

# NonConceptual Content and Objectivity

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Aristotle once developed the difference between man and animal in the following way: animals can understand each other by indicating to each other what excites their desire so they can seek it, and what injures them, so they can flee from it. To men alone is *logos* given as well, so that they can make manifest to each other what is useful and harmful, and therefore what is right and wrong. A profound thesis.  
-- Gadamer, "Man and Language"

## 1. Introduction

[1] In recent times the question of whether or not there is such a thing as nonconceptual content has been the object of much serious attention. For analytical philosophers, the locus classicus of the view that there is such a phenomena is to be found in Evans remarks about perceptual experience in *Varieties of Reference*. He famously wrote:

In general, we may regard a perceptual experience as an informational state of the subject: it has a certain *content* -- the world is represented a certain way -- and hence it permits of a non-derivative classification as *true* or *false*. For an internal state to be so regarded, it must have appropriate connections with behaviour -- it must have a certain motive force upon the actions of the subject.... The informational states which a subject acquires through perception are *non-conceptual*, or *nonconceptualised*. Judgements *based upon* such states necessarily involve conceptualisation. (Evans 1982: 226-227).

[2] John McDowell has taken issue with Evans precisely over his claim that "conceptual capacities are first brought into operation only when one makes a judgement of experience, and at that point a different species of content comes into play" (McDowell 1994: 48). In contrast, he proposes that "A judgement of experience does not introduce a new kind of content, but simply endorses the conceptual content, or some of it, that is already possessed by the experience on

which it is grounded" (McDowell 1994: 48-49). Ironically, in light of the ambitions of *Mind and World*, this sits very happily with the firmly embedded views of many traditional classical cognitivists. It has been a long-standing article of faith that, even in its most basic forms, perceptual content must be conceptual. But those who adopt this position have a heavy burden when it comes to explaining the origin and development of concepts (cf. Peacocke 1992a: 9).

[3] Standardly, in line with the proposal that at least some primitive concepts must be innate, theorists like Fodor make appeal to the intrinsic character of such concepts to explain more complex conceptual contents and their essential characteristics (Fodor 1998: 130). But, of course, what is never explained is the origin of the primitive concepts themselves other than by tongue in cheek remarks about what God would have bestowed us with (cf. Fodor 1998: 129).<sup>1</sup> Primitive concepts and their properties as simply assumed because of an explanatory need despite that fact that making this assumption has a paradoxical consequence -- which, in this case, is revealed by Fodor's claim that *all* concepts must be acquired inductively (cf. Fodor 1998: 130-132). It is ironic then that Fodor rebukes Dennett for suggesting that "it's learning a language that makes a mind systematic" (Fodor 1998: 26). He accuses those who attempt such explanations of sweeping "the problem from under the hall rug to under the rug in the parlour" (Fodor 1998: 26). But if anything is sweeping a problem under a rug, it is the unexplained postulation of conceptual contents all the way down to the bottom rungs of experience.

[4] The good news is that if we opt for a nonconceptualist approach then *no* concepts need be innate, nor do I think any are. There is a plausible programme afoot, initiated by Cussins, which hopes explain "the construction of cognitive properties out of non-cognitive properties" (Cussins 1990: 374). For example, he encourages us to suppose "that the mind/world distinction is a phylogenetic or ontogenetic achievement" (Cussins 1990: 409). However, some advocates of nonconceptual content believe that providing this explanation will be a relatively straightforward, although clearly difficult, task given that a contentful base of nonconceptual informational states, of the kind Evans envisioned, is presupposed. While it is my concern to defend Evans' distinction between the conceptual and the nonconceptual, and indeed to draw the dividing line precisely where he draws it -- at the point where judgements come into play -- I am alive to a serious charge that McDowell raises against him. In a bid to establish that the relation between our capacities for receptivity and spontaneity are harmonious while averting endorsement of the Myth of the Given, McDowell claims that, although it is not immediately obvious, Evans' account is itself "a version of the Myth of the Given" (McDowell 1994: 51). It is not obvious because Evans clearly cuts the cords with judgement-making when he advocates a nonconceptual account of experience. Nevertheless, it is his traditional understanding of content

that betrays him. In McDowell's words: "the word 'content' plays just the role in Evans' account that is played in that position by the fraudulent word 'conceptual'..." (McDowell 1994: 53).

[5] This objection sticks. Moreover, if nonconceptual content is to play the important role of helping to explain the development of concepts then we must explicate the nature of such content in such a way that does not presuppose that it is truth-conditional. We must also be able to say exactly what part nonconceptual responses play in judgement making and conceptual development.<sup>2</sup> It will be the burden of this paper to provide a sketch of how both these ends might be achieved and to offer some reasons for thinking the project is a viable one. I do this in two stages. The first is to advocate a modest biosemantic theory of nonconceptual content and the second is to show how this can shore up a Davidsonian understanding of the possession conditions for concepts (Peacocke 1992a: 5).

## 2. Nonconceptual content sans truth conditions

[6] The nature of the content that putatively applies to nonconceptual responses stands in need of clarification. This is clear if we consider the suggestion that it might play a role in the explanation of the development of full blown concepts as Cussins does when he claims that non-conceptual content can provide the means for understanding the emergence of the "objective" from the "non-objective". There has been some confusion in the literature on what this requires. For example, Bermúdez has recently claimed that Peacocke's rejection of the "Autonomy Thesis" makes the latter's account of non-conceptual content useless in providing a phylogenetic theory of conceptual development. The "Autonomy Thesis" states that "it is possible for a creature to be in states with nonconceptual content, even though that creature possesses no concepts at all" (Bermúdez 1994: 405). Thus, Bermúdez writes if such a thesis "is rejected, then it will be *ipso facto* impossible to give at least one type of developmental explanation of conceptual content in terms of nonconceptual content -- namely, the type of developmental explanation that involves explaining how a creature in states with only nonconceptual content, such as for example a new-born human infant, can develop into a full-fledged concept user" (Bermúdez 1994: 405).

[7] In reply Peacocke makes it clear that Bermúdez's criticisms miss their mark. He concedes that there is potentially more than one form of non-conceptual content. In this regard, it is important to note that what he calls "scenario content" -- which is equivalent to the notion of a spatial type (see also Peacocke 1992a: 64; Peacocke 1994: 420) -- is the "arguably the most fundamental type of *representational* content" (Peacocke 1992b: 105, emphasis mine). It is therefore

clearly consistent for him to endorse the claim that "scenario content" requires a rejection of the autonomy thesis without being committed to the view that all forms of non-conceptual content require a similar rejection of that thesis. In particular, he tells us that his views are compatible with acceptance of Cussin's construction-theoretic account of non-conceptual content. He writes:

Since CT [construction-theoretic] content is distinct from scenario content, and my rejection of the Autonomy Thesis is a rejection of a thesis about scenario content, that rejection poses no obstacle to those who see either a developmental or a phylogenetic progression from states with only CT content to states with conceptual content. (Peacocke 1994: 424)<sup>3</sup>

[8] This is an interesting response because in allowing for the possibility of what Peacocke calls CT content he is allowing for a kind of non-conceptual content that is both "pre-objective" and which "lacks correctness conditions" (see Peacocke 1994: 423, 424). But I want to argue that although the most basic form of nonconceptual content is "pre-objective" it nevertheless must have correctness conditions on the pain of not being content at all. It is important to keep these notions distinct.

[9] It follows logically that in order to serve the role of explaining the development of concepts the most basic form of non-conceptual content must be being pre-objective in character. Cussins and Chrisley have laid the ground for understanding this aspect of non-conceptual content by excavating the work of Evans and Strawson (Cussins 1990; Chrisley 1993; Evans 1982; Strawson 1959). They remind us of the important distinction between objective and pre-objective modes of thought. Chrisley writes:

truly objective thought is manifested in the possession and maintenance of a unified conceptual framework within which the subject can locate, and thus relate to any other arbitrary object of thought, the bit of the world thought about....

Pre-objective representation involves contents that present the world, but not as the world, not as something that is or can be independent of the subject. (Chrisley 1993: 331)

[10] Chrisley provides an illustration of pre-objective thought with reference to the responses of infants before they have attained the stage of recognising object permanence (Chrisley 1993: 331). He suggests infants lack the ability to think of objects as existing unperceived and hence, they clearly lack a conceptual capacity to represent "objects" *qua* objects in our sense. For this reason both he

and Cussins see this mode of non-objective responding as a violation of the "generality constraint" (see Cussins 1993: 661-663). Evans describes the constraint in the following terms: "if a subject can be credited with the thought a is F then he must have the conceptual resources for entertaining the thought that a is G, for every property of G of which he has a conception. This condition I call the generality constraint" (Evans 1982: 104; see also Strawson 1959: ch. 3). Thus, with reference to Chrisley's example:

an infant which cannot...think of a particular object (a glass, say) as existing unseen, but it can represent its mother as being behind, out of view (on the basis of hearing her voice or feeling her arm, say). The contents of such an infant will violate the Generality Constraint, since the infant may be able to think (something like) *glass in front of me* and *mother behind me* but not *glass behind me*. (Chrisley 1993: 332)

[11] If this is correct, then a crucial feature of non-objective modes of thought is that they lack the kind of systematicity which is a hallmark of logico-linguistic thought. Agents which only have a capacity for non-objective thought are simply not capable of making the kinds of systematic, formal substitutions which are bread and butter to conceptual thought. To accept this is to accept that it has been wrongly supposed by some that such substitutions, which are inherent in compositionality, inference making, and productivity, are also a "pervasive" criterion of cognition.<sup>4</sup> The tradition would have it that if an organism can think of some object,  $x$ , that it has a property,  $Fx$ , then it must also have the ability to think of some other object (of similar type) such that it could have this property as well (e.g.  $Fy$ ). The same applies to relational forms, such that if a subject can represent  $xRy$ , then it must also be capable of representing  $yRx$ .

