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# ON THE IMPORTANCE OF CORRECTLY LOCATING CONTENT: WHY AND HOW REC CAN AFFORD AFFORDANCE PERCEPTION

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# 1. Introduction

REC, or the Radical Enactive/Embodied view of Cognition makes a crucial distinction between basic and content-involving cognition. Basic cognition is prior, phylogenetically and ontogenetically, and contentless. By subscribing to the claim that there are forms of bona fide cognition that do not involve content, REC stands in contrast to the view that Cognition everywhere and always Involves Content, or unrestricted CIC (Hutto & Myin 2013, 2017).

REC also stands apart from the *Really* Radical Enactive/Embodied view of Cognition, or RREC, since it accepts that some cognition is content-involving (Myin & Hutto 2015). On REC's account however, such cognition is not fundamental, but occurs only when certain sociocultural practices are in place.

Further, REC says that some instances of cognition can occur in contentless basic as well as content-involving forms. In fact, the second part of Hutto & Myin (2017), is devoted to showing how content-involving forms of perception, imagination and memory develop from basic forms of perception, imagination and memory.

REC's claims concerning basic and content-involving cognition have been misunderstood by several of its critics. A recent instance, published in this journal, is Zipoli Caiani (2018). Here, I will use this paper as a foil to clarify REC's position. My goal is both to point to some theses that, while ascribed to REC, are eminently not endorsed by it, as well as to clarify and elaborate on how REC's core concepts should be understood. To set the stage, I'll focus on the claims at the heart of REC.

#### 2. Core REC

In this section I will review some main points of REC, focusing in particular on the notions of basic and content-involving cognition. I will do so without offering a detailed defense of the core tenets of REC. This has been done elsewhere (Hutto & Myin 2013, 2017). Moreover the critique of REC that I will be focusing on, isn't directed at REC's argumentation for its main claims. Rather, this critique attempts to refute REC by confronting it with empirical data which REC allegedly cannot handle within its framework.

According to the Radical Enactive/Embodied view on cognition, or REC, as proposed and defended in Hutto & Myin (2013, 2017) even though some forms of cognition are contentinvolving, not all are. That is, there are forms of cognition which are contentless. But what is content? In Hutto & Myin (2013, 2017), content is understood in the standard way as representational content, or as "representing things as being thus and so—where, for all that, things need not be that way" (Travis 2004, 58). Such representing is standardly defined in terms of truth or accuracy conditions, or some other kind of satisfaction

conditions (see, e.g., Crane 2009). Contentful representation then involves specifying ways in which what's represented can be, and such representation can be true or false, accurate or inaccurate— it can meet or fail to meet its satisfaction or accuracy conditions.

Such representational specifying requires a means of specifying what is being specified, or a *way of representing* what is represented. If there is such a way of representing, then this further implies that what is represented is represented in some way. That is, while there are several ways to represent what is represented, a particular representation of it will only pick out one of those ways. This is intensionality—with-an-s.

According to REC, many instances of cognition, for example many actions and perceptual experiences don't involve such representations, they are contentless (Hutto & Myin 2013, 2017). Contentless perceptual experience allows for intentional relations to specific objects, events, situations, and it is specific to these objects, events, situations. However such experience doesn't intensionally characterize, portray or in any sense describe these objects, in ways that can be evaluated for truth or falsity, accuracy or inaccuracy (see again, Hutto & Myin 2013, 2017, also Travis 2014).

REC's claim that there are instances of cognition that are not a representationally contentful can be illustrated by means of contrasting an instance of seeing with an instance of judging (see Travis 2004, p. 59, Hutto & Myin 2017)<sup>1</sup>. Take seeing the sun setting, versus judging that the sun is setting. Someone might say "The sun is setting" (to return to an example in Travis

<sup>&</sup>lt;sup>1</sup> Travis (2004, 2014) has made a different, yet compatible, case against the idea of content in perception. I leave the task of investigating the relation between this work of Travis and REC for other occasions.

(2014, p. 123). REC does not deny that the terms "is true" or "is false" apply to this judgment. In Travis's Fregean terms, "questions of truth arise" Travis (2014, p. 123). "The sun is setting" is not only specific—different from all other sentences, and specifically apt for certain situations, in particular those in which the sun is setting, it also specifies conceptually describes, characterizes or portrays—these situations, in a general, conceptual way. Like all descriptions or specifications, it specifies what is specified in a particular way, a way that could have been different. For example, "What the French call "le soleil" is rising" could have served as well to characterize the same situation.

