

Mastering Mary*

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Abstract: I make three claims about the interactions between concept mastery and the knowledge argument. First, I argue that, *contra* Ball [2013], the concept mastery response to the knowledge argument does not suffer from the heterogeneity of concept mastery. Second, I argue that, when doing metaphysics by relating propositions on the basis of whether a hypothetical agent who knew a base collection could infer a target proposition, it is legitimate to rely on propositions that are not contained in the base, as long as those propositions are required for mastery of relevant concepts. One upshot is that, when checking whether the physical truths *a priori* entail the consciousness truths, it is fair game to rely on substantive truths about consciousness. Third, I argue that the only version of the knowledge argument that has any hope of succeeding against physicalism completely lacks the argument’s driving intuition: that Mary learns something *new* when she emerges from the black and white room.

1 Introduction

Recently, a burgeoning literature on the application of concept mastery and incomplete understanding to the knowledge argument has appeared. Ball

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[2009] and Tye [2009] kicked things off by bringing research on social externalism to bear on the knowledge argument. Alter [2013] and Rabin [2011] defended the knowledge argument from this attack by relying on the notion of concept mastery. Next, Ball [2013] and Rabin [2011] argued that, even after we incorporate the notion of concept mastery into the knowledge argument, the argument still fails. Alter [forthcoming] fought back. All these moves remain quite fresh in the philosophical hive mind. This essay makes three points on the dialectic and on the significance of concept mastery for knowledge-style arguments.

Before delving into details, let us ask what *concept mastery* and its converse, *incomplete understanding*, are? Concepts are the basic units of thought. The thought OSTRICHES LIKE CHOCOLATE is composed of the concepts OSTRICHES, LIKE, and CHOCOLATE. A thinker *possesses* a concept when he or she can think thoughts of which the concept is a component. A thinker has *mastery* of a concept when he or she fully understands that concept. Thinkers can possess concepts they fail to master. Many use, without fully understanding, technical concepts that have worked their way into public consciousness. Examples include DARK MATTER, CHAOS THEORY, TRANSISTOR, ID, FRACKING, and HEDGE FUND. Perhaps most famously in the philosophical literature, Burge [1979]’s patient possesses, but does not master, the concept ARTHRITIS. This state is evinced by his ability to think the proposition I HAVE ARTHRITIS IN MY THIGH while being ignorant of the conceptual truth ARTHRITIS AFFECTS ONLY JOINTS. The doctor who corrects the patient has mastery of ARTHRITIS. When a thinker fails to master a concept they possess, we say, following Burge [1979, 1986, 1982], that they *incompletely understand* that concept.

2 A Short Rehearsal of the Dialectic

Ball argues that the knowledge argument relies on the existence of experience-dependent concepts. An experience-dependent concept is a concept that can only be possessed by someone who has had a particular type of experience. For example, if the phenomenal concept RED can only be possessed by individuals who have experienced red, then RED is experience-dependent.¹ Applying lessons from research on social externalism, Ball and Tye argue that there are no experience-dependent concepts. In the same way that Burge's patient can possess the concept ARTHRITIS while grossly misunderstanding it, Mary can, while in the black and white room, come to possess the phenomenal concept RED and think thoughts involving it. She can pick up the concept from her color-sighted co-workers, via their word 'red', and defer to them in her usage. Thus, argue Ball and Tye, it's simply false that Mary, while inside the black and white room, can't possess phenomenal concepts and think thoughts involving them. Since the knowledge argument relies on this claim (or so Ball alleges), the knowledge argument fails.

