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## **Cognitive Penetration and Nonconceptual Content<sup>1</sup>**

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*Abstract: This paper seeks to establish whether the cognitive penetration of experience is compatible with experience having nonconceptual content. Cognitive penetration occurs when one's beliefs or desires affect one's perceptual experience in a particular way. I examine two different models of cognitive penetration and four different accounts of the distinction between conceptual and nonconceptual content. I argue that one model of cognitive penetration—“classic” cognitive penetration—is compatible with only one of the accounts of nonconceptual content that I identify. I then consider the other model of cognitive penetration—cognitive penetration “lite”. I provide reasons to think that this is compatible with three accounts of nonconceptual content. Moreover, I argue that the account of nonconceptual content that it is not compatible with is a spurious notion of nonconceptual content that ought to be abandoned. Thus, I claim that cognitive penetration lite is compatible with all reasonable specifications of nonconceptual content.*

In recent work, I have argued that perceptual experience can be penetrated by cognitive states, such as beliefs and desires (Macpherson 2012). I did so in two ways. One was by claiming that the best explanation of some colour experiments was that cognitive penetration was occurring. The second was by proposing a mechanism that could explain how at least some instances of cognitive penetration might occur: beliefs and desires generate perceptual imagery which adds to, contributes to, or alters perceptual experience. The mechanism allows one to explain how cognition could affect perception whilst making reference only to psychological phenomena, the existence of which is supported by good independent evidence. In addition to providing a further reason to believe in the existence of cognitive penetration, a second motivation for proposing the mechanism, which unlike the first I did not articulate in that paper, is that it allows one to endorse the existence of

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cognitive penetration while retaining a view of perceptual experience that has many attractive features. One of these is that experience has nonconceptual content, and this feature is the focus of this paper.

While some have argued that perceptual experience can be nonconceptual only if it is not cognitively penetrated (Raftopoulos and Müller 2006 and Raftopoulos 2009), I disagree. This paper consists in making good the claim that the occurrence of cognitive penetration by means of the interaction of perceptual imagery and perceptual experience is compatible with experience having nonconceptual content. In so doing, I will explain that mechanism and also examine more generally the relationship between cognitive penetration and nonconceptual content. I distinguish between “classic” cognitive penetration and cognitive penetration “lite”. I argue that all forms of cognitive penetration lite are compatible with all reasonable specifications of nonconceptual content, while classic cognitive penetration is compatible with only one specification of nonconceptual content.

In section one, I introduce the notion of the content of experience and I cite the reasons that have motivated people to think that a nonconceptual view of the content of experience is plausible. I clarify and refine the claim that cognitive penetration and nonconceptual content are compatible in order to set aside a trivial sense in which they are compatible. In section two, I outline the cognitive penetration claim that I am discussing, which is one about perceptual experience, and distinguish it from one that can be made about brain mechanisms, in particular, the early visual system. In section three, I explain one model of cognitive penetration—the classic model—and consider whether it is compatible with four different notions of nonconceptual content. I argue that classic cognitive penetration is compatible with one, but only one, of these notions of nonconceptual content. Thus if one thought that the only kind of cognitive penetration was classic cognitive penetration then it would be tempting to think that at least in the core senses of nonconceptual content, cognitive penetration and nonconceptual content were incompatible. In section four, however, I outline the other model of cognitive penetration—

cognitive penetration lite. I explain the reasons for thinking that there could be such a form. One reason derives from consideration of particular examples of cognitive penetration. Another reason stems from consideration of one mechanism that would explain some cases of cognitive penetration. I consider, in section five, whether cognitive penetration lite is compatible with the four accounts of nonconceptual content elucidated in section three. I show that it is straightforwardly incompatible with the first account of nonconceptual content, but compatible with the third and fourth accounts of nonconceptual content. The third account is, I believe, the standard and most influential account of nonconceptual content. I argue further that there is a crucial ambiguity in the second account of nonconceptual content on which the question of the compatibility of cognitive penetration lite with that account of nonconceptual content turns. I argue that disambiguated one way there is compatibility. Disambiguated another way, that account becomes almost equivalent to the first account of nonconceptual content. That is the account of nonconceptual content that is not compatible with cognitive penetration lite. However, I provide reasons to think that that specification of nonconceptual content is spurious and ought to be abandoned. Thus, I argue that cognitive penetration lite is compatible with all three reasonable specifications of nonconceptual content.

## **1. Setting the Scene: Conceptual and Nonconceptual Content**

Propositional attitudes, such as beliefs, desires, occurrent thoughts, and judgments, represent, or are about, the world. Another way of saying this is that they are states that have content, and the content is what is represented by the state. For example, if Morag believes that Partick Thistle are the best team in Glasgow then her belief represents that Partick Thistle are the best team in Glasgow, and one can say that the content of her belief is that Partick Thistle are the best team in Glasgow. Propositional attitudes are attitudes, such as holding true (in the case of belief) or wanting to be true (in the case of desire), that we take towards propositions. Different views hold that the

proposition either is, or expresses, the content of the propositional attitude. There are many options as to what one should take the content of a propositional attitude to be: a proposition or proposition-like entity composed of concepts; a proposition or proposition-like entity composed of objects, properties and relations; the objects, properties, and relations, or the state of affairs specified by the relevant proposition; or the set of possible worlds in which the relevant proposition is true; or something else.

Are perceptual experiences representational states that have content? This is a difficult question to answer. Many people think that they are (although some think that they involve a more direct relation to the world—one of acquaintance or presentation). One oft cited reason for thinking that they are representational states is that when having a perceptual experience the world seems a certain way to one.<sup>2</sup> For example, it may seem to one as if a black pentagon is in front of one. And the way it seems would be the way that the world is represented to one as being. Another reason often given for thinking that perceptual experiences have content is that they have accuracy conditions.<sup>3</sup> The idea is that one can always assess a perceptual experience for accuracy with respect to the actual world. That one can, suggests that one can identify the circumstances in which the experience is, or would be, accurate (there is a black pentagon in front of you), and that those circumstances are to be identified with what the experience represents.

There is debate about whether the reasons set out above for thinking that experiences have content are sufficient. Some people think they are not, for they think that the fact that a state can be associated non-arbitrarily with a proposition does not show that the state has content. Such people wish to impose stricter conditions on what it is for a state to have content. What further conditions should be imposed, and whether experience meets them, is a matter for debate, discussion of which would take me too far from my present purposes. I will simply assume that perceptual experiences represent

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<sup>2</sup> See, for example, Byrne (2001).

<sup>3</sup> See, for example, Siegel (2010)

and have content. Doing so will have no effect on the debate that follows. That debate is whether, on the assumptions that experiences have content and that some experiences have some nonconceptual content, nonconceptual content is compatible with experience being cognitively penetrated.

As in the case of propositional attitude representation, there are different options as to what one can think the content of a perceptual experience as of a black pentagon is: a proposition or proposition-like entity that represents a black pentagon (that may or may not be composed of concepts); a black pentagon located in space in front of one; or the set of all worlds in which there is a black pentagon in front of one; or something else.

What is it for content to be conceptual and what is it for it to be nonconceptual? It is difficult to give a pithy answer to this question as there are different notions of what is required— notions that I will articulate at length in section three. However, there are two claims that are common to all notions. The first is, as Bermúdez and Cahen (2012) state, that the notion of nonconceptual content is contrastive—it is elucidated by distinguishing it from some particular conception of conceptual content. The second is that some important aspect of explaining how states with nonconceptual content represent the world can be done without postulating a crucial role for concepts.

A common conception of conceptual content is that it is the kind of content that the propositional attitudes have. One reason for thinking this is that a crucial role is postulated for concepts in the having of propositional attitudes: in order for a subject to believe or desire something, he or she needs to possess the concepts that are required to specify what it is that is believed or desired. For example, in order to believe or desire that Partick Thistle will be promoted this year, Morag has to possess the concepts of Partick Thistle, of promotion, of this year, and of being. What exactly it is to possess a concept is one of the most difficult issues to address in philosophy. Many different answers have been given and contested. A review of these would take me too far from my present purposes, but roughly speaking, she

has to be able to think of these things, know what these things are in some sense, or have an idea of them. (Those people who hold that the content of propositional attitudes is a proposition composed of concepts will have a further reason to think that there is a crucial role for concepts in the having of a propositional attitude.)

