

Abstract

In her black and white room, Mary doesn't know what it is like to see red. Only after undergoing an experience as of something red and hence acquainting herself with red can Mary learn what it is like. But learning what it is like to see red requires more than simply becoming acquainted with it, one must also know an appropriate answer to the question 'what is it like to see red?'. To be acquainted with something is to know it, but such knowledge, as we argue, is object knowledge rather than propositional knowledge. Despite this mismatch between object knowledge and knowing an answer, we believe that acquaintance is crucial to Mary's epistemic progress. We argue that in order to know what it is like, in order for Mary to know an appropriate answer, Mary's propositional knowledge must be appropriately related to her acquaintance with red.

Keywords

knowledge argument, knowledge by acquaintance, phenomenal concepts, knowledge-wh, physicalism, consciousness

What Acquaintance Teaches

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1. Introduction

It's hard to see how someone who knows so much could learn something more. And yet Mary, who knows every physical fact before she experiences a colour, has room to grow. Before experiencing a colour, she doesn't know what it's like to experience red, but once she encounters red, she does know what it's like. A straightforward answer to how it is that Mary could learn something new has it that she learns a non-physical fact, but physicalists don't think there are any such facts, and so there's a challenge. The challenge is one we think physicalists can meet, but it's worth appreciating that matters are more difficult than one might have supposed. First, we think that it is necessary and sufficient for knowing what it is like to experience red that one have a propositional thought which constitutes knowledge and which is an appropriate answer to the question 'What is it like to experience red?'. If this is correct, non-propositional epistemic gains of the sort offered by the Ability Hypothesis¹ or the Acquaintance Approach² don't look to be of the right form to

¹ See Lewis (1983, 1988) and Nemirow (1980, 1990, 2007).

² See Conee (1994) and Tye (2009). The latter is not a pure acquaintance view. Rather it endorses a 'mixed' approach to Mary's epistemic growth, one component of which is acquaintance.

explain Mary's epistemic growth. But perhaps there is some physicalist-friendly propositional thought which is an answer that Mary couldn't know before her first experience—perhaps a thought featuring a phenomenal concept for example—which she is in a position to think and so learn *only* after having an experience. But we think that there are *no* concepts off limits to someone like Mary. In fact, we think that someone who knew *every* propositional answer to the question 'What is it like to experience red?' might still not know what it is like to see red. But this looks to clash with the necessary and sufficient conditions for knowing what it is like just mentioned. So we have the makings of a puzzle:

- (1) Before experiencing red, Mary does not know what it is like to experience red.
- (2) After experiencing red, Mary does know what it is like to experience red.
- (3) One knows what it is like to experience red just in case one has a propositional thought which constitutes knowledge and that is an appropriate answer to the question 'What is it like to experience red?'.
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 question 'What is it like to experience red?'.
- (4) In principle, even before undergoing colour experiences, there are no propositional thoughts off limits to Mary.

It's hard to see how 1–4 could all be true. We think the way out of the puzzle is to appreciate that some answers, although plausibly individuated by their contents or by the concepts that make them up, are *made appropriate* not by concepts or content but by *how they are formed*. In order to know what it is like, an appropriate answer to a question such as 'What is it like to experience red' must be based on one's (sustained) acquaintance with red. This provides the link between Mary's new acquaintance and her propositional knowledge and does so without invoking dubious modes of presentation or concepts that we think don't exist. On its own, acquaintance doesn't teach us much, but when properly connected to propositional knowledge,

concerning the sensible qualities with which we are acquainted, it allows us to know what they are like.

2. What Mary Learns

A slight reimagining of the case is helpful. Mary has been outfitted from birth with contact lenses that allow her to see only in black and white. She is free to roam the world, interact with objects of all sorts, attend a university where she studies colours and colour vision, interact with normal perceivers, and so on. But the lenses only have a thirty-year lifespan at which time they will dissolve. On her thirtieth birthday, Mary awakens to see the bright and vivid colours that she painted her room long ago. ‘So this is an experience of red!’ she thinks to herself. There is something Mary now knows that she didn’t know when she went to bed. But what is it, exactly, that Mary has learned?

When she is shown a red object, Mary comes to know what it is like to experience red; when she is shown a green object, she comes to know what it is like to experience green; and so on. But mere showing is not enough. Mary painted her room herself and she knows which colours go where. If the paint cans were mislabelled, she wouldn’t know what it is like to experience red by thinking the thought that *this* is what it is like to experience red while looking at, say, a green surface. A false thought will not do.³ Nor will no thought. Even if she was experiencing red, it wouldn’t be enough for her to know what it is like to experience

³ See Nida-Rümelin’s (1996, 1998) example of Marianna. See also Tye (2011) for further discussion.

red if she formed no thought at all. Mary comes to know *what it is like* to see red in part because she gains some propositional knowledge. But that knowledge has to be tied in the right way to the right kind of experience.

The standard (and indeed well-supported) semantic treatment of knowledge-wh has it that sentences containing embedded questions require, for their truth, propositional knowledge which constitutes an appropriate answer to the embedded question.⁴ In order to know *why* white objects reflect light, one must have propositional knowledge that constitutes an appropriate answer to the question, ‘Why do white objects reflect light?’. Knowing what it is like is no exception. It’s not enough for Mary to clap her eyes on something red. She must also come to have propositional knowledge which constitutes an appropriate answer to the question, ‘What is it like to see red?’. But by physicalists’ lights, what propositional knowledge could Mary possibly be missing?

⁴ The position has been discussed in detail. A helpful overview can be found in [Parent \(2014\)](#). See [Bach \(2005\)](#), [Boer and Lycan \(1986\)](#), [Lewis \(1982\)](#), [Karttunen \(1977\)](#), [Groenendijk and Stokhof \(1982\)](#), and [Hintikka \(1975\)](#) for discussion of the general type of approach we endorse. [Higginbotham \(1996\)](#) puts the point very nearly as we wish to: ‘knowledge-wh sentences may be assigned the following meta-linguistic truth-conditions: there is a proposition p such that s knows that p, and p is a true and contextually appropriate answer to the indirect question of the wh-clause’ (381). We put the point in terms of thoughts since, as will become apparent below, we want to make room for a discussion both of the contents of thought (i.e. propositions when they are propositional thoughts) as well as their vehicles (i.e. concepts in the case of conceptual mental representation). See [Braun \(2006\)](#) for a dissenting voice on the connection between appropriateness and context.

