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On Ur-intentionality[i]

[Sobre Ur-intencionalidade]

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Abstract: Starting from Brentano's classical characterization of intentionality, we review the radical enactivist proposal about basic cognition and show that the underlying assumption that stripping teleosemantics of its representationalist commitments results in no explanatory loss is unwarranted. Significant features of basic cognition are lost, or so we argue, with the RECtification of teleosemantics that are retrieved by means of an alternative dubbed *metaphysically non-committal content-ascriptivism*.
Keywords: Ur-intentionality. Radical enactivism. Teleosemantics. Basic cognition. Content ascriptivism.

Resumo: Iniciando pela caracterização clássica de intencionalidade proporcionada por Brentano, nós fazemos uma revisão crítica da proposta enativista radical com relação à cognição básica no intuito de mostrar que o pressuposto de que nada ficaria perdido com a remoção dos compromissos representacionalistas da teleosemântica é injustificado. Argumentamos que algumas características importantes da cognição básica ficam perdidas com a RE(C)tificação da teleosemântica, as quais resgatamos pelo esboço de uma alternativa cunhada *atributivismo-de-conteúdo livre de compromissos metafísicos*.
Palavras-chave: Ur-intencionalidade. Enativismo radical. Teleosemântica. Cognição básica. Atributivismo de conteúdo.

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1. Introduction

Against the dominant tendency in analytic philosophy to equate aboutness (or object-directedness) with contentfulness, radical enactivists such as Hutto and Myin hold that intentionality in its primitive form can be conceived of as contentless and that this primitive form, dubbed *Ur-intentionality*, shows up in basic forms of cognition shared by (both mature and immature) linguistic and non-linguistic creatures (HUTTO; MYIN, 2017: ch. 5; HUTTO; MYIN, 2018: 195-8; see also HUTTO; SATNE, 2015). This conceptual possibility stands out, or so they argue, once one realizes that strands in Brentano's classical characterization of intentionality that had been run together under the influence of a top-down (i.e. linguistic) approach can be kept separate and that the case can be made for a bottom-up approach of the kind recommended by Muller (2014). If, as they take it, the most promising candidate for a naturalistic account of intentionality, namely teleosemantics, can be stripped of its ambition to provide a theory of representational content without explanatory loss, what we get at the end of the day is, arguably, a theory of Ur-intentionality.

In this paper, we focus on the very concept of Ur-intentionality and ask whether it can serve its purpose. We shall leave aside related issues such as the issue as to whether the methodology employed (viz. RECtification) fulfills the expectation, or whether the required conceptual modification makes any difference to a science of the mind. We will argue that going non-representational in the sense required by radical enactivism falls short of delivering a theory of Ur-*intentionality*, for the assumption that stripping teleosemantics of its representationalist commitments (all other things being equal) results in *no* explanatory loss is unwarranted.

The paper is framed as follows. To begin with, we outline the radical enactivist proposal about basic cognition against the backdrop of Brentano's delineation of the concept of intentionality (sec.2). Next, we assess the proposal critically (sec.3). Finally, we sketch an alternative meant to retrieve the features of basic cognition lost with the RECtification of teleosemantics (sec.4).

2. Brentano and the Radical Enactivist Proposal About Basic Cognition

Brentano's thesis and his famous gloss on the concept of intentional inexistence is the starting point of any account of intentionality congenial to intentionalism — the view that intentionality is an irreducible property of,

at least, some mental states[1] —, even when this starting point turns out to be a point of departure, as happens with the non-representationalist account of intentionality advocated by radical enactivists for basic cognition. So, to get the gist of the enactivist proposal, it will be useful to review Brentano's delineation of the concept of intentionality. Before proceeding, let us make a clarification.

2.1. Non-Brentanian Intentionalism

The radical enactivist view is a variety of intentionalism. It can be dubbed a non-Brentanian variety to the extent that (i) Brentano and neo-Brentanians are themselves committed to the view that all forms of intentionality are representational, if not in the stand-in sense of a relation mediated by a symbolic entity, at least in the sense of a relation in which the intentional target presents itself to the subject and is taken by her to instantiate properties (i.e. in the *specification* sense) (ROY, 2015: esp. sec. 2 5); (ii) radical enactivists aim at explaining basic cognition in non-representationalist terms, that is, in terms that deny that all forms of cognition involve taking worldly items to be thus and so. It is worth quoting Roy at length here:

> (...) Hutto and Myin formulate their rejection of representationalism in simple and basic terms that fully recognize the fact of attributing determinations or specifying as the most crucial feature of representing. (...) Even more interesting, however, is the fact that this anti-representationalism, primarily and correctly put in terms of rejection of the property of specification, is complemented with an explicit acceptance of the relevance of the property of intentionality in the explanation of basic cognition itself. (ROY, 2015: 121-2)

Roy's "specification" is a term of art that roughly corresponds to "contentfulness" in Hutto and Myin's vocabulary. So, rejecting the idea that all forms of cognition involve specifying (i.e. ascribing properties to) worldly items amounts to rejecting the idea that contentfulness is an essential feature of all forms of cognition. If this is what it takes to be a *radical* enactivist about cognition, it is worth noting that the feature does not exhaust the stance, though —as Roy makes clear. Another, just as significant feature of the stance is that it leaves room for an explanation of basic cognition in intentional (more

[1] The label often features in the literature as the name for a more specific thesis, viz. the thesis that *consciousness* is a form of intentionality (CRANE, 2009; SIEWERT, 2017: sec. 5).

specifically, as we shall see, normative) terms; so that it does not amount to a sophisticated variety of (neo-) behaviorism (HUTTO; MYIN, 2017: 116). How is this at all possible? How can one deny, on the one hand, that cognition is always contentful while sticking, on the other hand, to the characterization of intentionality as world-directedness for its contentless instances? While this is hardly thinkable from a Brentanian standpoint, the irony of the story is that the possibility only emerges against the backdrop of Brentano's delineation of the concept of intentionality. Like we said, the departure requires a starting point.

