

MARY’S EPISTEMIC GAIN IN THE KNOWLEDGE ARGUMENT

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MARY’S EPISTEMIC GAIN IN THE KNOWLEDGE ARGUMENT

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DECLARATION OF ORIGINALITY

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ABSTRACT

Mary's Epistemic Gain in the Knowledge Argument

Frank Jackson's Knowledge Argument claims that a person who knows everything physical about color vision cannot yet know what it is like to see red and this demonstrates that physicalism is false. My thesis largely aims to defend the Acquaintance Hypothesis according to which Mary after seeing colored objects gains non-propositional and non-ability knowledge namely acquaintance knowledge. In addition to this defence, the thesis aims to present the notion of acquaintance knowledge in neural terms thereby making this notion less slippery. I also want to draw attention to the fact that the Acquaintance Hypothesis is compatible with many physicalist considerations grounding other replies to the knowledge argument. Especially the similarities between the Acquaintance Hypothesis and New Knowledge / Old Fact view are worth considering. I will present these common considerations and maintain that the notion of acquaintance knowledge might play a central role in a possible, unified physicalist reply to the knowledge argument. However, this issue needs further research and more detailed investigations.

ÖZET

Mary'nin Bilgi Argümanındaki Epistemik Kazancı

Frank Jackson'ın Bilgi Argümanı renkli görmeyle ilgili fiziksel her türlü bilgisi olan birinin kırmızıyı görmenin nasıl bir şey olduğunu bilemeyeceğini ve bunun da Fizikalizmin yanlışlığını kanıtladığını iddia eder. Tezim asıl olarak Mary'nin renkli nesneleri gördükten sonra önermesel ve beceri bilgisinden farklı bir bilgi, yani tanıma bilgisi edindiği düşüncesini savunmayı amaçlamaktadır. Bu savunuya ek olarak tezim, tanıma bilgisi kavramını sinir bilimsel terimlerle sunmayı ve böylece bu kavramı daha az belirsiz hale getirmeyi amaçlamaktadır. Ayrıca, Tanıma Bilgisi Hipotezi'nin Bilgi Argümanı'na verilen diğer fiziksel yanıtlara temel oluşturan düşüncelerle uyumlu olduğu gerçeğine de dikkat çekmek istedim. Özellikle Tanıma Bilgisi Hipotezi ile Yeni Bilgi / Eski Olgu görüşü arasındaki benzerlikler, üstünde durulmaya değer görünmektedir. Bu ortak düşünceleri sunacak ve tanıma bilgisi kavramının Bilgi Argümanı'na verilebilecek birleşik bir Fizikalist yanıtta merkezi bir yerinin olabileceğini savunacağım. Bununla birlikte bu konu daha ileri araştırmalara ve ayrıntılı sorgulamalara gerek duymaktadır.

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ABBREVIATIONS

The following table describes the meaning of various abbreviations and acronyms used throughout the thesis. The page on which each one is defined or first used is also given.

Abbreviation	Meaning	Page
KA	Knowledge Argument	1
ω	What it is like to see red	1
AbH	Ability Hypothesis	4
AcH	Acquaintance Hypothesis	4
NK/OF	New Knowledge / Old Fact reply to the knowledge argument	3
PKA	Propositional Knowledge Argument	29

CHAPTER 1

INTRODUCTION

Jackson's (1982) Knowledge Argument (henceforth KA) is roughly as follows: A brilliant scientist, Mary, who has lived in a black-white room from her birth, knows all the physical facts there are to know about color vision of human beings by means of a splendid education through decolored materials. One day, her captors allow her release. All she knows about colors is useless to know what it is like to see red (hereafter ω). Only after seeing a ripe tomato does she come to know ω .

Jackson (1986) clarifies his argument in the following way:

Premise 1: pre-release Mary had all the physical knowledge there is to know about other people.

Premise 2: after release, she learns something (ω) about other people, suggesting that pre-release Mary did not know everything about the world.

If Physicalism according to which all the correct knowledge about the world is physical were true, there would be no knowledge for post-release Mary to gain. Then, by a simple modus tollens, Physicalism is false.

So, for KA to be true and Physicalism to be false, the following necessary conditions must be satisfied.

1. Post-release Mary learns something that pre-release Mary did not already know.
2. The new knowledge of post-release Mary is propositional.¹

¹ What I mean by "proposition" is based on the most common definition of it: A declarative sentence which can be either true or false. Thus, by "propositional knowledge", I mean simply knowledge-that provided by a proposition which is typically referred in the form of "S knows that P". I will use "factual knowledge" interchangeably with "propositional knowledge". By "non-propositional knowledge", as might be expected, I mean other types of knowledge such as know-how and acquaintance knowledge. I will also use the term "fact" in the sense of coarse-grained fact. A very

3. This new propositional knowledge points to a totally new fact. In other words, this knowledge must be, not only in the sense level, but also in the reference (or truth value) level, new to pre-release Mary.

Why 1 is required is obvious but 2 and 3 need some explanation. Jackson (1982, 1986) defines physicalism as the view that all correct knowledge is physical because if there is something to know which cannot be deducible from complete physical knowledge then the newly learned fact must be non-physical. In this way, the argument proceeds from an epistemic claim (not every fact is physical) to the ontological conclusion (not everything is physical).

What Mary completely knew was all the expressed or expressible facts in physical language, namely propositions or factual knowledge. So, Mary's cognitive gain must also be propositional in order to fairly judge what she knew prior to release. So, if she gains only non-propositional knowledge upon release, it would be absurd to claim that lack of pre-release Mary's non-propositional knowledge shows that there is something to know beyond the complete propositional knowledge expressed in physical language. This is because the fact that it is impossible to deduce non-propositional knowledge from the complete set of physical facts does not threaten physicalism.

When it comes to the third requirement, as Frege (1892) famously pointed out, the identity relation (such as "water is H₂O") between two different modes of presentation of the same thing can still be informative because of the conceptual

concise explanation about the distinction between fine-grained and coarse-grained facts was presented by Demircioglu as follows:

Fine-grained facts are individuated in terms of the concepts the subject has of the things in the world; coarse-grained facts are individuated in a way insensitive to those concepts. So, the fact that there is a bottle of water in my backpack and the fact that there is a bottle of H₂O in my backpack are two different facts if "fact" is understood in a fine-grained way (since a subject can believe the former without believing the latter), but are the same fact if it is understood in a coarse-grained way (since water is H₂O) (Demircioglu, 2015, p. 326)

difference between water and H₂O. The New Knowledge / Old Fact (hereafter NK/OF) approach, which is the most popular response to KA, roughly claims that post-release Mary gains new propositional knowledge based on new phenomenal concepts acquisition of which was impossible for her in her confinement where she lacks the opportunity to experience colors. However, these different (non-phenomenal and phenomenal) concepts refer to the same property in the world just as water and H₂O refers to the same entity. This strategy, which is called Type-B physicalism by Chalmers (2003), differs from Type-A physicalism in that it accepts that there is an epistemic gap between physical and phenomenal conceptions of experiences but denies that this gap entails an ontological gap between them. So, it is not enough for KA to be true that post-release Mary can form new phenomenal beliefs or propositions. KA also needs to show that these propositions refer to non-physical facts so that property dualism gets on the stage again.

I do not think that these necessary conditions are also sufficient for KA to be true. As will be understood, discussion of this issue is unnecessary for the presented view because I believe that even the second condition (Mary gains some new propositional knowledge) is not satisfied for KA. For this reason this thesis will not involve discussions about whether Mary's new phenomenal concepts pick out new properties or not. For the same reason (KA is blocked in its second step), I will not discuss one of KA's important assumptions: If physicalism is true, then (the "psychophysical conditional", in the words of Nagasawa & Stoljar, 2004) that all psychological facts can be deduced from the complete set of physical facts, although I find Jackson's defence of this assumption plausible.²

² Jackson (1995) claims that a rich enough story about the physical nature of our world is tantamount to knowing the psychological story about our world". To support this claim he makes an analogy: Addition of rich-enough contingent fact(s) such as "H₂O plays the water role" to a set of facts such as ("H₂O covers most of the planet") entails a necessary and a posteriori conclusion such as

In what follows I will discuss these requirements respectively. In Chapter 2, I will discuss some views trying to block KA in the first step which seems the least problematic step for KA. Since the conclusion of Chapter 2 is that Mary gains some knowledge after release, we will be discussing whether this knowledge involves new propositional knowledge in a robust sense in Chapter 3. If it does, KA stands even if Mary's epistemic gain is mostly non-propositional. Given that the burden of proof is on the proponents of the views according to which Mary gains some new propositional knowledge, I will evaluate the most common and promising arguments for such views. This chapter concludes that Mary's new knowledge is not based on her new phenomenal beliefs. If Mary's cognitive gain after release is fully non-propositional, how can we explain her epistemic progress? Does post-release Mary gain just know-how or ability knowledge? Chapter 4 will evaluate the Ability Hypothesis (hereafter AbH) according to which Mary upon seeing red gains know-how to remember, imagine and recognize red. As will be seen, this hypothesis, let alone its deficits, seems irrelevant to KA. In Chapter 5, I will present Conee's (1994) Acquaintance Hypothesis (hereafter AcH) according to which post-release Mary gains neither propositional nor procedural knowledge; she gains acquaintance knowledge and defend it against the most known objections. I also try to show that Conee's AcH gives an excessively large place and a necessary role to direct experience with phenomenal qualities. Chapter 6 will focus on acquaintance knowledge and present Churchland's (1989) acquaintance hypothesis and Musacchio's (2002) view that Mary's epistemic gain is phenomenal knowledge with which he assimilates acquaintance knowledge. Both views will be helpful to

"Water is H₂O". Since the complete set of physical facts Mary knew includes a rich enough story about the world, Jackson seems right on this issue.

understand acquaintance knowledge and differences between propositional knowledge and acquaintance knowledge in neural terms. This chapter will include a short discussion, triggered by Musacchio's view that phenomenal concepts are cornerstones of phenomenal knowledge, about the relationship between phenomenal concepts and acquaintance knowledge. Other similarities and common grounds between AcH and other physicalist replies to KA hint that acquaintance knowledge can play a central role in a possible unified physicalist reply to KA. I will reconsider all physicalist replies in the light of acquaintance knowledge but leave this issue for further research.

CHAPTER 2

MARY LEARNS SOMETHING

The knowledge intuition shared by almost everyone behind KA is that: Mary learns something after release. One can resist this intuition in two ways: by questioning Mary's incapability to know ω in her black-white room or by questioning that Mary gains knowledge after her first seeing red. Dennett's (2006) and Churchland's (1985) views are of the first type whereas Jackson's (2003) representationalist reply is of the second one. I will discuss both ways respectively. But before this, it is worth evaluating Dennett's general complaint about KA.

To Dennett (2006), KA exploits the huge difference between what we know and what an omniscient (in physical sciences) person can know or what her brain might be capable of. To him, the argument abuses a folk-psychological intuition that Mary's complete physical knowledge is futile in order to know ω . That is, because of the obvious hurdle about conceiving the extent of the complete physical knowledge, in judging this knowledge, people confuse the knowledge of everything with today's very limited version of the complete knowledge.

Although I agree with Dennett that intuitions pumped by thought experiments cannot say the last word and we must resist them, I think that Dennett ignores the possibility that there can be physical law-like constraints over the extent of our deducible extra knowledge from factual knowledge even if it is complete. If factual knowledge cannot produce other types of knowledge because of some physical constraints, does it matter to what extent we can conceive complete knowledge of physical facts? This possibility is directly related to the possible equivocation on the terms "know" or "knowledge" in KA.

If “knowledge” in premise 1 and premise 2 is not univocal, this means that KA is not even valid let alone sound. Interestingly, as Beaton (2005) pointed out, Dennett seems to accept that KA is valid. That is why he attacks the premise 2 of KA, which claims that Mary learns something.

2.1 Mary cannot deduce the knowledge of red in the room

2.1.1 Blue banana trick

Based on the general complaint mentioned above, Dennett (1991, 2006) offers a counter-intuitive (as he happily concedes) alternative end of Mary’s story: post-release Mary would not be surprised at all when she first sees a red object. When offered a tricky blue banana, she could understand the trick and thus pass the test with the help of her vast knowledge covering the physical causes and effects of color vision, all the physical differences between colors, “which effects-described in neurophysiological terms-each particular color will have on her nervous system” (Dennett, 1991, p. 61). In a nutshell, he claims that Mary had already all the information required to recognize colors from each other from her complete knowledge of physical facts. “So the only task that remains is for her to figure out a way of identifying those neurophysiological effects from the inside” (Dennett, 1991, p. 61).

Indeed, it is hard to believe that the complete factual knowledge with enough developed technology cannot provide one with the ability of recognition in the absence of the standard experiences. However, as many philosophers (Alter, 1998; McConnell 1995) pointed out, to have the knowledge required to recognize colors is not sufficient to know ω . For instance, a patient suffering from cortical blindness can recognize colors to some degree although she knows nothing about how colors look. A computer program which processes analogue data coming from a colored

environment can easily tell which objects in the environment have which color.

Conversely, color blind people cannot distinguish red from green but unlike Mary they have some information to appeal in imagining a color (say the mixture of red and green).

Further, whether Mary can pass the blue banana trick seems irrelevant to the key point of KA. As Nida-Rümelin (2016) points out, even if Mary can pass the blue banana trick, proponents of KA can still contend that Mary, when she first sees a red object, nonetheless learns a new fact. This possibility underlines the difference between the knowledge about ω which can enable Mary to recognize colors in her first experience with them and knowledge of ω .

All the knowledge about causes, effects, dispositions, brain states etc. that Mary can know or deduce and that can be used to pass the blue banana test will always be about the experience of seeing red which typically produces a mental image or representation (illusory or not). However, what is demanded from pre-release Mary by KA is the knowledge of ω which is directly related to the mental representation of a red object. In this sense, the relation between the knowledge about the brain states altered by red experiences and ω is similar to the relation between the binary data of an image file in the hard disk and the image itself. So, the claim that to have knowledge about the brain states is to know ω is analogous to the claim that to know the binary data of an image file is to know the image itself. When it comes to knowledge about dispositions of post-release Mary, as Robinson (1993) pointed out, “Knowledge of how someone is disposed to react, verbally or otherwise, does not tell you what it is like to possess a mental state” (p. 71). The same holds for Mary’s predicting her future thoughts she will have in her first confrontation red. She

could know she will have such-and-such thought in relation to such-and-such brain state. But this does not mean that she could have that thought without seeing red.

However large, surprising and various Mary's propositional knowledge and predictions are, in the end, there will be knowledge about redness on one side and there will be a mental representation produced by seeing a red object by which one can directly know the qualitative character of redness on the other.

2.1.2 Imagining red

But perhaps pre-release Mary could imagine a red object and in this way she could learn ω . Dennett (2006) and Churchland (1985) believe that it is excessively huge and unjustified to claim that this is impossible for Mary. To show that it is possible, they give some examples in which Mary can imagine redness. But before evaluating these examples, it is worth discussing the question whether imagining red suffices to know ω .

Dennett claims that it is trivial to say that imagining red is just a hopeless last-resort in the absence of real knowledge of ω because this eventually means that only the relevant experience can provide one with the knowledge of ω . And Jackson (1986) clearly defends the idea Dennett regards as trivial, the idea that KA requires Mary to know ω , not imagine it: "Imagining is a faculty that those who lack knowledge need to fall back on" (Jackson, 1986, p. 52). This is because, to Jackson, if physicalism were true, Mary would know rather than imagine it. I agree with Dennett on this issue for the following reasons.

Presumably, what is in Jackson's mind is this: you just know a proposition, you do not imagine it. What about knowing the taste of sugar or knowing ω ? When someone is asked "Do you know red?" she most probably tries to imagine a red thing. It is quite implausible to claim that one who can imagine a red object does not

yet know red unless there is a proposition about redness, a proposition only knowing which really indicates whether you know red or not. As will be seen in Chapter 3, there is no compelling reason to believe that there is such a proposition. But, even if there is, one can know that proposition in imagining red as well. To show the impossibility of this, it must be explained why imagining red cannot provide one with the propositional knowledge which is provided by seeing red. In the absence of such an explanation, we can accept for the sake of Dennett's argument that there is no significant difference between imagining and seeing red with respect to gained knowledge.

To Dennett, the idea that ω is inexpressible in language (because intrinsic phenomenal character cannot be derived from fewer ingredients) is another unjustified folk intuition. He tries to show that it is possible to express ω as follows:

But if what it is like to see triangles can be adequately conveyed in a few dozen words, and what it is like to see Paris by moonlight in May can be adequately conveyed in a few thousand words (an empirical estimate based on the variable success of actual attempts by novelists), are we really so sure that what it is like to see red or blue can't be conveyed to one who has never seen colors in a few million or billion words? (Dennett, 2006, p. 21)

However, if there were some physical barriers involved in the ineffability of ω , what would this mean? The most plausible answer to this question seems to me is that this would mean nothing for both parties of KA. Especially for the physicalist, such a physical constraint would not be hurtful at all. If knowing ω could not be deducible from propositional knowledge and imagining a red object was impossible in the absence of some sensory information because of the physical laws, then the dualist conclusion would be totally moot.³ And it is not difficult to imagine some possible physical constraints. The following explanation appeal to one of them, one that I believe neuroscience does not at least refute.

³ By "sensory information", I mean non-propositional knowledge provided by sensory organs and stored in specific areas in the brain

Obviously, we can build complex mental images of things we have never seen. We do not need to really see a UFO in order to imagine it. But this is possible only if we have some sensory information (such as of an airplane, circle, etc.) which can altogether be used to construct the mental image of a UFO. In this sense, Dennett's triangle and Paris-in-moonlight examples are analogous to UFO example: All of them can be constructed from lesser ingredients. But in imagining a red object, there is no ingredient at all to use. The problem might be put in detail as follows: We can imagine a tomato because we have some sensory information which is linked to the concept of tomato. If I have also some sensory information of red which is connected to the concept of red, I can combine the former with the latter information. The result is a mental image of a red tomato. This is what happens in most cases when a person whose brain has some sensory information concerning red is asked "how do red things look?" A successful imagining is by virtue of the connection between the concept of red and the sensory information of red. But for Mary, this is impossible because there is no sensory information connected to the concept of red. Back to Dennett's example, considering the above explanation, given that imagining triangle requires someone to have sensory information of its each constituent such as a line; it is easy to understand why a blind person cannot even imagine a triangle unless she has some sensory information gained by for example tactile experiences. If the above explanation is true, that is, if there is such a physical constraint for imagining, even infinitely many words will be useless to imagine a red object.

Moreover, even if we accept that Mary could imagine red, there is still a problem for Dennett. I think the same problem pointed out by Nida-Rümelin concerning Mary's passing the Blue Banana test also holds true for this case. The supporter of KA plausibly can claim that Mary's imagining red with the help of some

descriptions does not demonstrate that propositional knowledge Mary gains upon seeing red can be deduced from these descriptions. Imagining red can be counted a sort of experiencing red. After all, in both cases, Mary would obtain the knowledge about a new, non-physical intrinsic quality of experience, namely redness not by means of physical propositional knowledge but by means of experiencing red.

2.1.3 Brain state scenarios

Churchland (1985) accepts the physical constraint mentioned above: “It is true, of course, that no sentence of the form ‘x is a sensation-of-red’ will be deducible from premises restricted to the language of neuroscience” (p. 25). But to resist “the assumption that even a utopian knowledge of neuroscience must leave Mary hopelessly in the dark about the subjective qualitative nature of sensations not-yet-enjoyed” (p. 25) and to show “how neuroscientific information would give Mary detailed information about the qualia of various sensation” (p. 25), he mentions a very interesting sci-fi scenario in which Mary identifies folk concepts such as sensation-of-red as “various spiking frequencies in the nth layer of occipital cortex” (p. 26). To Churchland, it is possible that imagining being in a certain cortical state can really put Mary in a brain state in which she can enjoy the sensation-of-red and thus know ω .

To support the possibility of his scenario, Churchland gives the example of skilled musicians who can entertain auditory imagination of chords they have never heard when the notes of the chord are presented to them. The gist of his example is that: Musical chords have structured elements which make translation of notes into chords possible. In a similar way, if colors are structured as well (Churchland thinks they are, at least they might be), then it is possible that when one imagines being in

the effect of, say “spiking frequency of 90 hz in gamma network” (p. 26), this can produce a color sensation.

However, skilled musicians’ ability to imagine chords from notes is possible by means of previous experiments with chords, as can be guessed easily. As is the case with Dennett’s examples of triangles or Paris, they have some building blocks, so to speak, to build their future auditory imaginations, and again Mary has no such building blocks at all. Another problem with Churchland’s scenario is that: It is not any more realistic that imagining being in a certain state with the help of exhaustive neuroscientific knowledge can produce sensation of red than that one can make her body to release dopamine by imagining the required hormonal state.