3. Acquaintance Won't Work, But It Might Help

It's tempting to react to the problem posed by Mary by looking for some non-propositional knowledge that Mary might gain. We won't defend further that knowing what it is like requires propositional knowledge—others have defended that position to our satisfaction.⁵ So, if there is non-propositional knowledge, gaining *it* won't capture what Mary gains. But that's not to say that non-propositional knowledge couldn't help. In [Section 4](#) we will argue that there is a kind of non-propositional knowledge by acquaintance, that it cannot be reduced to propositional knowledge, and that Mary (before experiencing red) doesn't have it. Since it's non-propositional, non-propositionally knowing red isn't sufficient for knowing what it is like to see red, but if it is *something* that Mary lacks, it may be helpful in some other way, for one challenge facing physicalists is simply to find something the very knowledgeable Mary is missing.

4. Knowledge by Acquaintance

⁵ See footnote 4 for general remarks about knowledge-wh. We take knowing what it is like to be a special case. For further defence see [Brogaard \(2011\)](#) and [Stoljar \(2016\)](#). Their own final views are influenced by their take on 'what it is like'. See also [Lormand \(2004\)](#) and [Hellie \(2007\)](#) for additional discussion of 'what it is like'. Importantly for us, all of the aforementioned views lead to a treatment of knowing what it is like in terms of knowing a propositional answer. But knowing a propositional answer can still fall short since we think it is possible to satisfy the condition of having propositional knowledge of an answer and yet to fail to know what it is like.

Propositional knowledge is importantly similar to any other propositional attitude. When one believes or desires or hopes that *p*, one represents that *p*. The same is true when one knows that *p* (although when one knows it, it's got to be the case that *p*). Propositional mental states represent *things* as being some *way* and hence are evaluable for accuracy, satisfaction, truth, and so on. When one fears that *p*, if *p* is true, things are as one fears them to be. When one desires that *p*, if *p* is true, things are as one desires them to be. Since knowing is factive, all instances of knowing are true or accurate but this does not prevent them from representing things as being some way. It's just that things must be that way if the representational state one is in is indeed knowledge. When one knows that *p*, if *p* is true (and indeed it must be!), things are as one knows them to be. But alongside propositional mental states, there are objectual mental states which simply represent *things*.⁶ Such states aren't evaluable for truth, accuracy, satisfaction, or so on—they don't represent things as being some way. For example, suppose that John loves Bill. When is John's love accurate? When is it true or satisfied? Under what conditions would things be as John loves them to be? Such questions seem misplaced. Non-propositional attitudes don't have accuracy or satisfaction conditions. We should of course grant that there are propositional varieties of many of the non-propositional attitudes and they *do* have satisfaction or accuracy conditions. Thinking-that, loving-that, and so on can be true, satisfied, and so on. But the non-propositional instances are not like this. If these states *did* have propositional contents, we would expect them to be evaluable for accuracy or

⁶ See Grzankowski (2013, 2016, forthcoming) for further discussion of non-propositional, objectual mental states. For general discussion of non-propositional intentionality, see Grzanowski and Montague (2018).

satisfaction and we would be able to say under what conditions things are as they are represented as being. Since they are not, we have good reason to believe that they don't have propositional objects (*mutatis mutandis* for other candidate entities that would wrongly imbue the non-propositional attitudes with accuracy/satisfaction conditions such as sentences or structures of concepts that form truth-evaluable units). We think that objectual knowledge by acquaintance is another example of a non-propositional, intentional state. When one knows a thing, one needn't represent it as being some way. One's object knowledge isn't true or accurate.

Why think such knowledge is intentional? Because knowledge, much like thinking-of or loving, has aboutness or directedness. When one knows the colour red, the city of Austin, or Brad Pitt, one's knowledge is directed at the colour, the city, or the person.⁷

⁷ One can think of or love things that don't exist such as the Fountain of Youth or Pegasus.

It's less clear whether one can know things that don't exist and it sounds like a stretch to say that one can be acquainted with things that don't exist. But this should be no bar on such states being intentional, for they still have directness or aboutness. If it is correct that one cannot know or be acquainted with things that don't exist, a comparative observation with propositional knowledge is worth making. Perhaps part of what it takes to know that p is to believe and so represent that p, but it can't be knowledge if p isn't true. Similarly, perhaps to know an object one must represent it (we think it is a representational state in any event), but if it is knowledge, the object must exist. In light of this, we might say that propositional knowledge is factive and knowledge by acquaintance is 'existive'. Nothing we wish to argue in the present chapter turns on these choice points.

What does it take to know a thing?⁸ It might depend on the kind of thing known. Can I know London simply by catching a glance of it while flying over? How about with a good look? It just doesn't seem sufficient. And in fact, if I get off the plane and sit myself down in Trafalgar Square for a month, I still won't know London. Similarly for people. If I see Brad Pitt across the room at a party, I wouldn't be able to truthfully claim that I now know Brad Pitt. If he and I sit silently in a small room getting a good look at each other for a few hours, I still won't know Brad Pitt. One tempting reaction to this failure of sufficiency is to hold that in order to know a person or a place, one must know some sufficient number of or some sufficient kind of facts about the person or place. Perhaps one must *also* meet the objects in experience (since knowing all the facts about Brad Pitt by reading about him in books isn't enough to know him either). Such a view would have it that knowing a person or a place isn't merely a matter of having propositional knowledge (we just saw reasons above concerning accuracy and satisfaction for resisting such an equation) but it does require it. Or perhaps knowing a person or a place is a matter of being acquainted with many parts or aspects of the object known. In order to know London—a very complex object—we might hold that one must be acquainted with many parts or aspects of it. One must be acquainted with a sufficient number of key places, one

⁸ There is a further question—what's *knowledge*? One might worry that objectual knowledge doesn't meet the usual standards (Farkas, this volume), but we think that those standards are the standards of propositional knowledge. It seems hard to object to the claim that 'S knows o' is true just in case S knows o. Objectual knowledge attributions, then, are made true by objectual knowledge. It might be correct that the kind of knowledge that makes true a claim of the form 'S knows that p' is of a different sort, but that doesn't speak against objectual knowledge being knowledge.

must be acquainted with the sounds and smells, one must be acquainted with the general lay of the land, and so on, the suggestion continues. With a person, perhaps one must be acquainted with some of the characteristics of their personality and some of the ways they tend to behave. Such a view would have it that acquaintance with complex things depends on acquaintance with simpler things but not on propositional knowledge.

