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# Varieties of representationalism and their approach to sensory experience

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Sensory states have a subjective, qualitative element that constitutes the *phenomenal character* of experience, and at the same time they have an intentional or representational component that we can describe as their *phenomenal content*. The main question that will occupy us throughout this essay is the question of how these two elements are related. The logical space with respect to this question is mapped out by introducing various views of phenomenal content in order to clarify the precise nature of the relationship between phenomenal character and the representational aspects of experience. After setting out two desiderata for an acceptable theory of phenomenal content, a thought experiment by David Lewis was discussed which suggests a certain view about the nature of sensory experience. Such a view underscores the importance of requiring any plausible representationalist theory to satisfy the proposed desiderata.

**Key words:** Phenomenal character, awareness, perceptual experience, representation, intentionality, content, qualia, sensation, externalism.

## INTRODUCTION

### Preliminary distinctions

A widely accepted conviction among philosophers of mind is that the two most important marks of the mental are the qualitative, subjective character of experience and the intentionality of mental states. In philosophical discussions of the mind during the past half century or so, it has been fashionable to bifurcate these two phenomena and treat them as two distinct and largely unrelated elements of the mind. More recently, however, a number of philosophers have begun to question their separation and to argue for the essential unity of the qualitative and intentional aspects of mentality, especially as it concerns the subcategory of *phenomenally conscious mental states*. Among the types of states typically classified as 'phenomenally conscious' include perceptual experiences, bodily sensations such as pain and hunger, and felt

moods or emotions. More controversially, some philosophers hold that certain kinds of occurrence thinking, such as suddenly remembering something or running a thought through one's head, are also rightly said to be phenomenally conscious. In this essay we shall be concerned exclusively with the first class of states—perceptual experiences. Currently there is little consensus or agreement on precisely what the relationship is between the phenomenal and intentional aspects of perceptual states. On the face of it, the two seem intimately connected: perceptual experiences are such that there is *something it is like* to subjectively undergo them—there is a way it seems visually, auditorily, and so on—and in undergoing them they inform us about the state of the world by *representing* the world as being a certain way. So perceptual states have a subjective, qualitative element that we might call the *phenomenal*

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*character* of experience, and at the same time they have an intentional or representational component that we can describe as their *phenomenal content*. The main question that will occupy us throughout this essay is the question of how these two elements are related. The author will map the logical space with respect to this question by introducing various views of phenomenal content in order to clarify the precise nature of the relationship between phenomenal character and the representational aspects of experience. An analysis of the possibilities of the precise relationship between phenomenal states and their content and the commitments of various representational theories with respect to this question has not been heretofore attempted. Part of the author's contribution to this discussion will be to connect the logical dots, so to speak, regarding the nature of the phenomenal content to which different representation lists' views are committed and the manner in which that content is determined. After setting out two desiderata for an acceptable theory of phenomenal content, a thought experiment by David Lewis which suggests a certain view about the nature of sensory experience is discussed.

One cannot think of a view actually held by anyone which denies that there is any connection whatsoever between phenomenal character and representational content in perceptual experience. Many philosophers who accept the intuition behind certain thought experiments such as the inverted spectrum and inverted earth scenarios argue that experiences can vary in phenomenal character while having the same representational content, and can also vary in whatever representational content they have while enjoying the same phenomenal character. But for the most part, even philosophers who accept this view, such as Block does in endorsing a position he calls *phenomenism*, go on to claim that intentional content often (perhaps almost always) *accompanies* phenomenal experience, even if no particular content is entailed by a particular experience's phenomenal character (Block, 2003). Views such as Block's are classified as non-intentionalist or non-representationalist theories of phenomenal character.

One way of further elucidating the various possible relations that might obtain between the phenomenal character of perceptual experience and intentional content is to inquire whether or not the two are identical, or whether or not one supervenes on the other. Theories which affirm one or the other of these relations are broadly classified as *representationalist* theories of phenomenal character. *Strong representationalism* claims that the phenomenal character of a perceptual experience *is identical with* the experience representational content or properties (or some subset of them). Notice that the right flank of the identity says 'representational content or properties'. In stating the position clearly we need to pay careful attention to what is to be included in the notion of 'intentional content'. There is an important ambiguity concealed in the way the thesis is often

formulated, and by and large this ambiguity has been overlooked in the literature. Are we to identify phenomenal character with merely *the represented content itself*, or rather with the content *as it is represented*? The latter option allows that certain properties of the representing state, such as properties which determine a manner or mode of representation, be included on the 'representational content' side of the identity. The importance of this distinction will be discussed later, but for now let us retain the ambiguous wording.

*Weak representationalism* is the view that qualitative character *is supervenient upon* intentional content or properties, in the following sense: for any two subjects *S1* and *S2* in possible worlds *W1* and *W2*, all states of *S1* and *S2* which share the same intentional properties instantiate the same phenomenal character. That is, necessarily, any two states that are alike with respect to their relevant intentional properties are alike with respect to their phenomenal character. Formulating the thesis as a supervenience relation allegedly allows one to avoid potential counter-examples involving intentional content which is represented unconsciously and hence that lacks any associated phenomenal character. (The weak thesis does not, for example, entail that any two states which share the same phenomenal character (e.g., none) necessarily share the same representational content.) Byrne (2001, p. 199) has proposed that the name *intentionalism* be reserved for the weak thesis stated above. As we shall see, however, most of the major proponents of representationalism favor some version of the stronger identity claim. Representationalism in one form or another is very influential in philosophical circles today.