Likewise, Dennett also argues that it is possible for pre-release Mary (only by imagining) to put herself into a brain state which provides her with the knowledge of ω . A cosmic accident, although it is not offered as a serious possibility by Dennett, for example, puts Mary into such a brain state; or locked RoboMary, a robot version of Mary whose cognitive structure is disabled from chromatic perception, puts herself into such a state (state B), using the differences between her monochromatic brain state A and chromatic brain state B enjoyed by the model of RoboMary when she sees a red object.⁴

Dennett claims that there is no cheating in the locked RoboMary scenario. Unlike unlocked RoboMary, she does not alter her brain configuration. She imagines being in brain state B thereby entering into that state. As seen easily, this scenario is almost the same as Churchland’s scenario. We can object to this scenario in the same way we do for Churchland’s version: Its possibility is very suspicious. Although

⁴ Since each scenario ends up in a brain state which results from ordinary experiences of seeing red and provides the knowledge of ω and locked RoboMary unlike Swamp Mary is a serious one, it would be appropriate to discuss only RoboMary.

brain state scenarios of Dennett and Churchland were offered to shift the burden of proof to the supporters of KA, (that is to say, they simply ask “why should not we think that complete physical sciences and technology can provide one with the knowledge of ω without seeing red objects?”), I think they shoot themselves in the foot because they appeal to some assumptions which can be dismissed easily as unrealistic, absurd and ad hoc.

However, why Dennett feels obliged to offer Locked Mary instead of Unlocked Mary will bring us to discuss the unlocked version of RoboMary. Unlocked RoboMary has all the hardware required for colour vision but has only white-black cameras. She learns everything about color vision of standard robots which have colored cameras. Based on this vast empirical knowledge, she writes a program which colorizes inputs coming from her black-white cameras. Installing this program in her brain, for which this scenario is seen as tricky, she finally sees colors as if she has colored standard cameras. So, she can know ω .

Three objections can be made against this scenario. First, given that RoboMary can see colored objects with the help of her colorizing software, she actually experiences red. And it does not matter where (inside or outside room) Mary or RoboMary has experiences of red. That is, it can be argued that RoboMary gains the information about the red quale in her case, too. This objection seems to me compelling and I cannot think how it might be false. This shows that a satisfying physicalist scenario against the knowledge intuition must bypass the standard experience of colors.

Second, RoboMary’s self-programming is illegitimate. This is because KA requires Mary to deduce the knowledge of ω from her complete knowledge. RoboMary does not make a proper deduction to gain the knowledge of ω . Instead,

she makes something extra. However, I agree with Churchland's (1985) reaction to this type of objections: "direct deducibility is an intolerably strong demand on reduction" (p. 25). The direct deducibility (or pure deduction in Dennett's terms) criterion assumes in the first place that facts related to ω are both non-physical and propositional. Given that these facts are not in the complete set of physical facts, KA concludes that they are non-physical propositions. However, there is another possibility: these facts might be physical but non-propositional. And if so, it is clear that Mary can gain these facts only by virtue of empirical studies plus the sci-fi technology. In brief, given that assuming these facts are propositional is assuming that they are non-physical facts; hence prohibiting Mary from making any extra thing beyond her factual knowledge begs the question whether KA is true.

Lastly, some philosophers (McConell, 1995; Beaton, 2005; Nida-Rümelin, 2006) assert that these scenarios show at best that Mary could learn ω . However, physicalists must show that Mary could learn ω necessarily. But Churchland and Dennett's scenarios must be seen plausible in that these scenarios were designed to try to shift the burden of proof, as they clearly say. In this way, they ask the supporter of KA to show that it is necessary that Mary cannot know ω .

So, if there is a cheating in the Unlocked Mary scenario, it is not because of Mary's altering her brain but because of Dennett's making her see red objects. So we can imagine a scenario which drew a lesson from the first objection, now that only this objection seems plausible and fair.

Imagine that Mary asks herself whether the knowledge of ω is propositional or not. She tells herself "I don't know the answer of course because this is a philosophical issue rather than scientific. After all, if it was a scientific issue, I would already know. I cannot know whether it is propositional or not, but to know ω for me

is like shooting fish in a barrel. ” It is really so because she knows exactly what ω means in neurological terms. She knows which neural connections this information requires and all the other things. In her sci-fi lab in the year of, say 9973, there is a brain-modifier machine which alters a brain according to the given instruction set of any targeted neural structure. Mary gives the appropriate neural description (or the big neurological formula) of ω to the brain-modifier. And finally, allowing this machine to operate on her brain, she comes to know ω . She takes pride in herself and the power of science, by saying “I have never seen a red object but I know what a red object looks like”⁵

What would her knowing ω in this way mean? On the face of it, this seems a great success showing that everything is physical on the behalf of physicalism. But the dualist might say “She only knows what it is like to have a certain brain configuration. Since she has never seen a red object, she does not really know ω ”. If so, as Dennett said as regards the question whether imagining red provides the knowledge of ω , “then we philosophers have been wasting a lot of time and energy on what appears to be a relatively trivial definitional issue: nothing is going to be allowed to count as a state of knowing what it's like to see red without also counting as an experience of red” (Dennett, 2006, p. 24). Nevertheless, the dualist might reasonably claim that insisting that knowledge of ω can be gained in a canny way that by-passes the experience of seeing red would beg the question whether there is an intrinsic non-physical quality in seeing red which presents itself only in the appropriate experiences. So, insofar as physicalists cannot show that these canny ways necessarily (again) provide Mary with the same information presented by

⁵ Some might think that this scenario is also unrealistic or groundless but I think that that a machine can change a brain is more possible in comparison with the possibility that one can change put herself into a certain brain state by imagining being in that state on the ground that we make machines do what we cannot do.

standard experiences, these ways can be dismissed. This objection again reveals the stalemate position of both parties as mentioned before because the physicalist would reply to this objection in a similar way: Insisting that Mary cannot gain the same information provided by standard experiences would beg the question.

A second dualist reaction might be that: There is no problem for Dualism to accept that experience of seeing red leaves the same traces in the brain as those left by a brain-modifier, that these traces can somehow include information of ω . And if this information is propositional, then Mary, after the modification of her brain, knows a non-physical truth just as post-release Mary knows after seeing a red ripe tomato. Claiming this would be weird because this would mean there could be some information about the intrinsic, phenomenal quality of experience without acquiring the relevant quality in the experience. However, dualists need not refute that a brain state can provide one with the same information provided typically by seeing red. Since non-physical facts can be encoded in neural connections just as physical objects can bear non-physical properties, the same phenomenal information can also be created by brain-modification. The crucial question still remains: What would Mary learn after the operation of brain-modifier?

As seen, even if we ignore the first objection, this scenario faces a problem about the type of knowledge of ω . If the alteration of Mary's brain provides the knowledge of ω then there are mainly two options regarding the type of this knowledge: If it is propositional, it can be either (1) a physical fact or (2) non-physical fact. (1) is impossible because Mary would already know ω in this case. (2) is possible but it serves dualism contrary to the physicalist expectation from brain-state scenarios. The only option for the physicalist is the possibility that this knowledge is non-propositional. So, in even the least problematic brain state

scenarios, the physicalist must defend the view that what Mary learns is not propositional knowledge. But if the physicalist has to claim that Mary would gain non-propositional knowledge in the end, why would we rely on these problematic scenarios in the first place. We might as well simply discuss whether Mary's epistemic gain after release is propositional or not.

My conclusion on this issue is that: Even the least problematic and the most realistic brain-state scenarios cannot provide a strong enough intuition that Mary can know ω in her black-white room. It is always suspicious that it provides Mary with the same information involved in seeing red and even if Mary gains the same information in these scenarios, this time it is suspicious that the information provided by the alteration of Mary's brain is non-propositional. As a result, they are of no use for the physicalist to refute KA.

2.2 There is some information waiting for Mary outside the room

In the previous section I have defended the idea that the alternative scenarios proposed by Dennett and Churchland are not only unrealistic but also irrelevant to KA's main point. However, the knowledge intuition KA relies on can be resisted outside Mary's black-white room.

In this section, I will first discuss Jackson's (2003) representationalist reply. According to this reply, in Mary's story, there are two types of information in hand: There are (1) representational facts in sensory experiences, specifically in Mary's seeing red and (2) know-how to remember, imagine and recognize red. Jackson thinks that pre-release Mary can deduce (1) in principle and post-release Mary gains (2). His position is a hybrid one in that his claim with respect to (1) is similar to Dennett and Churchland's position.⁶ As for the claim concerning (2), it is the standard

⁶ Because of this, his reply may have been also discussed in 1.1.

claim of the Ability Hypothesis. For Jackson, there is no special information of ω in both (1) and (2). Unlike Dennett and Churchland, he does not claim that pre-release Mary could know ω by imagining, being in some brain-states, etc. In these regards, his reply to KA can be seen as claiming that there is no knowledge (other than know-how) waiting for Mary to be gained on her release.

In the second part of this chapter, I will try to provide some intuitive support to the idea that Mary learns something by drawing a parallel between her total knowledge and a book which is supposed to include everything about colors.

2.2.1 Jackson's strong representationalism

Jackson (2003) starts his reply to KA with diaphanousness (or transparency) thesis that "the qualitative character of experience is the character of the putative object of experience" (p. 427). So, redness can only be a property of something which is represented. This means that there is no phenomenal fact such as "this experience is phenomenally red".

There are two options one can choose if she endorses this thesis: the putative object is either a real, non-physical object called sense-data or an intentional object. Jackson, as a physicalist, chooses the second option. In ordinary perceptual cases, this intentional object coincides with the real object and the properties of the real object enter into the content of representation. But in misrepresentations, the intentional object is not a real object.

This representationalist option saves Jackson from accepting that redness is a real property of a real object. Jackson maintains that we are not committed to accept that there is such a property just because we represent something as being red. We sometimes misrepresent the world as in the case of believing the non-existent properties of fairies or seeing a straight stick in water as being bent. It must be noted

that he does not only believe that there might be no redness as a real property; he also believes that there is no such a property. He argues that physicalist should deny that anything is red just because there is no place for this striking feature in the physicalist picture although he accepts that there can be some complex physical properties that cause us to identify them with colors.⁷ Redness is an intentional property (rather than instantiated property) of an intentional object which is not a real object at all.

Jackson's denial of redness as a real property seems hand-in-hand with his strong representationalist commitment. According to this view, phenomenal character is exhausted by representational content. Although his definition of strong representationalism ("the doctrine that the content of an experience plus the fact that the experience represents the content as obtaining in the way distinctive of perceptual representation are what determine the experience's nature without remainder" (Jackson, 2006, 57)), seems compatible with the idea that the way the content is represented (manner of representation) is a determinant of the phenomenal character along with the representational content, he clearly says that the manner of representation is a factor only in weak representationalism.⁸

Jackson is aware, of course, that the same content can be represented in different manners. However, he seems to think that there is no non-physical fact

⁷ This seems to beg the question whether there are non-physical properties concerning qualia but in another place, Jackson (1998) supports this idea in another way by applying a maxim: "do not have opinions that outrun what is required by the best theory of these opinions' causal origins" (p. 418). In accordance with this maxim, he concludes that "what she learns had better not outrun how things are physically" (p. 419)

⁸ That is why Alter (2006) criticizes Jackson as contradicting his own definition of strong representationalism. He regards the expression "the fact that the experience represents the content as obtaining in the way distinctive of perceptual representation" as identical to "the phenomenal manner of representation". Thus, he considers Jackson's representationalism as "ultra-strong representationalism". Although it seems obvious that there is no identity between them according to Jackson, I think, like Alter, that Jackson's construal of strong representationalism is at least confusing if not inconsistent. In any case, I will use strong representationalism (ultra-strong representationalism in Alter's words) as the claim that only the content of experience determines the phenomenal character of experiences.

about the phenomenal character of seeing red in the final analysis in accordance with his strong representationalism; which is supported by the idea that “there is a pervasive illusion that conspires to lead us astray when we think about what it is like to have a color experience” (Jackson, 2003, p. 422). So, the only facts are physical facts about the content and the feel (how the content is represented). All these facts are deducible from the complete physical knowledge. Although redness is an illusory property, representationalism can explain or analyse what makes special or phenomenal sensory experiences, in other words, what differentiates them from other non-phenomenal or phenomenally poor representational states: the feel “is a matter of immediacy, inextricability, and richness of representational content, and the right kind of functional role” (Jackson, 2003, p. 439).

Let’s combine all these ideas as follows: The content of sensory experience is exhausted by representational content and in this content, there is no phenomenal redness. So there can be no phenomenal belief in which phenomenal redness plays a role. All representational facts can be physically deduced; and this is enough to obtain all the facts concerning ω because there is no mental property beyond the representational content.

Based on these ideas, Jackson’s verdict regarding the epistemic progress of post-release Mary is that: Mary will be in a new representational state whose content is immediate, inextricably rich with the right causal role and which provides her with the ability to remember, visualize and recognize the red but she will not be acquainted with redness as any new property. So, this new representational state provides her with no propositional knowledge such as “this is seeing red” in which the assumed property of redness plays a role. This is because “there is nothing suitable to be the referent of the demonstrative” (Jackson, 2003, p. 439).

There are many controversial issues in Jackson's reply to KA. For one thing, the grounding view of his reply, namely strong representationalism, is widely open to many criticisms because it identifies phenomenal character with representational content, and all identity claims are vulnerable to attacks from both sides of the equation ("phenomenal character=representational content" for strong representationalism) they pose. Jackson argues that the change on one side is impossible without the change on the other. Indeed, it seems hard to find a real scenario in which this equation breaks down. However, some imaginative but plausible cases can be offered. For instance Block's (1990) inverted earth argument suggests a possibility in which the left side remains the same when the right side changes. To question the equation from the other way around, there can be imagined a scenario in which, via two different sensory organs, one can have two different raw feels while the relevant representational contents exactly stay the same. Furthermore, one can object to the idea that every phenomenal state is accompanied by a representational state, in other words, every phenomenal state is intentional. Surely, all these objections can be/have been answered by the strong representationalist camp. Other than the strong representationalist claim, Jackson's own five-feature analysis of sensory experiences can be questioned as well.⁹

Lastly, as Alter (2006) pointed out, even if we accept that only representational content, viz. represented properties of the intentional object, determines the phenomenal character of seeing red, it can be plausibly argued that these properties are non-physical. This means that strong representationalism can also be endorsed by the dualist, which suggests that strong representationalism does

⁹ Prinz (2005).

not necessarily provide a physicalist escape route from the possibility of existence of non-physical properties.

I will not go into these ardent topics and grant that redness is an unreal pseudo-property, so to speak. But I will try to show that even in this case, Mary, in her first confrontation with red, directly gains some crucial information: how the illusion of redness is represented by typical human beings.

In ordinary experiences, intentional properties can be real in virtue of realness of intentional objects they belong to. For instance we can believe that something is solid with the help of our tactile experiences. In this case, solidness is a real property of real things. But in the case of redness, Jackson clearly says that when we think that something is red through our color experience, we are under an illusion. To him, the strong intuition that Mary learns something factual comes from the “strikingly atypical nature of the way she acquires certain relational and functional information” (Jackson, 1998, p. 419) or “facts about what is happening to us” (Jackson, 1998, p. 419). Sensory experience, while representing *inter alia* this information, presents itself to us as if it were the acquisition of some non-physical information about the intrinsic nature of itself. In another passage, he says that seeing red leaves some memory traces which ground our knowledge of ω . So, it is fair to say that Jackson thinks that (1) redness of our experience is a representation of this physical information based on the relevant memory traces. From these considerations, he concludes that (2) the strong intuition that Mary learns something new is false. This is because pre-release Mary can deduce all the relevant causal, representational physical facts involved in Mary’s first experience with red and post-release Mary gains only know-how to remember, imagine and recognize red after this experience.

However attractive (1) is, I think that (2) does not follow from (1) for the following reasons: it is clear that facts, as true propositions, cannot refer to unreal properties or entities as if they really exist. For instance, one cannot know that “there is some phlogiston in coal” because it is wrong. Similarly, the proposition “this is phlogiston” will always be false regardless of the context. However, from this, it does not follow that there cannot be any knowledge about phlogiston. “Phlogiston was considered such-and-such in the middle ages” can be true or false. Now, imagine a picture which represents phlogiston. We can point at this picture and say that “this is how phlogiston is represented by middle-age philosophers”. Analogously, assuming that nothing is red, even if the proposition “this is red” is always false, by pointing at a picture of a red object, we can always say that “this is how red is represented”. In imagining a red thing, we can say that “this is how red is represented by human beings”, as well.

My point is that: even if redness is illusory, there is some knowledge about the way this illusion is represented in imagining or seeing red. Mary learns this non-propositional knowledge about the representation itself in her first confrontation with red, which means Jackson’s conclusion (2) is false.

To sum up, although Jackson is right in claiming that pre-release Mary can deduce all the facts regarding seeing red, what leads him (the idea that redness is unreal) to think that there is no extra fact about redness also seems to lead him to think that there is no information of any sort about redness. I think the reason why Jackson embraces the Ability Hypothesis instead of the Acquaintance Hypothesis (the latter is much more congenial to the idea that Mary learns some non-propositional knowledge of how red things look to typical human beings when she stares at the ripe tomato) might be attributed to this wrong idea.

2.2.2 Mary's book

Imagine that before release Mary decides to write everything she knows about colors in a book which is entitled "Everything about colors". She writes all the relevant causes, effects, brain states, etc. about colors and experiences with colors. But at the end of the book, she realizes that there is a crucial deficiency in her book: Colors themselves. She leaves several pages blank for each primary colour and writes "this is what it is like to see X" (where X stands for a color) as title for each of these pages. She plans to put the required information in each blank page after her release. But bureaucratic procedure for her release takes a long time and she delivers her book to a publishing house. Her book is published with the name "Almost everything about colors"

Finally, in her blessed release day, she collects pictures representing every primary color and put these pictures into the last chapter of her book. She convinces the publishing house to re-publish the book with the name "Everything about colors".

It seems obvious that the second book includes more information than the first book because it would be very implausible to think otherwise. However, some criticise the second book for several reasons. Some say that there must not be a place for colors in a fully physical book because there is no color in the world. More moderate critics say that there is no room for colors in the fundamental physics or structure of the world. For this reason, Mary should have added some annotations before the last chapter where colors appear. Some argue that colors are subjective and they must be excluded from a completely objective book. There are also some people underlining the fact that there is no definite look of colors.

Mary is a scientist rather than a philosopher. She does not know what to do. At last, she confers with the editor of the book. The editor of "Everything about

colors”, who is very busy and has no time to contemplate on these hair-splitting criticisms, offers a quick solution to Mary, she says: “The title of the last chapter must be ‘How (supposed-to-exist) colors (roughly) look to typical human beings’. Besides, you should add some information about physical correlates (such-such light-waves, brain states, etc.) of each color in order to lay stress on the fact that colors are completely physical with respect to both the objects which are seen and the organism which sees them as being colored”

Upon this suggestion, Mary smiles and says enthusiastically that “Yes, in this way, we will emphasize that, after all things considered, there is some physical, objective information provided by colored pages in my book regardless of the ontological status of colors”

2.3 Concluding remarks

I agree with Dennett’s general criticism that KA exploits the uncertainty of the notion of complete physical (propositional) knowledge. But it must be noted that if there are some physical constraints or limits, it does not matter how complete our physics is. I find it very possible for instance that we cannot create mental representations in the absence of the relevant sensory information underlying these representations.

Recognizing colors correctly, by using the relevant causal, neurological, psychological, etc. information, is not the same as enjoying colored mental representations. All the propositional knowledge Mary has is also useless to create a mental representation for the same reason.

I appreciate Dennett’s and Churchland’s alternative scenarios which are designed to shift the burden of proof to the friends of KA and which are based on the idea that every type of physical knowledge can be gained or produced in principle in

Mary's black-white room just because there is no compelling reason to disbelieve that the complete physics and technology cannot do this. But there are two problems with these scenarios. Firstly, some of them (such as those that require one to put oneself into a certain brain state by imagining being in that state) seem to ignore the physical constraints and thus seem unrealistic. Secondly, there is a direct proportion between similarity of a scenario to the experience of seeing red objects and providing the same information as the standard experience. However, there is an inverse proportion between this similarity and relevance of the scenario to KA (or being a trouble for KA). To illustrate, Mary undergoes the same experience of seeing red as post-release in the alternative scenario involving the blue banana trick. This scenario seems irrelevant because the question what Mary knows remains intact because of the inverse proportion mentioned above. I have also proposed a scenario in which Mary completely bypasses the standard experience thereby reducing similarity to standard experience, but in this case the possibility that Mary gains the same information as that provided by standard experience was also reduced because of the above-mentioned direct proportion. Even if we accept that the information provided by the least problematic scenario is the same as that provided by standard experience, another problem arises immediately: Without showing that this information is non-propositional, the scenario is moot. And we do not need controversial scenarios to show this is the case.

Jackson's strong representationalist view against KA brings about many controversies such as whether strong representationalism is true, and whether it is a real threat to KA (considering the possibility of dualist conclusions from strong representationalism) even if it is true. Also, there are controversial issues about Jackson's application of strong representationalism such as whether his five-feature

analysis of rich perceptual experiences is true and whether it suffices to explain phenomenal character of experiences even if it is true. I have objected to Jackson's view on another basis: Even if redness is illusory, how this illusion is represented by human beings is a matter of objective, physical knowledge.

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CHAPTER 3

MARY'S NEW KNOWLEDGE IS NOT PROPOSITIONAL

For both some dualists such as Nida-Rümelin (1995) and physicalists (among others Tye 2000; Bigelow and Pargetter 1990; Loar 1990) defending NK/OF, after seeing a red object Mary gains a phenomenal concept and uses it in propositions such as “this is ω ” or “Sky appears phenomenally red”.

So, in Tye's terms:

How can it now be denied that Mary gains some new propositional knowledge when she leaves her room as she introspects her new experiences- for example, knowledge that this is the experience of red, while viewing a ripe tomato; or knowledge, on the same occasion, that she is having an experience of this phenomenal type? (Tye, 2000, p. 155)

We can present the reasoning which underlies the conclusion that Mary gains new propositional knowledge as a combination of three ideas, which we may call the propositional knowledge argument (hereafter PKA).