[12] The fact that basic non-conceptual content is not systematic is no bad thing. For states with non-conceptual content can still be behaviourally relevant even if pre-objective and non-systematic. Consider perceptual illusions such as that generated by the Müller-Lyer drawing. It can affect our perception by presenting things to us in a particular way which can be at variance to how we judge things to be. In the standard setting the difference is isolated to perceptual responses alone -- but it is not hard to imagine situations in which the illusion could affect actions as well. This is clear if we consider the plausible hypothesis that the Müller-Lyer illusion works on us because in a normal 3D setting the kind of perceptual responses it inspires are tied to our actions precisely because they help us in the detection of edges. The point to note is that while pre-objective nonconceptual content can influence an organism's response to the environment it does not do so by means of the manipulation of internal representations in the fashion that many philosophers (and classical cognitivists) have claimed.

Moreover, this is specifically because the kind of representations appropriate to such basic responses are not like those that the tradition has postulated. The most basic form of non-conceptual content does not map onto what we would recognise as "objective features" of the world. Thus, strictly speaking, although such contents may be crucially involved in guiding and controlling actions, it would be a mistake to think that they are systematically representative of the objects and features of an external reality as defined by our usual scheme of reference (see Cussins 1992b: 655-656).

[13] This brings us neatly back to Peacocke's second, more controversial point about "correctness conditions". If we say that a purely perceptual, but potentially action-guiding, response is non-conceptual we still want to regard it as having content. For even in the most basic cases of non-conceptual content it would appear that things, features and situations are presented to subjects as being in a certain way. It is for this reason that such content is regarded as "representational". For example, Bermúdez writes:

Conceptual and nonconceptual content are distinguished not by whether they are representational, but according to how they represent (Bermúdez 1995: 335).<sup>5</sup>

[14] But, it is also standardly supposed that to have any kind of "representational" content at all it is necessary that there are specifiable "correctness conditions". In Crane's words:

To say that any state has content is just to say that it *represents* the world as being a certain way. It thus has what Peacocke...calls a "correctness condition" -- the condition under which it represents correctly (Crane 1992: 139, emphasis mine).

[15] Hence if the advocates of nonconceptual content hope to explain the development of full blown concepts by appeal to such content, and they follow Peacocke's suggestion about CT-content, they will be caught on the horns of a dilemma. The first horn is that if nonconceptual content is to play this role, then it cannot lean on pre-given notions of "truth" and "reference" in order to clarify its notion of content (see Cussins, 1992b). The second horn, is that if we do not appeal to "truth" and "reference" in order to clarify non-conceptual content, then it is unclear that "correctness conditions" apply. But if we cannot speak of "correctness conditions" with respect to nonconceptual content then it is doubtful that we can consider it a form of "content" at all.

[16] Recognising this Cussins has recently re-formulated his account of

nonconceptual content by appeal to the notion of the "realm of embodiment" which he contrasts with the "realm of reference". He objects to accounts which "suppose that representation in embodied practice is to be explained in terms of the prior, and therefore *given*, notions of truth and the realm of reference" (Cussins 1992b: 652, emphasis mine). His is an attempt to prioritise our experiential responding over our capacity to refer when theorising about our most basic cognitive performances (see Cussins 1992b: 653). His notion of nonconceptual content is meant to provide "a genuine notion of significant representation" which does not require taking "truth" or "reference" as basic notions. While I agree that this is needed I cannot see how an appeal to experience alone is sufficient to ground the kind of content needed to explain the emergence of an objective perspective on the world.

[17] In contrast I propose that there is a form of "correctness condition" which does not equate to "truth conditions". Specifically, non-truth conditional correctness conditions can be explicated by a modest biosemantics.<sup>6</sup> Moreover, I suggest that only in its modest form is biosemantics a plausible theory of content. Hence, in my view a modest version of biosemantics and nonconceptual content complement one another.

### 3. Biosemantic normativity

[18] There is nothing wrong in thinking that the most basic nonconceptual contents have "correctness conditions" provided we are careful in understanding their source and nature. In this section I will make a case for thinking that a properly modest biosemantics is not a truth-conditional account of representation, only an account of basic intentionality.<sup>7</sup> A modest biosemantics accounts for the normativity which underwrites the intentional character of nonconceptual content without treating truth or reference as given. In order to make this case I review and defend some of the central features of biosemantic theory. Biosemantists claim that if we appeal to an organism's selectionist history in a principled fashion then it is possible to give a genuine naturalistic account of the nature of intentional phenomena.

[19] Millikan rightly insists that the first place it is appropriate to speak of "content", with respect to biological devices, is in relation to what she calls "intentional icons" (see Millikan 1984: ch. 6; 1993: ch. 5).<sup>8</sup> As the name implies such icons are intentional (not intensional) in Brentano's sense in that they can be directed at features, objects or states of affairs which may or may not exist (see Millikan 1993: 109; 1989: 96). Intentional icons have three essential features (adapted from Millikan 1993: 106-107).<sup>9</sup> These are:

- (a) They are relationally adapted to some feature of the world.
- (b) The relation described in (a) can be characterised by means of a mathematical conceived mapping rule.
- (c) They have the direct proper function to guide a co-operating (consumer) device in the performance of its direct proper function(s).

[20] Millikan's paradigm example of a simple intentional icon is the bee dance. Such dances are meant to generate an appropriate response in a co-operating consumer mechanism(s); the watching bee or bees. In this case, a patterned flight response which takes the bee(s) to the location of nectar.<sup>10</sup> A bee dance, like other intentional icons, has both indicative and imperative aspects. If the relational conditions for this characteristic type of dance are normal then it will successfully map, *via* some mathematically describable projection rule. This is the icon's indicative aspect. If this is satisfied then it can direct the icon-consuming bees to the nectar's location. This is the icon's imperative aspect (see Millikan 1984: 99).

[21] The bee dance example also usefully illustrates the nature of derived, adapted proper functions. A token bee dance may be unique in the particular way it points a "consumer" bee(s) towards the location of nectar. It is therefore possible that a token dance could have a unique derived function to point *thusly*, in virtue of the fact that bee dances, as a class, have the stable direct proper function to send watching bees toward nectar (see Millikan 1984: 98; Jacob 1997: 109). This is comparable to the way in which photocopier has both the general proper function to copy "that which is placed on the glass" and the supporting adapted, derived proper function to produce copies of the particular items placed on it.

[22] As is well known, there is a strong contrast between biosemantic accounts and causal/informational theories of content. This is because the former regard the proper functions of intentional icons as determined by a consideration of the dynamics of production and consumption devices, and with reference to their normal conditions for operation. Thus, Millikan stresses that:

intentional icons do not, as such or in general, carry "natural information". Nor do they "covary" with or "track" what they icon. Their definition makes no reference to how likely or unlikely they are actually to correspond to their designated environmental features, nor how likely these features are to get mapped by them (Millikan 1993: 107).



[23] It is important to realise that we cannot understand the direct proper function of intentional icons by sole reference to what they regularly map, statistically understood. For example, Millikan's work sharply distinguishes "proper" functions from mechano-functions. A device can have a proper function even if it rarely, or ever succeeds, in performing it. One of her favourite ways to illustrate this point is by appeal to the case of sperm and the ovum (see Millikan 1984: 4, 29, 34). She writes "It is the biological purpose of the sperm to swim until it reaches an ovum. That is what its tail is for. But very few sperm actually achieve this biological end because ova are in such short supply" (Millikan 1993: 223). As she never tires of observing, abnormality and dysfunction only make sense against a principled understanding of proper functioning. The point is that the proper function of a sperm cannot be understood by sole reference to its mechanical dispositions. For one thing there are too many things that, neutrally described, devices are disposed to do. In contrast, what we need is a normative standard in order to determine what the device is "supposed to" do. Similarly, the direct proper functions of icons need to be explicated with reference to what effect they ought to produce given the historical pedigree -- not their current dispositions (see Millikan 1993: 160; Millikan 1993: 25). In Millikan's own words, "some of us have argued [we should] ground the needed norms in evolutionary biology -- to let Darwinian natural processes set the standards against which failures, untruths, incorrectness, etc. are measured" (Millikan 1991: 151).

