

Tracking representationalism: Lycan, Dretske, and Tye

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Abstract

This paper overviews the current status of debates on tracking representationalism, the view that phenomenal consciousness is a matter of tracking features of one's environment in a certain way. We overview the main arguments for the view and the main objections and challenges it faces. We close with a discussion of alternative versions of representationalism that might overcome the shortcomings of tracking representationalism.

1 Introduction¹

There is something that it is like to be you. Perhaps you are currently having a visual experience of something blue, tasting something sweet, or feeling a twinge of pain in your foot. These experiences partly characterize the phenomenal, qualitative, or subjective aspect of your mental life. This phenomenon of there being something it is like for you to be in certain states is phenomenal consciousness.

According to physicalism, consciousness is a physical phenomenon. Physicalism offers an attractively simple ontology. The problem is that any putative description of conscious states in physical terms seems to leave out

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their most crucial feature, their phenomenal character. It seems utterly inexplicable why being in a certain physical state should be like anything at all. As Colin McGinn (1989) puts it, it's hard to see how the technicolor of consciousness can arise from the physical and functional features of soggy grey matter.

This chapter explores a relatively new strategy for understanding consciousness in physical terms, tracking representationalism. It's a two-step strategy. The first step accounts for phenomenal consciousness in terms of intentionality, the aboutness of mental states. The second step accounts for intentionality in terms of a physical tracking relation to the environment.

We focus on the views of three of the most influential proponents of tracking representationalism: William Lycan, Fred Dretske, and Michael Tye. Section 2 describes tracking representationalism. Section 3 explores some of its motivations. Section 4 overviews some of the challenges it faces. Section 5 briefly discusses alternative versions of representationalism.

2 Tracking representationalism

Tracking representationalism is a theory of *phenomenal consciousness*, the “what it's like” of being in certain states. Mental states that exhibit phenomenal consciousness are also known as *phenomenal states* or *experiences*. Phenomenal states are said to have *phenomenal properties*.

Tracking representationalism aims to understand consciousness in terms of another mental phenomenon: *intentionality*. Intentionality is the aboutness or directedness of mental states. For example, you can think about your mother, believe that you live on Earth, or desire that it rains. These states exhibit a kind of directedness or aboutness. What a mental state is about is its *intentional content* (or just its content).

Mental states that exhibit intentionality can be said to have *intentional properties*, for example, the property of representing redness, or the property of representing that you live on Earth. It is useful to distinguish between pure and impure intentional properties. A *pure intentional property* is a property of representing a certain content. An *impure intentional property*

is a property of representing a certain content in a certain manner. For example, the property of representing redness is a pure intentional property, while the property of representing redness in imagination is an impure intentional property.² We will say more about impure intentional properties shortly.

It is fairly uncontroversial that thoughts, beliefs, and desires exhibit intentionality. Many perceptual states seem to exhibit intentionality as well. For example, visual experiences seem to present us with shapes, colors, and other features of our environments. It is natural to describe them as having contents involving shapes, colors, and other such features. Tracking representationalism claims that all conscious states exhibit intentionality, and that intentionality is the main ingredient in phenomenal consciousness.

More precisely, tracking representationalism combines three doctrines. The first is representationalism:

Representationalism Every phenomenal property is identical to some (pure or impure) intentional property.³

Intuitively, representationalism is the view that phenomenal consciousness is just a special kind of intentionality. A mental state's representational nature exhausts its phenomenal nature.

Representationalism comes in two main varieties: *pure representationalism* and *impure representationalism*. Pure representationalism states that phenomenal properties are identical to pure intentional properties. Impure representationalism states that phenomenal properties are identical to impure intentional properties.

²We borrow this way of defining intentional properties from Chalmers (2004).

³Lycan, Dretske, and Tye offer slightly different definitions of representationalism. For Lycan, representationalism is the view that “the mind has no special properties that are not exhausted by its representational properties, along with or in combination with the functional organization of its components.” (Lycan, 1996, p. 11) Dretske defines representationalism as the view that “[a]ll mental facts are representational facts.” (Dretske, 1995, p. xiii) Tye takes representationalism to be the view that “phenomenal character is one and the same as representational content that meets certain further conditions.” (2000, p. 45) We believe our working definition captures the core thesis defended by Lycan, Dretske, and Tye.

According to pure representationalism, phenomenal consciousness is a matter of intentional content alone. What it is like to be in a mental state is determined solely by what that mental state represents. The challenge facing pure representationalism is that it seems that states that represent the same contents can nonetheless differ in phenomenal character. For example, the following four states arguably involve the same intentional property of representing redness, but involve different corresponding phenomenal properties:

(Perc-red) Perceptually experiencing unique (pure) red

(Think-red) Thinking about unique red

(Nonconc-red) Nonconsciously representing red (e.g. in early visual processing)

(Belief-red) Having a standing belief about unique red

(Think-red) is an example of an occurrent conceptual state. It is occurrent in that it is entertained, undergone, or active. It is conceptual in that it involves concepts. Other occurrent conceptual states include beliefs and desires that you are currently entertaining. (Belief-red) is an example of a standing conceptual state, a state that involves concepts but is not occurrent. (Nonconc-red) is an example of an occurrent state that may or may not be conceptual and that we are in no sense aware of.

