autistic scientists would not know where to begin (although its epistemic structures would share the orientation that leads to their bewilderment) in that intersubjectivity would not give us any help in adapting our cognitive apparatuses to the world in which we do live and move and have our being.

If that is so then a kind of cognitive pluralism (Horst, *Beyond Reduction: Philosophy of Mind and Post-Reductionist Philosophy of Science*, 2008) might serve better to meet our real philosophical and explanatory needs than Kirk's functionalism and re-descriptive monism which could be seen as a production of a pure or heroic age of a certain variety of analytic naturalism.

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Radicalizing Enactivism
By D. Hutto and E. Myin
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One of the most stimulating debates in the philosophy of mind / cognitive sciences revolves around the characteristics of mental content. Hutto and Myin's *Radicalizing Enactivism* tackles this issue head on, advancing an original and provocative thesis that attempts to challenge approaches to mind that suppose the primacy of contentful representations.

In their seminal book, *The Embodied Mind,* Varela, Thompson and Rosch (1991) presented enactivism as a different way of approaching the mental. The authors maintained that rather than being static, mentality emerges from and is constituted by patterns of interaction between organisms and parts of their environments. Since then, enactivism has developed in different, more or less radical directions. Hutto and Myin's *Radicalizing Enactivism* surely belongs to the most radical braches of contemporary enactivism. The authors argue that experience is best understood in terms of dynamically unfolding, situated and embodied interactions with relevant worldly offerings. The claim is that 'Where we find such familiar activity we find basic minds' (i). The authors defend REC (Radical Enactive Cognition) and argue that such spatio-temporally extended patterns of dynamic interaction do not involve content. In fact, representational content first enters the picture when we deal with higher-

order, complex and linguistically scaffolded cognitive and perceptual processes.

Most people engaged in the philosophy of psychology and cognitive science agree that in order for any complete experience of worldly offerings to occur, something must be supplemented to sensory stimulation. The crucial question that is at the heart of much dispute is the nature of the element that needs to be added. Proponents of the cognitivist tradition hold that concepts and conceptual schemas transform merely sensational input into fitting representational content. The main target of this book is the popular view and a deeply rooted intuition that Cognition necessarily Involves Content (CIC), but also Conservative Enactive or Embodied Cognition (CEC), which supports enactivism, but simultaneously subscribes to some theory of content. In other words, the book not only takes on standard accounts that rely on an idea of the mind as essentially information-processing entity that operates by manipulating representations, but also less radical forms of enactivism, and embodied, embedded, and extended theories of mind. Hutto and Myin acknowledge that many contemporary philosophers acknowledge the crucial role of embodied, situated and extended processes, but argue that their reach and explanatory power is limited due to their residual commitment to CIC. The point is that only a properly radicalized enactivist approach (REC) can provide a viable framework for thinking about basic minds and cognition.

The preface provides a relatively informative guide to the rest of the book. Chapter one presents the radical line of enactivism, with the motto 'The only good enactivism is a properly radical enactivism' (5). At the same time we also get a first idea of the difference between radical enactivism and related positions, such as the extended mind thesis. The distinguishing feature of REC is that cognition is not only extended, but 'essentially extensive' (7). The REC is presented as committed to the Embodiment Thesis (contextually embedded, non-linear, loopy sensorimotor interaction) and the Developmental-Explanatory Thesis (interaction that constitute mentality are explained by the history of the organisms earlier interactions). Together the two theses make clear that the REC sees abilities of organisms as prior to theories and content.

After presenting the main competitors (CIC and CEC), it is argued that CEC's position is lastly untenable. REC agrees with the view promoted by Sensorimotor Enactivism that perception and action are inexorably linked, and that perception is not an internal process but the result of an interaction between organism and environment. But Sensorimotor Enactivism also relies on the idea that perceptual

experience is mediated by practical knowledge of sensorimotor contingencies. Hutto and Myin argue that although Sensorimotor Enactivists claim that such knowledge is practical and not propositional, the exact nature of the knowledge in question remains in the dark. The point is that 'it cannot be that perceptual experiences are grounded in mediating knowledge that is distinct from actual embodied tendencies of organism that are exercised in some way' (29). On the other hand, Hutto and Myin also object to Autopoetic Enactivism, for their (too) liberal understanding of the nature of cognition.

In Chapter 3, the authors draw among other sources on findings in robotics and artificial intelligence and argue that these can be used to undermine the idea of cognition as depicted by CIC. These findings, so Hutto and Myin, provide proof for the thesis that cognitive activity need not be described in representational terms. But the authors take this further – and attacking intellectualism about cognition in general – they maintain that this also applies to kinds of human activity.

