

Replies to Critics: Explaining Subjectivity

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ABSTRACT: This article replies to the main objections raised by the commentators on Carruthers (1998a). It discusses the question of what evidence is relevant to the assessment of dispositional higher-order thought (HOT) theory; it explains how the actual properties of phenomenal consciousness can be dispositionally constituted; it discusses the case of pains and other bodily sensations in non-human animals and young children; it sketches the case for preferring higher-order to first-order theories of phenomenal consciousness; and it replies to some miscellaneous points and objections.

My guess is that readers of this journal will not want a blow-by-blow response to every detail in the ten commentaries in my target paper 'Natural theories of consciousness' (1998a). I shall concentrate on three general themes which figure in many of the papers: (1) the role of empirical data, and an attendant charge that I have been engaged in bare *a priori* theorising; (2) a challenge to explain how mere dispositions to entertain higher-order thoughts (HOTs) about one's experiences could confer actual subjectivity on the latter; and (3) an argument that small children and other animals surely feel their bodily sensations, contrary to the (alleged) implications of HOT theory. I shall then (4) say something about the reasons for preferring higher-order to first-order accounts of phenomenal consciousness, before (5) closing with some miscellaneous defensive remarks. References by author alone (without date) are to the commentaries in this journal.

1. The Role of Empirical Data

A number of the commentators (Cavalieri and Miller; Krause and Burghardt; Lyvers) take me to task for failing to consider the wealth of empirical evidence relevant to the question of animal consciousness; and they allege that I have been theorising in ignorance of the scientific facts, as philosophers so often do. In part, my response is simply that the paper on which they were commenting was originally intended for an exclusively philosophical audience, and was published in a philosophical journal. In fact none of the data cited came as news to me; and none gave me pause for more than a moment's thought.

The more important response, however, is that what data should be considered relevant will be a theory-relative matter. For as Lyvers rightly emphasises, there can be no direct behavioural test of animal phenomenality. What data count in favour of, or against, phenomenal consciousness for animals will therefore depend on which theory of phenomenal consciousness is in question. If one endorses some sort of first-order representational theory (Dretske, 1995; Tye, 1995), or endorses a mysterian 'qualia-based' approach which sees phenomenally conscious properties as being nomologically tied to first-order perceptual states (Chalmers, 1996), then evidence of the sensory and conceptual powers of animals will certainly be relevant. And I am happy to allow the correctness of all of this evidence: most animals are sentient, and many possess concepts. I can certainly grant that pigeons have concepts (Cavalieri and Miller), and that rats have mental states whose contents can be changed and distorted by mind-altering drugs (Lyvers), for example. And I agree that the brains of many species of animal are very similar in structure and function to the brains of humans (Lurz). But none of this convinces me that animals have phenomenally conscious states, because I endorse a higher-order thought (HOT) theory of phenomenal consciousness -- and there is nothing higher-order shown to be present in such cases.

I should stress that the argumentative structure of my position is definitely not this: first, form the opinion that non-human animals lack phenomenal consciousness; second, ask what it is that humans possess which animals lack; so third, endorse a HOT theory. Contrary to the suspicions of some of my commentators, I have no pre-theoretical axe to grind against animal consciousness. Rather, the argument goes like this: first, advance dispositionalist HOT theory as explaining what needs to be explained about phenomenal consciousness (see section 2 below); second, ask whether there is evidence of such thoughts in non-human animals; third, conclude that since such evidence is lacking, most animals are probably not phenomenally conscious.

Given this structure, the evidence of HOTs in apes (especially chimpanzees) is of course highly relevant. The jury is still out on this one; though my sense is that there is a gathering scientific consensus that chimps lack the kind of fully-fledged 'theory of mind' which human children attain around the age of four. Again I have no axe to grind. I merely point out that unless chimpanzees are capable of (the right kinds of) higher-order thought, they will not be phenomenally conscious according to dispositional HOT theory. But again I should stress that what evidence counts as relevant, even in this restricted domain, depends on the details of the theory in question.

