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## In Defence of Type-A Materialism

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## IN DEFENSE OF TYPE-A MATERIALISM

– Roberto Horácio de Sá Pereira –

**Abstract.** In this paper, I argue against the phenomenal concept strategy (henceforth PCS) and in favor of what Chalmers has called type-A materialism ([2006], [2010] p. 111). On her release, Mary makes no cognitive discovery at all; not even a thin non-possibility-eliminating discovery, as Tye has recently claimed [2012]. When she is imprisoned, Mary already knows everything that is to be known about the phenomenal character of her experiences. What Mary acquires is a new non-cognitive and nonconceptual representation.

**Keywords:** phenomenal concepts; type-A materialism; type-B materialism; knowledge argument; non-conceptual content.

### Introduction

In his two most recent books,<sup>1</sup> Tye emphatically rejects the so-called phenomenal concept strategy (henceforth PCS). This is the strategy of dealing with Frank Jackson’s famous “Mary’s room” by assuming that what Mary learns after her release from the black-and-white room can be couched by the assumption that she acquires a new phenomenal concept. The special feature of this concept is the idea that it could only be acquired on the basis of experience. Even so, Tye holds:

Still, a worry lingers. What Mary thinks is not new when she leaves her room. What is new is the way she is thinking what she is thinking. That isn’t enough. What Mary knows before time  $t$  (the time of her release) is exactly the same as what she knows after time  $t$ . *But if what she knows before and after her release is the same, she does not make a discovery in any really robust sense. This is counter-intuitive. Surely if anyone ever made a significant discovery, Mary does here.* The proposal, in the end, is not convincing.<sup>2</sup>

In this paper, I argue against PCS and what Chalmers has called type-B materialism and in favor of what Chalmers has called type-A materialism.<sup>3</sup> Thus, aga-

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<sup>1</sup> Tye [2009, 2012].

<sup>2</sup> Tye [2009] p. 55. Emphasis added.

<sup>3</sup> Tye [2006], [2010] p. 111.

inst Tye, I argue that Mary makes no cognitive discovery at all. She certainly does not make a “robust discovery,” as Tye claimed in the passage above; in fact, she does not even make a thin non-possibility-eliminating discovery, as Tye has more recently suggested.<sup>4</sup> In her confinement, Mary already knew what it was like to experience red. By experiencing the color red for the first time, what Mary acquires does not amount to a cognitive improvement or a better understanding. No one needs to be a dogfish to *fully understand* what it is like to be one: to know how the electromagnetic fields work and how the dogfish senses them to orientate itself. Mary’s acquisition is not cognitive at all. What she acquires is a new non-conceptual representation of redness.

This paper consists of three brief sections. The first section reconstructs PCS as the classical defense of what Chalmers calls type-B materialism. The second is devoted to a critical analysis of Ball’s and Tye’s recent arguments against PCS.<sup>5</sup> The third and final section is devoted to arguing in favor of type-A materialism: Mary makes no cognitive progress.

### **The Knowledge Argument Again**

I believe that everyone is familiar with Mary’s story. But let me change it a little bit. Let us suppose that Mary is a neuroscientist who has an exhaustive physiological and neurological understanding of the female orgasm. What motivates her to improve her understanding in that area? Her tragic predicament: her frigidity. Even though she has had sexual intercourse with several healthy males, she has never had a single orgasm. After extensively studying her problem, she has come to a very plausible conclusion: her testosterone level is below the normal requirement to experience an orgasm.

Therefore, she starts to treat herself by taking testosterone. After she recovers the required testosterone level, she invites one of her co-workers on a date and finally has an orgasm: “oh, *that* is what it is like to feel an orgasm!” The anti-physicalist assumption is that frigid Mary *learns* something, she makes a cognitive discovery; namely, *she finally comes to know what it is like to experience an orgasm*. However, as she already had an exhaustive physiological, neurological, and anatomical knowledge of the female orgasm, the anti-physicalist moral is that what she learns cannot be a physical property.

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<sup>4</sup> Tye [2012].

<sup>5</sup> Ball [2009], Tye [2009].

The simplest way of regimenting this argument, so that it fits nicely with Jackson's original tale, making it easier to understand the recent criticism against PCS, has been suggested by Nida-Rümelin:<sup>6</sup>

**Premise P1:** Mary has exhaustive physical/physiological knowledge about female orgasm before she experiences one.

**Consequence C1:** Therefore, Mary knows all the physical facts about female orgasm before she experiences one.

**Premise P2:** There is some (kind of) knowledge concerning facts about female orgasm that Mary could not have had before she had an orgasm.