[24] For this reason the norms introduced by such an account must not be confused with statistical norms (Millikan 1993: 165). They appeal to a device's selectionist history in which success is measured, not by achieving a certain result x number of times above some arbitrary statistical threshold, but by a principled appeal to what was "good enough" for proliferation of the trait or response. The theory is fleshed out by appeal to the interlinked notions of "normal explanations" and "normal conditions". The former "explains the performance of a particular function, telling how it was (typically) historically performed on those (perhaps rare) occasions when it was properly performed" (Millikan 1993: 86). With respect to "normal conditions" her position is that they must "be mentioned when giving a full normal explanation for the performance of that function" (Millikan 1993: 86). To understand proper functions therefore requires reference to a device's "normal conditions" or "ideal conditions" of operation. The understanding these norms requires appeal to natural selection and there are good reasons to understand this in a decidedly etiological, or historically-based fashion. Thus Millikan says that "normal conditions" could also be described as "historically optimal conditions" (Millikan 1993: 87; see also 28).<sup>11</sup>

[25] It is in this way that appeals to a selectionist account of proper functions, which describes the effects a device is *supposed to* or *meant to* produce, provides the guide by which we are to assess whether or not any given

"intentional state" is mapped appropriately or inappropriately (see Rowlands 1997: 283). Unlike other naturalistic theories of content the biosemantic theory does not depend on locating a special kind of "mapping relation" that exists between representation and that which is represented. It is achieved by coming to understand the dynamics and norms involved in icon consumption. We get the "mapping" relation *gratis* once this is done. It is, as it were, fallout.

#### 4. Defending High Church Biosemantics

[26] Despite the obvious virtues of the biosemantic approach when it comes to solving a number of problems which plague other naturalistic theories of content, it has encountered the strong criticism that, appearances to the contrary, it does not provide a stable means of determining, and hence naturalising, content. Fodor has been the most vigilant opponent of this class of views and his remarks are the *locus classicus* of the critique. Referring to the time-worn example of the frog that can't distinguish between flies, black dots, and bee-bees, he writes:

You can say why snapping is a good thing for frogs to do given their situation, whichever way you describe what they snap *at*. All that's required for frog snaps to be functional is that they normally succeed in getting flies into the frogs; and so long as the little black dots in the frog's Normal environment *are* flies, the snaps do this equally well on either account of their intentional objects (Fodor 1990b: 106).

[27] It is important to be clear about this objection. It is well known that frogs tend to react to a whole range of small, dark, moving objects in the same manner (i.e. shooting out their tongues). We have already been told that appeal to device's proper function provides the logical space for a normative assessment of misrepresentation. But such assessment requires that we look to "the *most proximate* Normal explanation for full proper performance" (Millikan 1984: 100, emphasis original). Millikan's stipulation leads us to favour the view that the function of the tongue-snapping behaviour is not disjunctive at all; rather it is directed at flies and flies alone -- since ingesting these served the ancestors of this type of frog in the evolutionary history of these creatures. It alone enters into a full explanation of why the response mechanism proliferated (see Millikan 1993: 213-214).<sup>12</sup> But her version of biosemantics focuses on the fact that direct proper function of intentional icons must be defined in relation to the benefits which accrue to the consumer device(s) in the organism.<sup>13</sup> Thus, the frog's tongue-snapping behaviour is designed to get its dinner. Given this, its tongue-action *should* be directed at the range of edible objects which are compatible with the effective working of its stomach, in normal conditions of the kind which have benefited its ancestors.<sup>14</sup>

[28] Bearing these points in mind, Fodor's critique has the following form: He agrees that from the selectionist perspective, a frog's inner icon only misrepresents in those cases where its snapping behaviour is not in line with the normal conditions that are part of an explanation of why the device was selected. But he suggests that if in the historical environment of the frogs' ancestors black dots of such and such a size, speed and shape were in fact coextensive with flies (or were often enough flies), then it doesn't matter which way we now choose to describe the frog's detection-device. In giving our explanation we can call it a fly or black-dot detector without consequence. All that matters is that a device with the propensity to detect small, dark moving things, in fact, aided this type of frog (or at least did not competitively disadvantage them) in the normal habitat of its ancestors and hence was "reproduced". His claim is that historical explanations of this kind do not provide a principled basis for making distinctions between intentionally alternative but explanatorily adequate descriptions (see Rowlands 1997: 284; see also Godfrey-Smith 1994b: 273-274). As he says: "The context '--- happened' is transparent for the '---' position, so it would be sort of surprising if contexts defined in terms of it weren't transparent too" (Fodor 1991: 296).<sup>15</sup> He claims it doesn't matter how we choose to describe the function of the frog's detector-mechanism because, metaphysically speaking, all that mattered to that selection was the neutrally described capacity to detect small, moving black dots.<sup>16</sup> This is consistent with the fact that what was detected were often enough flies and these alone provided the ancestor frogs with (enough) nutrition to get by.

[29] There is something right and wrong in both these responses. On the one hand, Fodor is right in thinking that, when giving our selectionist explanations, how we choose to describe what-it-was that the ancestor frogs were meant to detect couldn't have mattered, metaphysically speaking. The only thing that could have made a difference to the selection of such detection devices was that they enabled frogs equipped with them to respond well enough to proliferate. On the other hand, Millikan is certainly right to think that it is the getting of nutrition which is responsible for proliferation of the frogs (and their detection devices) and hence describing their detection devices as fly-detectors has explanatory priority. For this reason Fodor's outright rejection of teleology gets the order of explanation wrong. Without a top-down, teleological account we would not fully understand why the mechanisms were selected at all. In this light, Neander's comments about what Darwin's interests are apposite in response to Fodor's remarks. She writes:

[Darwin] might wonder which feature of the A/B situation was beneficial to the organism, and why it was beneficial, and he might wonder how the organism detects that it is an A/B situation, and which feature of such situations the organism is responding to. And the answers to these questions are not description insensitive.

Perhaps A was the benefit and B was the stimulus, or perhaps B was the benefit and A was the stimulus, or perhaps A was both the benefit and the stimulus, or perhaps B was. (Neander 1995: 122)

[30] Having said this, looking from the bottom up, Millikan's account has appeared explanatorily insufficient to some. Her critics suggest that if we concentrate wholly on what actually benefits (or benefited) organisms as the basis for determining what an icon ought to "represent" then we are in danger of counter-intuitively demanding too much of these devices (Neander 1995: 126-129; Jacob 1997: 123-124). Although a biosemantist herself, Neander makes this objection to Millikan. She illustrates the problem with appeal to the example of a male hoverfly. According to an exclusively benefit-based account a male hoverfly "misrepresents" if he chases an infertile female or one who is soon to be the dinner of some passing bat" (Neander 1997: 127). Likewise the frog "misrepresents" if the fly it detects happens to be carrying a frog-killing virus or if it isn't in fact nutritious. For this reason it might be thought that on a benefit-based account the correct description of proper function of such devices is to lead hoverflies to "fertile mates" or enable frogs to get "nutritious protein". But putting things like this raises questions about the perceptual abilities of such organisms. For example, Jacob questions whether we can seriously credit organisms with the *capacity* to detect that which is "good for them" (Jacob 1997: 123).

[31] This worry inspires Neander's proposal that when offering a biosemantic account we ought to look, as biologists do, at the "lowest level at which the trait in question is an unanalysed component of the [proper] functional analysis" (Neander 1995: 129). In saying this she reminds us that "what counts as "lowest" is relative to the trait in question" (Neander 1995: 129). This last point is graphically illustrated by figure 1 (modified from a version in Neander 1995: 125).

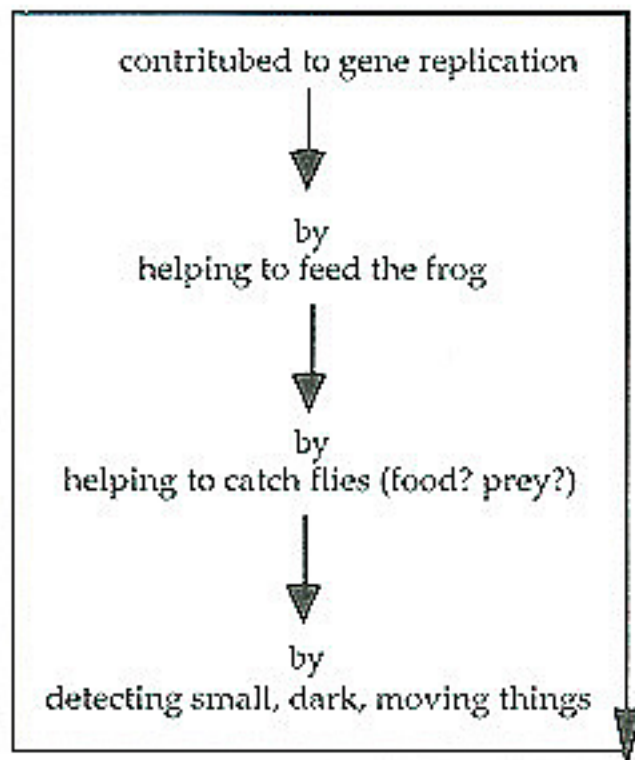


Figure 1

[32] Considering this diagram we might wonder: Which level and its associated proper function matters to intentional content? Neander's answer is that we should look to the lowest level on the grounds that this reflects sound biological practice. She writes that "with respect to a given part (P) of an organism, biologists should (and do) give priority to that level of description which is most specific to P - the lowest level of description in the functional analysis before we go sub-P" (Neander 1995: 128).

