

Davies's Continuum Theory: Does It Capture Experience?

Review of *Experience and Content: Consequences of a Continuum Theory* By W. Martin Davies

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1. Introduction

In *Experience and Content: Consequences of a Continuum Theory*, a comprehensive and scholarly work, W. Martin Davies claims that there are two extreme currents in philosophy of mind both of which fail to capture perceptual experience. For one current, experience is *non-epistemic*. It does not involve background theory, propositions, inference, judgement, or language. For the other current, *inferentialism* as Davies calls it, one or more of these mental capacities are necessarily constitutive of experience. Davies's *continuum* theory opposes both currents. I oppose Davies's theory in this review. (I do not comment on Davies's version of property dualism which owes much to his continuum theory.) For those who favor the type of account that Davies offers, I hope that my treatment brings key issues into focus. There are two types of criticism of Davies's work

in this review: picky, technical quarrels with Davies's taxonomy of experience and general theoretical challenges to his theory. I try to cover the picky concerns parenthetically in order to allow theoretical concerns to take centre stage.

2. Davies's Theory of Experience

Davies contends that reasoning and understanding are not necessary for experience. Instead, we can have experiences which range anywhere from pure sensation to inferential-propositional-linguistic perception. He opposes the *inferentialist* proposal, as he calls it, that contends that reasoning and understanding are necessary for experience (Davies, p. 21).<1>

Since Davies refers extensively to the following fictional scene, it is presented now and referred to later: "Sherlock Holmes, Private Investigator, enters a room and experiences the following scene: Before him lies a body on a blood-stained carpet and near the body lies a cigar-band. A moment's reflection has Holmes realise that a murder has been committed, correctly identify the perpetrator of the crime, the weapon used, and the approximate time of the victim Jones's death. A first consideration about such an experience must be this: Holmes did not extract all these details from the visual scene before him; he inferred most of it, cleverly, from available perceptual information. Nonetheless, he did immediately and reliably identify certain objects and relations in the world -- a dead body, a cigar-band, a relation of 'nearness' etc., despite not having come across them in exactly the same way before. That he could have done this must indicate that he had *prior knowledge* of what constituted such things as a dead body, a cigar-band, etc. Such things were already concepts for Holmes before he arrived on the murder scene" (p. 13).

A taxonomy of six levels of experiential content takes centre stage in Davies's continuum theory. His six-levels of experiential content are: *linguistic propositional*, *theoretically informational*, *representationally informational*, *representational*, *impurely sensational*, and *purely sensational*.

For Davies, experience with *linguistic propositional* content is a *linguistic propositional judgement* that is tokened in a natural language or a language of thought.<2> This type of experience has "propositional content in a sense which [is] *language-like*" (p. 42).<3> An example of this type of experience is: "Sherlock Holmes and his experience of the cigar-band near Jones's body. For Holmes, having the experience meant that he then underwent some kind of tokened, expressible, representational state. It is not that his experience put him *in* this tokened, expressible, representational state; rather, the experience brought about his tokening of that state, because it necessarily involved the imposition of 'high-level' propositional factors." (p. 42) Accordingly, at this taxonomic level, propositional language is constitutive of experience. Experience with theoretically informational content is, for Davies, a *theoretically informational judgement*. It is "linked with *large scale* epistemic connections" (p. 44). 'Epistemic connections' refers to networks of

knowledge and beliefs. (It is not clear why Davies gives theoretically informational content a separate level or why he puts this level below the previous one.)

Davies's next two levels of experience are both *representational judgements*, as he calls them (p. 42). Experience at these levels lacks tokening in either a language or a language of thought "though it is implicitly structured by virtue of being an organised perception of some kind" (p. 42). (Actually, it seems that, for Davies, a type of experience with representational content is tokened in a language, as observed below.) In visual perception, experience is "*represented* as certain structural features in [the] visual field" (p. 42). The structuring can be more or less sophisticated: "a dragon-fly or a bee, might structurally represent rather less in its visual scene than Holmes or a dog does" (p. 42). Experiential representational judgements are of two types. At the higher level is experience with *representationally informational* content. This experience, an *informationally representational judgement* in Davies's words, is formed by bringing to bear concepts or background knowledge (p. 44). If Holmes recognizes the cigar-band as a cigar band, the experience is an informationally representational judgement (p 44). (This would seem to imply that experience at this level, for Davies, is tokened by language, contrary to his assertion above that representational judgements are not tokened by language. The distinction between experience as informationally representational judgement and as linguistic propositional judgement is not clear. In fact, the top three levels in Davies's taxonomy seem to be indistinguishable.)