Thus, to judgments (such as "The sun is setting") "true" and "false" apply, and those conditions in which "is true" applies are the truth conditions of these judgments. That "true" and "false" apply to judgments derives from established, and fundamental practices of our use of language.

But now consider a case of seeing the setting sun without judging. The claim that the predicates "true" or "false" apply here as well, the claim that "questions of truth arise" is no longer something the mere fact of speaking a natural language such as English, French or Dutch commits us to. Instead it forms a substantial philosophical thesis. Showing the truth of the thesis that perception—all perception— has truth conditions comes down to providing a compelling argument establishing that all perception, over and above being specific to certain circumstances, also specifies those circumstances. Providing such convincing arguments is solving what Hutto & Myin (2013) call "The Hard problem of Content". If Hutto & Myin (2013) are correct, even the best attempts to solve the Hard Problem of Content fail to show that all cognition, including perception, always and everywhere involves content. Teleosemantic approaches to perceptual content, for example, succeed in explicating how all perceptual experiences normally correlate with, or are specific to, worldly situations, but

they fail to demonstrate that all perceptual experiences also specify those wordly situations in a certain way. Teleosemantics, in other words, captures intentional contact of perceptual experience with the world, but not intensional contact.

The headline claim of Hutto & Myin (2013) is that basic minds are contentless. This means that the original—both phylogenetic and ontogenetic—instances of cognition do not specify something. Note that this claim does not, in any way, logically imply that basic minds are simple, or purely rigidly reactive, minds. That is, basic instances of cognition can, despite not being content-involving, be adaptive, intelligent, context-sensitive and flexible (more on this in section 4). Further, it is important to emphasize that REC's recognition of contentinvolving cognition does not commit it to the existence of neural contentful information processing. REC's acceptance of content-involving cognition doesn't imply that it, unlike basic cognition, should be explained by invoking contentful neural representations. REC eschews explanations in terms of contentful neural representations everywhere, and it is a mistake to construe REC as a hybrid theory, rejecting the standard cognitive science story in terms of neural representations for some instances of cognition while accepting it for other instances of cognition (Hutto & Myin 2014). To ascribe such a hybrid semi-cognitivist view to REC is to fail to understand where REC locates content. Whether something does or does not involve content, is a matter of the role that something plays in certain specialized practices. The spoken or written sequence "The sun is rising" can be content-involving in the context of the established truth-telling practices of English, when it is produced for making a statement about the movement of the celestial body around which the earth orbits. Outside of that context, or when produced with different aims, the same constellation of shapes would not be content-involving. If a storm would throw the rocks in a shape resembling "The sun is rising", or someone unfamiliar with English produces the shape "The sun is rising" by

making a drawing of those rocks, or by mistyping "The sun is raising", the content *that the sun is rising* isn't involved.

Having content derives from the existence of certain practices in which the terms "false" and "true" are used. There is content when those terms are applicable, or, "when questions of truths arise" (to re-use Travis's Fregean expression, Travis 2014). Questions of truth can arise not only when judgments are made. They can also obtain, for example, when questions are asked, or when commands are made. But not every use of language is content-involving, because there are uses of language in which questions of truth don't arise. One might speak words, or entertain thoughts, for many purposes. Words might be repeated for the way they sound, or just because their continued repetition alters one's state of mind.

Crucially, as made very explicit in especially the second part of Hutto & Myin (2017), some capacities such as perception, imagination and memory, are in some instances basic, and in other instances content-involving. Or, the very same process or activity can in one context be contentless, and in other contexts content-involving. This perhaps shouldn't strike one as too surprising, in the light of such facts as that the very same hand movement is in one context just a hand movement, or just a moving of a figurine on an otherwise empty surface, while in an ongoing game of chess, it is a checkmating. Nevertheless, the idea that capacities such as perception, imagination and memory can occur in both basic and content-involving forms has not successfully reached all of REC's critics. I will now turn to an attempted refutation of REC which is built on misapprehending REC in this respect. Further engaging with that criticism will allow me to further explicate REC's understanding of basic and content-involving cognition, and how these relate to each other. The criticism at issue is

that REC can't deal with evidence on affordance perception. Let's see what it comes down to more precisely.

