

# AN ENACTIVE THEORY OF PHENOMENAL INTENTIONALITY

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## Introduction

Naturalistic philosophers of mind have typically assumed that the problem of finding a place in the natural order for intentionality is a soluble one. They have taken the hardest questions for a naturalistic account of the mind to concern phenomenal consciousness – the kind of consciousness in virtue of which there is something it is like for creature to be in a mental state  $M$ . Indeed a recent trend has seen many naturalistic philosophers attempt to use their favoured account of intentionality to explain the nature of phenomenal consciousness. Some have argued that if a creature is in a phenomenal conscious state  $M$  then  $M$  must have an intentional content of a certain kind.<sup>1</sup> Others have argued that if a subject  $S$  is in a phenomenal conscious state  $M$  then the fact that  $S$  is in  $M$  must be represented by means of a higher-order mental state of some kind.<sup>2</sup>

I will call those theorists who attempt to provide an exhaustive analysis or explanation of phenomenal properties by appeal to a conscious mental state's intentional content, “reductive representationalists”. Reductive representationalists assume that the problem of accounting for intentionality and the problem that phenomenal consciousness presents for naturalism are *separate* problems. They believe that an adequate account of intentionality can be had independently of any account of phenomenal consciousness. One of my aims in this paper will be to challenge this assumption. I will argue that the type of intentionality that attaches to

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<sup>1</sup> See for instance Byrne (2001); Dretske (1995); Harman (1990/1997); and Tye (1995).

<sup>2</sup> Lycan (1996) models the relevant kind of higher-order representation on perception while others take the higher-order representation to be either an actual thought (for instance Rosenthal (1986)) or a disposition to token a thought (Carruthers (2000); Dennett (1991)).

conscious mental states is essentially phenomenal. To see what I mean consider the question of what the conditions are that fix a representational state *S*'s intentional content. The answer I shall defend says that a perceptual state *S* has the intentional content it does just in virtue of its phenomenal properties – those properties which determine what it is like for a creature to be in *S*. I will call intentionality which is essentially phenomenal in this way, “phenomenal intentionality”.<sup>3</sup>

In section 1 I introduce the idea of phenomenal intentionality in more detail. Section 2 argues against the conception of intentionality employed by reductive representationalists. In particular I will challenge the assumption that consciousness and intentionality are only accidentally related by drawing a distinction between intentionality conceived of as *directedness* and intentionality conceived of on the model of the reference relation. Directedness is an object-independent or non-relational property while reference is an object-dependent or relational property. I will argue that intentionality is best conceived of as an object-independent or non-relational property. This is something that is readily accommodated if we understand intentionality as phenomenal intentionality.

Once we conceive of intentionality as an object-independent property one might worry that we must fail to account for the role that experience plays in grounding demonstrative judgement. Section 3 examines this worry and considers a couple of responses.

Section 4 takes up the second objective of this paper which is to use the enactive theory of perception to sketch an account of phenomenal intentionality. Enactive accounts of sensory experience take an experience's intentional content to derive from a certain kind

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<sup>3</sup> Charles Siewert has argued for a similar position. See in particular chapter's 7 & 8 of his (1998). Horgan and Tienson (2002); Loar (2003) and Zahavi (2003) also argue for the existence of something they call “phenomenal intentionality” though there are important differences in each of their accounts.

of practical knowledge. An animal that is capable of perceiving an object, the enactive theory claims, will know how the appearance an object presents will change with movement. It is knowledge of this kind that fixes an experience's intentional content. I shall argue that enactive theories of perceptual content are committed to the claim that an experience has its intentional content just in virtue of its phenomenal properties. The enactive theory of perception, I shall claim, shows us how it can be true that an experience has phenomenal intentionality.

### **1. What is Phenomenal Intentionality?**

Typically, discussions of the relation between intentionality and consciousness have focused on whether conscious experience can correctly be said to satisfy what Peacocke (1983) called "the adequacy thesis". Peacocke formulates the adequacy thesis as follows:

'The Adequacy Thesis states that a complete intrinsic characterisation of an experience can be given by embedding within an operator like "it visually appears to the subject that ...." some complex condition concerning physical objects. One component of the condition might be that there is black telephone in front of oneself and a bookshelf a certain distance and direction to one's left, above and beyond which is a window.' (1983/1997: 343)

The question raised by the adequacy thesis is whether a complete and adequate description of perceptual experience can be given just by reference to what an experience represents. The adequacy thesis will be false if there is something about visual experience (and perceptual experience more generally) that a description of what an experience

represents leaves out. Peacocke talks of 'intrinsic features of experience' as something the adequacy thesis may fail to account for. I shall talk instead of "phenomenal features". The question the adequacy thesis raises is whether an experience's phenomenal features can be fully and adequately described by reference to an experience's representational content.

What do I mean by "phenomenal features"? Sensory experiences present the world to a subject as *seeming* or *appearing* to be a certain way. Minimally, they present the world as containing things of a certain taste, sound, colour, shape and size occupying various spatial locations around the subject's body. I understand phenomenal features to be those features of an experience in virtue of which the world appears to be these ways for a subject. Bodily sensations – aches and pains, twinges and tickles – also have phenomenal features; these states feel like something to their subjects. Bodily sensations have their characteristic feel in virtue of what I am calling a sensation's phenomenal features.