Another thesis that is very widely held among philosophers (due to the influence of the work of Hilary et al.), called *content externalism*, is the view that, for a subject *S* with mental state *M* that carries representational content *C*, *C* fails to supervene on *S*'s intrinsic properties. For a pair of microphysical duplicates *S1* and *S2*, *S1* and *S2* can differ with respect to the relevant contents of their internal states. This is because the representational contents possessed by *S1* and *S2* depend in part on facts about how they are related to their external environments—in other words, the contents are *wide*. The denial of this thesis, as one might guess, is commonly labeled *content internalism*, which holds that at least some contents are *narrow*, in that they supervene exclusively on "skin-in" properties. Now if one combines content externalism with a suitable version of one of our representationalist theses described above, then their conjunction entails a third thesis, which Fred Dretske has called *phenomenal externalism*-- the view that phenomenal character is wide. That is, if one is a representationalist about the qualitative character of experience, and if one also holds that experience contents fail to supervene on the intrinsic properties of the subject whose contents they are, then one must also hold that the

phenomenal character of experience fails to supervene on the intrinsic properties of the subject.

Phenomenal character itself is in part externally constituted or determined. Phenomenal externalism is a claim about the nature of the representation relation itself, a claim implied by certain accounts of mental representation which identify the property or set of properties in virtue of which an experience phenomenal character and content is fixed or determined. Lycan (1996, 2001), Byrne (2001), Harman (1997), Dretske (1995) and Tye (1995, 2000) are just a few of the more prominent representatives who comprise the distinguished band of phenomenal externalists today.

One of the primary motivations for embracing (externalist) representational theories of phenomenal character is not hard to fathom. Some proponents of representationalism see in it a promising solution to the “hard problem” of consciousness. They hold out optimism that a purely physico-functionalist theory of mental representation is close at hand. If representationalism can be vindicated, then we will have reduced the once-thought-to-be intractable problem of the subjective “what it’s like” character of experience to the more tractable problem of intentionality. If phenomenal character supervenes with metaphysical necessity on intentional content (or is identical to such content), and if this intentional content can be characterized physically in terms of certain natural relations holding between the subject and features of his environment, then the nature of the phenomenal character of experience is no more mysterious than the nature of intentionality. The former inherits the same acceptable naturalistic explanation as the latter, because the qualitative character of experience just is a certain kind of intentional content constituted by various objects, properties, and relations that exist out there in the world. In Sidney Shoemaker’s words, the upshot is that representationalism solves the hard problem by “kicking the phenomenal character downstairs, into the external world” (2002). The viewpoint just described motivates *reductive representationalism*—the view that the representational content or properties with which phenomenal character is identical can be captured in physical or functional terms. There are also *non-reductive* varieties of representationalism, which hold that representational properties are not fully reducible to physical or functional specifications; certain aspects of phenomenal content turn out to be irreducibly subjective.

### Standard representationalism

Employing the distinctions made thus far, we can say the following: most of the well-worked out representationalist theories of phenomenal character to date are *reductive, strong, externalist* accounts. Theories which incorporate these features are *standard representationalist* theories. Examples of approaches which fall into this camp include the proposals of Fred Dretske, Gilbert Harman, William

Lycan, and Michael Tye. Their approaches to representation and phenomenal content epitomize one of two general opposing outlooks that theorize in different ways about the nature of conscious representation. Dretske’s starting point, for example, is to examine the issue of representation in abstraction from questions about the phenomenal character of conscious experience. He begins with the insight of a basic “natural indicator relation”, and goes on from there to construct a full-blown account of mental representation in causal-teleosemantic terms based on the notion of a biological system’s evolving perceptual mechanisms which have the natural function of providing various kinds of information for the organism.

Dretske then tries to accommodate facts about phenomenal consciousness and content within the overall framework he has developed. Other standard representationalist accounts tend to theorize about representation and conscious experience from the same basic perspective, although the details of their individual theories differ significantly. The other broad contrasting outlook, exemplified by thinkers such as Charles Siewert and David Chalmers, starts with conscious experience and representation as the one kind of representation and content we are directly familiar with from the first person perspective, and theorizes about representation by taking seriously the phenomenological data of experience as well as the intuition that conscious intentionality is somehow richer than just brute covariation or teleosemantic systemic indicator functions. Such theories tend to be non-reductive, but they vary considerably with respect to the other features mentioned above. Each of these two opposing outlooks seems to internally cohere in a way that makes it rather difficult to undermine from the opposing framework. The author’s sympathies lie with the second of these broad perspectives on conscious representation, and elsewhere [reference suppressed] he defends a representationalist account of phenomenal experience that is non-reductive, “moderately strong” (in a sense to be clarified as this essay unfolds), and thoroughly internalist in character.

According to standard representationalist theories, phenomenal qualities are actually intentional contents, represented properties of represented objects. When Jack sees a red tomato in good light and it looks red to him, he not only visually represents the redness of the tomato, the reddish quality or patch in his visual field just is the actual redness of the tomato itself. Similarly, when Jill hallucinates a red tomato, there is a tomato-shaped red patch in her visual field, too. Her experience represents the redness of an external physical tomato; but in her case the tomato is not real; it and its properties are *intentional inexistents*, as it is sometimes put. But its redness is still the redness of the hallucinated tomato. Once the redness of the object has been accounted for, there remains no unaccounted for qualitative feature of the experience. Dretske and Tye sum up their views on the matter in this way:

*In speaking of perceptual experiences as representational one might only mean that these experiences are normally of things... I mean more than this. I mean that experienced qualities, the way things phenomenally seem to be (when, for instance, one sees or hallucinates an orange pumpkin), are—all of them—properties the experience represents things as having. Since the qualities objects are represented as having are qualities they sometimes—in fact (given a modicum of realism) qualities they usually—possess, the features that define what it is like to have an experience are properties that the objects we experience (not our experience of them) have (Dretske, 2003, p. 67).*

Phenomenal character (or what it is like) is one and the same as a certain sort of intentional content.