# 3. Can't REC afford affordance perception?

Silvano Zipoli Caiani has presented a case against REC built on the claim that affordance perception cannot be adequately handled by it (Zipoli Caiani 2018). The root problem would be that REC construes affordance perception as a basic form of cognition. But, so Zipoli Caiani argues, there is ample empirical evidence that affordance perception is mediated by so called "higher cognition". From this, it is concluded that REC cannot handle, or at least has not yet shown how it can handle, affordance perception.

Zipoli Caiani starts by stating that REC is committed to "a crucial distinction between contentless basic cognitive abilities and content-involving higher forms of cognition" (p. 2). Moreover REC allegedly further holds that some capacities, including perception and imagination are basic:

" (...) according to radical enactivism (thereafter RE), basic cognitive abilities such as perception, imagination, and action execution can be conceived as extensional interactions spanning the agent's brain, body, and environment. "

(Zipoli Caiani 2018, emphasis added).

Given this setup, REC then comes into trouble, so Zipoli Caiani contends, because of a growing body of empirical material. He brings to the table research that shows that affordance perception is influenced by a variety of factors, such as "an agent's intentions and motor expertise" (Zipoli Caiani 2018, p. 10), "the agent's ability to visually categorize objects according to his/her previous motor experience" (Zipoli Caiani 2018, p. 11) and "the agent's ability to recognizing its [a visual target's] semantic identity" (Zipoli Caiani 2018, p. 11). Also included in his sample are empirical results indicating that affordance perception is sensitive to social norms: perceiving a cup as graspable is sensitive to whether or not one owns it.

Zipoli Caiani takes this evidence to spell trouble for REC because it is incompatible with the idea that affordance perception is basic.

The assessment of how precarious REC's situation is exactly, varies in Zipolio Caiani (2018). Both a stronger and a weaker claim is made. The stronger claim is that these facts imply that REC is simply wrong: the phenomena just described are beyond REC's scope, that is REC "cannot account" or "has insufficient theoretical resources" for dealing with them (see Zipoli Caiani 2018, p. 1, p. 4). The weaker claim is that REC has not shown, at least as of yet, how to deal with such phenomena. Such phenomena thus pose a challenge for REC, a challenge REC might possibly meet if REC would provide an account for the apparent role for knowledge (and if met, this would contradict the stronger "cannot" claim). In that case, the verdict is only that "at present, this sort of account is unavailable" (Zipoli Caiani 2018, p. 15).

#### 4. Some rectifications

The argument presented in Zipoli Caiani (2018) is built upon the premise that REC holds that all affordance perception is basic. Presumably this premise derives from the assumption that REC takes all perception to be basic. However, this assumption and therefore the above premise about affordance perception is false. The thrust of Hutto & Myin (2017) as a whole, and in particular, and quite explicitly, its second part, is that forms of cognition such as perception, imagination and memory can occur in both basic and content-involving forms. In fact, the bulk of the second part of Hutto & Myin (2017) is devoted to showing how instances of perception (chapter 7), imagination (chapter 8), and remembering (chapter 9) can exist in both contentless and content-involving forms. It is about "REC's duplex account of contentless and content-involving perceiving" (p. 176). It is made clear that "REC's stance on the imagination (...) does not deny that some forms of imagination possess representational content; it denies that *all* imaginings do" (p. 183). Finally, it is stated very pointedly that "[a]t one end of the spectrum we find kinds of remembering that are purely embodied and enactive", while "[a]t the other end we find content-laden forms of memory" (p. 203).

So REC does *not* hold that the totality of cognitive capacities can be divided into a dichotomy of "basic" versus "non basic" capacities, with perception, imagination and memory belonging on the basic side, and thinking and language use residing on the other side<sup>2</sup>.

 $<sup>^2</sup>$  To be fair, there is a passage in Hutto & Myin (2017, p. 9), which is ambiguous, and can be read as committing REC to the view that all perception is basic. There, it is stated that:

<sup>&</sup>quot;Still it [sensorimotor enactivism] too (...) maintains representationalism about the character of even the most basic kinds of cognition, such as perception." Though this passage can possibly be read in an "all perception is basic" way, it is also open to the interpretation that only some forms of perception are basic. Given the fact that so much of Hutto & Myin (2017, pp. 8-9) is conspicuously aimed at elaborating the idea that capacities such as perception can occur in basic and contentinvolving ways, it should be clear enough which reading is the correct one.