The question the adequacy thesis raises is whether phenomenal features can be given a complete and adequate description by making reference to what an experience represents. What a perceptual experience represents can be fully specified by making reference to the things and their properties in the world external to the subject. In the case of bodily sensations, the things and their properties in question might be parts or regions of the subject's body.<sup>4</sup> Can we fully account for phenomenal features by reference to the objects and their properties a sensory experience or sensation represents? I suspect that the answer to this question is 'no', though I will not attempt to defend this line here. My suspicion is that an adequate account of

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<sup>4</sup> See Tye (1995, ch.?) for a view along these lines.

sensory experience must make appeal to what Crane (2003) calls 'intentional modes' and Chalmers (2004) calls 'manners of representation'.<sup>5</sup>

However rather than pursue this issue I want to instead to focus on a question which is the converse of the one raised by the adequacy thesis. I shall consider whether a complete account can be given of an experience's representational content just by making reference to an experience's phenomenal features? I will answer this question in the affirmative by arguing for the existence of a kind of intentionality I will call 'phenomenal intentionality', a kind of intentional content that derives from a state's phenomenal features. I will be defending the thesis that our conscious sensory experiences have their intentional features just in virtue of their phenomenal features. This thesis I will label "the Phenomenal Intentionality Thesis".

What are intentional features? Initially we can understand intentional features as those features in virtue of which a representational state is assessable for truth or accuracy, though we will see later in section 3 that this definition requires slight modification. Consider by way of illustration an experience as of a white rabbit. My visual experience will be accurate if it presents me with what appears to be a white rabbit, and there really is a white rabbit where my experience represents one as being. What I am assessable for in this case is analogous to what I would be assessable for if we were considering the truth or falsity of my assertion that there is a white rabbit before me. In the case of sensory experience what is being assessed for accuracy is the way my local environment appears to me at a particular time.

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<sup>5</sup> Both these notions bear an interesting relation to what Husserl (1900) referred to as the 'quality' of an act of consciousness, contrasting this with the 'matter' of an act of consciousness or its intentional content.

The phenomenal intentionality thesis claims that a conscious sensory experience is assessable for accuracy solely *in virtue* of its phenomenal features. This is to say that there are *no additional conditions* that have to be met above and beyond an experience having certain phenomenal features in order for that experience to be assessable for accuracy.

Reductive representationalists reject the phenomenal intentionality thesis. They argue that an experience has its phenomenal features in virtue of its intentional features, not the other way round as proponents of the phenomenal intentionality would claim. If reductive representationalists are to argue against the phenomenal intentionality thesis they must do so by identifying some extra condition in addition to the possession of phenomenal features by virtue of which a representational state is assessable for accuracy. In the next section I will look at the conditions that reductive representationalism identifies. I will argue that the reductive representationalist fails to identify conditions that are necessary for a state to be assessable for accuracy. Thus they fail to establish that some extra condition is required for a state to be assessable for accuracy in addition to the states possession of phenomenal features.

## **2. Against Reductive Representationalism**

Reductive representationalists offer an explanation of an experience's phenomenal features in terms of that experience's intentional features. In order to avoid the charge of explanatory circularity a reductive representationalist must oppose the phenomenal intentionality thesis. She must argue that a sensory experience is assessable for accuracy in virtue of some extra condition in addition to its phenomenal features. Reductive representationalists disagree about the precise nature of this

condition. Michael Tye (1995 & 2000) has operated with a conception of intentionality as causal covariation under ideal conditions:

'The causal connections that matter to phenomenal content, I suggest, are those that would obtain, were optimal or normal conditions operative...Experiences represent various features by causally correlating with, or tracking, those features under optimal conditions.' (Tye, 2000: 64)

Dretske (1995) makes an appeal to evolutionary function central to his account of intentionality.<sup>6</sup> According to Dretske: '...a system, S, represents a property, F, iff S has the function of indicating (providing information about) the F of a certain domain of objects.' (p.6) Dretske goes on to add that the function of a system is 'what it was designed to do' and our senses have the function of providing information, a function which derives from our sensory system's evolutionary history.

Both these proposals give priority to cases of successful representation in specifying the extra condition required for the possession of intentional features. In both cases what I shall call a sensory experience's "accuracy conditions" – the conditions under which it represents accurately – are fixed by appeal to the causal conditions the sensory experience would be causally connected to if it was carrying information – that is to say if it was representing correctly. Thus both Dretske and Tye offer explanations of intentionality which make the possession of intentional features contingent upon a causal connection to certain environmental conditions. I will call this the "causal connection condition". The causal connection condition comprises two claims.

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<sup>6</sup> Tye (2000, ch.6) argues that evolutionary history is necessary for specifying content in some but not all cases.

- (1) For any experience of type E there is some environmental condition C which experiences of type E are normally caused by.<sup>7</sup>
- (2) It is the causal connection that holds between C and E that fixes the content of type E experiences. When this causal connection holds E can be said to carry information about C.

What will proponents of the causal connection condition say about situations in which this condition fails to hold? Consider first Dretske's version of the causal connection condition according to which an experience has its representational content fixed by 'the biological functions of the sensory systems of which it is a state' (Dretske, 1995: 15). What will Dretske say about a situation an experience is tokened by a sensory system which has no biological function as would be the case for Swampman, a molecule for molecule duplicate of me who has spontaneously sprung into existence?