- (1) Pre-release Mary had only the non-phenomenal concept of red; and after release she gains the new phenomenal concept of red.¹⁰
- (2) She can form phenomenal beliefs (i.e. new thoughts or beliefs which pre-release Mary could not truly form) such as “this is ω ” involving the application of this new phenomenal concept.
- (3) Then, Mary gains genuinely new propositional knowledge.¹¹

¹⁰ Following Balog (2009), we can describe phenomenal concepts as “special, subjective concepts we apply to experience” and which are commonly accepted to be possessed in undergoing the relevant experiences. For detailed and different definitions of the notion of phenomenal concept, see Ball (2009) in addition to Balog (2009).

¹¹ I think that not all refutations of KA which are generally classified as a “New Knowledge / Old Fact” view accept PKA. For instance Churchland (1989) can be interpreted as accepting that post-release Mary gains a new way of thinking red and expressing the same facts in this new way without claiming that Mary's genuine epistemic gain includes new propositional knowledge. Churchland is also different from others in that he does not appeal to phenomenal concepts. However, NK/OF defenders such as Loar (1990) and Tye (2000) claim that Mary's new knowledge is knowledge-that or propositional and this is in virtue of her gaining the phenomenal concept of red. For this reason, it is not surprising that Churchland's view is also different from others in that underlying considerations of

PKA is orthogonal to dualists and the defenders of NK/OF. Dualists think that post-release Mary learns some facts which pre-release Mary did not know. Let's call this view "New Facts Thesis" following Alter (1998).

NK/OF's denial of KA is based on the idea that phenomenal concepts post-release Mary gains after seeing colored objects refer to the same physical properties to which pre-release Mary's non-phenomenal concepts refer. Though post-release Mary's beliefs are totally new (because she believes them in anew, phenomenal mode of presentation and her new beliefs express different thoughts), these propositions were already known by pre-release Mary in non-phenomenal mode of presentation. So, Mary gains new propositional knowledge which points to old facts in another mode of presentation. This is possible because of the fact that different concepts can refer to the same property and accordingly different propositions can refer to the same fact. Why the facts are the same is because the same physical properties of experience and truths make different propositions which are thought in different modes of presentations true. Although the defenders of NK/OF deny the New Facts Thesis, they insist that Mary's epistemic gain includes knowledge-that or propositional knowledge even if pre-release Mary already knew all the facts there are to know about colors.

One can argue against PKA in the following ways:

Way 1: (1) is wrong. That is, Mary gains no new concept or belief. Since (2) requires (1) and (3) requires (2), the argument fails.

A successful denial of phenomenal concepts would probably stop PKA and perhaps KA in its first step.¹² But I will not get into the debate whether there are

his view intersect with other types of refutations of KA. Churchland's view exemplifies the Acquaintance Hypothesis. And again, it is not surprising that Churchland's view is close to another reply discussed in 5.3.2.

¹² Ball (2009) successfully argues that KA is strongly committed to phenomenal concepts.

phenomenal concepts because I think it can be assumed for the sake of PKA that there are phenomenal concepts in the light of the following consideration: given there are two different modes of presentation (non-phenomenal and phenomenal modes) regarding colors in beliefs of pre-release Mary and post-release Mary, there are two senses, thus two thoughts. And if there are two thoughts then two different concepts are at work in these thoughts because concepts are constituents of thoughts. For this reason I will not object to PKA by denying the first premise of it.

Way 2: (1) does not entail (2).

I have no idea how (2) does not follow (1) directly.

Way 3: I will assume (1) and (2) but deny (3).

I will try to show that the New Facts Thesis is wrong in 3.1. Then I will try to refute the view that Mary's real epistemic gain includes some propositional knowledge in 3.2, which is the other flank of (3). In 3.3, I will present some considerations in order to provide some intuitive support to the denial of (3). Lastly, I will present some replies to arguments for (3).

3.1 Against New Facts Thesis

In this section, I will try to show that Mary, after gaining the phenomenal concept of colors, cannot form a proposition which pre-release Mary could not know in non-phenomenal mode of presentation.

Let's first take "Red_p is darker_p than yellow_p".¹³ She already knew that red is darker than yellow in her confinement though she did not know "Red_p is darker_p than yellow_p". The difference is in the different ways she thinks this proposition before and after her release. Consider another famous phenomenal belief: "the sky appears

¹³ I will follow Nida-Rümelin's (1995) subscripting convention in which the subscript "p" means "phenomenal" as opposed to "np" which means "non-phenomenal". So, Red_p refers to phenomenal quality of redness while Red_{np} refers to non-phenomenal (neural, optic, etc.) connotation of redness.

blue_p". Again, she already knew that the sky appears blue in non-phenomenal mode of presentation. These examples are simple ones because they were probably written in Mary's books. But there is more to Mary than that she can understand what she reads. With the help of her vast knowledge and high-tech devices, she can make "bold predictions" in the words of Popper. For instance, if she gets all the required information about light conditions, surfaces of objects, etc. outside the room, she can tell which objects appear in which color.

What about the most famous proposition, namely "this is what it is like to see red"? If she knows every fact in her black-white room, as NK/OF accepts, it would be weird to claim that this proposition is not available to her.¹⁴ One might say that it is inaccessible because, unlike other propositions, there is an indexical, namely "this", in this statement. But as Tye points out, "it is not at all obvious that captive Mary cannot perceptually demonstrate it, as it is tokened in others outside her room - given the appropriate finely focussed, high-tech, viewing apparatus" (Tye, 2000, p. 156).

Indeed, it is not difficult to imagine that Mary can say that "this is what it is like to see red" when she observes someone else's brain. This is possible because the same experience can be both expressed in phenomenal terms and in more fundamental, physical, non-phenomenal terms. For instance, when we recognize an object as red, we compare our ongoing phenomenal state, let's call it e-phenomenal, to our previous experiences with red, which we may call E-phenomenal. But for the same experience, there are also e-physical and E-physical as counterparts of e-

¹⁴ Nemirow also underlines this fact as follows:

Given KA's opposition to physicalism, a proponent of KA who endorses the view that knowledge of (X) [X stands for the proposition that "this is what it is like to see red"] is knowledge of what it's like to see red is committed to this proposition:

(Y) Before her release from captivity, black-and-white Mary cannot know the truth of (X) in the coarse-grained sense. Yet it is difficult to see how (Y) can be true considering all the science that Mary knows during her captivity. (Nemirow, 2006, p. 42)

phenomenal and E-phenomenal. Pre-release Mary does not know anything about e-phenomenal red and E-phenomenal red but she can know E-Physical red and obtain e-physical red by means of her high-tech devices and she can compare e-physical to E-physical, just as we ordinary people compare e-phenomenal to E-phenomenal.

Imagine that Mary has a roommate, say Catherine. Catherine is allowed to see a red thing outside through a hole in the door of the black-white room. Mary, with the help of her vast physical knowledge and highly developed observation and measurement methods, techniques and devices, can observe what is going on in Catherine's brain. She gains e-physical in this way. The rest is easy: She compares e-physical and E-physical and knows whether e-physical fits E-physical to an acceptable extent, i.e. whether Catherine sees red or not. We can even imagine the following: Mary asks Catherine to say the color she sees and Catherine says "I am not sure but probably it is orange". Mary laughs at her reply and says "No, Catherine, this is what people normally call Red".¹⁵

Mary's success in knowing the truth value of a proposition which she cannot form without having the relevant experience is not unusual for physicists. After all, in a sense, physical translations between the propositions including, as it were, higher order concepts (assuming Mary gains a new concept) and the ones including more fundamental concepts enable us to make this type of predictions. For instance, if you exactly know physical conditions of boiling of water and have all the relevant knowledge (pressure, heat, etc.) about the water in a pot in a kitchen, you don't have

¹⁵ Furthermore, with the help of adequately advanced physics and technology, Mary can transfer and process the relevant color information, so to speak, in Catherine's brain, create a digital image from it and project the image into an external screen that she cannot see and say that "look at the red in Catherine's brain! It is the answer of ω ". By presenting this science-fiction scenario, I also intend to underline two things: 1) Although Mary cannot deduce the information of ω from the propositions she has, she can assess all types of phenomenal propositions and visualize the information related to red encoded in Catherine's brain, just as Catherine's brain does in the usual ways. This scenario is possible (assuming there is no physical constraint) owing to the fact that phenomenal information of redness is completely physical (2) There is a parallelism between physical and mental representations of red which can be seen as answers or examples of ω .

to see the water boiling in order to say that the water in the kitchen is boiling. This is possible just because propositions including the term “boiling” can be reduced to some more fundamental propositions in which there are more fundamental concepts such as “heat” than “boiling”.

A physicalist can generalize this approach to the extent that it covers all types of phenomenal propositions and legitimately claim that “Complete physics has an E-physical for every E-phenomenal and where e-physical knowledge is accessible, Mary, who knows every E-physical, can know all propositions which consists of any phenomenal concept without having relevant experiences” thereby shifting the burden of proof to the anti-physicalist. To deny this, the anti-physicalist must explain why complete physics cannot have an E-physical for every E-phenomenal.

What is important for assessing KA is whether pre-release Mary can know the truth values of all the phenomenal propositions in non-phenomenal mode of presentation.¹⁶ Physicalism, reductive or non-reductive, is committed to say that she can know because the same physical facts make both phenomenal propositions and their non-phenomenal counterparts true. So, claiming that Mary cannot know them is claiming that these terms refer to the non-physical thus which is beyond the purview of physical sciences. This claim begs the question whether physicalism is true because it assumes what needs to be proved: physicalism is false.

¹⁶ It can be rightly claimed that even if propositions including phenomenal concepts such as phenomenal red can be known by pre-release Mary, Mary cannot fully understand them. But, what is at stake for KA is to know a proposition rather than to fully understand its content. However, this very difference between to know a proposition and to fully understand it intimates that there is some knowledge which can be labelled as ω and which Mary lacks.

3.2 Against NK/OF

3.2.1 In pursue of genuinely new knowledge in NK/OF

The above conclusion that every phenomenal proposition can be known under a non-phenomenal way is a threat to KA rather than NK/OF. As Nida-Rümelin concisely states, according to NK/OF, “What Mary learns after release is made true by a physical fact that she already knew before her release” (Nida-Rümelin, 2016, Section 4. 4). In other words, NK/OF, as a physicalist view, claims that truth makers and truth conditions of phenomenal propositions are the same as those for their non-phenomenal counterparts. So, a defender of NK/OF can happily acknowledge that there is no phenomenal proposition including “this is ω ” which cannot be known under a non-phenomenal way.

But where is the genuinely new knowledge that post-release Mary gains according to NK/OF? An answer typical of NK/OF is this:

Consider now Mary's thought that she is having an experience of this phenomenal type, as she introspects her first experience of red. Here it is certainly the case that she cannot think this thought truly, while she is held in her room. For the concept this, exercised in her thought, refers to the phenomenal quality associated with her experiencing red. So, once again, when she thinks a thought of this sort on the appropriate occasion, she is making a genuine discovery. (Tye, 2000, p. 156)

Mary's genuine discovery for NK/OF lies in the propositions in which “this” refers to phenomenal character of red such as “this is the experience of red” (Tye, 2000, p. 159) or “Coconuts have this taste” (Loar, 1990, Section 7). For convenience, “this is ω ” can be used for the propositions in which the genuine discovery of Mary lies according to NK/OF. We have seen that pre-release Mary can determine the truth value of even this type of propositions and express it for someone else's experience. But NK/OF's point is beyond determining the truth value of propositions. This is because knowledge is intensional, in other words one can believe a proposition P1

and not believe another proposition P2 even if P1 and P2 refer to the same truth. So, propositions individuate not only by their extensional reference or the truth-value but also by their intensional senses. Typical examples involve Fregean cases in which the thoughts or senses differ while the truth value remains the same.

Tye's example is that: The thoughts expressed in "Cicero was an orator" and in "Tully was an orator" are different because of the conceptual difference between Cicero and Tully. Even if Cicero and Tully refer to the same person, one can believe the former without believing the latter. "This is precisely why it is possible to discover that Cicero is Tully" (Tye, 2000, p. 157). Let us analyse Mary's case in the light of Fregean cases:

When Mary after seeing a red object says "this is ω ", "this" refers to the phenomenal quality of red. Pre-release Mary can express this sentence in a non-phenomenal way and determine the truth-value of it. The difference is in thought, in sense because of the conceptual difference between two occurrences of "this". That is, "This_p is ω " and "This_{np} is ω " are different not in the reference or truth-value level but in the sense (or thought, or mode of presentation) level.

Considering that the real discovery in Fregean cases is the discovery of Cicero's being identical to Tully, the real discovery in Mary's case must be the discovery of identity that This_{np}=This_p what we may describe roughly as identification-in the loose sense-of neurophysiological concept of red with phenomenal concept of red. And we can accept that "this is ω " reflects the identification of Red_p with Red_{np}.¹⁷

To summarize NK/OF's construal of Mary's epistemic gain, we can list three key ideas:

¹⁷ When Mary sees the ripe tomato, she can infer that Red_p is This_p on the ground that ripe tomatoes appear red to typical persons and she is a typical person. In this way, the equality of Red_p=Red_{np} is tacitly established. In this sense This_p refers to Red_p.

- (1) Mary's case is parallel to Fregean cases.
- (2) Mary learns old facts in a new (phenomenal) mode of presentation.
- (3) Mary's genuine discovery lies in the proposition that "This is ω " and this shows that Mary gains some propositional knowledge.

On a closer look, we can see an important problem in this triad. If (3) and (1) are true, then (2) must be false. This is because in Fregean cases one can learn the identity of different concepts as a new fact in the robust sense. But this contradicts (2).¹⁸

One might argue that NK/OF can survive the exceptional status of "this is ω ". In this case while all other phenomenal propositions are known to pre-release Mary in a non-phenomenal mode of presentation, this cannot be known by her. But this option brings about many problems for NK/OF because firstly we have seen that Mary could express even this proposition for someone else. Even if our conclusion on this issue is wrong, it is difficult to see how pre-release Mary could not know the truth-value of "this is ω " given that she knew all the relevant facts. Lastly, this option would be an execution warrant for NK/OF because it would prove that post-release Mary gains some factual knowledge in the robust sense which directly concludes that KA is true.

It seems that (2) is indispensable for NK/OF. (1) is also essential because the whole project of NK/OF strongly rests on the established parallel to Fregean cases. There seems no option but denying (3). But denying (3) is not enough because if (1) is true, we need to find a room for a genuine discovery as in the cases of Fregean cases. Furthermore, this discovery must be in the identification of the

¹⁸ Crane's (2001) criticism against NK/OF is in the similar vein.

neurophysiological concept of red and the phenomenal concept of it, namely it must lie within the expression of “this is ω ”.

Let’s examine this expression in detail:

- (1) It is a proposition.
- (2) But this proposition is not new to Mary in the coarse-grained sense.
- (3) It must comprise genuine knowledge because it tacitly represents the concept identification (between Red_p and Red_{np})

If (1) is true, then this proposition must contain more information than its propositional content. It is difficult to see this information in the form of “This is ω ”. As such, it expresses the same fact pre-release Mary already knew in the form of “ This_{np} is ω ”. What pre-release Mary did not know was “ This_p is ω ”. Why she did not know this is because she did not know the phenomenal counterpart of This_{np} , i.e. This_p . This explains how pre-release Mary could know “This is ω ” while she could not know the phenomenal character of red, namely This_p .

This suggests that we must make a distinction between knowing “ This_p is ω ” and knowing “ This_p ”. In this way we understand why knowing “ This_p is ω ” does not provide Mary with genuine knowledge but it still bears some genuine knowledge. So, the epistemic extra load in knowing “ This_p is ω ” is This_p . Remember what This_p exactly is: It is what it is like to see red. After all, this is obvious from “this is ω ”. So, learning This_p is learning ω and vice versa.

It can be argued that learning This_p does not mean learning ω because it has no reference to red as opposed to ω . This objection resembles Nida-Rümelin’s point illustrated in the Marianna case. Before discussing that case, let me remind you that This_p represents Red_p as mentioned in the note 17. In other words, Mary learns that

Red_p is This_p before thinking that This_p is ω . So, “This_p is ω ” is identical to “Red_p is ω ”.

Once we focus on “This_p” (or “Red_p”) rather than “This_p is ω ”, it appears clearly that Mary’s genuine discovery cannot be propositional simply because This_p cannot be true or false while “This_p is ω ” is obviously propositional. After all, how can a qualitative character alone be true or false? There are of course some counter-views held by the proponents of PKA but as will be seen in 3.4.1 and 3.4.2, these views fall in the trap of mistaking the phenomenal quality itself with a proposition which deploys it thereby providing knowledge-that.

That some knowledge invokes other knowledge is not unusual and the relation of the knowledge of phenomenal redness to the whole proposition “This_p is ω ” (or “Seeing red is like this”, or “this experience has this phenomenal character”, etc.) is one example. Here is another example of an “information in information” case which is structurally similar to “This_p is ω ”: “This is why Napoleon lost Waterloo: He scorned Wellington”. When this proposition is compared to our “This_p is ω ”: , it seems clear that the type of information provided by ¹⁹, which we may call “phenomenal knowledge”, is different from the type of information provided by “Napoleon scorned Wellington”.

In a nutshell, Mary’s learning some propositions involving phenomenal redness only shows that she gains some propositional knowledge, albeit not by gaining a new fact, in addition to her gaining knowledge of phenomenal redness which seems non-propositional.

¹⁹ These red figures can be displayed black in some print versions of this paper. The reader should understand them as being red.

3.2.2 Marianna case

Martine Nida-Rümelin's (1995) Marianna case is supposed to show that (1) Mary's "mere acquaintance with kinds of color experiences" (Nida-Rümelin, 2016, Section 3. 3) is not enough to explain her epistemic progress and (2) Mary's forming phenomenal beliefs are examples of her genuine propositional knowledge. To her, post-release Mary gains a phenomenal belief which involves "the application of the appropriate phenomenal concept" (Nida-Rümelin, 2016, Section 3. 3). She introduces Marianna to illustrate her point: Marianna, at t1, like Mary, lives in a black-white room. At t2, she sees colored, artificial objects. Besides, she is told color names of some natural objects. But, since she is not allowed to see any natural thing, she cannot match these color names with phenomenal concepts of colors. For instance, when she sees a red wall, she does not know its color. However, in the non-phenomenal sense, she knows that the sky appears blue to a typical human being. But, when asked to choose the color which appears red to people when they see the sky from among red, blue, green and yellow slides, she might choose the red slide. At this stage, she can believe both truly that (P1) the sky appears Blue_{np} and falsely that (P2) the sky appears Red_p . Finally, at t3, she comes to know that (P3) the sky appears Blue_p to typical persons. According to Nida-Rümelin, at t2, Marianna gains phenomenal concepts of colors and at t3 she applies an appropriate phenomenal concept of blue in her propositional knowledge that the sky appears Blue_p .

This case really shows that Mary's epistemic progress cannot be explained by her "mere acquaintance with kinds of color experiences" because seeing something red without knowing that what is seen is red does not provide one with a phenomenal concept of red. For this reason, Marianna at t2 had KitchenWall_p or Table_p but no Red_p or Blue_p , etc. Marianna did not know $\text{Blue}_p = \text{KitchenWall}_p$ assuming in her

special room the color of the wall of the kitchen is blue. That is why she wrongly believed that Blue_p is the color of a red slide (say slide2) for instance at this stage. That is also why Marianna learnt at t_3 that “The sky appears Blue_p ”. Briefly, Marianna case shows that (1) is true.

However, the real issue is whether (1) entails (2). Nida-Rümelin claims that once we distinguish the epistemic progress at t_2 (which provides one with only acquaintance with colors) from the epistemic progress at t_3 (which provides one with the propositional knowledge), the epistemic progress at t_3 cannot “be happily described by talk of knowing what it's like” (Nida-Rümelin, 2016, Section 3. 3). But a closer look at this case shows that both Marianna’s wrong phenomenal belief (P2) at t_2 and her true belief at t_3 (P3) rely on her (not) knowing what it is like to see blue.

As mentioned before, at t_2 , Mary could not gain the phenomenal concept of blue or what it is like to see blue, namely Blue_p . If she had this concept at t_2 , she would choose the right slide. In her wrong belief, what she actually asserts is that $\text{Blue}_p = \text{Red}_p$. This can be seen in the following triad:

The sky appears blue.

The sky appears Slide2_p (Red_p).

Then, $\text{Blue}_p = \text{Red}_p$.²⁰

As for her epistemic progress at t_3 , her progress at this stage seems to lie in her forming the phenomenal belief that “The sky appears Blue_p ” but what she actually gains is Blue_p . This can be seen in the following triad:

²⁰ This means that Marianna at this stage does not know what Blue means exactly despite her possession of the concept Blue. A detailed meta-linguistic solution to Marianna including the above idea can be found in Meyer (2001). According to Meyer, if we interpret Marianna’s beliefs at t_2 , as presented by Nida-Rümelin, “The sky appears Blue_{np} ” and “The sky appears Blue_p ” do not mean that she holds two contradictory beliefs (The sky appears blue and the sky appears red). Instead, she has two compatible beliefs: (1) “During the test, Marianna believes that the color of the sky is called “blue” in English” and (2) “During the test, Marianna believes that the sky is red”. And the story goes as follows: (3) “After the test and after an appropriate period of learning, Marianna believes that the sky is blue” As seen and as Meyer points out, there is no contradiction between these three beliefs, thus, no contradiction to solve and lastly no need to posit a new type of belief, namely “phenomenal belief”, pace Nida-Rümelin.

