Free Energy Pragmatics:
Markov blankets don't prescribe objective ontology, and that's okay

Inês Hipólito [1]
Thomas van Es [2]

[1] Berlin School of Mind and Brain, Humboldt-Universität zu Berlin
[2] Centre for Philosophical Psychology, Universiteit Antwerpen, Belgium

Abstract
In their impressive paper, Bruineberg et al. (2021) make a significant contribution to the Free Energy Principle literature by distinguishing between 'Pearl blankets' and 'Friston blankets', identifying the former as an epistemic tool, and the latter in terms of its novel metaphysical use. We note the oft-forgotten theoretical context of these statistical tools and the need for empirical testing next to computational modeling. A peculiar aspect of the FEP is its use in support of radically opposed ontologies of the mind. In our view, the objective ontological aspiration itself should be rejected; we propose a more thoroughly pragmatic instrumentalist view.

In their impressive paper, Bruineberg et al. (2021) make a significant contribution to the Free Energy Principle literature by distinguishing between 'Pearl blankets' and 'Friston blankets', identifying the former as an epistemic tool for Bayesian inference and the latter in terms of its "novel metaphysical use in the free energy framework to demarcate the physical boundary between an agent and its environment" (p. 1). Yet, the authors have another aspiration. They call out the presupposed legitimacy of extracting ontological predictors from mathematical formalisms, which we applaud.

One thing that is fascinating about the Markov blanket is that this tool allows us to make greater sense of a nested world. Every scale is seen as part of a multiscale network of reciprocal influences interactively shaped by the history of interactions into a common environment. Computational models and simulations can then be viewed as the folk ontology of constructing "imaginary biological populations, imaginary neural networks" (Godfrey-Smith, 2009) to explore the viability of conceiving of cognitive life as active inference under the FEP.

But a theory does not reduce to the tools constructed to explore its viability. Tools such as Markov blankets under Bayesian statistics or simulation models are deprived of truth value in themselves outside of the context of the theory. Markov blankets and computational models are built to explore the predictive power of the FEP as a theory of cognition. A theory precedes all the mathematics and computational models in the world. It arises by noticing a pattern, sometimes by what Karl Friston called a "Gerald Durrell" moment (Friston, 2012): the FEP first arose to him while preoccupied with some woodlice's antics who were frantically scurrying around trying to find some shade. A theory unfolds as discernment of correlations between events or processes of change under philosophical contours and commitments.

After all, as Dennett well says, "[t]here is no such thing as philosophy-free science; there is only science whose philosophical baggage is taken on board without examination" (Dennett, 1996, p. 21).

The FEP as a theory of cognition too must answer the empirical test to see if it lives up to its promises. The FEP theory and its models might be mistaken, thus, they must be tested empirically to see whether their predictions are borne out. While the FEP theory may seem plausible, establishing its applications in, say, neurocognitive activity, is not a trivial matter of translating it into models and proclaiming truth. The FEP, as a theory of cognition, needs to answer to the tedious process of hypothesis and experimental verification. If, for example, a human being acts like an ideal (active) inference machine, this is an experimental and not a computational model fact. It must be tested under a wide variety of experimental situations.

Yet what is it that should be tested in the first place? A peculiar aspect of the FEP is its use in support of *radically opposed* ontologies of the mind. Using the FEP's formal framework, different groups of theorists have come to a wide range of solutions, such as Hohwy's (2016, p. 274, 2013) neurocentric representational view, Bruineberg et al's (2018) embodied dynamic view, or Kiverstein and Kirchhoff's (2019) view of a activity-dependent, gear-switching fluid boundary. These ontologies identify what the respective workers deem the appropriate boundaries of a study of the mind. Yet, Bruineberg et al. (2021) argue, such ontologies are the result not of inherent features of the formalism, but instead of 'additional philosophical premises'. We suggest that this is not a fault. In our view, the objective ontological aspiration itself should be rejected; we propose a more thoroughly pragmatic instrumentalist view.

The relevant scale of investigation is relative to pragmatic research considerations. An example may help. Say that we want to understand an outfielder's flyball catching activity. We could investigate the outfielder in relation to the flyball and the field they are running on. Yet if we want to understand the outfielder's baseball play their catching is part of, we need to consider the larger scale dynamics, including the relation of the outfielder to the other players, the current score, and so on. This can explode if we are instead interested in, say, the outfielder's weekly leisure routine. As such, the boundaries of the relevant system of study when studying the mind can change drastically depending on our focus.

Our view can be seen as an instrumentalist take on Kirchhoff and Kiverstein's (2019) realist view. Their view takes the boundary of the mind to swing within the spectrum ranging from environmentally extensive to skull-bound depending on the organism's activity. Yet the determination of the relevant processes for each activity rests, as Bruineberg et al. (2021) show, not upon fundamental mathematics, but, as we have described here in brief, on pragmatic considerations. As such, activity-centrism bottoms out into pragmatic research interest-dependence, and does not ground an objective ontology. We thus agree with Bruineberg et al. (2021) that the FEP in itself will not adjudicate ontological questions. Yet we argue that, under pragmatic instrumentalism, this is superfluous anyway. After all, to demand an ontology over and above what is relevant to our research interests is to demand an ontology that is epiphenomenal to our investigations. Our view thus provides a pragmatic way forward for an instrumentalist FEP.

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