According to dispositionalist HOT theory the crucial capacities are (a) the capacity to entertain thoughts about experiences as subjective states of the perceiver, which may be illusory, and which may only partially represent the objects perceived, and (b) the possession of higher-order recognitional concepts of experience. So evidence that chimps are conscious of their own bodies, say (recognising themselves in mirrors), or that they can entertain thoughts about ignorance or knowledge in themselves and others, is not to the point. Developmental psychologists and primatologists now routinely work with the idea that theories of mind come in stages and levels of sophistication (Wellman, 1990; Perner, 1991; Byrne, 1995). And the empirical data suggest that an understanding of perception as a subjective representational state of the perceiver only emerges quite late in humans, at least, at about the same time that subjects become capable of passing false-belief tasks (Flavell et al., 1987; Gopnik, 1988; 1993; Baron-Cohen, 1989). So evidence that chimps are capable of some of the simpler levels of theory-of-mind understanding is not sufficient to demonstrate their status as phenomenally conscious creatures.

The set of empirical data which is particularly germane to HOT theory -- or at least to its motivation and defence (see section 4 below) -- is the evidence of non-conscious perception in humans. Such evidence is now rife in the psychological and neuropsychological literatures (Marcel, 1983a, 1983b, 1998; Weiskrantz, 1986, 1997; Baars, 1988, 1997; Castiello et al., 1991; Bridgeman et al., 1991, 1997; Milner & Goodale, 1993, 1995; Aglioti et al., 1995). Since none of my commentators chooses to challenge it (although many conveniently choose to ignore it or downplay it) I shall not detail any of this evidence here. I merely remark that if, as the evidence suggests, all perceptual states admit of both conscious and non-conscious varieties then (a) we need some constitutive explanation of the difference, <1> and (b) it becomes obvious that the evidence of perceptual states in non-human animals is not in itself evidence of phenomenal consciousness.

2. How Do Dispositions Explain Feel?

This challenge is forcefully put by a number of my commentators (Krause and Burghardt; Lyvers; Robinson; Saidel). How can the mere fact that perceptual contents are *available* to higher-order thought (HOT) transform them from states lacking phenomenal consciousness into states possessing the distinctive subjective properties of 'feel' and 'what-it-is-likeness'? For these latter properties are surely categorical ones. Indeed, worse still (as Lyvers and Saidel point out), when we *do* make a higher-order judgement about the subjective properties of some experience, it is surely *because* that experience *already* has those properties that the judgement gets made. How, then, can a disposition to make higher-order judgements be constitutive of subjectivity?

These are good questions. But they have answers. Admittedly, the answers were not contained in my 1998a target paper. Considerations of space meant that I concentrated on explaining how HOT theory can explain away our temptation to believe in qualia (intrinsic and non-relational properties of experience), rather than on how it can advance

a positive explanation of the subjectivity of experience. This may have been a tactical error. But for the enterprising, the answers were expressed in my 1996, section 7.4 (albeit briefly and inadequately articulated). Readers interested in the fully-developed account will have to wait on the appearance of my 2000, chapter 9. Here I can only give a quick sketch.

The answer to the main question -- how a relation of mere availability can constitute subjectivity -- is given by appeal to some or other version of consumer semantics. According to all forms of consumer semantics (including teleosemantics and various forms of functional and inferential role semantics) the intentional content of a state depends, at least in part, on what the down-stream consumer systems which can make use of that state are disposed to do with it. There are powerful reasons for preferring some form of consumer semantics to any kind of pure causal co-variance semantics (Botterill & Carruthers, 1999). And there is independent reason to think that changes in consumer-systems can transform perceptual contents, and with it phenomenal consciousness (Hurley, 1998). Consider the effects of spatially-inverting lenses, for example (Welch, 1978). Initially, subjects wearing such lenses see everything upside-down, and their attempts at action are halting and confused. But in time -- provided that they are allowed to move around and act while wearing their spectacles -- the visual field rights itself. Here everything on the input side remains the same as it was when they first put on the spectacles; but the planning and action-controlling systems have learned to interpret those states inversely. And as a result, intentional perceptual contents become re-reversed.