A (mere) representational judgement is formed if Holmes "recognize[s] ... that the cigar-band is *near* the body without recognizing the objects as a cigar-band and a body" (p. 44). Davies observes that although the concept *near* is employed, the experience is less sophisticated than when the cigar-band is recognized (p. 44, n. 3). Here Davies seems to be underestimating the extent to which concepts are involved in this example of experience, even if the cigar-band and the body are not recognized as a cigar-band and a body. For, in order for the concept *near* to be applied, both the cigar-band and the body at minimum need to be recognized as objects. In any case, by Davies's lights, because Holmes needs the concept *near*, this experience is inferential.

At the lower level of representational judgement is experience of an animal such as a dragon fly, an animal which "might not have the conceptual equipment to bring [background] information to bear on its experience at all -- it may be only able to represent certain features of its experience without conceptualising or knowing what they are in any way" (p. 44). This experience too is "representational judgement" in Davies's theory.

Clearly Davies mislabels the "experiences" of dragon flies. These primitive experiences, if they are experiences, are not judgements because they do not involve application of concepts (except perhaps extremely primitive "sensational concepts"). This is not an idle matter of word usage because Davies classifies as representational judgements *both* a dragon-fly's experience and Holmes's "... recogniz[ing] ... that the cigar-band is near the body without recognizing the objects as a cigar-band and a body". In the former concepts are not involved; in the latter they are. Consequently, Davies's notion of representational

judgement is equivocal. That being the case, in order to keep the two implicit senses of 'representational judgements' distinct I refer to them as 'representational judgements' and 'purported representational judgements'.

Experience as representational judgement (not as purported representational judgement) is inferential but does not involve language. Thus, contrary to many philosophers, Davies is able to credit a dog (p. 158) and other sophisticated but non-linguistic beings with low-level inferential, perceptual capacities.

At the lowest level of Davies's taxonomy, there are experiences with only *sensational* content. These occur when "Holmes registers certain colour hues of the visible object he sees which suddenly change (become brighter) when a shaft of light enters the window" (p. 45). Another example is of registering the difference between experiences of a scene with one eye open compared with two eyes open (p. 45). A rat has experiences at the level of pure sensation: "the creature might undergo some experience or other, however unsophisticated -- perhaps it experiences only lightness or darkness, or only responds to such features in the same way as a knee will reflexively respond to being hit in a sensitive place" (p. 45). Pure sensation is *informational* in the sense that it is not purely behaviorist (p. 45, n. 5). (The distinction between experience as sensation and experience as purported representational judgement is unclear. For it would seem that a dragon-fly, which Davies credits with experiences that are "representational judgements" and which I classify as purported representation judgements, only has sensations, if that.)

For Davies sensational concepts, as he calls them, are applied in pure sensation. These "concepts" are "modes of presentation of properties" that "simply have sensational features -- aspects which are not descriptive in character and which can't be captured in any such high-level terms" (p. 56). It is clear that sensational concepts, under Davies's construal, are extremely primitive concepts, if they are concepts at all. Certainly, object recognition does not involve their application.

Sensational content divides into two classes: *purely sensational* content and *impurely sensational* content. An experience with purely sensational content has no "representational" content, whereas an experience with *impurely sensational* content has sensational along with "representational" content (p. 46). (Davies's notion of impurely sensational content seems to inherit the ambiguities of Davies's notion of "representational content".)

