

A Higher-order, Dispositional Theory of Qualia

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Abstract

Higher-order theories of consciousness, such as those of Armstrong, Rosenthal and Lycan, typically distinguish sharply between consciousness and phenomenal character, or qualia. The higher-order states posited by these theories are intended only as explanations of consciousness, and not of qualia. In this paper I argue that the positing of higher-order perceptions may help to explain qualia. If we are realists about qualia, conceived as those intrinsic properties of our experience of which we are introspectibly aware, then higher-order perception might have an explanatory role as the means by which we are aware of these properties. This would also allow us to treat qualia as the inner appearances resulting from inner perceptions, and therefore to treat them as intentional objects.

It is fair to say that “inner sense” theories of consciousness are not widely accepted. Though Lycan (1987,1996) and Armstrong (1984,1993) are heavy hitters in their favour, the arguments against are formidable.¹ Some are arguments against the very notion of an inner sense, and others are arguments against the inner sense as a theory of consciousness in particular. In this paper I will argue that whether or not inner sense theories of consciousness are viable, it is worth considering an inner sense theory of the introspectible quality of sensory states—that is to say of qualia. An inner sense theory of qualia faces few of the objections to the former, and solves many of the problems associated with the latter; including, I believe, the explanatory gap. Here I introduce a dispositional inner sense theory of qualia.

Intentionalism

For almost two decades now there has been strong support for the idea that phenomenal properties are intentional objects and that, moreover, they are the way external objects are represented in perception.² To see

¹ See Shoemaker (1994); Dretske (1999); Rosenthal (1990); Carruthers (2000).

² Current representationalists include Harman (1990), Tye (1991, 1995) Lycan (1987, 1996) Jackson (forthcoming), Dretske (1995), Byrne (2002).

red, on this view, is a matter of being in a perceptual state that represents part of the world as being red. The phenomenal quality associated with redness is a component of one's (perceptual) awareness of the redness of objects 'out there' in the world. Being aware of the feeling of redness is nothing more than being perceptually aware of objects as red. There is no mental quality of which one need be aware, only qualities of the objects of ordinary perception.

To this it has been objected, notably by Block (1990, 1995, 1998) that we are aware of some specifically mental property when we perceive objects. Perceptual experiences have, according to Block, qualities that we are aware of which go beyond their representational properties, and they are the phenomenal qualities. To see red, he argues, is not just to be aware that there is a red thing in front of one's eyes—it is also to be aware of 'what it's like' to see the red thing. Block's use of the inverted spectrum and 'inverted Earth' thought experiments are designed to show that representational content could conceivably vary independently of 'phenomenal feel'. Block (1996) has famously described the gap between pro- and anti-intentionalists as "the greatest chasm in philosophy of mind—maybe even all of philosophy." An important aim of this paper is to attempt to bridge this 'chasm'.

Dispositionalism

There is a sense in which appearances depend on perceptions. Moreover, some physical qualities can be defined in relation to the way they appear. Dispositional accounts of colour are an example of this. For such accounts, objects are red just in case their surface properties are such that they present a red appearance under normal conditions to a normal perceiver. The 'normal conditions' and 'normal perceiver' caveats are integral to the definition because there is a gap between an object's being red and its being perceived to be red. The reason it smacks of absurdity to say that outside the visible wavelengths of light there are colours we are unable to see is that those wavelengths are not associated with any particular perceptual state. One might talk of possible colours, as one might talk of possible dispositions, but not of actual colours that, as it happens, are not connected to a disposition to be perceived.³

It some clear sense, it is possible to say that an object may have a red appearance without actually being perceived to be red. But to say that is to assert that it is such that it would appear red if it were perceived. There is thus a logical, if not ontological, connection between being red

³ Thompson (1992) makes the related point that since (he argues) colours are defined relationally (as a position in a "colour space"), colours that are outside our *actual* range of experience are inconceivable, though a different range (i.e., a different colour space) is clearly possible.

and being perceived. We can therefore say that red appearances are intentional objects without being committed to subjectivism about colour⁴ because, to a dispositionalist, red is not the same as the appearance of red—it is the property (or properties) of things that are responsible for red appearances understood as intentional objects. If this account of colour is correct, as I believe it is, it can be extended to cover phenomenal qualities and the way they feel.