To illustrate REC's concept of how one capacity can occur both in a contentless and in a content-involving variety, consider a concrete example of what Hutto & Myin (2017) construe as a case of contentless imagination: the sensory imaginings which supposedly have been involved in the collecting and manipulation of stone flakes by pre-linguistic hominids (see Hutto & Myin 2017, pp.193-196). Finding the appropriate materials and properly crafting them, so REC claims, might have been possible because hominids were capable of re-enacting previous sensory encounters with such materials and with the flaking activities involved in their manipulation. Hutto & Myin argue that the sensory imaginings of such hominids are best thought of as being purely interactive, and contentless (see also Hutto 2008, Degenaar & Myin 2014). Such imaginings might have helped hominids to select those stones most similar to previously encountered stones, and to elaborate them in the same way as before. Whether such an episode of imagining is functionally appropriate depends on its relation to the previously encountered stones, just like the fitness of a ladder for some climbing job depends on the relation between its length and the height to be climbed. According to REC, just like it is pointless to ask what the content of the ladder is, it doesn't make sense to wonder what the representational content of the imaginary episode is. That is to say, there is, in this context, no question of whether the imaginary episode was "right" or "wrong", "accurate or "inaccurate" in any semantic sense. Yet what was imagined is nevertheless specific in the sense that it has an experiential character and is distinguishable from imagining a different stone. In other words, this imagining is specific without being specifying. It is intentional without being intensional. Imagine now a current day aspiring researcher of hominin stone flaking. She might be trained in visualization techniques by a more experienced researcher, who might test her

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capacities for sensory imagination. The teacher presents her with stones, withdraws them, and asks the pupil to imagine as adequately as she could what they looked like. At some point, the trainer might test the trainee's capacity for imagining by asking her to draw what she is imagining. In this context, it would make sense to say that the picture then produced shows that the trainee imagined a stone correctly or incorrectly. That is, the request to imagine the stone adequately, creates conditions under which the imagining can be correct or not. Thus, due to the particular use of language in the wider situation in which the imagining has been embedded, "questions of truth arise".

Why is "truth" or "accuracy" applicable in the second, but not in the first case? The difference is in the context. In the second case, the fact that the imagining is a response to a request makes it evaluable for truth or accuracy. Such context is absent in the first case. The request in the second case creates—by *specifying* them—conditions to which the subsequent imagining must be answerable.

Crucially, "content-involving" applies to the imagining in the second context, but not in the first context. So, depending on circumstances, a similar episode might or might not be content-involving. Again, an analogy can be made to chess: moving a piece, or just the manual activity involved in it, does not in all contexts form a chess move. <sup>3</sup> In the game however, that very movement *is* the chess move.

The second case thus offers an example of what REC calls "content-involving" imagination. That is, REC recognizes that while some cognitive capacities which can occur in basic forms,

<sup>&</sup>lt;sup>3</sup> Note that this implies that a basic form of cognition which becomes content-involving because of its embedding in a content-involving context is not fully transformed by that embedding. There is no "trickling down" of content from the context to the episode so that the episode, when taken out of this context has itself changed its nature. For more on this, see Hutto & Myin (2017, pp. 90-92)

they can occur in content-involving forms as well. As said, much of the second part of Hutto & Myin (2017) is devoted to such content-involving forms of perception, imagination and remembering.

REC's recognition of content-involving forms of perception, imagination and remembering is in itself sufficient to show that REC cannot be refuted by evidence to the extent that affordance perception is not basic. In other words, REC in no way subscribes to: "the hypothesis that the ability to perceive affordance is segregated from higher conceptual abilities" (p. 11). Therefore, even if there were evidence for concluding that affordance perception is always and everywhere content-involving, REC would not be rebutted by it.

But, in fact, many instances of affordance perception do not involve content. These include cases in which affordance perception is influenced by previous motor expertise and categorization. They form the subject of section 5. Content-involving affordance perception will then be dealt with in section 6.