These gestures and observations can make a perfectly ordinary notion of ‘knowing’ look like a bit of a mess and things may, in many cases, be as messy as they appear. For our purposes, things needn’t be quite so complicated. When our attention is restricted to the most basic sensible qualities, one can, in what we think is a perfectly ordinary sense, know a thing simply by being conscious of it.⁹ Catch a quick whiff of skunk or take a glance at red. That’s all it takes to know the smell of skunk or the colour red. As you smell it or see it, you know it. To know a basic sensible quality is to be acquainted with it, and one is acquainted with such a quality in the first instance just in case one meets it in experience. (More on sustaining

⁹ Crane (2012) is sceptical of the ordinary notion of knowledge by acquaintance and offers reasons for thinking there is nothing clearly answering to the putative ordinary notion. But we think that what really follows from Crane’s observations is that knowing things is more fine grained than one might have supposed. What it takes to know a person is different from what it takes to know a place and those are different yet again from what it takes to know a basic sensible quality. Talbert (2015) holds that knowing a person requires that they also know you. Suppose that is correct. That can’t also be a requirement on knowing a city. We think that knowledge by acquaintance of basic sensible qualities requires no more than meeting the sensible quality in experience and that this is a perfectly ordinary notion. When you taste salt, you know the taste. When you smell skunk, you know the smell.

acquaintance below.) Of course some sensible qualities are complex. The taste of a good wine from Burgundy may be correctly described as complex because there are many aspects to be detected and appreciated. But there are sensible qualities which have no further sensible parts or aspects that one can meet in experience. The taste of salt, the look of a specific shade of red, and so on. When you experience such a sensible quality, you've experienced all of it (as it were) and it is natural to say that you, at that moment, know it. The knowledge may be fleeting, but as one's eyes are trained on the colour, one knows the colour. And no more seems to be required. Even if I know no truths about such a quality, it is natural to say that I know it and as I learn an array of truths about the colour, I don't come to know it (in the sense at hand) any better. I will know more *about* it, but won't know *it* any better. This is in contrast to knowing, say, Brad Pitt. Just seeing him isn't enough and perhaps by learning more about him, it will be correct to say that I come to know him better. But not so for basic sensible qualities. It is exceedingly plausible that it is sufficient for knowing the most basic colours, smells, tastes, and so on that one need only experience them. But of even more importance for the present chapter, it is also necessary for knowing them that one experiences them. Mary has never met red in experience and because of this she isn't acquainted with it and so she doesn't know it.

A noteworthy aside. Suppose one agrees that when one knows a basic sensible quality (as one experiences it), one is not in a position to know it (in the sense at hand) any better. One should *not* then conclude that one thereby knows the thing's *nature* or *essence* completely or even in part. The essence or nature of something is what makes it the thing that it is, and so to know the essence or nature of something one must know what makes it the kind of thing that it is. Such knowledge looks to be propositional (another instance of 'knows-wh'). Three is what the square root of nine

is, but knowing what the square root of nine is requires more than acquaintance with the number three. One might answer the question by saying, 'Three' or by saying, 'Three is the square root of nine', but one's relationship to the thoughts that are given voice by those utterances must constitute propositional knowledge. Similarly for sensible qualities or felt qualities. When one substitutes between 'the hurting sensation' and 'what pain is', one also shifts between non-propositional and propositional knowledge attributions, and so (supposing for a moment that the hurting sensation is what pain *is*) it doesn't follow that one knows what pain is from one's knowing the hurting sensation.¹⁰

Where does all of this leave us? Besides propositional knowledge, there is non-propositional knowledge by acquaintance. To know simple sensible qualities, it is necessary and sufficient that one meet them in experience. Mary has never met the colour red in experience, so she doesn't know it. Although tempting to say that this gain in acquaintance knowledge is the epistemic gain physicalists have been looking for in Mary's case, it isn't. Mary could know green by acquaintance but think she is looking at red. When she thinks that *this* is an experience of red (pointing at green), she doesn't *know* an answer to the question, 'What is it like to experience red?' since the putative answer isn't true. Mary could also know red by acquaintance and form no

¹⁰ There is a connection here to the revelation thesis put forward by Mark Johnston (1992) according to which 'the intrinsic nature of canary yellow is fully revealed by a standard visual experience as of a canary yellow thing' (223). There is some sense in which one cannot know canary yellow any better when one is getting a good look at it, but no propositional knowledge thereby follows. Johnston continues, 'Hence, canary yellow is a simple non-relational property pervading surfaces, volumes and light sources' (223). But knowing *that* canary yellow is simple and so on (if it is) isn't acquaintance knowledge.

thought at all and so again fail to know an answer to the question. The crux of the issue is that since knowledge by acquaintance isn't propositional knowledge and since what Mary learns in the thought experiment is what it is like to experience red, her coming to be acquainted with red isn't enough to explain her epistemic progress. But Mary does indeed lack knowledge by acquaintance with red—no one should doubt that—and if we could only leverage that gap to show why it is that she must also lack some propositional knowledge before she experiences red, we may have all we need. Unfortunately, we think this connection is very hard to make. Worse, there don't seem to be any thoughts Mary isn't (in principle) in a position to have even when her contact lenses are in, so it's hard to see how (by physicalist lights) any connection with acquaintance is supposed to help Mary make the right kind of epistemic gain.