My approach here is to argue for this conditional, rather than for the conditional together with the thesis that dispositionalism about colour is correct. For this reason dispositionalism is largely, though not entirely, taken for granted. Moreover I leave aside the issue of versions of dispositionalism—for example, whether colours are to be identified with dispositions or with the categorical basis of dispositions—since, as far as I can tell, nothing here turns on which of these version are correct. Readers unsympathetic to dispositionalism about colour may find that the position put forward here inherits what is problematic about that view. But it will be enough if the position I propose is as plausible as dispositionalism about colour. I leave it open whether an alternative view of colour could be adapted to suit qualia in the way that I adapt dispositionalism about colour; there is no reason on the surface to suppose that it could not.

Qualia and dispositional properties

Kripke famously insisted that pain and the way pain feels cannot be separated. There are at least two version of this thesis in *Naming and Necessity*. At certain points Kripke asserts that pain and its feeling are one and the same thing—call this the ontological thesis. At other points he argues that it is impossible to pick pain out other than via its feeling—call this the semantic thesis. That the two theses are distinct is clear in the case of red and red appearances: red is not the same thing as a red appearance, but we understand the one partly in terms of the other.⁵ With respect to red and red appearances, the semantic thesis holds but the ontological thesis does not.

Kripke's argument against physicalism begins with a statement of the ontological thesis:

In the appropriate sentient being is it...possible that a stimulation of C-fibres should have existed without being felt as pain? If this is possible, then the stimulation of C-fibres can itself exist

⁴ By “subjectivism” I mean the view that I take to be most directly derived from Locke, that colour is not a property of objects but rather part of the nature of our perception of objects, currently held by (among others) Boghossian and Velleman (1989) and McGilvray (1994).

⁵ On this point see also Lewis *ibid*.

without pain, since for it to exist without being felt as pain is for it to exist without there being any pain. (p. 151)

A little later he writes that “in the case of mental phenomena there is no ‘appearance’ beyond the mental phenomena itself.” (p. 154) But his main reason for asserting this thesis is that we pick out sensations by the way they feel and that, for example, “if any phenomenon is picked out in exactly the same way we pick out pain, then that phenomenon is pain.” (p. 155) And this is precisely the semantic thesis which as we have just noted fails to entail the ontological thesis.⁶ All that is required for the semantic thesis to hold is that a state be pain just in case it is the kind of state that normally feels painful. The ‘normally’ caveat allows for the possibility that pain and the feeling of pain might not always co-occur—as for example, when one has a continuous mild headache but does not continuously feel it. At the same time to understand “pain” one must understand that pain is nothing more than a state that, as we might say, typically presents a painful appearance—that typically feels painful. In this way we arrive at a dispositional account of phenomenal qualities along the same lines as the dispositional account of colour and other ‘secondary’ qualities:

The Proposal: *The “feel” of qualia are the logical result of perceptual states being themselves represented directly in experience, making it the case that those perceptual states “appear” to us a certain way.*

This account preserves the logical connection between sensations and the way they feel without going so far as to say that they are identical. For the remainder of this paper I will argue for the virtues of this approach.

What is it to say that a sensory state appears a certain way? If this is a way we might interpret the claim that sensory states ‘feel’ a certain way, it is important to make sense of the idea that a mental state could have an appearance. Given the tight link, just noted, between appearances and perception, the obvious place to start is with so-called “higher-order perception” (HOP) theories of consciousness (see Armstrong 1984, 1993; Lycan 1987, 1996). These theories postulate an introspective mechanism within the head which is relevantly like a perceptual mechanism (relevant enough to deserve the name “perceptual”). None of these theories suppose that this mechanism is or could be responsible for qualia (except insofar as they are theories of consciousness, which they suppose is

⁶ Some may argue that these two theses in Kripke are held to be independently plausible. That is not my reading of the dialectic in *Naming and Necessity*, but it might be right. My point here is not to interpret Kripke, but rather to emphasise that one may consistently hold the semantic thesis while rejecting the ontological thesis.

necessary for awareness of qualia). But the idea of an “inner sense”, as it is often called, might be co-opted to make sense of the idea that perceptual states could have appearances.