¹I have altered Ball's terminology. Ball uses 'phenomenal concept' where I use 'experience-dependent concept'. Since Ball denies that there are any experience-dependent concepts, he titles his paper 'There Are No Phenomenal Concepts'. I find this terminology and title misleading, though I admit it makes for a catchier headline. There is an open question whether a phenomenal concept, in the ordinary sense of that term, i.e. a concept that characterizes an experience by the phenomenal conscious feel of that experience, is a phenomenal concept in Ball's sense, i.e. a concept possession of which entails having had a certain type of experience. Ball thinks that phenomenal concepts in the ordinary sense are phenomenal concepts in his sense. So his terminological choice is less problematic for him, though it does elide the important question of whether phenomenal concepts in the ordinary sense are experience-dependent. Someone who disagreed with Ball, but accepted his terminology, would be forced into the awkward position of accepting the seemingly contradictory claim that phenomenal concepts are not phenomenal concepts. To avoid this terminological minefield, I opt for alternative nomenclature. When I use 'phenomenal concept', I mean it in the ordinary sense: a concept that characterizes an experience according to its conscious phenomenal feel. I make no substantive commitments about the nature of such concepts or their referents. (Or as little commitments as are possible). I use 'experience-dependent concept' for "concept whose possession requires having had a certain type of experience".

Alter [2013] and Rabin [2011] argue that the knowledge argument does not rely on the claim that phenomenal concepts are experience-dependent. One can re-cast the argument without this assumption, thereby making the knowledge argument compatible with the social externalist idea that concept possession is relatively easy to achieve. The basic idea is that, while it may be true that Mary can possess phenomenal concepts through deference while in the black and white room, this isn't what matters. What matters is whether she can *master* them. And it's plausible both that Mary lacks mastery of phenomenal concepts and that mastery requires having appropriate experiences.

Acknowledging that mastery is what matters requires keeping in mind the goal of the knowledge argument: establishing a metaphysical, not merely an epistemic, gap between the physical and consciousness. Rabin *reductios* the strategy of inferring a metaphysical gap between a base and a target proposition from the inability of a hypothetical agent without mastery to infer the target from the base.

Imagine again Mary's sister Jane. By engaging with her co-workers, Jane comes to possess the concept ARTHRITIS. She knows that Esther, who has a rheumatoid inflammation in her knee, has arthritis. She knows that Hilary does not have arthritis. But Jane is not a master of the concept ARTHRITIS; she thinks that one can have arthritis in the forearm. Jane has complete knowledge of \mathcal{P} [the complete physical truth] and knowledge of who has what type of inflammation where. She knows that Ralph does not have any ailments of the joints, but he does have inflammation in his forearm. . . . because Jane now possesses the concept ARTHRITIS, she can consider the proposition that Ralph does not have arthritis. But because of her erroneous view that one can have arthritis in non-joints, Jane will not come to know that Ralph does not have arthritis. If we don't require, in the inference from an epistemic to a metaphysical gap, that the relevant epistemic agents have conceptual mastery (i.e. if mere con-

cept possession is enough), then we will be forced to conclude, on the basis of Jane’s inability to know that Ralph does not have arthritis, that Ralph’s lacking any ailment of the joints does not necessitate that he does not have arthritis. But that conclusion is preposterous. Thus, we must require, if we are to infer from a lack of implication to a corresponding lack of necessitation, that the epistemic agents have mastery of all concepts in the target proposition(s). (Rabin [2013]: 153-4)

Mary’s inability to know, on the basis of her complete physical knowledge in the black and white room, truths about conscious experience, is alleged to show a metaphysical gap between the physical and consciousness. But, Rabin points out, if we’re going to infer to a metaphysical gap from the case of an hypothetical agent’s inability to know, we must require that the hypothetical agent fully understand, i.e. master, all relevant concepts. To do otherwise would lead to “preposterous” results, such as the claim that Ralph’s lacking any ailment of the joints does not necessitate that he does not have arthritis. To squeeze metaphysical juice from Mary’s inability to know, we must require that she master phenomenal concepts such as RED.

Proponents of the knowledge argument can agree with Ball and Tye that Mary can, via deference, come to possess phenomenal concepts. But whatever role was played by the claim that possession of phenomenal concepts is experience-dependent in the original knowledge argument as conceived by Ball and Tye can be played by a parallel claim that mastery of phenomenal concepts is experience-dependent.² The knowledge argument can escape the criticisms of Ball and Tye and be made compatible with social externalism. Furthermore, this move is well-motivated. As Rabin stresses, mastery is what matters here, not mere possession.