Dretske is committed to the view that when Swampman springs into existence his "mental states" will be entirely lacking in intentional features. For according to Dretske our sensory systems have evolved to carry information about our local environments – this is what they are supposed to do. Swampman's sensory systems have not so evolved, so they will not have the function of carrying information. Dretske must say then that Swampman's "experiences" will not represent anything. Dretske also holds the view that phenomenal features are identical with intentional features.<sup>8</sup> Since Swampman's "experiences" lack intentional features they will also lack phenomenal features – there will be nothing it is like for Swampman to sense his environment.<sup>9</sup>

An alternative, and it seems to me more plausible conclusion, one might draw about the case of Swampman is that it is not necessary for

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<sup>7</sup> I am assuming here that experiences are typed (they are classified as being of the same kind or of different kinds) according to their intentional contents.

<sup>8</sup> See Dretske (1995, ch.3) for a defence of this claim.

<sup>9</sup> Dretske defends this implication in his (1995, ch.5).

a state of a sensory system to have served a biological function in the past in order for this state to exhibit an intentional content. This is the line proponents of the phenomenal intentionality thesis will take.<sup>10</sup> They will argue that Swampman enjoys experiences with phenomenal features – there is something it is like for Swampman to see colours, taste foods, smell roses etc. They will say that Swampman's experiences are assessable for accuracy just in virtue of their possession of these phenomenal features. The extra condition over and above the possession of phenomenal features which Dretske stipulates is unnecessary. A creature need not have ancestor's whose sensory states have carried information in order for that creature to enjoy sensory states that are assessable for accuracy.

Not all theories that endorse the causal connection condition have difficulties with Swampman. Tye's version of the causal connection condition doesn't face such difficulties for instance. He argues that a sensory state's intentional features are fixed by the conditions it would track under optimal conditions. For creatures that do have an evolutionary history, Tye argues we should appeal to this history to determine what a creature's representational states normally track. We have already seen how this won't work in the case of Swampman so Tye appeals instead to what his states would track under 'conditions of well-functioning' (Tye, 2000: 122). We might consider for instance under what conditions Swampman would form perceptual beliefs which enable him to satisfy his desires.<sup>11</sup> We can then appeal to these conditions as fixing the contents of Swampman's experiences. Moreover, we can say that Swampman misrepresents when these

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<sup>10</sup> See for instance Siewert (1998: 242-45). Siewert doesn't discuss Swampman explicitly but he does look at theories which claim that environmental and behavioural links are necessary for the possession of accuracy conditions. I am applying an analogue of his objection to such accounts.

<sup>11</sup> This is my own gloss on what Tye might mean by 'conditions of well-functioning'.

conditions of well-functioning do not obtain. Thus Tye can allow that Swampman's sensory states have intentional features and continue to hold that the causal connection condition is necessary for the possession of intentional features.

What will Tye say about creatures whose states have never tracked, and will never track, the environmental conditions they would track under conditions of well-functioning? Take the case of the brain-in-a-vat. We can imagine a distant planet whose inhabitants grow brains just like human brains which they hook up to a powerful computing machine. We can further imagine that the computing machine causes these brains to undergo "experiences" just like our own. Since these brains have been grown they will have never been in causal contact with the environmental conditions our brains normally track. We can further imagine that these brains never will come into causal contact with the kind of environment we inhabit. A compelling intuition says that a brain-in-a-vat would nevertheless share with us experiences which have the very same accuracy conditions as our own. It is just that a brain-in-a-vat's sensory experiences are never accurate.

Tye endorses this intuition. He says of the brain-in-a-vat that it: 'has inaccurate perceptual experiences – things are not as they seem – because the brain is not in optimal perceptual conditions and the relevant brain-states are not tracking those features they would track, were optimal conditions to obtain.' (Tye, 2000: 64) Now a proponent of the phenomenal intentionality thesis can make the same move against Tye as he made against Dretske. The brain-in-a-vat scenario is a case in which the causal connection condition fails to hold in a radical way. Yet Tye is happy to concede that a brain-in-a-vat could enjoy experiences which share the very same intentional features as our own. If the causal connection condition is never satisfied for the brain-in-a-

vat, if optimal conditions never hold, doesn't this establish that the causal connection condition isn't necessary for the possession of intentional features? If states can possess intentional features even though the creature to which they belong never tracks any environmental conditions surely this shows that tracking under optimal conditions isn't a necessary condition for the possession of intentional features.

Of course this is exactly what we proponents of the phenomenal intentionality thesis will say. We say that a state can have intentional features just in virtue of its phenomenal features. So long as the brain-in-the-vat shares states with the very same phenomenal features as our own, the brain-in-a-vat will have identical intentional features to us.

Many philosophers find the brain-in-vat only dubiously conceivable so it would be best not to base one's case against Tye's brand of reductive representationalism on such thought experiments. Setting to one-side the conceivability or otherwise of the brain-in-a-vat scenario then, it seems to me that in general theories which appeal to the causal connection condition operate with a false conception of intentionality. They make the mistake of modelling intentionality on cases of successful reference. They try to identify the conditions that obtain when we use words to successfully refer and they take these conditions to be definitive of intentionality.

Brian Loar (2003), a proponent of something like the phenomenal intentionality thesis, has recently recommended a distinction between what he calls "reference" and "directedness". Loar takes the property of "directedness" to be an object-independent property of intentional states, by which he means that "directedness" is a property that 'doesn't involve a relation to an object' (Loar, 2003: page ref.). "Reference" is however the paradigm of an object-dependent

property: it makes no sense to talk of a mental state's referring to something when the object of one's mental state doesn't exist. The property of reference depends on a relation holding between a representational item and its object while directedness does not involve any such relation to an object. Directedness is better thought of as the property of purporting to refer or apparently referring, a property a representational item can possess even when this item fails to stand in any relation to the object represented.