[33] But this move is ill motivated. For it is wholly consistent with Millikan's benefit-based account of the direct proper function of intentional icons that there exist logically stacked proper functions of the kind Neander describes. What her diagram reveals is simply how various higher level ends are served by the successful performance of the lower level devices or mechanisms. Against this background we can see why Millikan's distinction between a device's direct proper function and its derived, adapted proper function is so important. Recall, in the case of the bees, that the ultimate source of the bee dance's derived proper function to direct the consumer to a *particular* location. This specific function is inherited from its direct proper function to get the consumer bee to nectar. For this reason Millikan assigns predominance to a device's direct proper function when determining the content of an icon. Looking at matters in this light reveals that

there is no need to make a choice between high and low biosemantics.

[34] If we accept that these levels are complementary then surely it is the case that the correct selectionist explanation of a hoverfly's target is "female hoverfly" while the frog's target is "fly". This can be seen in light of the concerns about perceptual capacities. In the normal environment of their ancestors it was the (perhaps rare) detection of these kinds of things which accounts for the proliferation of these kinds of detection devices. It was these types of thing that they were detected when all was well. In the normal environment of their ancestors detecting these kinds of thing was good enough. Hence, it is these types of thing that ought to be detected. And ought implies *can*. In my view, the Neander-Jacob objection is confused because the notion of a capacity is equivocal. In this case it would be wrong to *define* it comparatively. Of course it is true that given the nature of their sense organs frogs have a *greater* capacity to detect "small moving black dots" than they have to detect "flies". But this would only be a worry if we were defining the biosemantic normativity in statistical terms -- which we are not. In the right conditions they have the capacity to detect flies.

[35] Second, although Neander can rightly deploy the terminology of proper functions with respect to a device's lowest level of operation there are serious problems in taking this low road when it comes to understanding content. This is so even though it is true that such devices can malfunction in a way that demands a normative understanding.<sup>17</sup> For example, Neander points out that:

A sick frog might R-token at a snail if it was dysfunctional in the right way. Damaging the frog's neurology, interfering in its embryological development, tinkering with its genes, giving it a virus, all of these could introduce malfunction and error. Therefore, the theory I am defending does not reduce content to the non-normative notion of indication or natural meaning. (Neander 1995: 131; see Jacob 1997: 118, 134)

[36] It is with this observation in mind that Neander proposes a kind of "philosophical marriage of Fodor and Millikan". Such a union is supposed to provide a biologically plausible means of determining content (Neander 1995: 137). But the price of this manoeuvre is to sacrifice an account of content altogether. This is clear if we consider the fact that Neander's account re-introduces the problem of distality which Millikan's version of biosemantics laid to rest. Neander notes this herself by telling us that low church biosemantics "seems to drive us to proximal content...[for example,] it is, after all, by responding to a retinal pattern of a particular kind that the frog responds to small dark moving things" (Neander 1995: 136).<sup>18</sup> This is not a trivial point; low church biosemantics

violates one of the minimal conditions for a device to count as an intentional icon. Unless we have independent reason to think that a device has the proper function of directing the organism towards some external state of affairs, we have no grounds for thinking it "represents". The mere fact that a device can malfunction is not sufficient to regard it as having representational capacities.

## 5. The virtues of modesty

[37] Having now defended Millikan's version of biosemantics from some recent criticisms I want to encourage adoption of it in a modest form. Ambitious biosemantics accounts suffer because they attempt to unpack the notion of basic representation in terms of truth-evaluable content (see Godfrey-Smith, 1994b). But I am unhappy with Millikan's claim that biosemantic theory provides a "non-vacuous" ground for a correspondence theory of truth (see Millikan 1993: 86-94). Nor is she alone in advocating this use.<sup>19</sup> Consider these remarks of Papineau and McGinn.

The biological function of any given type of belief is to be present when a certain condition obtains: that then is the belief's truth condition (Papineau 1987: 64).<sup>20</sup>

[T]eleology turns into truth conditions...[because a] sensory state fulfils its function of indicating Fs by representing the world as containing Fs; and it fails in discharging that function when what it represents is not how things environmentally are (McGinn 1989: 148, 151).<sup>21</sup>

[38] By such lights all "representations", whatever other features they exhibit, or fail to exhibit, have truth-conditional content. While consideration of the scope of this claim may give us pause, the biosemantist re-assures us that only humans really have beliefs with propositional content; lesser creatures have less sophisticated representations (i.e. proto-beliefs, sub-doxastic states, etc.). Even so these crude representations are still true or false. Thus Millikan's examples of simple organisms are specifically meant to "make it clear how very local and minimal may be the mirroring of the environment is accomplished by an intentional icon" (Millikan 1993: 106). The thought is that such content enters into our natural history at a very early phase and becomes tied up with more and more complex cognitive dynamics as we travel up the phylogenetic tree. It is because we can describe systems of representation of graded complexity that we can explain the emergence of propositional content as a late development. For instance, we can mark the differences between creatures which are hard-wired for a particular environment and those which display plasticity (i.e. the ability to learn

to cope with new environments). This point is crucial to note lest we be led astray by talk of bees and frogs into thinking that there are no differences between their form of representation and ours.

[39] Millikan lists six fundamental differences between human and animal representations which "secure our superiority, [and] make us feel comfortably more endowed with mind" (Millikan 1989a: 297).<sup>22</sup> The two most important on her list are the fact that we are able to make logical inferences by means of propositional content. Thus, only representations of the kind which respect the law of non-contradiction can be deemed to have propositional content (Millikan 1989a: 296-297). In a nutshell, she holds that there are distinct types and levels of "representation" and that not all "representations" have the kind of content appropriate to full-fledged beliefs or desires. What this means is that biosemantists need not, and should not, hold that content of the frog's intentional icon is captured by the conceptual content of the English sentence "There is an edible bug" or any other near equivalent. Millikan is explicit about this. With reference to bees she writes:

bee dances, though (as I will argue) these are intentional items, do not contain denotative elements, because interpreter bees (presumably) do not identify the referents of these devices but merely react to them appropriately. (Millikan 1984: 71).

[40] What I take from this remark is that we "identify" the object that the bee is directed at as "nectar" using our own conceptual scheme. Indeed, we settle on this description because it is explanatorily relevant when giving a full, selectionist explanation of the proper function of bee dances. This much is incontestable. Moreover, due consideration of this fact reveals that although Fodor's critique concerning the indeterminacy of fixing intentional descriptions with respect to our selectionist explanations fails to undermine the biosemanticist project in the way he proposes, it is apposite to the extent that it highlights the fact that such descriptions are intensional in a way that the content of intentional icons is not. A better way to explicate the kind of content appropriate to such icons is to follow Rowlands and lean on Gibson's notion of affordances. Affordances are defined as "relational properties of things; they have to be specified relative to the creature in question" (Rowlands 1997: 287). In this regard, Rowlands writes: "Thus, the surface of a lake affords neither support nor easy locomotion for a horse, but it offers both of these things for a water bug. To speak of an affordance is to speak elliptically; an affordance exists only in relation to particular organisms" (Rowlands 1997: 287). Armed with this notion he suggests that the organism must be able to detect the affordances of its environment (as they relate to it) but not necessarily the objects of the environment *per se* (as we might describe them from our perspective). From this angle the "organismic proper function of the mechanism is



to enable the rattlesnake to detect a certain affordance of the environment, namely eatability. This allows the attribution of content such as 'eatability!' or 'eatability, there!' to the rattlesnake" (Rowlands 1997: 291). The fact that we describe the proper function of the snake's detection device as one of locating "mice", and can do so on principled explanatory grounds, is incidental (see Rowlands 1997: 291). I am extremely sympathetic to the spirit of this proposal. Nevertheless we must be wary of treating it as a suggestion that we ought to positively designate the content of the snake's icon in terms of a concept such as "eatability".

[41] This fits with the fact that in order to make a serious ascription of propositional content, the subject in question must manifest "finely discriminating" behaviour over a considerable period of time. As Davidson observes, for the most part, only a person's speech acts constitute such behaviour.<sup>23</sup> In daily life what makes the ascription of propositional content to linguistic utterances expedient is the defeasible assumption that others speak our language. We can ask questions such as, "Do you mean *this* (e.g. some proposition) by *that* (e.g. some other proposition)". It is only if a speaker actively makes such choices, by accepting some propositions as adequate descriptions of their words, while rejecting others, that interpreters are able to ascribe propositional contents. Philosophical speaking, to discover what someone believes or "means" we must effectively put their utterances through an "intensionality test". The intensionality test essentially reveals in what way, and to what degree, a subject's words or thought is resistant to co-referential substitution.