In order to carry beyond analogy the idea that the way sensations feel is the way they appear, a case must be made that they appear to someone. The inner sense theory supplies this, for in this theory perceptual states can literally be perceived. And if they are perceived then ipso facto they must have appearances. Moreover those appearances are in an important sense the direct result of the inner sense, in the same way that colour appearances (as distinct from colours) are the result of colour perception. The inner sense itself would not, if this approach is right, have its own phenomenal quality because it does not have an appearance. It does not have an appearance because its states are never themselves perceived.⁷ So for any sensation there is only one phenomenal quality associated with it. There are two kinds of appearance involved, but one of them is of objects in the external world (their colour, shape, etc.) and the other is of sensations (their feel).

A dispositional inner sense account of phenomenal qualities is consistent with the view that “feels” are intentional objects. At the same time it does not deny the intuitive view that that phenomenal qualities are qualities of perception rather than qualities of the (external) objects of primary perception.⁸ According to Lycan (1996) phenomenal qualities are an aspect of the representational content of first-order perception. They are the way particular processes represent qualities in the external world. There is a sense in which the current proposal agrees with Lycan, since for both views what the inner sense perceives is the way in which we perceive the world (whether, for example, we are seeing or hearing that a car is getting closer). But whereas in Lycan’s view that “way” is itself a kind of intentional object, for the current proposal it is the physical/functional process that underlies primary perception. If at any rate we assume that

⁷ We may sometimes be *conscious of* our inner sense, but I regard consciousness and sensory qualities as distinct problems. Lycan does too, though his inner sense—unlike mine—is supposed to address the nature of consciousness. Indeed, the question of which problems the postulation of an inner sense can solve is the most fundamental difference between Lycan and myself. Incidentally, most commentators on inner sense theories also discuss it as a proposed mechanism of consciousness rather than of sensory qualities, insofar as they also take the two issues to be distinct (for example, Levine (2001), and Carruthers (2000)). For that reason, many of the criticisms levelled at inner sense theories are not relevant to the version I am presenting here.

⁸ By “primary perception” I mean simply the perception of the external world, to be contrasted with the putative inner sense which has as its *object* primary perception.

visual perceptions are physical processes, then those physical processes are what is being perceived when we are aware of our perceptions.

The explanatory gap

According the current proposal, in being related essentially to a disposition, phenomenal qualities are analogous to solubility, for which an explanatory gap exists in the following way. A bare description of the molecular structure of salt is not an explanation for why salt is soluble. What needs to be added is what would happen to that structure if it were surrounded by H₂O molecules. And that could not be explained without describing, at least partially, the structure of those H₂O molecules. The “gap” in this case is not of course a real explanatory gap in the sense that there is some aspect of the solubility of salt that cannot be explained. But it a gap in the sense that no amount of information about salt alone could explain why salt is soluble. Anyone hoping to find an explanation for the solubility of salt entirely within the chemical nature of NaCl molecules would find themselves up against a real gap. Furthermore it would be a gap, I claim, of precisely the kind operating in the case of phenomenal qualities.

To see this, take firstly the case of the (primary) perception of an object with a red appearance. Now no amount of information about the surface properties of the rose could explain the fact that it has a red appearance without it being taken as given that those properties cause perceptions of red in us and that the light is normal. That is because whatever properties the rose has, a change in the ambient light could change its appearance (which is not of course to say that its colour would thereby change, merely its colour appearance). The rose considered in isolation is not wholly responsible for its having a certain colour appearance, so even after a complete physical description of it is given it remains an open question what colour it will appear to be. To close the question it needs to be added that rose and the conditions are such that it will be perceived as red.

We can now tell a similar story about perceptions themselves. If we are interested in explaining why our perceptions feel the way they do, then our explanandum is not their nature but rather their appearance. But the way it appears is not something that a perceptual process considered in isolation could be wholly responsible for. The “could” here, as in the case of colour appearance, is the logical could. Since an appearance is a relational property,⁹ the fact that it holds of an object or process must be made true partly by something else. Hence, as long as our attention is

⁹ Appearances seem, indeed, to be *three*-place relations—in order to be said to have an appearance of a certain sort, a thing must be said to (at least potentially) appear *to* someone *as* something. At any rate they are not intrinsic properties.

focussed exclusively on the perceptual process itself we could not possibly explain why it feels the way it does.¹⁰ In order to explain that we also need to take into account the way in which we are perceiving that process.¹¹

Levine's (1983) assessment of what it would take to fill the explanatory gap was a story in terms of functional or physical properties of the brain that made intelligible the existence of phenomenal properties, and that furthermore:

Whatever properties the firing of C-fibres (or being in [functional] state F) had that explained the feel of pain would determine the properties a kind of physical (or functional) state had to have in order to count as feeling like our pain.