Putting his taxonomy of experience together, we have: 1. *linguistic propositional judgement*, 2. *theoretically informational judgement*, 3. *informationally representational judgement*, 4a. *representational judgement*, 4b. *purported representational judgement*, 5. *impure sensation*, and 6. *pure sensation*. As already remarked, the first three levels do not seem to be clearly demarcated from each other. Similarly 4b and 6 are not clearly demarcated. (For Davies, level 5 represents compositions of pure sensations with experiences at the level of "representational judgements".)

The experiences in this taxonomy are related according to Davies's continuum, complexity, and asymmetry theses (p. 47): *Continuum thesis*: The types of experiences in 1 through 6 form a continuum (Davies, p. 47). *Complexity thesis*: "Experience is mostly an *amalgam* of several low and high-level experiences" (Davies, p. 47) except "[a] purely sensational experience ... excludes high-level aspects" (Davies, p. 47). *Asymmetry thesis*: There can be experience with purely sensational content. So high-level content is not a *necessary* condition for experience. Furthermore, "[e]xperience should ... best be seen in terms of *degree-additions to low-level content*, rather than degrees of high-level content. At the very bottom end of the continuum no high-level aspects feature but moving toward the upper end of the continuum, both high-level and low-level aspects feature to varying degrees in every experiential complex." (Davies, p. 47)[<4>](#)

It seems that, except for pure sensation, according to Davies, an experience is really a mixture of distinct experiences, within the limitations specified by Davies's complexity and asymmetry theses. At least Davies seems to be pressing in this direction. For example, in his description of Holmes's experience of the cigar-band as lying near the body, he holds that the experience is an "amalgam of several low and high-level experiences" (Davies, p. 47). That being the case, it seems appropriate to begin an assessment of Davies's theory by an examination each type of experience in his taxonomy.

3. Do We Ever Have Pure Sensations?

Pure sensation is non-conceptual (except in a weak sense associated with "sensational concepts"); yet, it is not merely behaviouristic because it has informational content. This raises a potential problem for Davies. What counts as pure sensation? What prevents us from construing that a host of seemingly non-experiential biological states are experiential? This problem is illustrated by considering whether unicellular organisms such as ciliates have "experiences". Their "experiences", according to Davies, are not real experiences because they are not informational. Instead, these "experiences" can best be described in stimulus and response terms (p. 45, n.5). However, even in ciliates background information partially determines response to stimuli. So, if a state's being informational is enough for its being purely sensational, ciliates have pure sensation, contrary to Davies.

Davies appears to have another way to pick out pure sensation, although this is not presented where he lays out his taxonomy of experience (pp. 41 ff., esp. pp. 45-46). For him, pure sensations seem to be qualia. He "admits qualia as part of the experiential continuum" (p. 7) along with inferential experiences. This approach has the merit of excluding merely biological states from the taxonomic level of pure sensation. On the negative side, it needs to be shown that qualia exist, a subject of current debate in philosophy of mind, and that they are pure sensations by Davies's lights. Even granting that qualia are pure sensations and that they exist for humans and higher animals would

still leave Davies in difficulty. For it is questionable whether insects such as dragon-flies have qualia in any sense.

In order to establish the existence of pure sensation, Davies needs to show that there are experiences which are not subsumed by concepts (with the exception of so-called "sensational" concepts). It is not enough to advert to typical experiences of colour because colour is typically experienced as a property of an object, requiring the application of the concept *property of an object*. So, typical colour experiences are not purely sensational. Davies's argument that we can have pure sensations of colour is not convincing. For example, he writes: "Some surface colours ... seem to have volume which is quite distinct from the volume of an object. ... [T]he grey of a fog or the colour of a liquid may appear to have volume by seeming to occupy tri-dimensional space" (p. 123). He concludes: "Colour reductionism seems to be false, and so does a simple view of colours as being the surface properties of objects." (p. 123) Clearly, he is trying to show that in these cases colour is not experienced as a property of objects. However, in these cases, colour *is* experienced as a property of objects. The grey colour is a property of an object, a fog. The same applies to his other example. A determinate volume is experienced as having a colour. So, the colour is experienced as a property of an object, namely, a determinate volume. Consequently, the concept *property of an object* is applied in both these experiences of colour.