**Consequence C2:** Therefore (from P2), there are some facts about female orgasm that Mary could not have known before she had one.

**Conclusion C3:** Therefore (from C1 and C2), there are non-physical facts about female orgasm.

Physicalists must deny the anti-physicalist conclusion C3. But, as we know, there are two classical physicalist reactions to the knowledge argument. The first reaction is rejecting the key assumption that frigid Mary makes a *cognitive* discovery by rejecting **Premise P2**. This is the claim that I am supporting in this paper. There is no ontological chasm between physical and phenomenal properties because there is no cognitive progress about what it is like to have an orgasm in the first place. This reaction to the knowledge argument usually comes from what Chalmers calls type-A materialism.<sup>7</sup>

A second reaction assumes that it is a fact that Mary makes cognitive progress after she has finally had an orgasm. After all, we are told, it sounds a little odd to claim that no one needs to experience an orgasm in order to *know* exactly what it is like to have one! As Tye puts it: "Surely if anyone ever made a significant discovery, Mary does here."<sup>8</sup> This second reaction to the knowledge argument is what Chalmers calls type-B materialism.<sup>9</sup> Type-B materialists deny the **conclusion C3** of the argument: *from C1 and C2, it does not follow there are non-physical facts about female orgasm*. Here, phenomenal concepts are brought into the picture. By far the most popular version of this type-B materialism assumes that

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<sup>6</sup> Nida-Rümelin [2002].

<sup>7</sup> Chalmers [2006], [2010] p. 111. The main exponents of type-A materialism are Dennett [1991]; Dretske [1995]; Harman [1990]; and Rey [1995, 1998].

<sup>8</sup> Tye [2009] p. 55.

<sup>9</sup> Chalmers [2010] p. 115. The exponents of type-B materialism include Block, Stalnaker [1999]; Hill [1997]; Levine [1983]; Loar [1990]; Lycan [1996]; Papineau [1993]; Perry [2001]; and Tye [1995, 2003, 2009, 2012].

Mary's cognitive progress (**Consequence C2**) can be accounted for by assuming that she acquires new special phenomenal concepts of the physical female orgasm that she was already aware of by means of a physical concept. Following Stoljar [2005] and the literature, we can this call PCS.

As Chalmers puts it,<sup>10</sup> the *locus classicus* for PCS is Loar's paper *Phenomenal states*,<sup>11</sup> in which he claims that phenomenal concepts are recognitional concepts. Unlike a theoretical concept, a recognitional concept is applied directly on the basis of perceptual acquaintance with its instances: it is when we recognize an object "as being one of *those*," without relying on theoretical knowledge or other background knowledge. Therefore, a recognitional concept is a typical concept that seems to contradict Wittgenstein's claim that the terms of private sensation must be connected to something that is publicly accessible.<sup>12</sup>

In contrast, according to Horgan, Ismael, Perry, and O'Dea,<sup>13</sup> phenomenal concepts are indexical by nature. They are concepts that pick out brain states in an indexical 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 indexical concepts. In contrast, Papineau and Block suggest that phenomenal concepts are types of quotational concepts.<sup>14</sup> They are concepts that somehow contain the very mental or phenomenal states to which they refer. Here, the meaningfulness of phenomenal concepts does not depend on a reference to anything that is publicly accessible. The last group of philosophers define phenomenal concepts by their conceptual role. They associate phenomenal concepts and physical concepts with distinct faculties and modes of reasoning.<sup>15</sup>

The general structure of the PCS can be represented as follows. There are concepts <PCs> that we employ to pick out introspectively the phenomenal character of our experience, which we can only acquire by means of the experience in question. Mary finally has her orgasm. Then she switches her attention from her genitals to the phenomenal character of her own new experience of orgasm. This is supposed to accomplish two tasks. The first is to make sense of the existence of an epistemic gap between physical and phenomenal properties and, therefore, Mary's cognitive conceptual progress. To account for the epistemic gap is to explain why

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<sup>10</sup> Chalmers [2006].

<sup>11</sup> Loar [1990].

<sup>12</sup> Carruthers [2004]; Tye [1995, 2000]; and Levine [2006] have endorsed similar accounts in the recent past.