# 5. Basic affordance perception

By REC's standards, many instances of perceiving the affordances of objects are basic. Such is the case for affordance perception in animals, but also for all affordance perception in hominids before content-involving practices arrived on the scene<sup>4</sup>. Even if all such affordance perception is based on, or influenced by "previous acquaintance with, or motor expertise" with the affording object, this does not imply that thereby this perception is not

<sup>&</sup>lt;sup>4</sup> This does not mean all human affordance perception after truth telling practices have been established is content-involving.

basic but content-involving<sup>5</sup>. This conclusion would only follow if the role of relevant acquaintance or expertise could not otherwise be explained than by invoking neural content-involving processes, such as "the retrieval of semantic information" (Zipoli Caiani 2018, p. 11). Only if the only possible way of accounting for the impact of motor expertise was to invoke such contentful information processing, REC would be refuted.

Contrary to this, when it comes to providing explanations for how acquaintance and expertise can influence affordance perception, there is more between heaven and earth than standard representational cognitive science. That is, there are now many existing nonrepresentational accounts explaining the kind affordance perception at issue. Many of these construe affordance perception in terms of a diachronic historical process of contentless attunement to interactive patterns in an organism's environment.

On such views, affordance perception is a sensitivity to specific kinds of stimulation, corresponding, in many, or in relevant circumstances, to certain affordances. Such affordance perception exploits reliable relations between affordances, such as being edible or walkable, and what's sensorily available to the organism in its current environmental situation. Note that one's current situation can include properties of the individual organism, such as specific bodily properties (her leg length, for example); her physical, emotional or motivational state (fatigue, hunger or anger), or specific aspects of her history (particular earlier encounters with this type of stimulation and/or its current context) This view on basic affordance perception is older than REC: it is how the ecological psychologist *par excellence*,

<sup>&</sup>lt;sup>5</sup> Myin (2016) provides some reasons for why any genuinely explanatory notion of affordance needs to refer to such previous acquaintance/motor expertise.

James J. Gibson, construed affordances. Moreover, there is a rich and fruitful research tradition in ecological psychology that has provided empirical support for such a view by finding properties in the total dynamic environmental stimulation situation that correlate with affordances (Gibson 1979, Lee & Reddish 1981, Michaels & Palatinus 2014).

Research on learning systems, natural and artificial, shows how a system, equipped with a way of probing the environment, can acquire specific sensitivity to affordance-variables through plastic systemic adaption (de Wit et al 2017, Sokolosky et al. 2019). That is, detailed strands of research on neural networks and Dynamical Systems Theory and ecological interpretations of Predictive Coding exist which are congruent with REC's claim that cognition can be selectively sensitive to particular aspects of the world, and active only when a certain wordly condition occurs, without having to assume that these processes in any way describe or characterize what they are sensitive to (Kelso 1995, Bruineberg et al 2018).

As several theorists have noted, many explanations of the acquisition of such sensitivity are selectionist: they explain the acquisition of a certain sensitivity as the result of a selective process in which attunement is sculpted (Stahlman & Leising 2018, Bruineberg 2019). This nicely corroborates REC's view of the selectionist story upon which teleosemiotics is built—that is, teleosemantics without the semantics— as one that is perfectly fit for explaining why neural processes allow for specific attunement to the world (Hutto & Myin, 2013, chapter 4).

On such accounts, that neural process X, specific to worldly aspect Y, is activated when Y is present or relevant, is the result of a selective process in which X's Y-specific activation was selected because of its role in the production of useful consequences for the organism.<sup>6</sup> Relatedly, to explain why an organism is able to perceive that an object is manipulable in a certain way, one refers to the history of interactions of the organism and the objects. This history can contain specific neural. processes or changes. Neural process P might only occur when an organism A has acquired a capacity to manipulate object O in a certain way W. But such co-occurrence is not understood as a contentful representing that O is manipulable in way W. Nor does describing it in such a way add any explanatory leverage not already present in these RECish or ecological approaches. Nico Orlandi characterizes such approaches to perception as "embedded views" (Orlandi 2014). They concern systems that are wired, "under evolutionary and developmental pressure" to act lawfully, in a way "relying on environmental facts" without representing these facts. She further comments: "We should resist thinking of them [such systems] in representational terms. This is because we need to draw a distinction between representations and functional states that are merely sensitive to the environment" (Orlandi 2014, p. 3), In line with Ramsey (2007), she points out that connectionist and neural networks are "useful examples of embedded systems" (Orlandi 2014 p. 4).

