Description of the funded research project
2nd Call for H.F.R.I. Research Projects
to Support Post-Doctoral Researchers

Title of the research project:
The Philosophical Implications of Cognitive Neuroscience:
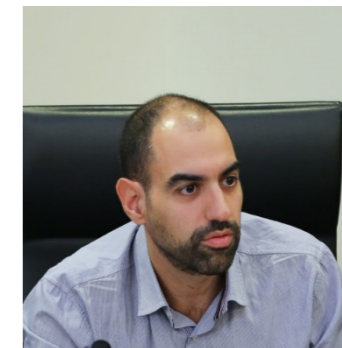**Overcoming the 'Representation Wars'**

Principal Investigator: Dionysis
Christias

Reader-friendly title: Philosophical
Implications of Cognitive
Neuroscience

Scientific Area: Humanities & Arts

Institution and Country: University
of Patras, Greece

Host Institution: Department of
Philosophy, University of Patras

Budget: 135.000 Euros

Duration: 36 Months

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Research Project Synopsis

The research project attempts to investigate the philosophical implications of contemporary cognitive neuroscience, and to throw light on the current debate, within the field of cognitive neuroscience, between phenomenologically-oriented anti-representationalist views about cognition, such as 'radicalized enactivism' (Hutto & Myin 2013, 2017) and representationalist accounts of cognition such as 'radical predictive processing' (Clark 2016; Hohwy 2013). Based on Sellars (1962) and Price (2013) we shall draw a sharp distinction between a 'discursive-inferential' ('signifying') and an 'environmental-tracking' ('picturing') sense of representation. Armed with this basic distinction, we shall argue for the following claims: 1) Traditional linguistic representationalism (Fodor 1975) and its seeming direct opposite, radical enactivism share an unacknowledged background assumption: that representational content can *only* be understood in terms of *semantic-linguistic* content. 2) We will challenge this assumption, thereby creating the conceptual space for novel representationalist theories of cognition that are opposed to both those views. 3) Our philosophical view about representation can be interconnected in mutually reinforcing ways with *predictive processing* accounts of cognition: the latter provides *empirical-scientific* cash value to our 'formal' philosophical distinctions about representation, and, conversely, the distinction between 'signifying' and 'picturing' can throw light on the *philosophical* significance and implications of predictive processing. In order to reach a more nuanced understanding of their interconnection, we will employ a model that exhibits certain analogies with predictive processing and is drawn explicitly from Husserl's phenomenology of time-consciousness. 4) Finally, our distinction between discursive intentionality and cognitive mapping allows us to see that the view that representations are indispensable in understanding how humans navigate their environment is *not* incompatible with -and may even be complementary with- a Heideggerian or Wittengsteinian *social pragmatist* view about intentionality in the philosophy of mind or cognitive science.

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Project originality

The most important novel features of this project are the following:

1) The whole current debate in cognitive neuroscience between representationalists (predictive processing theorists) and anti-representationalists (phenomenologically-oriented radical enactivists) is premised on the assumption that representational content can only be understood in terms of semantic-linguistic content. We will develop a theoretical framework about the nature of representation that will enable us to challenge this assumption, thereby creating the conceptual space for novel representationalist theories of cognition that are opposed both to traditional linguistic representationalism and to phenomenologically-inspired enactivism. This is novel position that has not yet appeared in the literature.

2) Our view about the nature of representation (based on the distinction between 'signifying' and 'picturing') among other things, attempts to clarify the philosophical significance and provide a philosophical foundation for predictive processing, one of the most promising theories of cognition in contemporary cognitive neuroscience. This is an important and novel result especially if we take into account the fact that it is not yet clear in the literature whether predictive processing theories of cognition are a version of neo-Cartesian neurocomputationalism (Hohwy 2013),

3) Our distinction between two different notions of representation (signifying-picturing) enables us to arrive at a position that is novel in contemporary debates about intentionality (and its relation to representation) in the field of philosophy of mind. Specifically, it enables us to combine two positions that at first glance seem incompatible: a) A social pragmatist theory of intentionality (where intentionality is understood in terms of normative-functional conceptual roles that linguistic items play in the context of a social practice) and, b) the view that representations play an indispensable explanatory role in cognitive neuroscience.

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Expected results & Research Project Impact

The expected results of this research project come in the form of scientific papers, workshops and conferences. The papers are provisionally entitled: "Bifurcated Representationalism: A New Framework for Overcoming the 'Representation Wars' in Cognitive Neuroscience", 2) "Bifurcated Representationalism: A New Framework for Overcoming the 'Representation Wars' in Cognitive Neuroscience", 3) "What are the Philosophical Implications of Predictive Processing?", 4) "Bifurcated Representationalism and Predictive Processing: A Mutually Reinforcing Relationship". The research team will also participate in two workshops and conferences relevant to the topic of the project.

Besides the evident relation and impact of the present project to the field of cognitive science and neuroscience, it also offers a concrete proposal about how an interdisciplinary interaction between issues in philosophy (analytic philosophy of mind, phenomenology) and science (cognitive neuroscience) can be rewarding and beneficial for both disciplines. This is another way of highlighting the wide scope of the present project, as both philosophers and cognitive scientists have now become increasingly aware of the fact that the problem of understanding human cognition and intelligent behavior cannot be solved solely on the basis of the conceptual and methodological resources of just one discipline, but rather demands a multi-level and interdisciplinary approach that takes both philosophy and the various scientific disciplines that study human cognition seriously.

Predictive processing theories of cognition are currently considered perhaps the most promising and thriving research program in cognitive science, with repercussions in fields outside cognitive science, such as social psychology, economics or even politics. Thus, our proposed novel results as regards the philosophical implications of predictive processing can well be of some importance for understanding the philosophical implications of each of those psychological, social and political phenomena which predictive processing theory aspires to understand and explain. This is not only a purely scientific-theoretical, but also a potentially socially significant result.

The importance of this funding

This project could significantly contribute to my further development as a professional and independent researcher. I have not yet attempted to apply or further develop the ideas found in my previous publications to issues of a more empirical-scientific or practically-oriented nature. The debates over the nature of representation in contemporary cognitive science and neuroscience offer a unique opportunity to do just that. This will exhibit the interdisciplinary potential of my theoretical work in philosophy: its relevance and innovative potential not only to strictly philosophically-oriented issues and fields, but also to empirical-scientifically-oriented concerns and debates in cognitive science and neuroscience. This, in turn, would have a very positive effect in his career prospects -e.g. in the obtaining of an academic position- as it would increase the number of philosophical and scientific fields that could deem his work as relevant to their academic interests.

COMMUNICATION

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