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<https://doi.org/10.1057/s41599-020-00671-z>

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Nonconceptualism as the key to a new physicalist strategy in the knowledge argument

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This paper presents and defends an alternative version to the so-called strategy of phenomenal concepts (aka PCS) in defense of type B materialism in Jackson's knowledge argument. Endorsing Ball and Tye's criticism, I argue in favor of the following claims. First: Mary's newly acquired content is nonconceptual in the light of all available criteria. Second: Mary's acquisition of such content is precisely what allows us to explain, at least in part, both her epistemic progress (once released from her confinement) and the increase in her expertise regarding her old PHENOMENAL RED. However, although the acquisition of such nonconceptual content is indispensable, it is sufficient to explain Mary's epistemic progress. Third: assuming that concepts are mental files, after undergoing the visual experiences of red for the first time, such newly acquired nonconceptual content goes through a process of "digitization" so that it can be stored in the mental file PHENOMENAL RED. Fourth and final claim: it is based on this concept of PHENOMENAL RED, now phenomenally enriched by the newly acquired nonconceptual content, that Mary is able to identify introspectively the phenomenal red of her new experience.

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Introduction

Imagine that everyone knows Jackson's tale about Mary. She is a super-scientist that has exhaustive knowledge about color and color vision, but who is trapped in a black-and-white room. One day she is released and contemplates the color red of a ripe tomato for the first time. "Oh, this is what it is like to experience red!" she thinks to herself. According to Jackson's anti-physicalism, the assumption that Mary already possesses a complete set of all physical facts about color and color vision forces the physicalist to confront a problem. If Mary already knows everything about color and color vision in a physical sense and if she learns *something new* by undergoing the visual experience of red for the first time, the anti-physicalist conclusion is that Mary learns something non-physical about color and color vision, or so Jackson argued in the Eighties.¹

The most popular reaction to the knowledge argument is the assumption that, on her release, Mary acquires new special phenomenal concepts of some physical property or fact she already recognized as a physical concept in her confinement. Following Stoljar, we may call this the phenomenal concept strategy (aka PCS).²

This paper presents and defends an alternative version to the PCS of B-type materialism in Jackson's knowledge argument. I resume Tye and Ball's claim that there are no phenomenal concepts in the special sense that the PCS requires, namely, concepts that one could only acquire by undergoing the relevant experience of red. By Evan's generality requirement, imprisoned Mary already possesses the concept PHENOMENAL RED. Yet, on her release, Mary acquires a new visual representation of the color red, a content that she could only acquire by undergoing the relevant visual experience of the color red.

I argue in favor of the following claims. First: Mary's newly acquired content is nonconceptual in the light of all available criteria. Second: Mary's acquisition of such content is precisely what allows us to explain, at least in part, both her epistemic progress (once released from her confinement) and the increase in her expertise regarding her old PHENOMENAL RED. However, although the acquisition of such nonconceptual content is indispensable, it is sufficient to explain Mary's epistemic progress. Third: assuming that concepts are mental files, after undergoing the visual experiences of red for the first time, such newly acquired nonconceptual content goes through a process of "digitization" so that it can be stored in the mental file PHENOMENAL RED. Fourth and final claim: it is based on this concept PHENOMENAL RED, now phenomenally enriched by the newly acquired nonconceptual content of red, that Mary is able to identify introspectively the phenomenal red of her new experience.

This solution to the Puzzle of Mary seems to be so obvious and so natural that it comes to me as a surprise that it has not occurred to anyone before. It is the only solution that really does justice to the thought, expressed above, that when Mary experiences red for the first time she comes to know something she did not know before. Yet, the defense of my claims here is abductive: the inference to the best explanation. For a question of space, I cannot consider the rival positions.

The remainder of this paper is structured as follows. In the next section, I present the PCS and resume Tye and Ball's key criticisms. In the following section, I present and defend my first two claims: (i) what imprisoned Mary lacks is a nonconceptual representation of phenomenal red; (ii) the acquisition of such nonconceptual content is what explains, at least in part, Mary's epistemic progress, and the increase in her expertise in regard to her old physical concept PHENOMENAL RED. The fourth and last thesis is the corollary of the previous section: it is based on this concept of PHENOMENAL RED, phenomenally enriched by

the new nonconceptual content, that Mary becomes able to identify introspectively the phenomenal red of her experience of red.

