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REC: JUST RADICAL ENOUGH

Abstract. We address some frequently encountered criticisms of Radical Embodied/Enactive Cognition. Contrary to the claims that the position is too radical, or not sufficiently so, we claim REC is just radical enough.

Keywords: radical enactivism, representational content, perception, language

1. Introduction

In this paper, we will look at REC, or Radical Enactive/Embodied Cognition, as presented in Hutto & Myin (2013), and in particular the way in which it has been received. After a succinct recapitulation of the main points of the position (section 2), we will address some of the most frequently encountered criticisms the position has encountered and we will offer brief responses (section 3). We have no intention to cover the full range of reactions to REC as we proposed it in Hutto & Myin (2013), or to provide exhaustive responses. What we present here should rather be seen as a partial mid-term report, indicative of how we are developing our views in relation to some of the objections it has been, and is being, confronted with.

2. RECap

Radicalizing Enactivism (Hutto & Myin, 2013; RE from now on) was a philosophical manifesto outlining the reasons for endorsing a very strong, or radical form, of embodied cognition called Radical Enactivism. According to Radical Enactivism, "most of what humans do and experience is best understood in terms of dynamically unfolding interactions with the environment". RE opposed itself to the reigning tradition in

cognitive science, for which cognition, in each and every instance of it, involves the presence of contentful representations, and the twin thesis that any explanation of cognition similarly requires invoking contentful episodes. This thesis of Content Involving Cognition, which we oppose, we named CIC.

Representation is a slippery notion, so we took care to stipulate that our focus of concern were representations which involve content, whereby content in its turn involves the having of correctness conditions of some kind, e.g. truth or accuracy conditions.

RE does not claim that cognition *never* involves content, a position which we termed "Really Radical Enactivism". Unlike Really Radical Enactivism, RE does not deny that the idea of content, specified, for example, in terms of truth, or truth conditions, makes sense paradigmatically in the realm of language. The distinction between applying a term correctly or incorrectly, between speaking the truth and speaking falsely is valid at least for some instances of speaking. Outside of language, other public items like maps or diagrams might involve content as well, on the condition that their use is grounded in appropriate norms of the kind that apparently stem from shared sociocultural practices.

RE actively explored the idea, reasoning by elimination, that intelligent or cognitive organismic activities, unless they relied on public representations embedded in established sociocultural practices, were not contentful, and hence not representational. We gave non-contentful cognition a name: Basic Cognition.

The argument for the existence of basic minds unfolded along two tracks. First, we pointed out that, for an expanding range of cognitive phenomena, from motor activities to perception, explanations are forthcoming which do not involve content. Here we relied on a "Don't Need" strategy similar to the one followed by our fellow non representationalist Tony Chemero (2009). Secondly, we had recourse to "Can't Have" tactics, arguing that, currently, and after having tried what seemed to be the best resources, no theoretical motivation could be provided for the existence of content beyond what's established as contentful at the sociocultural level. The idea of contentful, yet basic minds, is unsupported, so we claimed. In line with this we identified the foundational problem as "The Hard Problem of Content".

In denying that basic cognition is contentful, we did not deny that basic cognition is intentional. That is, acts of perceptual, motor, or perceptuomotor cognition—chasing and grasping a swirling leaf—are directed towards worldly objects and states of affairs, or aspects thereof, yet without representing them. This is intentionality without intensionality—the latter un-

derstood in the traditional sense of "representing as", which does not allow substitution of co-referential expressions.

3. REC's Reception

RE received many published reactions. Though many of these reactions were, to a greater or lesser degree endorsing, most also contained criticism, which came in different shapes and strengths. Those championing the orthodoxy attacked us for being too radical, while those opposed to the orthodoxy criticised us for not being radical enough.

3.1. "Too Radical"

Several respondents stepped in to defend traditional representationalism and CIC in philosophy and cognitive science. A variety of strategies can be, and have been, used. We'll review three here, which we found to be frequent and conspicuous. For further treatments of other objections, as well as fuller elaborations of the responses provided here, we refer the reader to ongoing work of ours.

One favoured way to defend CIC is to adopt the "CIC can't fail" move. This defence comes in two forms. In its first incarnation, it is a claim about the characterisation of cognition, or of particular forms of cognition, such as perception, imagery, or memory. Here we will focus on perception. It is then posited that cognition in general and perception in particular are by their very nature content-involving activities. By perceiving the world, one entertains a content. Here are two classic expressions of the view:

> In general, we may regard a perceptual experience as an informational state of the subject. It has a certain *content*—the world is represented a certain way—and hence it permits of a non-derivative classification as true or false. (Evans, 1982, p. 226).