If consumer semantics is assumed, then it is easy to see how mere dispositions can transform contents in the way that dispositionalist HOT theory supposes. For notice that the consumer-system for a given state does not *actually* have to be making use of that state in order for the latter to carry the appropriate content -- it just has to be *disposed* to make use of it should circumstances (and what is going on elsewhere in the cognitive system) demand. So someone normalised to inverting spectacles does not actually have to be acting on the environment in order to see things right-side-up. He can be sitting quietly and thinking about something else entirely. But still the spatial content of his perceptual states is fixed, in part, by his dispositions to think and move in relation to the spatial environment.

According to dispositionalist HOT theory, then, the availability of a sub-set of our perceptual states (those in the 'consciousness-box', or 'C-box') to a 'theory of mind' or 'mind-reading' faculty is sufficient to transform the intentional contents of those states. Where before, in the absence of such a faculty, the states had merely first-order contents - - containing analog representations of worldly colour, texture, shape, and so on -- now all of those states have, at the same time, higher-order, experience-representing, contents. Each state which is an analog representation of *red* is at the same time an analog representation of *seeming red* or *experience of red*, in virtue of the fact that the theory-of-mind system contains recognitional concepts of experience which can be applied to those very contents. So each of the perceptual states in the relevant sub-set acquires a dimension of *seeming* or *subjectivity*, by virtue of its availability to a (sufficiently sophisticated) theory-of-mind faculty.

Consider, here, the implications of some form of inferential role semantics, for the sake of concreteness. What is it that confers the content $P\&Q$ on some complex belief-state of the form 'P#Q'? (The sign '#' here is meant as a dummy connective, not yet interpreted.) In part, plainly, it is that one is disposed to infer 'P' from 'P#Q' and 'Q' from 'P#Q' (Peacocke, 1992). It is constitutive of a state with a conjunctive content that one should be disposed to deduce either one of the conjuncts from it. But of course this disposition can remain un-activated on some occasions on which a conjunctive thought is entertained. For example, suppose that I hear the weather-forecaster say 'It will be windy and it will be cold', and that I believe her. Then I have a belief with a conjunctive content even if I do nothing else with it. Whether I ever form the belief that it will be windy, in particular, will depend on my interests and background concerns, and on the other demands made on my cognitive resources at the time. But my belief still actually has a conjunctive content -- it has it categorically -- in virtue of my inferential dispositions.

So a dose of consumer semantics is just what dispositional HOT theory needs to solve the categoricity problem. Indeed, to see the answer to the more particular challenge raised independently by Lyvers and by Sidel, notice from the example above that in any particular instance where I *do* exercise my inferential dispositions, and arrive at a belief in one of the conjuncts, we can cite my prior conjunctive belief as its cause. So it is *because* I *already* believed that it will be windy and cold that I came to believe that it will be windy in particular. But for all that, my preparedness to engage in just such an inference is partly constitutive of the conjunctive content of my prior belief. So, too, then, in the case of phenomenal experience: if I think 'What an interesting experience' of some perceptual state of mine, it can be *because* that state is *already* phenomenally conscious that I come to entertain that higher-order thought; but it can also be by virtue of my disposition to entertain HOTs of just that sort that my perceptual state has the kind of content which is constitutive of phenomenal consciousness in the first place. Neat eh!

Notice, too, that this account of the subjectivity of phenomenally conscious experience makes essential appeal to analog higher-order representations. So in one sense Browne is quite right to accuse me of being a closet higher-order experience theorist. Like such theorists (e.g. Lycan, 1996) I believe that phenomenal consciousness constitutively involves higher-order analog (non-conceptual or only partly conceptual) contents. But I get these for free from dispositionalist HOT theory by appeal to some or other form of consumer semantics, as outlined above. No 'inner scanners', nor any special faculty of 'inner sense', need to be postulated; nor are the states which realise the higher-order analog contents distinct from those which realise the corresponding first-order contents, in the way that higher-order experience theorists normally suppose. If this makes me a 'closet introspectionist' (Browne) then I am happy to concur; but it is introspectionism without costs.