[42] Imagine that Farah believes her homework is due on the 21st of March, but has only limited knowledge about the other ways in which that day might be correctly denoted. Although it is acceptable to her that we describe her thought about "the day the homework is due" by replacing it with propositions (2) and (3) below, she stoutly objects if we attempt to substitute it with proposition (1).<sup>24</sup>

- (1) "The homework is due on the first day of spring"
- (2) "The homework is due on the 21st of March"
- (3) "The homework is due tomorrow"

[43] By considering this simple application of the "intensionality test", we learn several things. Firstly, in discovering what a person means by his or her utterances we are effectively locating the propositional content of such utterances in relation to other propositional contents. The content of any sentence or proposition is determined, at least in part, by its place in the "logical geography" of other contents.<sup>25</sup> Notice that the way in which Farah conceives of "The day the

homework is due" is constrained in part by her other thoughts about that day. Farah's belief about "when the homework is due" could be refined if she discovered that there is a connection between "the first day of spring" and "the 21st of March". This is related to the fact that a subject who is aware of this connection, *ex hypothesi*, has a conception of that day which is different and richer than Farah's.

[44] Also, by noting the pattern of inter-connections between propositional contents we can decide when someone is expressing a proposition which is the same, or similar, to our own. For instance, if my expression of the proposition "Scotland is beautiful" is to carry the same or similar meaning to yours, then we had better agree on quite a few other important propositions; such as "Scotland is North of England", "Slugs are not beautiful", "North is not East", "Scotland is a country", etc. (see Davidson 1984a: 257; Evnine 1991: 120-121). As Davidson frequently reminds us, there need be no definite set of beliefs (and attendant propositional contents) upon which we must agree in order to make such similarity claims. If such comparisons are to be plausible there need only be a reasonable degree of agreement (Davidson 1985c: 475). The point is that in order for there to be propositional contents there must be detailed *patterns* to speech and thought.<sup>26</sup> In contrast, intentional icons do not have any propositional content as such, they are simply responses directed at creature-relative "affordances" (rather than objects *per se*). Thus, Rowlands is right to suggest that:

One can, therefore, speak of the mechanism detecting flies, or enabling the frog to detect flies, but this is only in a secondary and derivative sense, and reflects neither the algorithmic nor the organismic proper function of the mechanism (Rowlands 1997: 295)

[45] Any attempt to characterise the content of such icons in conceptual terms is an inappropriate attempt to deploy our own standard scheme of reference. But if one is willing to concede this then it is difficult to see what could motivate thinking of basic representations as having *truth* conditions. If such icon's lack intentional content then it is surely misguided to think of their mappings to the world in such terms. If icons are not proposition, and given that sense determines reference, we might ask: *What* is true? How can we have a truth relation if one of the crucial *relata* is absent. Hence, even if a modest version of biosemantics gives us a handle on the bivalent content of intentional icons it is a mistake to think of such content in truth-conditional terms. For these reasons I am critical of the idea that the biological norms which underwrite the simplest "representations", i.e. intentional icons, could be straightforwardly deployed in "flatfooted correspondence views of representation and truth" (Millikan 1993: 12).<sup>27</sup> Contra Millikan, I maintain that although intentional icons are normatively directed at features of the world their "correctness conditions" are not best understood as

truth conditions. Biosemanticists should not assume that natural selection grounds truth, even though the mappings that emerge at this level may ultimately play a crucial role in understanding its nature.

## 6. The emergence of objectivity

[46] Moreover, when we consider how nonconceptual content might help in explaining the emergence of truth and objectivity it becomes clear that it is not just the holistic complexity of propositional thought that ties it to linguistic practice. If it were only an issue of such complexity then one might simply agree with Lockwood that "acquiring a language or concepts may be more akin to progressively finer tuning of an instrument with a vast number of strings than it is to learning a set of rules" (Lockwood 1989: 122). This analogy is misleading because the divide is much deeper. Developing a conceptual perspective on things is not a mere linear refinement of a single skill. Minimally, to speak of truth requires that the subject in question has a capacity for propositional judgement. As Dummett notes "In order to say anything illuminating about the concept of truth, then, we must link it with that of judgement or assertion" (Dummett 1993: 157). Furthermore, understanding the conditions which make judgements, and the assessment of truth, possible is a complicated business. Hence, Dummett is also right to make the further claim that "A philosophical account of judgements lies, however, in their having a further significance than merely being right or wrong: they build up our picture of the world" (Dummett 1993: 157). In the follow up to this remark he has this to say:

A philosophical account of the making of judgements which displayed it as no more than a skill, like playing darts, to be acquired and improved, would for that reason be utterly inadequate: a judgement has an enduring importance lacked by the throw of a dart. A judgement is the formation of a belief or the acquisition of a piece of knowledge: and this is manifested by our acting on what we know or believe.

The same is apparent in our mastery of language. A child in the earliest stages of acquiring language is trained to say certain things -- "Doggie", for instance, or, somewhat later "Doggie is asleep" -- in certain recognisable circumstances: and the adults are not, at that stage, much interested in whether his remarks have point or relevance, but only in whether he makes them in the right circumstances, those that warrant them. But if his ability to do this exhausted his linguistic competence, he could not yet be properly said to say that anything was so, such as that a dog was there or

that the dog was asleep, any more than a dog that has been trained to bark in a particular way when seeing his master approaching the house can be said to be saying his master is approaching. Both the child and the dog serve as extensions of others' sensory apparatus; but *neither can be conceived as making assertions until the relation becomes reciprocal, so that they also become capable of acting on the statements of others.* (Dummett 1993: 157-158, first emphasis original, second emphasis mine)

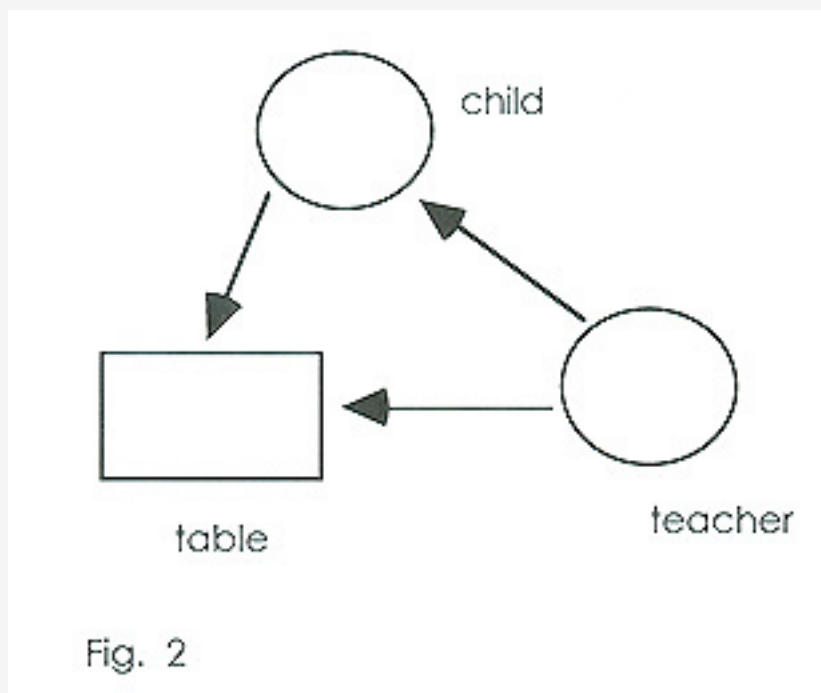
[47] Dummett is here endorsing the Davidsonian stipulation that we should not ascribe propositional attitudes to any creature which lacks "a concept of belief". Having this concept is equivalent to being able to reciprocate in the way described above. And it is this capacity which is needed to generate a notion of an objective world. As Davidson claims the subject/object split *only* emerges when we have access to an inter-subjective standard; a social world.<sup>28</sup> On this account our grasp of objectivity requires a kind of triangulation with another being who responds to things in a largely similar way to ourselves. The importance of the need for a "similarity of response" to "similar objects or features of the world" is revealed if we follow Davidson's cue and consider a "primitive learning situation" (Davidson 1992: 262). For example, he notes:

the child learning the word "table", has already in effect noted the teacher's responses (mouthing "table") are similar (rewarding) when its own responses (mouthing "table") are similar. The teacher on his own part is training the child to make similar responses to what he (the teacher) perceives as similar stimuli. For this to work, it is clear that the innate responses of child and teacher -- what they naturally group together -- must be much alike. (Davidson 1992: 264)