5. Cut Them Coarsely or Cut Them Finely, They're All Available to Mary

One well-known approach to the Knowledge Argument is to distinguish between coarse-grained and fine-grained facts. Coarse-grained facts are worldly situations or perhaps true Russellian propositions. They are potential objects of knowledge individuated in terms of objects, properties, relations, and their arrangements. Fine-grained facts are potential objects of knowledge individuated more finely, perhaps in terms of senses, ways of entertaining, modes of presentation, or concepts and their arrangements. Fine-grained facts look to provide a promising physicalist answer to the Knowledge Argument, since a physicalist might argue that Mary learns a new fine-grained fact by coming to think in a new way, but this new knowledge places no further requirements on the world. The move is familiar and its most well-known

implementation can be found in the phenomenal concept strategy.¹¹ The crucial idea common to those who advance the phenomenal concept strategy is that some concepts require experience for their possession. If true, this is good news for physicalists aiming to explain Mary's epistemic growth: Mary's contacts dissolve and she sees colours; when she sees colours, she meets them in experience and becomes acquainted with them and so she is finally in a position to possess phenomenal colour concepts. And once she has those concepts at her disposal, she is in a position to form new thoughts, thoughts she couldn't have had before experiencing the colours. If we individuate knowledge in a fine-grained way, in terms of fine-grained facts, we can explain how it could be that Mary doesn't know what it is like with her lenses in but does know what it is like once they are out. But this is no threat to physicalism—there are no non-physical things needed in the world to tell this story, only *ways of thinking about* the physical things.

Phenomenal concepts are an attractive candidate for tying Mary's acquaintance to her propositional knowledge. Mary learns what it is like because she comes to have a propositional thought which constitutes knowledge and which is an appropriate answer to the question 'What is it like to see red?'. This thought, the appropriate thought, was unavailable to her inside the room because it is a thought which is individuated in a fine-grained way and which requires of its thinker the possession of

¹¹ See, for example, [Balog \(1999, 2009\)](#), [Loar \(1990\)](#), [Lycan \(1996\)](#), [Papineau \(1993\)](#), [Perry \(2001\)](#), [Stoljar \(2005\)](#), [Sturgeon \(1994\)](#), and [Tye \(1995, 2000a\)](#). See [Alter and Walter \(2007\)](#) for a recent collection of essays on phenomenal concepts.

the relevant concepts which in turn requires acquaintance with the colour red. The problem with this approach is that there aren't any phenomenal concepts.¹²

Concepts are mental representations of worldly entities—things, events, states, properties, etc.—and they are individuated in a fine-grained way.¹³ They are exercised whenever we undergo thoughts or other comparable mental states. One cannot notice something, recognize it, or make a judgement about it without conceptualizing it in some way, without bringing it under a concept. Concepts are, in short, representational constituents of thoughts. Thoughts are made up of concepts, and what thoughts as a whole represent is a function of their component concepts: what they represent and how they are combined. Some concepts may represent phenomenal things such as the phenomenal character of red or whatever it is that we think about when we introspect on experiences and form judgements about them. But these concepts, though about the phenomenal, are nothing special.

Concepts are relatively easy to possess and easy to share. Moreover, which concepts we possess is very often a matter that depends on things external to us. Consider Burge's well-known arthritis example (1979). The patient who goes to the doctor and complains of arthritis in his thigh could refuse to accept the doctor's correction and insist that, whatever the doctor may think, he really does have arthritis in his thigh. Such a person would be highly atypical. The usual response would be to

¹² See [Ball \(2009\)](#) and [Tye \(2009\)](#) for more detailed defences of this claim. See [Alter \(2013\)](#), [Ball \(2013\)](#), and [Veillet \(2012\)](#) for additional discussion.

¹³ Although there is an array of well-known options for individuating concepts more finely than their referents, our preferred view is one according to which concepts are individuated by their origins. See [Sainsbury and Tye \(2012\)](#).

accept the doctor's correction, thereby indicating that there is a shared concept in play about whose applications conditions the doctor knows more. One who rejects the doctor's claim that arthritis is found only in the joints is operating with another concept—the concept *tharthritis*, as we may call it. And that concept is non-deferential.

What Burge's discussion brings out is that the concepts one deploys in thought are very often determined not by how things seem to the thinker, the kinds of descriptions one might associate with various thoughts, or other individualistic matters, but by who one engages with and with the environment in which one finds herself. And one very important upshot about this is that even without full understanding of the application conditions of the concept one is deploying in thought, one can nevertheless possess it and deploy it. And this holds true for concepts about the phenomenal as well.

Consider a point made by Burge (1979): colour concepts can be over or underextended. For example, someone might have the usual beliefs as to which common objects are red, and in many cases this person might agree with others about which presented colour patches are red while also thinking that in one particular case the shade of that object over there is clearly red even though everyone else agrees that it is on the border between orange and red. Such a person would likely accept correction from others who confidently agree about the right way to classify the given shade. In this way, colour concepts are deferential. Typically, their users do not understand their conditions for application fully and are willing to accept corrections about how to apply them in some cases. But if the concepts we apply via introspection to our phenomenal states are deferential, they can be possessed even if they are only partially understood. If this is the case, it is not at all obvious that it is necessary to

have undergone the relevant experiences in order to possess such concepts, any more than it is necessary to have undergone certain experiences in order to possess such concepts as *arthritis*.

Return to Mary, wearing her contact lenses. Because concepts are easy to possess and very sharable, there don't seem to be *any* concepts in principle off limits to Mary in her room. Mary spends time out in the world discussing at length colour and colour vision. She interacts with objects in the world which have colours and while chatting with her friends she says things such as, 'This is dull brown paint and so we shouldn't use it on the warning signs in the lab', and 'Red is described by all the participants as more similar to orange than it is to green'. Mary is able to discuss colours in detail and engage in disagreement over them, she gains concepts in the usual way by interacting with others and reading books, and she thinks thoughts about experiences, colours, and brains. Looking for thoughts Mary cannot have starts looking like a dead end.¹⁴

But things are now starting to seem a bit puzzling. As we said at the outset, all of the following appear true:

- (1) Before experiencing red, Mary does not know what it is like to experience red.