These cases involve distinct phenomenal characters. (Belief-red) and (Nonconc-red) do not have phenomenal characters. While it is controversial whether (Think-red) has phenomenal character, it is uncontroversial that it has a different phenomenal character than (Perc-red). But if the same intentional properties do not always give rise to the same phenomenal properties, then phenomenal properties cannot be identified with intentional properties and pure representationalism is false. For such reasons, most representationists endorse impure representationalism, on which the manner in which a mental state represents its content can make a difference to its phenomenal character. Lycan, Dretske, and Tye are all impure representationalists.

Impure representationalist views can be further divided into two main types. According to *one-manner impure representationalism*, every phenomenal property is identical to an impure intentional property of the form representing C in manner M, where M is the same manner of representation for all phenomenal states. M demarcates phenomenal from non-phenomenal states, so we will refer to it as *the demarcating manner of representation*. In effect, the one-manner view's appeal to manners of representation serves to preclude certain states, such as (Think-red), (Nonconc-red), and (Belief-red), from having phenomenal properties. Within the class of states exhibiting the demarcating manner, a mental state's phenomenal properties are determined by its intentional properties. Dretske and Tye both endorse one-manner representationalism.

The second type of impure representationalism ascribes a larger role to manners of representation. According to Lycan (1996), each sensory modality has a corresponding manner of representation. Visual experiences represent visually, auditory experiences represent aurally, and so on. Each of these manners of representation factors into the resulting phenomenal character of the experience. On his view, content only determines phenomenal character within a sensory modality. This is *intra-modal representationalism*.⁴

The second component of the tracking representationalism defended by Lycan, Dretske, and Tye is reductionism about manners of representation:

Reductionism about manners of representation Manners of representation are physical or functional properties.

Dretske, Tye, and Lycan take the relevant manners of representation to be reducible to physicalistically acceptable entities, such as functional roles or evolutionary histories.

Both Dretske (1995) and Tye (1995, 2000) take the demarcating manner to have two components, one that precludes occurrent and standing conceptual states, like (Think-red) and (Belief-red), from having phenomenal

⁴Weaker views are possible. For example, weak representationalism merely asserts that phenomenal states are essentially representational.

character, and one that precludes states that we are in no sense aware of, like (Nonconc-red), from having phenomenal character.

Dretske (1995) and Tye (1995, 2000) claim that phenomenal states have a certain “poisedness” to impact on central cognition. They both take poisedness to be part of the demarcating manner, though they understand it slightly differently.⁵ According to Dretske and Tye, (Nonconc-red) and other states that we are in no sense aware of do not supply information to conceptual systems, and so they do not have phenomenal properties.

Dretske (1995) and Tye (1995, 2000) also take representing nonconceptually to be part of the demarcating manner of representation. For Dretske, nonconceptual contents are those that are represented by innate (or “systemic” (Dretske, 1995, p. 12)) representations. Tye does not offer a precise account of nonconceptual representation, but he makes some remarks that suggest that it may be a matter of whether the representation allows us to pick out instances of the same property on different occasions (Tye, 2000, pp. 62-3). Since (Think-red) and (Belief-red) have purely conceptual contents, they do not represent in the demarcating manner, and so they do not have phenomenal properties.⁶

Lycan (1996) is less committal on how to characterize the relevant manners of representation posited by intra-modal representationalism. He suggests that manners are constituted by functional roles, but he does not specify which roles.

The third component of tracking representationalism is the tracking theory of intentionality:

The tracking theory of intentionality Intentionality is (or derives from) a tracking relation.

According to the tracking theory, intentionality is a matter of detecting,

⁵Tye understands it as being a matter of being poised to affect beliefs, desires, and other conceptual states, while Dretske understands it as being a matter having the function of supplying information to conceptual systems.

⁶These accounts of the demarcating manner of representation compete with several accounts of the neural correlate of consciousness found in the scientific literature. Much of the scientific discussion of the problem of consciousness assumes something like the tracking representationalist view (c.f. Crick 1994, Baars et al 1998, Edelman 1989).

carrying information about, or otherwise correlating with features of the environment. For example, the concept CHAIR might represent chairs because it detects, carries information about, or correlates with chairs.⁷

Lycan, Dretske, and Tye each has his own favorite refinement of the tracking theory. On Dretske's teleological view, a representational state x represents the property F iff x has the function of indicating F (1995, p. 2). The relevant notion of function is a teleological one; it is a matter of something's "job" or "purpose." In cases of phenomenal states, the relevant functions derive from their evolutionary history. Tye's view is that a state S of creature c represents that P just in case, "if optimal conditions were to obtain, S would be tokened in c if and only if P were the case; moreover, in these circumstances, S would be tokened in c because P is the case."⁸ (2000, p. 136) Lycan (1996) does not settle on a specific version of the tracking theory, but endorses a broadly evolutionary approach.⁹

Recall that tracking representation aims to account for consciousness in physical terms. Together with a physicalistically-kosher account of manners of representation, the tracking theory is key to accomplishing this goal. On tracking representationalism, consciousness is a matter of intentionality and manners of representation. Intentionality is a matter of tracking, which is a physical relation, and the manners of representation are functional roles or evolutionary histories.