2.2. Brentano's Gloss

As often noted in the literature, including by the radical enactivists themselves (HUTTO; MYIN, 2017: 95), Brentano's gloss on the scholastic notion of intentional inexistence is self-avowedly ambiguous. It goes as follows:

> Every mental phenomenon is characterized by what the Scholastics of the Middle Ages called the intentional (or mental) inexistence of an object, and what we might call, though not wholly unambiguously, reference to a content, direction toward an object (which is not to be understood here as meaning a thing), or immanent objectivity. Every mental phenomenon includes something as object within itself, although they do not all do so in the same way. In presentation, something is presented, in judgement something is affirmed or denied, in love loved, in hate hated, in desire desired and so on. (BRENTANO 1995: 68)

To begin with, it is not even clear whether the features set out here correspond to different determinations of the same relation or different yet equivalent ways to cash out the old idea of intentional inexistence in contemporary terms. Roy picks the former interpretive option, holding that so-called objectivation (i.e. the turning of the relatum into an object) is more fundamental and that all other determinations (immanent objectivity, dispensability of the transcendent correlate, directedness) fall into place once this fact is acknowledged. But if we take these features to be different albeit equivalent ways to cash out the idea of intentional inexistence — understood literally as existence *in* the mental act itself (SMITH, 1994: 40; CRANE, 2006: 26) —, the issue is less that of saying what determinations are fundamental than that of saying what features are essential (as opposed to accidental) marks of

the concept.[2] One feature in particular attracts attention in view of its posterity in analytic philosophy of mind and language: Brentano's so-called "reference to a content". Although it is meant to be just one way of putting the idea of intentional inexistence, it ends up taking center stage in the list of examples of mental phenomena provided by the author. As different in kind as they may be, all mental states (acts) share, on Brentano's view, the property of being contentful in a fairly intuitive sense of the word "content", namely, that which is f-ed when f-ing (presented when presenting, loved or hated when loving or hating, desired when desiring, affirmed or denied when judging, etc.). But, and this is the point of the gloss, contentfulness, thought of as the mark of the mental, should not be taken to significantly differ from object-directedness (or immanent objectivity, for that matter), since the relation at stake here is not one entertained by the mind to extramental entities. For an issue such as the one just pointed to arise, it is necessary not only to break with Brentano's 1874 scientific framework and its underlying philosophical assumptions, but also to have a reason not to run together the strands identified in Brentano's wording of the thesis.

2.3. Contentfulness as an Accidental Mark of the Concept of Intentionality

Virtually any theory of intentionality today assumes that common-sense realism —understood as the claim that the objects of mental acts are what we commonly take them to be, namely, objects "out there"— is true. Radical enactivists are no exception, since they assume that the objects targeted by organismic systems are denizens of the "outer" world. This in itself constitutes a radical departure from 1874 Brentano who holds that mental acts and their objects *qua* objects of study are part of the same "inner" (mental) realm (CRANE 2006: sec. 3). But assuming intentional objects are objects "out there" rather than in the mental act itself is not enough for the issue of the essential (vs. accidental) marks of the concept of intentionality to arise. After all, Brentano himself changed his mind, eventually holding that no "mental relation can have something other than a thing [*Reales*] as its object" (BRENTANO, 1995: xxiii); something other, that is, than what is taken by common sense to be the object of mental acts. As a result, contentfulness and reference to an object (a thing) might need be reconsidered as distinct marks of the concept of intentionality, as Twardowski, Brentano's student, has it (see TWARDOWSKI, 1977).

[2] We do not mean or imply that the latter was an issue *for Brentano*.

One thing, however, is to hold that contentfulness and object-directedness (in the real, commonsensical sense of the word "object") are distinct marks of the concept of intentionality, another to hold that contentfulness is an accidental mark of it, as radical enactivists about cognition do. So long as the only available strategy is a top-down and aprioristic one on which the content of mental states of any kind is modeled on the content of high-level states (typically, beliefs and other propositional attitudes) fully articulated by that-clauses — on their *semantic* content, that is —, "being about something is to be (semantically) contentful" seems to express a conceptual truth about all mental states. But as soon as one realizes that another, bottom-up and empirical approach to cognition is possible on which mental states that are, developmentally speaking, more basic are given explanatory priority over states that lie higher on the developmental scale (typically, propositional beliefs, desires or expectations), the same (uttered) sentence no longer seems to express a conceptual truth about *all* mental states, therefore about *all* instances of cognition. A new path opens up for a duplex account of cognition on which some forms (typically, those tied to the mastery of linguistic practices) are content involving while others, developmentally speaking more basic, are not (HUTTO; MYIN, 2017: xii, 91-2; 176). On this account, semantic contentfulness (understood in truth-conditional terms or in terms of conditions of satisfaction) becomes an accidental mark of the concept of intentionality, while directedness remains an essential mark of it.

