

PHILOSOPHY MEETS COGNITIVE SCIENCE



Stiftung
Mercator



Mercator
Research Group

Organization and contact: Prof. Dr. Markus Werning.

Website: www.rub.de/phil-lang.

Venue: Thursday, 29 November 2012, 16-18, room GA 04/187.

All interested students, scientists, and scholars are cordially invited to the following talk of the research colloquium:

Dr. Matthias Unterhuber

(U Düsseldorf)

The New Tweety Puzzle: Arguments against Monistic Bayesian Approaches in Epistemology and Cognitive Science.

The present paper focuses on a joint paper with Gerhard Schurz (Unterhuber & Schurz, in press), in which we discuss the new Tweety puzzle for what we call 'monistic Bayesianism', a position which has quite a few proponents in philosophy and cognitive science. The original Tweety puzzle was addressed by approaches in non-monotonic logic, which aim to adequately represent the Tweety case, namely that Tweety is a penguin and, thus, an exceptional bird, which cannot fly, although in general birds can fly. The new Tweety puzzle is intended as challenge for theories of epistemic states. In the first part of the paper we argue against monistic Bayesians, who assume that epistemic states can at any given time be adequately described by a single subjective probability function. We show that monistic Bayesians cannot solve the new Tweety puzzle, because this requires one to refer to a frequency-based probability function. We conclude that monistic Bayesianism cannot be a fully adequate theory of epistemic states. In the second part we describe an empirical study, which provides support for the thesis that monistic Bayesianism is also inadequate as a descriptive theory of cognitive states. In the final part of the paper we criticize Bayesian approaches in cognitive science, insofar as their monistic tendency cannot adequately address the new Tweety puzzle. We, further, argue against monistic Bayesianism in cognitive science by means of a case study. In this case study we show that Oaksford and Chater's (2007, 2008) model of conditional inference – contrary to the authors' theoretical position – has to refer also to a frequency-based probability function.