3 Motivations for tracking representationalism

In this section, we consider motivations for representationalism in general (subsections 3.1-3.3) and motivations specifically for tracking representationalism (subsections 3.4-3.5).

⁷Tracking theories need not claim that all intentional states get their content directly from tracking. For instance, a common view is that all atomic representations get their contents from tracking, while composite representations get their contents compositionally from atomic states.

⁸See Tye (2000, Chapter 6) for Tye's account of optimal conditions.

⁹The teleological approach to intentionality is defended by Millikan (1984), Neander (1995), and Papineau (1993).

3.1 Sensory qualities

Lycan's main consideration in favour of representationalism is that it provides a neat theory of the qualities we are aware of in perception (1987; 1996). When we introspect on our perceptual experiences, we notice various qualities. For example, when you introspect upon a perceptual experience of a blue circle, you notice qualities like blueness and roundness. One central question about the nature of perception can be put as follows: What are these qualities and where do they fit into our overall theory? Lycan puts the problem in terms of phenomenal objects, where phenomenal objects are the bearers of sensory qualities: What are phenomenal objects?

One view of perception, naive realism, takes phenomenal objects to be external world objects. On this view, the qualities we are aware of in perception are real properties of external objects. The circle you experience exists in the external world, and blueness and roundness are properties of this circle. Unfortunately, this view has trouble accounting for the qualities we are aware of in hallucination. In hallucination, we are also aware of sensory qualities, but there needn't be an external object with such qualities. If you are hallucinating a blue circle, there needn't be anything blue and circular before you. So it looks like phenomenal objects can't be external world objects after all.

Another view of perception, the sense data view, takes phenomenal objects to be mental objects, or sense data, and sensory qualities to be properties of sense data. When you see a blue circle, you have a blue and round sense datum in your mind. Blueness and roundness are properties of the sense datum. This view faces many challenges, but one is particularly relevant for present purposes: It involves a commitment to apparently irreducibly mental particulars, and so it seems incompatible with a physicalist theory of the mind. This leads Lycan (1987) and many other theorists to reject the view.

A third alternative, the adverbialist theory of perception, denies the assumption that there are phenomenal objects. Sensory qualities are not properties of something. They are not really properties at all. Instead, adverbialism claims that sensory qualities are ways of perceiving. When

you see something blue, you perceive bluey. “Bluey” is an adverb that modifies the verb “perceive,” which is why the view is called “adverbialism.” Likewise, when you see a blue circle, you perceive bluey and roundly. But problems arise in the case of complex experiences. What happens when you perceive a blue circle and a red square? Do you perceive bluey, roundly, redly, and squarely? The problem is that on this adverbialist treatment this would be indistinguishable from perceiving a blue square and a red circle. This problem is known as the many properties problem and was first put forth by Frank Jackson (1977).¹⁰

Lycan (1987, 1996) argues that representationalism offers the most plausible account of phenomenal objects. It allows us to maintain that sensory qualities are properties of phenomenal objects, but deny that these phenomenal objects are external world objects or sense data. Instead, the representationalist can say that phenomenal objects are intentional objects, and sensory qualities are represented properties of these intentional objects.¹¹ What is an intentional object? On the most general characterization, intentional objects are represented objects, or objects that intentional states are about. For example, a fear that the economy is failing has the economy as its intentional object, and a belief that Santa Claus is jolly has Santa Claus as its intentional object. On Lycan’s view, then, when you see a blue circle, your experience involves an intentional object that is blue and round. In other words, your experience involves a represented object that is represented as having the properties of blueness and roundness. As the example of believing that Santa Claus is jolly illustrates, intentional objects need not exist. Thus, by taking phenomenal objects to be intentional objects, the representationalist can allow that sometimes phenomenal objects do not exist. In a case of hallucination, you are aware of an intentional object having sensory qualities, but this object happens not to exist.

While this argument for representationalism is best developed in Lycan (1987), echoes of this reasoning are also found in Dretske (1995; 2003), Tye

¹⁰The problem is further developed by Lycan (1987), who argues that the only available adverbialist solution leads to intentionalism.

¹¹The view that the objects of perception are intentional objects can be traced back to Anscombe (1965) and Hintikka (1969).

(1995), and Harman (1990). As we will see, the argument from transparency bears some similarities to this argument as well.