¹⁴ One suggestion might be that although Mary possesses relevant phenomenal concepts, she hasn't *mastered* them. On this view, when Mary leaves her room she acquires mastery of a fine-grained fact that she already knew in her room. But this won't solve the Mary problem since on this approach Mary fails to increase her knowledge. Moreover, we are sceptical of partial concept possession and concept mastery. The relevant distinctions are better captured under *conceptions* of the things we bring under concepts. See [Sainsbury and Tye \(2012\)](#) for further discussion.

- (2) After experiencing red, Mary does know what it is like to experience red.
- (3) One knows what it is like to experience red just in case one has a propositional thought which constitutes knowledge and that is an appropriate answer to the question ‘What is it like to experience red?’.
- (4) In principle, even before undergoing colour experiences, there are no propositional thoughts off limits to Mary.

How could it be that Mary lacks an appropriate answer if every thought is in principle available to Mary?

Perhaps one way forward here is to tease apart aspects of the fine-grained and coarse-grained views by focusing on demonstrative concepts. Mary’s thoughts are composed of concepts which individuate more finely than referents and concepts are easy to possess, but her concepts have referents (at least in non-empty cases). Her concept *red* refers to the property of being red and her concept *this* refers to (roughly) Mary’s perceived and intended referent. Although Mary is capable of deploying *any* concept in thought, perhaps there are *referents* unavailable to her or conditions on the use of a concept that she cannot meet. We can imagine a scenario in which she *possesses* all of the concepts she might need but we can suppose that she cannot use, for example, a demonstrative concept *this* to think true thoughts which refer to experiences. Perhaps a more promising line then would be to look not to *possession* conditions the way the phenomenal concept strategist suggests but rather to what concepts refer to or perhaps to their conditions of use in terms of the availability of a referent. The suggestion is that although no thoughts construed of as structures of concepts are off limits to Mary, some thoughts of Mary’s can’t make contact with experiences in the right way to constitute *true* thoughts or *appropriate* thoughts which

answer the embedded question.¹⁵ But no forthcoming way of spelling this out looks plausible.

Option 1: *Mary must deploy in thought a demonstrative concept which refers to an experience of red.*

This cannot solve the puzzle about Mary because Mary is in a position, even with the contact lenses in, to demonstrate experiences of red. She might point to a live video feed of someone in a paint shop or to a readout on a brain scanner of someone looking at a red rose, for example. ‘This is an experience of red’ she might truly say. But Mary isn’t yet in a position to know what it is like to experience red in such a case. Physicalists think that experiences are physical occurrences, so Mary, with her contacts in, should have no trouble pointing to one (be it in someone’s head or elsewhere).

Option 2: *Mary must not merely refer to an experience, she must refer to her own experience with the demonstrative concept.*

This is more promising, but the shareable nature of concepts and the fragility of acquaintance shows that this suggestion can’t quite work. Imagine that Mary’s

¹⁵ See [Perry \(2001\)](#) for such an approach. See also [Crane \(2003\)](#) who argues that in order to make sense of Jackson’s Mary (as well as various indexical cases) we need a category of ‘subjective facts’: those facts the learning of which requires that one has certain kinds of experience, or occupies a certain position in the world. According to Crane, the book of the world which aims to express all the facts cannot express the proposition that Mary expresses when, now experiencing red, she says ‘red looks like this!’. But we think the proposition so expressed is one Mary could know even in her room and so this approach cannot explain what Mary didn’t know.

contacts dissolve and she sees a red rose. She truly thinks to herself, ‘So this is an experience of red’. Mary now knows what it is like to experience red.

But now imagine that Mary, while she is seeing red, is connected to a cerebroscope—a device which is recording her brain activity in great detail. After undergoing her experience and forming her true demonstrative thought on its basis, Mary is outfitted with new colour-blocking lenses. Moreover, through a bit of manipulation to her brain, she is made to completely forget her experience of the red rose. Mary is, in effect, right back where she started. She wonders again, ‘what is it like to experience red?’. Mary briefly knew what it is like, but she knows no longer.

So now Mary doesn’t know what it is like to experience red. Not knowing what it is like, Mary then points to the cerebroscope recording on screen. She can truly say, ‘This is an experience of red’, and she can even say, ‘This is *my* experience of red’, but in such a case she might sensibly also claim, ‘I wish I knew what it was like to have one of those’, or ‘I wish I could remember what it was like’. In this case, Mary’s demonstrative concept refers to an experience of hers and yet she does not know what it is like.¹⁶

Option 3: *Mary must refer to an experience of hers which she is presently undergoing and presently introspecting/attending to.*

¹⁶ It is worth noting that this type of case also makes trouble for an approach in terms of concepts individuated by origin. See [Sainsbury and Tye \(2012\)](#). Suppose we hold that concepts are individuated by the originating use. We might hold that Mary must think a thought which has as a constituent a concept which was introduced by her on the basis of her own experience. But since concepts can outlast the experiences, forgetful Mary may still possess such a concept and yet not know what it is like.

This looks to be the most natural recourse but it is a non-starter. One might know what it is like to taste pineapple without having had any recently. One can now know what it is like to smell the ocean even as one is too far away to catch so much as a whiff. It isn't a requirement on knowing what it is like that one now undergo the experience. And this is true of mental images or imaginings as well. One might know what it is like to taste pineapple even though she is not now imagining the experience and referring to it in thought. While asleep, the normally visioned know what it is like to experience red.

We still are in a tough spot. We seem unable to land on a condition both unavailable to Mary and yet required for knowing what it is like. So how could it be that Mary fails to know what it is like in her room? She's got all the answers one could hope for.

