of information (including unified concepts and criticisms of unified concepts)
- history of the concept of information

## METHODOLOGY AND APPLICATIONS

- critical investigation of the methodology of PI (including problems regarding the scope and specificity of the philosophy of information)
- informational perspectives on language, mind, and cognition (including AI-related issues and the symbol grounding problem)
- use of 'information' in the philosophy of science (including causality, problem solving and model-based reasoning)

## REPRESENTATION AND ORGANISATION (excluding Ontologies)

- the representation of information (including non-linguistic information and semiotics)
- the organization of information (including library and information sciences, information on the web, hypertext, tagging and folksonomies)

## INFORMATION IN COGNITION AND NEUROSCIENCE

Good old-fashioned, classical AI was naturally and straightforwardly compatible with an information-theoretic view of cognition as serial information processing based on rules and algorithms. Connectionism in part already undermined this view by emphasizing the importance of parallel and distributed processing. The more recent paradigms in cognitive science and neuroscience under the headings of dynamic systems theory, embodiment and situated cognition call for an even stronger tension. Can, must or should cognition still exclusively be understood as information theoretic processing? And if so, how can the more recent paradigms of dynamics, embodiment and situatedness be given an information-theoretic shape and interpretation? And if not, where does the information-theoretic view fail? The track is devoted to all aspects of tackling these questions. Ultimately, these questions are deeply connected to the program of developing philosophical accounts of mental content and mental representations. They also relate to the notorious symbol grounding problem. Can the nature of mental representations be spelled out in terms of information? How are mental representations individuated? How is their

proposed representational power connected, if at all, to their information processing capacities?

Finally, since the above mentioned questions relate more to ontological issues, one might also wonder whether our epistemic grasp on the nature of cognition hinges on our tools and methods to analyze and scrutinize cognition. Therefore, philosophical prospects connected with the application of information-theoretic tools and methods in the cognitive sciences and neurosciences should also be discussed.

#### **List of topics:**

- Information and connectionism
- Information and dynamicism
- Information and embodied cognition
- Information and situated cognition
- Information and extended cognition
- Information and (mental) content
- Information and mental representation
- Information-theoretic tools and methods in the cognitive sciences and neurosciences the nature of representation