¹⁰ It may be argued here, as McGinn (1996 and 1983) and others have argued in the case of colours, that the reason our attention has focused on intrinsic properties is that we experience sensations *as* intrinsic properties, and that therefore they cannot be relational—or, specifically, that they cannot be dispositional. This is a mistake because, as Byrne (2001a) points out in response to McGinn, what we perceive is typically the *manifestation* of the disposition—which itself need not be dispositional. Moreover, if a person were asked to point out the white objects in a room with red illumination, he or she would specifically not be relying on what the objects *actually* look like but rather what they *would* look like if the light were normal, and *that* is what makes red a dispositional property. Granted, then, that red is that property of objects such that they appear red in normal light, red appearances themselves must be relational simply because they involve two entities: the *way* some things appear (which are intentional objects) and *to whom* they appear that way. The way of appearing need not itself be relational for the appearance to be relational (see Shoemaker (1994 and 1996a) for good discussions on this point). Moreover, the explanation for the *way* something appears must naturally involve the fact that it is an appearance. It is because 'feels' are standardly *not* taken to be the way sensory states appear that their relational aspect is missed and the explanatory gap arises.

¹¹ Carruthers (2000) objects to the explanatory power of a theory of this sort on the basis that introspection does not represent experiences of red *as* experiences of red—that is to say, we do not seem to be aware both of *redness* and an *experience of redness* (§9.1.2). Moreover, he argues (§8.1.2) that the contents of such an inner sensing would need to be enormously complex, implausibly given its doubtful evolutionary advantage. That is an objection against Lycan's view, but not mine, since on my view the contents of inner sensings need not be nearly as rich as the contents of perception. My view can allow that because it denies that the inner sense is a mechanism of consciousness. Carruthers calls this (p. 212) a "mixed position" and "unobjectionable, so far as it goes", since he is interested in consciousness.

This requirement may simply be mistaken. The story of how pain feels, like the story of how roses look, may not be explicable in terms of the physical or functional properties of the state alone, not because there is anything unusual about pain states, but rather because the nature of the perceiver must also be taken into account. The same rose may appear different to different perceivers; analogously, the same pain state may (in the sense of logically may) feel different to different observers.¹²

If so, then the way experiences of red feel is not explicable solely in terms of the nature of red perceptions or solely in terms the nature of our awareness of those perceptions. That is why the question “What is it about pain states that makes them feel the way they do?” does not have an answer, and also why we cannot imagine what an answer would look like. The gap between brain states and why they should feel like anything is as real as the gap between roses and why they should look like anything, but does not automatically create any great mystery about brain states, any more than it creates a mystery about roses.

Further issues

The account of phenomenal qualities I am putting forward here faces some *prima facie* damaging objections, the most serious of which it is important that I address here.

The Empirical Question

Güven Güzeldere (1997, p. 794), sceptical of the idea of higher-order perception, writes that “the claim that there are self-scanners in the brain that are responsible for introspective consciousness...has no solid physiological or anatomical basis in the neuroscientific literature.” Rosenthal (1990), quoted in Lormand (1996), expresses similar doubts about the existence of a perceptual mechanism.

As it happens, Wolf Singer (1998, 2001), a neurophysiologist, has recently been speculating that one of the roles of the now-familiar 40-Hz synchronous firing of neurons in parts of the cortex may be to represent perceptual processes. He goes so far as to propose that “the aspect of consciousness that we address as phenomenal awareness results from an

¹² Moreover, there is no explanatory gap with respect to the second-order sensing, because it is improper to say of those sensings that they feel like anything. According to this account, only the *object* of a sensing can have a feel. I take it that this is consistent with the common-sense view that only our first-order perceptions feel like anything. Since the explanatory gap is thought, by those philosophers who believe in it, to be ‘created’ by the existence of feels, there is no question of it arising at the second-order level, on this view.

iteration of the same cognitive operations that support sensory processing.” (p. 127)

Crick and Koch’s (1990) original paper on the firing of certain neurons in unison proposed that it is involved in perceptual binding, which they in turn proposed may be necessary for consciousness. More recently, Crick and Koch (1998) have downplayed the role of synchronous firing, but Singer and his lab have taken it up as a vehicle of representation.¹³ Whether Singer is right that synchronous firings are, in particular, the vehicle of an iterated, perceptual representation is another matter. But at any rate Singer’s papers show that there is some reason to at least keep the empirical question open for now. That is the most that my proposal here needs.