Because it is fundamentally contrastive, the notion of nonconceptual content, which is often attributed to perceptual experiences but also to subpersonal states, is often introduced by contrasting it with the content of the propositional attitudes.

Nonconceptual theorists hold that experience has either just nonconceptual content or both conceptual and nonconceptual content. If experience has both conceptual and nonconceptual content, and only the conceptual content is affected by cognition then, in a trivial sense, cognitive penetration is compatible with nonconceptual content—but that is an uninteresting sense only. What I am interested in, by contrast, is best expressed by the following two questions:

- i On the assumption that experiences only have nonconceptual content, can experiences be penetrated by cognitive states, such as beliefs and desires?
- ii On the assumption that experiences have both conceptual and nonconceptual content, can experiences be penetrated by cognitive states, such as beliefs and desires, so that they have different nonconceptual content from that which they would have had if unpenetrated?

In the rest of this paper, when I speak of “the question of whether cognitive penetration is compatible with nonconceptual content” I will mean to address jointly questions i and ii.

Why is this question interesting? The view that experience has nonconceptual content is an attractive view of the nature of perceptual experience. This is because there is some reason to think that it provides

good explanations of many features that it is plausible to believe perceptual experiences have. If one accepts that cognitive penetration occurs and one then finds out that it is not compatible with nonconceptual content, then one would have to reject the idea of nonconceptual content and find a better explanation of the features of experience that motivate its postulation. Thus it is an empirical adequacy constraint on a view of the content of experience that it is compatible with cognitive penetration. Showing that the views are compatible allows one to endorse the attractive nonconceptual view of the nature of perceptual content.

One might worry that this motivation does not carry much weight, for as I showed above, there is a trivial sense in which cognitive penetration and nonconceptual content are compatible: nonconceptual content exists but it is unaffected by cognitive penetration. However, the examples of cognitive penetration that I argued existed in Macpherson (2012) involved contents pertaining to fine-grained shades of colour. This is one of the central examples of contents that proponents of nonconceptual content wish to hold is nonconceptual (as I will explain below). Therefore the motivation for thinking that this question is interesting should not be dismissed.

I list below the features that it has been said that experience has that have motivated some to postulate nonconceptual content and briefly indicate why one might think that they call for an explanation in terms of nonconceptual content. Such a list does not consist in a defense of the claim that experience has these features, and the reasons that I cite for thinking that nonconceptual content provides a good explanation of them does not consist in a defense of the claim that nonconceptual content is the best explanation of them. There has been detailed argument about these points in the extant literature that I will not rehearse or adjudicate here. In this paper I am simply assuming that experience has nonconceptual content, not arguing for it. (I am also assuming that there is cognitive penetration—not arguing for it.) In addition to bringing the reasons that one might have for holding that experience has nonconceptual content to the reader's attention, another

reason for listing them is to be in a better position, later in the paper, to address the question of whether cognitive penetration is consistent with experience having nonconceptual content.

To this end, here are six alleged features of experience that have motivated people to hold that experiences have nonconceptual content:

- I. Experiences can be, and often are, very fine-grained. Some people hold that such experiences are more fine-grained than our conceptual capacities. For example, we can see and experience millions of different shades of colours. We do not typically possess names for each of these shades. But even if we assigned names to each of the shades, we would be unable to attach the labels to the shades at a later time later by means of just looking at them using only our memory—at least if more than a few seconds have passed. Thus, after seeing or experiencing specific shades of colour, we cannot keep them in mind for more than a few seconds. So one might hold that we do not have concepts of each of the specific shades of colour that we can see and experience, except when seeing or experiencing them, or just seconds afterwards. I may of course keep in mind the names of some of these shades—such as “burnt umber”—or descriptions of these shades—such as “the shade of colour of your sofa”. But as we cannot pick out the shades of colour that these refer to at a later time, there is reason to think that we do not fully have in mind concepts of these colours in the way that we do when we are experiencing the shade. Thus, one might think that experiences can represent in more detail than my concepts—or at least the concepts that I have when not seeing or perceiving. Perhaps when seeing and experiencing, I can come to have concepts as fine-grained as my experience, but these inherit their content from those experiences, and they disappear seconds after the experiences disappear. (These considerations do not apply to categories of shades of colour. We do possess words for and concepts of red, blue, green, pink, orange, and so on, and can attach these labels appropriately to shades that we see or



experience.) This fineness of grain of experience with respect to shades of colour applies to many other properties, such as pitches and volumes of sound and the size and shape of things.<sup>4</sup>

- II. Experiences represent in a unit-free manner. Peacocke (1986) brings attention to the fact that when our experience represents the size of objects, say the length of the table in front of me, it does not represent its length in feet or centimetres, or any other unit. Likewise, when my experience represents how loud a sound is, or how cold the room is, the quantity is not given in any particular units of measurement. He argues that conceptual representation cannot represent in this fashion.
- III. Experiential representation is analogue nature. Dretske (1981) claims that conceptual representation is digital and chunks together information, in the way that a digital watch chunks together units of time into seconds or minutes and represents which second or minute it is but not when within that second or minute time-frame the present lies. In contrast, an analogue watch, with its constantly moving hands not only represents seconds and minutes, but when within those units the present lies. The position of the hand varies as the time does. Unlike discrete, digital, conceptual representation, Dretske claims that our experiences of properties like colour, length, temperature, pitch and volume are all continuous and analogue in nature, and hence he claims, nonconceptual. The claim that experience is analogue is not the same as the claim that it is fine-grained. Experience could be fine-grained while still being digital, by having lots and lots of digital categories. For example, a digital watch that included a digital count of the seconds passing would be fine-grained compared to one that only included a digital count of the minutes, but neither would be the same as an analogue clock.
- IV. Perceptual experiences that represent the world can be had by young children and animals. It is common to think that young children and

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<sup>4</sup> This consideration has been discussed by, among others Evans (1982), Raffman (1995), Peacocke (1992), Tye (2006) and MacDowell (1996).

animals do not possess concepts. If that is true then, if they can have experiences that represent the world, those experiences cannot have conceptual content.<sup>5</sup>

- V. Plausibly, it is in virtue of having perceptual experiences that we acquire perceptual concepts, such as ones of shape, size, colour, pitch, heat, sour and malodourous. If we acquire such concepts through experience then one might hold that experience must represent these features prior to our possessing the concepts required to canonically describe the content of the experience, and hence that there must be nonconceptual content.
- VI. The content of experience can represent contradictions. Plausibly, we can experience contradictions when having visual experiences as of impossible tri-bars and other impossible figures made and drawn by artists.<sup>6</sup> One might hold that propositional attitudes with conceptual content cannot have contradictory content and thus that the content of perceptual experience must be nonconceptual. However, one might think that this idea needs refining, for it is not obvious that states with conceptual content cannot be contradictory. For example one can entertain the thought with conceptual content that P and not P, which represents a contradiction. One therefore might instead claim that one cannot be in a state with contradictory conceptual content when the attitude of that state asserts that the world is a certain way, as belief does, but which the mere entertaining of a thought, and other propositional attitudes, do not. Then one could claim that perceptual experiences assert that the world is a certain way, and that unlike belief they can represent the world to be contradictory. Thus one could argue that the content of perceptual experiences must be nonconceptual. Further, in light of dialetheists' apparent beliefs that there can be true contradictions, one might wish to further refine the thesis to be that one cannot rationally be in

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<sup>5</sup> For further discussion see Bermúdez (1998) and Peacocke (2001).

<sup>6</sup> See Crane (1992) and Macpherson (2010). Crane also claims that one has such a contradictory experience when undergoing the waterfall illusion, also known as the motion after effect. It is far from clear, however, that one does undergo such an experience in that case.

a conceptual state that asserts that the world is a certain way, and represent it as containing true contradictions, but one can rationally have a perceptual experience that asserts that the world is a certain way, and represents it as containing true contradictions.<sup>7</sup>

Thus far, I have introduced the notion of content and of conceptual and nonconceptual content. I have listed six alleged features of perceptual experience that have motivated people to hold that perceptual experience has nonconceptual content. I have explained that the key question that will be addressed in this paper is whether cognitive penetration is compatible with nonconceptual content and why one should be interested in this question.

## **2. Cognitive Penetration**

In this section, I address the question of what cognitive penetration is. I outline two cognitive penetration claims—one about brain mechanisms and one about perceptual experience. It is the claim about perceptual experience that is the focus of this paper.