2.4. Toward a Content-Free, Naturalistic Account of Intentionality

But why, it might be asked, an account of intentionality in terms of contentfulness should be given up, at least for basic forms of cognition? The radical enactivist answer comes in two steps. The first step is to acknowledge that what many consider as the most promising candidate for a naturalistic account of intentionality (namely, consumer-based teleosemantics) is plagued by difficulties owed to its ambition to explain contentfulness in distinctively semantic terms (i.e. in terms of reference, truth, or accuracy). The second step is to acknowledge that dropping that ambition results in no explanatory loss, given that appeal to semantic content does no work in scientific explanations of intelligent forms of behavior such as insect navigation (HUTTO; MYIN, 2017: 110-1). Let us elaborate a bit.

As is well known, consumer-based teleosemantics, just like other versions of teleological theories of mental content, is open to functional indeterminacy objections among which Fodor's objection of the extensional character of

Darwinian explanations (FODOR 1990; see also 1996). The objection runs basically as follows. To begin with, it is worth noting that teleological theories are meant to explain why mental states have *the* content they have (that is, why they have *this* and not another content) and that they do so appealing to the history of the performances, by biological systems of the same type, of their proper function. Consider a consumer system such as the frog's prey-catching system. That the system has as content flies (or frog food), but not bee-bees is explained by the fact that catching flies, not bee-bees contributed the preservation and proliferation of systems of the same type in frogs. Now, it is typical of such "Darwinian" (i.e. selectionist) explanations that the way the teleological story is told (describing the intentional target either as flies or as little-ambient-black-things) does not make any difference to its truth-value — it is *true* on both stories, given that flies are little-ambient-black-things — where it should make a difference — after all, on the story on which the system normally snaps flies, snapping bee-bees involves a representational error. If this is what teleological explanations of the consumer variety deliver, what we get is a semantically transparent explanation where a semantically opaque or intensional-with-an-s one is expected. In Fodor's terms,

> Appeals to mechanism of selection won't decide between *reliably equivalent* content ascriptions; i.e., they won't decide between any pair of equivalent content ascriptions where the equivalence is counterfactual supporting. To put this in the formal mode, the context: *was selected for representing things as F* is transparent to the substitution of predicates reliably coextensive with F. (...) In consequence, evolutionary theory offers us no contexts that are as intensional as 'believes that...'. If this is right, then it's a conclusive reason to doubt that appeals to evolutionary teleology can reconstruct the intentionality of mental states. (FODOR, 1990: 73)

If "evolutionary" teleology fails to reconstruct the intentionality of mental states, there are reasons to suspect that the failure is due to the non-propriety of the semantic idiom rather than the explanatory strategy. This leaves open the possibility of using it without its problematic (semantic) part. *RECtified teleosemantics* or *teleosemiotics* is the name given by the radical enactivists to the modified explanatory strategy (HUTTO, 2011; HUTTO; MYIN, 2013: 78-82; HUTTO; MYIN, 2017: ch.5; see also HUTTO 2008: 57 for a forerunner dubbed *Biosemiotics*). Still, an argument to the effect that the removal

of the semantic part does no harm to the strategy is needed. Otherwise, it is more than modified teleology.

The argument is basically this: if we look at the work done by representational content, thought of in semantic (e.g. truth-conditional) terms, in scientific explanations of intelligent forms of behavior such as insect navigation (see e.g. GALLISTEL, 1998), one gets to see that removing the semantic part results in no explanatory loss; since correspondence relations holding between features of the organism and features of the environment actually do all the work (HUTTO; MYIN, 2017: 110). If nothing significant is lost when removing the semantic part, at least from a scientific standpoint, providing a content-free, naturalized account of intentionality for basic cognition looks like a good option (and a real possibility). The question is whether modified teleosemantics delivers what it is meant to deliver. We suspect it does not. But before turning to our criticism, we need to get the gist of the radical enactivist proposal concerning the ground-floor level of cognition.

2.5. Ur-intentionality: Features of the Concept

It all turns on that which is meant to replace the classical or non-radical representationalist account of intentionality. On the radical enactivist view, the minimum required for instances of basic cognition to qualify as (Ur-) intentional is that they be informationally sensitive, normatively shaped, non-intensional (i.e. extensional), and objectifying. Let us review these conceptual features in turn.

The first one is what we get when the naturalistic notion of information as co-variance is stripped of reference or truth (or satisfaction) relations. What the radical enactivist requires is that information relations hold between the organism and the environment that make it possible for the former to track the presence of features of the latter and act successfully upon their detection, not that those features be in any way *specified* or *silently said* by the perceptual subsystems to hold (HUTTO, 2008: 48; see also HUTTO; MYIN, 2013: 19-20). Call this *contentless informational sensitivity*. This mark of the concept of Ur-intentionality can be accounted for, on the radical enactivist view, in "evolutionary" teleological terms as follows:

> Existing organisms are informationally sensitive to certain triggers because this benefited their forebears in coordinating their actions with respect to specific worldly offerings —and by implication this enabled their perception-response systems to proliferate for the benefit of future generations. (HUTTO, 2008: 52)