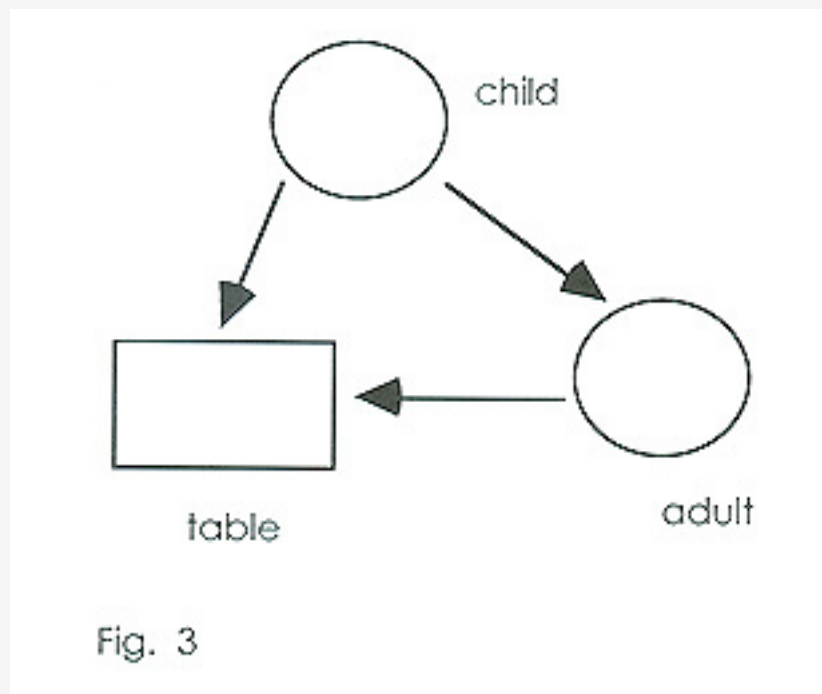
[48] If the child and the teacher did not respond to similar stimuli in similar ways then the child would be both unteachable and uninterpretable. We would have no grounds for saying that it was responding to "table-like" stimuli as opposed to "nerve-ending" stimuli, or some such. If triangulation is to be possible then we must assume that the child is capable of responding, attending and jointly-attending to a common stimulus in the same way that the teacher responds. But the sharing of these capacities demands does not amount to the sharing of even basic conceptual categories. A modest biosemantic theory of non-conceptual content reveals such an assumption to be warranted on the grounds that creatures of the same species have been calibrated by natural selection to respond to particular features of their environment. The fact that two creatures are of the same species underwrites that fact that they will likely respond to these features in largely similar ways. Although Davidson does not, and would not wish to, offer an account of non-conceptual content in order to explain the

psychological basis of our similar responses, he tells us, nonetheless, in a discussion of operant learning, that "If some...discriminative mechanisms were not built in, none could be learned" (Davidson 1992: 262; see also Povienelli 1996: 297-299). Moreover, he remarks "it is we, because of the way we are constructed (evolution has something to do with this), that find these responses natural and easy to class together" (Davidson 1991b: 200).

[49] This brings us to another feature of his account of triangulation. In his view to form a belief for oneself requires that we are able to recognise that the responses of others are similar to our own. It is only by locating features of the world between two interpreting creatures that the minimal condition on the formation of beliefs about an objective world is met. Thus Davidson claims that there are, in fact, "three similarity patterns. The child finds tables similar, we find tables similar, and we find the child's responses in the presence of tables similar...Given these three patterns of response we can assign a location to the stimuli that elicit the child's responses" (Davidson 1992: 263). This account of triangulation is graphically illustrated by figure 2 below:<sup>29</sup>



[50] On this account, truth and a conceptual understanding of an objective world emerge in the process of learning from and interpreting others.<sup>30</sup> As Dummett notes it is only when the child can reciprocate and note the similarity between its response and that of its teachers that it begins to have a concept of belief and, hence, it meets the minimal condition for being a believer and judge itself. This is illustrated by the change of the arrow's direction in figure 3.



[51] It follows that concept of an objective world is, in some sense, *generated* if, and only if, communicators establish public criteria for the assessment of reports made by others. Noting this is vital for it highlights the fact that *only* creatures aware of such a "subjective-objective contrast" can be plausibly counted as assenting or dissenting to a proposition or sentence. In other words, a subject can only be counted as a thinker/believer if it is counted as having a conceptual point of view, or perspective, on what there is. The strong claim being made here is that without the capacity for triangulation there is no way to form such a perspective.<sup>31</sup>

[52] However, there have been objections to the idea that social triangulation is necessary for sponsoring a conceptual perspective. For example, Child claims that "on the face of it, the idea that what counts as similar to what is partially defined by similarity responses could be applied using only the similarity responses of an individual" (Child 1994: 21). A first reply might be this: In order to form a "concept of belief" and its attendant notions of truth, falsity and objectivity, one needs to take the role of observer and interpreter. One needs to recognise the existence of other perspectives in the world, and in doing so, one must be in a position to simultaneously compare these with one's own with respect to some common focal point. But, argues Child, this condition of mutual comparison alone does not rule out the possibility of an individual triangulating with itself diachronically by "reflecting on" its own responses (Child 1994: 22). This kind of reflection appears to be a logical possibility for explaining the emergence of an "objective world" without bringing in an explicitly "social" standard.<sup>32</sup> This is illustrated by figure 4 below:

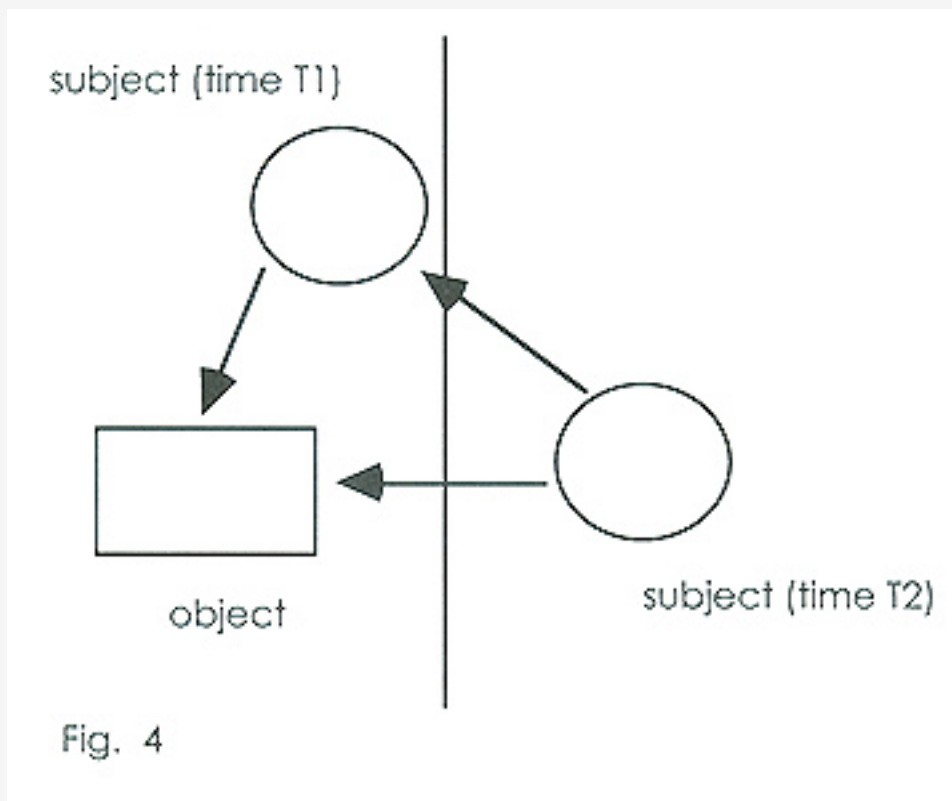


Fig. 4

[53] There are at least two different ways to respond to this criticism. For example, it could be argued, on logical grounds, that Child's proposal is unworkable in that it supposes that the subject is able to "re-identify" the same object over time and that this presupposes that the subject already has a grasp of the objective (see Hutto 1995b: 467-468). This response is particularly apposite if we accept the non-conceptualist account. For, even if an agent is capable of responding to its environment in a sophisticated way this alone does not indicate that its responses are representative of "objective" features of that environment. This undercuts what is likely the strongest motivation for wishing to sponsor the solitary triangulation thesis: the thought that unless a creature was able to form an objective representation of the world we would be at a loss to explain the success of its complex actions in relation to it. But to assume such a basic capacity clearly begs the point in question. If we consider figure 4 we can see that such re-identification (however it is achieved) is a requirement for proper triangulation.<sup>33</sup> Therefore, solitary triangulation may well be logically impossible.