²There are actually a variety of distinct, but closely related, claims about what mastery of a phenomenal concept requires. For discussion cf. Rabin [2011]: section 7 (132-134), and particularly page 132.

Unfortunately, the knowledge argument is not out of the woods yet. Both Ball [2013] and Rabin [2011] argue that the move to concept mastery does not really save the knowledge argument. Ball argues that concept mastery is too heterogenous to play the explanatory burden proponents of the knowledge argument require. Rabin points out that we can run back a version of the knowledge argument using a Mary who does have mastery of phenomenal concepts. This can be achieved by imagining a “re-captured” Mary who escapes from the black and white room to experience the relevant phenomenal qualities and then is recaptured. (“Re-capture” scenarios are imagined by Lewis [1988], Nida-Rümelin [1996, 1998], and Stoljar [2005]). In a surprising turn of events, Rabin then argues that in such a scenario, with the help of her concept mastery, Mary will be able to figure it all out, including the phenomenal truths, from the black and white room. Alter [forthcoming] defends the knowledge argument against these two attacks.

3 Mastery and “Rival” Responses to the Knowledge Argument

Ball [2013] writes that the notion of concept mastery cannot bear the philosophical burden that Alter and Rabin place on it in their defenses of the knowledge argument.

...everyone should agree that a thinker like Mary is not ideally situated with respect to the concept of red. This uncontroversial fact leaves open all of the interesting questions about how Mary changes when she leaves her room. Does she gain new factual knowledge, as Jackson claimed? Does she gain new know-how or abilities, as Lewis (1996) contended? Does she gain some sort of objectual knowledge, as Conee (1994) and Tye (2009) claim? Or none of these? The claim that Mary gains conceptual mastery is silent on these issues; but these are the issues on which the knowledge argument turns. (506)

Ball's basic contention is that to say that Mary lacks mastery is to make a trivial point with which almost everyone can agree. And it leaves open all, or at least most, of the interesting issues. Ball also stresses the heterogeneity of concept mastery (506).

Alter [forthcoming] rebuts by claiming that the concept mastery explanation of Mary's new knowledge does rule out some contender accounts. He writes:

... the concept-mastery explanation, at least as I have developed it, is not silent on "the issues on which the knowledge argument turns": it rules out some contender accounts. For example, its plausibility threatens the view that Mary learns nothing when she leaves the room. Consider also the view that when she leaves she gains acquaintance (or objectual) knowledge but no propositional knowledge. That view is mistaken if, as the concept-mastery explanation implies, her propositional knowledge increases in virtue of her gaining mastery of phenomenal-color concepts. For the same reason, the concept-mastery explanation rules out the view that she gains only abilities and no propositional knowledge. (22)

I disagree with both Alter and Ball. I think it helpful to think of many of the various hypotheses about how Mary changes as a result of leaving the black and white room as theses about what is required for concept mastery. For example, Rabin [2011] argues that mastery of the phenomenal concept RED requires an ability to recognize phenomenally red experiences as instances of RED. Alternatively, one might claim that mastery of phenomenal concepts requires that the thinker be acquainted with the appropriate phenomenal qualities. Proponents of the ability and/or acquaintance hypotheses are not forced to turn their views into claims about mastery of phenomenal concepts. They could reject the notion of concept mastery altogether. But the option to precisify their view in terms of concept mastery is certainly open to them.

This line of thought opens up the route to dispelling Ball’s worries about heterogeneity. The notion of concept mastery, by itself, is compatible with a wide variety of views about what mastery of a concept requires. In this sense, the notion of concept mastery is heterogenous and non-committal. But this is a desirable result. We should not build a particular theory of concept mastery, or mastery of phenomenal concepts, into the notion itself. But once we make specific claims about what mastery requires, in particular mastery of phenomenal concepts, the notion of concept mastery will no longer “remain silent on the issues on which the knowledge argument turns”. This handles Ball’s worry that concept mastery is toothless as a result of its heterogeneity. On the other hand, I think that Alter is too hasty in assuming that the concept mastery response, by itself, rules out, for example, the acquaintance (Conee [1994]) or the ability (Lewis [1988], Nemirow [1990]) hypothesis. Only certain theories about mastery of phenomenal concepts rule out those views.