There have been two forms of the claim that perception is cognitively penetrated. One form of the claim is about brain mechanisms, and has been discussed almost exclusively with respect to vision, to which I will also limit my discussion in this paper. The claim is that early vision can be cognitively penetrated for “the function it computes is sensitive, in a semantically coherent way, to the organism’s goals and beliefs, that is, it can be altered in a way that bears some logical relation to what the person knows” (Pylyshyn 1999: 343). The early visual system is defined functionally, as a system that takes attentionally modulated signals from the eyes (and perhaps some information from other sensory modalities) as inputs, and produces shape, size and colour representations—representations of visual properties—as output. These basic representations are then processed further and at some

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<sup>7</sup> Dialethiesm was developed by Priest (1987), who would of course resist the thought that the view is irrational.

point may be categorised and identified, drawing on a person's memory and knowledge, as being objects and properties of particular kinds.

Higher-level cognitive states can affect the position of one's eyes and what one attends to, and that will of course usually have an effect on what processing takes place in early vision. For example, my desire to look to the left caused by my belief that there is an interesting insect there, may cause me to move my eyes and focus my attention in a way that alters which input the early visual system receives and hence which processing takes place in it. But according to many that discuss this thesis, such as Pylyshyn (1999), those instances do not count as instances of penetration. This is because attention and eye movements are said to affect that which feeds into the early visual system, not the early visual system itself. Whether one should rule out these effects as instances of cognitive penetration is a matter of debate. Likewise, whether the constraints of semantic coherence and logical relations between that which does the penetrating and that which is penetrated should be a requirement for the existence of cognitive penetration is also a matter that is disputed.

The second form of the claim about cognitive penetration concerns perceptual experience, not early visual processing. This is the claim that philosophers have tended to be interested in. (Psychologists have been mostly interested in the claim about early visual processing, although this is starting to change and they are becoming increasingly interested in this second claim about experience.) Broadly, the claim is that, with certain conditions fixed, namely, what is perceived, the perceiving conditions, and the state of the sensory organ, it is possible for two subjects (or one subject at different times) to have different perceptual experiences on account of the differing content of the states of their cognitive systems. States of the cognitive system will include the having of propositional attitudes, such as beliefs and desires, the having of occurrent thoughts and judgements, the having of certain concepts, and the state of having certain concepts primed so that they are more likely to be used in the formation of propositional attitudes,

occurrent thoughts and judgments. Two experiences will count as different in this context if they have different representational contents—which, one might plausibly hold, in all or many cases will go hand in hand with having different phenomenal characters, as I will assume in this paper.<sup>8</sup>

I said that this was “broadly” the claim because one can debate, as one can in the case of the cognitive penetration claim regarding brain mechanisms, whether one should exclude the effects of attention as counting as instances of cognitive penetration. Likewise, one can discuss whether one ought to insist on a semantic or logical connection between the content of the state that penetrates and the perceptual experience—or indeed some stronger connection between the content of these states.<sup>9</sup> Discussion of these two points, interesting though they are, lies outside the scope of this paper. Deciding them one way or another is not relevant to my concerns.

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<sup>8</sup> The claim that there can be differences in the content of experience without a difference in the phenomenal character of experience or vice versa is a claim that strong representationalists would deny. Whether they are right, and on what grounds, is a subject that has been discussed at length by many. I will assume it for convenience here, although I have argued elsewhere that the claim, in some forms, is not true. See Macpherson (2003, 2005 and 2006).

<sup>9</sup> For example, some people might think that there are cases that do not count as cases of cognitive penetration, even though the cases are ones in which a cognitive state causes a particular perceptual experience to occur and there is a semantic or logical connection between the content of a cognitive state and the content of the perceptual experience. They might deny that they are cases of cognitive penetration because they think that the semantic or logical connection between the states exists merely by accident. For example, suppose that Murdo believes that aliens are attacking Earth. This belief causes stress, which induces a migraine. Suppose that whenever Murdo has a migraine, he experiences flashing lights in the top half of his visual field. So suppose that Murdo visually experiences flashing lights in the sky on account of having his migraine. The content of this experience bears a semantic relation to the belief that caused it—the belief about the alien attack—but one might want to deny that this is a case of cognitive penetration. This is because it seems to be by chance that the nature of Murdo’s migraines are such that they produce experiences of flashing lights, and that that content bears a semantic relation to the belief that induced the migraine. In light of this kind of case, someone might want to claim that, in addition to a semantic relation between the content of the cognitive state and the perception, the intermediate state that does the penetrating—in the example just given, the migraine state—has to have the content that it does because the cognitive state that causes it has the content that it has. Or they might insist that there has to be a direct transfer of content from the cognitive state without going through any intermediate state into the perceptual state. Working out clear versions of these stronger claims that one might wish to stipulate lies beyond the scope of this paper.

That these two cognitive penetration claims—one about brain mechanisms and one about perceptual experience—should be distinguished is sometimes given lip service, but often not adhered to. For example, when discussing the claim about brain mechanisms, Pylyshyn (1999) explicitly claims that he is not discussing a claim about perceptual experience and that one should not think of the early visual system as determining the nature of visual experience. Yet, he adduces evidence about whether experience is penetrated in defence of his position.

The claim that I am considering in this paper, and will refer to as “the cognitive penetration claim”, is the claim that (at least some) perceptual experiences are cognitively penetrated. Drawing on what has been said in this section and the previous one, the claim is that with certain conditions fixed, namely, what is perceived, the perceiving conditions, the state of the sensory organ, (and perhaps the attentional focus of the subject), it is possible for two subjects (or one subject at different times) to have perceptual experiences with different contents, on account of the differing content of the states of their cognitive systems. (Whether one should add, “in virtue of the content of the cognitive system having semantic, rational, or logical connections to the content of the perceptual experience”, I will leave for the reader’s decision.)

I am not going to argue that the cognitive penetration claim is true in this paper. I am only going to consider the question of whether cognitive penetration is compatible with nonconceptual content.

### 3. Is Classic Cognitive Penetration Compatible with Nonconceptual Content?

In this section, I outline one model of cognitive penetration that I call “classic” cognitive penetration.<sup>10</sup> On this model, the following takes place in a case of cognitive penetration:

- (a) You have a certain propositional attitude that p (for example, you believe that computers look like grey boxes).
- (b) p involves a concept C (for example, the concept of being a computer), in the sense that C is required to specify the content that p and possession of C is required in order to have the propositional attitude that p.
- (c) The content of this propositional attitude causally affects your perceptual processes yielding an experience with the content that q (for example, an experience with the content that there is a computer present) that involves C (in the sense that C is required to specify the content that q).
- (d) The content that q is a content that an experience could not have unless it was affected by propositional attitudes in this way.

Classic penetration occurs when each of the conditions (a) – (d) occurs. It follows that, when classic penetration occurs, you could not have an experience with the content that q, unless you possessed the concept C.

The question I will now address is whether classic cognitive penetration is compatible with nonconceptual content in the sense that I outlined in section one.

There are different accounts of what nonconceptual content is, and hence of the difference between nonconceptual and conceptual content. I identify four different accounts, which I believe are exhaustive of the accounts

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<sup>10</sup> The classic model of cognitive penetration should not be confused with the classic view of perception. The classic view of perception is that cognitive penetration does not occur. The classic model of cognitive penetration is one model of what occurs when cognitive penetration occurs.

that are found in the literature. I specify each account and, in turn, discuss whether that notion of nonconceptual content is compatible with classic cognitive penetration.

The accounts of nonconceptual content detailed below specify what it is for a state to have nonconceptual content, on the assumption that it has content. In other words, these accounts do not specify what it is for a state to have content in the first place. They only specify what it takes for a state that has content to count as having nonconceptual content. When considering accounts of conceptual and nonconceptual content below, I will not specify each time the caveat “on the assumption that the state has content”, but one should take it to be in place each time.

The first account of nonconceptual content is that “the existence of cognitively impenetrable mechanisms is a necessary and sufficient condition for nonconceptual content” (Raftopoulos and Müller, 2006: 190)<sup>11</sup>. The idea is that if a state or an experience that has content is produced by a system that cannot be cognitively penetrated then that state or experience has nonconceptual content. If a state or an experience that has content is produced by a system that can be cognitively penetrated then that state or experience has conceptual content.