Perceiving a thing, perceiving its nature

The red appearance of a rose in normal light is explained partly by the fact that in normal light we perceive it to be red. We represent it, somehow, as being red. But in doing so, what do we know about the rose? Locke argued that a key feature of our ideas of secondary qualities is that they lack any resemblance to a discoverable feature of objects—“There is nothing like our ideas [of secondary qualities] existing in the bodies themselves” (II;VIII;15). One plausible interpretation of this is that our sensations of colour don’t seem to tell us anything about the natures of the objects we see to be coloured. Now of course this itself can not serve as an argument to the conclusion that colour perception is not a perception of a real property of objects. Even Locke’s characterisation of secondary qualities allows that they convey some information about their bearer, namely, the power to induce in us certain sensations. Two red objects, by virtue of being red, have the same power with respect to inducing colour sensations. Since it is possible to perceive some similarity without perceiving the features that account for it, there is no philosophical problem in the idea that in colour perception we represent sameness and difference without representing sameness or difference in any particular respect.

Like the perception of colour, our perception of what colour sensations feel like does not seem to reveal much about the nature of sensation states. It does tell us at least this much, that the sensation of colour is a visual rather than an auditory sensation. I will not speculate here on the usefulness of that kind of information but I do want to point out that there is no reason to think that phenomenal qualities are not inner sensings simply because they do not reveal anything of the nature of

¹³ See, for example, Roelfsema et al (1996) and Singer et al (1997).

visual processing.¹⁴ Colour perception is a good example here—to perceive that two objects are the same colour is not really to know what properties they share, if any, apart from simply their colour. Likewise, to notice that the perception of red and the perception of orange feel similar is not to know what properties they have in common. Their feeling similar just is one’s perception that they are similar. We cannot articulate the respects in which they are similar because it isn’t part of the intentional object of the perception, and it needn’t be in order to count as one.

The knowledge argument

If the approach outlined here is on the right track, it is clear that a theory of representation is needed by the study of phenomenal qualities. Within the framework provided here, which is consistent with the hard-line representationalism of Harman, the views, or anyway the intuitions, of most anti-representationalists can be accommodated. Our awareness of the quality of our sensory experience does not threaten the idea that perceptions are representational, since that awareness is itself representational. What it represents is to some extent unimportant, and may only be bare similarities and differences. Like all perceptual systems, they represent the world in a way that is evolutionarily useful, which does not necessarily cut nature at its joints—a quality we expect rather of our scientific representations.

In the light of this it may be useful to take a somewhat novel approach to the so-called “knowledge argument” against physicalism, which has not yet been addressed here. In Jackson’s (1982, 1986) argument Mary has full knowledge of an ideal neuroscience but has never seen colours, to which the question is put, does Mary learn anything on having her first visual colour experience?

As a first pass across this question, it is worth asking whether if Mary were a physicist she would learn anything about red objects on first seeing something red. In one sense she would, since she would learn what red objects look like. But—a by now familiar point—the way objects appear is not given purely by any characterisation of the objects themselves. How the objects are perceived is also an essential part of the story. Nevertheless the red appearance of post-boxes, whether or not is a question answerable within physics, is a contingent fact for which we can seek an explanation. The part that cannot be answered by Mary the physicist must presumably be answered by Mary the neuroscientist. Still the question remains a question about post-boxes rather than mental states

¹⁴Shaffer (1963) brought an argument against physicalism along these lines—that introspection does not reveal anything neural, therefore sensations cannot *be* anything neural. Rosenthal (1976) refuted it partly along lines similar to those presented here.

—did Mary the neuroscientist learn anything about red things on her first red experience? Certainly her neuroscience should have told her how red things are perceived, and in that sense how red things appear. If ideal neuroscience includes a representational theory of perception then Mary ought to have known what properties she would perceive the red objects to have—that is, redness. That a certain class of objects would appear red ought not to have surprised her.