Davies also deals with the case of Tom, a keen gardener, and Dick, a flat dweller both of whom view the same dahlias. Tom knows the name of these flowers and Dick does not even know that dahlias are flowers. <5> Davies writes: "Knowing what a dahlia is should not influence the experience one has in any *qualitative* way. One should be able to register something about an experience (besides its representational content) without knowing what that thing is" (p. 126). However, Dick could know "what the thing is" without knowing that it is a dahlia. He could recognize it as a coloured flower. In this respect, since he experiences colour as a property of an object, the concept *property of an object* is applied in the experience. There is a difference between the experiences of Dick and Tom but this difference involves a difference in concepts applied in the experiences. If Dick does not recognize the dahlias as objects at all, then the properties and parts of the dahlias would likely be perceived as properties and parts of other, perhaps illusory, objects in the vicinity of the dahlias. So in this case, too, Dick still experiences colour as a property of objects and so the concept *property of an object* is applied in the experience. Of course, his experience would be different from that of Tom, but, again, that difference would involve a difference in the concepts applied within each experience.

These responses to Davies indicate a general way in which the existence of pure sensation can be questioned, at least regarding pure sensations of colour. We are generally not aware of colour separate from our experience of objects. That is to say, we experience colour as properties of objects. Consequently, experiencing colour involves application of the concept *property of an object*.

4. Do We Ever Have Linguistic Experiences?

We now turn to the type of experience at the pinnacle of Davies's taxonomy, experiences that are tokened in a natural language or a language of thought. I first observe that Davies opposes the conflation of experience with talk of experience, especially since this conflation leads to the mistake that experience is theory-dependent: "The subtle confusion between the theory-dependence of observational terms and the theory-dependence of observational experience has been outlined" (p. 69). (In this regard, Davies opposes N. R. Hanson, 1958, and Paul Churchland, 1979, p. 67.)

A reasonable question to raise against Davies is this. Does he conflate experience with talk of experience in his top three taxonomic levels, thereby committing the same mistake as Hanson, Churchland, and others? Of course, Davies would say that his complexity and asymmetry theses, according to which high-level experience always occurs in amalgams with other experience, save him from the problems of Hanson, Churchland, and others. So, for Davies, no experience is totally tokened in language. This response is inadequate. For, although Davies escapes the problem of amalgamating *all* experience with talk of experience, nonetheless he amalgamates some components of experience and talk of these components of experience. To take an example, suppose I report "There is a television before me." This does not imply that my experience is even partially tokened by 'There is a television before me'. (Davies might respond that the experience is partially tokened in an internal language-of-thought. However, aside from mentioning this possibility, he does not argue this case.) Davies does not seem to recognize this potential problem. In fact, he seems to assume that his way of adding non-inferential classifications to the traditional inferentialist taxonomy saves him from all the problems of inferentialism. Granted, it might save him from some of these problems, but not all.

5. Do We Ever Have Inferential Experiences?

The top four levels of Davies's taxonomy of experience are inferential. These are linguistic propositional, theoretically informational, informationally representational, and representational judgements. The top three (that is, excluding representational judgements) are all highly inferential. (As I've previously parenthetically noted, it is not clear why they are given separate taxonomic levels.) Davies is quite careful to propose that no experiences are completely inferential. This tenet is included in both his complexity thesis and his asymmetry thesis (p. 47). Nonetheless, he accepts that many experiences have a significant inferential component: "[T]o make *meaningful* observations it is not sufficient to receive purely optical inputs: it is also essential that one be trained to form appropriate associations, and this seems to require inferential abilities. This is, in fact, the orthodox philosophical line on such an issue. The routine ability to perceive, according to most current views, seems to rely on perception being fully informed by *reason*" (p. 2-3). Accordingly, many experiences are substantially inferential because training is required to form "appropriate associations".