The second feature is straightforwardly inherited from teleological strategies of explanation; with the important qualification that, on the RECtified version, there is no need to explain semantic norms as deriving from functional (biological) norms —basic instances of cognition, being contentless, are not subject to norms of the former kind. Still, basic perceivings, imaginings, non-semantic forms of memory and the like are shaped, on this explanatory strategy, by functional (biological) norms, as shown by the fact that the "bad cases" are described using normative vocabulary ("*mal*function", "*mis*alignment", etc.). A requirement for any theory of intentionality (including for a theory with a strong naturalistic bent) is that it account for its fallibility, that is, for the fact that what the mental state or the action is about can fail to obtain. Being fallible, intentionality is not a factual, but a *normative* relation (HAUGELAND, 1990: 384). Teleosemiotics accounts for that holding that basic minds can *err* when targeting the worldly features they are supposed to target in virtue of their tokening the same biological trait as their ancestors. But it is worth emphasizing that given that basic forms of cognition are not, on this view, silent assertions basic minds can go wrong without being mistaken — where there is no take, there is no *mis*take. Call this feature *normativity without representation*.

The third conceptual feature flows directly from the "Darwinian" character of teleological explanations. If, as Fodor puts it, "Darwin cares how many flies you eat, but not what description you eat them under" (FODOR, 1990: 73) and if this aspect of teleological explanations is kept in place —as intended by teleosemiotics, then it follows that non-intensionality (i.e. extensionality) is a necessary mark of the concept of Ur-intentionality in the following sense: that which is targeted by basic minds (in virtue of the history of their past interactions with the environment) is not targeted "under a description" or any other mode of presentation, for that matter. Call this *the extensionality thesis about basic cognition*.

The last conceptual feature stems from Roy's construal of Brentanian intentionality as fundamentally determined by a relation of objectivation, understood as a relation in virtue of which the intentional target is *made into an object* (as opposed to a mere *thing*) by the very fact of being targeted (ROY, 2015: 95-6). We saw that Brentano's gloss need not be construed that way (see sec. 2.2 above). But, assuming it can, it surely is a conceptual feature to be accounted for by a teleological theory even stripped of its representationalist commitments (ROY 2015: 123; approvingly quoted by HUTTO; MYIN, 2017: 114). Call this *objectivation without representation*.

3. Critical Assessment

Having pinpointed contentfulness (more specifically, semantic normativity and intensionality) as the trouble-maker(s) and having argued, on behalf of the radical enactivists, that the removal of the semantic part of the teleological approach results in no explanatory loss, it might be thought, as the radical enactivists do think, that going non-representational delivers the promised theory of Ur-*intentionality* for basic cognition. But there are reasons to believe it does not. Note, to begin with, that recommending a conceptual modification is not the same thing as — and, arguably, does not amount to — building a theory "from the ground up" (THOMPSON, 2018). But even setting methodological considerations aside, there is no assurance that taking a radical non-representationalist stance on basic cognition results in *no* explanatory loss. In this section, we will argue that the removal of the semantic part of the teleological strategy does result in *some* explanatory loss with respect to normativity and intensionality and that the proposal under scrutiny goes too far — less importantly, we will also argue that it provides no proper explanation for *objectivation without representation*. Before elaborating on these points, we need to review the radical enactivist explanatory bid understood as a set of interconnected theses about basic cognition.

3.1. The Radical Enactivist Explanatory Bid

The conceptual features pinpointed earlier as marks of the concept of Ur-intentionality were kept separate for the sake of analysis. They are better viewed, however, as planks of a single explanatory bid about basic cognition.

Let us start with *contentless informational sensitivity*. What might prompt us to think that contentfulness is not, in this case, a necessary mark of the concept of intentionality and that subtracting the semantic part from the teleological approach while keeping in place the notion of sensitivity and that of informational links would result, accordingly, in no explanatory loss? Presumably, the fact that the notion of informational *content* owes its presence in an account of that which "constitutes the substratum of our cognitive lives" (EVANS, 1982: 122) to extraneous considerations; for instance, the need to mark out a class of thoughts the evaluation of which (as true, false, or probable) is controlled by the information acquired via the senses from the environment (See EVANS, 1982: ch.5 on information-based thoughts). On a bottom-up (rather than top-down) approach to cognition, the notion of informational content looks like a late add-up, developmentally speaking, made possible by the partaking of symbolic practices. But if sensitivity and the holding of informational relations between

the organism and the environment at the sub-doxastic level were all there was to basic cognition, we could hardly speak of *intentional* informational systems. What makes informational systems into intentional ones is, presumably, the fact they can go awry —that they can "misinform", as some authors put it.[3] The second plank of the radical enactivist bid, namely *normativity without representation*, is precisely meant to account for this. Let us see if it does.

Recall that a key feature of intentionality is that the relation be conceived of as a normative, not a factual one —considering that the worldly situations pointed to can fail to obtain. Another way to put the point is to say that the relevant notion of meaning for a theory of intentionality even with a strong naturalistic bent is the Gricean, non-natural notion on which *x means that p* does not entail *p* (GRICE, 1989: 214; NEANDER 1995, 2017: 6-9). But the challenge for the radical enactivists is not just to account for normativity in naturalistic terms (i.e. in terms of covariance relations holding between states of affairs). It is to account for it in terms that do not make any reference to the notion of representational content. The latter notion usually comes in precisely to make sense of the distinction between a natural-factive and an intentional notion of information, the possibility of *mis*information arising only with the latter notion (NEANDER, 2017: 6, 8, 34). But if, as the radical enactivists have it, nothing is silently asserted by the senses in providing information about the holding of worldly features, how can there be room in the theory for a relevant notion of misinformation? Of course, the radical enactivist proposal being a conceptually modified version of *teleo*semantics, the possibility of error can, arguably, be accounted for in terms of the failure to perform the proper function a given biological trait has been selected for. However, the explanation somehow misses the point when the error to be explained is distinctively perceptual (more on this in section 3.2 below).