Consider as an illustration of directedness, Husserl's notion of bracketing, or what he sometimes called the "phenomenological epoché". Husserl conceived of bracketing as a method for discovering the realm of the phenomenological. One is to suspend judgement on the existence of the objects of one's intentional states, neither affirming nor denying the existence of those objects. Directedness or intentionality is a feature of our mental states that enables us to maintain this attitude of neutrality. The contents of our intentional states are such that they do not require us to affirm, but nor do they require us to deny, the existence of the objects of those intentional states. We can remain quite neutral on question of the existence of the objects of our mental states. How is it that our intentional states allow us to maintain this attitude of neutrality? Because the directedness they exhibit doesn't depend on there being a relation a subject stands in to the object represented.

Once we model intentionality on reference, we operate with a conception of intentionality that is incompatible with this attitude of neutrality. If we model intentionality on reference we will suppose that there is always some relation to an object or situation that fixes an intentional state's content. We will then have to treat cases in which this relation fails to hold – cases of misrepresentation or reference

failure – as aberrations, as deviations from a norm in which this relation holds. We will have to say that in cases of misrepresentation and reference failure there is *some* relation between the bearer of an intentional state and the world which accounts for the directedness of these states. Proponents of the causal connection condition have famously struggled, and so-far failed, to make this work. I suggest that this is because directedness and reference are distinct properties. Directedness is a non-relational property: it is not the case that there is some relation between the bearer of an intentional state and the world which accounts for an intentional state's content. The mistake that proponents of the causal connection condition make is that they try to account for a non-relational property – directedness – by reference to a relational property – reference. The prospects for such a project are undoubtedly dim indeed. We would do better to recognise that an experience's intentional content isn't fixed by any relation to an object, be it causal or otherwise. Rather intentional content is something that derives from an experience's phenomenal features.

There is however a difficulty that arises for any attempt to treat the intentionality attaching to perceptual experiences as an object-independent or non-relational property. The difficulty concerns the role that experience plays in grounding singular or demonstrative judgements. In the next section I will briefly sketch the difficulty and propose a way out of it.

### **3. Perceptual Content and Demonstrative Thought<sup>12</sup>**

Suppose someone points to a white rabbit and tells me 'That's Topsy' and then points to another numerically distinct but qualitatively identical white rabbit and tells me 'That's Flopsy'. Now suppose that

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<sup>12</sup> This section was prompted by questioning from Prof. Tim Williamson and Matt Nudds.

later I encounter Topsy and Flopsy and I think to myself 'That's Flopsy' looking at one of the rabbits. Whether my demonstrative judgement is true or not will depend on whether it is Flopsy rather than Topsy I am seeing when I make my judgement. The truth of my demonstrative judgement will depend upon which of the rabbits I am experiencing. More specifically it will be conditional on whether the experience is of the particular rabbit – Flopsy – which my judgement concerns.

It seems to follow that the contents of perception must be individuated by reference to particular objects – in this case particular rabbits. What the content of my experience is depends on which particular rabbit I am seeing. If the contents of experiences can be individuated by reference to particular things, the contents of experience cannot be object-independent. For recall that object-independence is a property a representational state has when it doesn't involve a relation to a particular object. Thus the role that experience plays in acting as a reason for demonstrative judgements seems to threaten the account I have endorsed of perceptual content as object-independent.

This threat extends to the phenomenal intentionality thesis. For the phenomenal intentionality thesis seems to entail that the contents of experience are general and that we do not need to make reference to particular things in specifying how an experience represents the world.<sup>13</sup> Consider again my experience of Topsy and Flopsy. My experience is of two rabbits that are qualitatively indistinguishable. If my experience has its intentional content by virtue of its phenomenal properties we will have to say that my experiences of Topsy and Flopsy share the same intentional content. If these two experiences are

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<sup>13</sup> For a defence of the claim that perceptual content is in this sense general see Davies (1992) and McGinn (1982).

qualitatively indistinguishable they will share all the same phenomenal properties. The phenomenal intentionality thesis entails that they will also share the same intentional content. Yet we have just argued that my experience of Topsy must have a different intentional content from my experience of Flopsy if we are to account for the role of perception in the making of demonstrative judgements.

There are, so far as I can tell, two ways out of these difficulties for anyone who wants to treat sensory intentionality as a non-relational or object-independent property. The first concedes that perceptual content is object-dependent but argues that an experience's phenomenal properties also vary with the particular object that is represented. This move doesn't seem that plausible however. Consider the case of Topsy and Flopsy. We have said that an experience of Topsy is qualitatively indistinguishable from an experience of Flopsy. Yet if an experience's phenomenal properties do vary with the particular object represented we will have to say that what it is like for me to experience Topsy is different from what it is like for me to experience Flopsy. Since Topsy and Flopsy are stipulated to be qualitatively indistinguishable this will be a difference that can't be discovered through introspection. For introspection alone won't tell me whether my experience is of Topsy or Flopsy. Thus a view that takes phenomenal properties to depend on the particular represented is committed to the possibility of differences in phenomenal properties that aren't introspectably discoverable.