Raftopoulos and Müller (2006) and Raftopoulos (2009) hold that early vision is a cognitively impenetrable system or mechanism and that some states of early vision can be identified with (at least some) visual experiences. They therefore believe that (at least some) perceptual experiences are not cognitively penetrated. Thus they maintain that those perceptual experiences have nonconceptual content.

Raftopoulos and Müller are clear examples of people who believe, *tout court*, that if perceptual experience is cognitively penetrated then its content cannot be nonconceptual and must be conceptual. Classic cognitive penetration is clearly not compatible with this notion of nonconceptual content.

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<sup>11</sup> See also Raftopoulos (2009) for affirmation of the same account.



Nonconceptual content is simply *defined* as that which is produced by a cognitively impenetrable mechanism.

It should be noted that this conception of nonconceptual content is nonstandard. When the other notions of nonconceptual content are outlined, this conception of nonconceptual content will clearly stand out as being rather different from the rest, which are more similar to each other. One might wonder why this definition of nonconceptual content has been adopted by Raftopoulos and Müller. I believe that I have an answer to this question, which can be gleaned by considering in detail the other accounts of nonconceptual content. Once I have done so, I will return to answer this question in section five.

The second account of nonconceptual content is one articulated by Bermúdez and Cahen (2011). They begin by claiming that the view that the contents of propositional attitudes and the contents of perceptual experiences are conceptual is motivated by the conjunction of two thoughts:

- 1) In specifying what a thinker believes, what a perceiver perceives or what a speaker is saying by uttering a certain sentence in a particular context one has to be as faithful as possible to how that thinker, perceiver or speaker apprehends the world.
- 2) How a thinker, perceiver or speaker apprehends the world in having beliefs about it, perceiving it or speaking about it is a function of the concepts he possesses.

They claim that nonconceptual theorists reject the second thought. Thus, they define nonconceptual content as being content that is not a function of the concepts possessed by the subject of the state that has that content.

Much the same idea was mooted in earlier work by Bermúdez (1999: 367) who claims:

A creature has perceptions with conceptual contents ... to the extent that its perceptual representations of the environment are determined by its classificatory and recognitional abilities.

This yields another way of saying that nonconceptual content is content that is independent of the concepts that the subject has: the content is not determined by those concepts. I will amalgamate these accounts and speak of them, for ease of reference as the Bermúdez and Cahen account.

Recall that on the classic model of cognitive penetration, you could not have an experience with a certain representational content unless you possessed a certain concept. Hence, when classic cognitive penetration occurs, the content of experience clearly is a function of, and is determined by, the concepts that the subject of the state with that content possesses. Therefore the content of a state that is classically penetrated must be conceptual according to this second account of the distinction between conceptual and nonconceptual content. Classic cognitive penetration is therefore clearly also incompatible with this second account of nonconceptual content.

The third account of nonconceptual content is that an experience has nonconceptual content if and only if a subject of an experience with that content need not possess the concepts required to specify that content. (The experience will have conceptual content otherwise.) This account of nonconceptual content is the orthodox account of nonconceptual content. It is often called the “state account” of nonconceptual content, and is frequently contrasted with the “content account” that we will consider next. (I will also sometimes use the terms the “state sense” of conceptual and nonconceptual content and the “content sense” of conceptual and nonconceptual content to refer to these two accounts of the difference between the types of contents.) The state account is discussed by, among others, Evans (1982), Cussins (1990), Crane (1992), and Peacocke (1992 and 2001).

This account of nonconceptual content specifies a necessary and sufficient condition that the subject of an experience must meet in order for his or her experience to have nonconceptual content. It is important to note that this account of nonconceptual content is *modal*. Crucially, it does not say that an experience has nonconceptual content if and only if a subject does not

possess the concepts required to specify the content of the state. Rather, it says that an experience has nonconceptual content if and only if the subject need not possess those concepts in order to have the experience. So the subject may, in fact, possess the concepts required to specify the content of the experience. What is vital is that it is *possible* for the subject to have the experience and not possess those concepts.

Again, recall that on the classic model of cognitive penetration, what your experience represents is such that you could not have that experience unless you possessed a certain concept. That concept is one that is required to specify the content of the experience. Thus, on this third account of nonconceptual content, when classic cognitive penetration occurs, the content of experience will count as being conceptual. Thus, classic cognitive penetration and nonconceptual content, conceived of as per the state account, are incompatible.

Lastly, there is the fourth account of nonconceptual content. While the state account laid down conditions that the subject of the state must meet in order for the state to be nonconceptual, this “content account” of nonconceptual content lays down conditions solely that the content itself must meet. According to the content account, an experience has nonconceptual content if and only if the content of the state does not have concepts as constituents. (The experience will have conceptual content otherwise.) This account was articulated and differentiated from the state account by Heck (2000).

In section one, I mentioned what the contents of a state might be taken to be. I explained that they could be taken to be various things. Extant accounts have, variously, taken them to be (1) propositions composed of concepts, or (2) objects and properties, or (3) sets of possible worlds. According to the content account of nonconceptual content, if the content of experience is what the first of these three suggestions says it is then it is conceptual content. The latter two conceptions of content are conceptions of

nonconceptual content. That is because only in the second and third cases the content is not composed of concepts.

The state account of nonconceptual content and the content account of nonconceptual content are completely independent of each other. The view that experience is conceptual in the state sense and the view that experience is nonconceptual in the state sense are each compatible with both the view that experience is conceptual in the content sense and the view that experience is nonconceptual in the content sense.

If an experience is cognitively penetrated on the classic model, then that tells us nothing about what the constituents of the content are. Therefore, it is perfectly compatible with experience being classically penetrated that its content not be concepts but objects or properties, or sets of possible worlds, instead, and hence be nonconceptual content as stipulated by the content account. Thus, this fourth conception of nonconceptual content is compatible with classic cognitive penetration.

Despite this independence of the state account of conceptual and nonconceptual content and the content account of conceptual and nonconceptual content, Bermúdez (2007) argues that a good explanation of why experiences have conceptual content in the state sense, that is, a good explanation of why there are some experiences that one cannot have unless one possesses a certain concept, is that that concept is a constituent of the content—in other words that they have conceptual content in the content sense.

On the basis of this, one might try to argue that as classic cognitive penetration is incompatible with the state account of nonconceptual content, this provides a good reason to think that it is incompatible with the content account of nonconceptual content. One might try to claim that a good explanation of what goes on in classic cognitive penetration is that the content of a propositional attitude that *p*, which involves the concept *C* (in the manner specified at the start of this section), interacts with your perceptual processes

by making C a constituent of the content of the experience—and thus giving it conceptual content according to the content account.

However, cognitive penetration gives us a reason to think that there is another good explanation of why an experience that is classically cognitively penetrated cannot have nonconceptual content according to the state account: the propositional attitude that p, which involves the concept C, and hence requires possession of C, is simply a necessary *cause* of your having the experience. The concept C does not become a constituent of the content, but possession of it is necessary in order to have the experience. Thus, we need not think that if an experience has conceptual content according to the state account, it has to have conceptual content according to the content account.

To summarise, we have seen that three out of four accounts of the difference between conceptual and nonconceptual content will count the content of an experience that is the result of classic cognitive penetration as having conceptual content and not nonconceptual content. The exception was the fourth account of nonconceptual content, according to which an experience has nonconceptual content if and only if the content of the state does not have concepts as constituents. Classic cognitive penetration could be (but clearly need not be) nonconceptual in this sense.

One can appreciate now that if one thought that the only form of cognitive penetration was classic cognitive penetration, then one might be tempted to think that cognitive penetration, simpliciter, and nonconceptual content were incompatible. One might set aside the content account—the fourth account—as not as important as the traditional state account of nonconceptual content—the third account. (Or one might, as we saw that someone akin to Bermúdez might do, argue that a good explanation of the incompatibility of classic cognitive penetration with the state account—the third account—is that it is incompatible with the content account.) However, as we will see, once we have the model of cognitive penetration lite in our

purview we should no longer be tempted to hold that cognitive penetration and nonconceptual content are incompatible.

#### **4. Cognitive Penetration Lite**

In this section, I articulate another model of cognitive penetration and give reasons to think that such a model is plausible. In the next section, I go on to consider to what extent experience being penetrated in this manner is compatible with its having nonconceptual content.