3. Feelings Which Lack Feel

Saidel invites us to consider him scratching his cat's head, causing it to purr. Surely the cat feels pleasure? How, then, can its states lack subjective *feel*, as dispositionalist HOT theory implies? Shapiro describes tickling his two-year-old daughter, causing her to giggle. Surely she feels the tickling, which is *why* she giggles? Yet must not dispositionalist HOT theory deny this? And both Saidel and Shapiro imply that I must deny animals and young children awareness of their pains; hence rendering their pain-behaviour mysterious. But these are muddles -- albeit natural ones, deriving from an ambiguity in the way in which terms like 'feel' are used in this context.

Pains, tickles and other bodily sensations are best understood in representational terms, on the model of perceptions of secondary qualities in other sense-modalities, as Tye (1995) ably demonstrates. To feel a pain is to be in a state which *represents* a certain quality (pain) as distributed through a certain region of one's body, or over a certain area of body-surface; just as to experience red is to be in a state which represents a certain quality (redness) as distributed over the surface of an external object. (Witness the fact that in cases of phantom-limb pain people can be in states which represent pains as occurring in non-existent parts of their bodies.)[2](#) And I agree with Browne that pains can be understood in purely first-order terms, just as can percepts of red, or of noise.

Admittedly we use the language of 'feeling pain' and 'feeling a tickle', whereas we speak of 'perceiving red' and 'perceiving a noise' -- it does not strike us as particularly natural to talk about 'perceiving a pain in my leg' (although we *do* use the language of 'awareness of pain' just as we speak of 'awareness of red' or 'awareness of noise'). But it is reasonable to suppose that this is just because: (a) there are no *organs* associated with bodily perceptions, as there are with vision, hearing, and so on; (b) two or more people cannot perceive (feel) one and the same pain or tickle, in the way that two or more people can perceive one and the same coloured surface or noise; and (c) folk psychology has no inkling of the causal processes involved in pain or touch perception, in the way that it *does* have nascent theories of the processes involved in vision, for example.

To be in a state of feeling pain is to be in a first-order perceptual state whose content represents a certain property to be located in a certain position in or on one's body; just as to be in a state of perceiving red is to be in a first-order perceptual state whose content represents a certain property as being located in a certain place. And then in each case phenomenal consciousness, subjective *feel*, and 'what-it-is-likeness' are properties *of* the perceptual state in question; phenomenal consciousness is not the property of *being in* that state, nor the properties *represented by* that state. And in each case it is an open question whether states of perceiving pain, or perceiving a tickle, or perceiving red are always phenomenally conscious -- to be answered negatively if the psychological and neuropsychological evidence of non-conscious perceptions, and/or any form of HOT theory, are correct.

It is indeed obvious, just as Shapiro says, that his two-year-old daughter has a feeling of being tickled. And it is equally obvious that she is conscious of being tickled. So, too, is it obvious that Saidel's cat feels pleasure, and that most animals feel, or are aware of, pain. But these are forms of transitive creature consciousness, with tickles, pleasures, and

pains as their objects; they may be quite distinct from, and need not imply, any form of phenomenal state-consciousness. (See my 1998a for these and other distinctions.) So it does not follow that the experiential states involved when a creature feels some bodily sensation are phenomenally conscious ones, or that those states possess the relevant sort of subjective *feel* or 'what-it-is-likeness'. In which case it is quite consistent for a theory of phenomenal consciousness to deny it, as HOT theory indeed does, in many instances. Admittedly, it does sound odd to say that, although an animal feels pain, its state of feeling pain lacks feel. But then the language of 'feel' (like 'what-it-is-likeness'), when used to characterise the properties involved in phenomenal consciousness, is quasi-technical in nature. It has been introduced by philosophers to draw attention to the subjective, introspectively recognisable, characteristics of our phenomenally conscious states. [3](#) In fact the idea of a feeling of pain which lacks feel is no more problematic than the idea of a percept of red which lacks feel, or a percept of movement which lacks feel; and these almost everyone is now committed to, counter-intuitive as they once seemed.