The sky appears blue.

The sky appears This_p.

Then, Blue_p=This_p.

In the first triad, what makes P2 wrong is her unknowing Blue_p, namely what it is like to see blue. In the second, what she learns is again Blue_p, namely what it is like to see blue. For this case to show that Marianna's epistemic gain lies in her forming the proposition that "The sky appears Blue_p" rather than her learning what it is like to see blue, (1) Marianna must learn what it is like to see blue at t2 and (2) she must learn something different from what it is like to see blue at t3. But neither (1) nor (2) is true. On the contrary, the Marianna case clearly shows that the key epistemic element is what it is like to see blue both at t2 and at t3²¹, and that we can still happily describe Mary's and Marianna's epistemic story in terms of (un)knowing what it's like.

One might argue that it can still be said that Marianna learns "This is what it is like to see blue" at t3. But this proposition could be known by Mary at t2 without seeing any colored slide as mentioned in 3.1. Actually, as for t3, Marianna's story is the same as Mary's story. Thus, we can say the same: The sky appears Blue_p represents the same fact which Marianna already knew in the non-phenomenal mode of presentation: The sky appears blue. So, unlike learning what it is like to see blue, confirming the same fact cannot be counted a genuine discovery.

²¹ Nemirow points out this as follows:

What is indeed unavailable to both Mary and Marianna (in their color-deprived states) is the kind of knowledge that Marianna acquired at t2, and this may be described as knowledge of what it's like to see colors. To obtain this knowledge, visual exposure to colors was required; no number of words would have sufficed. Marianna's epistemic progress at t3, by comparison, did not require that she be exposed to the sky. That development could have been triggered by a verbal reference to what she already knew at t2 —say, by a teacher telling her, "Marianna, the color of your kitchen wall is the same as the color of the sky!" (Nemirow, 2006, p. 41)

To put it differently:

- (1) Marianna knew that the sky appears blue. (this expression represents the fact both the relevant phenomenal and non-phenomenal propositions point to)
- (2) Marianna learns that the sky appears Blue_p . (phenomenal proposition pointing to the fact represented in (1))

What is the epistemic difference between (2) and (1)? It seems clear that the difference is between Blue_p (phenomenal character of blue) and topic-neutral blue suggesting that Marianna's epistemic progress lies within her learning Blue_p .

And lastly, here is another good intuitive support provided by the Marianna case:

- (1) Marianna believes that $\text{Blue}_p = \text{Slide2}_p$ (at t_2)
- (2) Marianna believes that $\text{Blue}_p = \text{Sky}_p$ (at t_3)

Again, the only difference between (2) and (1) is in the different attributions to Blue_p , namely what it is like to see blue.

3.2.3 No Genuine Knowledge in NK/OF

To conclude, Mary's robust epistemic gain is not based on her phenomenal beliefs but on her learning ω . Let me give an example to support this conclusion: Martin is a deaf person who knows all the notes of all the pieces of Bachalbel. He knows not only notes but also everything about the feelings resulting from hearing Bachalbel's music. For instance, he knows that the Canon in D is more relaxing to typical persons than the Canon in Re Major. One day (day 1), he learns that there is a concert hall which has a screen to display all the notes of music played by the orchestra. He attends a concert in this concert hall. He cannot of course hear anything but he learns from the notes displayed on the screen that the orchestra is playing the Canon in D.

He turns to his concert friend and says that “this is what it is like to listen to the Canon in D”.

In another day (day 2) he undergoes an operation which enables him to hear sounds. And he goes to the same concert hall to listen to the Canon in D again. After hearing the Canon in D and the Canon in Re Major, it can be said that he gains a phenomenal concept concerning listening to the Canon in D and the Canon in Re Major. In this way he adds a new representational instrument to his cognitive repertoire. Now he can confirm the proposition that the Canon in D is more relaxing than the Canon in Re Major in a phenomenal way. Now which one seems right? (1) Because he can form new propositions (because of their new mode of presentation), his epistemic gain includes propositional knowledge; or (2) since his new phenomenal beliefs are based on his hearing the Canon in D and the Canon in Re Major, and the information provided by the relevant sounds are not propositional, his epistemic gain is non-propositional.

If PKA’s thesis that Mary gains new propositional knowledge upon seeing red is true, it is also true that Martin, in day 2 in his first listening to the Canon in D, gains not only the phenomenal concept but also the knowledge that this is what it is like to listen to the Canon in D. But he already knew this in day 1 in a non-phenomenal way just as pre-release Mary knew “this is ω ” without seeing red. And if we cannot plausibly say that Martin makes a genuine discovery when he thinks or says “this is what it is like to listen to the Canon in D” in day 2, we cannot also say that Mary makes a genuine discovery in her thinking “this is ω ”.

We can see that (2) is more plausible in the reverse case of Mary as well. Uneducated Mary knows that red is darker than yellow, the sky appears blue, etc. in only the phenomenal mode of representation. One day she learns some propositional

knowledge about the relation between light waves and colors, neural correlates of experiencing with primary colours etc.; and this knowledge enables her to form some propositions in the non-phenomenal mode of representation. For instance she confirms the proposition that “red is darker than blue” in the light of her new propositional knowledge about colors. Can we say that her epistemic gain includes some propositional knowledge because of her proposition that “red is darker than blue” in its new guise? It seems clear that her new knowledge is propositional not because of the proposition she already knew in the phenomenal mode of presentation but because the only new actor is propositional knowledge about colors in her epistemic story.

On the face of it NK/OF’s interpretation of Mary’s epistemic gain accepts that Mary learns something. But because it finds the epistemic progress in post-release Mary’s propositions which pre-release Mary already knew in the non-phenomenal mode of presentation, it does not do justice to Mary’s epistemic gain.

On this issue, Tye criticizes his prior position as follows:

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 a 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. (Tye, 2009, p. 51)

Indeed, claiming that Mary makes a genuine discovery, which is represented in propositions pre-release Mary already knew in the non-phenomenal mode of presentation, is similar to claiming that an oncologist makes a genuine discovery that her patient has cancer when she witnesses her patient’s bodily signs of cancer even if she already knew that her patient has cancer through her inferences over medical reports of her patient.

NK/OF admits the following triad: (1) There is no new fact post-release Mary learns; (2) Mary makes a genuine discovery after seeing red; (3) Mary's epistemic gain includes propositions which pre-release Mary already knew thanks to the same facts. It seems obvious to me that (1), (2) and (3) together are inconsistent. There are only two plausible options: both (1) and (2) are true and (3) is false; and both (2) and (3) are true and (1) is false. It is difficult to deny (2). It is also difficult to deny (1) given that even "this is ω ", where "this" refers to an experience (or a phenomenal feature of it) which was precluded for pre-release Mary, is knowable by her, albeit in a non-phenomenal way. This provides us with a different insight for denying that Mary's real epistemic gain is propositional.

3.3 Other considerations against PKA

3.3.1 Blind Mary

Imagine that one day post-release Mary loses her sight due to a tragic accident after learning ω . In time, she loses her all visual memory including ω . But there seems no reason to think that her brain also loses some connections linking the concept red and other concepts. In other words, there is no reason to think that the language area in her brain²² which stores discursive or propositional knowledge will be affected by the accident. So, there is no reason to think that she also loses some propositional knowledge.

It can be said that she would not form phenomenal beliefs and this shows that she would lose some propositions. This is the reverse case of post-release Mary's learning phenomenal knowledge-that. Post-release Mary gains a phenomenal concept

²² In 6.1 and 6.2, the relation between propositional knowledge and the language area in the brain will be compared to the relation between non-propositional knowledge and some sensory areas.

and then forms new beliefs. Post-accident Mary loses a phenomenal concept and then loses phenomenal beliefs.

But even this interpretation underlines the fact that the key epistemic actor in Mary's story is the phenomenal concept. This might be seen more easily if we compare Mary's epistemic gain to typical Fregean cases. Oedipus learns that Jocasta is her mother. What he learns is clearly propositional. His epistemic gain and the proposition that Jocasta is her mother are the same. What about Mary? Mary firstly learns what it is like to see red and then think that this is ω . Her epistemic gain and the proposition that this is ω are different.

One might say that, as assumed in previous sections, (1) "this is ω " (or $\text{Red}_p = \text{Red}_{np}$) is equivalent to Oedipus's discovery that (2) "Jocasta is my mother". If (2) is a propositional discovery, then so is (1).

Let's focus on the differences between them: Mary already knew (1) but Oedipus did not know (2). Mary firstly gains This_p (or Red_p) then thinks "this is ω " while there is no intermediary stage for Oedipus. Oedipus's learns a new fact in the coarse-grained sense while Mary's learning ω enables her to form only new phenomenal beliefs pointing to old facts. Furthermore, pre-release Mary knew that the color of the ripe tomato is between black and white. That is to say, she knew that phenomenal redness is completely different from the taste a ripe tomato for instance. In this sense, it can be said that she already had a proposition in the form of "X is red" where X refers to phenomenal red. After release, she first learns X and then expresses that X is red in a phenomenal way. We can even imagine that pre-release Mary was perplexed about red and believed that X was a color very close to white. After release she says that "How stupid was I? Red is this_p ". Once again, if we focus on the proposition that "Red is this_p ", we can miss the real discovery of Mary: ω .

3.3.2 Mary's book once again

In 2.2.2, we have mentioned Mary's book. Let me summarize the story: The first edition, "Almost everything about colors" by pre-release Mary had some pages entitled "This is what is like to see [Color]", where [Color] refers to a different color on each page. But, unsurprisingly, there was no colored area in these pages. Suppose that instead of colored areas, there were some non-phenomenal, boring physical explanations about each color. The second edition of Mary's book, namely "Everything about Colors", by post-release Mary, adds some colored areas to these pages.

Imagine that someone who can learn colors only via Mary's books for some weird reasons reads both the first edition and the second one. As pointed out in Chapter 2, she definitely gains some additional information by reading the second edition. But what is this additional information exactly? If we follow the NK/OF approach, she learns that the colored area is what it is like to see the color pictured or the color pictured is the phenomenal counterpart of non-phenomenal descriptions of the color. Obviously, this expresses so small and trivial part of the reader's epistemic gain that it misses the real discovery of the reader: what it is like to see colors, namely, in which particular ways they appear to typical human beings, assuming of course our reader is a typical person. The moral of the story is that: Although it seems to do justice to the epistemic gain of Mary, NK/OF is a deflationary view about the cognitive gain of Mary from the epistemic point of view.

3.4 Some counter arguments or criticisms

3.4.1 Argument from propositional content of representations

One might argue that since perceptual experiences are representational and they can be true or false depending on whether they represent the world accurately or not, it can be said that believing something to be red is a propositional attitude. From this it can be concluded that the qualitative character of redness has also propositional content.

Let's listen to Byrne's summary passage:

Perceptual experiences, like the familiar propositional attitudes, are representational or intentional mental states. And, also like the propositional attitudes, they have propositional content, which specifies the way the world seems to the subject. If the world is this way, the experience is veridical. If the world is not this way, the experience is some kind of illusion. (Byrne, 2002, p. 125)

It can be said undoubtedly that Mary's seeing the ripe tomato as being red has the propositional content that the ripe tomato is red and round. If the tomato Mary sees is red and round, then the experience is veridical. However, this issue is irrelevant to the issue whether learning ω is getting some propositional knowledge. Similarly, Mary's belief that "this is ω " also has propositional content (what "this" refers to is something that typical persons call red). But this does not show that the phenomenal character of redness itself has propositional content. Otherwise we would have to say that roundness alone has propositional content too just because it is a part of the representational content of "the ripe tomato is red and round".

Lycan's (as cited in Nemirow, 2006, p. 41) objection to the Ability Hypothesis makes a similar mistake: in imagining what it is like to see something, "there is such a thing as getting "what it's like" right, representing truly rather than

falsely, from which it seems to follow that "knowing what it's like" is knowing a truth".

If we follow this view, every type of content can be counted propositional insofar as they are parts of representational content. For instance, when one imagines ω , this means that redness or ω is propositional just because she is in a propositional state in which she tacitly asserts that "this mental representation is ω ". It must be noticed that what is propositional is the whole sentence rather than "this mental representation". When I play the ninth symphony of Beethoven in my mind while of course believing that "this is the ninth symphony of Beethoven", it does not follow that the ninth symphony of Beethoven played in my mind is also propositional from the fact that "this is the ninth symphony of Beethoven" is propositional.

In a similar way, Nemirow (2006) replies to Lycan as follows: "the assumption that representational content is propositional does not justify the conclusion that the content qualifies as "phenomenal information"²³ (p. 42).

3.4.2 Argument from reformulating knowing what it is like as knowing that
Tye mentions Lycan's argument for the idea that knowing ω is an example of knowing a truth as follows:

Lycan tells us that instances of 'S knows wh-. . . ' are closely related to 'S knows that. . . '. For example, 'I know where Tom is' is true in virtue of my knowing that Tom is in such-and- such place. Likewise 'you know who Bill Clinton is' is true in virtue of your knowing that Bill Clinton is so-and-so (e.g., the president of the USA). This model leads Lycan to propose that 'S knows what it is like to see blue' means (roughly) 'S knows that it is like Q to see blue, ' where 'Q' names the pertinent phenomenal quality. (Tye, 2000, p. 147)

Tye poses two possibilities to reply to Lycan's argument: (1) one can use, like pre-release Mary, "Q" to symbolize the phenomenal quality in question, and yet

²³ By the expression "phenomenal information", Lewis and Nemirow mean phenomenal, non-physical facts alleged by KA.

cannot know what it is like to experience Q. Besides, on the contrary, (2) one who knows what it is like to see red may not have a symbol referring to what it is like to see red.

It can be argued against Tye that one can use Q to describe the pertinent phenomenal quality only if one has undergone a relevant experience. That is, if one has Q, it necessarily refers to an experienced phenomenal quality. So, neither (1) nor (2) is possible. In this case, Lycan's paraphrasing of knowing what it is like as "knowing it is like Q to see blue" becomes the same as our old friend with respect to seeing red: "this is ω ", where "this" refers to Q, namely the phenomenal character of redness.

To repeat the analysis "this is ω " presented in 3.2.1: it does not follow that ω is propositional from the fact that we can use ω in a sentence in a propositional format. That is to say, we must distinguish "this is ω " from ω itself. And if "This" is identical to ω , then knowing "this" means knowing ω as opposed to Lycan's paraphrasing.

In general, it is fertile to try to prove that to know ω is to know-that just because we can use ω in a sentence in the form of know-that. All the other considerations aside, one can paraphrase "S knows what it is like..." sentences in a way in which there is no that-clause. The most typical one involves "what it is like to" such as "Mary learns ω ". Here is another example in the same form from Jackson's original KA: After transplanting the optical system of Fred, who differs from typical persons in that he can see an extra color, "people would say, "At last we will know what it is like to see the extra colour"" (Jackson, 1982, p. 42). It is not difficult to find other examples: "I know how blue appears to people" or simply "I know phenomenal blue". In presenting these examples, I am not claiming that these

paraphrasings show that knowing what it is like is not knowing that-, unlike Lycan who concludes the opposite from his own paraphrasing. My point is just that we must not overly rely on ad hoc paraphrasings of knowing what it is like because apparently this method is double-edged.

3.4.3 An argument for the New Facts Thesis

One might complain about my idea that identification of different concepts, which provides new knowledge in the coarse-grained sense in Fregean cases must consist in post-release Mary's thought that "this is ω " which symbolizes Mary's new propositional knowledge according to PKA. According to this objection identification of different concepts must be the identification of Red_p with Red_{np} (" Red_p is Red_{np} ") in Mary's case for the following reasons:

O1: Oedipus knows that he is married to Jocasta.

O2: Oedipus does not know that he is also married to his mother because

O3: He does not know Jocasta is his mother.

In the above Fregean case, since Jocasta and Oedipus represent the different concepts, Oedipus identifies Jocasta with his mother when he makes a new genuine discovery that Jocasta is his mother. Using this schema for Mary's case:

M1: Mary knows that Red_{np} is ω .

M2: Mary does not know Red_p is ω because

M3: She does not know Red_{np} is Red_p .

So, a correct identification of different concepts must be " Red_p is Red_{np} ". And the striking conclusion: Unlike "this is ω ", pre-release Mary could by no means know this proposition. So, post-release Mary gains propositional knowledge in the coarse-grained sense, suggesting KA is true.

As mentioned before, “this is ω ” tacitly implies that “ Red_p is Red_{np} ”. Let me clarify this issue in detail. In an alternative scenario, as opposed to Oedipus’s learning that he is also married to his mother after he learns that Jocasta is his mother, Oedipus can learn Jocasta is his mother after he learns that he is also married to his mother. In accordance with this alternative schema:

O1’: Oedipus knows that he is married to Jocasta.

O2’: Oedipus does not know Jocasta is his mother because

O3’: He does not know that he is also married to his mother.

Using this schema for Mary’s case:

M1’: Mary knows that Red_{np} is ω .

M2’: Mary does not know that Red_{np} is Red_p because

M3’: She does not know Red_p is ω .

Presenting post-release Mary’s epistemic progress in an argumentative form:

Ripe tomatoes appear red.

This ripe tomato appears This_p .

$\therefore \text{This}_p$ is ω .

From this, Red_p is ω , which entails that Red_{np} is Red_p , namely M2’.

Alternatively (and in accordance with the objector’s Oedipus schema), we can interpret Mary’s epistemic story as follows:

Ripe tomatoes appear red.

This ripe tomato appears This_p .

$\therefore \text{Red}_{np}$ is Red_p .

From this, This_p is ω , which entails that Red_p is ω , namely M2.

As seen, in any case, Mary identifies Red_{np} as Red_p . It does not matter how exactly she does this. After all, the objection is based on the idea that pre-release

Mary could not know that Red_{np} is Red_p . This is not true for the following reason: Everyone knows that Red_{np} is Red_p on the ground that this expression of identity only means that we have two conceptions, one of which is Red_{np} and the other is Red_p for the same physical property. That is, by definition, Red_{np} is Red_p . So, the objection fails.²⁴

3.4.4 Genuine knowledge in NK/OF revisited

One might say that NK/OF is based on an innocuous fact: if someone does not know P and then learns P , she gains new knowledge. Pre-release Mary did not know “ This_p is ω ” and has learned “ This_p is ω ” after release. So, we cannot deny that Mary gains some propositional knowledge.

Our reply was that Mary’s thinking or expressing “ This_p is ω ” cannot be counted as “new” knowledge; and interpreting her epistemic gain in this way hides Mary’s real discovery. It can be said that the defenders of NK/OF can accept this on the ground that Mary learns no new fact. The key element in NK/OF is Mary’s gaining new phenomenal concepts rather than Mary’s controversial propositional gain. The objection goes as follows: We ignore this key element in NK/OF. After all, NK/OF roughly claims that Mary’s new propositional knowledge is based on her gaining a new phenomenal concept of red. So, it is unfair to claim that genuine epistemic progress is based on Mary’s forming new phenomenal beliefs according to NK/OF.

But the important issue is what Mary learns rather than on what Mary’s epistemic progress is based. After all, KA is directly about what Mary learns. Our

²⁴ As mentioned in 3.3.1, while Oedipus learns a new fact in his concept identification (“Jocasta is my mother”), Mary learns no new fact because she already knows the truth values of both “ Red_p is ω ” and “ Red_{np} is Red_p ”. To clarify the relation between Mary’s case and Fregean cases: Like typical Fregean cases, Mary identifies two concepts and gains a new mode of presentation but unlike typical Fregean cases, she learns non-propositional knowledge rather than propositional knowledge.

above-mentioned claim can be refuted only if NK/OF is read in an alternative way that finds not only epistemic progress in the conceptual repertoire of Mary but also some extra knowledge in the possession of a phenomenal concept. In such an alternative reading, it might be claimed that NK/OF finds two types of new knowledge in Mary's story: (1) Knowledge that is embedded in or comes with the phenomenal concept and (2) Propositional knowledge represented in new phenomenal beliefs.

Indeed, as I proposed in 3.2.1, once we separate "This_p" from "This_p is ω ", "This_p" would stand for (1) while "This_p is ω " corresponds to (2). There can be found other similarities between phenomenal concepts and the knowledge of red. However, when taken in a traditional way, a concept is not knowledge. All these things will be considered in 6.3.1.

Back to the criticism of our overall assessment of NK/OF: Aside from the above problem (difference between concepts and knowledge), the alternative reading of NK/OF would have to accept that Mary's new knowledge is the knowledge gained with the phenomenal concept of red mentioned in (1), given that the knowledge mentioned in (2) is not new in a robust or coarse-grained sense. In that case, what this criticism eventually points to would be in favour of our view that Mary's real discovery is non-propositional.

3.5 Concluding remarks

It seems obvious to me that Mary after release can form new beliefs on the ground that she gains a new representational tool to know the same facts in phenomenal ways. But, as we have seen in 3.1, without begging the question whether physicalism is true, there is no plausible way to deny that pre-release Mary could know all the

facts there is to know. So, KA fails because it needs new coarse-grained facts, not fine-grained ones.