Here is a second model of cognitive penetration:

- (a) You have a certain propositional attitude that  $p$  (for example, you believe that something red is likely to be found at your present location).
- (b)  $p$  involves a concept  $R$  (for example, the concept of being red), in the sense that possession of  $R$  is required to specify the content that  $p$  and possession of  $R$  is required in order to have the propositional attitude that  $p$ .
- (c) The content of this propositional attitude causally affects your perceptual processes yielding an experience with the content that  $q$  (for example, that there is something red present) that involves  $R$  (in the sense that  $R$  is required to specify the content that  $q$ ).
- (d) The content that  $q$  is a content that an experience could have without being affected by propositional attitudes in this way.

Call this cognitive penetration “lite”. The idea is that there is a form of cognitive penetration which is such that, although it causes an experience with content  $q$  to come about and, on that occasion, the experience with content  $q$  probably would not have come about unless cognitive penetration

had occurred, on other occasions it would be possible to have an experience that represented that  $q$  without cognitive penetration occurring<sup>12</sup>.

Why should we think that such a form of cognitive penetration is possible? One reason comes from thinking about particular examples of cognitive penetration, two of which I will discuss below. A second reason comes from thinking about the mechanism that might explain some cases of cognitive penetration. I will explain each of these in turn. It should be remembered that in the discussion of these two reasons, I am not trying to establish that cognitive penetration exists. I am assuming cognitive penetration exists and considering what forms of it there could be and whether they are compatible with nonconceptual content.

One example of an alleged case of cognitive penetration, discussed at length in Macpherson (2012), occurs in an experiment by Delk and Fillenbaum (1965). To summarise the experiment briefly: different shapes were cut out of a uniformly coloured orange paper. Some of these shapes were shapes of characteristically red objects, such as hearts and lips, and some were not. These shapes were placed against a uniformly coloured background that could be adjusted in colour from yellow, through the shade of the orange of the paper, and into red. Subjects were instructed to ask for changes in the colour of the background to be made until it matched the colour of the shape placed in front of it. Subjects chose a background that was redder when the characteristically red objects were placed in front of it than they did when the other objects were placed in front of it. The latter were matched to a more orange colour. (The more orange colour was, objectively, the more accurate match.)

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<sup>12</sup> I say that the experience with content  $q$  *probably* would not have come about unless cognitive penetration had occurred, not simply that it would not have come about, because there could be cases of preemption where, although cognitive penetration is the cause of an experience with a certain content coming about, the cognitive penetration could have preempted another event that would have caused the same effect if the cognitive penetration did not occur. I take it that such cases of preemption would be rare. In the absence of preempted causes, if the cognitive penetration had not occurred then the experience would not have had the content that it did.

Suppose that these are cases of cognitive penetration in which subjects' beliefs about the characteristic colour of some of the shapes, or some other relevant belief or beliefs, penetrate their experience of those shapes so that they see some of them as redder than others. (See Macpherson, 2012, for a detailed discussion of whether this case or similar cases are cases of cognitive penetration.) Suppose then that when looking at the orange heart, subjects' beliefs that hearts are red penetrate their respective experiences and cause them to have experiences as of a red heart. It seems clearly possible that that type of experience could have been produced by perception alone, such as might occur in a simple, non-cognitively penetrated veridical experience of a heart that is cut out of red paper—an experience as of a red heart.<sup>13</sup> In other words, there is reason to think that there could be cognitive penetration lite.

A second example is discussed by Tye (1995), and concerns experiences of the face/vase ambiguous drawing. When one looks at that drawing, one can experience it either as two faces looking at each other or as a vase. One account of what occurs when looking at the drawing is that one either has an experience that represents faces or one has an experience that represents a vase. However, some people think that faces and vases cannot be represented by visual experience. They think that only low-level properties can be represented in visual experience, such as shape, colour, position, object-hood, figure, and ground.<sup>14</sup> Such people would be inclined to think that when looking at the drawing, one can have two different experiences, one of which would prompt one to judge that there were faces present, if one possessed the concept of faces, and the other of which would prompt one to

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<sup>13</sup> Someone might be tempted to think that such experiences couldn't be had for they might think that a subject's belief that hearts are red might affect their experience when looking at a red heart yielding a non-veridical experience of the colour of the heart: perhaps an experience of a deeper shade of red than is present. While that could, but need not, be the case for a subject who had the belief that hearts are red, it would not be the case for a subject who lacked the belief that hearts were red. And it is definitely possible that there could be such a subject.

<sup>14</sup> A summary of the debate about whether high-level properties can be found in visual experience or whether only low-level properties can be is found in Macpherson (2011).



judge that there was a vase present, if one possessed the concept of a vase. But they would hold that the difference in what the experiences represented would be in the low-level properties. For example, they might claim that, in one experience, the portion of the picture corresponding to the faces would be represented as figure and the portion corresponding to the vase as ground, and in the other experience the reverse would be true.

Tye holds this second view. According to him, what determines which experience you have could involve top-down processing, such as the priming or employment of either the concept faces or the concept vase. However, he thinks that you could also have each experience purely in virtue of bottom-up processing. In other words, the figure and ground status of parts of the drawing could be assigned purely by the visual system with no top-down processing occurring. Moreover, this could, but need not, happen in the absence of the possession of the concept faces and the concept vase in virtue of different assignments of figure and ground. If you lacked the concepts you would not go on to judge that what you experienced was faces or a vase, but you would be having the same experience that would allow you to so judge were you to possess those concepts.

Tye's account of this case invokes the idea of cognitive penetration lite. A cognitive state involving the employment of certain concepts can penetrate perception to produce a certain experience, but it would be possible to have that experience without cognitive penetration occurring, by purely bottom-up processing. Thus, if there can be cognitive penetration, it seems that there is no reason to think that there could not be cognitive penetration lite. I have not argued here that there are any such cases, but simply that one should think that such cases are possible if you think that cognitive penetration is possible.

Besides consideration of particular cases such as these, another reason to think that there can be cognitive penetration lite comes from reflection on a mechanism that might explain some cases of cognitive penetration. As I stated in the introduction, I have postulated such a mechanism in Macpherson (2012). We have reason to believe that each

stage of the mechanism could occur, independently of any considerations of cognitive penetration. The evidence suggesting the existence of the phenomena that constitute each stage of the mechanism, plus the overall ability of the mechanism to implement cognitive penetration, forms a reason to think that cognitive penetration *lite* could occur. Let me explain.

We know that cognitive states, such as beliefs, thoughts, and desires, can cause some states with visual phenomenal character that are not genuine perceptions of the world to come into existence. Such states are commonplace:

- Perceptual imagery (both intentional and unbidden)
- Dreams
- Hallucinations

Often, but not always, the content of such states reflect one's beliefs or desires. For example, one might desire to live in a large castle with turrets and crenelated walls and therefore frequently perceptually imagine such a castle. Alternatively, one might have visited the Alhambra and so have beliefs about what it looks like. In consequence, one might dream about the Alhambra and one's dream may reflect the beliefs that one holds about how it actually looks. Similarly, people suffering from hallucinations brought on by Parkinson's disease can hallucinate deceased partners or pets.<sup>15</sup> Such hallucinations draw on a subject's knowledge and beliefs about those people and animals and how they looked, and perhaps his or her desire for them to be present.

We also know that the phenomenal character of those experiential states can interact with and affect the phenomenal character and content of an experiential state with perceptual phenomenal character that is involved in actually perceiving the world. In fact, in such cases, subjects do not seem to be aware of two states – an imaginative, dream or hallucinatory one and a perceptual one. So, a more accurate description of what is taking place is that the processes that typically do create perceptual imagery, dreams or

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<sup>15</sup> See, for example, Barnes and David (2001).

hallucinations interact with the perceptual process to yield one state with phenomenal character. The phenomenal character of the state is determined by the contribution of both processes: imagery, dreaming or hallucination, on the one hand, and perception on the other.

We have reasons to think that such interactions do occur. Consider, for example, the Perky effect (Perky 1910). Subjects are placed facing a white wall and asked to visually imagine a certain object and, unbeknown to them, an image that is above conscious visible threshold for normal subjects is shone onto the wall. In these conditions, subjects subsequently report that they had visual imagery but they deny that they saw anything. However, what they report imagining is influenced by the image that is shone onto the wall. A standard interpretation of what is going on is that subjects mistook their perceptual experience for visual imagery (Thomas 2008). Another interpretation is that subjects did not consciously perceive the image shone onto the wall because their carrying out the imagery task resulted in the image being below conscious visible threshold for the subject (Segal 1971 and Segal and Fusella 1971, as reported in Thomas 2008). That is a plausible thought because some instances of high cognitive load are known to affect which stimuli reach consciousness. (See for example Carmel et al. 2007.) On this alternative interpretation, it is claimed the subjects unconsciously perceived the image and that influenced what they went on to visually imagine.