<sup>&</sup>lt;sup>6</sup> As an aside, note that such selectionist story can apply to situations in which a neural process X specific for wordly condition Y, occurs without that the wordly condition is currently sensed. A neural process specific for that situation could be active, for example, on the basis of a history of interactions in which the currently unsensed situation was reliably correlated with a currently sensed situation. If this process iterates, currently active neural processes could be specific for quite distant worldy situations. Or, differently said, there can be targeted sensitivity for what's "absent" (in the sense of not currently sensed), without any specification of what's absent in the content-involving sense. Contentless cognition, therefore, can exhibit sensitivity to what's not currently sensed, and needn't be thought of on a simple stimulus-response model.

The fact that motor areas in the brain that are involved in the earlier manipulations of some objects are activated when the affordances of these objects are perceived (see Zipoli Caiani, pp. 10-11 for a presentation of such evidence) is fully compatible with these ecological or embedded views.

To be clear, Zlpoli Caiani recognizes that a role for previous experience in perceiving possibilities for action doesn't imply that such perceiving involves contentful information. He admits that such a role "seems prima facie compatible with the assumption that affordance perception is a form of basic cognition (Zipoli Caiano 2018, p. 11). But the compatibility is more than "seeming" or "prima facie". Instead of being apparent, it is genuine.

In order to show that the compatibility is *only* apparent, one should provide a compelling argument for the claim that being sensitive to specific aspects of a situation always and everywhere requires specifying these aspects by means of contentful representations. Without that, neither evidence showing the reliance of affordance perception on expertise or memory nor evidence showing that affordance perception can be individual supports the conclusion that affordance perception can only be explained by explanantia of an irreducibly intensional kind (see Zipoli Caiani 2018, p. 10 for drawing attention to the individual nature of affordance perception). As shown, there is a flourishing research tradition that explains these facts without invoking such explanantia. Importantly, they refer not only to synchronic organism-environment interactions, but as well to diachronic, historical processes<sup>7</sup>.

<sup>&</sup>lt;sup>7</sup> Zipoli Caiani situates his case against REC in a contrast between the "extensional" analysis versus

<sup>&</sup>quot;intensional" analyses (see ZC (2018, section 3). His characterization of "extensional analyses" is seriously

On such accounts, cognition can be flexible, adaptive and content-sensitive without involving content. In RECish terms: the distinction between "basic and "content-involving does *not* coincide with a distinction between "low grade", "automatic", reflexlike" or "simple" versus "high-grade", "flexible" or "intelligent cognition".

Of course, there are views according to which there are forms of perception that are inflexible because they are segregated from any form of "higher-level knowledge, (see for a possible example the interpretation of the "two visual systems" hypothesis discussed in Zipoli Caiani 2018, p. 11). However, REC does not endorse anything near these theoretical commitments. Quite to the contrary, Hutto and Myin (2013, 2017) very explicitly hold that basic cognition can be flexible, context-sensitive and open-ended, despite being contentless (se e.g. Hutto & Myin, 2017, pp. 118-119; pp. 131-143). For example, they agree with many other theorists that the fast-pace, on-the -spot adaptive nature of basic cognitive activities such as tracking and catching a swiftly moving object forms a good reason to construe such activity as a matter of contentless dynamical coupling rather than as relying on some form of contentful information processsing— (Hutto & Myin 2017, p. 1-2; this point is conceded even in the scathing criticism of Embodied Cognition presented in Goldinger et al. 2016).

Of course, *if* REC would hold 1) that all perception is basic, 2) that basic cognition is low grade, and 3) that any form of cognition that is not low grade requires contentful neural information processing, then it should also hold 4) that affordance perception enabled by a history of manipulation would imply such contentful information processing. In that case

incomplete however, in omitting any diachronic dimension—something prominently present in Hutto & Myin (2013, 2017).

there would be no need to provide an argument for 4. But it is a mistake to assume that REC subscribes to any of 1-3, and by implication, it is a mistake to assume that it subscribes to 4.