I hypothesize that Alter is working with the following model of concept mastery: mastery of a concept is a matter of believing and/or knowing certain propositions. On this view, if Mary lacks mastery of RED then she must lack propositional knowledge. And this does rule out the ability and acquaintance hypotheses (at least when those hypotheses are construed as claiming that Mary gains *only* abilities and/or acquaintance). Rabin [2011] argues that mastery of phenomenal concepts requires, at the least, a certain recognitional ability that goes beyond propositional belief or knowledge. Rabin [forthcomingc] argues that one should reject the view that mastery of concepts, in general, is a matter of believing and/or knowing certain propositions.

The concept mastery reply strengthens existing responses to the knowledge argument in another way. Suppose an objector to the knowledge ar-

gument claims that Mary's inability to know does not challenge physicalism because Mary, in the black and white room, lacks x (e.g. acquaintance). The proponent of the knowledge argument can (and should) ask, "Why does the fact that Mary lacks x impugn the knowledge argument's ability to damage physicalism?" The mastery reply provides an answer. "No knowledge-style argument in which the hypothetical knower lacks mastery of relevant concepts can challenge physicalism. Mastery of phenomenal concepts requires x. Mary lacks x. So in the envisioned case Mary lacks mastery and thus the thought experiment doesn't challenge physicalism."

4 The (II) Legitimacy of Appeal to Phenomenal Truths

One thing Mary's ability or inability to deduce phenomenal from physical truths is meant to show is whether there is *a priori* entailment between the physical and the phenomenal. Following Alter [forthcoming], let's call the claim that there is no such entailment - even for agents with mastery of the relevant concepts - *strong non-deducability*. Rabin [2011] argues that Mary can, with the help of her mastery of phenomenal concepts, deduce all the phenomenal truths from inside the black and white room. If successful, this argument would defeat strong non-deducibility. Alter complains that Rabin [2011]'s argument does not work, because "Mary bases her inference partly on phenomenal truths." (29). Suppose that Mary does rely on phenomenal truths. The important question is: "Is it legitimate to do so?" Alter thinks not. Both my current and former self think the contrary. I argue by analogy.

Ahmed is a dualist about arthritis. He believes that the arthritis-facts do not supervene on, are not grounded in, and are strongly non-deducible from, the physical facts. In fact, Ahmed believes that the arthritis-facts are strongly non-deducible from the inflammation facts. You argue against

Ahmed in the following way: “Once Mary’s sister Jane knows all the facts about who has what type of inflammation and where, she’ll be able to deduce all the facts about who does and does not have arthritis. Therefore: the arthritis-facts are deducible from the inflammation-facts.” Here is Ahmed’s response: “Your deduction is illegitimate. *You relied on arthritis-truths*, such as the truth that arthritis affects only joints. In this dialectical context, I claim that the arthritis-truths are strongly non-deducible from the inflammation-facts. Your alleged “deduction” builds in arthritis truths from the start. Thus, it is illegitimate.” You point out that the “arthritis-truths” on which Jane relies are conceptual truths like “arthritis affects only joints”. Belief in these truths is part of mastering the concept ARTHRITIS.

You are in the right and Ahmed in the wrong. We can see this even more clearly when we bring into view the philosophical purpose to which strong non-deducability is almost always put in the following stage of these debates. Typically, after establishing an epistemic gap via strong non-deducability, one then infers to a metaphysical gap in either necessitation or ground. But the type of strong non-deducability that does not permit reliance on truths necessary for mastery of relevant concepts is a very poor guide to metaphysical gaps. It would entail that there is a metaphysical gap, and a lack of necessitation and/or ground, between the inflammation-facts and the arthritis facts. But, clearly, the inflammation facts do necessitate the arthritis facts. Thus: strong non-deducability that does not permit reliance on truths necessary for mastery of relevant concepts is a poor guide to metaphysics.