4. Higher-Order Versus First-Order

In my 1998a (sections 3 and 4) I essayed a number of arguments against first-order representationalist (FOR) theories of phenomenal consciousness, of the sort defended by Dretske (1995) and Tye (1995), and in support of a higher-order approach. In particular, I argued that FOR theory cannot explain the distinction between worldly-subjectivity and mental-state-subjectivity; and I argued that Tye is close-to-incoherent in claiming (as he does) that there are *feels* which are unavailable to their subjects. Lurz rightly points out that these arguments do not succeed. This did not really come as news to me, since I had begun to suspect that there were weaknesses in those arguments soon after committing them to press; but he demonstrates the failure of those arguments for me far more clearly and elegantly than I had been able to do for myself.

(Briefly, the first argument fails because I only succeed in demonstrating that there is a *conceptual* distinction between worldly and mental-state forms of subjectivity; so it is possible for a FOR theorist to respond by claiming that these concepts in fact pick out the very same property. And the second argument fails because a FOR theorist can claim that all phenomenally conscious states are 'available to the subject' in the sense which matters from the perspective of FOR theory -- namely, that they are available to first-order belief-forming and motor-control systems, even if they are not available to higher-order thought or for reporting in speech.)

I am now inclined to use the distinction between worldly and mental-state forms of subjectivity somewhat differently. I now use it mostly to explain, from the perspective of higher-order thought (HOT) theory, just how far FOR theory can get in characterising the subjective features of phenomenal consciousness. And I am now inclined to run the argument against FOR theory and in support of HOT theory on somewhat different

grounds. Here -- very briefly -- is how I now think it should go. (For elaboration, see my 2000, ch.6.)

The crucial premise in the argument is that there exist a variety of functionally distinct perceptual sub-systems in normal humans, whose outputs play very different roles within cognition. So for example, there is one visual sub-system charged with the on-line guidance of detailed movement, and another system whose contents are available to conceptual thought and reasoning (see, e.g., Milner and Goodale, 1993, 1995). So the percepts which guide our movements when we act are never available to thought and speech; and the percepts which are so available, and which enter into the planning of action, are not the ones which guide the detailed execution of those actions.

The challenge to a first-order (FOR) theorist is then to say which, if not all, of the following three categories of state are phenomenally conscious: (1) analog perceptual states available to conceptual thought (2) analog perceptual states available to motor control (3) analog content-bearing states internal to either one of these systems. (Notice that states of all three types possess worldly-subjectivity, in so far as they pick up on some aspects of the world but not others, and depend upon the specific constitution of the subject's sensory system(s).) I maintain that no principled answer to this question can be given. The only well-motivated response is to deny that any of these forms of content is sufficient for phenomenal consciousness, and to insist, with dispositionalist HOT theory, that only analog states which are available to a theory-of-mind faculty, and which consequently possess dual representational content (higher-order as well as first-order), are phenomenally conscious.

If a FOR theorist claims that states of type (1), only, are phenomenally conscious, then the challenge is to say why. What is it about availability to first-order concepts which can transform an analog state which was not so available into a state with the distinctive properties of subjectivity -- *feel*, what-it-is-likeness, and the rest? I can see no answer forthcoming. On the other hand, if a FOR theorist claims that states of types (1) and (2), but not (3), are phenomenally conscious, then again the challenge is to say why. <4> What is it about states of the former two sorts (which otherwise-similar states internal to the two systems lack) which confers on them the properties of subjectivity? Again I can see no satisfactory answer. But to go for the third option, claiming that *all* analog content-bearing states are phenomenally conscious, would render phenomenal consciousness rampant in cognition, in a way which I presume no one will find acceptable.

Of course there are significant functional differences between states of types (1), (2) and (3). And so for a consumer semanticist, there will be differences in content between states of those types as well. But the challenge to FOR theory is to say what these differences are, in a way which is relevant to the distinctive properties of phenomenal consciousness. I am very doubtful whether this can be done, precisely because the resources available to a FOR theorist are all first-order ones.