What, then, is visual phenomenal character? The best hypothesis is that visual phenomenal character is representational content of a certain sort—content into which certain external qualities enter (Tye, 1995, p. 137; 2000, p. 48).

Both Dretske and Tye identify the phenomenal character of perceptual experience with certain representational contents which are constitutive of the experience. Since the intentional content fully accounts for any qualitative character present in the experience, there is no need to invoke a special kind of irreducible, subjective, mental object or quality in order to explain it.

Sometimes representationalism is motivated by appeals to what is known as the *transparency of experience*. We see right through our experiential states to external objects and properties perceived or represented. We are never aware of the intrinsic properties of a sensory experience. In a famous passage, Harman writes: “Look at a tree and try to turn your attention to intrinsic features of your visual experience. I predict you will find that the only features there to turn your attention to will be features of the presented tree, including relational features of the tree ‘from here’”. Here Harman defends representationalism by appeal to intro-spection: when you look inwardly and introspect your experience of a green maple, all you are aware of are its representational properties and not any intrinsic properties of the visual experience. You are aware only of the properties of the tree itself. Your experience is of a maple tree, representing the maple tree as having green leaves. The “greenness” of a certain patch of your visual field is the actual greenness of the leaves. So Harman claims that sense experience is diaphanous, in the sense that we normally are not aware of the sense experience itself, but only of the objects or properties that the experience represents. And when we do introspect, we are simply aware of the representational characteristics of those experiences, e.g., aware of the representational or intentional content *that there is a maple tree in front of me*. On the face of it, the basic claims articulated by Dretske, Tye, and Harman seem quite similar. But as we

will see shortly, the various moves each is inclined to make in coping with certain problems will distinguish their views from one another in subtle ways.

### Content-based and state-based representationalism

Standard representationalists typically describe their view in something like the way indicated in the passages quoted above, equating phenomenal qualities with “represented properties”. Occasionally, however, you find them talking of phenomenal character as being the property of “representing a given property or intentional content”. In many cases this is an innocent terminological matter, although it has caused some confusion. The second locution identifies phenomenal character with the property an experience has of “representing such and such”. As a property of experience, it is clearly a relational feature. But for most representationalists, phenomenal qualities are properties of experience only in the sense that, as one of the relata, they enter into the very description of the representational relation involving the subject (or her experience) and the qualities that are presented to her in the experience. Phenomenal character is identified with represented properties of external objects, and so they are only intentionally present in experiences. If ‘representing (that) p’ is used in this sense, then it is a distinction without a difference.

In order to clarify the nature of ‘representational property’ and to avoid the above confusion, we need to introduce a few important distinctions that theorists have thus far failed to make. Representationalism as understood in the sense just defined above, which holds that the phenomenal character of experience is identical to certain represented and externally constituted contents (the contents themselves consisting of objects, properties, or structured entities in the world—more on that later), is *content-based* representationalism. Harman, Dretske, and Tye’s accounts all purport to be content-based approaches, and a core idea which captures what they all hold in common may be encapsulated in a thesis called the *External Constitution Thesis*:

*External Constitution (EC):* The phenomenal character of a perceptual experience is one and the same as-- is wholly constituted by-- the external objects, properties, or structured entities that the experience represents the external world as having and exemplifying.

According to content-based representationalism, the phenomenal character of an experience is not even partly constituted by properties of the internal state that does the representing. For a subject of a conscious perceptual experience to be aware of qualitative character, on the current view, just is for her to be aware of the represented, externally individuated content itself, and so no further appeal to any intrinsic features of the representational state or vehicle is necessary. Vehicular properties

do not help constitute the phenomenal character and content in any way. Of course, a representational state having certain internal properties may well contribute to certain necessary *causal* conditions on the subject's having the experience and on fixing her awareness of the phenomenal character and content; but such properties are not *constitutive conditions* on the phenomenal content itself. Another way to put the same point is to say that for content-based versions of representationalism, experiences *simply* represent their contents-- where the act of representing does not involve a phenomenal mode or manner of representation.

There is another way to understand the locution 'property of representing such and such' that does mark a meaningful distinction in the use of the term 'representational property'. On this *state-based* conception of representationalism, phenomenal qualities are at least partly constituted by properties of the internal states or vehicles that carry the content, rather than being constituted solely by the extra-mental objects and properties that are represented. On this view, vehicular properties which are instantiated in perceptual experience and that bear intentional content are, at least in part, constitutive of the very identity of the phenomenal character enjoyed by the experience. One way in which a representing state might play a crucial role in determining and constituting qualitative character is by representing its content in a certain *manner or way* that cannot be cashed out except in phenomenal terms. For example, one might hold an *intramodal* version of representationalism, according to which the particular *modes* of representing a content (perceptual, visual, auditory, gustatory, etc) determine subjective, qualitative differences in experience across representational invariance. Within a given perceptual modality, however, phenomenal character supervenes on (or is identical to) its intentional content. On such an account, the subject's internal (representational) state plays a constitutive role, as a metaphysically necessary condition, in fixing and individuating the qualitative character of the experience. Lycan is a proponent of this sort of view (2001). In contrast, Dretske (2003) and Tye (2000) are *intermodal* intentionalists, maintaining that "necessarily, experiences that are alike in their representational contents are alike in their phenomenal character." Their views are presented, at least officially, as a kind of pure, content-based representationalism, where any and all phenomenal differences--even differences between perceptual modalities--can be spelled out in terms of further differences in the relevant representational contents. For content-based theories, it is crucial that even the sensory mode of representation be captured by an appropriate specification of the represented content itself. Otherwise, there would remain an aspect of an experience's phenomenal character—namely that aspect bound up with the particular sensory manner of representation—that is not constituted by, and hence not explicable in terms of, the intentional content

itself.