The PCS and its failure

The simplest way of regimenting Jackson's knowledge argument, making it easier to understand the recent criticism of the PCS, is as follows:³

1. Imprisoned Mary knows everything about the physics of color and color vision.
2. On release, Mary comes to know something new. Therefore,
3. She comes to know something non-physical. Therefore,
4. Physicalism is false.⁴

I present the general structure of the PCS as briefly as possible. Proponents of the PCS argue that phenomenal concepts have a *special nature*. They are not just ordinary concepts used introspectively to pick out the phenomenal character of one's experience; they are special concepts in the precise sense that one can only acquire them when one undergoes the relevant experience and attends to the phenomenal character of that very experience. Thus, on her release, Mary stares at the red color of a ripe tomato for the first time and by attending introspectively to the phenomenal red of her new experience she forms a new concept PHENOMENAL RED. This concept enables her to pick out the phenomenal red of her new experience and hence to know what it is like to experience red.

The rationale that supports the PCS assumes that the strategy accomplishes two tasks. First, it is supposed to make sense of an explanatory gap between physical and phenomenal properties. To be sure, the physicalist cannot accept Chalmers's requirement that from the knowledge of all physical and indexical truths, the physicalist should derive a priori his knowledge of phenomenal facts. Still, the physicalist must provide an *a posteriori* account for the fact that phenomenal properties are physical properties or at least supervene on physical properties.

The second task the PCS accomplishes is to close the putative ontological gap between those same properties: there is no ontological distinction between phenomenal and physical properties. They are one and the same properties considered from different viewpoints: by physical and phenomenal concepts. Given this, red quale ("what it is like to experience red") is just a physical property that is represented by a newly acquired phenomenal concept.

The PCS faces serious objections. Here, I focus on the objection that I consider to be the most relevant.⁵ Phenomenal concepts we apply via introspection to pick out the phenomenal character of our experiences are *deferential*: they can be possessed even if they are only partially understood. As Tye puts it: "[M]aybe *fully* understanding a general phenomenal concept requires having had the relevant experience; but if such concepts are like most other concepts, possessing them does not require *full* understanding" (2009, p. 63). *Pace* Burge,⁶ the color concepts are deferential and can be possessed even when they are only partially understood.⁷ The same can be said of phenomenal concepts.

How can we ensure that imprisoned Mary possesses the relevant concept PHENOMENAL RED to pick out the red-quale by introspection?⁸ The answer is quite obvious. In her confinement, Mary is able to talk and think about the color red and about phenomenal red just as anyone else who has seen the color red. For example, imprisoned Mary may wonder whether phenomenal green makes people calmer than phenomenal red, or whether phenomenal red makes people more tense and agitated. The key

point is that imprisoned Mary's use of the concept PHENOMENAL RED easily meets Evans's Generality Constraint.⁹ Being able to entertain the thought that visual experiences of ripe apples possess the property of being PHENOMENAL RED, imprisoned Mary is also able to employ the very same concept PHENOMENAL RED of any other particular of which she possesses a singular concept.

But this raises a question. Since demonstrative concepts are certainly not deferential, could imprisoned Mary possess a demonstrative concept to pick out the phenomenal character of some experience of red? According to Tye, she could also possess a demonstrative concept.¹⁰ Under the qualia realist assumption that the phenomenal character of experience is an intrinsic property of the brain, Mary could possess such a demonstrative concept of what it is like to experience red just by pointing via a cerebroscope to a brain image of someone experiencing red. This means not only that she already possessed a demonstrative concept, but also that this concept is not a phenomenal concept in the relevant sense of being a concept whose acquisition hinges crucially on the subject having the relevant experience.

The moral is that there are no phenomenal concepts in the special and required sense, namely concepts that one could only possess by undergoing the relevant experience. Yet, it seems quite intuitive that, on her release, Mary learns something. The question is: what accounts for Mary's epistemic progress?

Nonconceptual content

Assuming that PHENOMENAL RED is a deferential concept that Mary already possesses in her confinement and that she learns something by contemplating a ripe tomato for the first time, her epistemic progress takes the form of an increase of her expertise with regard to the concept PHENOMENAL RED. In Burge's famous case the patient learns from his doctor that arthritis only occurs in joints. Yet, if imprisoned Mary already possesses exhaustive knowledge of colors and color vision, how could her expertise with regard to the concept PHENOMENAL RED increase? There is only one reasonable explanation. The only ability that imprisoned Mary could lack is the key ability to discriminate the color red from its surroundings and from its background. Given this, it is this discriminatory ability that must account, at least in part, for Mary's epistemic progress, for that assumption that Mary learns something on her release.