3.2 The transparency of experience

Perhaps the best known argument for representationalism is the argument from transparency. Gilbert Harman (1990) introduces this argument and Tye (1991; 1995; 2000) further develops it.¹²

The argument from transparency is based on introspective observations about what we do and do not notice in experience. In a nutshell, the introspective observations are these:

1. When we pay attention to our experiences, we don't notice qualitative properties attributed to our experiences themselves.
2. When we pay attention to our experiences, the qualitative properties that we notice are attributed to the objects of our experiences.

To borrow Harman's (1990) famous example, when Eloise sees a tree, she notices the greenness of the leaves, the brownness of the trunk, and the overall shape of the tree. All the qualities that she notices seem to her to be properties of external objects, not of her experience. Our experiences seem to be characterized by properties of the sorts that external objects have, not properties that sense data or other mental entities have. Moreover, introspection reveals exactly the same properties whether or not corresponding objects exist. All this suggests that the nature of experience is exhausted by represented properties of represented objects.

Though advocates of transparency focus on visual experiences, the transparency observation is supposed to hold for all experiences. When we introspect on our auditory experiences, for example, we notice properties of sounds, such as their loudness and pitch, but we don't notice any qualitative

¹²The transparency of experience has its historical roots in G. E. Moore (1903), but, as Kind (2003) convincingly argues, the version of the transparency thesis Moore had in mind was considerably weaker than the one Harman and Tye endorse.

features of the our auditory experiences themselves.^{13,14}

The claim that experience is transparent has been challenged on various grounds. Kind (2003) and Loar (2003) suggest that, though we are not normally aware of qualitative features of our experiences, with some effort, we can become aware of such features. But perhaps the most common kind of objection comes in the form of examples of experiences in which we do seem to be aware of qualitative features of experience, for example, experiences involved in blurry vision. Since these potential counterexamples to transparency are also potential counterexamples to representationalism, we will discuss them in section 4.

3.3 Co-variation between intentional content and phenomenal character

The intentional properties of experience seem to covary with their phenomenal properties. Phenomenal greenness seems to go with represented greenness, phenomenal loudness with represented loudness, and so on. Put otherwise, if two experiences differ in their intentional properties, then they also differ in their phenomenal properties, and vice versa. Representationalism can explain this: Phenomenal properties just are a species of intentional properties.

Tye offers a version of this motivation as part of his argument from transparency (2000, p. 48). Suppose your experience of a ripe tomato has a particular intentional property. It also has a particular phenomenal property. If we change the intentional property, say by changing the represented color of the tomato, then your phenomenal properties change too. Tye claims that this holds for all experiences. If two experiences differ in their intentional contents, then they also differ in their phenomenal characters.

¹³Harman's (1990) argument from transparency stops there. Tye (2000)'s version of the argument from transparency, however, combines the transparency observations with an additional observation, which we will consider in the next subsection.

¹⁴It is important to note that Harman only denies that we are aware of any qualitative features of our experiences. This is consistent with the possibility of introspecting non-qualitative features of experiences, for example, their representational or temporal features. Some authors take the transparency thesis to rule out such observations. But this makes the transparency thesis stronger than required by Harman's argument.

In other words, intentional properties supervene on phenomenal properties.

Tye's overall argument for representationalism is an inference to the best explanation: The best explanation of the observed relationship between phenomenal properties and intentional properties and the transparency observation is that phenomenal properties are just a species of intentional properties.

Frank Jackson (2004, p. 109) offers the reverse observation in favor of representationalism: If two experiences differ in their phenomenal properties, then they also differ in their intentional properties. For example, a visual experience of a red pen has certain phenomenal properties, and it has certain intentional properties. Suppose we change your experience so that it has different phenomenal properties, say, by switching the red pen with a blue pen. Now your experience also has different intentional properties. Jackson takes similar observations to hold across all experiences. If this is right, then phenomenal properties supervene on intentional properties. But then, Jackson argues, intentional properties suffice for phenomenal properties.¹⁵

3.4 Providing a physicalist theory of consciousness

As we mentioned at the outset, phenomenal consciousness seems to resist physicalist treatment. By providing a two step reduction of consciousness to tracking, tracking representationalism offers an attractive physicalist theory of consciousness. The first step reduces consciousness to intentionality and manners of representation. This step relies on the arguments discussed in subsections 3.1-3.3. The second step reduces intentionality to a species of tracking relation, and manners of representations to broadly physical properties. The reduction of intentionality to tracking is somewhat plausible since many of the currently popular theories of intentionality are tracking theories. Combining the two steps, then, offers us a reduction of phenomenal consciousness to broadly physical properties. The technicolour of experience is just a matter of tracking relations between internal states and properties in

¹⁵Byrne (2001) also develops an argument along these lines.

the world, when such relations have the right additional physical properties to be conscious.