Fortunately there is another way out for the defender of the phenomenal intentionality thesis.<sup>14</sup> He can continue to hold that perceptual content is object-independent and thus context-independent but combine this with the claim that the accuracy

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<sup>14</sup> M.G.F. Martin (2003) makes such a suggestion in a discussion of intentionalism more generally.

conditions for perceptual experiences are however object-dependent and thus context-dependent. Consider how this would work for the case of Topsy and Flopsy. We can continue to say that the intentional content for my experience is fixed by my experience's phenomenal features. My experience's phenomenal features do not tell me whether I am experiencing Topsy or Flopsy. However we must deny that my experience has its accuracy conditions solely in virtue of its phenomenal features. In addition we must consider the particular context in which the experience is tokened to determine which particular rabbit is the object of my experience and thus which rabbit we are to examine in assessing my experience for accuracy. Particulars get involved in an experience's accuracy conditions, not through an experience's intentional content, but through the context in which the experience is tokened.

Consider by way of analogy indexical expressions such as 'I', 'here' and 'now', each of which has a meaning which is context-invariant. 'I' for instance means something like 'the speaker or thinker of this very token'. It has this meaning across users – what 'I' means in my mouth is just the same as what it means in your mouth.<sup>15</sup> Now consider the contribution 'I' makes to an utterance's truth conditions. The contribution it makes will vary from person to person depending on which person it is that has made the utterance. My suggestion is that we think of experiences as also having a content that is independent of context just as 'I' has a meaning that is independent of context. This is quite compatible with allowing that two experiences which share the same intentional content may have accuracy conditions which vary with the context in which the experience has been produced.

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<sup>15</sup> I am following Perry's (1979/1993) treatment of indexicals.

Does this make an experience's intentional features depend on something other than its phenomenal features? I don't think so. I have defined an experience's intentional features as those features in virtue of which a subject of experience is assessable for accuracy. We can continue to work with this definition of intentional features. All that is necessary is that we modify how we think about an experience's accuracy conditions. For I have just argued that an experience's accuracy conditions are fixed by a combination of an experience's phenomenal features and the context in which the experience is produced. I can continue to say that it is by virtue of an experience's intentional content that an experience is assessable for accuracy, while insisting that we cannot read off an experience's accuracy conditions from its intentional content alone. We also need to make reference to the *context* in which the experience has been tokened. Thus it is context plus an experience's intentional features that fix an experience's accuracy conditions. This is to concede nothing to the proponent of the causal connection condition. The thesis stands that an experience can have the intentional content it does just in virtue of its phenomenal features.

The remainder of this paper will argue that the enactive theory of perception has the resources to explain how the phenomenal intentionality thesis can be true. First I should note something about the restrictedness of this claim. Most proponents of the phenomenal intentionality thesis have taken it to apply across the board to all states that are assessable for truth or accuracy.<sup>16</sup> They take phenomenal features to attach across the board, not just to sensory experiences and sensations as is the norm, but also to thoughts, desires and acts of willing. Thus they take there to be a pervasive kind of intentionality that

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<sup>16</sup> See for instance Horgan and Tienson (2002) and Siewert (1998, ch.7 & 8).

is object-independent. In what remains of this paper I will be taking the phenomenal intentionality thesis to be restricted in its application to sensory states. I will have nothing to say here about belief, desire or the will.

#### **4. Towards an Enactive Theory of Phenomenal Intentionality**

Reductive representationalism held the promise of solving two problems for a naturalistic theory of mind. First it was going to tell us what it is for a physical state to exhibit intentionality. Next it was going to use this solution to solve the problem of consciousness. The phenomenal intentionality thesis casts doubt on this project. If conscious experiences have their intentional content just in virtue of their phenomenal features we can no longer use our favoured theory of intentional content to account for an experience's phenomenal features. Now what of the problems of intentionality and consciousness? Without reductive representationalism the naturalistically inclined philosopher is left completely in the dark about the place of both intentionality and consciousness in the natural world. The hard problem of consciousness was the problem of explaining how the brain or some other physical organ could generate the kind of rich inner-life each of us enjoys. If there is a species of intentionality constitutively determined by an experience's phenomenology, the hard problem just got even harder. We will have to explain not only the qualities of experience, we also have to explain how our brains are able to reach out and make contact with the multifarious objects of which we are conscious.

In the remainder of this paper I will argue that the enactive theory of perception may hold a solution to this difficulty. The hard problem of consciousness as it arises for a proponent of the phenomenal

intentionality thesis is the problem of explaining how a brain state could generate phenomenal intentionality. The enactive theory of perception begins by rejecting this formulation of the question. It rejects the claim that the vehicles of phenomenal intentionality are brain states.<sup>17</sup> For according to the enactive theory, perceiving is an activity of the whole organism. It is a mistake to view perceptual experiences as something that happens within an animal's brain. Instead we should think of perception as a skilled activity which may loop back and forth across brain, body and world.<sup>18</sup> The appropriate question to ask, on this conception of perception, is how the whole animal in its interactions with the world could generate states with phenomenal intentionality. The answer the enactive theory returns appeals to a certain kind of practical knowledge or understanding the creature draws upon in perception. It is this practical knowledge which fixes an experience's intentional content. However it does so only by making reference to an experience's phenomenal features. Hence the account the enactive theory offers of perceptual content is also a theory of phenomenal intentionality.