It does not matter for my purposes which of these interpretations is right; what is clear is that the resulting experience has aspects that are contributed by perceptual processing and aspects that are contributed by the imagination. While the image projected on the screen affected what was reported, indicating that perceptual processing must have played a part in generating the experience, what was imagined affected what was reported too. Subjects often reported elements to their experience in addition to those present in the image that was projected onto the screen. For example, when only the outline shape of a book was projected onto the screen, a subject reported imagining a book with writing on it; when only the outline shape of a

leaf was projected, a subject reported imagining a leaf with veins on it. And in a twist on the experiment (Segal 1971 and Segal and Fusella 1971, cited in Thomas 2008), an object unrelated to the object that the subject was instructed to visually imagine was projected onto the wall. A tomato was projected onto the wall while subjects were instructed to imagine the New York Skyline. Subjects reported imaging the New York skyline at sunset. Therefore, we know that processes that generate visual imagery under voluntary control, hence processes affected by thoughts and beliefs and desires, together with perceptual processing, can yield one phenomenal experience whose content and phenomenal character are affected by and determined by both.

Similar interactions are known between processes that underlie dreaming and perception. For example, some experiences have elements that are contributed by both dreaming and perceptual processes, as when real world stimuli affect what one dreams about. For example, the sound of a loud bang might cause one to dream that an earthquake is occurring. As in the Perky case, it does not interest me here whether it is right to say that the resultant experience, or elements of it, are really dreamed or perceived or both. What is crucial is that what appears to the subject to be one experience has elements that are clearly caused by both dreaming and perceptual processes.

Likewise, some experiences are known to be created by both hallucinatory and perceptual processes. For example, many actual hallucinations are partial hallucinations—and thus unlike the philosophers' favoured example of total hallucinations where everything experienced is hallucinatory. In partial hallucinations, objects are visually hallucinated to be in a scene that is actually perceived by the subject. For example, during Lilliputian hallucinations, very small people are hallucinated and seem to be seen in the environment that the subjects otherwise accurately perceive. For example, small people might be experienced as on the carpet, or peeking out from behind the curtains, or on the subject's food (Chand and Murthy 2007).

These three examples—the Perky effect, the incorporation of perceptual elements into dreams, and partial hallucinations—show that states with visual phenomenology can be produced that have elements contributed by imagination, dreams, or hallucinations on the one hand, and perception on the other. Thus, they show how states with visual phenomenology can be influenced by cognitive states, for the processes that lead to imagination, dreams and hallucinations can be so influenced. The idea is that cognitive states cause some imaginative, dream or hallucinatory processes to come into existence. These processes interact with the perceptual process to yield one state with visual phenomenal character, the content and character of which is therefore partly caused by cognitive states.

It is easy to see why this mechanism could produce cognitive penetration lite if we think that hallucinations, dreams and visual imagery can, at least on some occasions, have the same phenomenology as visual perceptual experiences. For in those instances, the addition of such phenomenology to perceptual experiences would produce an experience that could have been had by perception alone. So the resultant experience would be an example of an experience produced by cognitive penetration lite.

It seems highly plausible that some hallucinations and dreams have the same phenomenology as some visual perceptual experiences. In the case of visual imagery, the Perky experiments provide some support for the traditional idea that visual imagery is like a form of perception: that had when looking at faint, de-saturated, indistinct or blurry things, or when perceptual conditions are such as to produce faint, de-saturated, indistinct or blurry experiences of things. At least they do on the first interpretation of the experiments discussed about according to which the faint perceptual experiences were mistaken for visual imagery.

To give an example, consider a subject in an experiment like that of Perky's discussed above who is asked to imagine a black pentagon. Unbeknown to the subject, an image of a white hexagon with a black perimeter is projected onto a white wall that the subject is looking at. Plausibly

the subject might report having visual imagery as of a grey hexagon (perhaps with a black border). Such an experience could plausibly have been had in pure perception without any cognitive penetration occurring: the straightforward veridical perception of a grey hexagon with a black border. Therefore, it seems highly plausible that some hallucinations and dreams have the same phenomenology as some visual perceptual experiences.

In this section, I outlined the idea of cognitive penetration lite and provided three reasons to think that, on the assumption that there can be cognitive penetration, there is reason to think that cognitive penetration lite could exist. I have not tried to establish that cognitive penetration exists. In the next section, I examine whether cognitive penetration lite is compatible with nonconceptual content.

## **5. Is Cognitive Penetration Lite Compatible with Nonconceptual Content?**

I will consider, in turn, each of the four accounts of nonconceptual content that I considered in section three above and whether cognitive penetration lite is compatible with each.

The first account of nonconceptual content was that of Raftopoulos and Müller, according to which it is a necessary and sufficient condition for a state to have nonconceptual content that is produced by cognitively impenetrable mechanisms. Thus a state produced by cognitively penetrable mechanisms has conceptual content. Clearly, a state produced by cognitive penetration lite cannot have nonconceptual content on this notion of nonconceptual content and so cognitive penetration lite is not compatible with this notion of nonconceptual content. Note, as I did previously, that this not the standard account of nonconceptual content. I will comment further on their motivation for holding such an account later in this section.

Recall the second account of nonconceptual content posited by Bermúdez and Cahen. They hold that that the content of experience is nonconceptual to the extent that it is not a function of, or not determined by, the concepts of the subject. It is conceptual otherwise.

Consider an instance of cognitive penetration lite that produces a cognitively penetrated experience. *On that occasion*, the experience is produced by cognitive penetration lite and so the experience produced will be a function of, and determined by, the subject's concepts. Those concepts will have had a causal role in bringing about the experience with that content and, bar pre-emptive causation, a different experience would have occurred. However, *in general*, the existence of that type of experience—the type that has the same content and phenomenal character—need not be a function of, or need not not determined by, one's concepts, for that kind of experience could have been produced without cognitive penetration coming about. Another way of putting the same point is that a token experience may be produced by cognitive penetration lite and so the token may be a function of, or determined by, the subject's concepts, but this does not entail that the existence of the type of experience—and hence other tokens of that type—are a function of, or determined by, a subject's concepts. (Again, when I talk of a type of experience here, and subsequently, I mean to refer to types individuated by the fact that they have the same content and phenomenal character.)

This raises the question of which reading Bermúdez and Cahen had in mind when stating their definition of conceptual content as occurring when the content is a function of, or determined by, the concepts of the subject. There is an ambiguity lurking in their specification of conceptual content. Did they intend the “on that occasion” reading or did they intend the “in general” reading? I will return to answer this question below, but now I will consider whether cognitive penetration is compatible with each of the two disambiguations.

On the “on that occasion” reading of their account, the content of an experience produced by cognitive penetration lite will be conceptual. The existence of the token experience is a function of, or is determined by, the subject’s concepts. On the “in general” reading, the content of an experience produced by cognitive penetration lite could be nonconceptual. If cognitive penetration produces a token experience of a type, other tokens of which can occur by pure perception alone, then while possession of concepts played a causal role in the subject coming to have this token experience, there seems no reason to think that, in general, coming to have that type of experience requires possession of concepts. Indeed, on the assumption that pure perceptual experiences do not require concepts in order to have them, then the type of experience produced by cognitive penetration lite will not require possession of concepts in order to have it either. Thus, on the second disambiguation of this view of the distinction between conceptual and nonconceptual content, cognitive penetration lite is compatible with nonconceptual content.

The third account of nonconceptual content is the state account, according to which an experience has nonconceptual content if and only if in order to have an experience with a certain content a subject need not possess the concepts required to specify that content. Clearly cognitive penetration lite is compatible with this notion of nonconceptual content. As the type of experience produced by cognitive penetration lite could occur without cognitive penetration occurring, there is no good reason to think that a subject need possess certain cognitive states or possess certain concepts in order to have an experience with that content. On the assumption that there can be pure perceptual experiences that have nonconceptual content, there is no reason to suppose that cognitive penetration lite could not produce tokens of that type of experience.