<sup>13</sup> Horgan [1984]; Ismael [1999]; Perry [2001]; and O'Dea [2002].

<sup>14</sup> Papineau [2006]; Block [2006].

<sup>15</sup> Sturgeon [1994]; Hill [1997]; Rey [1998].

we cannot derive *a priori* phenomenal truths from physical and indexical truths. This inference must be *a posteriori*: that is, based on experience. By having her first orgasm, Mary acquires a new phenomenal concept of what it is like to experience an orgasm. This is how she finally comes to know what it is like to have an orgasm, and improves her understanding.

The second task that is accomplished here is that the existence of an ontological gap between those same properties is ruled out. Since “what it is like to experience an orgasm” is a physical property that is represented by a newly acquired phenomenal concept, Mary’s cognitive progress does not entail an ontological chasm between physical and phenomenal properties. In a nutshell, we can account for Mary’s new knowledge without assuming that what she now thinks by means of a new phenomenal concept FEMALE ORGASM is not the same physical property that she already knew when she was frigid.

### Phenomenal Concepts Again

Recently, the PCS has come under considerable pressure. Tye and Ball argue that there are no phenomenal concepts with the special nature that is required by the PCS in order to avoid the anti-physicalist **Conclusion C3**.<sup>16</sup> To be sure, there are phenomenal concepts in the trivial sense of the existence of representations that are employed introspectively to pick out the phenomenal character of experience. Even so, the acquisition of these concepts does not depend on our undergoing any experience.

To start with, under the assumption that Mary has exhaustive physical or physiological knowledge about the female orgasm (**P1**), one cannot see how Mary could acquire information about a *new property* of the phenomenal character of the experience of a female orgasm—something that she had not yet possessed before she had one—if physicalism is true. If Mary really possesses exhaustive knowledge of all facts about the female orgasm (**P2**), then the only way that she can associate *new* properties with her experience is if these properties are non-physical.<sup>17</sup>

Their second key objection is based on the assumption that the general concepts we apply via introspection to pick out the phenomenal character of our experiences are deferential; that is, *they can be possessed even if they are only partially understood*. As Tye puts it, “maybe fully understanding a general phenomenal concept requires having had the relevant experience; but if such concepts are like

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<sup>16</sup> Tye [2009]; Ball [2009].

<sup>17</sup> Tye [2009] p. 128.

most other concepts, possessing them does not require full understanding.”<sup>18</sup> The assumption is that, by experiencing an orgasm for the first time, Mary increases her expertise and her understanding about what it is like to experience one. Still, if the concept FEMALE ORGASM is deferential and can be possessed even when it is only partially understood, Mary does not need to experience an orgasm to possess that concept any more than Putnam has to undergo the experience of beech trees and acquire the ability to recognize beech trees by sight in order to possess the concept BEECH.

Why do we need to assume that all concepts are deferential? According to Burge’s general claim, deferential concepts are required to account for cogent agreement and disagreement because the possibility of this cogent agreement and disagreement requires a shared concept. Unsurprisingly, Tye’s main reason for construing color concepts as deferential is the reasonable assumption that people who had never undergone a relevant experience can still cogently agree and disagree about the phenomenal character of the experience in question. For example, frigid Mary can agree with everyone else about the properties of a female orgasm.

Ball makes these objections explicit through a *reductio*:

1 – Mary’s original concept FEMALE ORGASM lacks some feature that Mary’s phenomenal concept FEMALE ORGASMp possesses; for example, Mary’s ORIGINAL concept is not caused by experiences of orgasm.

2 – Therefore, there is no significant type of which FEMALE ORGASM and FEMALE ORGASMp are both tokens. Given the conclusion of the previous section, it is clear that this argument is invalid.

Consider an analogous argument: Putnam’s concept BEECH lacks some features that my concept BEECHp possesses; for example, Putnam’s concept is not caused by an experience of beeches, is not linked to images of beeches, and does not enable Putnam to recognize beeches.

3 – Therefore, there is no significant concept type of which Putnam’s concept BEECH and BEECHp are both tokens,<sup>19</sup> which is absurd.

What about the demonstrative concept that Mary deploys when she attends to the phenomenal character of her experience of a ripe tomato and points to the tomato? Could phenomenal concepts not be demonstrative concepts that utilize physical sortals? According to Tye [2003, 2009] and Ball [2009], Mary could also

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<sup>18</sup> Ibidem, p. 63.