[54] The second line of reply emphasises the fact that triangulation requires more than just a re-presentation of the "objects". It also requires that the subject recognises the similarity of response in the other. It is this second capacity which does most of the work in making "objective" thought possible. And, empirically speaking, in children it is a late development. For example, if we consider such experiments as the "false belief" task it seems clear that children do not have the resources to distinguish "alternative perspectives" at an early stage. Classically, in

the false belief task children are exposed to a situation in which a puppet, called Maxi, is shown a room in which a pile of biscuits is the main attraction. The puppet then leaves the stage and the children see the experimenter hide the biscuits in the cubbard. The children form the belief that "The biscuits are in the cubbard". However, it turns out that most three-year-olds have difficulty in ascribing a belief which differs from their own current belief to the Maxi-puppet when it re-enters the room. It has been plausibly suggested that they find it difficult to understand that the puppet can have perspective which differs from their own. The point is that if children had a built-in command of the conception of belief (and of a subject/object split) they would be better able to deal with false belief task. So what this tell us is that this ability is acquired, developed or kicks in, relatively late in the day. Whichever developmental story we wish to tell about this it is a plausible hypothesis that this capacity only emerge is provoked by the dynamics of actually attempting to relate to others. Moreover there is reason to believe that we simply do not recognise the existence of alternative perspectives accept through a process of engaging with, and interpreting *others* (see Smith 1996: 353-354; Leslie and German 1995: 132). This may give us a reason to think that a capacity to recognise other perspectives is not simply provided by a time-delayed innate module. Support for this stronger hypothesis comes from Ashington who writes:

Parents talk to their children about feelings, thoughts, and desires from a very young age (Brown and Dunn 1991; Dunn 1988) and the extent to which they do this is related to the extent to which children talk about such states at a later point in time (Dunn, Brown and Beardsall 1991; Moore *et al.* 1994). Children are exposed to mentalistic talk in stories that are read to them and in their conversations about stories (Ashington 1990; Paley 1984). And they are often audience to narratives in adult conversations. (Ashington 1996: 194)

[55] This idea is further supported by consideration of recent work on the enculturation of the great apes, our nearest phylogenetic relatives. Enculturation takes many forms and even though it has not been systematically investigated at this point, researchers in the field are confident of its general effects on certain ape-individuals who have developed advanced capacities for communication and sign use due to their contact with human carers (see Tomasello and Call 1997: 391; Call and Tomasello 1996). It is also well observed that apes do not develop these capacities in the wild or with conspecifics in captivity. In order to explain these limitations it is interesting that Tomasello and Call remark that:

one hypothesis is that, although apes can master the "referential triangle" in their interactions with humans for instrumental purposes



when they are raised in humanlike cultural environments, they still do not attain humanlike social motivations for sharing experience with other intentional beings. (Tomasello and Call 1997: 393)

This evidence from the study of apes makes it plausible to suppose that developing a capacity to recognise alternative perspectives only develops in a social context. All of this, I suggest, casts empirical doubt on the idea that an asocial creature would be in a position to triangulate with itself by reflecting on its earlier responses to stimulus.

[56] In closing it is useful to note two things. Firstly, accepting an account of non-conceptual, intentional content is not at odds but rather nicely complements a Davidsonian account of radical interpretationalism. Secondly, this supplement lends support to the view that while sharing a common language (and conceptual responses) is a pragmatic feature of much content ascription, it is not a necessary constraint on the possibility of such ascription (Davidson 1984: ch. 18; 1986c).

## 7. Conclusion

[57] I conclude that there is nothing wrong in thinking that the most basic nonconceptual contents have "correctness conditions" provided we are careful in understanding their source and nature.<sup>34</sup> We should not expect more of biosemantics than it can deliver. By eschewing truth conditions a biosemantic theory of content enables us to understand the kind of "correctness conditions" which apply to the lowest form of nonconceptual content. I am therefore explicitly following up Bermúdez's suggestion that such "Correctness conditions are fixed with reference to evolutionary design and past performance" (Bermúdez 1995: 365, 366).<sup>35</sup> This is in spirit of Cussins' general claim that "Natural selection has evolved creatures, by means of gradual and continuous changes, which are capable of a mind/world distinction..." (Cussins 1990: 409).

[58] The view advanced is that animals can, and regularly do, produce very sophisticated, appropriate responses to their environments without employing "concepts". Acts of perception and responses to the world are not always (perhaps not even all that frequently) conceptual in character. But this does not mean that such intentional, nonconceptual responses are merely mechanical or dispositional. They have a normative dimension. Unlike Cussins I do think that "human practice shorn of external norms is mere physiology and physics" (Cussins 1992b: 653). But following Millikan I also believe that external norms do not derive from human practice in cases of basic intentionality. Thus, non-verbal organisms can make mistakes in a way that mere mechanisms cannot. They can respond in abnormal ways to their environment. For example, in

the case of the frog such "errors" are nothing like making the conceptual error of mistaking a black dot for a fly. Organisms with only nonconceptual content do not make errors of classification.

[59] Evolutionary biology may, after all, offer an account of original intentionality but only if such intentionality is not thought of in terms of truth-valuational, conceptual content.<sup>36</sup> Fodor is wrong to say "Darwin has nothing to say to Brentano" (Fodor 1990b: 79). If the most basic forms of intentionality must be understood in terms of non-conceptual content, then Darwin may have quite a lot to say. A modest biosemantics is perhaps the best way to understand the character of the most basic form of content which applies to nonconceptual responses.

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## Notes

<sup>1</sup> All we are told is that "acquiring a concept is getting nomologically locked to the property that the concept expresses" (Fodor 1998: 125). ([back](#))

<sup>2</sup> I prosecute this project more fully in my forthcoming book *The Presence of Mind*

(Amsterdam/Philadelphia: John Benjamins). [\(back\)](#)

<sup>3</sup> He also writes: "...there would be nothing fundamentally inimical to the general project of explaining conceptual content in terms of CT content... to recognize a distinction, within the class of objective representational contents..." (Peacocke 1994: 425). [\(back\)](#)

<sup>4</sup> This is the line taken by Fodor and Pylyshyn (1995) in their famous attack on the attempt to use of connectionist architectures to describe cognitive level functions (cf. Fodor and Pylyshyn 1995: 116ff). [\(back\)](#)

<sup>5</sup> Elsewhere he writes: "mental states that represent the world but that do not require the bearer of those mental states to possess the concepts required to specify the way in which they *represent* the world" (Bermúdez 1994: 403, emphasis mine). He also says "Conceptual and nonconceptual content are both forms of content because there is a single notion of representation applicable to both" (Bermúdez 1995: 346). [\(back\)](#)

<sup>6</sup> As Rowlands writes "A modest version of the teleological account might see itself as restricted in scope to fairly basic representational mechanisms, probably innate, probably mechanisms of perceptual representation, and probably possessed by creatures whose representational capacities are fairly fixed and limited" (Rowlands 1997: 279). To a limited extent Jacob also promotes what he calls a "modest or minimalist" solution to the transitivity problem (cf. Jacob 1997: 106). [\(back\)](#)

<sup>7</sup> This sits well with the idea that "natural selection does not care about truth; it cares about reproductive success" (Stich 1990: 62). [\(back\)](#)

<sup>8</sup> She quite rightly borrows the term "icon" from Peirce because it does not carry with it a legacy of confusion and disagreement. [\(back\)](#)

<sup>9</sup> Millikan was initially wont to speak of "producer and interpreter devices" in *Language, Thought and Other Biological Categories*, but given that she explicitly did not require that the interpreter "understand *what* the sign signs" (Millikan 1984: 96), the term "consumer" is less misleading. With reference to the visual system of frogs', Rowlands has this to say: "mediating between the environmental presence of a fly and the motor response of the tongue strike is some sort of neural mechanism that registers the fly's presence in the vicinity and causes the strike of the frog's tongue" (Rowlands 1997: 283). [\(back\)](#)

<sup>10</sup> She writes "The production and 'consumption' of the icon may be accomplished by any mechanisms designed, biologically or in some other way, to co-operate in the iconing project. For example, the dances that honey bees execute to guide fellow workers to nectar are paradigm cases of intentional icons" (Millikan 1993: 107). ([back](#))

<sup>11</sup> However, it is also vital to note, as Millikan does, that "The notions of 'function' and 'design' should not be read... as referring only to origin. Natural selection does not slack after the emergence of a structure but actually preserves it by acting against the emergence of less fit structures" (Millikan 1993: 86). ([back](#))

<sup>12</sup> She says: "in the frog case, [the crucial initial relation is] that the firing of the detector is coincident with the presence of an edible bug" (Millikan 1993: 127). She has expressed the same view to me privately in the following terms: "Connecting with something black-and-a-dot is no part of any proximate normal explanation of why any particular ancestor's helped it survive. Neither the blackness nor the dotness helped in any way, neither need be mentioned. But the nutritious object was essential" (Millikan 1996: private correspondence). ([back](#))

<sup>13</sup> She has repeatedly stressed that "the indeterminacy problem that Dretske and Fodor encountered is solved by examining the role of the representation consumer with care" (Millikan 1993: 126). ([back](#))

<sup>14</sup> Thus, error "is determined by the stomach's function. Nutritious contents are contents that supply optimal conditions for the stomach's proper function of facilitating cell metabolism" (Millikan 1991: 156). ([back](#))

<sup>15</sup> The idea is that "statements of biological functions are transparent or extensional, and this, allegedly, makes them ill-suited to capturing the intensionality of psychological ascriptions" (Rowlands 1997: 280). ([back](#))