The same points apply, *mutatis mutandis*, to the disagreement between Alter and Rabin regarding the legitimacy of appeal to phenomenal truths when checking for strong non-deducability by imagining what Mary can and cannot know. I claim that it is legitimate for Mary to rely on phenomenal

truths, as long as those truths are required for mastery of phenomenal (or other relevant) concepts.

This is, I think, an important lesson. It's very natural to think that strong deducability of Q from P is a matter of whether someone who started with P could come to know Q by engaging in (perhaps a great deal of very complicated) *a priori* deduction. But this isn't quite right. First, we need to make sure that the thinker possesses all the concepts in Q. Second, we need to make sure that the thinker has full understanding, or mastery, of all the concepts in both P and Q. If this mastery entails knowledge of certain propositions, the thinker can rely on those when engaging in the deduction. In sum, when trying to deduce Q from P, the thinker actually starts from a base that includes, in addition to P, any truths required for mastery of a concept in P or Q.³ The ramifications of this point extend well beyond the knowledge argument. It will apply elsewhere in philosophy of mind, in meta-ethics, in philosophy of mathematics, and wherever metaphysical results are alleged to result from entailment relations between propositions, or what someone who understood the concepts would be in a position to know.⁴

Of course, one can define some other notion of strong non-deducability. Alter is free to do so. But the end-game here is metaphysics. And only a notion of strong non-deducability that behaves as I have described has any hope of accomplishing that end-game. Ahmed's notion of strong non-deducability is a non-starter.

³Although he couches the discussion in a different vocabulary, Jackson [1998] seems to agree. See also Crane [2010]: 24.

⁴Chalmers [2012] explores these entailment relations under the rubric of philosophy of *scrutability*. If scrutability results are to have metaphysical import, concept mastery must be accounted for.

5 The Lost Allure of Mary's Epistemic Gains

Jackson [1982, 1986]'s knowledge argument is a fabulous piece of philosophy (see also a related argument in Robinson [1982]). It's richness is attested to by the dozens of articles that have been written on the argument since its publication. Here, I want to separate some issues that have perhaps been conflated. Doing so will rob the knowledge argument of some of its anti-physicalist lustre.

The knowledge argument offers important lessons about concepts. Some have argued that it demonstrates that not all concepts can be possessed from the armchair, or at least from a black and white room (which is, in various ways, both more and less limiting than an armchair). I am inclined to disagree with this assessment. Concept possession is easy to come by. The knowledge argument also teaches us that not all concepts can be mastered, or fully understood, from the armchair and/or the black and white room. Sometimes, having certain experiences, abilities, or acquaintances, is necessary to fully understand a concept. If you think (as I do not) that possession of a concept - in the sense of an ability to think thoughts that contain the concept - requires mastery of that concept, then the second point (that not all concepts can be mastered from the armchair) entails the first (that not all concepts can be possessed from the armchair). I hypothesize that many who endorse the claim that Mary can't possess the phenomenal concept RED from the black and white room assume this entailment between possession and mastery. If so, then the point about concept mastery is actually more fundamental.

The knowledge argument also offers important lessons about physicalism. First, it immediately defeats the following form of physicalism:

Concept Mastery Physicalism Someone who mastered all physical concepts would be in a position to master all concepts.

If Mary is unable to even think with the phenomenal concept RED, then the knowledge argument also defeats the following form of physicalism:

Concept Possession Physicalism Someone who possessed all physical concepts would be in a position to possess all concepts.

Depending on one's views, these results may or may not defeat physicalism *simpliciter*. But I am inclined to think that more metaphysical conceptions of physicalism are compatible with the falsity of mastery and possession physicalism. Consider one:

Fundamentality Physicalism All the world's fundamental elements are physical.

The world's fundamental elements are its most basic ingredients.⁵ Substantive claims are required to move from the falsity of concept mastery physicalism, the falsity of concept possession physicalism, or from the fact that Mary can't know x, y, or z, to the falsity of fundamentality physicalism. On the face of it, it's hard to see what, if anything, an epistemic claim about what some woman in a black and white room could or could not know has to do with a metaphysical thesis like fundamentality physicalism.