<sup>19</sup> Ball [2009] p. 16.

possess this kind of demonstrative concept in her confinement (Tye seems to have changed his mind about this recently<sup>20</sup>). Under the *qualia* realist assumption that the phenomenal character of the experience is an intrinsic property of experience or of the brain, Mary could possess such a demonstrative concept of what it is like to experience an orgasm by pointing to a brain image via a cerebroscope. This means not only that she already possessed a demonstrative concept, but also that this concept is not phenomenal in the relevant sense of being a concept whose acquisition hinges crucially on the subject having the relevant experience.

Now the question is whether there are phenomenal concepts. I believe that there are. Nevertheless, they are not necessary in order to defuse the anti-physicalist conclusion of the knowledge argument. Instead, its function is to make sense of non-cogent disagreements or questions in the so-called Fregean cases of cognitive significance. Let us suppose that, after she has achieved the required level of testosterone in her body, Mary has a spontaneous orgasm without sexual intercourse for the first time. In this ordinary circumstance, Mary can meaningfully wonder whether *this* (what she is feeling at that very moment that she is undergoing her new experience) is what it is like to have an orgasm, or whether it is perhaps some side effect of the testosterone. Now that question only makes sense if Mary has different unconnected concepts of what it is like to experience an orgasm: her original concept FEMALE ORGASM (when she was frigid) and her phenomenal concept FEMALE ORGASMp.

According to the mental files framework,<sup>21</sup> they must be seen as different concepts because at the moment when Mary wonders whether *this* is what it is like to have an orgasm, we must assume that both concept-files are disconnected in her mind; otherwise her question makes no sense. This seems enough to conclude that there are phenomenal concepts after all, and that not all concepts are deferential as Ball and Tye claim (this would show in addition that the phenomenal concepts are not deferential). Interestingly, even in Tye's and Sainsbury's new originalist framework,<sup>22</sup> they must be different since they have different origins:

When Mary comes to know that this is what it is like to experience red (and thereby what it is like to experience red), the demonstrative concept she uses in her knowledge is one that she did not possess or exercise in her room. It is a new concept, the identity of which is tied to its origin. That origin derives from Mary's at-

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<sup>20</sup> See: Tye [2012] p. 166.

<sup>21</sup> Recanati [2012].

<sup>22</sup> Tye, Sainsbury [2012].



tending for the first time to her own experience of red when she leaves the room. Of course, Mary in the black and white room does possess a demonstrative concept that she can apply, via a cerebroscope or some such other device, to the physical state with which the physicalist identifies the phenomenal character of the experience of red, as it occurs to someone outside the room whose physical make-up Mary is remotely viewing. But this is a different demonstrative concept having a different origin.<sup>23</sup>

The situation is analogous to the one described by Recanati. Consider someone thinking “this ship <pointing to one ship through a window> is a steamer” while thinking “this ship <pointing to a ship through the same window one hour ago> is not a steamer” and further correcting herself: “I was wrong about seeing different ships.”<sup>24</sup> The only way of perceiving the individual’s thoughts as rational attitudes is under the assumption that she had two different disconnected quasi-demonstrative concepts in her mind *even though both concepts carry exactly the same information*. She is *presenting* exactly the same ship differently. The only thing that has changed is the context of the demonstration.

However, that means that mental tokens of “this ship” or, *mutatis mutandis*, mental tokens of “that is what it is like to experience red” made inside the black-and-white room and outside the room are *not* tokens of the same conceptual type. Unsurprisingly, in [2012], Tye recognized that demonstratives, like all indexicals, are not real concepts. Instead, they are concept-templates: that is, templates for forming concepts.<sup>25</sup>

Even so, Tye continues to hold that the concept RED is deferential and hence that it is the same concept that Mary possessed in her confinement that she uses to pick out the phenomenal character of her new experiences when she is released. Once more, Tye’s reason is based on the necessity of accounting for a *cogent* disagreement. After all, frigid Mary could think: “I will never know what it is like to have an orgasm”, but after having one she can correct herself and think: “I was wrong, I now know what it is like to have an orgasm.”<sup>26</sup>

However, as I have been arguing, Tye overlooks the notion that concepts are required not only to account for *cogent* agreement and disagreement; they are also required to account for *non-cogent* agreement and disagreement. If Mary can

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<sup>23</sup> *Ibidem*, p. 165.