In contrast, state-based theorists concede that qualitative character cannot be fully accounted for by appealing to the nature of intentional content alone. Internal properties of the representing state itself are necessary, in a constitutive way, for the instantiation of phenomenal qualities. So content-based proposals endorse EC, while state-based theories deny it.

In addition to some kind of intramodal account, there are other options for state-based representationalism. For instance, one might hold a functional or inferential role account of intentional content (one that is either long armed or short armed), and maintain that qualitative character is (at least partially) constituted or fixed by the relevant functional roles. One might claim that certain structural or functional properties of representational states determine distinctively phenomenal modes of presentation which fix reference to worldly properties or individuals. These modes of presentation might be internal causal or functional roles played by the representational states in question, or alternatively, they might involve irreducible, primitive qualities of the subject. Distinguishing between state-based and content-based versions of representationalism is important for the following reason. The allure of reductive representationalism in large part stems from its ability to constitutively explain the phenomenal character of perceptual experience by appealing *strictly* to the intentional properties of the system, rather than by appealing to standard physical or functional explanations. If this cannot be done, and appeal must be made instead to state-based representational properties, then these will undoubtedly be physico-functional features of some sort. But it was the perceived weaknesses in standard physico-functional proposals that made representationalism an attractive alternative in the first place. So the promised representationalist reduction turns out to be no more viable than was the overall prospect of accounting for the qualitative character of experience in physico-functional terms. This turns out to be a very important discovery in the dialectic about phenomenal properties and their alleged reducibility to either content properties or underlying neuro-physiological states.

A case in point is Tye's view: although Tye's official theory is presented as a version of content-based representationalism, there is an important ambiguity in Tye's account which leaves him waffling between content-based and state-based representationalism in his attempt to pin down the nature of phenomenal character. Once the ambiguity is removed, we can see that it is clearly certain state-based features of Tye's theory that are doing all of the reductive work for him.

### **Internalism and externalism about phenomenal content**

There is another important distinction that is often

neglected in discussions of phenomenal representation. The content-based / state-based distinction addresses the issue of what *constitutes* the phenomenal character and content of perceptual experience, but it does not directly confront the separate but related issue of what conditions *logically determine or fix* such content. Concerning the issue of what phenomenal character *is*, or what it is *identical to*, content-based representationalism endorses EC, but this still leaves open the question of how phenomenal character and content is fixed, e.g. how a state *s* that represents phenomenal content *c* comes to represent that particular content having that character. Suppose that *s* is a visual state of a subject, which represents *r*, the redness of a fire hydrant. What conditions logically (or metaphysically) determine that *s* represents *r* as opposed to some other phenomenal quality or content such as *g*? This is clearly a separate issue from the one we considered earlier concerning the nature or constitution of qualitative character itself. The question concerning the necessary and sufficient conditions for a perceptual state to represent what it does is a question about the nature of the representation relation itself. Standard representationalists adopt some type of externalist account of the representation relation for perceptual experience, asserting that phenomenal intentionality is grounded in certain causal, covariational, or counterfactual connections between the representational state of the subject and properties or states of the external environment. This type of account entails that phenomenal content is not fixed by the internal properties of the representational state, in other words, does not metaphysically supervene on the subject's intrinsic properties. Using the term 'c-relation' to stand for whatever particular externalist "tracking" relation(s) a given theory invokes, the author claims that content-based externalist theories are committed to the following thesis about the determination of phenomenal character:

*(Strong) External Determination (ED):* The phenomenal character of a subject's representational state supervenes (with metaphysical necessity) on the c-relations which hold between that state and certain entities or properties in the external world.

Strong ED follows from the proposition expressed by EC that phenomenal qualities are identical with represented extra-mental contents, together with a claim implied by externalist accounts of representation, namely that any two cognitive systems whose states bear identical c-relation(s) to the same entities or properties in the world share the same intentional content. Some standard representationalist theories need endorse only a weaker version of ED, a thesis that is entailed by strong ED, namely:

*(Weak) External Determination (ED):* The phenomenal character of a subject's representational state is fixed in part by the c-relations which hold between that state and

certain entities or properties in the external world.

Weak ED allows that there might be other factors, in addition to a representational state's c-relations to distal objects and properties in the external environment, that help determine the particular phenomenal character of a perceptual experience. But because a perceptual state's being hooked up with the world in the right way via certain c-relations is still a necessary condition in fixing phenomenal character and content, it follows that qualitative character fails to metaphysically supervene on the experiencing subject's intrinsic properties. Thus even the weaker ED thesis entails a thesis I mentioned earlier in connection with standard representationalism, namely the doctrine of *phenomenal externalism*. Representationalists who accept either version of ED are therefore committed to phenomenal externalism. Harman's and Dretske's proposals are examples of content-based, phenomenal externalist theories of the phenomenal character of perceptual experience.