This is a common argument that has a fairly straightforward rejoinder. Certainly, training is required to learn to experience many objects. Certainly, too, training often includes engagement of inferential capacities. However, it is one thing for inference to be constitutive of *learning* to have certain perceptual experience; it is quite another for inference to be constitutive of the experience. Davies needs to show the latter. Consider the situation after a perceptual learning stage is complete. It could be that in this situation perception involves activations in a non-inferential neuronal architecture in which extensive connections are put in place in a learning process, connections that actualize object recognition without inference taking place. Given the impressive swiftness of visual object recognition, this alternative is plausible.<6>

Much the same response can be given to the standard poverty-of-stimulus argument which Davies agrees with. Because the stimulus does not contain conceptual information about the objects in view -- including that they are objects -- it is thought that at least some of our experience must be due to inferences from background information. However, background information could already be incorporated into a non-inferential neuronal architecture during a learning stage. Experience that relies on this information may not require any inference. Instead, all that is required is activation of neuronal potentials.

Furthermore, experience just does not seem to be inferential. When I look out my window I visually experience apartments, balconies, a couple of streets, cars, trees, sidewalks, people, dogs, lights, poles, etc. These run-of-the-mill experiences are subsumed by concepts. So they are rightly classified as judgements or categorizations. However, it is far from evident that inferences are responsible for these experiences. When we visually experience objects we are not consciously engaged in avoiding contradiction, sifting evidence, preserving truth values, or concluding what ought to be the case. Our experience is immediate, direct, and non-deliberative.

A common response to this last argument comes from unconscious inferential theory in which perceptual experience is thought to be due to *unconscious* inference.<7> An influential variation of this theory is the contention that, in the case of vision, experience is due to inference from retinal outputs and background beliefs, expectations, etc.<8> It is apposite to point out that the notion of unconscious inference is esoteric. Generally speaking, inference is a mental capacity that is consciously deliberative. However, even if the coherence of the notion of unconscious inference is granted, it is still questionable that experience is due to inference. A standard argument against unconscious inference theory is that perception of many illusions such as the Ames room illusion is not revisable despite beliefs to the contrary.<9> Beliefs seem to have a *limited* influence on perception.<10> Even though the Moeller-Lyer illusion can be partially revised based on beliefs,<11> the illusion often returns despite conflicting beliefs. Zenon Pylyshyn (1999) argues systematically that perception is not inferred from retinal stimulations or from belief, expectations, and so on. It is at least questionable whether beliefs influence perceptions *inferentially*, although they can influence perceptions in other ways. The claim that retinal outputs are constituents of inference meets with the objection that these

outputs, as construed by unconscious inference theory, are mere particulars. That being so, retinal outputs cannot be constituents of inferences.

Davies may assume that because he admits non-inferential experience into his taxonomy of experience, he is immune from these arguments. However, these arguments fully apply to Davies's position. For example, in the case of the Moeller-Lyer illusion, Davies does not have recourse to the contention that the experience of the relative length of the lines is a sensational component of a composite experience. For the experience of the relative lengths is due in part to the application of a full-fledged concept, *length*.

Davies's theory has a weakness which was noted in the last section and has emerged again in this section. Many problems of inferentialism are not alleviated by adding a classification of low-level, non-linguistic, non-inferential experience in a way stipulated by his continuum, complexity, and asymmetry theses.

6. Does Davies's Taxonomy Represent a Continuum?

Our discussion so far has revealed another difficulty with Davies's theory. His continuum thesis is in jeopardy. There seems to be an unbridged theoretical chasm separating pure sensation and experience as judgement. In the following Davies's taxonomy is grouped into two large antipodal categories, labeled A and B, which are used to illustrate this problem. A. Inferential experience: 1. linguistic propositional judgements, 2. theoretically informational judgements, 3. informationally representational judgements, and 4a. representational judgements. B. Noninferential experience: 4b. purported representational judgements, 5. impure sensations, and 6. pure sensations. There is a huge gap between A and B, between experiences dogs can have (representational judgements) and experiences that dragon-flies can have. Davies's taxonomic level of "representational judgements" which nominally straddles A and B does not sustain his continuum thesis because of mislabeling, as argued above. ("Experiences" of dragon flies are not judgements.) Furthermore, as previously observed, Davies underestimates the extent of concept application in experiences at the level of 4a. This consideration widens the gap between A and B even further.