The move from "Mary can't know" to the falsity of fundamentality physicalism relies on some type of inference from an epistemic gap to a metaphysical gap. There are lots of good, and interesting, questions surrounding this inference and other claims like it. That's the key step that connects

⁵This formulation is closely related to those in Schaffer [forthcoming], Dasgupta [2015], and Rabin [2013, forthcominga,M].

the epistemic, or the representational, to the metaphysical. Links between conceivability and possibility, between a priority and metaphysical modality, or between concepts and the things they describe all provide routes to a connection between the epistemic/representational and the metaphysical.⁶ But let's suppose that we have some support for this style of inference. We've agreed to play the game of checking for metaphysical connections and/or the absence thereof by checking what some imaginary thinker, such as Mary, could or could not know. We need to establish the ground rules. Two such rules are clear. First rule: The imaginary thinkers must possess all relevant concepts. Second rule: the imaginary thinkers must have mastery of all relevant concepts. The second point is made forcefully in the passage quoted on p4). Alter [forthcoming] agrees, labeling the rule "Rabin's Requirement" (11).

At this point, all parties should agree that if we're going to draw metaphysical conclusions we can only do so on the basis of epistemic agents who have mastered the relevant concepts. Consider the phenomenal concept RED. It either (i) can't be mastered by anyone who has not experienced red or (ii) can't be mastered by anyone without the ability to recognize a red experience as RED.⁷ Alter [forthcoming]: 27-8 may be correct that we can run back a version of the knowledge argument in which Mary does have mastery of phenomenal concepts. But if Mary has mastery of RED, then she will recog-

⁶For further discussion of these issues cf. the essays in Hawthorne & Gendler [2002], in particular Chalmers [2002], as well as Byrne [1999], Chalmers [1996, 2012], Jackson [1998], Horgan [1984], Lewis [2002], Levine [2010], Rabin [2011, forthcomingb], and Schroeter [2004], Schwarz [2007].

⁷Why bother with clause (ii)? Rabin [2011]: 133 considers two cases in which an agent has mastery of RED without having experienced phenomenal redness. The first case involves a recently created intrinsic duplicate of a thinker with mastery of red. The second case involves an agent who has experienced color hues adjacent to red but not red itself. They can imagine which hue would fit in between the experienced hues. Rabin suggests an alternative requirement, which all of these thinkers, as well as less fanciful masters of RED share: the ability to recognize a phenomenally red experience as RED.

nize a red experience when she has it. If she will recognize red (and green, and blue, and...), then when she leaves the black and white room and sees, for the first time, the ripe redness of a tomato, her response will not be one of shock and awe at a newly discovered feature of the world. She will not, accompanied by an exclamation of surprise, say, “So *that’s* what it’s like to see red!” Instead her response will be, “Ho hum. Red again.” **The only version of the knowledge argument that has any hope of succeeding in taking down a metaphysical thesis like physicalism is a version of the knowledge argument that is completely devoid of the driving intuition that gets the knowledge argument going and has been responsible for its outsized philosophical impact: that Mary learns something *new* when she exits the black and white room.**

I have a diagnosis of what has gone wrong. The knowledge argument trades in two separate phenomena. The first is an alleged epistemic and perhaps also metaphysical gap between the physical and the mental. The second is a peculiar feature of phenomenal concepts. They can’t be mastered unless one has experienced the relevant quality, or at least has certain recognitional abilities that typically result from such experiences. Unfortunately, the latter phenomenon, regarding special conditions for mastery, is what is responsible for the driving intuition of the knowledge argument - that Mary learns something new - and, to some degree at least, its dialectical punch. But, if what I’ve said is correct, the intuition that Mary learns something new can’t be wielded in the metaphysics room. The only version of the knowledge argument that has metaphysical punch involves a Mary who is completely unsurprised to experience color. It’s hard to understate the importance of this point. It deprives the knowledge argument of its greatest weapon against physicalism.

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