Now, this newly acquired discriminatory ability is what Dretske famously called "non-epistemic seeing" in opposition to "epistemic seeing".¹¹ Epistemic seeing is what he later called "fact-awareness", that is, a perceptual propositional attitude: I see that something is the case. In contrast, "non-epistemic seeing" is what he later called "object-awareness", that is, a perception of things rather than facts.¹² Be that as it may. What matters for us now is the fact that this non-epistemic seeing takes the form of a visual representation of what Mary encounters on her release, namely the visual representation of the color red of a ripe tomato. Again, if I am right, it is this newly acquired visual representation of the color red that must account, at least in part, for Mary's epistemic progress on her release, that is, the assumption that Mary learns something, learns what it is like to experience red.

The question now is about the nature of this newly acquired visual representational content. According to Dretske's quoted book, this seeing is neither propositional nor conceptual. On her release, by staring at the red color of a ripe tomato, Mary starts to represent the color red non-conceptually for the first time. Likewise, by attending to the phenomenal character of her visual experience, Mary starts to represent the red-qualia of her new visual experience. Indeed, that seems to be the missing piece in the whole puzzle of Jackson's knowledge argument. However

ingenious imprisoned Mary might have been, possessing exhaustive physical knowledge of the red-qualia of experience of red, her mastering of the concept PHENOMENAL RED is not really complete. She misses something quite important, namely the nonconceptual representation of the color red and the non-conceptual representation of the red-qualia. If I am right, what imprisoned Mary lacks is not a new special phenomenal concept (which the PCS requires), which she supposedly could not possess before, but rather a new nonconceptual representation of phenomenal red. But why is content nonconceptual?

First, let me remind the reader of a few main features of the notion of nonconceptual content. It is worth noting, though, that while some features are consensual, others are disputable. To start with, it is agreed that, in general lines, a representational content is nonconceptual when its canonical specification does not require from its bearer any concepts whatsoever involved in this specification.¹³ Now, if imprisoned Mary possesses exhaustive physical knowledge of phenomenal red, her newly acquired representation of phenomenal red is independent from her previous concept; indeed, it is independent from whatever concepts she might possess. Given this, the reasonable assumption is that Mary's newly acquired representation of phenomenal red is essentially of a nonconceptual nature.¹⁴

Second, following Dretske,¹⁵ it seems to me to be reasonable to assume that nonconceptual states carry information in the so-called analogical form, as opposed to the conceptual content of propositional attitudes that is more plausibly viewed as digital. The distinction between analog and digital representations was clearly presented by Dretske. Take a certain fact, say the fact or state of affairs that some object *S* has the property of *F*. A representation conveying the information that *S* is *F* is in digital form *iff* it contains no additional information about *S* besides *F* that is not already nested in *S*'s being *F*. Contrary to this, if the signal carries additional information about *S* (which is not nested in *S*'s being *F*) then the signal carries this information in analog form.¹⁶ Now, when imprisoned Mary thinks that phenomenal green is more relaxing than phenomenal red, her thought carries no additional information that is not already nested information that phenomenal green is more relaxing than phenomenal red. In contrast, after undergoing the visual experience of ripe and unripe tomatoes, Mary's mental state carries additional information that is not already nested information that phenomenal green is more relaxing than phenomenal red.

The third feature is disputable: nonconceptual contents are more fine-grained than conceptual contents. Arguably, I can perceptually discriminate many more colors and shapes than I currently have concepts for. For example, I may be capable of discriminating between two colored chips of very similar shades of red, red1281 and red1282. Yet, even if I am an expert on colors I will probably not have the corresponding concepts. Let's suppose that on her release Mary stares at a quite specific shade of red, say red1297, and immediately attends to the correspondent phenomenal red1297. Tye (2009) holds the opposite view according to which nonconceptual contents are less fine-grained than conceptual ones. For one thing, according to him, non-conceptual contents are best modeled as Russellian rather than Fregean propositions, namely as a sequence of particulars and properties. McDowell also disputes this claim since he famously holds that demonstrative conceptual contents can be conceived as being as fine-grained as the putative nonconceptual ones. Be that as it may, I cannot engage in this debate here. For one thing, it will lead me far afield. For another, nothing important hinges on it: if the reader is not convinced, he can leave this constraint as a distinguishing feature of nonconceptual contents aside. Given this, I assume without argument the third feature: nonconceptual contents are more fine-grained than conceptual contents.