6. A More General Worry about Demonstratives

The appeal of demonstrative concepts is that they can only be used successfully when proper relations hold between thinkers and the referents of the concepts. Unlike the concept *red* which one can deploy in thought not in the presence of red things, the concept *this* as in 'this red cup is too small' can't be successfully used if there is no red cup in the demonstrable vicinity. But a focus on demonstratives is only going to help if we really think that Mary must deploy one in order to come to know what it is like to experience red. Plenty of philosophers have been attracted to this idea and 'This is what it is like to experience red' (said or thought in the right situations) is a very attractive answer to the question 'What is it like to experience red?'. But it's not the only kind of answer that seems available. What if Mary, as she undergoes an

experience of red, says to her lab-mates, 'Red is a fantastic colour', 'The experience of red is even better than I had hoped', or 'Colour isn't all it is cracked up to be, Dennett was right, ho hum to red'. We think it would require a bit of dogma for one to deny that Mary would hence know what it is like to experience red. She is undergoing the experience and she is forming a true thought on its basis. She knows an answer to the question and it's very hard (in our estimation) to see why it shouldn't be an appropriate one. So a view that *requires* that Mary have a demonstrative thought in order to know what it is like seems to miss the mark. The preferred view must be more flexible.

7. Acquaintance, Sustained Acquaintance, and Knowing

What It Is Like

We think that what Mary is missing when she hasn't had an experience of red is an *appropriate* answer to the question, 'What is it like to experience red?' but that the failure of appropriateness is not something to be explained in terms of which concepts are being deployed in thought nor in terms of the contents of the thoughts. Rather, Mary must have a thought which answers the question and which is *based* in acquaintance.

Return to forgetful Mary who has seen red but no longer remembers it or her experience at all. She's now watching who she believes to be her friend on a video call experiencing red for the first time. Mary monitors the brain activity by cerebroscope. 'This experience is amazing,' the person on the screen tells her. 'This

experience is amazing,' Mary repeats to herself while pointing at the screen.¹⁷

Unbeknownst to Mary, it is she who is on the screen and it is her brain that was scanned. But Mary was made to forget all about the experience and she thinks she is watching a live feed of someone else undergoing an experience. In both cases her demonstrative refers to the same experience. And as we saw, a demonstrative isn't needed. Change the claim to, 'Experiencing red is incredible', and the relevant points are just the same. With her contacts in, Mary knows an answer, but she *doesn't* know what it is like. When the contacts dissolved, when she was looking at red, she knew the same answer and she *did* know what it is like. But then she was made to forget and, once again, she did *not* know what it is like. The difference is that without the contacts, before she forgot her experience, Mary came to her answer *on the basis of her own acquaintance with red*. When the contacts were in, Mary knew an answer to the question, 'What is it like to experience red?' but she knew it on the basis of testimony. A case like this shows that the problem for Mary doesn't arise from issues concerning the things she is thinking about or the concepts under which she brings them (for they are the same throughout the phases of the case), but rather from the way she forms her thoughts.

It is intuitively attractive to say that knowing what it is like to experience red requires knowing an answer *based* on one's acquaintance with red. But what might this 'basis' be? The relevant relation we have in mind is the epistemic relation of

¹⁷ Physicalists can pick the preferred screen. If one thinks that Mary needs to be thinking about a sensible quality out in the world, let her point to the screen of her phone. If it is a brain state, let it be the cerebroscope screen. If neither of those cover one's preference, put the right physical thing in view.

having as one's reason.¹⁸ Mary's *reason* for believing that this is an experience of red (or that experiencing red is incredible) is the fact that she is acquainted with red through her experience of it. It is our view that in the context of the Knowledge Argument, in order to know what it is like, one must think a thought which constitutes knowledge and which is based in this way on one's acquaintance.¹⁹

Precisely how to understand epistemic basing is certainly controversial, but we think that its existence is very hard to deny.²⁰ Some beliefs are formed on the basis of

¹⁸ According to Harman (1973, 26), the basing relation is the epistemic relation which holds between a reason and a belief when the reason is the reason for which the belief is held.

¹⁹ Perhaps what-it-is-like questions always create such a context, but we don't think one needs to or clearly should commit to this. In some contexts, it seems correct to say that Mary, even before experiencing red, knows what it is like to experience red. Suppose for example that Mary and her lab-mates are running an experiment on a very nervous subject. The subject has seen many colours but not red and his mischievous friends have told him that seeing red is a lot like experiencing wild, frightening hallucinations. Nervously, the subject cries out, 'What's it going to be like!?' Marty, Mary's lensed lab-mate, isn't as studied up as Mary. 'Mary knows what it is like,' Marty tells the subject, 'let me go get her.' 'Experiencing red is a lot like experiencing orange,' Mary tells the subject. In such a context, it doesn't sound far fetched to us to say that Mary, but not Marty (neither of whom have experienced red), knows what it is like to experience red (and now the subject knows too). But the Knowledge Argument sets up a context where more is needed and those are the contexts on which we will focus in the main text.

²⁰ For overview and discussion of the basing relation see Korcz (1997) and Sylvan (2016). See Audi (1993 [1986]), Moser (1989), and Swain (1979, 1985) for detailed accounts and see Bondy (2015) and Evans (2013) for more recent work.

reasons and some aren't. When the formation unfolds in the right way and when the reasons are good ones, one's belief is justified.

The epistemic basing relation connects Mary's acquaintance and her propositional thoughts had on its basis in an attractive way. It is pretty clear that the basing relation requires more than mere coincidence or mere causation. Suppose one has as an available reason for the belief that there are three cookies on the table the fact that there are three cookies on the table. But suppose further that one simply ignores this fact. If one forms the belief that there are three cookies on the table on a mere whim, the belief is not knowledge. Similar problems may haunt Mary. Suppose Mary is presently acquainted with red but is paying no attention to her experience whatsoever. On a whim, she thinks the thought that experiencing red is amazing. Although Mary is thinking a thought which answers the question, 'What is it like to experience red?', Mary does not know what it is like. Or suppose that Mary is presently acquainted with red and this instance of acquaintance causes a momentary abnormality in her brain that causes her to think (or perhaps constitutes her thought) that this experience is amazing. Such wayward causal chains seem insufficient for knowing what it is like and they also seem insufficient to connect reasons and beliefs. The basing relation connects acquaintance and belief in a way that avoids such problems.