From this point, the NK/OF reply to KA focuses on the propositional side, in which there is nothing new for pre-release Mary, and the claim that Mary's epistemic gain lies in her believing phenomenally that "this is ω ". Because of this wrong turn, NK/OF misses the real epistemic gain of Mary: the phenomenal counterpart of non-phenomenal red, which shows that contrary to what is believed this view does not do justice to Mary's epistemic progress, and it is deflationary a view in this sense.

Fregean semantics on which NK/OF is based suggests that identification of different concepts provides us with new knowledge in the robust sense. If we make a distinction between "this is ω " and ω , we can distinguish knowing "this is ω " from knowing ω . The fact that pre-release Mary could know the former, albeit in another mode of presentation, but not the latter, shows us that her real discovery lies in her knowing ω .

CHAPTER 4

ABILITY HYPOTHESIS

From the conclusions that Mary learns something after release reached in Chapter 2, and that Mary's new knowledge is not propositional, reached in Chapter 3, a question immediately arises: if not propositional, what type of knowledge does Mary gain in her first experience with the color red?

The first attempt to answer this question was the Ability Hypothesis (AbH) which claims that post-release Mary does not learn any factual knowledge; she gains ability to remember, imagine and recognize ω (Nemirow, 2006; Lewis 1983, 1988). So, according to AbH, in the case of Mary, knowing ω is to remember, imagine and recognize red. In general, knowing what an experience is like is having the practical knowledge which consists of interrelated abilities, a. k. a. Lewisian abilities, to remember, imagine and recognize the experience. (Nemirow, 2006, p. 32)

As Coleman (2009) pointed out, AbH has two important claims:

Reduction claim: Whatever Mary learns after seeing red can be reduced to Lewisian abilities.

No-propositional knowledge claim: No amount of theoretical knowledge can provide one with some abilities requiring practise. Mary gains (ability) knowledge which does not eliminate any possibility which was not already eliminated in the complete propositional knowledge of pre-release Mary. Lewis (1988) claims that the epistemic gain of Mary does not narrow down what she already knew in her confinement.

It is also important to state what AbH is not, or what AbH does not claim:²⁵

-AbH does not claim that gaining practical knowledge is not accompanied by gaining propositional knowledge. AbH claims that pre-release Mary would already know all the facts. So, objections such as of Levin (as cited in Nemirow, 2006, p. 37), based on the idea that propositional knowledge accompanies practical knowledge, are moot.

-Besides, AbH can answer the objections claiming that Mary gains some knowledge-that such as “this is ω ” in the same way we do in Chapter 3 on the ground that whatever propositional knowledge Mary gains after release was already known by Mary in her confinement. For instance, Nemirow claims, as claimed in 3.1, that “this is ω ” must be taken as a coarse-grained way and so taken it could be known by pre-release Mary. That is, AbH does not claim that Mary gains no propositional knowledge in fine-grained sense.

-AbH is “not committed to the view that our naked references to experiences are reducible to statements about abilities” (Nemirow, 2006, p. 39). Accusing AbH of failing to analyse some terms such as “this taste” referring to experiences is unfair. So, Loar’s objection that AbH cannot explain the fact that “references to what experiences are like can be embedded in conditionals” (Nemirow, 2006, p. 38), as exemplified in sentences like “If coconuts do not have this taste, then I will not eat them”, is unfair. As Nemirow (2006) points out AbH only asserts that “statements about knowing what an experience is like are statements about abilities rather than claims to propositional knowledge” (Nemirow, 2006, p. 38)

²⁵ See Nemirow (2006) and Tye (2000) for some replies to unfair objections criticizing some ideas which are not asserted by AbH. The list presented here is a short summary of those misattributions to AbH.

4.1 Objections to reduction claim

AbH's definition of knowing what an experience is like as remembering, imagining and recognizing the experience implies the following sufficiency and necessity claims:

The sufficiency claim:

- (1) to remember, imagine and recognize red suffices to know ω .

The necessity claim:

- (2) to remember, imagine and recognize the experience is necessary to know ω .

Against (1), Conee puts forward the possibility that Martha, who is very skilled at imagining intermediate colors she has never experienced by interpolating from other colors, yet cannot know what it is like to see a color until she exercises her imaginative ability, suggesting that Lewisian abilities cannot guarantee that one will know what an experience is like. But as Nemirow points out, AbH stipulates not only imaginative ability but also recognitional and mnemonic abilities in order to know what an experience is like. Since Martha cannot remember the color at issue, her failing to know that color is not a problem for AbH. After all, Conee himself accepts that his point only holds for Nemirow's previous ability hypothesis according to which to know how to visualize red is sufficient to know ω .

Tye also gives a similar example against the sufficiency claim of AbH in which distracted Mary, like Conee's Martha, does not know a particular hue of red despite having all the required Lewisian abilities. Nemirow's (2006) reply is simple: how can a distracted person recognize, remember and imagine that color?

Indeed, it seems blatantly implausible to deny (1) because it seems weird to claim that one who can remember, imagine and recognize an experience yet may not know that experience.

What about necessary conditions posed by AbH to know ω ? Alter (1998), Conee (1994) and Tye (2000) assert a common claim: one who has none of the Lewisian abilities can nonetheless know ω while staring at a red object. Once again AbH in the person of Nemirow (2006) demonstrates the strength of its identity claim in the face of this attack: getting knowledge of ω when one sees a red object requires the ability to imaginatively manipulate the color. Besides, if someone lacks imaginative abilities, she also lacks visual memory of colors because of the fact that the latter requires the former. Lastly, in the absence of visual memory, one cannot visually remember red even as she sees it. Briefly, since Lewisian abilities are interconnected with each other, one cannot be consciously aware of colors without one of them.²⁶

It is clear that who is right on this issue, Nemirow or the objectors, depends on empirical data: if someone who lacks Lewisian abilities can know ω while she stares at a red object, then AbH has a big problem. But even in this case, Nemirow says that she has Lewisian abilities at least at those blessed moments when she sees red (Nemirow, 2006, p. 34). But this is a very difficult position to defend because the question how one can immediately gain these abilities at the beginning of seeing red and lose them immediately after stopping seeing red is a big source of doubt for AbH.

²⁶ The requirement of imaginative abilities in visual perception claimed by Nemirow seems to be supported by a view championed by neuroscientist Kosslyn (2005) that early visual cortex supporting depictive representations during perception is also used in mental imagery.

4.2 Irrelevancy of reduction claim to KA

Although the defenders of AbH can find answers to objections to necessary conditions (defined in the reduction claim of the hypothesis) of knowing what an experience is like, this seems partly because what it takes to know something (or how we can define knowing something) is vague. However vague “to know what an experience is like” is, it seems that knowing ω in seeing red and knowing ω in general are different and AbH is a hypothesis about the latter. The problem with AbH is that KA is about the former, not the latter, as Conee and Tye point out. Moreover, what protects it from many counter-arguments (it is just a hypothesis about knowing ω) also raises doubts about its relevancy to KA’s dangerous claim that after release Mary learns non-physical facts.

Apparently, as pointed out by many such as Crane (2001), Coleman (2009), the reduction claim is irrelevant to KA’s threatening claim against physicalism in that even if post-release Mary’s epistemic gains can be reduced into Lewisian abilities, physicalists need a convincing refutation of the New Facts Thesis of KA. For sure, AbH claims that Mary gains ability knowledge rather than factual knowledge. But this is not enough to refute the New Facts Thesis because ability knowledge might include some propositional knowledge. Besides, AbH theorists do not seem even to try to develop an Ability Knowledge theory which explains why this type of knowledge cannot be learned by lessons and why we must not think that they include no other types of knowledge at all.

There might be two types of knowledge accompanying ability knowledge or underlying it: propositional knowledge or non-propositional, acquaintance knowledge. If ability knowledge consists of propositional knowledge or acquaintance knowledge, AbH can be dismissed as an irrelevant hypothesis about how we can

define “knowing ω ”. This is because as mentioned before, what is important for KA is not how we can define knowing ω but what type of knowledge Mary gains after release.

4.3 Replies of AbH to objections based on PKA

It would be unfair to claim that Lewis and Nemirow completely ignore the main challenge of KA that Mary gains factual knowledge after release. Nemirow (2006) replies to all types of “new propositional knowledge” objections to AbH, three of which are mentioned in 3.2.3, 3.4.1 and 3.4.2. Lewis also proposes some answers to physicalist replies falling into the category of what we call PKA. In order to provide more support to the denial of PKA, let me briefly mention some of these answers.

Lewis(1988) replies to a hypothesis (which we may call “egocentric knowledge-that”) according to which some knowledge, such as post-release Mary’s knowledge that she is at that time seeing red, is irreducibly egocentric, or *de se*. Pre-release Mary cannot have this *de se* knowledge until that blessed moment comes; which is no threat to physicalism. Lewis’s reply is straightforward: The knowledge of what an experience is like is different from egocentric knowledge in three respects: Mary would still know ω after knowing egocentric knowledge that she is seeing red; Mary can know ω without knowing the relevant egocentric knowledge; and lastly the gaining of egocentric knowledge may have some requirements which do not hold for gaining knowledge of ω . For instance, Mary has to wait until her 50th birthday to know that she is turning 50 but she does not have to satisfy such a similar condition in order to know ω . (Lewis, 1988, p. 83)

Lewis (1988) also answers “look-alike” views which can be interpreted as NK/OF views and which “say that experience produces 'information' which could not be gained other-wise” (p. 90) and “do not characterize information in terms of

eliminated possibilities” (p. 90). These views claim that there can be some information which does not eliminate any possibility which was not already eliminated by pre-release Mary but yet is different from what pre-release Mary had. Lewis discusses each of three “look-alike” hypotheses but gives a common answer to all of them:

Each of the look-alikes turns out to imply not only that experience can give us 'information' that no amount of lessons can give, but also that lessons in Russian can give us 'information' that no amount of lessons in English can give (and vice versa)” (Lewis, 1988, p. 90).

To Lewis, these look-alike views do not make KA go away and distract the physicalist’s attention from the real task: Denying phenomenal information thesis that there are factual, non-physical, phenomenal information eluding physicalist story and waiting for Mary outside her black-white room.

4.4 Explanatory problem of AbH

What about the other option according to which ability knowledge consists of or is related to another type of non-propositional knowledge? In that case, AbH would be downgraded to a trivial view that when we know ω , we gain abilities to remember, imagine and recognize red and vice versa, which is innocuous for all parties involved in the debate on KA. But before this, we must discuss an important question: Should not we simply accept that Mary gains ability knowledge rather than factual knowledge or that Mary gains only Lewisian abilities now that post-release Mary gains no factual knowledge? In other words, why do we still feel that AbH does not sufficiently depict Mary’s epistemic progress?

AbH seems to suffer from an explanatory problem because it is difficult to explain how it is possible that one can gain abilities to remember, recognize and

imagine ω without having some relevant information to be recalled in remembering, to be compared with other information in recognition and to be used in imagining.

Why AbH seems to suffer from an explanatory problem can be seen perhaps when we focus on AbH's tacit, negative claim rather than its positive claim that Mary gains ability knowledge. That tacit, negative claim is as follows: one can know how to remember, imagine and recognize ω without having any specific information related to ω . That is to say, in knowing experiences, for gaining Lewisian abilities, there is no need to gain some specific knowledge.

Undoubtedly, our brain forms new connections when we undergo some relevant experiences and we can say that ability knowledge refers to these new connections. Indeed, as Churchland (1989) explains, there is a room for this type of knowledge in our brains according to neuroscience. Does this mean AbH is true?

This negative claim can be true in some cases such as one's learning how to ride a bike. It seems plausible to think that there is no specific information, as in the case of knowing in which year Napoleon died, about how to ride a bike. However, in knowing phenomenal qualities, this model does not seem apt. There seems really some specific knowledge about the taste of sugar and the appearance of red things. When we recognize red, we seem to compare the specific information of red to others, when we remember red, we seem to recall the information related to red and when we imagine red, again we seem to invoke some specific information of red. If we accept the negative claim of AbH, it is really difficult to understand how it is possible that one can have the Lewisian abilities without any information supporting them to be recalled in remembering, to be compared with other information in recognition and to be invoked in imagining.

Gertler concisely presents this explanatory problem of AbH in the following way:

[A] I can recognize seeing-red experiences (by their phenomenal features) because I know what it's like to see red.

[B] I know what it's like to see red because I can recognize seeing-red experiences (by their phenomenal features) (Gertler, 1999, p. 323).

Gertler claims that [A] is non-trivial while [B] is trivial. Besides, “only when this “because” is construed evidentially does [B] seem plausible. When we read “because” in its explanatory sense, as we read the “because” in [A], [B] appears false” (Gertler, 1999, p. 324).

We can extend Gertler's point to all Lewisian abilities as follows:

(1) I know ω because I can remember, recognize and imagine red.

(2) I can remember, recognize and imagine red because I know ω .

Why (1) does not seem explanatory unlike (2) can be also explained as follows: (1) seems to exploit a circularity relationship between knowing ω and to remember, recognize and imagine red. If AbH tries to escape from this circularity, it loses its ground because in that case it needs to appeal to some specific information about phenomenal qualities. Let me present this dilemma: How can one know red? An answer in the spirit of (1) would be this: By gaining abilities to remember, recognize and imagine red. Alright, how can one remember red? AbH must say either that (horn 1) “if one knows red, she can remember it” or (horn 2) “if one has some information about red, she can remember”. Horn 1 clearly expresses circularity and horn 2 is not apt for the negative claim in its reduction of knowing ω into having Lewisian abilities concerning ω . Notice that (2) does not seem circular because in this option when we are asked “how can one remember, recognize and imagine red?” and when we give the answer “because I know ω ”, one can, by going out of the circle, continue to ask for instance “how can one know red?” and in return we can

say that “by gaining some special information of red”.²⁷ So, we are justified in our pursuing another type of knowledge underlying (or supporting, or accompanying) Lewisian abilities.

4.5 A special, non-propositional knowledge required for Lewisian abilities

Interestingly, we can find an open door for the knowledge of phenomenal qualities in addition to or instead of the ability knowledge required for Lewisian abilities in Lewis (1983). Lewis makes an analogy to explain why we do not need any extra specific information related to phenomenal qualities. In this analogy, there is a device with two faculties. The first faculty is a databank which stores, reasons on it and gives answers from the data it stores. Obviously, Lewis intends to express propositional knowledge stored in our brains by this data faculty. The second faculty makes a sort of template when exposed to a pattern, which it then applies to patterns presented to it in future. Lewis plausibly claims that we do not need a third faculty if we want our device to store information, give some answers, recognize patterns, e.g. whatever the faculties it already has can do. He defends AbH in terms of this analogy as follows:

If it has a full description about a pattern but no template for it, it lacks an ability but it doesn't lack information. (Rather, it lacks information in usable form.) When it is shown the pattern it makes a template and gains abilities, but it gains no information. We might be rather like that. (Lewis, 1983, p. 132)

This analogy presents a promising explanation about how our brains use different faculties with different functions and how it works with templates.

However, Lewis's no-information conclusion is very hasty. Let's take a closer look

²⁷ Notice also that, in the case of how to ride a bike there seems no such explanatory difference between the following statements: (1) I know how to ride a bike because I can remember, recognize and imagine how to ride a bike. (2) I can remember, recognize and imagine how to ride a bike because I know how to ride a bike.

at the following sentence: “When it is shown the pattern, it makes a template and gains abilities, but it gains no information”.

It is clear that the information stored in these templates cannot be descriptive or propositional because all the descriptive knowledge is already stored in the first faculty, in the databank. But why should we not regard the template made by the second faculty when exposed to a pattern as containing some special information?²⁸ Even if these templates do not contain any type of information, the template itself can be perfectly regarded as specific information. This analogy implies that Lewisian abilities are exerted via these templates. That is, (1) in recognizing, remembering and imagining red we use these templates. Now, consider the following: (2) in recognizing, remembering and imagining red we use some special information stored in (or as) templates. As seen, (2) is perfectly compatible with (1).

To conclude, as Lewis’s analogy shows, AbH is not compatible with the idea “Mary gains some propositional knowledge” but it is perfectly compatible with the existence of some knowledge which is different from propositional and ability knowledge and underpins Lewisian abilities.²⁹ Actually, Lewisian abilities need the existence of this information to recall, visualize and compare with other similar information. But the existence of such non-propositional, special information related to phenomenal qualities undermines AbH. This is because in that case AbH becomes just a reduction claim, which we have seen irrelevant to the main issue of KA. To put it briefly, without this special information AbH is not explanatory and not satisfying, and with it totally irrelevant.

²⁸ Indeed, templates are very useful files for almost every type of software and they literally include information in different types. Given they are perfect examples of information in computers, they might be regarded as information *mutatis mutandis* in Lewis’s pattern recognizing devices as well.

²⁹ It can be said that if existence of this type of knowledge is no problem for AbH, then the existence of propositional knowledge accompanying ability knowledge is not a problem for AbH. However, although reduction claim of AbH seems to survive the existence of propositional knowledge, remember AbH’s other important claim: non-propositional knowledge claim.

4.6 Concluding remarks

Even if AbH's reduction claim seems safe, it is irrelevant to KA. Although, AbH produces good answers to PKA, this is not enough for AbH to become a powerful physicalist reply to KA. This is because it has an explanatory problem to explain Mary's epistemic progress.

The idea that to remember, imagine and recognize red requires the knowledge of ω is much more plausible and explanatory than claiming the reverse. Exerting these abilities on phenomenal qualities such as redness seems to be a sort of information processing, as Lewis's own analogy tacitly suggests. And to process information, there must be some information to process. And it is this special information is what is recalled, visualized and compared in exerting Lewisian abilities.

I am not claiming that there is no ability knowledge or that ability knowledge is fictional. But as far as Mary's case is considered, the negative claim of AbH that there is no special information provided by experiences about phenomenal qualities is implausible while it is plausible in some cases such as knowing how to ride a bike or how to wiggle ears.

CHAPTER 5

ACQUAINTANCE HYPOTHESIS

In the previous chapter where we discuss AbH, we conclude that even if knowing ω can be defined as to remember, imagine and recognize red, there must be some special information of red (distinct from or instead of know-how or ability knowledge) which can be used in imagining, recognizing and remembering red. In accordance with our conclusion presented in Chapter 3 and Chapter 4, this information cannot be propositional because though the relevant propositional knowledge describing red can be useful in recognizing red, it seems impossible to appeal to propositions in order to remember and visualize red. As mentioned in Chapter 2, if you have never seen a red object, no amount of descriptions is enough to imagine or remember red. This means that no amount of knowledge-about something can provide us with knowledge-of that thing.

These considerations have led philosophers (especially Bertrand Russell) to propose a new type of knowledge in contrast with knowledge by description: knowledge by acquaintance.

To Russell,

The particular shade of colour that I am seeing may have many things said about it -- I may say that it is brown, that it is rather dark, and so on. But such statements, though they make me know truths about the colours, do not make me know the colour itself any better than I did before: so far as concerns knowledge of the colour itself, as opposed to knowledge of truths about it, I know the colour perfectly and completely when I see it, and no further knowledge of it itself is even theoretically possible. (Russell, 1912, Chapter 5)

As seen, the above passage can be perfectly posed against KA, which concludes that there are non-physical facts and thus properties concerning colors just because pre-release Mary's knowledge-about (or knowledge by description) colors

does not suffice to deduce what it is like to see red.³⁰ If we distinguish knowledge-about red and knowledge of red, it can be easily seen that KA's conclusion that physicalism is false is false because pre-release Mary had only knowledge by description concerning red rather than knowledge of red.

Following this epistemic distinction, Conee (1994), Churchland (1989) and recently Tye (2009) propose an acquaintance-knowledge based reply, namely the Acquaintance Hypothesis (henceforth AcH) to KA.³¹ Since I will present Churchland's view as a strong candidate for a unified physicalist reply in the next chapter, I will be concerned with Conee's view at large and partially Tye's view to present AcH in this chapter.

5.1 Mary's epistemic gain as acquaintance knowledge

Conee firstly paves the way for a third category of knowledge, namely acquaintance knowledge, by discrediting the New Facts Thesis and Ability hypothesis. He claims that even Jackson himself in his introducing Fred, who can see more colors than ordinary people, in addition to Mary in his KA gives some tips about what type of knowledge Fred has and Mary gains after release: "There is something about his

³⁰ De Poe (2016) claims that Acquaintance Hypothesis against KA deviates from the traditional construal of Acquaintance Knowledge originated in Russell's theorization of this type of knowledge in which, to De Poe, propositional knowledge is involved. I will not get into this issue because in citing this passage I just intend to show that we can find the roots of the Acquaintance Hypothesis in Russell's famous distinction between knowledge types in which acquaintance knowledge is taken as knowledge of something while knowledge by description is taken as knowledge about something.

³¹ In many places (Alter (2016), Nida-Rümelin (2016) and in Nagasawa & Stoljar (2004), John Bigelow and Robert Pargetter's reply to KA is also added to this list. However, the Bigelow-Pargetter reply cannot be counted as Acquaintance Hypothesis for the following reasons: They use the notion of acquaintance in the expression of "modes of acquaintance" in a way that distinguishes different knowledge states (rather than different knowledge types) in which one can know the same thing in different modes of acquaintance. They claim that pre-release Mary was already acquainted with red; and after release she only gains a new mode of acquaintance with red. As seen, their using the notion of acquaintance is not based on the distinction between knowledge-about red and knowledge-of red. The second important difference is that their view is clearly a sort of NK/OF in that their claim that Mary gains only a new mode of acquaintance with red is basically the same idea that Mary learns the same facts in a new way, in a phenomenal mode of presentation, as pointed out by Conee (Conee, 1994, Appendix: Similar Views).

colour experience, a property of it, of which we [are] ignorant” (as cited in Conee, 1994, p. 202).