The “in general” reading of the account of nonconceptual content given by Bermúdez and Cahen is very similar in spirit to the state account of nonconceptual content. The state account is clearly making reference to types



of experience and the view is that a type is nonconceptual if tokens of that type can exist in a subject without the subject possessing certain concepts, just as the “in general” reading of the Bermúdez and Cahen view is the view that a type of experience is nonconceptual if the content of some tokens of the type of experience need not be a function of, or not determined by, the concepts of a subject. Thus we have so far found two, rather similar, views of nonconceptual content that are compatible with cognitive penetration lite.

The fourth account of nonconceptual content is that an experience has nonconceptual content if and only if the content of the state does not have concepts as constituents. Again, as in the case of classic cognitive penetration, the issue of whether experiences have nonconceptual content in this sense is orthogonal to whether they are produced by cognitive penetration lite. There is no reason why experiences produced by cognitive penetration lite should not be nonconceptual in this sense. One could hold that such experiences were not composed of concepts but of objects and properties, or sets of possible worlds. Thus cognitive penetration lite is compatible with the content account of nonconceptual content.

To summarise the discussion so far in this section, cognitive penetration lite has been found to be incompatible with nonconceptual content, understood in the manner of the first definition put forward by Raftopoulos and Müller. It is incompatible with it on the “on the occasion” disambiguation of the second account of nonconceptual content put forward by Bermúdez and Cahen. It is compatible with it on the “in general” reading of that account of nonconceptual content. It is also compatible with the third (state) account and fourth (content) account of nonconceptual content. Thus, cognitive penetration lite is compatible with more accounts of nonconceptual content than classic cognitive penetration is. Classic cognitive penetration is only compatible with the fourth (content) account.

I now want to examine in more detail the two accounts of nonconceptual content with which cognitive penetration lite was found to be incompatible. As I twice noted above, the first account of nonconceptual

content—that proposed by Raftopoulos and Müller—namely, that it is a necessary and sufficient condition for a state to have nonconceptual content that it is produced by cognitively impenetrable mechanisms, is rather different from the other definitions. As I indicated earlier, one might wonder why they propose it.

My suggestion is that their account of nonconceptual content is derived from reading the second—Bermúdez and Cahen—definition of nonconceptual content on its “on that occasion” disambiguation. Recall that on that disambiguation a state has nonconceptual content if and only if the content of the state on that occasion—that token state—is a not a function of, or is not determined by, the concepts of the subject. What would it be for a token state to be that way? It would be for the concepts of the creature not to have a causal influence on the bringing about of that state. In other words, it would be for the propositional attitudes, occurrent thoughts and judgments, the possessing of certain concepts, or the priming of certain concepts, not to have an influence on the fact that that state came to exist. It would be for the state not to be cognitively penetrated. Thus, this disambiguation of Bermúdez and Cahen’s definition is tantamount to saying that a state has nonconceptual content if and only if it has not been cognitively penetrated, and it has conceptual content if and only if it has been cognitively penetrated. It is not a big step to propose, as Raftopoulos and Müller do, that a state has nonconceptual content if and only if it has been produced by cognitively impenetrable mechanisms, and that a state has conceptual content if and only if it has been produced by cognitively penetrable mechanisms. The precise way that the relevant mechanisms are subsequently individuated will determine whether there are any states that are not in fact penetrated but which count as being produced by cognitively penetrable mechanisms, and hence count as having conceptual content. What is clear, however, is that on this account any state that is cognitively penetrated will have conceptual content.

Should we accept either the “on that occasion” disambiguation of the Bermúdez and Cahen account or the Raftopoulos and Müller account of nonconceptual content? Bermúdez and Cahen themselves do not intend the “on this occasion” disambiguation of what they say. They explicitly cite Tye’s example of the face/vase ambiguous figure, in which he claims top-down processing may be, but need not be, involved in the production of one or other experiences of the face/vase ambiguous figure, as being a reason to think that Raftopoulos and Müller’s account of nonconceptual content should be rejected:

it is consistent with the notion of nonconceptual content that the representation in question is in fact produced in what Raftopoulos and Müller would call a conceptually *mediated* way, whereby concepts in the subject’s possession influence the content of a personal level representation ... That is, it does not seem to be a *necessary* condition on the nonconceptual content of representations in general that they be insulated from the propositional attitudes (Bermúdez and Cahen 2012, section 4.2)

This reasoning would also apply to rejection of the “on this occasion” reading of their account, thus it would be highly unlikely for them to endorse it.

But why should we reject the “on that occasion” disambiguation of the Bermúdez and Cahen account and the Raftopoulos and Müller account of nonconceptual content, rather than be pluralist, thinking that there are simply different accounts of nonconceptual content? If we adopted a pluralist account then we could simply say that cognitive penetration lite is incompatible with nonconceptual content as it is conceived on the “on that occasion” disambiguation of the Bermúdez and Cahen account and the Raftopoulos and Müller account, but is compatible with the other accounts of nonconceptual content.

Only Raftopoulos and Müller hold their account and I know no one who holds the “on this occasion” disambiguation of Bermúdez and Cahen’s account (or have indeed pointed out this ambiguity in it). Raftopoulos and Müller, then, are alone in recommending this type of account. It is rather

different from all the other accounts because, as we have seen, their account of the conceptual/nonconceptual distinction allies it very closely with the issue of whether cognitive penetration occurs. In doing so, it bears little relation to the concerns that originally motivated the introduction of the notion of nonconceptual content into the literature, namely the alleged properties of experience, I-VI, mentioned above, which the other accounts are motivated to explain. That Raftopoulos and Müller's account is not concerned with whether experience has these properties is brought out by considering cognitive penetration lite, which provides us with an example of cognitively penetrated states, which according to Raftopoulos and Müller's account must be conceptual states, but which it is plausible to think still have the properties I-VI listed above, if any perceptual experiences have them. (Similar reasoning applies to the "on that occasion" disambiguation of the Bermúdez and Cahen account.)

Why is it plausible to think that states produced by cognitive penetration lite have the properties I-VI, if any perceptual experiences have them? Consider them again:

- I. Fineness of grain
- II. Unit-free representation
- III. Analogue representation
- IV. Can be had by young children and animals
- V. Explains the acquisition of concepts
- VI. Can represent contradictions.

Cognitive penetration lite produces experiences of a type that could have been had by pure perception alone, without cognitive penetration occurring. If one thinks that pure perceptual experiences possess the above properties (or any subset of them), then so too will the other tokens of the same type produced by cognitive penetration lite. Even if one thought that only some

pure perceptual experiences possess the above properties, I can see no good reason to think that cognitive penetration lite will produce only experiences that lack those properties. On the contrary, there is every reason to suspect that it will produce experiences with those properties.

Another way to show that it is plausible that experiences produced by cognitive penetration lite could have the above properties starts from supposing that some cognitive penetration lite occurs by means of the mechanism that I outlined in section four, namely, by the processes underlying visual imagination, dreaming or hallucination interacting with the processes of perception to produce one experience with a phenomenal character and content determined by both processes. If experiences are produced in such a fashion, then there is good reason to think that some of them are likely to have properties I-VI. This is because experiences had in visual imagination, dreaming, and hallucination could have the above properties if pure perceptual experiences can have them. As I argued above, there is reason to think that the phenomenology of some of these experiences is the same as some experiences had during pure perception. It is reasonable to think that the output of the result of two processes, each of which can alone produce experiences with properties I-VI, could be experiences with those properties also. And even if no experience had in visual imagination, dreaming, or hallucination has the same phenomenology as an experience produced by pure perception, the phenomenology of some of these experiences seems similar enough to that of experiences produced by pure perception that it might be reasonable to attribute enough of properties I-VI to them to warrant thinking that their content is nonconceptual. If so, it is reasonable to think that the output of the result of two processes, each of which can alone produce experiences with nonconceptual content, could be experiences that also have nonconceptual content.

So Raftopoulos and Müller's account and the "on that occasion" disambiguation of the Bermúdez and Cahen account will count experiences produced by cognitive penetration lite as having conceptual content, but it is

plausible to think that at least some of these experiences will have the properties I-VI outlined above, if any perceptual experiences do. So, the two accounts will classify as having conceptual content some experiences that have the properties that have motivated people to believe that experiences have nonconceptual content. This gives one some reason to reject these accounts as accounts of nonconceptual content. They don't track the properties of experience that have motivated people to hold that experiences have nonconceptual content. They just look like accounts of something else: accounts of states that are not cognitively penetrated or not produced by mechanisms that can be cognitively penetrated.