The idea that *how* one arrives at a thought might influence whether one knows something isn't a new idea. Some true, justified beliefs are arrived at by luck and they do not constitute knowledge because of this. When Gettier's Smith forms the belief that the man who will get the job has ten coins in his pocket, his belief is true and justified but because Smith lucks into a true belief, the belief isn't an instance of knowledge. The present suggestion is that in order to know what it is like to, say,

experience red or smell skunk, one needs to arrive at an answer in the right way. In Gettier's case, one has a justified belief that *isn't* knowledge. In the present case, Mary has knowledge all right—she knows that experiencing red is exciting, she knows that *this* is an experience of red, and so on. But those instances of knowledge fail to yield *knowing what it is like* because they aren't appropriate pieces of knowledge in the context of the Knowledge Argument.

One upshot of this view is that it is possible for Mary to know an answer (indeed many answers) to the question at hand and yet to fail to know what it is like—she might, for example, know that experiencing red is exciting without knowing what it is like to experience red. And one can move from failing to know what it is like to knowing what it is like without forming a new or different type of thought. What one must do is base a thought (be it a new one or an old one) in the right way on one's acquaintance. This may indeed require *tokening* a new thought, but no new thought type is required.

Now, this might strike one as odd, so it is worth taking a moment to defend this upshot. Our claim is that it is possible for someone like Mary to possess all the concepts any of us do and, further, that it is possible for her to know an array of answers to the question 'what is it like to experience red?' and yet for her to not know what it is like to experience red. In other cases of knowing-wh, this seems wrongheaded, so isn't our view *ad hoc*? Could one, for example, know that Mark is gardening and yet not know *what* Mark is doing? Or could one know that Jerry ate the cake and yet fail to know *who* ate the cake? It's hard to find cases where the basis on which one knows those answers matters to whether Mark and Jerry know-wh. So, our view appears to have it that knowing what it is like is an outlier. For two reasons we think this is a defensible position and not *ad hoc*.

First, given the cases discussed above, especially the case of Mary watching herself on the screen and taking the testimony of the person she sees, something like our position seems required. Just about everyone agrees that in order for Mary to know what it is like to experience red, she needs to undergo the right kind of experience. It's a shared assumption that no amount of book learning, for example, will provide Mary with all she needs in order to know what it is like. But there is plenty of disagreement about how her missing experience of red stands in the way. Even if there is agreement that in order to know what it is like to experience red, one must have a propositional thought that constitutes knowledge and that is an appropriate answer to the question 'What is it like to experience red?', there will be plenty of room to disagree over which answers are appropriate and how they come to have that status. For example, a proponent of the phenomenal concept strategy, as we've seen, may argue that an appropriate answer is a thought, the having of which requires the deployment of phenomenal concepts. But we've seen reasons for thinking there aren't any such concepts. Or one might maintain that an appropriate answer must demonstrate the right kind of thing, perhaps one's own occurrent experience. But we also saw that this approach and variations upon it cannot work. The phenomenal concept strategy suffers because the thoughts apparently off limits to Mary aren't off limits and although the demonstrative approach yields candidate answers Mary isn't in a position to have, they are answers one who knows what it is like needn't have available. It's hard to see, then, how Mary's lack of experience could stand in the way of her knowing what it is like to experience red. An unexplored avenue—and we think it is the right one—has it that Mary doesn't know what it is like not because there are answers unavailable to her, but because she arrives at those answers in the wrong way before she has experienced red. Our

proposal may look like a surprising divergence, but in light of what has come above, it seems to be exactly what's called for. Nothing else appears to be left over. Before experiencing red, Mary forms all the thoughts about experiences of red any of the rest of us form but she does so through testimony and inference. Once Mary experiences red, she is acquainted with it and can provide an answer on that basis. So even if an outlier, we think our position is supported by its ability to navigate the puzzles presented by Mary.

Second, it simply isn't *ad hoc* to hold that knowing what it is like diverges from other cases of knowing-wh. As Stoljar (2015) argues, there are good reasons, for thinking that 'what it is like' does not pattern with other 'wh'-phrases. Moreover, 'what it is like' seems to be closely related to 'how'-questions in a way that other 'wh'-phrases are not. Stoljar considers a number of translations of the title of Nagel's 'What is it like to be a bat?' and notes the following:

In at least four of these cases (German, Hungarian, Portuguese, and Russian) the interrogative word is something that is best rendered as 'how' in English, which strongly suggests that 'what it is like' questions are closely related to 'how' questions. Indeed, this connection is borne out in English too. 'How does it feel to be one of the beautiful people?' is a close variant on 'What is it like to be one of the beautiful people?' (1169-1170).

This fact helps our case in two ways. First, our view has it that knowing what it is like stands in contrast with other instances of knowing-wh and this contrast is in keeping with Stoljar's observation and so not *ad hoc*. Second, the connection with 'how'-phrases and knowing-how is suggestive, since there are cases of knowing-how that seem sensitive to how one comes to her knowledge (just as we think knowing what it is like can be sensitive to how one comes to her knowledge).

Consider recent attempts to understand knowing-how in terms of knowing-that rather than in terms of ability. A number of authors have argued persuasively that there are instances of knowing-how that fail to require ability or performance.²¹ For example, a famous pianist who has lost his arms in a terrible accident may still be said, in certain contexts, to know how to play the piano.²² In place of non-intellectual, ability-based views of knowing how, there is growing consensus that knowing how should be treated much like knowing-wh. Stanley and Williamson (2001) have argued, for instance, that S knows how to ϕ if, and only if, there is some contextually relevant way w for S to ϕ such that S stands in the knowledge-that relation to the proposition that w is a way for S to ϕ (441).²³ But there are cases that look to be counter-examples that turn not on the general necessity of ability, but necessity in certain contexts. That is, there is good reason to think that, in at least some contexts, knowing how *does* require ability and merely knowing that w is a way for S to ϕ comes up short. Brogaard (2011) provides a Mary-esque example:

²¹ See especially Bengson and Moffett (2007) and Stanley and Williamson (2001). See the introductory chapter to Bengson and Moffett (2011a) for a general overview of many of the key issues.

