

Plenary Talk Abstracts

Professor Helen Beebe

University of Manchester

"Science, Intuition, and the Metaphysical Toolbox"

Metaphysics has come in for some damning criticism of late. Hostility has been emanating both from scientists (and especially physicists) — when Hawking and Mlodinow announce on the first page of their book, *The Grand Design*, that philosophy is dead, they really mean that *metaphysics* is dead — and from philosophers of science (and especially philosophers of physics). Thus Ross, Ladyman and Spurrett think that analytic metaphysics should pretty much be junked wholesale, and Steven French and Kerry McKenzie, striking a slightly more conciliatory tone, think that metaphysics is OK so long as either it is legitimately 'scientifically disinterested' or else it has 'demonstrated its usefulness in naturalistic contexts'. Like French and McKenzie, I want to neither endorse nor reject contemporary analytic metaphysics wholesale; but I think their two sufficient conditions are in one sense too restrictive and, in another, too permissive. I want to try and draw the line in a different place, by appealing to something like the traditional distinction between rationalism and empiricism. There has been a distinctive rationalist turn in analytic metaphysics in recent years, and it is this that best explains the recent outbreak of hostilities.

Professor Samir Okasha

University of Bristol

"Evolutionary Biology, Rationality and Intentional Psychology"

It is striking that evolutionary biology often uses the language of intentional psychology to describe the behaviour of evolved organisms, their genes, and the process of natural selection that led to their evolution. Thus a cuckoo chick "deceives" its host but will be evicted if the host "discovers" the deception; a worker ant "prefers" to tend the queen's eggs to those of other workers; a swallow "realizes" that winter is approaching and "wants" to escape it; an imprinted gene "knows" whether it was inherited paternally or maternally; and natural selection "chooses" some phenotypes over others.

This intentional idiom is a symptom of a broader way of thinking about and modelling evolution, which I call "agential". This involves treating evolved entities, paradigmatically individual organisms, as if they were rational agents trying to achieve a goal, namely maximization of reproductive fitness. The use of rational choice models, originally intended to apply to deliberate human action, in an evolutionary context, is a further symptom of agential thinking.

Drawing on Daniel Dennett's work from the 1980s, I offer a cautious defence of agential thinking and the intentional idiom in evolutionary biology. I argue that this mode of thinking does genuine intellectual work, though it does have limitations and dangers. I conclude with some reflections about the relation between agential thinking and the intentional idiom as tools for understanding adaptive evolution, and the actual evolution of rational agency and intentionality.

Professor Lisa Bortolotti

University of Birmingham

"What's positive about positive illusions?"

There is some consensus in the empirical literature that *positive illusions* have beneficial effects. In the talk I am asking in what circumstances they bring benefits and what type of benefits they bring. One hypothesis is that positive illusions bring psychological benefits in those circumstances in which, despite being unrealistic, they only lead to *small distortions* of reality. Another hypothesis is that they are psychologically beneficial in those circumstances in which they lead the agent to experience *positive affect*. Both hypotheses are plausible, but I believe there is a more comprehensive story to tell about the benefits of positive illusions, a story based on the capacity that at least some forms of optimism have to turn us into successful agents. I suggest that positive illusions are beneficial, and not just psychologically, when they enable us to see ourselves as competent, efficacious, and largely coherent agents who can attain the goals they set for themselves if they persevere in the pursuit of such goals.

Professor Miklós Rédei

London School of Economics

"Properties of Bayesian learning based on conditional expectation as a conditioning device"

We investigate the general properties of general Bayesian learning, where "general Bayesian learning" means inferring a probability measure from another that is regarded as (uncertain) evidence, and where the inference is conditionalizing the evidence using the conditional expectation determined by a reference probability measure representing the background subjective degrees of belief (prior) of a Bayesian Agent performing the inference. If a probability measure can be learned from another this way, then it is said to be Bayes accessible from the evidence. Bayes accessibility defines a two-place relation in the set of probability measures, and general Bayesian learning will be characterized in terms of the properties of the Bayes accessibility relation. It will be shown that the Bayes accessibility relation is reflexive, antisymmetric and non-transitive in the set of all probability measures that are absolutely continuous with respect to the prior of the Agent. If every probability measure that is absolutely continuous with respect to the prior of the Bayesian Agent is Bayes accessible from some other, then the set of probability measures is called weakly Bayes connected. It is shown that the set of probability measures is typically not weakly Bayes connected. The Bayes Blind Spot of an Agent is defined to be the set of probability measures that are absolutely continuous with respect to the prior of the Agent and which the Agent cannot learn via a single conditionalization no matter what evidence he has. We show that the Bayes Blind Spot is a very large set in the set of probability measures defined on a finite Boolean algebra.