

## Section 6

### Philosophy of Mind and Predictive Processing

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#### Abstract:

In analytical philosophy of mind, there has recently been a strong and rising interest focusing on a new mathematical model of brain function termed “predictive processing”. The symposium will explore the relevance of this formal framework for conceptual and metatheoretical issues. A first, non-technical introduction to the topic of “predictive processing” specifically aimed at philosophers (plus an edited collection of original, peer-reviewed papers) can be found online at <http://predictive-mind.net>.

#### Titles and Abstracts of the talks

1.

Jelle Bruineberg: The Bayesian brain as a crooked scientist

In this talk, I will argue that there are important differences between predictive processing as an account of perception, and as (unifying) account of perception and action. In the former, predictions are said to contain beliefs about what is out there in the world, while in the latter, predictions contain both what is believed and what is desired. The latter leads to the analogy of the brain as a crooked scientist: not trying to infer what hypothesis best explains observations, but what observations would confirm the hypothesis that the agent is doing well. I will argue that the latter view fits well with ecological-enactive cognitive science.

2.

Regina E. Fabry: Experimental Psychology and Cognitive Science,

It is not clear where predictive processing leaves the concepts of folk psychology with respect to their reality. I argue for one conclusion that we may draw in this general area: that predictive processing allows us to construe "action" as a natural kind term. On this view, we pick out actions by means of paradigmatic instances but may be mistaken about the properties to which the kind refers. Predictive processing yields a theory of these properties which should lead us to revise our theory of the kind, but which nonetheless demonstrates a deep unity in action as a natural phenomenon.

3.

Jona Vance: Action prevents error: Predictive processing without active inference

This paper offers a new approach to action in predictive processing frameworks. According to predictive processing, prediction error minimization explains everything the mind does, from perception to cognition to action. As developed by Karl Friston, Andy Clark, Jakob

Hohwy, and others, the standard approach to action in predictive processing (“active inference”) entails that action ensues when proprioceptive predictions generate prediction error at the motor periphery, and classical reflex arcs engage to quash the error. In this paper, I argue that active inference cannot account for proprioceptive experience and movement accuracy in deafferented patients. I then offer an alternative approach on which action prevents error, rather than quash it.

4.

Wanja Wiese: Herbartian ideas in predictive processing and their relevance to the problem of phenomenal selfhood

Johann Friedrich Herbart is known for his pioneering work on educational theory and mathematical psychology. Although many of his ideas were influential and inspiring to, for instance, Fechner, Helmholtz, and Freud, his mathematical psychology as such has not had any lasting influence. I shall argue that the framework of predictive processing (PP) shares several fundamental assumptions with Herbart’s mathematical psychology, only formulated and applied using more advanced methods. The parallels and similarities run so deep that Herbart’s account of self-consciousness is also relevant to the recent philosophical discussion of how PP can help solve the problem of phenomenal selfhood.