<sup>24</sup> Recanati [1997] p. 74.

<sup>25</sup> Tye [2012] p. 51.

<sup>26</sup> Tye, Sainsbury [2012] p. 166.

meaningfully wonder whether *this* (what she is feeling at that very moment that she is undergoing her new experience of an orgasm) is what it is like to have an orgasm, or whether it is perhaps a side effect of the testosterone, she must have a different concept of what it is like to experience an orgasm.

### **Knowledge by Acquaintance?**

The question is: has Mary learned anything that we could call a cognitive progress? First, regardless of whether there are genuine phenomenal concepts, I must agree with Tye and Ball when they claim that, if she possesses exhaustive knowledge about a female orgasm, there are no *new properties* about the female orgasm that Mary would be able to discover after having one. According to the view that I have been arguing for, Mary's new phenomenal concepts carry no information about new properties of which Mary was ignorant before. Their only function is to account for a non-cogent disagreement.

After rejecting the PCS, Tye concluded<sup>27</sup> that Mary's cognitive progress must be understood as a form of objectual knowledge: this is not a matter of acquiring certain abilities,<sup>28</sup> or of knowing new truths or facts. Under the representationalist assumption that the phenomenal character of experience is nothing but the complex of properties represented by experience, when Mary experiences an orgasm for the first time, she becomes *acquainted with* the same somatic property of her body that her new somatic experience begins to represent. According to Tye, this is an objectual knowledge or "thing-knowledge" by acquaintance. He provides us with one example of what he means by objectual knowledge:

My notion of acquaintance can be illustrated by example. I am acquainted with the color red, the city of Athens, the Apple computer at which I am now typing, the feeling of pain, the urge to gamble a large sum of money, and the feeling of jealousy. I have encountered (or am now encountering) all these things in experience.<sup>29</sup>

Thus, to defuse the anti-physicalist **Conclusion C3**, Tye's new strategy is to emphasize the **Consequence C1** (Mary knows all the physical facts about the female orgasm before she experiences one), while denying that Mary's knowledge of all *facts* about the female orgasm exhausts all that Mary can know about orgasms. Even knowing all the facts about the female orgasm, Mary still does not have thing- or objectual knowledge until she has one. Mary's cognitive discovery of

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<sup>27</sup> Tye [2009, 2012].

<sup>28</sup> Nemirow [2006].

<sup>29</sup> Tye [2009] p. 101.

what it is like to experience an orgasm is described by Tye as a mixture of objectual knowledge of *this property* that she comes to know by acquaintance and of propositional knowledge: Mary comes to know that *this* is what it is like to experience an orgasm.

While in his earlier book, Tye described this objectual knowledge by acquaintance as a “robust” or “substantive” knowledge,<sup>30</sup> in his most recent book<sup>31</sup> he does not consider Mary’s discovery to be “robust” or “substantive” any more, but rather thin. Mary’s discovery is a non-possibility-eliminating discovery. Her discovery is like the discovery that Hesperus is Phosphorus or that Cicero is Tully. However significant those discoveries might be, everyone agrees that they do not eliminate alternative possibilities. The knowledge of the metaphysically necessary identity between Cicero and Tully is also true in all possible worlds. In a contrasting example, let us consider the knowledge of the metaphysically contingent identity of Oswald as Kennedy’s murder. Mary could only make a genuine possibility-eliminating discovery (that Oswald is Kennedy’s murder) if anti-physicalism were correct.<sup>32</sup> Even so, Tye still insists that Mary comes to know something new: the phenomenal character of her experience.

To be sure, seeing things (object-awareness) is not the same as, or does not entail, seeing properties (property-awareness), let alone seeing facts or knowing truths (fact-awareness).<sup>33</sup> According to Dretske’s own examples, I might be aware of a clock-hand (object-awareness) without being aware of its movement (property-awareness), or of the fact that the hand is moving (fact-awareness).<sup>34</sup> Likewise, when a young female experiences an orgasm for the first time without sexual intercourse, she is certainly aware of a somatic property (property-awareness) without being aware of the fact that she is having an orgasm (fact-awareness). But the concepts make a big difference here. Fact-awareness always entails concepts. In sum, Tye’s entire case that Mary acquires an objectual knowledge by acquaintance is based on the assumption that Mary *only* knew *all of the facts* (propositional knowledge) about the female orgasm (C1 and C3 in the Nida-Rümelin reconstruction [2002] of Jackson’s knowledge argument<sup>35</sup>). Therefore, if Mary learns somet-

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<sup>30</sup> Ibidem, p. 55.