3.5 The mapping problem

The *mapping problem of consciousness* is the problem of specifying a model that can predict which phenomenal states accompany which physical states. The mapping problem is independent of the ontological problem of determining the metaphysical nature of phenomenal consciousness, i.e. whether it is physical or irreducibly mental. For example, knowing that conscious states are physical would not by itself tell us which physical states are identical to which phenomenal states. Conversely, knowing which physical states go with which phenomenal states would not tell us whether the correlated states are identical or related in some other way instead. While philosophers have traditionally focused on the ontological problem, solving the mapping problem is crucial for answering various practical questions concerning consciousness, e.g. Can comatose patients feel pain? Could electronic circuits ever feel anything? Is there anything it is like to be an ant?

Tracking representationalism underpins all existing theories of consciousness that could provide a solution to the mapping problem, including those that have been advanced by neuroscientists and psychologists (e.g. Crick 1994, Baars et al 1998, Edelman 1989). These possible solutions share three components corresponding to the three components of the tracking representationalist view. First, phenomenal properties are associated 1-to-1 with intentional contents (this component is secured by the one-manner representationalist view). The second component is a biological or functional characterization of the property that distinguishes physical states that are associated with phenomenal states from other physical states (e.g., Crick's 40hz hypothesis, or Dretske and Tye's accounts of the demarcating manners). The last component is the identification of the intentional contents of experiences with what their neural vehicles track in the outside world (this is secured by the tracking theory of intentionality). Taken together, these components specify a 1-to-1 correspondence between phenomenal properties and physical states or physical state types, thereby purporting to solve the

mapping problem. All theories of consciousness that come anywhere close to specifying such a correspondence consist in the three above components; they are all forms of tracking representationalism.

Alternative approaches are not merely hard to justify, they are hard to imagine or even formulate. It is very hard to see how else we could specify a general relation between phenomenal states and physical states than by identifying the intentional contents of the former with the tracked contents of the latter. In our view, this may be the best available motivation for tracking representationalism.¹⁶

4 Objections

This section considers objections to tracking representationalism. Some are directed specifically at tracking versions of representationalism (subsection 4.1). Others are directed at representationalism in general (subsection 4.2). We close with objections to impure representationalism (subsection 4.3).

4.1 Objections to tracking representationalism

4.1.1 4.1.1 Inverted Earth

Ned Block (1990; 1996) argues that the combination of representationalism with a tracking theory of intentionality leads to implausible consequences. Imagine a planet just like the Earth except for two small differences: First, all colors have been inverted. On Inverted Earth, ripe bananas are blue, blueberries are yellow, ripe tomatoes are green, and grass is red. Second, color names are also inverted. For example, inhabitants of Inverted Earth use the word “yellow” for the color that we call “blue.” One night, you are transported to Inverted Earth without your knowledge. Before you wake up, a spectrum inverting device is inserted into your optic nerve (again, without your knowledge). As a result, you notice nothing unusual about the

¹⁶However, we are skeptical that tracking representationalism succeeds at solving the mapping problem. It is not clear to us that tracking under a physically- or functionally-specified manner correlates well with phenomenal consciousness. Some of the objections in section 4 speak to this point.

colors of things when you wake up. It is highly plausible that you could in principle never figure out that you are now on a planet with inverted colors. In particular, you might go on living the rest of your life there without ever noticing anything unusual about the colors of things. This seems to be a perfectly consistent scenario.

This apparent possibility is inconsistent with some forms of tracking representationalism. On Earth, you had a brain state s that tracked the color red. After you've spent some time on Inverted Earth, this state will come to track the color green. As a result, tracking representationalism seems to predict that after sufficient time has passed you would experience green when you are in s on Inverted Earth. For example, you should eventually come to experience green when in the presence of ripe tomatoes. But it seems clear that you would not, given the spectrum inverted device that has been implanted in you.

This argument does not work against all versions of tracking representationalism. In particular, it does not bear on views on which what s represents is the same on Earth and Inverted Earth. This is the case on teleological theories. Take for example Dretske's view that what an experience represents is a matter of what it has the biological function of indicating. Your internal states do not acquire new biological functions on Inverted Earth (those were fixed in the course of evolution on Earth), so this kind of tracking view is compatible with the scenario as described.

4.1.2 Swamp-person

While teleological views easily escape the objection from Inverted Earth, they face another powerful objection: the Swamp-person objection.¹⁷

Though it is highly unlikely, it seems perfectly possible that a molecule for molecule duplicate of you could suddenly come into existence in a swamp as a result of a lightning strike. Moreover, it seems plausible that this Swamp-person would have conscious experiences. A Swamp-person could see the swamp, feel the mud, and have all the other experiences that you would have if you suddenly found yourself in a swamp.

¹⁷This objection was inspired by a thought experiment from Davidson (1987).