Conee says that color is a physical property of our visual experiences as Jackson accepts and “to be ignorant of a property is not failing to know a fact” (Conee, 1994, p. 202). Factual knowledge is the knowledge of truths rather than properties. Mary knew already all truths about colors, what she did not know is the relevant property, namely colors themselves. It is true that some factual knowledge can accompany acquaintance knowledge but we have no reason to think that in Mary’s case there is a new fact Mary learns after release.

Conee thinks also that lacking knowledge of a property is not lacking abilities as well. To him, AbH proposes a long-term learning claim which requires one to continue to know ω . AbH’s stipulations of remembering and imagining red are unnecessary to know red while they might be necessary to learn red in the long term. This can be seen from the fact that one can know red while she sees red without having abilities to remember, imagine and recognize red, which we discussed in the previous chapter.

As a result, both factual knowledge and ability knowledge are contingent epistemic associates of knowing what an experience is like. Conee’s initial AcH hypothesis is that: “learning what an experience is like is identical to becoming acquainted with the experience” (Conee, 1994, p. 202). He also develops a more special AcH according to which “becoming acquainted with a phenomenal quality consists in experiencing the quality” (among others, in Conee, 1994, p. 202). This special AcH enables us to assess Mary’s epistemic gain in terms of experience: (initial AcH hypothesis) Mary’s acquaintance knowledge comes from her being acquainted with red; and (special AcH) her acquaintance with red becoming

acquainted with a phenomenal quality consists in experiencing the quality. Mary experiences redness as a phenomenal quality and thus directly knows ω . In her gaining acquaintance knowledge, she gains no factual knowledge just as Fred has no more factual knowledge than what ordinary people, especially color scientists, know about colors.

5.2 Objections to AcH

Conee mentions three objections to AcH in order to clarify what AcH is and is not exactly. Although Conee regards all these objections as calling for clarification, I will present the knowledge-that objection presented in 5.2.2.1 as an objection calling for justification in Conee's terms because it seems different from the remaining two quasi-objections (quasi in the sense that they target a wrong construal of AcH rather than AcH itself). Conee also replies two important objections which require Conee to not only clarify but also justify AcH.

5.2.1 Quasi-objections

5.2.1.1 A necessary condition to gain acquaintance knowledge

Feigl's idea (Feigl, 1958 as cited in Conee, 1994, p. 203) that merely experiencing does not suffice to gain any type of knowledge including acquaintance knowledge can be proposed as an objection to AcH. Conee's reply to this objection underlines a condition to gain acquaintance knowledge: noticing the experience as it is undergone.

Conee explains and exemplifies this condition as follows:

It is plausible that having experiences is sufficient for knowing those experiences. It is most plausible to hold that this is almost sufficient. The 'almost' is called for because qualities that are quickly and inattentively experienced may not be thereby known. Momentary peripheral awareness of some new shade of colour is not sufficient really to know that shade. The one

thing more that is required in order to know an experienced quality is to notice the quality as it is being experienced. (Conee, 1994, p. 203)

Only this condition, namely, noticing the phenomenal quality in ongoing experience is sufficient to know experiences or their physical, phenomenal properties. Conee emphasizes that his theory is only directed to knowing experiential qualities.

This seemingly innocuous condition of Conee's, which requires one's noticing the experience in order for her to gain acquaintance knowledge of the experience, brings about another objection which we will discuss in 5.2.3.3.

5.2.1.2 Acquaintance knowledge is genuine

Conee mentions Nemirow's objection (Conee, 1994, p. 205) to a specific acquaintance proposal according to which knowing what an experience is like is being acquainted with the experience but this knowledge is not genuine. Nemirow rightly claims that such a proposal cannot explain how we use some epistemic terms "learn", "remember", "forget" other than "know" concerning what an experience is like.

In the beginning of this chapter, we have mentioned the Bigelow-Pargetter reply which claims that post-release Mary gains only a new mode of acquaintance with the same fact and said that this reply is a sort of NK/OF approach to KA rather than AcH in that AcH does not claim that post-release Mary just comes to know an old fact in a new mode.

AcH claims that Mary gains genuine knowledge after seeing red, namely acquaintance knowledge. It is true that Mary learns no new facts but it is false that she learns just old facts. To AcH, Mary gains the genuine knowledge of how red things appear to typical human beings. Conee draws a parallel between knowledge

attributions when one says things like 'Sam knows Bill', or 'Bob knows the agony of defeat' and "Mary knows ω ". The same parallel can be drawn perfectly between for instance "Sam remembers Bill" and "Sam remembers ω " or between "Sam has forgotten the agony of defeat" and "Sam has forgotten ω ". Hence, Nemirow's objection might target the Bigelow-Pargetter reply rather than AcH.

5.2.2 Objections required for justification of AcH

5.2.2.1 Knowledge-that objection

This objection claims that Mary's knowledge of ω can be formulated in a way that shows that she gains some propositional knowledge. We have mentioned some examples of so-called knowledge-that which post-release Mary gains in 3.2.1. The example Conee discusses is a typical one: "red things look that way" which is actually just a different version of "this is ω ".

In that section, it is underlined that knowing propositions involving phenomenal qualities in the belief content must be separated from knowing ω . Once this is done, given that pre-release Mary already knew all phenomenal propositions in a non-phenomenal way and she could even know whether a phenomenal quality being enjoyed by someone else is what typical people call red, it seemed clear that the former does not contribute to Mary's knowledge in a robust sense and the latter is what really increases Mary's knowledge.

Conee, in a similar way, resists formulating "learning ω " in a way that casts it as knowledge-that. He claims that when we concentrate on the content of learning ω (this is in accordance with our focusing on the knowledge of ω rather than "this is ω " in Chapter 3), any appearance of knowledge-that is gone. "Learning what red things look like is identical to learning how red things look, and this is identical to learning the look of red things" (Conee, 1994, p. 204). Conee emphasizes that learning how

red things look is learning a look, an appearance rather than learning a fact about redness. We can add that this is because a look cannot be true or false.

5.2.2.2 The special role of experience in gaining acquaintance knowledge

The objection is roughly as follows: We can say that in her black-white room, Mary was already acquainted with red via her factual knowledge about red. However, it cannot be said that she did not yet know ω . But according to AcH, being acquainted with red is sufficient to know red. So, AcH is wrong.

Conee's reply is that: In his AcH, the assumption that one's being familiar with phenomenal qualities via factual knowledge about red is sufficient to make her acquainted with red is false. He clearly says that "someone becomes acquainted with a phenomenal quality only by noticing the quality in experience" (Conee, 1994, p. 206).

In his reply, Conee seems to be obliged to invoke his special AcH thesis (which is distinct from his initial AcH in which there is no appeal to experience in gaining acquaintance knowledge) in which acquaintance knowledge can be gained only by noticing the quality in experience. But as Conee points out, this raises the question why acquaintance with phenomenal qualities requires (more than familiarity with them via descriptive knowledge) experience while familiarity with cities or persons via descriptions about them is sufficient to be acquainted with them.

Conee's reply is that: "Having knowledge of any sort implies achieving some optimal cognitive accomplishment with reference to the object of knowledge" (Conee, 1994, p. 207). For gaining propositional knowledge, believing is not sufficient alone, it requires also justification. For gaining know-how, knowing how to do something which is part of a whole task is not sufficient. One must know how to perform the whole task. The same holds for acquaintance knowledge: "knowing

something by acquaintance requires a person to be familiar with the known entity in the most direct way that it is possible for a person to be aware of that thing” (Conee, 1994, 2755). So, one’s familiarity with a city via descriptive knowledge is sufficient to be acquainted with the city because “there is no substantially more intimate sort of awareness of a city that a person can have”. However, when acquaintance with phenomenal qualities is concerned, even knowing all the facts about the phenomenal quality is useless because phenomenal quality is known indirectly, in a conceptual representation when it is known by knowledge by description. However, there is a more direct way to be acquainted with phenomenal qualities: experiencing them. For this reason, we can plausibly claim that Mary’s propositional knowledge is not sufficient to know red. She must experience red to be acquainted with it. This is because only noticing a phenomenal quality in experience provides the most direct sort of awareness of a phenomenal quality (or the most optimal cognitive accomplishment) that is possible for a person.

Conee claims also that if one refuted this special role of experience in knowing phenomenal qualities, then one would refute KA as well on the ground that there would be no further knowledge for pre-release Mary to gain outside the black-white room given that her familiarity with red via complete factual knowledge would be enough for her to know red.

However, as Gertler (1999) points out, there seems no problem for the dualists on this issue. They can say that this epistemic difference between “knowing uncontroversially physical qualities such as those possessed by cities, bicycles, and umbrellas” (Gertler, 1999, p. 327) and the phenomenal qualities is due to ontological differences between the physical and the phenomenal. Phenomenal qualities are

essentially experiential and irreducible to the physical. That is why they cannot be deduced from physical knowledge.

As we have seen Conee tries to explain this difference by invoking the notion of directness: Experiencing a phenomenal quality thereby gaining knowledge of redness itself is more direct than conceptually represented, thus mediated knowledge by description. But Gertler asks again: Why does knowledge of a phenomenal quality require a special, direct cognitive relation to the object of knowledge, namely the phenomenal quality in an appropriate experience, while we do not need such a cognitive relation to ordinary physical objects to know them?

In addition to this serious explanatory problem, we can find some examples against the notion of necessity of direct cognitive relation to phenomenal quality to know the quality: For instance Churchland's skilled musician mentioned in 2.1.3 can know better how a musical piece which she has never heard before sounds by auditory imagining via seeing notes without listening it than an unskilled listener of the piece. Conee might reply as follows: Both the skilled musician and the unskilled listener undergo the experience with the sound of piece. But this reply has two problems: (1) Even if we accept it, Conee would have to accept that the skilled musician's imagining experience is more direct than that of unskilled listener, which is really implausible. (2) In standard experiences, given that noticing the experience is a necessary condition to know the phenomenal qualities of the experience; this means that the experience produces the relevant acquaintance knowledge. But in the skilled musician's case, it is as if auditory imagining experience is created by some pre-existent knowledge, which raises another issue to be explained by Conee. For the reasons above-mentioned, Conee's explanation of epistemic difference between knowing non-phenomenal qualities and phenomenal ones seems problematic.

A possible solution to this problem might be the following: Both Conee and Gertler seem to think that propositional knowledge about a city is enough to be acquainted with that city. For sure, a typical person can imagine a city via some descriptions. This is possible because the descriptions trigger one's relevant non-propositional knowledge by which one can imagine many qualities of the city. But imagine that a blind person is listening to a description of a city. She cannot imagine visually streets, parks, etc. of the city. If she is also deaf, she cannot imagine the typical voices of that city, either. That is, propositional knowledge alone does not give any non-propositional knowledge at all. Propositional knowledge can only trigger pre-existent non-propositional knowledge in order for us to imagine something or qualities of something. To be acquainted with phenomenal or non-phenomenal qualities which need to be imagined via propositional knowledge, we need to have the relevant non-propositional knowledge in the first place. And experience is just a way of gaining acquaintance knowledge. But it is not necessarily the only way. This knowledge can be gained by experiences or a brain surgery, or something else to that effect. Imagine that you have never experienced red and one day you undergo a brain surgery putting the relevant acquaintance knowledge into your brain which enables you to imagine red. You have no experience with red, but nonetheless you are acquainted with red, that is, you know red.

To put it differently, Gertler's question can be interpreted as follows: Why is it not enough to have propositional knowledge about a phenomenal quality to gain the knowledge of that quality. The answer is that: Knowledge of phenomenal quality is non-propositional. So, the above question becomes the question of why we cannot deduce non-propositional knowledge from propositional knowledge, which is not a threat to AcH.

One cannot know how a round object looks if one cannot have enough non-propositional knowledge which is required to imagine a round object. No amount of propositional knowledge is sufficient to enable such a person to imagine a round object. Similarly, imagine a person who has no visual, auditory, gustatory, tactile, olfactory knowledge. How would such a person be acquainted with a city via descriptions? She would know only “pallid and abstract” (Conee, 1994, p. 201) descriptions about the city. So, the key epistemic element in both knowing a city and a phenomenal quality via descriptions about them is the same: possession of the relevant non-propositional knowledge.

Briefly, neither Conee nor the dualist is right on this issue: Why we need experience with red to know red is neither because the experience with red provides the most direct cognitive relation to redness nor because the experience with red provides non-physical, experiential knowledge about redness which is a non-physical property of the experience of seeing red. It is because seeing red is just an appropriate way of providing non-propositional acquaintance knowledge which we may specifically call visual knowledge of red, just as reading a proposition about red is an appropriate way of providing propositional knowledge about red.

This shows us that Conee’s special AcH, which claims that acquaintance with a phenomenal quality necessitates experiencing (plus attending to the experience, i.e. noticing experience) that quality, is wrong. Special AcH focuses on the experience but we need an AcH simply focusing on the acquaintance knowledge, which claims simply that knowing a phenomenal quality requires one to have the relevant non-propositional, non-ability knowledge, namely acquaintance knowledge. This formulation relies on Conee’s initial AcH (“learning what an experience is like is identical to becoming acquainted with the experience” (Conee, 1994, p. 202)) and

adds that: to be acquainted with experience requires the existence of the relevant acquaintance knowledge.

It can also be said that this definition is trivial because it eventually says that knowing a phenomenal quality is to have required knowledge! But this objection would be unfair because the definition proposed is not a tautology. Notice that the notion of acquaintance knowledge is an epistemically loaded one. It is not propositional, it is not know-how, it is the knowledge of a quality, rather than about the quality, etc. Briefly, it is the nutshell of AcH. Furthermore, in the following chapter, this type of knowledge will be more elaborated.

My aim to propose this simple formulation is just to avoid a formulation, like Conee's special AcH, which regards experiencing a phenomenal quality as necessary to gain the relevant acquaintance knowledge. Such a necessity invites the property dualism according to which acquaintance with phenomenal qualities can occur only in experience because unlike physical qualities they are accessible only in experience. For this reason, the physicalist must allow the possibility that the knowledge of phenomenal qualities can be accessed outside the realm of experiences given that every type of knowledge is stored in the brain. You can gain acquaintance knowledge by experiences or any other appropriate way such as putting the knowledge into your brain just as you can gain some visual knowledge by taking a photograph and store the knowledge as a file or you can gain this knowledge by putting the file into your computer.

One might argue that one must (and can) experience a phenomenal quality in imagining the quality or after a brain surgery by which one gains the relevant acquaintance knowledge. So, Conee's special AcH still holds true.

It is true that one can experience a phenomenal quality when one imagines it. But experiencing the quality is still unnecessary. It must be noted that one must have the relevant acquaintance knowledge to imagine, recognize and remember a phenomenal quality. And if one has this knowledge concerning a phenomenal quality, it can be said that one knows that quality. Imagine that Mary undergoes a brain surgery which puts some acquaintance knowledge concerning red in her mind but does not cause her to experience red in the surgery. She can now imagine, remember and recognize red. After reading a sentence about red, this knowledge can be triggered and in this way she can imagine or experience red. She did not know she knew red because she has never experienced red. But she knew red because she gained the only necessary epistemic item in the surgery: the relevant acquaintance knowledge. Notice that before imagining red, she was in the same epistemic status as one who has seen red before. Both she and a normal person (who has seen red before) must use their pre-existent acquaintance knowledge to imagine, remember and recognize red.

Briefly, standard experiences with a phenomenal quality provide this knowledge; and one must have this knowledge in thinking a phenomenal quality. We have underlined the fact that to have the relevant acquaintance knowledge is necessary to know a phenomenal quality. But is it sufficient to know a phenomenal quality?

For instance, a patient suffering from cortical blindness can recognize but not imagine red. Can we say that she knows red? It can be said that she knows red according to a looser definition of knowing a phenomenal quality. After all, if she does not know red, how can she distinguish it from other colors only by seeing them? However, it seems to me that although she has some knowledge concerning red, it is

difficult to say that she knows phenomenal redness since she cannot imagine red. So, we can distinguish having the relevant acquaintance knowledge from having the relevant acquaintance knowledge which is accessible or useful to imagine a phenomenal quality. The latter seems a more correct criterion for knowing a phenomenal quality because the former cannot guarantee knowing “phenomenal” part of a phenomenal quality. However, the debate revolving around the most plausible definition of knowing a phenomenal quality seems merely verbal. What is important for assessing KA is noting the crucial epistemic item for knowing a phenomenal quality, namely acquaintance knowledge.

5.2.2.3 Acquaintance knowledge and knowing the old facts in different ways

Conee replies to the objection that (1) acquaintance with red enables one to think it and form beliefs in a new, phenomenal way. It follows that (2) one can enjoy new thoughts from (1). And it follows that (3) Mary gains new propositional information from (2). (Conee, 1994, Section 8)

Conee, briefly, refutes (2) and in turn (3) as follows:

To have a new way to introduce the topic of a thought is to have a new means of referring to that topic. We have a new means of referring to a topic if we have a new symbol for that topic. Plainly the same thought can be newly symbolized. So the conceded representational difference by itself does not show that Mary has a new thought. (Conee, 1994, p. 209)

Conee thinks that pre-release Mary could think red in a scientific representation. Given that the thing about which she thought in the black-white room and the thing about which she thought after seeing red is the same thing, there is no reason to think that post-release Mary gains new thoughts or she meets a new property.

Briefly, while the dualist thinks that (1) she does not only gain new thoughts but also new propositional knowledge about red and this is because she is acquainted

with a new non-physical property; and the defenders of NK/OF think that (2) she gains only new thoughts about the old facts and properties, Conee thinks that (3) Mary gains a new way of referring to the same topic, she does not gain even new thoughts.

Given that there is no difference between (2) and (3) in terms of the ontological status of red and facts, Conee might as well think that Mary gains new thoughts on the ground that the way pre-release Mary thinks red is different from the way post-release Mary thinks red. If the ways of thinking something are different, it can be plausibly said that thoughts are also different. But even if this Fregean idea which results in (2) is accepted, there must be genuinely new information which we call acquaintance knowledge in Mary's epistemic story.

5.2.3 Other objections

5.2.3.1 Objection to Conee's analogies with knowing city or person

As mentioned before, Conee draws a parallel between knowing ω and knowing a person or city. In 5.2.2.2, we have seen that to be acquainted with a city seems possible without experiencing it but knowing ω seems not. Conee's explanation of this difference was based on the idea that to be acquainted with phenomenal qualities requires a direct, cognitive relation to red and this relation can be only provided by experience, which is wrong because experience is just a way of gaining the relevant acquaintance knowledge which can be used in further imaginings of red, just as enough "pictures" (such as of streets, buildings, etc.) in mind about a city can be used to build a mental picture which represents what a city looks like.

Alter's (1998) following argument focuses on the same issue: epistemic disparity between knowing a person and knowing a color. Alter argues that Ach cannot be modelled on either of the following cases but it must be modelled on one

of them if the parallel drawn by Conee between knowing a person and knowing a color is apt.

Albritton Case A. Everything I know about Albritton is based on reading his articles. Then I meet him, and this provides me with knowledge of what he is like. For example, I learn what he looks like and what his manner is;

Albritton case B. Long before I meet Albritton, I see films of him (or films in which he is accurately portrayed by an actor). Seeing these films provides me with knowledge of what he is like – what he looks like, what his manner is etc. (Alter, 1998, p. 39)

Alter argues that AcH cannot be modelled on case A because acquaintance with Albritton provides some factual knowledge about Albritton. Case B is not appropriate for AcH to be modelled on either because acquaintance with Albritton does not give any knowledge of any sort.

Case B clearly shows that experiencing something is not necessary to be acquainted with it. So, Conee's parallel between knowing a person or city and knowing a phenomenal quality is problematic. After all, Conee accepts the difference between them. That is why he tries to explain this difference as mentioned in 5.2.2.2.

Given that AcH is a hypothesis about phenomenal qualities, to refute AcH, we need to discuss scenarios in which a phenomenal quality plays the lead role. Let's convert Albritton cases into such scenarios. If at least one of the scenarios refutes AcH, it can be said that AcH is wrong.

Case A. Everything I know about red is based on reading about red. Then I meet red, and this provides me with some factual knowledge of what it is like.

Case B. Long before I meet red, I see films of red objects. Seeing these films provides me with knowledge of what red is like.

Case B does not pose any problem against AcH. After all, seeing red in films gives acquaintance knowledge of red. Case A is not a problem for AcH either. This is because AcH does not claim that acquaintance knowledge cannot be accompanied by

propositional knowledge. If I see navy blue for the first time, I can learn both what navy blue things look like and that navy blue is more similar to sky blue than other shades of blue. AcH claims that someone like Mary who knows every fact about colors cannot gain propositional knowledge by seeing colors. Seeing a color alone gives just acquaintance knowledge although we can use this knowledge and produce new propositional knowledge, if we do not already have the most complete factual knowledge of course.

It seems that phenomenal counterparts of Alter's Albritton cases do not undermine the central thesis of AcH that Mary's new knowledge is acquaintance knowledge. So, we can safely say that Alter's objection only shows that assimilation of knowing a phenomenal quality to knowing an object (some of whose qualities we can imagine with the help of some non-propositional knowledge as mentioned in the discussion of knowing a city via descriptions in 5.2.2.2) without experiencing the object is problematic.