A first-order representationalist would stop there, but a second pass at the question is necessary and, moreover, is warranted by the second-order representationalism defended here. Mary is supposed, in the original argument, to learn something about her mental life on having her first red experience. This idea can be approached similarly to the previous question about post-boxes. Merely knowing about the process by which red objects are perceived to be red should not be sufficient for knowledge of the “what it is like” kind that the knowledge argument is really about. That kind of knowledge is not concerned with our awareness of red objects—it is concerned with our awareness of a kind of mental object that we are often aware of when we are aware of red objects. A theory of ‘external’ perception would have nothing to say about the mental object. For an account of our awareness mental objects, a theory of how we perceive them may be needed—a theory of ‘internal’ perception. If Mary had such a theory, she would at least know what properties she would perceive her perceptions of redness to have. In at least this sense she could predict what her colour experience would “feel like”, just as she could predict what post-boxes look like: what properties will be represented in their perception. The properties we are most directly aware of our perceptions as having have a fair claim to be what are known as “the way sensations feel”. A representationalist can therefore admit the most of the force of the knowledge argument as originally posed without needing to admit its conclusion.

Conclusion

It is important to emphasize that I am not proposing a dispositional account of consciousness. The issues of consciousness and qualia have often been, if not conflated, then at least mixed up—Chalmers’ “hard problem” of consciousness is precisely the problem of qualia.¹⁵ I think Lycan is right that they are distinct issues, though I think the postulation of an inner sense can solve the problem of phenomenal qualities but not problem of consciousness considered more broadly as the state that distinguishes your waking moments from your sleeping ones. The

¹⁵ As he puts it, “The problem of explaining...phenomenal qualities is just the problem of explaining consciousness.” (*The Conscious Mind*, p. 5) What he means of course is the hardest *part* of the problem of explaining consciousness.

dispositional account of qualia offered in here is intended to answer the question, What are the phenomenal qualities and how are they related to the way they appear? It proposes that the question, and therefore the answer, is similar to the question, What are the secondary qualities how are they related to the way they appear? Since in both cases we can fail to be conscious of the appearance, or the feel, the question of consciousness is separate, and not dealt with here. Nevertheless, since phenomenal qualities are often taken to be the most intractable aspect of our mental lives, perhaps once the question of their nature is solved the problem of consciousness will be that much easier.

References

- Armstrong, D.M. (1993), *A Materialist Theory of the Mind* (Revised Edition). New York: Routledge.
- Armstrong, D.M. and Norman Malcolm (1984), *Consciousness and Causality: A Debate on the Nature of Mind*. Oxford: Blackwell.
- Block, Ned (1990), "Inverted Earth." In J Tomberlin (ed.), *Philosophical Perspectives* 4. Northridge, California: Ridgeview.
- Block, Ned (1996), "Mental Paint and Mental Latex." *Philosophical Issues* 7; 19-49.
- Block, Ned (1998), "Is Experiencing Just Representing?" *Philosophy and Phenomenological Research* 58; 663-70.
- Block, Ned and Jerry Fodor (1972), "What Psychological States are Not." *Philosophical Review* 81; 159-181.
- Boghossian, Paul and David Velleman (1989), "Colour as a Secondary Quality." *Mind* 98; 81-103.
- Byrne, Alex (2001a), "Do Colours Look Like Dispositions: Reply to Langsam and Others." *The Philosophical Quarterly* 51; 238-245.
- Byrne, Alex (2001b), "Intentionalism Defended." *Philosophical Review* 110; 199-240.
- Carruthers, Peter (2000), *Phenomenal Consciousness: A Naturalistic Theory*. Cambridge: Cambridge University Press.
- Chalmers, David (1996), *The Conscious Mind : in Search of a Fundamental Theory*. New York: Oxford University Press.
- Crick, Francis and Christof Koch (1990), "Towards a Neurobiological Theory of Consciousness." *Seminars in the Neurosciences*; 263-275.
- Crick, Francis and Christof Koch (1998), "Consciousness and Neuroscience." *Cerebral Cortex* 8; 97-107.
- Dretske, Fred (1999), "The Mind's Awareness of Itself." *Philosophical Studies* 95; 103-125.
- Güzeldere, Güven (1997), "Is Consciousness the Perception of What Passes in One's Own Mind?" *The Nature of Consciousness*. N. Block, O. Flanagan and G. Güzeldere (Eds.) Cambridge, Mass., MIT Press; 789-806.
- Jackson, Frank (1982), "Epiphenomenal Qualia." *Philosophical Quarterly* 32; 127-36.
- Jackson, Frank (1986), "What Mary Didn't Know." *The Journal of Philosophy* 83; 291-295.
- Johnston, Mark (1997), "Manifest Kinds." *The Journal of Philosophy* 94; 564-583.
- Levine, Joseph (1983), "Materialism and Qualia: The Explanatory Gap." *Pacific Philosophical Quarterly* 64; 354-361.