My point is as follows. However wide Mary's conceptual repertoire might be, however accurate Mary's vision might be, she will never be able to conceptualize that quite specific shade of phenomenal red1297 that she introspectively represents on her release. Why is this so? Well, she will not be able to retain in her memory the newly acquired representation of red in the first place.

Fourth, nonconceptual contents are essentially involuntary and independent of any judgment or of any other sort of propositional attitude. McDowell also disputes this claim as a distinguishing feature of putative nonconceptual contents since he famously claims that the putative representational content of experience is conceptual, albeit not spontaneous. The question is: can we conceptualize something without holding judgments or beliefs? Again, I cannot engage in this debate here for reasons of space. I assume without argument that conceptual concepts always involve a propositional attitude such as judgments or beliefs. But, as before, nothing important hinges on this: if the reader is not convinced, he can leave this constraint as a distinguishing feature of nonconceptual contents aside.

My point is as follows. A mental state presents the world in one way or other (veridicality conditions) non-conceptually when that representation is independent from the person's will or judgment. That is exactly what happens to Mary when she stares at the ripe tomato for the first time and attends to the correspondent phenomenal red of her experience. Regardless of her will or judgment, the thing appears to her as red, that is, she represents what appears straight ahead of her as being red. The reasonable assumption, again, is that the newly acquired representation of red is nonconceptual.

The fifth feature is a direct consequence of the fourth. As my nonconceptual states represent the world independently of my will and my judgment, such content is not under the control of my propositional attitudes (the so-called thesis of "cognitive penetration of perception"). According to Pylyshyn (1999), a perceptual system is cognitively penetrable if "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" (1999, p. 343). To be sure, Pylyshyn's position is far from being consensual.¹⁷ Still, it seems reasonable to me to endorse Pylyshyn's view that "the early vision system does its job without the intervention of knowledge, beliefs or expectations, even when using that knowledge would prevent it from making errors" (1999, p. 414). Let's suppose that on her release Mary sees a ripe tomato, however covered up by a yellow light coming from behind her. Knowing that she has a ripe tomato straight ahead (by smelling it and touching it) and knowing that ripe tomatoes are red will not prevent her from seeing it and representing it by sight as yellow.

Now, I want to substantiate my claim by considering the famous case of Marianna suggested by Nida-Rümelin (1996). Like Jackson's original Mary, Marianna is kept captive in a black-and-white room. Unlike Mary, however, when Marianna leaves the black-and-white room, she is led into a technicolored vestibule in which there are various patches of different colors on the walls. At this point, she will have experiences she has not had before of red, yellow, blue, and so forth. Yet, because she sees no apples or tomatoes or hydrants, there is no hint for Marianna as to which is which when she stares at any colored patch on the wall of the room for the first time. As she already possesses the concept PHENOMENAL RED, but is unable to recognize introspectively phenomenal red when she attends to the phenomenal character of her visual experience of a red patch on the wall, the reasonable assumption is that Marianna must be representing the color red and phenomenal red non-conceptually. But why is this so?

First of all, in the technicolored vestibule, Marianna's conceptual expertise about color and color vision is of no use. Again, there is no hint for her that what she is contemplating is a red patch, when she stares at one. Secondly, in the technicolored vestibule, there is no cross-modal processing (Cross-modal processing occurs when two sensory systems interact. For example, information processed in one modality, say hearing, might affect information processed in another modality, say vision, or an experience had in one modality, say vision, might affect the experience had in another modality, say touch). Red patches on the wall have no smell, no texture, no taste, etc. Moreover, conceptual recognition of phenomenal red depends not only on the concept PHENOMENAL RED, but also on the knowledge that what she is seeing is a ripe tomato and on her background knowledge that ripe tomatoes are red. But let us consider Marianna's case in light of the enlisted features one by one.

First, nonconceptual contents are those whose subject does not necessarily possess the required concept to specify the content. Now, while we specify as red the content of Marianna's representation in the technicolored vestibule, she herself is unable to recognize as red what she is visually representing and as phenomenal red when she attends to the phenomenal character of her visual experience of a red patch. Thus, by the very general standard definition of nonconceptual contents, Marianna is introspectively representing phenomenal red independently of her old concept PHENOMENAL RED. Things change when she is finally released from the technicolored vestibule and stares at a ripe tomato in an open space in daylight.

Second, imprisoned Marianna represents phenomenal color red by means of a mental state carrying information in digital form rather than in analog form. For one thing, whenever she thinks of red, her mental state carries no additional information about red that is not already nested in her thought. In contrast, in her technicolored vestibule, when she introspectively attends to the red-qualia of her visual experience of red, her mental state carries additional information about the luminosity, about the saturation, about the shape of the patch and so on. So, Marianna's newly acquired representation of phenomenal red is nonconceptual.