#### 6. Content-involving Affordance Perception

Even if some instances of affordance perception are basic, not all are. REC can and does recognize that some instances of affordance perception are content-involving. For example, one could, sometimes, recognize an affordance of a previously unencountered object after a process of reasoning—for example by self-consciously trying to find out what known object the unknown one is similar to, and by assuming that the unfamiliar object has similar affordances as the familiar one. In this context, being based on judgment, and leading to judgment, the perception of the affordance is content-involving. Zipoli Caiani describes exactly such cases:

"Notably, if the target is a novel object, perceivers rely on the classification of physical and social signs to conjecture its functional identity and then infer the related possibilities of action" (Zipoli Caiani, p. 13).

Crucially, that cognitive activity is content-involving in such instances is determined by the wider context, in particular by the practices in which it takes place and by the role it plays in these practices. In such cases, a move is made in a truth-telling practice, and because it is one which conforms to the norms of the practice, it is content-involving. On this RECish construal of what involving content is, no commitment whatsoever is made to linking it to

contentful information processing as standardly understood (see Hutto & Myin 2017, p. 91). On REC's view persons participate in content-involving practices, and make moves in it, but these engagements are not based on, and should not be explained in terms of, contentful information processing.

So Zipoli Caiani's claim that according to REC "higher forms of cognition, such as action planning, inferential reasoning, and semantic categorization, are conceived intensionally, that is, as forms of representation *based on* informational contents" is not correct (Zipoli Caiani 2018 p. 2 emphasis added)<sup>8</sup>.

Of course, partaking in content-involving practices requires attunement to norms, including semantic norms. Moreover, a person attuned to, and capable of, participating in such practices will have acquired abilities which can be applied in a broad range of contexts. But the mere fact that persons are attuned to these norms, and the mere fact that they can bring such attunement to bear on activities across a variety of contexts, does in no way imply that contentful information processing lies at the basis of these facts. Again, such conclusion would only follow if there was an argument that such facts can *only* be explained in terms of the processing of contentful information. Without such, there is no principled obstacle to accounting for these facts in terms of individual histories of interaction with collective normative practices (see for example Van den Herik 2017, 2018, van Dijk & Myin 2019 for sketches of such accounts).

<sup>&</sup>lt;sup>8</sup> Hutto & Myin (2017) are quite clear on this:

<sup>&</sup>quot;Although superficially, talk of basic and nonbasic, contentful minds may suggest it, REC denies that there are really two distinct and separate kinds of minds in operation here.

By REC's lights cognition is always dynamic [and] interactive (...) but in some cases cognitive interactions are also content-involving. Even when cognition involves content and inferential processes the ultimate character of cognition remains enactive and dynamic. In other words, cognition can be content-involving without becoming content-based." (emphasis added)

These general points allow to see the evidence of the influence of "semantic identification" on affordance perception adduced by Zipoli Caiani in a different light. Consider, first, results showing that the semantic context influences the detection of affordances. For example, it was found that presenting objects either in reachable space or beyond it made a difference in a recognition task when people were asked to indicate the graspable objects, but not when they were asked to indicate the observable objects. (Zipoli Caiani, p. 13). Clearly, these results show that experimental subjects understand "graspable" and therefore react differently to graspable versus (merely) observable objects. They demonstrate that the participants' semantic competence has a bearing on what they detect by seeing. Moreover, it is correct that data such as these could potentially refute REC. But that would not be for the reason Zlpoli Caiani surmises, namely because these data show that affordance perception is not basic. As explained, REC can accommodate content-involving affordance perception, so even if the data do provide evidence of that, they do not—at all—thereby form a challenge to REC.

Nevertheless, the evidence could form the ground for a refutation of REC—genuine REC, not a mistaken reconstruction of it. That would be the case if it could be shown that the only possible explanation for this evidence would proceed in terms of contentful information processing. But then a convincing argument to that extent would need to be provided. Without such, the alleged gap in REC's explanatory prowess remains a mere possibility. Contrary to that possibility, RECish approaches are able explain the results at issue in terms of contentless dispositions and expectations, based on having learned a language (see Flament Fultot 2016 and Van Dijk & Rietveld 2018 for why and how expectations can and

should be construed in a contentless way). In the domain of linguistics, REC sides with theories that take learning a language, becoming semantically competent, to consist, not in coming to be able to privately reconstruct an encoded speaker meaning, but in acquiring propensities for acting in specific ways. REC shares its outlook on language with theories which construe speaking and understanding too, as "something we do". For such accounts, "languaging", is a specific form of activity, inherently social, and with a complexity of its own, but an activity nevertheless (see Love 2017, van den Herik 2017, 2018)). Such an abilitybased view of language predicts the experimental results. For to understand "graspable" is, inter alia, constituted by acting appropriately in contexts in which "graspable" is used. One of the signs of having learned "graspable" is to engage in the kind of activity evidenced in the experiments cited. Being able to act in certain specific ways with respect to what is presented to the eyes when one is verbally prompted by certain verbal means, is one of the many abilities that, taken together, being semantically competent comes down to. RECish accounts explain the having of such abilities in terms of having learned to use one's language.