5. Miscellaneous Replies

(A) Lycan offers an argument in support of higher-order experience (HOE or 'inner sense') theory, as against higher-order thought (HOT) theory. He points out that introspective attention is under voluntary control, and that one can shift attention between regions of one's visual or bodily field in something very like the way that one can scan and monitor different regions of one's environment. But introspection does not tell us whether such attention-shifting is direct or indirect; and only the former would support HOE theory. Here is how HOT theory should respond: when we shift attention across our visual field, this is mediated by shifting the first-order attentional processes which are at work in normal perception, and which deliver for us richer contents in the attended-to region of visual space (see Kosslyn, 1994); and richer first-order contents mean richer phenomenal consciousness too. I propose that what one does in response to the command, 'Shift your attention from the upper right to the upper left quadrant of your visual field' is the very same as what one would do in response to the command, 'Without moving the direction of your gaze, shift your attention from what is going on in the upper right quadrant of your field of vision to what is going on in the upper left quadrant'. The process is a purely first-order one -- albeit one with consequences for the contents of one's phenomenally conscious experience.

(B) Weisberg offers an argument in support of actualist, as opposed to dispositionalist, HOT theory from what can happen in the game of 'hide the thimble', where a thimble can be 'hidden' in plain view amongst a variety of other objects. Since a sensory representation of the thimble is presumably present in the relevant memory store C, the challenge to dispositionalist HOT theory is to say why the thimble is, nevertheless, not consciously perceived. And then actualist HOT theory can explain this by saying that the sensory state, although present, is not targeted by a HOT representing it as containing a thimble. But in fact we don't need to introduce HOTs at all to explain this phenomenon; it is, rather, a mere failure (first-order) to conceptualise a perceptual content. When one is gazing at the place where the thimble is, one will be undergoing phenomenally conscious experiences of various properties of the thimble -- its colour, the texture of its surface, aspects of its shape, and so on. But one's perceptual system fails to categorise it *as* a thimble. This failure is nothing higher-order. It is, rather, a failure of first-order categorisation, albeit one with consequences for the content of phenomenally conscious experience.<5>

(C) Both Lycan and Weisberg are inclined to join Dennett (1991) in denying the richness of phenomenally conscious experience. This is not the place to take up this argument (see my 2000, ch.11). I merely remark that the thesis in question is *not* that most of our percepts are phenomenally conscious and rich in content most of the time. I am happy to allow that a large proportion of our perceptual experience remains non-conscious, just as Lycan claims. Rather, the thesis is that some of our percepts are phenomenally conscious and rich for some of the time. This thesis is hard to deny (although Dennett does try). Think of looking intently at the palm of your own hand, or drinking in the rich texture of sights and sounds of an orchestra. It seems that an immense amount of detail *can* be phenomenally conscious at any given moment -- which then requires an equally rich set

of higher-order representations to be targeted on it, according to either a higher-order experience (HOE) or an actualist HOT account.

(D) Both Lycan and Weisberg are also inclined to dismiss my 'cognitive overload' argument against HOE theory and actualist HOT theory. They challenge me to say why it should be so implausible to postulate the generation of a great many higher-order representations from moment to moment, given the richness of phenomenally conscious experience. But this challenge is easy to meet. Brain tissue uses energy at a rate about ten times that of the rest of the body (Dunbar, 1993); and head size is the main cause of childbirth mortality for both mothers and infants (still running at a rate of one in thirteen births for mothers alone throughout the undeveloped world), as well as necessitating a uniquely lengthy period of infant-maternal dependency. So any adaptation requiring a significant increase in brain tissue and/or head size had better answer to some powerful evolutionary pressure. This can be thrown back as a challenge to HOE theorists and actualist HOT theorists -- to say what the relevant pressure might have been, leading us to be capable of generating an immensely rich set of higher-order representations at any given time. This challenge has not been met to date -- see my 2000, chapter 8, for consideration and rebuttal of a variety of suggestions.