If we reject the idea that Raftopoulos and Müller's account and the "on that occasion" disambiguation of the Bermúdez and Cahen account should be accepted as accounts of nonconceptual content, then cognitive penetration lite is compatible with all accounts of nonconceptual content. If we are pluralists and accept Raftopoulos and Müller's account and the "on that occasion" disambiguation of the Bermúdez and Cahen account as special types of accounts of nonconceptual content then, while cognitive penetration lite is not compatible with them, it is with all other accounts. Either way, cognitive penetration lite is compatible with the main and traditional accounts of nonconceptual content.

## **6. Conclusion**

In this paper, I have distinguished two forms of cognitive penetration: the classic model and cognitive penetration lite. I did not argue that cognitive penetration occurs, but that if it does occur, there is reason to think that cognitive penetration lite could occur. My argument was by means of consideration of two examples—the colour cut-out case and Tye's face/vase ambiguous figure case—and on consideration of the indirect mechanism involving visual imagery, dreams, or hallucinations that I outlined and showed would explain the existence of some cases of cognitive penetration.

I outlined four different accounts of nonconceptual content and showed that classic cognitive penetration was only compatible with one: the content account of nonconceptual content. I showed that cognitive penetration lite was straightforwardly compatible with the two traditional accounts of nonconceptual content: the state account and the content account. I then showed that there was an ambiguity in Bermúdez and Cahen’s account. One disambiguation—the “in general” disambiguation—yielded an account very similar in spirit to the state account and an account that is compatible with cognitive penetration lite. The other disambiguation—the “on that occasion” disambiguation—was very similar to Raftopoulos and Müller’s account. These accounts were not compatible with cognitive penetration lite, but I provided some reasons to resist accepting these as accounts of nonconceptual content.

In summary, whether cognitive penetration and nonconceptual content are compatible depends on the accounts of each that one is considering. However, I demonstrated that there are a good number of forms of cognitive penetration and nonconceptual content that are compatible. Thus, if one is motivated to hold that experience is nonconceptual, and one is motivated for the reasons that experience has at least some of the six properties that have traditionally motivated the positing of nonconceptual content, then this should not stop one from holding that cognitive penetration, in particular cognitive penetration lite, can occur. I outlined an indirect mechanism involving the processes underlying visual imagery, dreams or hallucinations—processes that uncontroversially can be driven by cognitive states—to explain how there could be cases of cognitive penetration lite. This indirect mechanism not only explains how cognitive penetration lite could come about, but also explains its compatibility with the traditional forms of nonconceptual content.<sup>16</sup>

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## References

- Barnes, J. and David, A. S. (2001) "Visual Hallucinations In Parkinson's Disease: A Review and Phenomenological Survey", *J Neurol Neurosurg Psychiatry*, 70: 727-733.
- Bermúdez, J. L. (1998) *The Paradox of Self-Consciousness*, Cambridge, MA: MIT Press.
- Bermúdez, J. L. and Cahen, A. (2012) "Nonconceptual Mental Content", in E. N. Zalta (ed.) *The Stanford Encyclopedia of Philosophy (Spring 2012 Edition)*, <http://plato.stanford.edu/archives/spr2012/entries/content-nonconceptual>.
- Byrne, A. (2001) "Intentionalism Defended", *Philosophical Review*, 110: 199-240.
- Carmel, D., Saker, P., Rees, G. and Lavie, N. (2007) "Perceptual Load Modulates Conscious Flicker Perception", *Journal of Vision*, 7(14): article no 14, DOI: 10.1167/7.14.14.
- Chand, P. K. and Murthy, P. (2007) "Understanding a Strange Phenomenon: Lilliputian Hallucinations," *German Journal of Psychiatry*, 10: 21–24.
- Crane, T. (1992) "The Nonconceptual Content of Experience", in T. Crane (ed.) *The Contents of Experience*, Cambridge: Cambridge University Press, pp. 136-157.
- Cussins, A. (1990) "The Connectionist Construction of Concepts", in M. Boden (ed.), *The Philosophy of Artificial Intelligence*, Oxford: Oxford University Press, pp. 368-440.
- Delk, J. L. and Fillenbaum, S. (1965) "Differences in Perceived Colour as a Function of Characteristic Color", *The American Journal of Psychology*, 78(2): 290-93
- Dretske, F. (1981) *Knowledge and the Flow of Information*, Cambridge, MA: MIT Press.



- Evans, G. (1982) *The Varieties of Reference*, Oxford: Oxford University Press.
- Heck, R. G. (2000) "Nonconceptual Content and the Space of Reasons", *Philosophical Review*, 109: 483–523.
- McDowell, J. (1996) *Mind and World*, Cambridge, MA: Harvard University Press
- Macpherson, F. (2012) 'Cognitive Penetration of Colour Experience: Rethinking the Issue in Light of an Indirect Mechanism', *Philosophy and Phenomenological Research*, 84(1): 24-62.
- Macpherson, F. (2011) "The Admissible Contents of Experience", in K. Hawley and F. Macpherson (eds.) *The Admissible Contents of Experience*, Chichester, West Sussex: Wiley-Blackwell, pp. 11-24.
- Macpherson, F. (2010) "Impossible Figures", in E. B. Goldstein (ed.) *The SAGE Encyclopedia of Perception*, Thousand Oaks, CA: Sage, pp. 486-489.
- Macpherson, F. (2006) "Ambiguous Figures and the Content of Experience", *Noûs*, 40(1): 82-117.
- Macpherson, F. (2005) "Colour Inversion Problems for Representationalism", *Philosophy and Phenomenological Research*, 70(1): 127-152.
- Macpherson, F. (2003) "Novel Colours and the Content of Experience", *Pacific Philosophical Quarterly*, 84(1): 43-66.
- Peacocke, C. (1986) "Analogue Content", *Proceedings of the Aristotelian Society*, 60: 1–17.
- Peacocke, C. (1992) *A Study of Concepts*, Cambridge MA: MIT Press.
- Peacocke, C. (2001) "Does Perception Have a Nonconceptual Content?", *Journal of Philosophy*, 98: 239–264.

- Perky, C.W. (1910) "An Experimental Study of Imagination," *American Journal of Psychology*, 21: 422–452.
- Priest, G. (1987) *In Contradiction*, Dordrecht: Martinus Nijhoff.
- Pylyshyn, Z. W. (1999) "Is vision continuous with cognition? The case for cognitive impenetrability of visual perception", *Behavioral and Brain Sciences*, 22(3): 341-365.
- Raffman, D. (1995) "On the Persistence of Phenomenology", in T. Metzinger (ed.), *Conscious Experience*, Munich: Imprint Academic Verlag.
- Raftopoulos, A. (2009) *Perception and Cognition: How do Psychology and the Cognitive Sciences inform Philosophy*, Cambridge, MA: MIT Press.
- Raftopoulos, A. and Müller, V. C. (2006) "The Phenomenal Content of Experience", *Mind and Language*, 21(2): 187–219.
- Segal, S. J. (1971) "Processing of the Stimulus in Imagery and Perception", in S. J. Segal (ed.) *Imagery: Current Cognitive Approaches*, New York: Academic Press.
- Segal, S. J. and Fusella, V. (1971) "Effects of Images in Six Sense Modalities on Detection (d') of Visual Signal from Noise," *Psychonomic Science*, 24: 55–56.
- Siegel, S. (2010) "Do Visual Experiences Have Contents?", in B. Nanay (ed.) *Perceiving the World*, Oxford University Press, 2010, pp. 333-68.
- Thomas, N. J.T. (2008) "Mental Imagery", in E. N. Zalta (ed.) *The Stanford Encyclopedia of Philosophy* (Winter 2008 Edition), URL = <http://plato.stanford.edu/archives/win2008/entries/mental-imagery/>.
- Tye, M. (1995) *Ten Problems of Consciousness: A Representational Theory of the Phenomenal Mind*, Cambridge, MA: MIT Press.

Tye, M. (2006) "Nonconceptual Content, Richness, and Fineness of Grain", in  
T. Gendler and J. Hawthorne (eds.) *Perceptual Experience*, Oxford:  
Oxford University Press, pp. 504-20.