Now while it is true that anyone who accepts either strong or weak ED is committed to phenomenal externalism, this does not mean that all content-based representationalists, who accept EC, must also accept ED and along with it phenomenal externalism. For EC by itself does not entail either ED (strong or weak) or phenomenal externalism. A content-based theorist might reject externalist accounts of representation altogether, yet maintain that phenomenal qualities are nevertheless identical to externally constituted contents of some sort. It is open for a content-based theorist to argue that a perceptual state having a certain content is fixed solely by the internal properties of the representational state, and thus to deny ED. In other words it is possible, although by no means the common view, to endorse EC and yet maintain that phenomenal character and content is determined strictly by the intrinsic properties of the experiencing subject. This opens the way for a kind of content-based *phenomenal internalism*. For example, one could be a *primitivist* about represented contents, holding that perceptual experiences attribute simple external qualities (such as primitive color qualities) to objects in the world, while at the same time insisting that having these contents is fixed by some primitive and irreducible relation of intentionality. As another option, one might hold that phenomenal content is wholly determined by inferential, conceptual, or other functional-syntactic roles that perceptual states play in a representational system's overall cognitive economy (Rey, 1998, pp. 446-449). Such a view would hold that phenomenal character is reducible to the sort of extra-mental content that is logically fixed in this way, but may or may not be identical with the internal syntactic roles themselves. To be sure, these suggestions represent a minority view on the matter, to the extent that they are held seriously at all. But the point stands that while phenomenal externalism often coincides with content-based representationalism, it is not necessarily coextensive with it.

State-based representationalist theories (which deny

EC) are also compatible with either the acceptance or rejection of ED and phenomenal externalism. This is easy enough to see. On state-based representationalism, the phenomenal qualities of a perceptual experience are not constituted exclusively by (or identical with) the external content represented, but rather are constituted at least in part by internal properties of the vehicle bearing the content. Hence, phenomenal character is also logically determined in part by the vehicular properties of the internal representational state. However, none of this implies that the experience's phenomenal character is *fully* determined by the internal state, i.e. that the internal state is a metaphysically sufficient condition for fixing the phenomenal character. Depending on the details of the particular theory, a state-based theory may accept weak (but not strong) ED, and thus still be compatible with phenomenal externalism. Intra-modal representationalist proposals fall into this category, as well as Tye's own inter-modal account (Tye, 2000; Lycan 2001). The internalism/externalism debate about phenomenal character thus cuts across the distinction between content-based and state-based forms of representationalism.

Although state-based representationalism does not require internalism about phenomenal character and content determination, certain state-based theories may be well suited to this sort of approach. Any view which takes phenomenal properties to be those intrinsic properties of the subject that have an irreducible qualitative core, and which regards them as an essential component of perceptual content, would fall into this category. This kind of approach is taken by Chalmers in recent work (2004), and an account of perceptual experience that the author developed [reference suppressed] qualifies as a state-based (phenomenal) internalist view as well. Such views are clearly forms of non-reductive representationalism. On the other hand, if one insists on a reductive strategy, he or she could hold that the phenomenal character of a perceptual state is identical with its distinctive functional role, which determines a narrow kind of content, and that these functional properties, in virtue of this supposed identity, *ipso facto* "fix" the phenomenal character associated with that content. Appealing to inferential role as a key determiner of content is a view quite common in recent discussions of the semantics of propositional attitudes (Block, 1994).

To sum up, some of the important varieties of representation include the following types of views: content-based externalism, content-based internalism, state-based externalism, and state-based internalism. These views are all best characterized as *first-order* representationalist theories, which take phenomenal character to be a first-order representational property of perceptual states. Thus, the higher order experience (HOE) proposal of Lycan (2001), which is another example of a state-based externalist theory, as well as the higher order thought (HOT) theory, which follows a state-based internalist

approach, can be set aside in our discussion of the nature of first-order sensory content.

### Desiderata for an acceptable theory of phenomenal experience and content

*Phenomenal* content is just that sort of mental content that is distinctive of phenomenal experience. *Perceptual* phenomenal content is phenomenal content had by perceptual experiences via the five sense modalities—sight, hearing, touch, taste, and smell. What exactly should we expect an acceptable theory of (perceptual) phenomenal experience and content to do? Tightly bound up with this question is the question of what the fundamental criteria or constraints are that we should expect a theory of phenomenal content to satisfy, as we go about assessing the overall plausibility of various proposals. At a minimum, there are two key constraints that a workable theory of phenomenal experience and content must meet. Both of these constraints derive from and are motivated by the need to come to grips with two important questions about phenomenal representation, which I raised in the previous sections: (1) what is the ontological nature or essence of phenomenal experience? (2) In what way is the phenomenal content of a perceptual state fixed or determined? Let us call the conditions that these questions point to the *phenomenological adequacy constraint* and the *content fixation constraint*. Beginning with the second, an adequate theory of phenomenal content ought to be able to articulate, roughly, the conditions necessary and sufficient for a given perceptual state to have the phenomenal content that it has. (A theory should, moreover, be able to shed light on the notions of veridicality and misrepresentation in perception and have something to say about the conditions under which they occur). The key to this lies in advancing an illuminating account of how the representation relation itself works in perception, a theory which is able to tell a compelling story about what makes it the case that sensory states come to possess their distinctive phenomenal contents. What determines whether a perceptual state has any phenomenal content at all, and what determines that it represents *this* particular content as opposed to some other? Answering this question requires that a theory be able to give an account of *distinctively phenomenal* (perceptual) representation, not just an account of mental representation in general.