> In having perceptual experience the world seems to us to be a certain way; it presents itself to our experience as containing various objects and properties. Experience, we may say, *represents* the states of affairs so presented (or apparently presented): perceptual representation is the converse of perceptual presentation. The way in which experience represents the world constitutes its *content*, the way it makes things seems. The content of an experience determines what it is *as of*—how the world *would* actually be presented *if* the experience were veridical. (McGinn, 1989, p. 58)

The idea of the inherently representational nature of perception and cognition was, of course, the main target of RE. We acknowledged that this

view of perception and cognition rested on a "popular and deeply rooted intuition" (p. x), but we found that it nevertheless was not backed by compelling reasons. Rather we found support for the opposite thesis, namely that basic minds are contentless.

The failure to see that the traditional representational view is not the only possible option has been at play in Douglas Campbell's claim that our views of perception as contentless are "manifestly implausible" (Campbell, 2014, p. 175). He writes:

> When I gaze at the Müller-Lyer illusion, I see one line as being longer than another, when actually the two lines share the same length. My experiences thereby present things as being a way they are not: that is, they (surely) misrepresent reality. So . . . perceptual experience is representational.

In noting that seeing the lines as misaligned "doesn't jibe with the way things really are", Campbell thinks there is only one explanation, namely, "that I represent, or misrepresent, reality" (Campbell, 2014, p. 175). But what he says would be correct only if representationalism were the only logically possible option to account for misaligned perception. It is not. Teleosemantics can be replaced by teleosemiotics (Hutto & Myin, 2013, p. 78). Alignment in (visual) perception can then be construed in terms of attunement, as acquired in a selective history of interactions, and misalignment in terms of failure of alignment (Myin & Degenaar, 2014). On any occasion, perceivers, and their perceptual experience can then be attuned to the environment, or not, without veridically representing or misrepresenting it. Perhaps more needs to be said to fully flesh out the teleosemiotic position, but its mere existence is sufficient to demonstrate that CIC is not the only option. We are happy to see that we don't stand alone in not taking representationalism as self-evidently true, but as a particular and defeasible philosophical theory about perception, as testified by the arguments against representationalism presented in, inter alia, Brewer (2011) and Travis (2014).

A second instalment of the "CIC can't fail" move does not refer to the nature of perception or cognition, but instead to scientific practice. It consists in simply pointing out that the term "contentful representation" does not need any philosophical definition, or any justification or backing by a theory of content, it only needs to be used by scientists. What "contentful representation" means should not be imposed upon science from without by philosophers. If scientists call their explanatory posits "contentful representations", then there are contentful representations—they are whatever scientists point at as their explanantia. As such, they could be formulas

in the Language of Thought, neural vectors, attractors in dynamical systems, or what have you (see Ramsey, 2007, for a detailed treatment of all mentioned varieties). Again, making such a move forms an attempt to win the game without even playing it. Employing this strategy deprives the notion of contentful representation of any substance. It decides where scientific research will lead before it has been undertaken. No further empirical investigations, neuroscientific or otherwise, could disfavour interpretations in terms of contentful representation in cognitive science, resulting in a notion of representation totally unconstrained by empirical findings (to paraphrase from Degenaar & Myin, 2014).

Sometimes the "CIC can't fail" strategy is motivated by referring to the alleged successes of representationalist cognitive science. In this "scientific success strategy", one points to successes of cognitive science as vindicating its representational posits (Shapiro, 2014). Examples of purportedly successful cognitive science include Marr-inspired vision science (Shapiro, 2014), and, for a more recent example, Bayesian approaches to the brain (Colombo, 2014a, 2014b).

Here we ask: How can any of these examples be regarded as successful when its central explanatory notion—contentful representation—is unaccounted for, and admittedly so? If the notion of representation is flawed, explanations in terms of it cannot even begin to be successful, and their non-existing success can do nothing at all to help representation get off the ground. Either the explanations are successful, but not genuinely content-based, or they are purportedly content-based, but then it cannot be shown how positing contents actually contributes to their putative successes.

This being the case, the challenge frequently posed to REC, namely to provide "an analysis of a single case" in which it is shown that cognitive phenomena can be "better explained without appeal to any contentful states" (Shapiro, 2014, p. 215), should only be accepted once the flawed reasoning that we are on an even playing field, facing a well equipped rival, is exposed. If, as RE claimed it for resisting REC, no traditional understanding of basic cognition as content-involving is currently tenable, accepting this sort of challenge to provide a *better* explanation without further comment would give CIC undeserved credit. This is not to say that we do not have to show that there are, or can be, fruitful REC-ish explanations of many and various cognitive phenomena. Contrary to what Shapiro says, we have described such cases in RE, as well as in earlier and subsequent work (see e.g. Hutto, 2008, on social cognition; Hutto, 2008; Degenaar & Myin, 2014; and Hutto, in press, on the imagination). Still, the request that we show

that the phenomena these explanations apply to are explained "better without representations" makes no sense, once it is understood that there are currently no adequately grounded explanations at all of basic cognition in terms of representations.