As a way into this approach to understanding perception consider a visual experience of a cube. It is impossible to see all of the sides of a cube in a single take as it were, what one perceives of the cube at any given moment are the sides facing one. There will however always be other sides of the cube which are hidden from view: the cube will always have profiles that go beyond those which are presented to one at any particular moment.<sup>19</sup> Now according to the enactive view

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<sup>17</sup> See for instance Noë (2005, ch.7) and Noë and Thompson (2004)

<sup>18</sup> For a more detailed discussion of the view of experience just sketched see Haugeland (1998, ch.9); Hurley (1998, ch.8-10); Noë (2004); O'Regan and Noë (2001); Rowlands (2002); and Thompson and Varela (2001).

<sup>19</sup> This is a familiar phenomenological observation of a kind which Husserl made much use of in developing his account of perceptual intentionality. See for instance Husserl (1973, §19)

when one sees a cube one has an understanding of the other available views the cube affords which one could take up by changing one's relation to the cube. One has an understanding of how one's movements or the movements of the cube will effect how one sees the cube. One understands for instance, how if one were to turn the cube in one's hand, the sides which are currently hidden will come into view and one understands how the sides which are currently presented to one will become hidden. One understands how if one were to increase one's distance from the cube it will appear to decrease in size, and if one were to move closer to the cube it will appear to increase in size. One understands how if one were to move one's head to the left the position the cube is currently occupying in relation to one will shift to the right and how the angle from which the cube is seen will change accordingly.

I will call understanding or knowledge of this kind "sensorimotor knowledge". I will be arguing that it is sensorimotor knowledge of this kind that fixes, in a way to be explained, a sensory experience's intentional content. Sensorimotor knowledge is knowledge of how the *appearances* an object presents to a subject vary with movement. According to the enactive theory which I will defend, an experience has its intentional content in virtue of a subject's knowledge of how an experience's *phenomenal features* would vary with movement, either on the part of the perceiver or of the object being perceived.<sup>20</sup> I will begin by explaining the claim I have just made that sensorimotor knowledge is knowledge of how an experience's phenomenal features vary with movement. Having done so I will explain how sensorimotor knowledge can fix an experience's intentional content.

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<sup>20</sup> Here I am assuming that there is something that is being perceived. I will have a little to say about non-veridical cases later in this paper.

Let us begin by considering the following observation that Hume makes in his *Enquiries*:

'The table which we see, seems to diminish, as we remove farther from it: but the real table, which exists independent of us, suffers no alteration: it is, therefore, nothing but its image, which was present to the mind. These are the obvious dictates of reason, and no man, who reflects, ever doubted, that the existences, which we consider, when we say, *this house* or *that tree*, are nothing but perceptions in the mind, and fleeting copies or representations of other existences, which remain uniform and independent.' (Hume, 1975: 152)

Hume takes the observation that the table appears to diminish in size as we move away from it, and that it appears to increase in size as we move closer to it, to show that the objects of perception cannot be mind-independent objects. The table doesn't change in size with our movements, its size remains the same, and yet something appears to change. So what appears to change he thinks cannot be the table but must instead be something like an image of the table that the perceiver has in mind. We see the table by seeing an image of the table in our minds.

The enactive theory of perception agrees with Hume that perception is two-stage process: we see the size of the table by seeing what I shall call the table's "apparent properties". However the enactive view disagrees with Hume that what we are directly and immediately acquainted with in perception is something akin to an image. Indeed the enactive view downplays the role of what Hume called "images" and what we now call "internal representations" in perception. The enactive view claims instead that what we are aware of when we see the table's apparent size is the table and not an image or internal representation of the table. Now this claim would

seem to land the enactive theorist with precisely the contradiction which Hume sought to avoid. If what we are aware of in perception is the table we seem to be committed to saying that we are aware of something that gets smaller or larger with movements *and* something that stays the same size with our movements. But of course we cannot be aware of something that has both these properties simultaneously.

The enactive theorist's solution to this puzzle is to distinguish between the real size of the table understood as an intrinsic property of the table and the *apparent* size of the table as a relational property – the property of being seen by a perceiver from a certain distance.<sup>21</sup> According to the enactive theory, we come to represent the table's real size in perceiving the table's apparent size and how the apparent size which the table presents, changes with our movements. We come to represent the table's actual size in our sensory exploration of the table. For in the variation of appearances the table presents through our exploration of it there is something that is invariant, and this is the table's real size. It is this invariance that we pick up on as we actively explore the table through our movements in relation to it.

Sensorimotor knowledge is knowledge of how the apparent properties that a thing presents change with one's movement. It is an experience's phenomenal features that fix how a thing appears to a subject – the properties the thing appears to have. Thus we can say that sensorimotor knowledge is knowledge of how an experience's phenomenal features will change with one's movement.

I have assumed here that talk of an experience's phenomenal features and talk of a thing's apparent properties are equivalent in meaning. That is, I have assumed that both expressions pick out one and the same property. Phenomenal features are commonly

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<sup>21</sup> See for instance Noë (2002) and (2005, ch.3.3)

understood as qualia, where an experience's qualia are taken to be the determinants of what it is like to undergo a conscious experience, and are conceived of as introspectively discoverable, intrinsic properties of experience. Yet by suggesting that we understand an experience's phenomenal features as coextensive with an object's apparent properties, I am committed to an understanding of phenomenal features as relational properties.