There is a legitimate worry one might raise that standard representationalist approaches overlook the unique character of phenomenal awareness. Recall the author's earlier observation that there are two general opposing outlooks which tend to theorize in different ways about the nature of conscious intentionality. "Ground-up" approaches attempt to examine the issue of representation in abstraction from questions about the

phenomenal character of conscious experience, subsuming phenomenal representation under some sort of informational-theoretic framework that is spelled out in terms of natural causal or teleo-functional relations between the internal states of a system and features of its external environment. While such approaches may be able to offer a notion of *indication*, *information*, or even *representation* suitable for some purposes (such as explaining how a system gathers and utilizes outside information in guiding its behavior), they fall drastically short of the mark in accounting for the distinctive character of *phenomenally conscious* representation. An important question to consider (beyond the scope of this paper) is whether or not a philosophically rich and robust notion of *phenomenal intentionality* can be “deflated” and made to fit within a naturalistic informational framework for understanding intentionality.

Another related issue is whether or not phenomenal character and content could be constituted or determined by what proponents of standard representationalism claim is a *wide content relation*, a relation that makes qualitative character fail to supervene on the internal properties of the subject. Combining reflections on the character of phenomenal awareness with a line of argument (which traces back to Locke) regarding the nature of causal mediation in perception, one might argue in favor of the classic intuition that the qualitative character of perceptual experience supervenes locally on the internal states of the subject. If the classic intuition can be vindicated, then phenomenal intentionality fails to be explicable in terms of a wide physical relation, and thus externalist accounts of phenomenal representation are false. If phenomenal content turns out to be internally determined, then, contrary to what the standard representationalist view alleges, a satisfactory account will be one that adopts a state-based, internalist approach to perceptual representation. The two main competing theories employing this type of approach are functional role semantic theories and non-reductive proposals that give primitive, qualitative properties (a.k.a. *qualia*) a central role in representation. One strategy would be to argue that the only plausible alternative is the latter, and then go on to sketch an account of how this might go and attempt to preempt some objections along the way. The only proposal to date that attempts to develop the latter view in any detail is that of Chalmers (2006).

The other basic requirement that must be met by an acceptable theory of phenomenal content is the *phenomenological adequacy constraint*. Looking at a tangerine in bright lighting conditions, it has an orange-ish quality or look that is presented in a distinct visual way. When you bite into it, you enjoy the juicy, tangy, gustatory sensation it produces in your mouth. The way things look, sound, feel, taste, and smell are all part of the phenomenal character of perceptual experience. Other paradigm examples of phenomenal properties

include the sight of a bright orange-red sunset, as it looks to the viewer; the smooth cool feel of a dolphin's skin as one runs his fingers across its surface; the high-pitched screeching noise of an electric saw cutting through metal. Phenomenal character is the subjective, qualitative feel that accompanies conscious perceptual experience, the “what it's like” aspect of an experience. Any viable theory of phenomenal representation must take seriously the qualitative aspect of perceptual experience and give a fair and adequate accounting of it. Considerations of phenomenological adequacy play a role not just in ensuring a proper grasp of the nature of phenomenal content itself but also in facilitating our understanding of how such content is determined as well. Thus, the phenomenological adequacy constraint and the content fixation constraint are intricately related.

By accepting the above requirement it is of course assumed *phenomenal realism*, the view that perceptual experiences have a genuine qualitative character or component to them, a “what-its-like” aspect discernable from the first-person perspective. Since this is plainly incompatible with the view that we are subject to some kind of massive phenomenal or cognitive illusion with respect to the phenomenology of our experiences, any theory of phenomenal content that entails the latter as a logical consequence is clearly untenable. Now in saying this the author is not (at least at the outset) committing himself to the stronger notion of *qualia* as traditionally understood, which construes phenomenal character as intrinsic qualities of experience that we are directly aware of. On his usage of ‘phenomenal character’ or ‘phenomenal property’, it remains an open question whether what is picked out is a feature of the sense modality in question, some objective property in the external environment, or some other property altogether. It is no part of the meaning of the term used that a phenomenal quality be a subjective, intrinsic property of experience. Phenomenal properties are properties as they are presented to us in sensory experience, qualities as we see them, hear them, taste them, and so on. But this in no way precludes their being physical, non-perspectival properties that inhere in the external objects we perceive. For the present, the author wishes to operate with this rather minimal notion of phenomenal character that all or most parties to the dispute can agree upon, one that does not carry any high level ontological commitment about the underlying nature of phenomenal character. In the end it might nevertheless turn out, given that one of the constraints on an acceptable theory of phenomenal content is that such an account does justice to what we actually find going on in the phenomenology of perceptual experience, that our investigation could lead us eventually to adopt something along the lines of the traditional conception.

When we reflect on the phenomenology that typically accompanies perceptual experience, what exactly do we find? With regard to the observations made thus far, has



the author been fair in describing what goes on in the phenomenology of perceptual experience, or is he guilty of seriously exaggerating or *over-describing* the phenomena? Perhaps some will claim the latter to be the case, although from his point of view several of these facets of phenomenal character seem to be seriously *under-described* or even downright neglected by many theories. No doubt some will find the above observations illuminating to one degree or another, while others will balk at them, either claiming to find nothing of the sort in their own phenomenological reflections, or else accusing the author of succumbing to certain theoretically laden myths about the nature of experience and introspective reflection. It is primarily the former, more sympathetic group of people as an audience for this essay.