The third plank, dubbed *extensionality about basic cognition*, is closely related to the second insofar as the intensionality of certain mental ascriptions —marked, among other things, by the fact that the substitution of an expression by a co-extensional one in the complement of the verb can change the truth-value of the sentence in which the verb occurs — is often regarded as evidence for the fact that something went wrong on the part of the subject — that something like misrecognition occurred. If, as the radical enactivits have it, the normativity at stake in basic cogni-

[3]Evans, for instance, allows for the possibility that that which he dubs "the informational system" misinform (see EVANS, 1982: 120 fn1). But if the relevant notion of information here is the *natural-factive* one analyzed along the lines of Grice's notion of natural meaning (i.e. *x* means *p* entails *p*), no room is left, as Neander (2017: 6) rightly points out in another context, for misinformation.

tion is not of the representational variety, the intensionality of mental ascriptions can hardly been regarded as evidencing the representational opacity of the sub-doxastic informational sub-systems. But this not so much because inferring the latter from the former is a non-sequitur (HUTTO; MYIN, 2018: 194-5), but because the (alleged) extensionality of the targetings is a straightforward consequence of the withdrawal of the very notion of contentfulness —where there is no representational content, there is no intensionality either, since the latter is arguably a necessary feature of the former. This leads us to suspect that the targetings featuring in RECtified "Darwinian" teleological explanations are extensional by fiat. To bear this out, it is worth investigating the assumption that construing basic cognition in purely extensional terms results in no explanatory loss. For, if the assumption turns out to be unwarranted —as will become clear in section 3.3 below—, what we get is a further reason to suspect that the thesis is false.

As for the last plank (i.e. *objectivation*), despite being explicitly endorsed by the radical enactivists as a necessary mark of the concept of Ur-intentionality to be accounted for in non-representationalist terms, it is doubtful that a proper explanation is actually provided for the following reason: resorting to "Darwinian" teleological explanations of the type already provided for *normativity without representation* (see HUTTO; MYIN, 2017: 116-7) hardly explains how it is that the organism, considered from the perspective of its past interactions with the environment, can be the *source* of the object's objectivity.

Planks two and three being from far the most troublesome parts of the theory, we shall give them prominence in the remainder of the on-going section.

3.2. Normativity Without Representation: A Worry

Intuitively, there is a difference between two kinds of cases: the fuel gauge indicating that the car tank is full with the needle on the F-position when the tank is nearly empty and the frog snapping its tongue when a dark metal pellet (rather than a bug or a fly) crosses its visual field. The difference is not just that, the frog not being an artifact, the explanation of why it has its neural mechanism as a part must differ from the explanation of why the car has the fuel gauge as a part (PIETROSKI, 1992: 268-70). More importantly, the difference is that the failure of the fuel gauge to perform the function it was designed for by the engineer can be explained as a mechanical defect of the indicating device itself while the failure of the frog to snap (at times) the "right" kind of prey must be explained in some other way, considering that its visual apparatus in the case at hand functions properly (i.e.

shows *no* mechanical defect).

This is not, however, the relevant notion of function in terms of which the radical enactivist explains the failure of the frog to snap the "right" kind of prey (at times). The relevant notion is the normative *teleological* notion according to which the frog goes awry when the consumer (here the prey-catching system exploiting the mapping provided by the sensory-perceptual system) fails to perform its function understood as its *telos* (i.e. that which it has been selected *for* in ancestral frogs), namely feeding them. On this notion, the prey-catching sub-system of the frog cannot be said to function properly when dark metal pellets are snapped in lieu of flies or bugs. Now suppose my dog Fido is chasing a cat up a tree where there is no cat. There is a sense in which Fido's sensory-perceptual and prey-catching systems can be said to function *properly*: its perceptual apparatus and the system that uses it show no mechanical defect; but there also is a sense in which one can say that the latter system *mal*functions: since there is no cat in the tree, it fails to perform the function it was selected for in ancestral dogs (wolves).[4] If this is how the radical enactivists purport to explain the non-factive sense in which one can say that the dog is informed by its perceptual apparatus of the presence of a cat in the tree, it somehow misses the point since what stands in need of an explanation (in our example) is the fact that something went *perceptually* awry. If we are right, withdrawing teleosemantics's representational commitments can hardly be said to result in *no* explanatory loss.