A second strategy to defend representationalism against the worries raised in RE can be called the "some other theory of content" defense. It consists in pointing out that, despite the fact that the theories of content investigated in RE don't live up to the job, some theory of content might fare better. Roberts (2013) makes this move when referring to Fodor's asymmetrical dependency thesis (which is also mentioned in the same context in Shapiro, 2014, p. 218):

> A surprising omission from the chapter on naturalised theories of content is Fodor's (1987) asymmetric dependency thesis, which escapes the authors' critical attention. Perhaps they view it as susceptible to the objections that they take to face causal-covariation accounts, but more work would need to be done to demonstrate that Fodor's additional conditions—which are after all in place in order to distance his position from simpler alternatives—provide no way to respond to these challenges.

The trouble with this proposal, and other related ones that would refer to other purported accounts of content, such as functional role accounts, is that they remain mere acts of hand-waving, so long as it is not shown in detail how the asymmetric dependency theory—with its additional conditions— or the functional roles in functional role theories deliver semantics for representations. Lacking such a demonstration, we should not trust these theories, or derive any conclusions about them. Returning in brief to Fodor's theory (as in Fodor, 1990), what should be shown is that it is a genuine naturalistic theory of content, rather than a demarche reminding us that representational content, once you have it, stands to misrepresentational content as norm stands to exception.

A third strategy is to point not at a different theory of content, but instead at some other notion of representation. Here it is held that, contra RE, representation is a legitimate construct in theories that explain cognition, because a motivated definition of representation can be provided in which a) representations play a role *as* representations, and which b) applies to the posits of actually existing explanatory theories. A clear exposition of this "some other theory of representation" strategy can be found in Gładziejewski (2015). It is synthetic and representative of similar, often less detailed, proposals, in proposing four conditions which need to be met by representations:

- the structural resemblance condition (there must be a systematic correspondence between elements and relations existing in what is represented and elements and relations in the representational vehicle)
- the action-guidance condition (representations must have action guidance functions relative to some representation consumer mechanism)
- the decouplability condition (representations must be able to be used offline)
- the error-correction condition (representational errors must be detectable within the system in which the representations function).

Having provided these conditions, Gładziejewski points to Rick Grush's "famous emulation theory, according to which motor control perception, and imagery make use of internal emulators of the body and the world" as an example of a theory in which representations occur which satisfy these conditions (Gładziejewski, 2015, p. 84; he refers to Grush, 1997, 2004). The passage in Gładziejewski's paper which contains a brief sketch of "what content might be on the view I am advocating" (p. 79) contains nothing beyond the usual teleosemantic motivation which we found lacking in RE.

It is not necessary to go into further details regarding the four conditions, or Grush's emulator, to make our main point: whatever the merits and applicability of this proposed notion of representation, it does not show that what counts as representations by its lights also carry content, e.g. have truth or accuracy conditions. Thus, despite admitting that, "to account for false representation detection, one needs first to account for false representation as such, and this in turn requires some theory of content or, in other words, of how the representation's accuracy or truth conditions are determined" (p. 79), Gładziejewski does not show how structural resemblance plus function delivers content, over and above adaptivity. As content is not explained, it can't perform any explanatory work. This holds in general, as well as for Grush's theory. A closer look reveals that all the explanatory work is outsourced to a less costly employee, namely the structural resemblance condition. The existence of the structural resemblance seems to be able to carry all the explanatory weight in explaining the system's adaptiveness—there is no need to invoke content at all. Content: "Can't Have" and "Don't Need", as we said before.

3.2. "Not Radical Enough"

Besides having drawn criticism from the side of traditional representationalism—"the right" so to say, we have also come under fire from the opposite side—"the left". In particular, it has been argued that we were not

entitled to accept content in language, but instead should endorse an all-encompassing eliminativism about content, and thus not hesitate to take the next step to what we called "Really Radical Enactivism". "Leftists" following this line have argued that by not going Really Radical, we fail to live up to the standards we set for our opponents. Further, they have interpreted our acceptance of content as implying cognitivism about the explanation of language mediated cognition.

In the "double standards" criticism, it is claimed that we are guilty of what we accuse our opponents of: of not being able to provide an account of content where one is needed. The problem of accounting for content arises for us too, because we accept content in the context of language (Harvey, 2015, p. 91). We can't at the same time request that our opponents deliver, but then not deliver ourselves. That's simply using double standards (Campbell, 2014, p. 175).