Third, despite Marianna's fine-grained conceptual ability to think about several shades of red, by staring at several shades of red on the wall of the vestibule, she is representing quite specific shades of red, say red 2345, 2346, 2347, etc. That is something that outstrips Mary's conceptual ability. Moreover, when Marianna stares at a red patch on the wall of her technicolored vestibule, say of the quite specific red 12354, and introspectively attends to the correspondent phenomenal red 12354, she will probably never be able to conceptualize that quite specific shade of red because she will never be able to memorize that specific shade in the first place. Again, by all accounts, the reasonable assumption is that Mary's newly acquired representation of phenomenal red is nonconceptual.

Mental files

Now, even if that nonconceptual representation of phenomenal red is necessary, it is certainly not enough to account for Mary's epistemic progress. Something else is still missing, namely concepts that Mary should use to pick out the phenomenal red she non-conceptually represents. First, the great majority of our nonconceptual representations are not processed further. They are simply discarded. For one thing, they have no cognitive relevance. For another, if they are not discarded, they end up overloading the cognitive system. Second, and most importantly, they can only contribute to cognition when they are properly conceptualized. In Dretske-based informational semantics,

information coded analogically must be digitalized, by “abstracting” from all non-relevant details.

When I resume Tye and Ball’s criticism, I assume that there are no phenomenal concepts in the special sense that the PCS requires, namely concepts that pick out the phenomenal character of experience introspectively but that could be acquired by undergoing the relevant experience. Even so, I believe that the vast literature on the PCS can give us a clue as to the proper understanding of how nonconceptual contents could be “brought under concepts” to provide cognition.

Let me start by briefly reconsidering the nature of phenomenal concepts. The *locus classicus* for the PCS is Loar’s paper “Phenomenal States”, in which he claims that phenomenal concepts are *recognitional* concepts.¹⁸ A recognitional concept, unlike a theoretical concept, is applied directly on the basis of perceptual acquaintance with its instances, that is, when we recognize an object “as being one of those”, without relying on theoretical knowledge or other background knowledge. Carruthers, Tye, and Levine have endorsed similar accounts in the recent past.¹⁹

In contrast, according to another trend, phenomenal concepts are indexical by nature.²⁰ They are demonstrative-like concepts that pick out brain states in a demonstrative mode of presentation. The suggestion here is that the epistemic gap between physical and phenomenal properties is similar to the familiar gaps between objective and demonstrative concepts. Phenomenal concepts are thought of here as flexible inner demonstratives that pick out the phenomenal character in introspection in the same way that demonstratives pick out objects in space. A further group of philosophers that are worth mentioning define phenomenal concepts by their conceptual role. Phenomenal concepts and physical concepts are associated with distinct faculties and modes of reasoning.²¹

However, according to by far the most popular view phenomenal concepts are quotational concepts.²² That is, they are concepts that somehow contain the very or phenomenal states or *images thereof* to which they refer introspectively. A similarly interesting suggestion comes from Papineau (2002; 2007). Phenomenal concepts are sensory templates whose function is to accumulate information about the relevant referents *by storing copies of experience*. The idea is that phenomenal concepts use the copies of experience housed in the file in order to mention the experience. But what is a mental file in the first place here?

The basic idea of mental files is not new in philosophy; it was introduced by several authors.²³ The most influential philosophical elaborations of the idea of mental files are certainly due to Perry and, after him, Recanati. Mental files are mental particulars created in someone’s mind with the function of representing objects by storing information about the object’s properties. They are meant to be singular concepts or concepts of objects, but their distinguishing feature is their *de re* character: even though they are opened in the individual’s mind to store information about an object’s properties, they do not present the object as the item that satisfies those identifying properties but as the object *that stands in some relation to the individual herself and, a fortiori, in relation to the file itself*. For instance, when a predator sees a prey, a perceptual file opens in its mind to represent the prey by storing information about the prey’s salient features. Even though the file hosts information about the prey in the form of the prey’s salient features, it does not present the prey as the object that possesses those salient features, but rather as the object that stands in a particular perceptual relation to the predator and, a fortiori, as the object that stands in a demonstrative relation to the perceptual file itself.