<sup>31</sup> Tye, Sainsbury [2012].

<sup>32</sup> Tye [2012] p. 166.

<sup>33</sup> Dretske [1999].

<sup>34</sup> Ibidem, p. 161.

<sup>35</sup> Jackson [1982].

hing physical, that must be objectual knowledge or “thing-knowledge” by acquaintance.

The part of Tye’s new account that draws our attention is the idea that Mary’s new knowledge is thin or a non-possibility-eliminating discovery, just like the discoveries that Hesperus is Phosphorus or that Cicero is Tully. Let us take a closer look at what Tye and Sainsbury say:

Let’s say that a possibility-eliminating discovery is the addition of a piece of knowledge that shrinks the set of worlds that are consistent with what we know. It is not a possibility-eliminating discovery that Hesperus is Phosphorus, for that is true at just the worlds at which Hesperus is Hesperus, that is, at all worlds.<sup>36</sup>

Some identity thoughts count as possibility-eliminating discoveries. These are contingent identities, like the thought that Sally Smith is the murderer of Jones. These are impure identity thoughts, ones involving a nonatomic concept.<sup>37</sup>

Possibility-eliminating discoveries are contingent identities, such as the notion that Sally Smith is the murderer of Jones, which are true in some worlds (the actual world) but false in some others (shrinking the set of possible worlds). By contrast, non-possibility-eliminating discoveries are metaphysically necessary identities like “Cicero is Tully” and “Hesperus is Phosphorus” (true in all possible worlds). According to Tye, Mary’s cognitive discovery of what it is like to experience an orgasm is a mixture of objectual knowledge *of this property* that she comes to know by acquaintance and of propositional knowledge: Mary comes to know that *this* is what it is like to experience an orgasm. However, if Mary acquires no new phenomenal concept, not even a demonstrative one such as *this*, but just reuses her old concept FEMALE ORGASM, how could she make a non-possibility-eliminating discovery?

Let us assume for the sake of argument that what Mary acquires when she has an orgasm for the first time is an objectual or property-knowledge. However, the same problem arises all over again: if Mary possesses exhaustive knowledge of what it is like to experience a female orgasm, how could her new acquaintance with a somatic property disclose any information about something that she did not know before? In this regard, I am on Dretske’s side when he claims that no one needs to be a dogfish to *fully understand* what it is like to be a dogfish.<sup>38</sup> No one

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<sup>36</sup> Tye, Sainsbury [2012] p. 125.

<sup>37</sup> Ibidem, p. 126.

<sup>38</sup> Dretske [1995] p. 82.

needs to experience an orgasm to *fully understand* and know what it means to have one. What she misses is a non-cognitive nonconceptual representation of it. Mary's acquaintance with the somatic property brings her no new knowledge or improved understanding. She does not come to know anything new.

Moreover, we have all reasons to be suspicious about the role that the thing-knowledge plays in Mary's learning. For one thing, since Tye assumes that the frigid Mary could already possess a demonstrative concept of THIS IS WHAT IT IS LIKE TO EXPERIENCE AN ORGASM based on a brain image *via* a cebroscope, it seems undeniable that she already has some objectual knowledge by acquaintance with the somatic property in question. To be sure, she is not encountering that property in her own experience in the first person, but rather from a third-person perspective. Even so, why does this matter? *Via* a cebroscope, she has had visual contact with a female orgasm.

### **Acquaintance Without New Knowledge**

This last section is devoted to arguing in favor of type-A materialism in the challenge represented by Jackson's knowledge argument. As we have seen, type-A materialism defuses the anti-physicalist **Conclusion C3** by rejecting the key assumption in **Premise P2** that frigid Mary makes a *cognitive* discovery when she experiences an orgasm for the first time. As I have been arguing, Mary already knows what it is like to experience an orgasm before she has one for the first time in her life. But how can I deny that Mary has improved her knowledge after her experience?

To begin with, even if we reject Ball and Tye's assumption that Mary has acquired no new phenomenal concept (which I reject), it seems clear that Mary makes no conceptual improvement, as her putative new phenomenal concepts carry no new information about what it is like to have an orgasm. Using Tye's own new "originalist framework," we must say that her putative concepts are new only because they have a different origin from her old concepts.