3.3. Hard Times for Extensionalism

The assumption that subtracting the semantic part from the teleological approach results in no explanatory loss is unwarranted for further reasons pertaining to the alleged extensionality of the targetings involved in basic cognition. Consider again the toy example of Fido chasing a cat up a tree. Suppose for the sake of argument that there is a cat in the tree, but that the cat chased by Fido, who happens to be the only cat in the tree, is not Tabby, the cat usually chased by him, but her twin sister Tibby (SIMONS, 1995: 144). Assuming "chase" is not a pure behavioral predicate, but a predicate that "requires [for its proper use] something like recognition" (ibid.) on the part of the

[4]This is a toy example often used in the philosophical literature (see e.g. SIMONS, 1995; GOZZANO, 2007). What makes dogs less liable than frogs to illustrate the teleological approach is that part of the evolutionary history of dogs involves goal-directed selective breeding by human beings. So, their having traits can hardly be explained — it might be objected — in terms of *natural* selection. Moreover, (most) dogs no longer chase cats to eat and tend to drop their prey when caught. In our view, the example is still relevant insofar as an evolutionary approach to dog's behavior and cognition is possible (MIKLÓSI, 2007). One thing worthy of note is that traits of their ancestors (presumably, wolves or some close cousins) are still present in dogs even though they no longer play any adaptive role. Dogs' prey-catching sub-system is a good case in point.

subject of ascription, the assertion that Fido chased Tabby up the tree is in one sense true and in another sense false. It is true in the "quote" and false in the "unquote" sense of the verb — Fido chased Tibby up the tree is "the other way round", as Simons points out. In analogy to the case wherein a linguistic expression stands for itself rather than for a thing in the world (i.e. is mentioned rather than used) thereby changing the truth-value of the sentence in which it occurs, the "quote" sense of the verb is the sense it gets when it ceases to denote, thereby altering the truth-value of the sentence in which it occurs: a false sentence such as "Fido chased Tabby up the tree" — considering that the cat chased is Tibby, not Tabby — becomes a true report of what the cat is identified by Fido as — namely, Tabby. This suggests that there is room for the transparent/opaque reading (i.e. for intensionality) in basic cognition — dogs do not partake of content-conferring linguistic practices — and that something is lost with the transparent explanations provided by teleosemiotics.

A natural objection to raise is that the way the case is described presupposes that which is at issue in the radical enactivist approach to basic cognition, namely the necessary (or essential) contentfulness of the states ascribed. Opacity being a necessary feature of representational content —be it linguistic or not —, if there are reasons to believe that the states ascribed lack representational content, they are also reasons to believe that the targetings involved do not exhibit intensionality, therefore are extensional. But it is all too obvious here that the extensional character of the targetings is but a consequence of the decision not to view them as representational in the first place — that they are extensional *by fiat*.

A more serious objection concerns the kind of examples used here to argue against the extensionality thesis and *normativity without representation*. As said earlier, they are toy examples from the philosophical literature on representational (intensional) content, whereas the argument provided by radical enactivists concerns the lack of role of representational (intensional) content in scientific explanations of intelligent behavior. So, it may be that such content is philosophically required while keeping on doing no work in the latter kind of explanations. However, if there are reasons to believe — as we think there are — that related examples play a role in *scientific* explanations of intelligent behavior, what we get is, possibly, a full case against both *the extensionality thesis about basic cognition* and *normativity without representation*.

4. Metaphysically Noncommittal Content-Ascriptivism

Our critical review of the radical enactivist explanatory bid in the previous

section led us to the conclusion that purging teleosemantics from its semantic commitments does result in some explanatory loss with respect to normativity and intensionality. But the toy philosophical examples provided could be suspected not to justify the need to resort to content ascriptions of the kind traditionally appealed to in mainstream scientific explanations of cognitive phenomena and intelligent behavior at the ground-floor level. In this section, we provide non-toy examples to justify it. Before proceeding, we need to disentangle issues that are unhelpfully run together by the radical enactivist approach to cognition, namely the epistemological issue of the explanatory usefulness (or fruitfulness) of content ascriptions and the metaphysical issue of the contentfulness of the cognitive systems themselves. Doing this, or so we argue, clears the way for a metaphysically noncommittal brand of content-ascriptivism compatible with the view that representational contents (other than those posited by science for explanatory purposes) need not be involved at all levels of cognition —compatible, that is, with Hutto and Myin's soft eliminativism[5].

4.1. Disentangling the Epistemological from the Metaphysical Issue

It is worth noticing that asking whether cognition always (or everywhere) involves representational content and asking whether content ascriptions are always useful for the purpose of explaining cognitive phenomena is to ask different kinds of questions. The former is a metaphysical question about the nature of cognition — more specifically, about the necessary existence of representational items at all levels —, the latter an epistemological question concerning the usefulness (or fruitfulness) of positing theoretical items such as semantic content for explanatory purposes.

In Hutto and Myin's hands, the questions do not come apart presumably because they take a realist stance on the value of scientific theories and have it that a necessary condition for a scientific theory to have explanatory value is that it be true.[6] Still, no independent argument is to be found in their writings to the effect that content-ascriptions customarily made in the sciences of the mind regarding the ground-floor level of cognition are false. What we do find, instead, is a kind of dispensabi-

[5]Hutto and Myin's brand of eliminativism is soft because they are not committed to the view that cognition never or nowhere involves representational content. Whoever endorses the latter view (e.g. so-called really radical enactivists) is committed to a stronger variety of eliminativism about cognition. They are not eliminativists either in the extreme, naturalistic sense of not making room for anything in lieu of contentful states at the ground-floor level. See HUTTO; MYIN (2013: 13-4; 2017: 52, 116-7, 129-30).