The purpose of introducing apparent properties is to capture those features of experience which are not accounted for just by talking about what an experience represents – the objects and their properties represented. This is precisely the role that was played by appeal to qualia or what Peacocke (1983) called “sensational properties” of experience. Consider again the example from Hume of the table which appears to diminish in size as the viewer increases her distance from it. We cannot account for a change of this kind by reference to what the viewer's experience represents. For what she represents in this case is a table that retains a constant size. If we are to account for what it is like to undergo this experience we must make reference to *how* the table is being represented. The fact that the table appears to get smaller is a part of how the table is being represented. Apparent properties are introduced, just as qualia were, to account for how an object of perception is represented.

Apparent properties are environmental properties, properties an object has only in relation to other objects including a perceiver's body under certain illumination conditions. However apparent properties are also properties that exist only in relation to subjects of experience. There is something it is like to perceive a thing's apparent properties. Consider the property that a penny has of appearing to be elliptical when viewed from a certain angle. There is something that it is like to

perceive the penny as being shaped elliptical. What it is like to perceive a penny that appears to have an elliptical shape is qualitatively different from what it is like to perceive a penny that appears to be circular. We cannot characterise apparent properties purely in environmental terms – that is purely in terms of relations between objects, and the conditions under which those objects are viewed. We must also make reference to subjects of experience – subjects for whom there is something it is like to perceive a thing's apparent properties.

It seems to me that Noë, one of the leading exponents of the enactive theory of perception, somewhat errs on this point. He suggests that we can think of a property like apparent shape as the 'shape of the patch needed to occlude the object on a plane perpendicular to the line of sight.' (Noë 2005: 83) Noë's treatment of apparent properties places them firmly on the world side of the perceiver-world relation. In doing so he downplays the fact that apparent properties have a subjective or qualitative dimension to them. It is this qualitative dimension that I mean to bring out by talking of an experience's phenomenal features.

Phenomenal features as I understand them fall on the perceiver side of the perceiver-world relation in terms of which we must characterise apparent properties. Conceding that phenomenal features have a subjective dimension to them doesn't entail thinking of these features as belonging to experiences intrinsically; we can continue to think of phenomenal features as relational properties. It's just that we must think of them as properties that belong to objects only in relation to subjects of experience.

I want to leave to one side the question of whether the enactive theory of perception gives us an adequate explanation of the nature

of phenomenal features, thus construed. My excuse is that I am interested in giving an account of the contents of experience according to which an experience has its content by virtue of its phenomenal features. The question of whether phenomenal features can be given a reductive explanation along the lines that the enactive theory proposes is one that is deserving of separate discussion. It suffices for our current purposes to have a grasp of what is meant by phenomenal features, and I believe I have said enough about this issue for us to see that phenomenal features might reasonably be understood on the model of apparent properties.

It is time then that we explained how sensorimotor knowledge could fix an experience's intentional content. It is on this claim that my second thesis in this paper rests – namely that the enactive theory of perception shows us how the phenomenal intentionality thesis can be true.

What does it mean to claim that an experience's intentional content is fixed by a subject's sensorimotor knowledge? Consider a representation of a shape property first, for instance circularity. According to the enactive theory one represents a thing's circularity *in* representing this thing's apparent shape and the ways in which a thing's apparent shape changes either with one's own movements or with the movement of the thing one is representing. By representing a thing's apparent shape and the changes that take place in its apparent shape properties with movement, one comes to represent a thing that is circular.

Now of course one needn't actually explore all the possible vantage points from which a thing can be viewed in order to visually represent a thing's shape. According to the enactive theory, one has a practical grasp of how the apparent properties a thing presents to one would

change were one to alter one's spatial relation to a thing. One has expectations about how a thing would look, or feel to the touch, or sound, were one to alter one's relation to that thing. These expectations are assessable for accuracy – they will either be confirmed or disconfirmed through further exploration of the object.

Suppose for instance, that I am presented with an object that appears to have an elliptical shape. My sensorimotor knowledge is such that I have a practical grasp of the fact that things which appear elliptical when viewed from one angle can appear circular when viewed from another angle. Thus I will form the expectation that if I were to change the angle from which this object is currently being viewed, I would experience something that seems to be circular. This expectation will be confirmed if I am seeing something that is circular and disconfirmed if I am not seeing something circular but am seeing something that is in fact elliptical.

Sensorimotor knowledge fixes an experience's intentional content by fixing expectations about the apparent properties a thing presents, and how these apparent properties will change with movement. I mentioned in passing above how an animal represents a thing's invariant properties – its real size, shape, colour or whatever – by representing the variations in the apparent properties a thing presents. There is a lawful dependence between the apparent properties a thing presents and the changes that take place in those apparent properties with an animal's movement or with the object's movement. The exact character of this lawful dependence will be determined by a thing's invariant properties. It is for this reason that an animal can represent a thing's invariant properties by representing the changes that take place in its apparent properties with movement.

An experience has as its intentional content that a particular thing has certain invariant properties. Thus sensorimotor knowledge fixes what an experience represents – the invariant properties it represents a thing as having – by fixing expectations about how the apparent properties a thing presents will change with the animal's movement. Since we come to represent a thing's real or invariant properties by representing changes in its apparent properties and sensorimotor knowledge fixes how we represent the latter, sensorimotor knowledge can also be said to fix how we represent a thing's invariant properties.