In reply to this, it first should be explicated in a bit more detail what our stance on content and language precisely comes down to. By saying that language is contentful, we asserted nothing more (but also nothing less) than that correctness conditions (e.g. truth or accuracy conditions) apply to some portions of language. For some linguistic expressions, in some contexts of use, it makes sense whether they are true or not true. What enables these truth conditions are the shared social practices that are part of "having or speaking a language". These practices make it true to say "Snow is white", or (pointing to a ripe tomato) "That is red", and false to say "Snow is purple" or (pointing to the same tomato) "That is blue". It seems the possibility of truth conditions only arises in the context of sophisticated shared practices. An animal of any, or many, species might be trained to respond accurately to red surfaces with a specific reaction, but that does not make the animal truthfully apply the concept "red" when it shows that reaction, or falsely when it shows that reaction to a green tomato. What could be achieved by training in an animal could be realized by design in an artefact, but analogously the input-specificity of certain of its operations would not make it a concept-applier (if only learning a language would be that easy!). Those expressions of a language which have truth conditions in certain contexts of use are clear cases of contentful representations. Thus the sort of cognition employed in the making of such utterances is content-involving, even if it is not content-based.

Note that nowhere have we claimed that all uses of language involve representational content, let alone that the content-involving uses of language are fundamental—in any sense. Note too that linguistic representations are public, occurring in written or spoken forms. Learning a language happens

amidst the dynamic use of public signs, in interaction with and guided by those already fluent in the practices the language learner is entering. To account for content as it is (sometimes) involved in language is to account for the sociocultural practices in and from which language emerged. To tell this story in detail would be to provide a natural history of the emergence of contentful language. Steps towards achieving that goal have already been taken in Hutto (2008) and Hutto and Satne (in press).

We are not applying double standards to our opponents and ourselves. That is because RECers and their opponents do not fully agree on the precise tasks and tools to be used in naturalizing content. Our main concern is that without appeal to sociocultural practices there is not enough in the natural world to account for representational content of the kind that is at issue in the debate. To talk of representational contents and the representational vehicles that carry them is to posit theoretical constructs. These notions are introduced for the purposes of understanding cognition. The thesis that these constructs have contentful properties cannot be taken for granted, but instead stand in need of justification. We thus note that the theories of content that are meant to demonstrate that these constructs have contentful properties fail to do that. They don't provide what is needed for arriving at a convincing notion of representation: something which has the contentful properties of content in language (truth conditions, but also determinacy and intensionality). The situation is different for content in language. Here the ideas of truth and meaning have a home. In most contexts, the contentful properties of language are, and can be, taken for granted. We, as writers, and you, as a reader, are doing so at this very moment. Of course, it is legitimate to ask for an explanation of these properties. But providing an explanation here does not take the form of removing doubts about whether the status of contentful is deserved. Rather it is a natural history which, while never doubting the initial contentfulness of language, nonetheless shows how such properties can develop out of pre-existing conditions. So there is an asymmetry between what our opponents who are CICers about basic minds are up to, and what is required from us. The existence of this asymmetry suffices to refute the claim that we are illegitimately imposing standards on our opponents which we don't live up to ourselves.

A second concern from the left is that by admitting that language is content-involving, we at the same time endorse ideas about the explanation of linguistic cognition proposed by cognitivism. Using the acronym CREC for "Conservative Radical Enactivism", we can call this the *REC is CREC* worry. Harvey (2015) and van den Herik (2014) both pursue this line. It takes us to be committed to a full scale cognitivist information

processing picture of language processing, and language mediated thinking as manipulation of internal representations. This is despite the fact that literally nothing in RE can be found which is an endorsement of that picture for any type of cognition, including language. What we said in the above about the public nature of language should be sufficient to silence this concern. Some expressions in language are representational, and thus content-involving. People learn languages, and learn to think by means of a language, by interacting with other people in linguistic contexts in which those public representations appear. But accepting those facts under these descriptions does not commit one to a particular theory of how the process of learning to use language, in speaking and in thinking, comes about. Specifically, it does not commit one to a cognitivist theory and its explanatory posits. What Ed Hutchins wrote at the end of *Cognition in the Wild* about computation applies to language as well:

> Notice that when the symbols are in the environment of the human, and the human is manipulating the symbols, the cognitive properties of the human are not the same as the properties of the system that is made up of the human in interaction with these symbols. The properties of the human in interaction with the symbols produce some kind of computation. But that does not mean that that computation is happening inside the person's head. (Hutchins, 1995, p. 361)

As a result, part of the closing passage in Degenaar and Myin (2014) can be reiterated here:

> In closing, and without developing the matter to the extent it demands, we just want to point out that it seems not contradictory to assume that higher-level thinking, such as might only be the privilege of language-users might not involve inner representational states. It seems possible to hold that such thinking *only* involves public symbols. Such thinking skills would then be acquired by being exposed, in the appropriate ways, to public symbols, but once established, these skills might be exercised in the absence of external *and* internal representations.

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