[6]"Fictionalists, like all antirealists, break the links between truth, existence, and explanation in ways that make it unclear just what kind of explanatory value is yielded by positing theoretical entities. (...) In any case RECers agree with their *realist*-minded cognitivists opponents that questions of metaphysics matter in science" (HUTTO; MYIN, 2017: 46-7. Our emphasis).

lity argument compatible with an anti-realistic stance on the value of scientific theories. Remember that the second step towards a naturalistic, content-free account of intentionality of the kind entertained by the radical enactivists (for the ground-floor level of cognition) was to acknowledge that removing the semantic part does no harm to the teleological approach since it (supposedly) results in no *explanatory* loss. There are reasons to believe, however, that the question of the theoretical role of semantic content is orthogonal to the question as to whether truth-conditional content can have room in the natural order, as shown by the fact that content-ascriptions keep on playing a role in most scientific accounts in the absence of any proper solution to the so-called Hard Problem of Content (hereafter, HPC). HPC is a problem faced by all naturalistic accounts of aboutness. In a nutshell, it is the problem of how to get from a scientifically respectable notion of information (e.g. information-as-covariance) to a notion of information endowed with special properties such as the specification property without smuggling spooky or magical stuff into it (HUTTO; MYIN, 2013: 63-71). It seems reasonable to assert that no proper solution is available — at least not in the terms in which the problem has just been stated. For all that, does it mean that all attempt to argue in favor of representationalism or, more importantly for our purposes, content-ascriptivism is doomed to fail?

This is doubtful. For one thing, most versions of representationalism or content-ascriptivism do not rely on the corresponding metaphysical notions of representation or content to argue for the necessity of representations or content-ascriptions in the scientific explanation of cognitive phenomena. Accordingly, providing a solution to the HPC does not seem to be required, at least as far as those attempts are concerned. For another, claiming that a solution to the HPC is required for those attempts to have any chance of success is not only false; it misdescribes the way scientists themselves understand the conditions under which the theoretical posits are justifiably invoked and relied upon. Here we side with Colombo when he writes about Hutto and Myin's claims concerning the need for all types of representationalism to face up to the HPC and their little chances of success in case they don't that

> [they] badly characterize the scientific community's own understanding of when a theoretical posit can be justifiably invoked and relied upon. If H[utto] M[yin] were right, scientists could not invoke or use a theoretical posit quite successfully in default of a metaphysically thorough account of what that posit picks out in

> the world. But, in fact, many theoretical posits are invoked and relied upon quite successfully by scientists, even though there is currently no metaphysically thorough or convincing account of those posits. Among such posits we find: *gene*, *phoneme*, *quark*, *string*, and *spacetime*. (COLOMBO, 2014: 267)

Once the dependence relation that allegedly holds between justifiably invoking theoretical posits such as semantic (representational) content and the need to provide a solution to the HPC — that is, between the epistemological and the metaphysical issue — is undone, the way is clear for a defense of a metaphysically non-committal brand of content-ascriptivism (understood as the thesis that content ascriptions are essential to intentional explanations of intelligent behavior) across the cognitive board.

4.2. An Argument in Support of the Usefulness of Content Ascriptions at the Ground-Floor Level of Cognition

As far as we can see, our alternative, dubbed *metaphysically non-committal content-ascriptivism*, has two advantages: it is non-revisionist about the scientific explanatory practice, and it is compatible with radical enactivists' soft eliminativism. It is non-revisionist because once the epistemological and the metaphysical issues are disentangled there is no need to take the unavailability of a solution to the HPC in naturalistic terms to be a good reason for questioning the legitimacy of content ascriptions customarily made in science (notably, neuroethology and neuroscience) at the ground-floor level of cognition. And it is also compatible with the radical enactivist brand of eliminativism since it remains neutral on the metaphysical (foundational) question as to whether basic minds instantiate the specification property. Still, we need a stronger reason to prefer our view. For, if it turns out that content ascriptions aren't really useful, epistemological (and, also possibly, metaphysical) non-representationalism along with its revisionist attitude about the scientific explanatory practice remains a living option for basic minds.

Informally put, our argument in support of the usefulness of content ascriptions runs as follows: positing representational content, as opposed to refraining from doing so, at the ground-floor level of cognition brings substantial benefits to the teleological approach to the extent that the latter is thereby liable to be tested for empirical adequacy. Since the standards of adequacy used to test it involve content ascriptions as an essential part, it follows that positing content at the ground-floor level of cognition is (also) useful.

Consider Millikan's teleological ap-

proach—the version of teleosemantics RECtified by the radical enactivists. What makes it liable to be tested for adequacy is that it entails a determinate content ascription for basic minds that can be assessed by the standards of our most successful scientific explanations of behavior an indispensable element of which is to ascribe content (SCHULTE, 2012: 486-8). Take again the case of the frog. Remember that, on Millikan's view, the content of a representation is determined by its consumer (that is, by the sub-systems that use it) and is accounted for in terms of the proper biological function it has been selected for in the individual's ancestors, namely producing fitness-enhancing effects. In the case of the frog, since the proper biological function of the prey-catching system is to provide the frog with food (nutrients), Millikan's theory entails that the content of the neural state caused by the small animals that are part of its diet is roughly *frog food* or *package of nutrients at location l* (MILLIKAN, 1991: 163; SCHULTE, 2012: 485-6). But it turns out that the most successful scientific explanations of the frog's feeding response to visual stimuli are those that ascribe a content that include surface properties of the visual target such as a certain size ("small"), lightness ("dark"), and velocity ("moving"), not fitting-enhancing "deep" functional properties such as that of having nutritional value (see SCHULTE, 2012: 488-91 for an outline of the relevant empirical data; see also NEANDER, 2017: 115-9 for a similar result for toads reached by a different route).