How does this argument bear on the phenomenal intentionality thesis? I have argued that an experience represents a thing's invariant properties by representing how its apparent properties will change with movement. The phenomenal intentionality thesis says that an experience has its intentional content just in virtue of its phenomenal features. Now we can see that the enactive theory is also committed to a thesis along these lines. I have argued above that to represent the changes in a thing's apparent properties brought about through movement just is to represent changes in an experience's phenomenal features. I have also argued that we represent a thing's invariant properties by representing changes in a thing's apparent properties brought about through movement. It follows that to represent changes in an experience's phenomenal features just is to represent a thing's invariant properties. This is what the phenomenal intentionality thesis claims. It says that an experience has its intentional content – it represents a thing's invariant properties – just in virtue of its phenomenal features.

I want to finish up by briefly considering an objection. The objection concerns the characterisation I have given of an experience's phenomenal features as relational properties. If we combine this

conception of phenomenal features with the phenomenal intentionality thesis we seem to be required to conceive of an experience's intentional content as a relational property. Yet in section 2 and 3 I characterised intentional content in terms of directedness which I suggested we think of as an object-independent or non-relational property of experience. Thus it looks like an enactive account of phenomenal intentionality is inconsistent with my earlier characterisation of intentional content as directedness.

However once we recognise the role that expectations plays in fixing an experience's intentional content I think we will see that this objection is unfounded. Recall that sensorimotor knowledge fixes an experience's intentional content by fixing a set of expectations about how an experience's phenomenal features would change with movement. We make a mistake when we think of perception on the model of a series of static snapshots of the world, each of which represents a scene in full detail. In fact perceptual has a dynamic structure in which expectations are constantly being formed about what further active exploration would reveal of an object. There is an important sense in which what an experience represents of an object is fixed in advance of actually perceiving an object. It is fixed by one's sensorimotor knowledge.

Recall the example of the cube which I used above to introduce the enactive theory. At any given moment what is given to us in experience are the cube's facing sides. Yet what we represent in experience isn't just the facing sides of the cube but the cube in its entirety including those sides which are not currently visible to us. We represent the absent sides of the cube by drawing on our practical understanding of how the cube would appear were we to change our relation to it. A subject comes to visually represent a cube by

forming expectations about what further visual exploration would reveal of it. These expectations are either confirmed or disconfirmed by the subject's active exploration of the object of its experience.

It is in this sense then that the contents of perception are object-independent. The contents of experience are fixed prior, in a temporal sense, to the perceiver entering into a relation with an object. For the contents of experience take the form of expectations the perceiver forms about what he would in the future experience of an object. These expectations concern changes in an experience's phenomenal features. Certainly it is true that according to the enactive theory these phenomenal features take the form of relations between the perceiver and its environment. However the process by which an experience's intentional content is fixed doesn't involve relations of this kind. It is instead a matter of the perceiving animal drawing on her sensorimotor knowledge to form expectations. It is these expectations which fix what an experience represents.

Finally I want to raise a more general worry one might have with the enactive theory. I have claimed that sensorimotor knowledge fixes an experience's intentional content. Yet animals of different species will differ in their sensorimotor knowledge. Consider for instance two species of animal that have eyes located at different positions on their heads. We can suppose that one species of animal has eyes located at the front of their head while the other has eyes situated on the side. The same movement of the head performed by animals of these different species will give rise to very different changes in the apparent properties a thing presents. Equally different movements of the head will give rise to the same change in apparent properties. Yet we can suppose that despite this difference in sensorimotor knowledge the two species of animal will nevertheless represent a particular object in the

same way. They will both represent the roundness of round objects for instance. It seems to follow then that differences in sensorimotor knowledge do not translate into differences in intentional content. Thus sensorimotor knowledge cannot be what fixes an experience's intentional content.<sup>22</sup>

This objection is based on a misunderstanding of the enactive theory. Recall that sensorimotor knowledge fixes intentional content by fixing a set of expectations about how the apparent properties a thing presents vary with movement. Now different species of animals will undoubtedly form different expectations as a result of differences in gross bodily form. However what matters for the fixing of the contents of experience is that there is a lawful dependence between variation in the apparent properties a thing presents and the animal's movement. So long as there is a lawful dependence of this kind which underwrites a perceiving animal's sensorimotor knowledge, an animal will be able to represent a thing's invariant properties by representing a variation in the apparent properties a thing presents. So long as sensorimotor knowledge is a means of picking up on such lawful dependencies both animals will be able to represent a thing's invariant properties by representing variation in the appearances a thing presents.

What of the hard problem of consciousness then as it arises for proponents of the phenomenal intentionality thesis? Has the enactive theory found a solution to the hard problem? I think the enactive theory has shown us how a version of the phenomenal intentionality thesis can be true. Whether it has succeeded in solving the hard problem will depend on whether the enactive theory gives us a

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<sup>22</sup> Prof. Christopher Peacocke raised this difficulty for me during the question period at the July conference.

satisfactory account of an experience's phenomenal features. I think there is room for scepticism on this count. The enactive theory, as I mentioned in passing above, tends to place a good deal of emphasis on the world side of the perceiver-world relation in its account of phenomenal features. The result is that it tells us very little about what makes an experience's phenomenal features subjective. This however is a subject for another paper. The enactive theory does at least have a promising story to tell about how the contents of experience can be fixed. It is a story that is at least consistent with a non-reductive representationalism. So even if the enactive theory turned out not to have a satisfying reductive story to tell about in virtue of what experiences have there phenomenal features it would still have made a contribution to a naturalistic solution to the hard problem of consciousness.

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