- Levine, Joseph (2001), *Purple Haze: The Puzzle of Consciousness*.
Oxford: Oxford University Press.
- Lewis, David (1980), "Mad Pain and Martian Pain." in N. Block (ed.)
Readings in the Philosophy of Psychology, vol. 1. Cambridge,
Mass: MIT Press; 216-222.
- Lewis, David (1997), "Naming the Colours." *Australasian Journal of
Philosophy* 75; 325-342.
- Locke, John (1690/1998), *Essay Concerning Human Understanding*.
London: Ward, Lock & Co.
- Lormand, Eric (1996), "Inner Sense Until Proven Guilty." (Unpublished
Manuscript). [www-personal.umich.edu/~lormand/phil/cons/
inner_sense.htm](http://www-personal.umich.edu/~lormand/phil/cons/inner_sense.htm).
- Lycan, William (1987), *Consciousness*. Cambridge, Mass: MIT Press.
- Lycan, William (1996), *Consciousness and Experience*. Cambridge, Mass:
MIT Press.
- Lycan, William (1998), "In Defense of the Representational Theory of
Qualia (Replies to Neander, Rey, and Tye)." *Philosophical
Perspectives*, 12, Language, Mind, and Ontology. J. Tomberlin
(Ed.) Oxford: Blackwell; 479-487.
- McGilvray, James (1994), "Constant Colors in the Head." *Synthese* 100;
197-239.
- McGinn, Colin (1983), *The Subjective View*. Oxford: Clarendon.
- McGinn, Colin (1991), *The Problem of Consciousness*. Oxford:
Blackwell.
- McGinn, Colin (1996), "Another Look at Color." *The Journal of
Philosophy* 93; 537-553.
- Nagel, Thomas (1974), "What is it Like to be a Bat?" *The Philosophical
Review* 83; 435-450.
- Papineau, David (1998), "Mind the Gap." In J. Tomberlin (ed.)
Philosophical Perspectives 12. Oxford: Blackwells; 373-388.
- Peacocke, Christopher (1983), *Sense and Content*. Oxford: Oxford
University Press.
- Roelfsema, Pieter, Andreas Engel, et al. (1996), "The Role of Neuronal
Synchronization in Response Selection: A Biologically Plausible
Theory of Structured Representations in the Visual Cortex."
Journal of Cognitive Neuroscience 8; 603-625.
- Rosenthal, David (1976), "Mentality and Neutrality." *The Journal of
Philosophy* 73; 386-415.
- Rosenthal, David (1990), "A Theory of Consciousness." ZIF Report 40.
Bielefeld: Center for Interdisciplinary Research.
- Shaffer, Jerome (1963), "Mental Events and the Brain." *The Journal of
Philosophy* 60; 160-166.
- Shoemaker, Sydney (1994), "Self-Knowledge and "Inner Sense", Lectures
I-III." *Philosophy and Phenomenological Research* 54; 246-314.

- Singer, Wolf (1998), "Consciousness and the Structure of Neuronal Representations." *Philosophical Transactions of the Royal Society of London: Biological Sciences* 353; 1829-1840.
- Stoljar, Daniel (2000), "Physicalism and the Necessary A Posteriori." *The Journal of Philosophy* 97; 33-54.
- Thompson, Evan (1992), "Novel Colours." *Philosophical Studies* 68; 321-349.
- Tye, Michael (1991), *The Imagery Debate*. Cambridge, Mass: MIT Press.
- Tye, Michael (1995), *Ten Problems of Consciousness*. Cambridge, Mass: MIT Press.
- Tye, Michael (2000), *Consciousness, Color, and Content*. Cambridge, Mass: MIT Press.
- Tye, Michael (2002), "Representationalism and the Transparency of Experience." *Nous* 36; 137-151.