Now compare this to the radical enactivist proposal. Since it consists basically in removing the "problematic" content-part while keeping in place the rest of Millikan's teleological framework, an obvious consequence of RECtification is that the resulting theory no longer is testable for adequacy.[7] When no content is ascribed, there is no point of trying to assess the proposal by the standards of our most successful scientific explanations of the cognitive capacities of basic minds. Assuming being testable for adequacy is a feature any naturalistic theory of intentionality is expected to exhibit, the upshot of RECtification is to turn the resulting proposal unattractive as putative instance of naturalistic theory.

4.3. Revisiting Normativity and Intensionality

The crucial premise in the argument just sketched is the one to the effect that content ascriptions are an essential part of our most successful scientific explanations of animal behavior in terms of

[7] It might be argued that it is testable since it ascribes to the frog's target the property of being a *fly*. However, on the radical enactivist view, the intentional target ("object") ought not be conflated with the content of the state and the defining feature of the view is to deny that the positing of such content is necessary.

the exercise of cognitive abilities. One reason to believe that the premise is true is that in cases such as the frog's (or the toad's) feeding response to visual stimuli constancy mechanisms are involved that are accounted for in their full generality by content-involving explanations of the form: "[this particular frog or toad] exhibits a feeding response because it has seen (perceived, spotted, detected) an object that is small, dark and moving" (SCHULTE, 2012: 490), wherein essential reference is made to instantiations of the corresponding surface properties of perceived objects. As Schulte (2012: 490-1) makes clear, replacing this type of explanation by a neural description of the retinal sensory input would result in "a considerable explanatory loss" since the latter lacks the level of generality of the former.

But this is arguably not the only loss incurred by the teleological approach when genuine intentional (i.e. content-involving) explanations are relinquished at the ground-floor level —as the radical enactivists recommend. That frogs and toads are subject to something functionally equivalent to human spatial visual illusions related to the surface properties of perceived objects is a well-established fact in the neuroethological literature. For instance, frogs and toads are reported to exhibit an inappropriate feeding response (viz. to flick their tongues) when the visual stimulus is a big (i.e. non-manageable) target moved at high-speed from a distance up to one meter (BASTAKOV 1997, 2008). This fact, usually construed as due to a wrong estimation of the distance to the moving object, can be accommodated by slightly modified intentional explanations of the form: "[this particular frog or toad] exhibits a feeding response because it has a perception *as of* a small, dark, moving object" (SCHULTE, 2012: 490). Where no such explanations are available, as happens with the radical enactivists' RECtification of Millikan's consumer-based theory, such errors can hardly be explained as what they are, namely (spatial-) perceptual errors.

Given that intentional explanations of the form spelled out above present the target under a determinate mode or cluster of surface properties ("small, dark, moving object"), if such content-ascriptions are required to explain the fallibility of cognition at the basement level, they are also presumably required to explain its intensionality (opacity). Focusing on the case of AH — an anonymous subject suffering from selective visual impairment —, Hutto and Myin (2018: 193-5) argue against Neander (2017: 29-32) that from the fact that AH's difficulties in locating visual targets with accuracy are usually explained by cognitivist scientists such as McCloskey (2009) by positing intensional contents, it does not follow that her perceptual systems themselves operate intensionally (i.e. in such a way

that one determinate content-ascription is made true while other, co-extensional ones are made false). But, clearly, Neander's explanatory hypothesis only presupposes the existence of intensional contents in the case at hand and similar instances of basic cognition as theoretical posits (i.e. for explanatory purposes). Whether there can be such contents at the ground-floor level of cognition is another issue upon which the issue of the explanatory fruitfulness of positing content-bearing structures need not turn. If we are right, AH's case shows the necessity and fruitfulness of intensional explanations of cognition all the way down.

5. Conclusion

Hopefully, it has been convincingly argued that the radical enactivist proposal about basic cognition falls short of delivering what it is meant to deliver, namely, a theory of Ur-intentionality. The theory delivered is not and cannot be a theory of intentionality in its primitive form because the RECtifying procedure it stems from results in considerable theoretical losses —in that respect, it is not completely on a par with its representationalist analogue, contrary to what their advocates claim. First, RECtified teleosemantics (teleosemiotics) no longer is testable for adequacy, thereby losing some of its naturalistic credentials —whereas consumer-based teleosemantics is. Second, it fails, just like the theory to be RECtified, to explain distinctive kinds of errors occurring at times at the basement level of cognition (e.g. in frogs and toads) as what they are, namely, spatial visual errors. Third, it fails to account for the intensional character of the content-ascriptions routinely made by cognitive scientists to capture what visual targets are represented as (at the same basement level) by subjects suffering from visual impairments and, by way of inference, so-called normal subjects (see NEANDER, 2017: ch.2). Normativity and intensionality *are* necessary features of the states of informational systems all the way down to the ground-floor. Our preferred view accounts for this fact by distinguishing carefully the epistemological issue of the fruitfulness of content-involving explanations from the metaphysical (foundational) issue as to whether representational contents can have room in the natural order.

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