The problem for teleological versions of tracking representationalism is that Swamp-person's mental states have no evolutionarily-determined biological functions, since Swamp-person has no evolutionary history. But then they do not have the biological functions relevant to determining intentional content. This means that they cannot represent anything by the lights of teleological accounts of intentionality. Given the kind of representationalist view under consideration, this in turn implies that Swamp-person would have no experiences, which seems implausible. Inverted Earth and Swamp-person together constitute a dilemma for tracking representationalism.¹⁸

4.1.3 Causal efficacy

Tracking representationalism also faces issues regarding the causal role of experiences. This objection applies to all views on which phenomenal properties are wide properties, that is, properties that involve factors outside of one's body at the time of their instantiation. Tracking representationalism implies that phenomenal properties are wide properties because it takes them to involve relational properties involving external objects and/or historical events.

Suppose you are looking for a tomato. You open your refrigerator, lean forward, and see a tomato on a shelf. As a result, you extend your arm, grab the tomato, and close the door. It seems plausible that your arm movement is caused by the combination of mental states you are in. Simplifying a little, it seems that the movement is caused by (i) your desire to take a tomato out of the refrigerator, (ii) your visual experience of a tomato in the refrigerator, and (iii) your belief that you can pick up the tomato thus experienced by making the relevant arm movement. But if the property instantiated in the visual experience in question is a wide property involving such factors as your evolutionary history or a link between your internal brain states and features of your environment, it cannot play an immediate causal role in bringing about your arm movement. Wide properties cannot have immediate effects

¹⁸Tye (2000) attempts to offer an account of the intentionality of phenomenal states that avoids the two horns of the dilemma constituted by these objections. In our opinion, the resulting account seems implausibly *ad hoc*.

on one's movements. In principle, it should be possible to fully explain your arm movement in terms of what went on in your head and the rest of your body at the time. If phenomenal properties are a kind of tracking property, they are not immediately efficacious in bringing about behavior.¹⁹

A typical reply to this objection is to grant the point but try to find some other explanatory role for wide experiences to play. For example, Dretske (1995, p. 196) grants that on his view phenomenal properties cannot be immediate causes of bodily movements. However, he goes on to argue that they can play another kind of explanatory role. For example, the fact that a certain phenomenal state has the function of tracking a certain external property might seem to explain why its tokens tend to occur in the presence of instances of the property. Phenomenal states might well have an explanatory role on Dretske's and similar views. However, this does not erase the fact that tracking intentionalism is incompatible with the seemingly obvious fact that instantiations of phenomenal properties have immediate behavioral effects. The objection was not that tracking intentionalism makes phenomenal properties explanatorily redundant, but that it is incompatible with their playing an immediate role in bringing about bodily movements.

4.1.4 The mismatch problem

According to Tye's, Dretske's, and Lycan's versions of tracking representationalism, the intentional content of a mental state is what it tracks and the phenomenal character of a mental state is its intentional content. In short, the phenomenal character of a mental state is what it tracks.²⁰ The problem is that the phenomenal characters of some of our experiences are not plausibly identified with the features in our environment that we track. Consider an experience of red. This state plausibly tracks something like

¹⁹See Horgan (1991).

²⁰Tye, Dretske, and Lycan endorse an identity version of representationalism, on which phenomenal features are identical to intentional features and phenomenal character is identical to intentional content. It is also possible to hold a mere determination version of representationalism, on which phenomenal features are not identical to intentional features, but instead are determined by them in some way. The objection in this section applies to this weaker type of view as well. See fn. 22.

the disposition to reflect electromagnetic radiation with a wavelength of approximately 650 nm. The problem is that this does not seem to be plausibly identifiable with the experience's phenomenal character, what it's like to have the experience. The problem is that phenomenal redness and surface reflectance properties seem utterly dissimilar. Many other qualities we are aware of in our experiences seem to have no matching properties in our environment: the painfulness of pain, the sound of a harp, and the feeling of heat are not plausibly identified with physical properties of things in our bodies or environment.^{21,22}

Tracking representationalists might reply to this worry by appealing to the phenomenal concepts strategy. The apparent distinctness between phenomenal redness and surface reflectance properties is an illusion created by the fact that we have two different ways of representing the same property. Somehow, the different operating principles of the two ways of representing are incompatible, making it hard for us to see phenomenal redness is the same thing as some reflectance property. Whether this sort of reply can succeed is a hotly debated topic, but we remain skeptical.²³

4.1.5 Phenomenal externalism

Many of the above objections to the tracking component of tracking representationalism arise from its commitment to phenomenal externalism, the

²¹Since the tracking representationalist wants to be a physicalist, she should not respond to these worries by claiming that there are non-physical properties corresponding to redness, painfulness, etc.

²²In footnote 20, we noted that there are possible versions of representationalism on which phenomenal character is not identical to, but is instead merely determined by, intentional content. These views escape the present objection in its current form, since they do not claim that phenomenal characters are identical to tracked contents. However, the apparent dissimilarity between the phenomenal character of experiences of red and what they track poses problems for this view as well. The problem is that there seems to be nothing special about the tracked content that is responsible for its having the phenomenal character of redness, rather than the phenomenal character of greenness or the phenomenal character of pain. In other words, there appears to be no clear connection between the nature of certain surface reflectance properties and the nature of the phenomenal characters that they are supposed to determine, making it baffling how exactly the determination is supposed to take place.