The simplest files are the perceptual ones (Perry calls them “buffers”). Even though they are retained in the longer-term

memory, they are essentially short-term files whose distinguishing feature is that they are currently attached to the perception of the object they are about. They last only as long as the perceptual relations last. When those relations cease, either the perceptual file disappears or it gets linked to other detached, stable files about the same entity. The information temporarily hosted in the perceptual file about the object’s properties is either lost or transferred to other permanent files. Thus, if the predator loses track of the prey, either the information concerning its salient properties is lost or it is transferred to a non-perceptual permanent file that it has on that kind of prey. In the case in picture mental files are what Papineau calls “sensory templates” that house digitalized copies or replicas of the experience in question. All non-relevant information is discarded; e.g., if Mary contemplates a quite specific shade of red124568, her memory retains and houses only something approximately like red12.

Is there still a reason to assume that on her release Mary acquires a new concept? Let us take stock. First, as we have seen, there is no reason to assume that there are special phenomenal concepts in the relevant sense of concepts that could only be acquired on the basis of the experience in question. However, one way of distinguishing concepts is by appealing to the criterion of the cognitive significance. So, according to the Fregean classical example, one can only make sense of someone believing that Hesperus is beautiful while, at the same time, believing that Phosphorus is not, under the assumption that “Hesperus” and “Phosphorus” are different concepts of the same planet, Venus. The (rhetorical) question is: is there any possibility for imprisoned Mary to believe that a visual experience of a ripe tomato is phenomenally red while, on her release, not believing that her present visual experience of a ripe tomato is phenomenally red? The only reasonable assumption here is that Mary simply reuses her old physical concept PHENOMENAL RED to pick out the phenomenal red of her new experience of the color of the ripe tomato. In other words, at least in the case of colors, we use the same concept PHENOMENAL RED to conceptualize what it is like to undergo the relevant experience of red.

So, I come to the second claim. Assuming that concepts are like mental files (or sensory templates), after Mary attends to the phenomenal red of her new visual experience of the color red of a ripe tomato for the first time, a digitalized mental picture is housed in her old concept PHENOMENAL RED. That is not a phenomenal concept in the special sense required by the PCS, but rather a concept enriched by phenomenal pictures. We can call it a phenomenally enriched concept. It is only after the incorporation of the digitalized mental image of red into her old file PHENOMENAL RED that Mary comes to know what it is like to experience red. By means of this enriched concept, attending to the phenomenal red of her experience, she picks it out: “Oh, that is what it is like to experience the color red”.

Conclusion

In the light of Evan’s Generality Constraint, even color concepts and phenomenal concepts are deferential in the sense that one can possess them without full expertise about them. Resuming Tye and Ball’s criticism, that is the case of imprisoned Mary. Given this, what imprisoned Mary lacks is the not the concept PHENOMENAL RED, but rather a nonconceptual representation of the color red and of the phenomenal red that she acquires on her release. Mary’s epistemic progress is explained, at least in part, by the enhancement of her expertise regarding her concept PHENOMENAL RED: even if she does not acquire a new concept, she acquires a new nonconceptual representation of phenomenal red.

Yet, that nonconceptual content without concepts produces no cognition. Thus, the nonconceptual content must be digitalized

and so be incorporated into a mental file PHENOMENAL RED. That said, Mary only comes to know what it is like to experience red when her newly acquired nonconceptual representation of phenomenal red is digitalized and housed in her old concept PHENOMENAL RED. Corollary: Mary's discovery is not about a new, unknown fact or property. It is the enrichment of her old concept PHENOMENAL RED.

Received: 1 June 2020; Accepted: 4 November 2020;