²² See Glick (2012) for some complications concerning this claim. One salient feature of a case like this is that the pianist once had the ability.

²³ Interestingly, in (2007) Bengson and Moffett argue for a view that is a cousin of Stanley and Williamson's which makes use of *acquaintance* with a way of performing actions. In Bengson and Moffett (2011b), acquaintance plays an even more central role. The present chapter cannot be the place to explore this thought, but perhaps the similarities between knowing how and knowing what it is like run even deeper than what's gestured at in the main text.

As Tim is an excellent scholar, Tim was, prior to his skiing vacation, in the possession of a vast amount of knowledge-that concerning skiing. Tim knew that to slow your speed as a beginner you should use the snow plow position, that to snow plow you must stand with the tips of the skis closer together than the tails, that to turn right your head should move toward the tip of your right ski, and so on. But he still didn't know how to ski. After ten days on the slope with his private skiing instructor Tim had acquired the ability to ski. Only then could Tim claim to know how to ski. (137)

To avoid these kinds of cases,²⁴ Stanley and Williamson argue that knowledge-how sometimes requires having the knowledge in question presented under a certain 'practical mode of presentation'.²⁵ In Stanley and Williamson (2001), one is told relatively little about practical modes of presentation,²⁶ but it is clear that in the context in question concerning Tim, knowing how seems to require an answer appropriately connected to ability, action, or performance.

These counter-examples to the simple intellectualist view are noteworthy. Notice that in the cases in which knowing-how seems to require being able, even if one knew, of *every way*, that it is a way to ride a bicycle or, of *every way*, that it is a

²⁴ See Bengson and Moffett (2007), Cath (2011), and Glick (2012) for additional cases as well as others showing the complex connections between knowing how and ability.

²⁵ They provide their own worrying case that looks to require ability (428–9) as well and on its basis argue for practical modes of presentation.

²⁶ In (2011), Stanley goes into additional detail about how it is that he thinks of practical modes but also offers a modal treatment aimed at doing without them.

way to do a backflip, there are contexts that call for more still. Knowing all of those propositions just isn't enough. *How* one comes to know the proposition seems to be exactly what is called for when meeting standards of appropriateness. This parallels Mary needing more than correct answers in order to know what it is like. On our view, Mary's knowing what it is like patterns with cases such as Tim's knowing how to ski. In light of the connection between 'what it is like' and 'how' phrases pointed out by Stoljar, rather than making 'what it is like' look like a worrisome outlier, our view connects it with familiar discussions of knowing-how. So our view does not predict an *ad hoc* abnormality. To the contrary, it predicts a pleasing similarity with knowing-how.

Although the present paper isn't the place to work out the details of knowing-how, it is worth mentioning, just briefly, that a view like ours could be offered for knowledge-how and it would allow one to avoid appeal to practical modes of presentation altogether.²⁷

One way we might connect ability and action to propositional knowledge is in terms of how one thinks of a way of doing something. But why must it be a mode of presentation that makes the difference? It seems to us even more natural to account for what we all agree on—that Tim's knowing how to ski is connected to ability, action, or performance—by holding that Tim must know an answer to the embedded

²⁷ See Pavese (2015) for a development of practical modes of presentation though see Bengson and Moffet (2007) (especially footnote 32) as well as Glick (2015) for concerns. Brogaard (2011) discusses the possibility of practical abilities serving as a justificatory ground of knowledge and is in the spirit of our preferred position.

question *and must know it on the basis of performance or action*. Just as our view concerning Mary's knowledge allows us to avoid phenomenal concepts, an analogous move allows one to connect action to propositional knowledge without appealing to practical modes of presentation.

Returning to the Knowledge Argument, we aren't quite out of the woods yet. What's come above will cover cases in which Mary is experiencing red and on that basis thinking a thought such as that this experience is amazing, but as we saw above, one needn't be undergoing an experience in order to know what it is like to experience red. But this creates no deep problem for the suggestion on offer since knowledge by acquaintance is something sustainable. Until recently, one of us (Alex) hadn't met the taste of Marmite in experience. He was expecting a salty, beefy flavour and that's not at all what he got. But it wasn't so long ago and he still knows the taste. He can recall it, imagine it, and he's confident he could identify it if he had some right now. So although he's not now meeting the taste of Marmite in experience, he still knows it and his acquaintance with it is sustained in its absence. But just as it is possible to sustain acquaintance, it is possible to lose it. Think of a taste you haven't tasted in ages such as a favourite childhood candy. It may be long enough ago that you don't remember the taste. You might know *that* you really liked the candy and you might remember *that* it tasted good, but take a case where you don't remember the taste. In such a case you no longer know their taste and no longer have acquaintance with the taste. What is such a person missing? One is no longer able to recall the taste, imagine the taste, and, if presented with it again, one might not identify it. Such a person is missing the abilities one must have to sustain acquaintance with a sensible quality. One who has those abilities remains acquainted and when such a person also knows an answer to the question 'What is it like to

experience X?’ on the basis of that acquaintance, then one knows what it is like even in the absence of a presentation of that sensible quality.

The ties to the Ability Hypothesis should be striking here. The kinds of abilities offered by Lewis (1988) in support of the Ability Hypothesis had something going for them, but they were wrongly taken to be abilities that *constituted* the knowledge (knowledge-how) that Mary was missing in her room. That was a mistake since Mary can know what it is like by looking at red and thinking an appropriate thought on its basis while lacking all those abilities.²⁹ So the Ability Hypothesis fails to provide a necessary condition for knowing what it is like. But we do think that someone who has the abilities to recall, imagine, and identify has something important. These abilities *sustain* their acquaintance and allow one to retain the link between a sensible quality and a retained propositional answer.

So what is it that acquaintance teaches? On its own, not very much. But in the hands of someone capable of reflecting on her experiences and the world around her, it puts her in a position to come to know what it is like.

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²⁹ See [Tye \(2000b\)](#) for further discussion of the Ability Hypothesis.

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