²³See Balog (1999, 2012), Chalmers (2004, 2007), Stoljar (2005), and Alter and Walter (2007)

view that the phenomenal character of a mental state is at least partly determined by factors outside the subject's body. According to phenomenal externalism, two intrinsic duplicates (duplicates from the skin in) might differ in their phenomenal properties. The Swamp-person and Inverted Earth objections target specific versions of phenomenal externalism on which phenomenal properties are partly determined by historical or non-historical environmental factors, respectively, while the causal efficacy objection and the mismatch problem are problematic for all versions.²⁴

Phenomenal externalism itself might seem outlandish independently of any downstream consequences. Dretske, Lycan, and Tye, however, have each offered positive arguments for phenomenal externalism (Dretske 1996; Lycan, 2001; Tye, forthcoming).

4.2 General objections to representationalism

4.2.1 Perceptual distortion

The objections in the preceding section are targeted specifically at tracking representationalism. Other objections apply to representationalism independently of any commitment to the tracking theory. Most of these objections involve cases of perceptual distortion. These are cases in which what we experience is distorted compared to the way we take the world to be, but we do not tend to regard our experiences as misrepresenting. All objections of this sort aim to show that representationalism is false because some experiences in the same sensory modality can differ in phenomenal character without differing in content. If true, this would imply that there is something more to experience than representing a certain content in the kinds of manners described by Lycan, Dretske, and Tye.

Blurry vision is the most widely discussed example of perceptual distortion. When you see blurry, you do not tend to think of your experience as

²⁴Jackson (2004) combines representationalism with an internalist version of something like the tracking theory. On Jackson's view, intentionality is a matter of our relations to the environment, but intrinsic duplicates are related to the environment in the same ways. This view avoids the Inverted Earth and Swamp-person objections, but it is unclear whether it avoids the causal efficacy objection and the mismatch problem.

presenting you with some blurry or fuzzy object. This makes it hard to see what intentional contents might characterize blurry vision. This line of argument against representationalism originates from Boghossian and Velleman (1989).

Dretske's (2003) view is that blurry experiences in fact do represent fuzzy objects. Tye (2003) suggests that what characterizes blurry experiences is that their contents leave the contours of objects indeterminate in a certain way. A more recent proposal by Allen (forthcoming) is that blurry experiences represent their objects as having multiple contours.

It is difficult to adjudicate the question of what blurry experiences represent qua blurry experiences. However, we suggest that blurry experiences can easily be seen to differ in representational content compared to non-blurry experiences, because blurry experiences clearly leave out some information about the world. Blurry experiences always involve a deficiency in detail.²⁵

Peacocke (1983) presents a set of objections from perceptual distortion against the view that the phenomenal character of an experience is determined by its content. The best known of these objections involves two experiences in which one sees two identical trees from different distances. Tree 1 and Tree 2 do not look different in size, and so the experiences of Tree 1 and Tree 2 do not differ in content. But these experiences differ in phenomenal character corresponding to the different apparent sizes of the trees. So it does not seem that the perspectival aspects of the phenomenal character of visual experiences are captured by their contents.

Lycan (1996), Harman (1990), and Tye (1996) offer accounts of the perspectival aspect of vision. According to Lycan, we need two layers of content to explain perspective: a layer that represents objects in objective three-dimensional space, and a layer that represents colored shapes in a two-dimensional space. In the case of the two trees, the two experiences are alike with respect to the first layer of content but their second layers of content involve different sized shapes. Harman and Tye suggest that the difference in content between the two tree experiences is one in situation-dependent

²⁵See Bourget (Ms.).

properties such as being large from here.

4.2.2 Allegedly contentless phenomenal states

Pains, moods, and emotions are challenging for representationalism because it is not at all clear what they represent. Even if they have intentional properties, it is not clear that their phenomenal properties can be identified with any of their intentional properties.

Tye (2008) suggests that pains represent bodily damage at a bodily location, and that they represent the damage as bad. Different pains represent different types of bodily damage. For example, a stabbing pain represents sudden damage at a well-defined location, whereas an ache represents internal damage at a vaguely defined location. These contents determine pain's phenomenal character.

Tye's view attributes two different types of content to pains: bodily damage, and badness. Different kinds of worries arise for each content. While bodily damage is plausibly tracked, it is not clear that it captures the phenomenal features of pain. The second component, the representation of badness, does seem to capture an aspect of pain's phenomenal character. However, it is not clear that the tracking representationalist can appeal to this content, since it is not clear that this is a content that we can track. These worries are specific instances of the mismatch problem discussed in subsection 4.1.4.²⁶

According to Tye, emotions represent objects as (1) having evaluative features (e.g. as being dangerous, invasive, or foul), and (2) causing or being accompanied by a bodily disturbance (e.g. a racing heart, or perspiration).²⁷ As in the case of pain, questions arise as to whether these contents can both be tracked and capture emotions' phenomenal characters.