7. Davies and Fodor

We now turn to Davies's use of Jerry A. Fodor's *The Modularity of Mind* (henceforth *Modularity*). Davies attempts to recruit *Modularity* to bolster his account, in particular to justify his taxonomic level of pure sensation (Davies, pp. 167 ff.). However, *Modularity* does not seem to adhere to Davies's continuum theory. Instead, *Modularity* seems to advocate a narrow experiential taxonomy which excludes Davies's level of pure sensation as well as his highest levels (1, 2, and 3) of experience.

In *Modularity*, Fodor considerably modifies unconscious perceptual inference theory. Judging from the multiple caveats in the following short passage, he recognizes its pitfalls: "Input analyzers are ... inference-performing systems within the usual limitations of that metaphor. Specifically, the inferences at issue have as the 'premises' transduced representations of proximal stimulus configurations, and as their 'conclusions' representations of the character and distribution of distal objects" (1983, p. 42). Accordingly, these "inference-performing systems" are not full fledged. So Fodor does not propose that full-fledged cognitive functions are constitutive of visual perception. In fact, by Fodor's lights, higher-level cognitive functions influence visual perception only to a limited degree. For the output of the visual module is constrained because the module is "in certain respects unaffected by ... feedback" from "information that is specified only at relatively high levels of representation"; that is, the visual module is "informationally encapsulated" (1983, pp. 64-65).

The output is in the form of "basic categorizations" (1983, p. 97) which are categorizations "on the basis of the visual properties of objects" (1983, p. 97). "[B]asic categorizations are typically the most abstract member of their inferential hierarchies that *could* be assigned by an informationally encapsulated visual-input analyzer; more abstract categorizations are not reliably predicted by *visual* properties of the distal stimulus" (Fodor, 1983, p. 97). So the categorization of *dog* but not of *animal* is output by the visual module (Fodor 1983, p. 96).^{<12>} By Fodor's lights, "the activity of modules determines what you would believe *about the appearances* if you were going just on the appearances. Less gnomically: modules offer hypotheses about the instantiation of observable properties of things ..." (Fodor, 1984, p. 41). In short, Fodor proposes that visual perception is conceptual but not fully inferential. Most pertinent for our present concerns, the output of the visual module is, under Fodor's theory, subsumed by concepts of objects such as the concept *dog*. The "modules offer hypotheses".

This is not Davies's interpretation of *Modularity*. Davies interprets Fodor as suggesting that "inferential input is not *necessary* for all forms of perceptual content" (p. 179). Considering Fodor's construal of the output of the visual module, this does not seem to be consistent with *Modularity*. For Fodor, all perceptual experience has a limited inferential character. This reading of Fodor is confirmed by his "Precis of *The Modularity of Mind*" (1985). In this paper, he argues that his theory is the only viable option from among three architectural arrangements. "We can, in principle, imagine three sorts of architectural arrangements in respect of the relation between cognition and perception: *no* background information is available to perceptual integration; *some but not all* background information is available to perceptual integration; *everything one knows* is available to perceptual integration. Because Poverty of The Stimulus Arguments imply the inferential elaboration of perception and because inferences need premises, the first of these architectures is closed to the Cognivist. But the second and third are still open and the persistence of illusions is *prima facie* evidence that the second is the better bet" (Fodor, 1985, p. 3). I do not detect any hint here that Fodor concurs with Davies that "inferential input is not *necessary* for all forms of perceptual content". If anything, Fodor's remarks conflict with Davies's theory.

Additionally, there is no hint here of Fodor's proposing the existence of full-fledged inferential experience as components of composite experience, even some of the time. In general, instead of the enormously wide range of experiential contents in Davies's theory (within the constraints of his continuum, complexity, and asymmetry theses), according to Fodor, perceptual experience is restricted to a narrow band of cognitive sophistication. All perceptual experience is conceptual but not fully inferential.