As we have seen, there are numerous ways in which phenomenal qualities might fix their representational content and set conditions for veridicality and external reference in perceptual experience. At a minimum, distinctively phenomenal representation involves an actual perceptual or phenomenal presenting of content, a key component of which is the instantiation of the relevant phenomenal properties. As an essential constituent or aspect of the phenomenal experience and content, sensory qualities are necessarily co-extensive with the content that is represented, but not strictly identical to it. If phenomenal character and content is to be identified with appearance properties or phenomenal modes of presentation of external properties and objects, and if instantiating these features constitutively determines (at least in part) a representational content in perceptual experience, then clarifying the nature of sensory experience is a prerequisite to developing a more detailed account. One way to highlight the important elements of the needed clarification is by examining an intriguing thought experiment developed by David Lewis. To this we now turn to,

### **The nature of sensory experience: mad Martian pain or mad Martian pleasure?**

Lewis (2000) sketches a physicalist account of the mental that combines elements of both functionalism and type identity theory regarding the nature of mental states. Lewis argues that our ordinary concepts of mental state types are characterized by their causal roles in relation to input stimuli and output behavior, along with other mental states. Our ordinary conceptualizations of these folk psychological states serve to pick out the natural properties which are the *occupants* of the various causal roles specified by our concepts. In other words, according to Lewis, specific mental state types are the designated “roll-fillers” and are thus type-identical to certain physical states (neurological properties) of the brain. Lewis contends that an adequate materialist theory of mind must account for both “mad” pain and “Martian” pain, and

this is by no means an easy task.

Imagine a madman whose pain states are identical to some neurological property *N*, which is the state type that occupies the causal role of pain in humans. Now *N* does not play this causal role in Lewis’ madman. His pain is caused by moderate exercise on an empty stomach rather than tissue damage, and instead of exhibiting forms of behavior normally associated with pain (such as pain avoidance behavior, or groaning and writhing), our madman crosses his legs and snaps his fingers. Lewis claims that it is possible that there be such a madman, and so a credible theory of mind had better not rule out such a possibility.

On the other hand, there might be a Martian who feels pain just as we do, and whose pain has the typical causes and effects that are characteristic of human pain. The Martian, however, has no C-fibers, and so *N* does not occupy this causal role. Once again, says Lewis, an adequate theory will not want to rule out the Martian’s being in pain. The case of the madman shows that pain is only contingently associated with its causal role, while the case of the Martian shows that pain is only contingently associated with a particular physical realization. The challenge, then, for Lewis is how to “characterize pain a priori in terms of causal role and physical realization, and yet respect both kinds of contingency” (Lewis, 2000, p. 111).

Lewis’ solution is to speak in terms of an internal state’s occupying a causal role *for a given population*. Here is his criterion, called (L):

*(L) X is in pain if and only if X is in the state that occupies the causal role of pain for the appropriate population*

For Lewis, an appropriate population could be (1) the population of human beings, (2) the population to which *X* belongs, (3) preferably a population in which *X* is not exceptional, and (4) preferably a natural kind. Such a construal avoids the untoward consequence which results from applying a *simple functionalist* criterion: ruling out the madman being in pain. On Lewis’ story, the madman is still in pain because although *N* does not occupy the functional role for him that it occupies for other humans, *N* occupies that role in the population as a whole *to which he belongs*. As long as the madman is in the same internal (neural) state as that state which occupies the causal role associated with a given mental state *M* for the appropriate population, *M* can be ascribed to the madman as well. So the madman in Lewis’ example is correctly said to be in pain because, although he is an exception, he is in the state that occupies the (typical) causal role of pain for the population (species) to which he belongs, namely the population comprised of human beings. Lewis’ theory also avoids the problem that arises from applying a *simple type identity* criterion to the Martian case: the problem of failing to attribute pain to the Martian. The Martian (and the mad Martian) is in pain

because he is in the state that occupies the causal role of pain for the population to which *he* belongs (that is, Martians).

Does Lewis' account succumb to Ned Block's charge that functionalist theories of mental states are guilty of liberalism, i.e. that they incorrectly ascribe mental states to entities that possess no such states (Block, 1978)? Everyone by now is familiar with Block's famous homunculi robot (we'll call him HR for short). If HR is functionally equivalent to us, he will have internal physical state(s) that are related in appropriate ways to various inputs and outputs (along with other internal states) associated with pain, and we suppose that these internal state(s) occupy the causal role of pain for the population to which he belongs, that is, the actual and possible homunculi robot population. If so, then HR satisfies (L) and hence Lewis seems committed to saying that HR is in pain, a judgment that Block regards as strongly counter-intuitive.

What drives the intuition underlying Block's objection is that HR lacks the qualia or "phenomenal feel" associated with pain, and hence is not in a state of pain at all. But Lewis rejects outright the notion of qualia as something over and above the causal role played by the particular internal state of the organism (or automaton). In his "Postscript to Mad Pain and Martian Pain," he is very explicit about this when he writes: "We say to the friend of qualia that, beneath his tendentious jargon, he is just talking about pain and various aspects of its functional role". If there are no qualia, then there would be no reason to deny HR pain on the grounds that homunculi robots cannot experience qualia. So Lewis can reject the intuition that drives Block's counter-example by making the move to deny the existence of phenomenal qualia. Although the author is generally skeptical about arguments which refuse to attribute to conscious mental states a certain qualitative aspect of experience, he will nevertheless waive these concerns in what follows.