Now let us assume for the sake of argument that there are no phenomenal concepts, in the sense required by defusing the anti-physicalist **Conclusion C3**, and further, that the concepts we use to pick out the phenomenal character of our experiences are deferential. Therefore, according to Ball and Tye, by experiencing an orgasm for the first time, Mary improves *her expertise and her understanding about the employment of her old concept* about what it is like to experience an orgasm. My point is that this is completely counterintuitive! I can enlarge my expertise or my understanding of a concept, for example, ARTHRITIS when I learn a new property about the disease from a doctor, about which I was previously ignorant: Ar-

thritis is a disease of the joints. One can, perhaps, talk about *learning* as the acquisition of new discriminatory abilities. In this sense, I learn more about how to play an instrument when I practice more. However, in that sense, learning is not a cognitive activity.

Moreover, how could frigid Mary enlarge her expertise about her concept FEMALE ORGASM if she acquires no information about new properties of which she has previously been ignorant? If she possesses exhaustive knowledge and understanding about the female orgasm by definition, her understanding is already complete and therefore there is no way that she can improve it.

We come to the same conclusion when we consider the case of virgin Maria. Maria has never had sexual intercourse or any sexual education. She completely ignores her female genitals and the appearance of the genitals of a human male. However, in contrast to frigid Mary, virgin Maria possesses high levels of testosterone in her blood. Therefore, something not entirely unusual happens to her. Every time she rides a horse or climbs a tree she experiences a spontaneous orgasm without sexual intercourse. Insofar as she does not possess the phenomenal concept FEMALE ORGASM<sub>p</sub>, she does not have the faintest idea what is going on in her body when she has an orgasm. She feels it, but does not know what it is. The point is as follows: the mere experience of an orgasm does not improve her understanding of what it is like to experience an orgasm. Virgin Maria only comes to know what it is like to experience an orgasm when she acquires a concept of it.

Virgin Maria's case is the opposite case to that of frigid Mary. While virgin Maria is completely ignorant about what it is like to experience an orgasm, frigid Mary already possesses exhaustive knowledge about the female orgasm. Therefore, Mary's acquisition of a new phenomenal concept would carry no new information about what it is like to have an orgasm. The moral to be drawn is that there is no way that ingenious Mary can make cognitive progress by having an orgasm for the first time in her life. She does not come to know anything new or understand anything better because she already knew or understood everything that was to be known or understood. But what is the origin of this resistance to acknowledge that Mary already knows everything that is to be known about the phenomenal character of her experience?

My suspicion is that this resistance comes from a prejudice of the old empiricist and Kantian traditions. As Kant has famously claimed, without concepts intuitions are *blind*, and without intuitions concepts are *empty*.<sup>39</sup> Therefore, knowledge only arises when both representations collaborate and represent the

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<sup>39</sup> Kant [1956] A51/B75.

same thing through the senses and the intellect. Therefore, frigid Mary does not know what it is like to experience an orgasm because she only possesses *empty concepts* without the correspondent intuitions of what it is like to have a female orgasm. However, if we take Kant literally here, we must also deny that we may have knowledge, for example, of the age and size of the universe, because there are no intuitions of them. Mary has not felt what it is like to have an orgasm in the same way that Hawking has never seen the Big Bang. Do we have to assume that Hawking does not know the Big Bang?

Now if Kant's constraint on knowledge attributions is too stringent, he is certainly right when he opposes sensible intuitions to intellectual concepts. Sensible intuitions are non-cognitive nonconceptual representations of objects, properties, relations, and so on, in the relevant sense that the subject of the mental state does not need to possess the required concept in order to represent it, and to specify what her state is representing. This is what happens with virgin Maria. I now want to suggest that the key opposition at stake here is not Tye's opposition between objectual knowledge and propositional knowledge, but rather the opposition between non-cognitive and conceptual representations. Frigid Mary already possesses all the knowledge and understanding of what it is like to have a female orgasm. What frigid Mary acquires is what virgin Maria had in abundance: the ability to represent what it is like to have an orgasm independently of possessing the concept of ORGASM, required to specify what she is representing. Frigid Mary can only represent an orgasm by thinking conceptually about what having it is like. *Thus, Mary makes no cognitive progress at all.* This is why PCS is doomed to fail.

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