Obviously, any account of becoming proficient in languaging requires reference to contentinvolving episodes, because some uses of language are content-involving. One's history of learning the meaning of "graspable" might have included episodes in which an already competent language user made a grasping gesture, saying "This is grasping". But referring to such public content-involving episodes as they exist within language practices is quite different from invoking contentful information processing, as understood in traditional representational cognitive science. Insofar as RECish accounts of the manifestation of

semantic understanding in perceptual tasks refer to such episodes, their commitments remain within the bounds of unrevised REC.

Another strand of evidence adduced by Zipoli Caiani concerns optic ataxia (Zipoli Caiani 2018, pp. 11-12). Apparently, patients with specific impairments in the parietal lobe have difficulties with reaching for targets, but when a delay is introduced, their performance improves. Zipoli Caiani concludes that, given this evidence, "a reasonable assumption is that having time available, the agent performs tasks by retrieving the semantic information associated with the visual stimulus" (p. 11). Such is true enough, if one already operates within a traditional contentful information processing framework. But this interpretation is not unavoidable, nor obligatory. A possible alternative, REC-friendly explanation proceeds in terms of self-prompting: when a delay is introduced, the person comes to make a judgment about the object, which then disposes the person to act appropriately to it—that is in the way the person reacted to such objects in much of the past. Apparently, in these patients, vision needs this helping hand from the self-prompting delivered by judgment in order to get the muscles over the treshold. Note that such RECish explanation sits very well with the fact that "a common rehabilitation program includes compensatory strategies such as recourse to external prostheses (e.g., planners, calenders, recording devices, timers, and pagers)..." (Zipoli Caiani, p. 12.), for these are all different means of self-prompting.

What goes for semantic competence goes for social competence, and there is, for all we know, no principled hurdle preventing REC to recognize and account for a role of social norms in affordance perception. As argued in detail in Hutto & Myin (2014), there is no a priori reason why social norm compliance necessarily must be explained in terms of contentful representation or information processing. They point out that the fact that social

norms compliance requires beliefs such as "that other will comply too" does not provide a sufficient ground for representationalist conclusion . For such beliefs can be construed as contentless dispositions (Hutto & Myin 2014)). As in the case of semantic competence, on a dispositional understanding of sensitivity to social norms, to have such social competence is to be able to apply it in a variety of contexts, including contexts of perceiving. Given this, there is also no reason why a RECish approach cannot accommodate evidence that shows that whether or not one owns a cup has an influence on vision-based recognition of graspability (Zipoli Caiani 2018, p. 13-p. 14).

Of course, one can argue Hutto & Myin (2014) are mistaken about what sensitivity to social norms requires. That is, perhaps one is convinced there are decisive arguments leading to the conclusion that sensitivity to social norms does, necessarily, require contentful information processing (Colombo 2014a, b). But if that is so, then, in order to challenge REC, one has to present those arguments and not just bare pieces of evidence.

# 6. Conclusion

In assessing REC, it is important to be correct about what it means by basic and by contentinvolving. Basic does mean prior, and not content-involving. But that doesn't imply basic is simple or automatic. Nor does REC make for a distinction between cognitive capacities, whereby some (allegedly lower level ones) would be basic and others (higher level ones) content-involving. Some capacities can occur in basic *and* in content-involving form.

Involving content is not a matter of the presence of some contentful item—internal or not but of the role a cognitive activity plays in a broader context. If REC is seen for what it is, it becomes clear that it belongs to a larger range of approaches that can deal with both contentless and content-involving forms of affordance perception. REC and related approaches seem well able to accommodate empirical evidence that shows the role of expertise and of semantic and social competences. In other words, REC can afford affordance perception.

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