Published online: 09 December 2020

Notes

- 1 See Jackson, 1982, p. 130.
- 2 See Stoljar, 2005.
- 3 See Tye 2009, pp. 123–124.
- 4 Physicalists must deny (4). But there are two classical physicalist reactions to the knowledge argument. The first reaction is to reject the key assumption that Mary makes some cognitive progress by rejecting premise (2). This is the claim that Dretske and Dennett, among others, support. There is no ontological distinction between physical and phenomenal properties because, on her release, Mary makes no epistemic progress in the first place regarding what it is like to experience red. This reaction to the knowledge argument usually follows from what Chalmers calls type-A physicalism (2010). The other reaction assumes that Mary makes some epistemic progress after she sees a ripe tomato. This is what Chalmers calls type-B materialism (2010). Type-B materialists deny conclusion (4) of the argument, by rejecting (3): it does not follow from (1) and (2) that there are non-physical facts about phenomenal red.
- 5 This objection was raised at the same time by Ball and Tye (2009).
- 6 See Burge 2003, pp. 413–414.
- 7 Ball makes these objections explicit through a *reduction*: 1–Mary's original concept RED lacks some feature that her phenomenal concept REDp possesses; for example, Mary's concept is not caused by experiences of red, is not linked to images of red, and does not enable her to recognize red things or to discriminate red from non-red objects. 2–Therefore, there is no significant type of which RED and REDp are both tokens. Given the conclusion of the last section, it is clear that this argument is invalid.
- 8 Actually, we do not need the phenomenal concept RED, regardless of whether it is special in nature or not. All that is required to pick out phenomenal red introspectively is to reuse the very concept Red. I will come back to this point later.
- 9 See Evans: "We thus see the thought that a is F as lying at the intersection of two series of thoughts: on the one hand, the series of thoughts that a is F, that b is F, that c is F, ... and, on the other hand, the series of thoughts that a is F, that a is G, that a is H, ..." (1982, 104, n. 21)
- 10 See Tye 2003, 2009, and Ball, 2009.
- 11 See Dretske, 1969. Recently, Schellenberg has argued that this discriminatory ability is constitutive of the very conscious character of experience.
- 12 See Dretske, 1999.
- 13 See Dretske 1981, p. 137. The notion of nonconceptual concept involves subtle distinctions, e.g., between state and content non-conceptualism. Yet, none of them matters here.
- 14 Although Ball and Tye are right, when they claim that there are no phenomenal concepts in the special sense of concepts that could only be acquired by undergoing the relevant experience, they both have overlooked that Mary acquires a new visual representation of red when she undergoes the relevant visual experience of red.
- 15 See Dretske, 1981.
- 16 Dretske 1981, Chapter 6.
- 17 Lupyan, 2015; Macpherson, 2012, for example, hold opposite views.
- 18 See Loar, 1990; 1997.
- 19 Carruthers, 2004; Tye, 1995, 2000; Levine, 2006.
- 20 Exponents here are Horgan (1984), Ismael (1999), Perry (2001), and O'Dea (2002).
- 21 Representative philosophers here are Nagel (1974), Sturgeon (1994), Hill (1997), and Rey (1998).
- 22 Two names appear at the forefront of this view: Papineau (2006) and Block (2006).
- 23 See, inter alia, Perry, 2001; Bach, 1987; Forbes, 1990; Jeshion, 2010; Recanati, 2012.

References

- Alter T (2013) Social externalism and the knowledge argument. *Mind* 122:481–96
- Bach K (1987) Thought and reference. Oxford University Press, Oxford
- Block N, Stalnaker R (1999) Conceptual analysis, dualism, and the explanatory gap. *Philos Rev* 108(1):1–46