5.2.3.2 Objection from factual knowledge

Tye, who has recently become another proponent of AcH, explains Mary's epistemic progress along the same line as Conee:

Mary in her room knows all the physical facts about (the subjective character of the experience of red. But...she does not know the thing that is the subjective character of the experience of red. She is not acquainted with that thing. When she leaves the room and becomes acquainted with the phenomenal or subjective character of the experience of red thereby she knows it. This is genuinely new knowledge, logically distinct from her earlier factual knowledge (as cited in Alter, 2011, Section of "Acquaintance").

Alter (2011), after presenting the above passage, claims that the following question poses a dilemma for AcH: "when Mary becomes acquainted with the phenomenal character of seeing red, does she also (perhaps as a result) gain information?" (Alter, 2011, Section of "Acquaintance"). To him, one of the possible

answers would be that: (Horn 1) Mary gains information³² in addition to her gaining acquaintance knowledge. This horn, as Alter points out, is not acceptable because if Mary learns some propositional knowledge it does not matter if this is the result of her gaining acquaintance knowledge or related to it. What matters is her gaining some propositional knowledge. If KA is wrong, how is it possible that pre-release Mary knew every physical fact but post-release Mary learns something new?

Alter says that perhaps it can be said that post-release Mary's new propositional knowledge points to an old fact known by pre-release Mary. This would make AcH similar to the phenomenal concept strategy (or NK/OF).

Horn2 is that: "Mary gains only acquaintance knowledge and no information" (Alter, 2011, Section of "Acquaintance"). Alter claims that AcH does not do justice to the knowledge intuition that Mary gains knowledge after release in the robust sense. To show this implausibility of Horn2, Alter compares Mary to Murry, who has all the knowledge about New York provided partly by reading books and partly by means of his using a virtual reality system akin to the Holodeck depicted in Star Trek: The Next Generation. When Murry visits New York, it is plausible to say that he gives a "ho-hum" reaction because he already knew everything about New York. But it is not plausible to claim that Mary would give a similar reaction upon seeing colors. Alter says that Tye already accepts that post-release Mary seems to make a substantial discovery. Then, Horn 2 is implausible.

Alter concludes that Horn 1 does not help physicalists to handle KA and Horn 2 is implausible. What is plausible is, he says, that: Becoming acquainted with something normally provides propositional knowledge about it.

³² Alter, like Conee, uses "information" in the sense of "propositional knowledge".

It is clear that Horn 2 is a concise summary of the AcH of both Conee and Tye. What Alter says about the reactions of Mary and Murry after being acquainted with red and New York respectively is right. Furthermore, Alter's view that acquaintance knowledge normally comes with propositional knowledge is right as well. But Alter's conclusion is false. How is this possible?

Alter thinks that if (1) Mary gains knowledge then (2) she gains propositional knowledge because (3) acquaintance knowledge normally comes with some propositional knowledge. Here, the critical word is "normally". Obviously, Mary's case is not normal. Even if (3) is true, it does not follow that (2) is true for Mary. As Conee and Tye accept, (4) post-release Mary forms some propositions pointing to old facts which she already knew in black-white room in a phenomenal way.³³ Now, (1), (2), (3) and (4), all of them are true. What is wrong is (2') Mary gains new propositional knowledge.

Alter thinks that (4) makes AcH similar to NK/OF, which is a problem. But this is clearly wrong. This similarity does not threaten the independence of AcH from NK/OF. NK/OF focuses on Mary's so called new knowledge pointing to old facts and misses Mary's real discovery. As for AcH, The most important merit of it is its focus on Mary's genuinely new knowledge of ω .

Furthermore, Alter, inadvertently, underlines the key role of acquaintance knowledge: Why Murry's reaction, unlike Mary's reaction to her first confrontation with red, would be a "ho-hum" reaction in his first visiting New York, can be perfectly explained by his having the relevant acquaintance knowledge provided by Holodeck. Mary's reaction to red can also be explained with her lack of acquaintance

³³ Alter, in discussing Horn1, quotes from Tye: "acquaintance puts her in the position to entertain a proposition "in a phenomenal way via her acquaintance with the color red" (Alter, 2011, Section of "Acquaintance").

knowledge of red. After all, let alone Holodeck, she did not have any opportunity to see red.

5.2.3.3 Uncertainty of “noticing experience” and its relation to knowledge-that
Samuel Michaelides (2010) claims that the noticing condition in Conee’s special AcH that one must notice the experience she undergoes in order to gain acquaintance knowledge is uncertain. It can be said that its uncertainty is not fatal for AcH when it is considered that noticing experience is also required for possession of phenomenal concepts which grounds PKA. In other words, (1) if distracted Mary does not even notice her seeing a red tomato then she gains no new concept or knowledge at all. If (1) is accepted, both phenomenal concept strategists and dualists must also explain what noticing seeing a red tomato is exactly. Besides, a true view can include some uncertain notions. Perhaps, a more developed AcH can determine what noticing experience means exactly.

Michaelides points out a more important issue: “Any conscious introspection would seem to upgrade acquaintance knowledge to propositional knowledge of the kind ‘this is the experience I am having now’, which would of course cause problems for Conee’s theory” (Michaelides, 2010, p. 12). Michaelides, like Alter, thinks that accepting that Mary after seeing red can form this type of new beliefs would make AcH similar to NK/OF and this is a problem for AcH.

We can accept the similarity between AcH’s view that Mary can entertain old propositions in a new phenomenal way and NK/OF. Indeed, unless they point to new facts or new properties, whether Mary’s new beliefs include new thoughts as NK/OF claims, or they provide only a new way of representing the same thoughts as Conee claims, is not important in the end. Both views share the notion that Mary gains a new mode of representation of old facts. But, as mentioned in reply to the previous

objection, this similarity does not make AcH a subsidiary of NK/OF. Two things with different essences cannot be considerably similar. The essential view of NK/OF is that Mary gains phenomenal concepts and forms the new beliefs producing new knowledge. So, Mary's new knowledge is propositional. This is the opposite of AcH's motto that Mary gains non-propositional (acquaintance) knowledge. And if they are essentially opposite, why should we regard AcH's similarity to NK/OF on this issue as a problem for AcH?³⁴

When taken alone, AcH is safe in claiming that after release Mary enjoy old facts in a new, phenomenal way unless it is proved that Mary entertains a new fact in the coarse-grained sense. But there is no reason to think that we can find such a ground-breaking proposition. Pre-release Mary already knew that ripe tomatoes were red. She knew also that she will have the experience of red upon seeing ripe tomatoes. She already knew that red is such-and-such, red is similar to such-and-such, red has such-such features, etc. What is more, as we have seen, without leaving her prison, she could even know that "this is ω " for somebody else. For physicalism to be true, what else can we plausibly expect from our hardworking, long-suffering scientist to know?

5.3 Concluding remarks

KA gets off the ground in virtue of the knowledge intuition that Mary who knows every fact about red upon seeing red learns something: what it is like to see red. AcH gets off the ground in virtue of two tacit truths in this knowledge intuition: (1) Pre-release Mary knew only facts about red rather than knowledge of red. (2) Mary learns ω .

³⁴ Interestingly, while many think that this similarity is a problem for AcH, to my knowledge, no one seems to see the other side of the equation and say that "NK/OF's similarity to AcH is a problem for NK/OF".

PKA interprets (2) so that it becomes a proposition and from this PKA concludes that Mary gains also propositional knowledge. This is an over-interpretation of the simple truth behind (2): What Mary learns is ω ; since ω is not a proposition (it cannot be true or false), what Mary learns is not a fact. Having said that, AcH does not claim that one cannot form new propositions following learning a phenomenal quality in the coarse-grained sense and it does not claim that Mary cannot form propositions after her learning ω , it claims that Mary cannot form new propositions on the ground that she already knew every fact about colors. Actually, existence of new ways of believing old facts and thinking the same physical quality depends on the knowledge of ω .

AbH interprets (2) so that it becomes an ability and from this AbH concludes that Mary learns no new fact, no special knowledge concerning colors, she learns only know-how. This is also a misinterpretation of a simple truth. AcH does not claim that gaining knowledge of ω enables one to remember, imagine and recognize red. But the existence of these abilities depends on the knowledge of ω .

As seen, if we accept the naked truth that what Mary learns is ω which is not a fact, then we can explain both Mary's gaining new ways of believing old facts and abilities to process (recall, compare, visualize) the knowledge of ω .

Conee presents a detailed AcH and defends it against PKA-based objections. However, his special AcH, which grants experience a necessary role in gaining this knowledge, invites property dualism. Thus, we must return to a simpler, more generic version of AcH (see 5.2.2.2) based on Conee's initial AcH according to which to know an experience is like is identical to be acquainted with the experience and experiencing a phenomenal quality is not necessary to gain the relevant acquaintance knowledge which is necessary for knowing a phenomenal quality.

CHAPTER 6

MORE ON ACQUAINTANCE KNOWLEDGE

A common criticism against AcH is that: Acquaintance knowledge is slippery. As the fact that epistemology is based on propositional knowledge shows, there is no such a problem for propositional knowledge. But along with ability knowledge, acquaintance knowledge does not seem as real as propositional knowledge to many. The trouble in grasping this type of knowledge may result from the intertwining of language with our cognitive processes. Perhaps, that is why it is not easy to understand how Mary cannot deduce ω from her vast propositional knowledge and reversely how Mary's new knowledge can be inexpressible in language especially when her new declarative sentences such as "this is ω " are considered. In this chapter, I will try to make acquaintance knowledge less slippery, to show the main differences between propositional knowledge and acquaintance knowledge by summarizing Churchland and Musacchio's views supporting AcH and lastly to investigate the central role of acquaintance knowledge in a possible, unified physicalist reply to KA.

6.1 Churchland's AcH

Churchland (1989) does not give a detailed defence of AcH but he presents an empirical or neuroscientific explanation about what pre-release Mary's brain lacks and what post-release Mary's brain gains. His explanation supports not only the idea that acquaintance knowledge is not a slippery notion but a knowledge type stored in different areas of the brain in a different format but also the idea that ability knowledge is as real as propositional knowledge and acquaintance knowledge.

Before presenting these neural explanations, let me summarize Churchland's idea that even Jackson's clarified argumentative form of KA presented as a reply to Churchland's prior equivocation charge still takes advantage of ambiguity in the term "know". Let's remember this clarified KA:

- (1) Mary (before her release) knows everything physical there is to know about other people.
- (2) Mary (before her release) does not know everything there is to know about other people (because she learns something about them on her release).
- (3) There are truths about other people (and herself) which escape the physicalist story. (Jackson, 1986, p. 53)

Churchland claims that KA is still invalid for its equivocation on "know about" in its premises. KA can fix this equivocacy in two ways. It should clearly say that either the knowledge mentioned in the premises is propositional knowledge or that knowledge is used in the largest sense. On the first option, premise 1 is true but premise 2 is controversial and in the second option premise 2 is true but premise 1 is controversial. As mentioned in the introduction, KA is in the spirit of the first option: Mary learns something factual, i.e. Mary gains propositional knowledge.

Churchland starts appealing to acquaintance knowledge as a reply to a valid KA based on the first option. To him, premise 2 is true only if we take post-release Mary's knowledge as something non-propositional, inarticulable, non-truth-valuable. "What Mary is missing is some form of "knowledge by acquaintance, "acquaintance with a sensory character, prototype, or universal, perhaps. "

Before explaining Mary's epistemic gain as acquaintance knowledge, Churchland claims that modern cognitive biology already provides us with a plausible account of how we can have one type of knowledge without having the other type of knowledge on the same topic. To illustrate this, he appeals to ability knowledge: A person can know every detail about golf without knowing anything

about how to play golf; or the other way around, a perfect golfer may not have any theoretical knowledge about golf. He also says that knowing-how to do something is an example of what neuroscientists call “motor representation”.

Churchland points out that a binary distinction between propositional knowledge and practical knowledge “barely begins to suggest the range and variety of different sites and types of internal representation to be found in a normal brain” (Churchland, 1989, 2224) He believes that there are scientific grounds to see Mary’s epistemic gain as another type of non-discursive, non-propositional knowledge. His neural explanations concerning acquaintance knowledge start with this point.

I will not quote all the explanation but let me quote two important points:

[1] “In creatures with trichromatic vision (i.e., with three types of retinal cone), color information is coded as a pattern of spiking frequencies across the axonal fibers of the parvocellular subsystem of the optic nerve” (Churchland, 1989, p. 165).

[2] “A creature competent to make reliable color discriminations has there developed a representation of the range of familiar colors, a representation that appears to consist in a specific configuration of weighted synaptic connections meeting the millions of neurons that make up area V4” (Churchland, 1989, p. 166).

[1] explains that how “color information” is stored in our brains and [2] suggests that representation of colors consists in a special configuration of millions of neural connections. This “distributed representation of colors” is remotely propositional and “all trichromatic animals have one, even those without any linguistic capacity.” (Churchland, 1989, p. 166)

As Churchland points out, this neural explanation of non-propositional, non-ability knowledge concerning colors is compatible with the idea that other specific

areas of the brain are responsible for storing other types of knowledge in different configurations of neural connections. So, the specific area(s) related to language, stores special representations which we call propositions just as motor representations correspond to practical knowledge.

Churchland concludes that Mary's predicament is not based on the missing knowledge in her language cortex or ability knowledge but on the area which provides normally trichromatic animals with a distributed color representation. That is why Churchland claims that post-release Mary gains acquaintance knowledge. She does not lack any propositional knowledge or any ability. She lacks the knowledge of red, knowledge related to color itself.

The phenomenal quality of color can be represented via color information stored in specific areas in a specific configuration. And this seems to be what animals lacking language normally do. In addition to this type of representation of colors, a typical person stores propositional knowledge in language area(s) and can think colors via propositional knowledge stored in these area(s).

With reference to the above explanation, we can recapitulate some important points about acquaintance knowledge. There is a strong relation to acquaintance knowledge and a phenomenal quality. In the language area in our brains, we store some knowledge about the color but in the brain area related to color (hereafter color area for the sake of brevity) we store the information of the color itself. Why using the notion of acquaintance knowledge to refer to objects is a bad idea is because total knowledge concerning an object consists of different types of knowledge in different brain areas in different configurations in different relations to other brain areas. Accordingly, you can have the knowledge of the color of a tomato without having the knowledge of its taste. In such a case, we cannot tell whether we are acquainted

with the tomato or not because we are acquainted with its color but not with its taste. Why Mary cannot deduce the information of red from her vast propositional knowledge about red is simply due to her lack of information of red in her color area. In general why propositional knowledge cannot produce any non-propositional knowledge is because by only thinking we cannot create any new neural connections in specific areas storing non-propositional knowledge in our brains. It can also be said that in imagining a red object, we use the neural bridge between the concept of red and the non-propositional knowledge of red stored in the color area and we use this knowledge to build a mental imagery. But, as in Mary's case, if there is nothing on the other side of the bridge, no amount of descriptions suffice to trigger anything because a non-existent thing cannot be triggered.

Another important thing Churchland points out is this: If Mary gains some new non-propositional knowledge, this means that the first premise of the original KA is false: That is, Mary in her black-white room, did not know everything physical there is to know about colors. This consideration connects AcH with another type of physicalist reply according to which pre-release Mary had only physical knowledge expressible in language. We can see the details of this view in 6.3.3 where we claim that AcH connects important merits of other physicalist replies with each other.

6.2 Acquaintance knowledge as phenomenal knowledge

As mentioned in the previous chapter, there is a strong relation between acquaintance knowledge and knowledge collected from experiences and stored in different sensory areas of brain. When we think redness in a phenomenal way, it seems that we use directly the knowledge stored in the relevant sensory area. That is why we identify acquaintance knowledge with knowledge-of the phenomenal quality. By contrast, when we think of red in a non-phenomenal way, we use some propositional

knowledge stored in the language area about the phenomenal quality. That is why we identify propositional knowledge with knowledge-about.

Musacchio (2002) presents detailed information about the relation between acquaintance knowledge and phenomenal states and the differences between propositional knowledge and phenomenal knowledge. He endorses the idea that there are three types of knowledge and interprets the explanatory gap problem and KA through differences between phenomenal knowledge and propositional knowledge. As will be seen, he identifies acquaintance knowledge with phenomenal knowledge and then presents phenomenal knowledge as consisting in phenomenal concepts. The possible identity of acquaintance knowledge with phenomenal concepts endorsed by Musacchio will be discussed in 6.3.1.

Musacchio's classification of knowledge is not unusual: propositional or declarative knowledge, knowledge of skills or procedures known as know-how and phenomenal knowledge. Musacchio assimilates phenomenal knowledge with Russell's knowledge by acquaintance on the ground that it is non-propositional. For the purpose of both Musacchio's main point and this thesis, as Musacchio does, we can focus on the differences between propositional knowledge and phenomenal knowledge.

According to Musacchio, propositional knowledge is the highest form of knowledge and attributable to organisms having language due to the fact that it is phylogenetically new whereas phenomenal knowledge is common to human beings and higher animals. Propositional knowledge consists in propositional concepts and culturally acquired layers of symbolism. This symbolism is in virtue of language. By contrast, phenomenal knowledge is language independent; and consists in qualitative experiences and phenomenal concepts. Propositional knowledge is implemented in

phylogenetically new language areas in the brain whereas phenomenal knowledge is implemented in different and older, well-structured specific areas of brain.³⁵

Phenomenal knowledge is self-sufficient whereas propositional knowledge is dependent on phenomenal knowledge.

Musacchio presents some details about phenomenal knowledge:

“Phenomenal knowledge is the collection of phenomenal experiences and phenomenal concepts that refer to the properties of objects and processes of the external world and to the needs of the organism” (Musacchio, 2002, p. 336). To summarize how phenomenal knowledge is gained according to Musacchio, we can present his example of gaining the knowledge of redness based on the phenomenal concept of red: Light reflectance of a ripe tomato produces the experience of seeing red and this experience leaves some neuronal, memory traces in the well-structured specific areas of brain.³⁶ Phenomenal concepts consist in these traces and that is why “they can only be conceived as a collection of non-verbal memories of qualitative experiences” (Musacchio, 2002, p. 338). So, qualitative experiences result in the phenomenal concept of red, which stands for knowing what-it-is-like to see red. So, gaining phenomenal knowledge is gaining phenomenal concepts based on neuronal traces left by qualitative experiences and “cannot take a propositional form because it consists of analogue neural processes” (Musacchio, 2002, p. 339).

³⁵ To illustrate this point, Musacchio presents a detailed explanation about where and how we store color information. And unsurprisingly, as Churchland, he says that visual area V4 is central to store this type of knowledge. (Musacchio, 2009, in 4.2.2) He presents another explanation for phenomenal knowledge of pain. (Musacchio, 2009, in 4.2.3)

³⁶ Interestingly, this idea is very close to Jackson’s (1998) following view mentioned in 2.2.1:

Our knowledge of the sensory side of psychology has a causal source. Seeing red and feeling pain impact on us, leaving a memory trace which sustains our knowledge of what it is like to see red and feel pain on the many occasions where we are neither seeing red nor feeling pain. (p. 418)

Unlike propositional knowledge, phenomenal knowledge is not public; it cannot be transferred into our brains because phenomenal knowledge consists in phenomenal concepts consisting in neural traces left by experiences. Musacchio summarizes this as follows: “Qualitative experiences are neural processes that are potentially describable and cognizable, but this does not imply that a scientific explanation should realize the explained experiences in other brains” (Musacchio, 2002, p. 342).

Briefly, ineffability of phenomenal knowledge is not due to the fact that qualia are mysterious or due to our lack of intelligence but due to the fact that this knowledge requires appropriate phenomenal concepts consisting in neural traces.

Surely we have some words denoting phenomenal concepts such as red. However, we cannot convey the phenomenal quality of redness via conveying propositional knowledge. The expectation that propositional knowledge about phenomenal redness can convey it is based on the conflation of different types of knowledge. So, in general we can say that propositional knowledge can create or communicate only propositional knowledge. This is evident also from the fact that you cannot transfer your ability of for instance quick reading to another person who has no practical knowledge about the issue in her brain.

Musacchio interprets Mary’s case in the light of detailed neural explanations, presented very roughly here, about different types of knowledge especially phenomenal knowledge, as follows:

Mary’s knowledge about the neurophysiology of vision consists in information encoded as highly symbolic propositional knowledge, which is implemented by the phylogenetically new ‘language areas’ of the brain. In contrast, ‘what Mary learns’ when she sees something red consists in a phenomenal concept generated by a qualitative experience, which consists in a language-independent analogue equivalent to the sensed reflectance properties of red objects. Phenomenal concepts cannot be duplicated through propositions simply because propositions can neither model the physical

processes in which phenomenal concepts consist, nor activate the phylogenetically older areas that implement qualitative experiences. (Musacchio, 2002, p. 360)

He says that contrary to Jackson's intention to pose this case, Mary's epistemic story shows that qualitative experiences and phenomenal concepts as physical processes cannot be recreated by the symbolism of propositional knowledge.

Musacchio's general conclusion is that: Both the explanatory gap and Mary's case are based on the fallacy of equivocation resulting from ignoring both epistemic and neurobiological differences between phenomenal knowledge and propositional knowledge.

6.3 An issue needing further research and consideration

As seen in the previous section, Musacchio presents some neuroscientific, empirical data supporting the idea that Mary's epistemic gain is non-propositional. What is more in his detailed analysis of phenomenal knowledge is his construal of phenomenal concepts as bearers of the knowledge to which he assimilates knowledge by acquaintance. In fact, in some places, he uses the term phenomenal concept interchangeably with phenomenal knowledge as will be seen in 6.3.1.