This strategy of denying qualia to overcome the charge of liberalism succeeds only at the cost of generating another problem for Lewis' theory, as he shall now argue. Notice how Lewis has chosen his representative "madman" case carefully. His madman is relatively "tame" in comparison to other possible madmen, and this makes it difficult for his theory to accommodate madman cases generally. For example, consider a human madman for whom *N* plays a causal role that radically diverges from the causal role associated with *N* in normal humans. For lack of a better name, let us call him "super-madman". For our super-madman, *N* occupies the causal role specified for the psychological state *pleasure*; that is, *N* has the same input/output relations and relations to other internal states (for him) that constitute the typical causal-functional role for pleasure in normal humans (a role that is occupied by a neural pattern distinct from *N*, say *P*). So when super-madman is in neural state *N*, he is in a state that is caused by input stimuli associated with causing *P*

in normal people, and furthermore, he smiles or laughs or exhibits whatever other (output) behavior is characteristic of *P* in the normal case. The point is that super-madman satisfies Lewis' criterion (L) for being *in pain*, because he is in the state (*N*) that occupies the role of pain for his population. And yet it seems that he is not experiencing pain at all, but *pleasure*. He "feels pleasure" because, according to Lewis, the experiencing of pleasure is *nothing over and above the internal physical state and various aspects of its functional role*. Given that the network defining *N*'s relation to input stimuli, output behavior, and other internal states is isomorphic to the network involving *P*'s relation to the same (and which defines our concept of pleasure), how could super-madman be *feeling* anything else but pleasure?

Lewis considers an example in which *N* plays the causal role of thirst for a certain small subpopulation of mankind. In such a case Lewis admits that there may be "genuine and irresolvable indecision" about whether to say that the subject is experiencing pain or thirst. Determining the "appropriate population" rests on the relative weight given to each of Lewis' (1) - (4). Irresolvability will also be the verdict with regard to our super-madman if he belongs to a sub-population for which *N* occupies the causal role of pleasure. But what if it turns out that super-madman's "subpopulation" is really part of a much larger human population (and even other species amazingly similar to us) that long ago had migrated to a distant galaxy, and for whom neural state *N* occupies the causal role accorded to pleasure? So who is "mad" now? Humans on earth are now the "sub-population", and it becomes an open question as to whether we humans are "madmen" experiencing pleasure or "Martians" experiencing pain. In fact, Lewis would allege that there is *no determinate fact of the matter* about whether we are in a state of pleasure or pain (and similarly for super-madman in the first example; see p. 114). For (1) dictates calling ours a state of pain, but (2) suggests shifting the population, tagging us as "exceptions", and saying that we're experiencing pleasure. In regards to super-madman who belongs to a human subpopulation on earth as described above, (1) suggests tagging him as an exception and insisting that he is a madman in pain, while (2) and (3) dictate making the "relevant" population his own subpopulation and calling his a state of pleasure. Again, there is simply no fact of the matter.

Now we are in a better position to appreciate the difficulty Lewis faces here. Since Lewis' "appropriate populations" include counting both actual *and possible* (or other-worldly counterpart) entities (p.113), then it follows that there is really no fact of the matter about my (or anyone else's) being in any mental state at all. The reason is that there is always a possible or counterpart "super-population" for whom any *N* plays the role of a mental state that is opposite or inverted with respect to the role *N* plays in actual human beings. Suppose I am

experiencing a sharp pounding pain in my right foot, and that this type of pain is identical to neural state *N* in the earthly human population. Surely we have extra-terrestrial human counterparts who form a super-population and for whom *N* meets the causal-functional specification for pleasure. Lewis' (L) and (1) - (4) yield no definitive answer then about whether I am in fact experiencing pain or pleasure. But this point is purely general, so that for any subject *S* and any mental state *M*, there is no fact of the matter on Lewis' account as to what mental state *S* is experiencing. Is this a consequence that Lewis would be willing to allow?

Lewis can avoid the problem by restricting his population classes to the actual world, that is, our world. But then his theory commits the sin of chauvinism; for his criterion revises to something like (L')

*(L') X is in pain if and only if X is in the state that occupies the causal role of pain for the appropriate population in the actual world.*

But then Lewis' Martian will not be in pain either, because his state is not one that occupies the causal role of pain for Martians in the actual world. And this seems too restrictive. Perhaps Lewis can avoid these consequences by modifying his criterion in some other way, but it is extremely difficult to imagine what the required modification would be.

## Conclusion

### Implications for various representational accounts of sensory content

The foregoing discussion of Lewis' example underscores the point that the sensory character of experience contains a qualitative component that is part and parcel of what it is to be an experiential state of that type. From this fact it follows that any representationalist theory which attempts to elucidate the precise relationship between any given experience and its content needs to give an account of the phenomenal character of the experience and how that character is related to the content of the given state. In short, such theories must give an account of the precise nature of the phenomenal content of sensory states. And this requirement will be easier to satisfy for certain theories as opposed to others. As we saw in drawing certain important distinctions above- between purely content-based theories and state-based theories, and between internalist and externalist content determining conditions- standard representationalist accounts which espouse content-based phenomenal externalism will encounter serious difficulty in meeting our proposed desiderata. On the other hand, reductive state-based internalist accounts will face a steep challenge in satisfying desideratum (2), in addition to succumbing to standard objections lodged against forms of reductive internalism.

The proposed desiderata of the previous section serve as eminently plausible constraints on any acceptable representationalist theory of experience. The major reductive views canvassed in this paper arguably explain and meet one or the other of these two conditions with varying degrees of success, but ultimately fall short of an adequate explanatory theory of phenomenal content. In searching for a more satisfactory account, perhaps future research should be more open to exploring the possibility non-reductive, state-based, internalist strategies for elucidating the nature of phenomenal content and representation. At the very least, exploring this as yet largely unmarked territory deserves a serious effort.

## Conflict of Interests

The author have not declared any conflict of interests.

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