Moods seem to escape this kind of treatment, since they do not seem to represent external items at all. For example, an experience of sudden

²⁶Bain (2003), Klein (2007), Seager and Bourget (2007), Bourget (2010), and Mendelovici (2010) offer alternative representationalist theories of pain.

²⁷Seager (2002), Montague (2009), and Mendelovici (forthcoming) also defend representationalist accounts of emotions.

elation, free-floating anxiety, or pervasive sadness do not seem to qualify any object. There are several options open to the representationalist. Tye has suggested that moods represent departures from the “range of physical states constituting functional equilibrium” (1995, p. 129). More recently, Tye (2008) has suggested that at least some moods represent the world in general as having affective properties.²⁸ Mendelovici (forthcoming) suggests that moods represent the same properties as their corresponding emotions, but that they do not represent any objects as having these properties. Moods represent mere properties. Kind (forthcoming) objects that all these views fail to capture the phenomenal character of moods.

4.3 Objections to reductionism about manners of representation

Objections have also been raised against the reductive view of manners of representation that is part of tracking representationalism. The specific proposals put forward by Dretske and Tye have been questioned on a number of grounds. On their view, what distinguishes phenomenal from non-phenomenal representation (beyond differences in content) is that the former, but not the latter, are nonconceptual and relevantly poised to influence cognition. One simple objection to this view is that some subconscious states influence cognition and have nonconceptual content without being phenomenally conscious.²⁹ The case of blindsight also seems to show that being poised and nonconceptual is not sufficient for a representation to be phenomenally conscious (Block, 1995).

The appeal to nonconceptual content might also be questioned on other grounds. According to Dretske and Tye, only nonconceptual contents contribute to phenomenal character. This precludes thoughts from having phenomenal characters, since they are conceptual states. This might seem implausible to some (see Horgan and Tienson (2002), and Pitt (2004)). Relatedly, it is quite plausible that conceptual contents are sometimes involved in perceptual states and are responsible for certain phenomenal features of

²⁸Tye describes such states as emotions, but many would classify them as moods.

²⁹See Seager and Bourget (2007).

those states. For example, there is a phenomenal difference between seeing the duck-rabbit as a duck versus seeing it as a rabbit.³⁰

It is noteworthy that this approach to demarcating properties is open to general objections to physicalism and functionalism. For example, Chalmers' (1996) zombie argument applies. It is on the face of it conceivable that one has brain states that track features in one's environment while being poised and nonconceptual, but one has no phenomenal experiences. If conceivability is a guide to possibility, this suggests that such a scenario is possible, which is incompatible with the claim that consciousness is a matter of poised, nonconceptual tracking. Jackson's (1982) knowledge argument also applies without modification. See chapter 14 for more on these debates. That the usual objections to functionalism and physicalism apply suggests that tracking representationalism might not make the ontological problem of consciousness easier after all.

5 Other kinds of representationalism

Most of the objections discussed in previous sections are not effective against representationalism on its own. They target representationalism in combination with the tracking theory of intentionality and/or reductionism about manners of representation. This has led several authors to reject the tracking theory and/or the reductionist view of manners of representation while retaining the representationalist component.³¹

One alternative to tracking representationalism is mere representationalism. Chalmers (2004) and Pautz (2010a,b) endorse representationalism without endorsing a physicalist view of intentionality or manners of representation. Mere representationalism does not aim to provide a physicalist theory of consciousness or a solution to the mapping problem, but it might still seem to improve our understanding of consciousness. It at least provides

³⁰These objections are discussed in Mendelovici (2010). More objections to Dretske's and Tye's accounts of demarcating properties can be found in Seager (1999; 2003), Kriegel (2002), Byrne (2001, 2003), and Seager and Bourget (2007).

³¹Crane (2003), Chalmers (2004; 2006), Seager and Bourget (2007), Pautz (2009; 2010), Mendelovici (2010), Bourget (2010).

us with a better understanding of the internal structure of consciousness, which might help formulate hypotheses regarding its relation to physical structures. Mere representationalism also retains the benefits of reductive representationalism as far as the problem of hallucination discussed earlier goes.

Another alternative to tracking representationalism, the pure representationalist view briefly discussed in section 2, challenges the assumption that manners of representation are needed to explain consciousness. On this view, consciousness is simply intentionality: the difference between conscious and nonconscious representations is simply a difference in content. One difference in content that might be relevant is that nonconscious intentional states have less determinate contents than phenomenal experiences. Other differences could be relevant. Bourget (2010) and Mendelovici (2010) defend pure representationalist theories of consciousness.

6 Conclusion

Tracking representationalism is a relatively new theory of phenomenal consciousness. As our cursory overview shows, it has generated much discussion over the past few years. Whether or not it ultimately succeeds, it has challenged and reshaped the contemporary understanding of the relationship between consciousness and intentionality.

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