> 'An individual's manual know-how and skills are best explained entirely by appealing to a history of previous engagements and not by the acquisition of some set of internally stored mental rules and representations' (47)

When we get to chapter 4, entitled 'The Hard Problem of Content', we reach the heart of the most significant arguments. These clarify the challenge to describe crucial qualities of intentional states (like truth) in naturalistic terms. The claim is that CIC simply lacks a naturalistically credible account of content (57) and that those who both buy into explanatory naturalism and CIC face a serious dilemma (65). The problem is that the existing notion of information in science is information-as-covariance: 'there is consensus that s's being F "carries information about" t's being H iff the occurrence of these states of affairs covary lawfully, or reliably enough' (66). However, the authors argue that content has special properties like truth and reference, which means that it is not reducible mere covariance relations (67). In other words, covariation cannot constitute content, as content requires the existence of truth-bearing properties. Hutto and Myin inspect naturalistic theories of content, and find them unable to adequately deal with 'The Hard Problem of Content'.

The authors are aware of ways in which this could be countered, but argue that such a strategy would come at the heavy cost of having to abandon physicalism (Ch 6). The authors consider what seems as the most appropriate way to escape the dilemma: providing a thinner and more compatible notion of representational content. Subsequently, chapter 5 considers a modestly restricted CIC that

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denies that one can account for contentful representations in reductively naturalistic terms. The advantage of the restricted CIC is that it is able to avoid the Hard Problem of Content (85). By pressing for a more minimalist account of content, restricted CIC endorses a minimal kind of intellectualism: 'Minimal intellectualists hold that perceptual experience is essentially representational, but they are not automatically committed to the existence of contentful representations of the sort that would have to be explained by appealing to failed, deflationary theories of content' (88). Such a minimalist account of perceptual content does not accept that our senses supply contentful givens, or that the principles of perception are represented in perceptual systems, or that perceptual content is fundamentally conceptual. 'Maximally minimal intellectualism' – REC's principal and most interesting rival – further denies that perceptual content is genuinely truth-evaluable. Maximally minimal intellectualists accept that content has conditions of satisfaction but deny that these have to do with truth and falsity (103). Nevertheless, maximally minimal intellectualism and REC are mutually exclusive since the former conceives of perceptual experience as essentially contentful, even if nonconceptual.

Having established this, the task the authors take on is to prove that accounts operating with maximally minimal intellectualism are flawed. First, the authors reject a proposal that considers essentially representational, but non-conceptual forms of thinking. While this proposal agrees with REC that perceptual content is not truth-evaluable, it insists that there are norms of perceptual accuracy, which are fixed by biology. Nevertheless, the authors argue that biological facts cannot fix any relevant norms (110–112). Burge (2010) agrees that attempts to naturalize content fail, and questions whether there is a need for a naturalized theory of content in the first place. While there is much common ground between REC and Burge's proposal, which draws on perceptual sciences, the authors reject Burge's strategy as lastly relying on an argument form the authority of science (116). After considering a suggestion by McDowell (2009), the chapter ends with the authors once again emphasizing that perception is contentless and lacks inherent conditions of satisfaction (134).

Chapter 7 demonstrates that the ambitions of Hutto and Myin's critique do not only extend to classical intentionalist views and moderate forms of enactivism, but also to extended theories of mind. The point is that the EMH is susceptible to the well-known criticism of committing the coupling-constitution fallacy. One of the main problems is both parties subscribe to the view of cognition as processing representational content. A weak point here is that although the authors are aware of some exceptions to this, they surprisingly

choose not to engage with these sources. It may be right that 'without REC there is no way for defenders if EMH to motivate their position decisively and to silence the internalist objections' (151), but the chapter would have been more interesting if it had dealt with more than just the well-known standard positions, motivated either from parity or from complementarity. A closing point of this chapter is the plausible argument that we need to go beyond the idea of extended minds (minds that are essentially brain bound and can then sometimes extend out into the world) to the idea of essentially extensive minds.

The last chapter opens with the question whether it follows that phenomenality is also extensive. Consistently with REC, the authors suggest it is warranted to 'go wide', and their approach is to scrutinize philosophical arguments for internalism about phenomenality (161). The question is: Is the minimal supervenience base of phenomenal properties wide or narrow (brain bound)? The authors don't deny that the minimal supervenience base may be brain bound, but maintain that 'it s a great mistake to take the further step of inferring that a full understanding of the properties in question could be achieved by looking at neural properties alone' (164). The authors argue that our usual talk about phenomenal experience presupposes and entails mentioning environment-involving interactions and that such activities are required for understanding phenomenality (177).

Without a doubt, *Radicalizing Enactivism* is an original contribution to the debate, well written and highly recommended to anyone interested in these issues. It is a rich and stimulating book that provides a solid account and a well-founded theoretical reflection on positions that embrace or reject a notion of content. It is written clearly, in a lively and succinct style that is helpful for the reader. The arguments are clear, and the authors manage to highlight essential points of divergence. However, its conciseness comes at a cost: the book seems somewhat short compared to the ground covered in it. The result is that the different positions and counter-arguments are introduced at a high pace that might throw off those not familiar with the relevant contemporary discussions. Having said this, Hutto and Myin are on the right track in challenging the primacy of contentful representations and their overall stance seems like a productive way forward that might both advance the debate and pave the way to integrate parts of embodied and extended approaches.

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