We have introduced a strange possibility in 3.4.4: What a phenomenal concept of a phenomenal quality refers to might be acquaintance knowledge of that quality. This possibility will be roughly examined in 6.3.1. If this possibility was a considerable one, it would contribute to a unified physicalist reply to KA by connecting two important replies, NK/OF and AcH, considered as totally separate.

As Churchland points out and as mentioned in 6.1, if Mary's new knowledge is acquaintance knowledge, this would prove that pre-release Mary did not know everything physical there is to know. There is another reply according to which Mary

did not know all the truths about colors to the effect that the premise 1 of KA is false. In 6.3.2, this reply will be discussed. If the reason for denial of premise 1 of KA was mainly because of ineffability of phenomenal knowledge or acquaintance knowledge, this would also contribute to a unified physicalist reply centred on AcH.

Lastly, in 6.3.3, I will complete a possible picture in which acquaintance knowledge plays a bridging role between all major physicalist replies to KA by reconsidering the view that Mary learns nothing after release and AbH again in the light of acquaintance knowledge. But since this picture is based on some assumptions and interpretations, the role of acquaintance knowledge in a possible unified reply to KA needs detailed research and considerations on all the physicalist replies to KA.

6.3.1 Phenomenal concepts and acquaintance knowledge

To Musacchio, phenomenal concepts are the cornerstones of phenomenal knowledge. For him, there is such a strong connection between phenomenal concepts and phenomenal knowledge that he sometimes uses the notion of phenomenal concepts synonymously with phenomenal knowledge. Among others, here are some examples: “the light reflectance of a ripe tomato (red_{obj}) produces the experience of seeing something red (red_{phe}), which results in knowing what-it-is-like to see red, a phenomenal concept (redPC)” (Musacchio, 2002, p. 338) ; “phenomenal concepts are language-independent concepts, which consist in physical memory traces encoded in the brain” (Musacchio, 2002, p. 339) ; “You learn something new about these peaches, but you must know in advance what-it-is-like to taste something sweet (sweetPC) to understand the proposition [that these peaches are sweet]” (Musacchio, 2002, p. 342). Besides, he takes phenomenal concepts as “non-verbal thinking elements” or “thought element in a way of thinking” and as recognitional concepts like the defenders of NK/OF.

Similarly, in 3.2.1, we have said that Mary's real epistemic gain must be in the expression of "Red_p is ω " or ("This_p is ω ") and identified Red_p as Mary's new knowledge in the robust sense which is accepted as acquaintance knowledge. According to NK/OF, Mary's new phenomenal beliefs are due to her gaining a new phenomenal concept (This_p or Red_p). Similarly, AcH accepts that Mary can form new beliefs with the help of new acquaintance knowledge, namely This_p or Red_p.

Another similarity between phenomenal concepts and acquaintance knowledge is their being experience-dependent at least in typical, standard cases. We can say also that Conee's necessary condition that one must notice the experience in gaining acquaintance knowledge is echoed in gaining phenomenal concepts as Loar (as cited in Ball, 2009) points out. Besides, as mentioned many times, Mary's new acquaintance knowledge is ineffable because it is non-propositional. Phenomenal concepts are also generally accepted as ineffable (among others, as cited in Dennett 2006, p. 20; Chalmers as cited in Musacchio, 2002, p. 342).

Many other similarities can be found but there seems a big problem for identification of phenomenal concepts with acquaintance knowledge: How can a concept be knowledge? Let's take the concept of gravity. The concept of gravity alone cannot include any information although its conception consists of many beliefs. However phenomenal concepts can be exceptional on this issue on the ground that acquaintance knowledge can be both a constituent of a thought and knowledge per se.

Moreover, to consider phenomenal concepts as being related to acquaintance knowledge, it is not necessary to identify phenomenal concepts with acquaintance knowledge. As a possibility, acquaintance knowledge can be regarded as the conception of a phenomenal concept just as some beliefs constitute the conception of

the concept of gravity. In connection with this possibility, it can be said that phenomenal concepts come with some phenomenal knowledge just as linguistic concepts come with some propositional knowledge. When we gain the concept of gravity, this concept comes with at least propositional knowledge that gravity means such and such. Indeed, it would be implausible to think that we can gain a concept without knowing anything about it. For instance, imagine that one hears the word “turquoise” without gaining any further knowledge about it. Even in this case, one learns at least one thing: “turquoise” is a word. Similarly, when we gain a phenomenal concept we may also gain some non-propositional knowledge.

For the above possibilities, I will assume that (Assumption 1) the notion of phenomenal concept can be compatible with the notion of acquaintance knowledge.

6.3.2 Did Mary really know everything about colors?

Churchland is not alone to think that pre-release Mary did not know everything physical there is to know. Flanagan (1992) thinks that KA refutes only linguistic physicalism claiming that “everything physical can be expressed or captured in the languages of the basic sciences” (Flanagan, 1992, p. 98) rather than metaphysical physicalism claiming that everything is physical. He concludes that the first premise of KA is false. Remember that this premise says that “Mary (before her release) knows everything physical there is to know about other people” (Jackson, 1986, p. 53). In this premise, there is no reference to factual knowledge. Churchland objects to this premise on the ground that Mary did not have acquaintance knowledge of red. There is no problem in this premise for NK/OF but they claim that Mary did not have phenomenal concepts concerning colors. However, Flanagan’s denial of premise 1 is based on the belief that Mary learns an inexpressible fact upon her release. So, we

must distinguish premise 1 from another assumption: (premise 1') Mary knew every physical fact.

Flanagan, unlike Churchland and the defenders NK/OF, thinks that Mary learns a new fact as represented in a sentence in propositional format: "So that is what it is like to have one's red channels turned on!" (Flanagan, 1992, p. 99) Similarly, Alter (1998) thinks that for KA to be true, it must be accepted that all physical facts can be learned discursively. Horgan (1984) makes a distinction between explicitly physical information and ontologically physical information and claims that pre-release Mary had all the explicitly physical information such as "Seeing ripe tomatoes is like seeing bright sunsets" (Horgan, 1984, p. 305) but she did not have all the ontologically physical information. To illustrate, she did not know the fact that "Seeing ripe tomatoes has this property" (Horgan, 1984, p. 305), where "this property" is used to designate phenomenal redness. Stoljar (2001) makes a similar distinction between two conceptions of the physical. The theory based conception (t-physical) of the physical compasses only dispositional properties of physical objects whereas the object based conception (o-physical) of the physical includes categorical properties in addition to dispositional properties. To Stoljar, if some o-physical properties are not t-physical, it can be said that Mary knew everything t-physical but did not know everything o-physical.

All these ideas deny premise 1' rather than premise 1. They assume that (1) not all physical facts can be expressed in language. This seems plausible on the face of it because it is rather plausible that (2) not everything physical can be expressed in language. But a closer look shows that (1) does not follow from (2) at least for a physicalist. Consider (3): Everything, every event, relation, etc. can be explained by physical sciences. If (3) is wrong, then physicalism is false. If (3) is true, the

following is also true: (4) every physical fact can be expressible in the language of basic physical sciences. How can a physicalist can accept (3) but deny (4)?

Remember that propositional knowledge is the highest form of knowledge. You can express any fact in language in one way or another.

Let's take "Seeing ripe tomatoes has this property". This expression is not complete. The complete version of it might be this:

(5) Seeing ripe tomatoes has this property: Red_p .

If one thinks that there is a perfect physical explanation of Red_p , one also thinks that

(6) Seeing ripe tomatoes has this property: Red_{np}

Now, does (6) express the same fact expressed in (5)? An Anti-physicalist can deny this on the ground that Red_{np} cannot subrogate Red_p since the latter does not pick out a physical property. But a physicalist cannot say this. If Red_p and Red_{np} refer to the same property, Red_{np} can subrogate Red_p . This means that (6) and (5) point to the same fact. This also means that (4) is true. If (4) is true, (1) is false. From the falsity of (1), it follows that Mary could know every physical fact in her black-white room. And the premise 1 of KA simply supposes this.

However, that (5) and (6) point to the same fact does not entail that they express the same information despite the fact that they express the same fact. The informative difference between them comes merely and directly from the difference between Red_p and Red_{np} . That is why the knowledge of (5) does not give (6) and vice versa, although there is no factual difference between them. Proponents of the view that premise 1' of KA is false seem to depart from this fact. Flanagan says that a feel

cannot be expressed in the language of basic sciences.³⁷ Horgan says that (5) expresses ontologically physical information while (6) expresses explicitly physical information. Stoljar thinks that redness is o-physical rather than t-physical. When he suggests that KA exploits the tacit assumption that everything physical can be learned by black-white education, Alter points out the fact that phenomenal redness, a color, cannot be learned from color-deficient materials. So, we can conclude that the view that Mary did not know every physical fact departs from the fact that (P1) phenomenal redness cannot be conveyed from propositional knowledge and reaches a wrong conclusion that (P2) Mary did not know every physical fact instead of the true conclusion that (P3) Mary had complete propositional knowledge about the world but not complete physical knowledge.

What is the difference between complete physical knowledge about red and propositional knowledge about red? It seems obvious that Mary lacked a crucial epistemic component. For Churchland, it is acquaintance knowledge; for Musacchio it is phenomenal knowledge (in the same spirit with acquaintance knowledge) because of ineffability of phenomenal concepts; for NK/OF it is a phenomenal concept. Neither acquaintance knowledge (nor phenomenal knowledge) nor a phenomenal concept is factual. Granted Assumption 1, the difference between complete physical knowledge and complete propositional knowledge is phenomenal knowledge or acquaintance knowledge whose cornerstones are phenomenal concepts.

If the above reasoning against the denial of premise 1' and Assumption 1 is true we can safely assume that (Assumption 2) what makes Flanagan think that not

³⁷ Flanagan (1992) clearly says that premise 1 is false (p. 99) but he hastily jumps to denial of premise 1 to the denial of premise 1'. The same can be said for all the proponents of denial of premise 1'.

every fact can be expressed in the language of basic sciences, what makes Stoljar think that o-physical is different from t-physical, what makes Horgan distinguish explicitly physical information from ontologically physical information, what makes Alter pose the possibility that the truth concerning phenomenal redness is not learnable from discursive education is the same thing: Ineffability of acquaintance knowledge or phenomenal knowledge which is non-propositional.

6.3.3 The role of acquaintance knowledge in a unified physicalist reply to KA
Assumption 1 connects AcH with NK/OF. Assumption 2 connects AcH with another reply to KA: Mary did not know all the facts. Let's reconsider the denial of the knowledge intuition behind KA that Mary learns something and AbH in the light of acquaintance knowledge.

The denial of the view that Mary learns nothing defended by Dennett (1991, 2006), Churchland (1985) and Jackson (1998, 2003, 2006) and presented in Chapter 2 can be interpreted as being based on the idea that Mary learns nothing factual. Dennett, in his presentation of the Blue Banana scenario, thinks that Mary can recognize red via her complete propositional knowledge because phenomenal redness is a physical property which can be exhaustively explained by the physical facts. Churchland also thinks the same. Jackson thinks that representational facts in sensory experiences can be deduced by Mary in principle. This is the first aspect of denial of the knowledge intuition. If we ignore some wrong claims (for instance Dennett's idea that phenomenal redness can be expressed in language), it can be said that there is nothing essentially wrong in this aspect based on the essential physicalist claim that every fact is physical and every physical fact can be learned by physical sciences.

There is another aspect of their views based on the acknowledgment that phenomenal redness cannot be deduced from propositional knowledge which is stated by Churchland as follows: “It is true, of course, that no sentence of the form “x is a sensation-of-red” will be deducible from premises restricted to the language of neuroscience” (Churchland, 1985, p. 25). As mentioned before Churchland denies the direct deducibility condition posed by KA. Although Dennett doubts that phenomenal redness is ineffable, he and Churchland propose some alternative scenarios in which Mary somehow gains the knowledge of phenomenal redness. If we ignore some wrong ideas deployed in their scenarios (such as the idea that we can put ourselves into a phenomenal state which provides us with the knowledge of phenomenal redness by only imagining), it can be said that there is nothing essentially wrong in this second aspect of the denial of knowledge intuition. The tacit motivation behind brain state scenarios is that there is some knowledge Mary lacked which is not deducible from propositional knowledge. The same motivation can be seen in Jackson’s endorsement of AbH.

It can also be said that brain state scenarios proposed by Dennett and Churchland result from another physicalist motivation: This knowledge can be gained by physical sciences and high-tech technology because this knowledge is totally physical. It is another issue whether there can be physical constraints on gaining this knowledge but the core idea behind these scenarios, that every type of knowledge is physical and can be gained by physical operations at least in the absence of physical burdens, must be appreciated by all physicalists.

Briefly, a charitable reading of the denial of the knowledge intuition shows that two aspects of these views are compatible with AcH. In other words, these views have some features presented as two motivations above which allow the

interpretation of them that when the idea that phenomenal redness can be deduced or imagined from the complete propositional knowledge is revoked, what they are trying to show by the alternative scenarios is that non-propositional knowledge can be obtained in some canny, physical ways. As stated in Chapter 2, the problem with these scenarios is that they are problematic for some reasons and the possible physicalist conclusion resulting from them still needs justification. But the idea underlying these scenarios is not necessarily wrong. As a result, it can be said that what these scenarios are pursuing is the non-propositional, non-ability knowledge post-release Mary cheaply gains upon seeing red. This interpretation of the views of Dennett and Churchland connects AcH with the denial of the knowledge intuition via acquaintance knowledge.

As for AbH, it is the best friend of AcH in one sense and it is a big rival of AcH in another sense. It is very close to AcH in that like AcH it also claims that Mary learns something and what Mary learns is not factual. It is a big rival of AcH because it denies that we need to have some special knowledge of ω in order to remember, recognize and imagine red.

However, we can interpret it not as a rival of AcH but a further hypothesis which is irrelevant to KA. This is because, as Nemirow (2006) repeats many times, AbH is a hypothesis about knowing ω rather than ω . This means that AbH can survive the existence of a special knowledge of ω providing that this knowledge is not factual. In other words, to be true, AbH does not need its negative claim that gaining Lewisian abilities is not based on or accompanied by non-propositional knowledge. That is, AbH can be true even if AcH is true. In that case, Mary would gain acquaintance knowledge of phenomenal redness and this knowledge would be the object (i.e. what is remembered, compared and imagined) of Lewisian abilities.

One might argue that this would make AbH irrelevant to KA. But as seen in Chapter 4, since the supporters of AbH did not or could not show that in/after gaining Lewisian abilities (or ability knowledge) one gains also some other type of knowledge, it seems already irrelevant to KA.

To sum up, Assumption 1 plus the common idea that post-release Mary confirms the old facts in a phenomenal way connects AcH with NK/OF. Assumption 2 connects AcH with another physicalist reply claiming that Mary did not know every fact. A charitable interpretation of the denial of the knowledge intuition brings together AcH with alternative scenarios proposed by Dennett and Churchland. Lastly, AcH is compatible with AbH's essential thesis that to know what an experience is like is to remember, imagine and recognize the experience.

Indeed, AcH seems the best candidate to save all the merits of other physicalist replies to KA. This is because it is compatible with all the following plausible claims proposed by other replies: Mary did not know everything physical there is to know; pre-release Mary could gain acquaintance knowledge of redness by her vast propositional knowledge and high-tech; knowing ω is to remember, imagine and recognize red; in addition to or along with acquaintance knowledge post-release Mary gains a phenomenal concept, a new thought constituent and with the help of this concept she can form new beliefs.

The notion of acquaintance knowledge would play the central role in a possible unified reply to KA. Let me summarize this point in a very "romantic" way with the help of Don Juan's famous saying: "There are only four questions of value in life, Don Octavio. What is sacred? Of what is the spirit made? What is worth living for, and what is worth dying for? The answer to each is the same: only love" (Coppola, Luca, Fuchs & Leven, 1994). We can abuse this impressive saying in the

following way: There are only four important questions to unite all major physicalist replies: What did pre-release Mary lack? At what were sci-fi scenarios of Dennett and Churchland aiming? What makes possible Lewisian abilities? What is the informative component related to phenomenal concepts? The answer to each is the same: only acquaintance knowledge.

As mentioned in the beginning of 6. 3, since the central role of acquaintance knowledge in a possible unified reply to KA presented in this section is based on Assumption 1, Assumption 2 and interpretations of the denial of knowledge intuition and AbH, I will leave this issue for further research and considerations.

6.4 Concluding remarks

Unlike Conee, Churchland does not give a detailed AcH. He departs from the equivocity on the term “knowledge” in KA. He gives some basic examples of how our brains store ability knowledge and acquaintance knowledge. He uses acquaintance knowledge as a third option other than propositional knowledge and ability knowledge. In his language, acquaintance knowledge stands for an umbrella type of knowledge which is different from propositional and ability knowledge. As Churchland clearly says, our brains store different types of knowledge in different sites. He explains how color information is stored in specific areas and this information is remotely propositional. This short but substantial article of Churchland underlines two important points: We can represent the same topic in different modes of representations; and if Mary gains acquaintance knowledge, this means that pre-release Mary did not know everything physical there is to know. In other words, Churchland does not only confirm that gaining acquaintance knowledge on one topic provides us with an opportunity to think it in a new phenomenal way, emphasized already in Conee’s AcH but also provides a connection point to another

physicalist reply to KA based on the idea that Mary did not know everything physical.

Musacchio gives a detailed explanation about both the relationship of acquaintance knowledge with phenomenal states and the differences between propositional knowledge and phenomenal knowledge. Propositional knowledge is the highest form of human knowledge. As for phenomenal knowledge, it is the most primeval and basic type of knowledge which belongs to higher animals. Experiences leave some traces in specific areas of the brain. Phenomenal concepts consist in these neuronal traces and ground phenomenal knowledge. Musacchio interprets Mary's epistemic gain as phenomenal knowledge along the same line as Churchland and AcH and interprets the same epistemic progress as possessing a phenomenal concept along the same line as NK/OF. Musacchio's construal of phenomenal knowledge as including phenomenal concepts steps up the similarity between AcH and NK/OF.

The connection points of AcH to other physicalist replies to KA suggest that acquaintance knowledge might play a central role in a possible unified physicalist reply to KA. Such a unified hypothesis requires a coherent epistemic position in which the notions of phenomenal concepts and acquaintance knowledge are consistently brought together. If an error theory can be developed for wrong turns of other replies, as exemplified in our sketchy attempt to show that the idea that Mary did not know every fact is a wrong turn on the correct idea that Mary did not know everything physical, this would contribute to saving the merits of these replies and building a coherent, unified physicalist reply to KA centred on acquaintance knowledge. It can be said that this would just be another version of AcH. This is true but it would be a more developed version of AcH into which at least phenomenal concepts are incorporated.

CHAPTER 7

CONCLUSION

Despite its unpopularity, AcH provides a simple answer to KA which is coherent with plausible considerations about Mary's case. The first consideration is that Mary learns something upon seeing a red object. The second consideration is based on the simple idea that what pre-release Mary knew was indirect, i.e. conceptually mediated, knowledge about phenomenal red whereas post-release Mary becomes acquainted with red and gains knowledge of red. What it is like to see red is not propositional because what it is like to see red cannot be true or false. As Conee states, it is an appearance, a look.

The New Knowledge / Old Fact approach claims that this is not the whole story; she gains also new knowledge of old facts. We have tried to show that this is a wrong turn. Mary's confirmation of old facts in a new, phenomenal way does not do justice to the knowledge intuition. Mary's epistemic gain must be a real discovery in a robust, coarse-grained sense. The Ability Hypothesis claims that post-release Mary gains only abilities to remember recognize and visualize red. The former is impossible if pre-release Mary already knew every physical fact, the latter cannot explain how one can remember, visualize and recognize red without having the knowledge to remember, recognize and visualize. Staying completely loyal to the above-mentioned second consideration, AcH claims that post-release Mary's new knowledge is neither propositional nor ability knowledge.

Conee successfully clarifies what AcH does and does not claim and defends the hypothesis against principal objections. However, he fails to explain why direct experience with phenomenal qualities is necessary to gain acquaintance knowledge. The problem is rooted in the exaggerated role of experience in his AcH. Experience

is just a way of gaining acquaintance knowledge. One can gain acquaintance knowledge in different ways in principle thereby being acquainted with a phenomenal quality.

Churchland and Musacchio provide important neuroscientific insights into the notion of acquaintance knowledge. These insights make the notion of acquaintance knowledge less slippery. Musacchio's construal of phenomenal knowledge to which he relates acquaintance knowledge involves the notion of phenomenal concepts playing the central role in the most popular physicalist reply to KA, namely NK/OF. This construal suggests that there is a strong relationship between acquaintance knowledge and phenomenal concepts.

The relationship between two central notions of two rival replies (AcH and NK/OF) to KA and the overt similarity between these replies on the issue that post-release Mary gains a new phenomenal way to think redness reveals the possibility that AcH is compatible with phenomenal concepts. AcH is also compatible with some essential merits of other physicalist replies. For instance, AcH is compatible with the idea that pre-release Mary can gain the knowledge of red, namely acquaintance knowledge, without seeing red, which grounds the alternative scenarios presented by Dennett (1991, 2006), Churchland (1985). AcH is also compatible with AbH's central idea that knowing a phenomenal quality can be reduced to know-how to remember, recognize and visualize red if one has the relevant acquaintance knowledge of red.

Considering that what connects AcH to other physicalist replies is the notion of acquaintance knowledge, it can be said that this notion can play a central role in a unified physicalist reply to KA.

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