(E) Lurz develops an argument by counter-example to my dispositionalist form of HOT theory. He claims that there are cases where someone undergoes an experience which is 'available' to HOT -- in the sense that he *would* form a thought about it if suitably prompted -- but where that experience is not, plausibly, one of which the subject is aware. I allow that there are such cases, but claim that they are not counter-examples to dispositionalist HOT theory as I understand it. For me, the appeal to the short-term memory store C is not otiose; and to say that a content is 'in C' is *not* just to say that it is available to HOTS (*contra* Lurz, footnote 12). Such talk is, rather, to be construed *realistically* (see my 1996, pp. 218-19). C is a postulated short-term perceptual memory store whose function, *inter alia* is to make its contents available to HOT. So to say that a content is contained in that store may imply such availability; but not vice versa. There may be contents which are *not* presently contained in C, but which are such that they *would* be *transferred* to C if the subject were suitably prompted; and so of which it is true that the subject *would* entertain HOTS about them if prompted. Lurz's imagined cases fall into this category -- these are perceptual contents which are not phenomenally conscious (because they are not in C) although they are, in another weaker sense, available to HOT.

(F) Krause and Burghardt present a grossly mistaken view of the main thesis of my 1996. This was emphatically *not* that 'no significant thought pattern can exist independently of language' or that 'thoughts are not possible without a [natural] language that mediates and guides them'. Rather, the thesis tentatively advanced was that *some* kinds of *human* thinking (specifically our conscious propositional thinking) may constitutively involve natural language sentences, being conducted in 'inner speech' (see also my 1998b). This thesis is, of course, very much weaker than the one Krause and Burghardt attribute to me, and certainly leaves open that non-human animals may be capable of thought (even conscious thought).

(G) Those interested in seeing how the thesis defended here and in my 1998a target paper -- namely, that (most) animals lack phenomenally conscious states -- may fail to have any moral consequences (despite what Cavalieri and Miller allege) are invited to consult my 1999.

Notes

<1> Note that merely postulating two distinct perceptual channels, one of which is phenomenally conscious and one of which is not (as does Shapiro) does not provide the necessary explanation. I fully accept the existence of two (or more) such channels. But we need to know *in virtue of what* the one channel contains states which are phenomenally conscious whereas the other does not. Otherwise phenomenal consciousness has not been reductively explained. Dispositionalist HOT theory provides the answer -- the contents of the one channel are available to higher-order recognition and thought, whereas the contents of the other(s) are not (see section 2).

<2> Tye (1995) also shows how the hypothesis that bodily sensations are intentional provides us with a neat explanation of the invalidity of certain inferences involving sensation. On this account, the following inference -- (1) I have a pain in my finger (2) My finger is in my mouth (3) So I have a pain in my mouth -- turns out to be invalid in just the same way, and for just the same reason (namely, committing the Intentional Fallacy) as does the inference -- (1) I want some nail-varnish on my finger (2) My finger is in my mouth (3) So I want some nail-varnish in my mouth.

<3> This characterisation of the nature of *feel* does not beg any questions in favour of HOT theory. First-order theorists and mysterians can equally say that phenomenally conscious properties (feels) include those properties for which we possess introspective (second-order) recognitional capacities. For they can maintain that, although we do in fact possess recognitional concepts for these properties, the properties in question can exist in the absence of those concepts and/or that they are not in any sense created or constituted by them in the way that dispositionalist HOT theory maintains.

<4> Notice the implication here, that subjects will regularly undergo a great many phenomenally conscious states which are unavailable to them, in the sense that they neither have intuitive knowledge of them nor can report them. For these sensorimotor percepts are known of only on the basis of scientific enquiry. This may not be incoherent, but it is certainly hard to believe!

<5> It is important for the success of this response that I take perceptual contents (the contents of the 'C-box' of dispositionalist HOT theory) to be imbued with concepts. Although perceptual contents are analog, that does not mean that they have to be non-conceptual. Indeed, a variety of arguments suggest that they are not. See my 2000, chapter 5.

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