<sup>16</sup> Rowlands is right to say that "The problem of indeterminacy arises because there seems to be no fact of the matter that could determine which of these interpretations is the correct one. ...Evolutionary theory by itself, is neutral between the claim that the neural mechanism Normally mediates fly strikes, in which case strikes at BBs are errors, and the claim that the mechanism Normally mediates ambient black thing strikes that are situated in environments in which the little black things are Normally flies" (Rowlands 1997: 284). For similar reasons that Dennett writes that "there is no ultimate User's manual in which the real functions, and real meanings, of biological artifacts are officially represented... [Thus] there is no...bedrock for what we might call original functionality" (Dennett

1987: 321). [\(back\)](#)

<sup>17</sup> Interestingly Godfrey-Smith also notes that "Although it is not always appreciated, the distinction between function and malfunction can be made within Cummins's framework....If a token of a component is not able to do whatever it is that other tokens do, that plays a distinguished role in the explanation of the capacities of the broader system, then that token is malfunctional" (Godfrey-Smith 1993: 200). [\(back\)](#)

<sup>18</sup> To be fair Neander both recognises and hopes to address this problem at some stage. [\(back\)](#)

<sup>19</sup> Godfrey-Smith usefully outlines the full spectrum of views from the pessimistic to the optimistic in (Godfrey-Smith 1994b). [\(back\)](#)

<sup>20</sup> Papineau discusses the notion of truth more fully in his *Philosophical Naturalism*. Therein he tells us that he is attracted to a redundancy theory of truth which is backed up by a "substantial theory of content" (Papineau 1993: 85). Unsurprisingly, he tells us that "The substantial theory of content I favour is in terms of success conditions and biological purposes" (Papineau 1993: 85). [\(back\)](#)

<sup>21</sup> This view is endorsed in this passage from David Israel as quoted by Fodor; "... if the world is as represented, [this] will constitute the performance of an action that satisfies the agent's desires. If the world is not the way it is represented as being, the bodily movement is considerably less likely to succeed" (Fodor 1990b: 71, emphasis mine). [\(back\)](#)

<sup>22</sup> It is in this regard that Millikan responds to the rhetorical question "Is it really plausible that bacteria and paramecia, or even birds and bees, have inner representations in the same sense that we do? Am I really prepared to say that these creatures, too, have mental states, that they think? I am not prepared to say that" (Millikan 1989a: 294). Dretske makes a similar point when he writes: "[t]o qualify as a belief a representational content must *also* exhibit (amongst other things) the familiar opacity characteristic of the propositional attitudes..." (Dretske 1986: 27, emphasis mine). [\(back\)](#)

<sup>23</sup> It is because "dumb animals" do not manifest such behaviour that we do not treat them or other non-verbals as thinkers even though we sometimes describe them in a doxastic-idiom (Davidson 1985: 477). Davidson makes this perfectly clear by saying, "If we use words like "believe", "think", "intend" while dropping the feature of semantic opacity, we are not using those words to attribute

propositional attitudes" (Davidson 1985: 475). He remarks that "it is clear that a very complex pattern of behaviour must be observed to justify the attribution of a single thought...I think there is such a pattern only if the agent has language" (Davidson 1985: 476). Or Quine's words, "Conceptualization on any considerable scale is inseparable from language" (Quine 1960: 3). This analysis fits with Wittgenstein's remark: "A dog believes his master is at the door. But can he also believe his master will come the day after to-morrow? ....Can only those who talk hope? Only those who have mastered the use of a language. That is to say, the phenomena of hope are modes of this complicated form of life" (Wittgenstein 1953: § II, 174e; see also 1953: § 132). It is obvious that the dog can have immediate evidence of his master's presence at the door (e.g. his scent) and it is correct to say that in some sense he is *directed at* his master's homecoming. But if we wanted to say of the dog that it believed that "my master will return the day after tomorrow", then it is clear we would be attributing it with more mental capacity than a mere ability to respond *intentionally* to a situation. In other words, it needs to a more sophisticated means of expressing itself than scratching at the door to express that thought. ([back](#))

<sup>24</sup> By considering this case, we can see why *prompted assent*, of some form or another, is the vital and minimal evidence in the project of linguistic interpretation. ([back](#))

<sup>25</sup> Davidson expresses this view by saying, "The meaning (interpretation) of a sentence is given by assigning the sentence a semantic location in the pattern of sentences that comprise the language" (Davidson 1984: 138-139, 225, Ramberg 1989: 62). ([back](#))

<sup>26</sup> That is why it is crucial to remember that "only by studying the *pattern* of assents to sentences can we decide what is meant and what is believed" (Davidson 1984: xvii, cf. also Ramberg 1989: 60). ([back](#))

<sup>27</sup> Millikan tells us that it is "specifiable correspondence rules that give the semantics for the relevant system of representation...[and that a] certain correspondence between the representation and the world is what is normal" (Millikan 1989a: 287). She also boldly says "I take myself to be defending the strongest possible kind of correspondence theory of truth and the most flat-footed interpretation of the truth-conditions approach to semantics" (Millikan 1993: 212). ([back](#))

<sup>28</sup> Davidson tells us, "Communication depends, then, on each communicant having, and correctly thinking the other has, the concept of a shared world. But

the concept of an inter-subjective world is the concept of an objective world, a world about which the communicant can have beliefs" (Davidson 1985: 480). He also says, "We have the idea of belief only from the role of belief in the interpretation of language, for as a private attitude it is not intelligible except as an adjustment to the *public norm* provided by language" (Davidson 1984: 170). O'Hear points out when describing Wittgenstein's views on a similar matter, "learning and teaching obviously presupposes a community in which a particular picture of the world and concomitant standards of rationality are transmitted to the learner" (O'Hear 1991: 55, cf. also 53). It is for this reason that, when it comes to understanding meaning of propositional or *de dicto* thoughts, "what is to be explained is a social phenomenon...[and that]...language is intrinsically social" (Davidson 1990: 314). ([back](#))

<sup>29</sup> Davidson describes such a picture when he writes: "one line goes from the child in the direction of the table, one line goes from us in the direction of the table, and the third line goes from us to the child. Where the lines from the child to the table and us to the table converge 'the' stimulus is located. Given our view of the child and world, we can pick out 'the' cause of the child's responses" (Davidson 1992: 263). ([back](#))

<sup>30</sup> Since the notions of objective truth and error arise only in the context of interpretation and against the background of an inter-subjective norm we can expect the concepts of *subject* and *object* to emerge, as it were, simultaneously. We might make use of Heidegger's term and say they are *equiprimordial* (Heidegger 1962 § 43, § 200). Davidson's way of expressing this is to say, "the foundations of knowledge must be subjective and objective at once" (Davidson 1986b: 327). I take this to be what he means in saying, "the world is disclosed essentially along with the Being of Dasein" (Heidegger 1962: § 43, § 203). Or as Gadamer puts it, "The agreement about things that takes place in language means neither a priority of things nor a priority of the human mind" (Gadamer 1976a: 78). This in turn helps us to make sense of the remark that "we are always already at home in language, just as much as we are in the world" (Gadamer 1976b: 63). In Taylor's words: "[the] 'transcendental' condition of our having a grasp on our own language [is] that we in some fashion confront it or relate it to the language of others...the very confidence that we know what we mean, and hence our having our own original language depends on this relating...We are induced into language by being brought to see things as our tutors do" (Taylor 1989: 38). ([back](#))

<sup>31</sup> Despite the early concerns about non-verbals failing the intensionality test, this is primarily why Davidson demands that to be a believer of truths requires "the gift of tongues" (Davidson 1985: 473). ([back](#))

32 If this correct, then as Child notes "it is not clear we have been given an adequate reason to think that only communication with others could provide [the] resources [for a subjective-objective contrast]" (cf. Child 1994: 22). ([back](#))

33 The diagram is designed to show that the problem is not about possible memory failure. For "remembering" the stimulus is not the issue -- but remembering it as "the same" as before is. ([back](#))

34 This sits well with the idea that "natural selection does not care about truth; it cares about reproductive success" (Stich 1990: 62). ([back](#))

35 He also maintains that: "subpersonal information states lend themselves to a teleological theory of content" (Bermúdez 1995: 365, 366). Although this may be correct, as Cussins noted, nonconceptual content need not apply only to subpersonal states and systems ("Nonconceptual Content Conference", University of Hertfordshire, 1st November 1997). ([back](#))

36 Someone like Dennett might object to such talk on the grounds that all intentionality must be derived. However, as Hornsby says, "Of course our intentionality might be supposed to 'derive' from our genes in some bland sense, not requiring that genes should be carrying out their own purposes" (Hornsby 1992: 169-170). She rightly notes that this "derivation" is nothing like the derived intentionality enjoyed by human artifacts (i.e. robots, etc.). Thus, when Dennett proposes arguments to the contrary he is, in effect, "playing fast and loose with the notion of derivation" (Hornsby 1992: 170). ([back](#))

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