- Block N (2006) Max Black's objection to mind-body identity. In: Alter T, Walter S (eds) *Phenomenal concepts and phenomenal knowledge: new essays on consciousness and physicalism*. Oxford University Press, Oxford
- Burge T (1979) Individualism and the mental. *Midwest Stud Philos* 4(1):73–122
- Burge T (2003) Reflections and replies: essays on the Philosophy of Tyler Burge. In: Hahn M, Ramberg B (eds) MIT Press, Cambridge
- Carruthers P (2004) Phenomenal concepts and higher-order experiences. *Philos Phenomenol Res* 68:316–36
- Chalmers DJ (2010) *The character of consciousness*. Oxford University Press
- Crane T (2012) Tye on acquaintance and the problem of consciousness. *Philos Phenomenol Res* 84(1):190–98
- Dennett D (1991) *Consciousness explained*. Little, Brown, Boston
- Dretske F (1969) *Seeing and Knowing*. University of Chicago Press
- Dretske F (1981) Knowledge and the flow of information. MIT Press, Cambridge
- Dretske F (1995) *Naturalizing the mind*. MIT Press, Cambridge
- Dretske F (1999) The mind's awareness of itself. *Philos Stud* 95(12):103–24
- Evans G (1982) *The varieties of reference*. Oxford University Press, Oxford
- Forbes G (1990) The indispensability of Sinn. *Philos Rev* 99:535–563
- Halsey R, Chapanis A (1951) On the number of absolutely identifiable spectral hues. *J Optical Soc Am* 41:1057–58
- Harman G (1990) The intrinsic quality of experience. *Philos Perspect* 4:31–52
- Hill CS (1997) Imaginability, conceivability, possibility, and the mind-body problem. *Philos Stud* 87:61–85
- Horgan T (1984) Jackson on physical information and qualia. *Philos Quart* 34:147–83
- Ismael J (1999) Science and the phenomenal. *Philos Sci* 66:351–69.
- Jackson F (1982) Epiphenomenal Qualia. *Philos Quart* 32(Apr):127–36
- Jeshion R (2010) Singular thought: acquaintance, semantic instrumentalism and cognitivism. In: Jeshion Robin (ed) *New essays on singular thought*. Oxford University Press, Oxford, pp. 105–40
- Levine J (1983) Materialism and Qualia: the explanatory gap. *Pacific Philos Quart* 64(Oct):354–61
- Levine J (2001) *Purple haze: the puzzle of consciousness*. Oxford University Press, Oxford
- Levine J (2006) What is a phenomenal concept? In: Alter T, Walter S (eds) *Phenomenal concepts and phenomenal knowledge: new essays on consciousness and physicalism*. Oxford University Press, Oxford
- Loar B (1990/97) Phenomenal States. *Philosophical Perspectives* 4: Action Theory and Philosophy of Mind (Tomberlin J, ed) Atascadero, California, pp. 81–108. Revised version in *The Nature of Consciousness*, 1997. In: Block N, Flanagan O, Güzelidere G (eds) MIT Press, Cambridge, pp. 597–616
- Lupyan G (2015) Cognitive penetrability of perception in the age of prediction: predictive systems are penetrable systems. *Rev Philos Psychol* 6(4):547–569
- Lycan W (1996) *Consciousness and experience*. MIT Press, Cambridge
- Macpherson F (2012) Cognitive penetration of colour experience: rethinking the issue in light of an indirect mechanism. *Philos Phenomenol Res* 84(1):24–62
- Nagel T (1974) What is it like to be a bat? *Philos Rev* 4:435–50
- Nemirow L (2006) So this is what it's like: a defense of the ability hypothesis. In: Alter T, Walter S (eds) *Phenomenal concepts and phenomenal knowledge: new essays on consciousness and physicalism*. Oxford University Press, Oxford
- Nida-Rümelin M (1996) What Mary couldn't know. In: Metzinger Thomas (ed) *Conscious experience*. Imprint Academic, Exeter, pp. 219–241
- O'Dea J (2002) The indexical nature of sensory concepts. *Philos Paper* 31:169–81
- Papineau D (1993) *Philosophical naturalism*. Blackwell, Oxford
- Papineau D (2002) *Thinking about consciousness*. Oxford University Press, Oxford
- Papineau D (2006) Phenomenal concepts and the materialist constraint. In: Alter T, Walter S (eds) *Phenomenal concepts and phenomenal knowledge: new essays on consciousness and physicalism*. Oxford University Press, Oxford
- Perry J (2001) *Knowledge, possibility and consciousness*. MIT Press, Cambridge
- Pylyshyn Z (1999) Is vision continuous with cognition? The case for cognitive impenetrability of visual perception. *Behav Brain Sci* 22:341–423
- Recanati F (2012) *Mental files*. Oxford University Press, Oxford
- Rey G (1995) Dennett's unrealistic psychology. *Philos Topics* 22(1/2):259–89
- Rey G (1998) A narrow representationalist account of qualitative experience. *Philos Perspect* 12(S12):435–58
- Ryle G (1949) *Meaning and necessity*. Philosophy 24(88):69–76
- Shoemaker S (1996) *The first-person perspective and other essays*. Cambridge University Press, Cambridge
- Smith NK (2003) *A commentary to Kant's 'critique of pure reason'*. Palgrave Macmillan, London
- Stoljar D (2005) Physicalism and phenomenal concepts. *Mind Lang* 20:469–94
- Sturgeon S (1994) The epistemic basis of subjectivity. *J Philos* 91:221–35
- Tye M (1995) Ten problems of consciousness: a representational theory of the phenomenal mind. MIT Press, Cambridge
- Tye M (2009) *Consciousness revisited: materialism without phenomenal concepts*. MIT Press, Cambridge

- Tye M (2012) Reply to Crane, Jackson and McLaughlin. *Philos Phenom Res* 84 (1):215–232
- Tye M (2003) A theory of phenomenal concepts. In: O'Hear Anthony (ed) *Royal Institute of Philosophy Supplement*. Cambridge University Press, Cambridge, pp. 91–105
- Tye M (2000) Knowing what it is like: the ability hypothesis and the knowledge argument. In: Preyer Gerhard (ed) *Consciousness, color, and content*. MIT Press, Cambridge, p. 223
- Tye M, Sainsbury RM (2012) *Seven puzzles of thought*. Oxford University Press, New York

Competing interests

The author declares no competing interests.

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