8. Davies's Evolutionary Account

Davies uses an evolutionary argument to contend that we have purely sensational experiences. He claims "that low-level features are selected for various reasons" (p. 189). His "continuum account sees mental content being usefully informed by contentful experiential qualia because such features do seem to have a selective advantage" (p. 330).[13](#)

A problem with Davies's account is that it is *merely* consistent with evolutionary theory. His theory is not empirically demonstrated. There could be other scenarios that are consistent with evolutionary theory, yet conflict with Davies's account. It could be that in some phylogenetic lines selectionist pressures fundamentally transformed primitive sensory resources, so that all low-level capacities became integral constituents of high-level capacities. Consider visual binding which is responsible for our conscious experience of the visual properties of an object as properties *belonging* to the object. Treisman (1998) writes: "The world that we effortlessly -- and usually accurately -- perceive consists of complex objects that are characterized by their shapes, colors, movements, and other properties. To identify an object, we must specify not only its parts and properties, but also how those parts and properties are combined" (p. 31).[14](#) It is at least reasonable to entertain the possibility that in our evolutionary past, selectionist pressures moulded (bound) all primitive sensory capacities of colour, motion, and location, etc., into the experience of objects. These selectionist pressures could have included the need to avoid predators and to locate prey, mates, and offspring. So, although selectivist pressures could favour the emergence of primitive sensory capacities, selectionist pressures could also favour binding of all these primitive capacities into object-involving experience. This possible alternative scenario to that of Davies demonstrates that evolutionary theory does not necessarily entail Davies's position. As things stand, Davies's evolutionary account is neither a logically necessary consequence of evolutionary theory nor is it empirically demonstrated.

9. Conclusion

Davies combines tenets from two antithetical positions: that experience is essentially non-epistemic and that experience is essentially inferential. Despite Davies's continuum,

complexity, and asymmetry theses, he seems to inherit many problems of the positions that he combines.

Notes

<1> In this review, all references to Davies are to Davies (1996).

<2> 'Language of thought' presumably refers to an internal language that manipulates representational symbols according to a logical calculus as proposed by Fodor (1975).

<3> In Davies's lexicon "[p]roposition' is defined as a strictly *linguistic* feature of content" (p. 42).

<4> Davies summarizes his account:

[My] account ... incorporated a continuum thesis: there are several levels of content including varying degrees to which high-level influences can be present in experience. It also incorporated a complexity thesis: experience is best understood in terms of an amalgam of content, both high- and low-level, which can be simultaneously present in every experiential complex. Finally, it also incorporated an asymmetry thesis: that while there are more or less degrees of sensational content in every high-level experience, there are no high-level features in very low-level experiences. (p. 336)

<5> Davies takes this example from Millar (1985).

<6> This approach coheres to the skill-acquisition theory of perceptual learning, associated with the psychologists J. J. Gibson and E. J. Gibson (1955), which construes perceptual learning as akin to skill acquisition. In the same vein Hamlyn remarks:

... [I]nstead of attempting to construe our perception of the world in terms of the ideas of data and inference or judgment, one might better invoke the notion of skill (Hamlyn, 1983, p. 24). See Kellman and Arterberry (1998, pp. 15 ff.) for a recent discussion of the inference and the skill-acquisition models of perception learning.

<7> See, for example, Harman (1973).

<8> See, for example, Rock (1983).

<9> See, for example, Crane (1992).

<10> See Baergen (1993).

[<11>](#) See Schiano and Jordan (1990).

[<12>](#) It is questionable whether Fodor can have both "basic categorizations" as output and "informational encapsulation", a problem pointed out by Putnam (1994, esp. pp. 411 ff.).

[<13>](#) Davies also writes:

The ability to have contentful low-level experiences might have developed in response to evolutionary exigencies prior to the ability to filter those experiences with propositional linguistic and theoretically informational judgements (p. 290).

[<14>](#) Treisman describes (p. 31) various types of visual binding including *property binding*, *part binding*, *range binding*, *hierarchical binding*, *conditional binding*, *temporal binding*, and *location binding*.

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