

## Knowing What It Is Like

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### ABSTRACT:

This paper argues that knowing what it is like to undergo an experience is a matter of degree. I first argue that in many cases, one knows only approximately what it is like to have an experience. Then I argue that approximate knowledge of phenomenal character is best explained by taking phenomenal concepts to vary in *degrees of purity*, or how precisely they represent what it is like to have its target experience. After arguing for degrees of purity, I develop a general framework for modeling how phenomenal concepts represent phenomenal character that captures degrees of purity. Then I use the framework to explain how degrees of purity provide insight into how phenomenal concepts refer, which phenomenal facts are knowable on the basis of a phenomenal concept, and what it takes to master phenomenal concepts. An upshot is that phenomenal concepts have a rich representational structure than has been previously appreciated.

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## INTRODUCTION

You know what it is like to feel pain, to see red, and to smell cinnamon, but you do not know what it is like to undergo the echolocation experiences of bats, the proprioceptive experiences of octopuses, or the electromagnetic experiences of aliens. What explains this difference?

The standard explanation is that the difference is due to the phenomenal concepts you possess. You know what it is like to feel pain, see red, and smell cinnamon because you have phenomenal concepts for those experiences, but you do not know what it is like to echolocate, to move your seventh tentacle spirally, or to sense a nearby magnetic field because you lack phenomenal concepts for those experiences. For any experience  $x$ , either you have a phenomenal concept of  $x$  or not: if so, then you know what it is like to undergo  $x$ , and if not, then you do not.

The aim of this paper is to argue that the aforementioned difference is a matter of degree, rather than a matter of kind. On the picture I favor, phenomenal concepts vary in *degrees of purity*, or how precisely they represent what it is like to undergo their target experiences. The purer a phenomenal concept, the more exact (as opposed to approximate) the knowledge it yields of what it is like to undergo its target experience. I argue for degrees of purity by appeal to the fact that the epistemic abilities associated with phenomenal concepts—in particular, recognition, imagination, and inference—are degreed (rather than binary) in structure. I also explain why degree of purity is distinct from both vagueness and determinability.

The rest of the paper puts degrees of purity to philosophical work. To precisify the notion of degrees of purity, I develop a general framework for modeling how phenomenal concepts represent phenomenal character. The core idea is that every phenomenal concept rules out some (and leaves open other) *phenomenal possibilities*, or possibilities for what it is like to have its target experience. To specify how a phenomenal concept represents what it is like to undergo its target experience, we need only specify which phenomenal possibilities are left open by that phenomenal concept. The degree of purity of a phenomenal concept is proportional to the number of phenomenal possibilities that phenomenal concept rules out.

From there, I use the framework to explain the implications of degrees of purity for issues concerning reference, knowledge of phenomenal facts, and concept mastery. In particular, I will argue that the way a phenomenal concept represents phenomenal character is insufficient for determining reference, that nearly all phenomenal concepts yield limited knowledge of phenomenal facts about their target experiences, and that phenomenal concept mastery involves acquiring maximally pure phenomenal concepts. The upshot is that phenomenal concepts have a rich representational structure, but this structure is uncovered only through an analysis of degrees of purity.

The paper has three major sections: §1 argues for degrees of purity; §2 develops a framework for modeling how phenomenal concepts represent phenomenal character; and §3 discusses applications of degrees of purity to issues about reference, inferential knowledge, and concept mastery.

## § 1 | DEGREES OF PURITY

A *phenomenal concept* is a concept of an experience that represents what it is like to have that experience. The *target experience* of a phenomenal concept is the experience that the phenomenal concept refers to.<sup>1</sup> By possessing a phenomenal concept, one can acquire *phenomenal knowledge*, or knowledge of what it is like to undergo the target experience.

Every phenomenal concept is a concept of an experience, but not every concept of an experience is a phenomenal concept. To be a concept of an experience, the concept need only refer to an experience. To be a phenomenal concept, the concept must also represent what it is like to have that experience. For example, my concept MY FAVORITE MENTAL STATE is not a phenomenal concept, even if it happens to refer to an experience. Since my concern is with knowledge of what it is like to have

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<sup>1</sup> To simplify the language, I will often omit the term ‘phenomenal’ when denoting concepts, properties, and experiences—for example, I will use terms such as ‘red’ or ‘red experience’ rather than ‘phenomenal red’ or ‘phenomenal red experience’.

an experience, nearly all of my discussion will focus on phenomenal concepts (rather than mere concepts of experiences).

What exactly is a concept? I will take for granted that concepts are mental representations. More specifically, I will assume that concepts are individuated by their contents,<sup>2</sup> that concepts are the constituents of thoughts, and that concepts facilitate epistemic abilities such as recognition, imagination, and inference.<sup>3</sup> On this framework, for any given experience, there will be many concepts of that experience (since there will be many mental representations that refer to that concept). The main alternative view takes concepts to be abstract entities, where concepts are individuated by their referents, where concepts are constituents of propositions, and where the aforementioned epistemic abilities are better correlated with the mental representations that are used to grasp concepts than with concepts themselves. For those that prefer understanding concepts as abstract entities, my talk of different concepts could be recast as talk of different mental representations (that are perhaps used to grasp the same concept).<sup>4</sup>

What is the relationship between phenomenal concepts and phenomenal knowledge? My own view is that *knowledge of phenomenal character* is a kind of objectual knowledge (distinct from both knowledge-that and knowledge-how) that is grounded in (rather than merely acquirable from) phenomenal concepts. In light of this, I take locutions of the form ‘knowing what it is like to have *x*’ (for some

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<sup>2</sup> On this way of understanding content, contents need not be propositional (since concepts cannot be true or false) and contents are distinct from referents (since concepts have content even when they fail to refer). See Weiskopf [2009] and Margolis & Laurence [2014] for some discussion of the contents of concepts.

<sup>3</sup> On some views, concepts *are* epistemic abilities (rather than mental representations that enable epistemic abilities). Though I will take for granted the mental representation view of concepts, my arguments apply straightforwardly to ability views as well.

<sup>4</sup> The philosophical literature on phenomenal concepts tends to presume the mental representation view of concepts. See Margolis & Laurence [2014] for a philosophical overview of concepts. See Ball [2009], Rabin [2011], and Alter [2013] for discussion of these issues in regard to phenomenal concepts.

experience  $x$ ) to denote a different kind of knowledge than locutions of the form ‘knowing that P’ (for some phenomenal fact P). The principal focus of this paper is on knowledge of phenomenal character, though I will also discuss knowledge of phenomenal facts in §3. For purposes of space, I will simply take this account of phenomenal knowledge for granted. However, those inclined to think that what I call knowledge of phenomenal character *just is* knowledge of phenomenal facts will be able to straightforwardly interpret my arguments within their preferred framework.

Oftentimes, I will talk of phenomenal concepts *yielding* phenomenal knowledge. By this, I mean that possession of the phenomenal concept suffices for (or puts one in a position to acquire) the phenomenal knowledge.<sup>5</sup> I will take for granted that a phenomenal concept represents the phenomenal character of its target experience as F just in case that phenomenal concept yields knowledge that the phenomenal character of the target experience is F. Putting it another way, I presume that the content of a phenomenal concept can be determined by the phenomenal knowledge it yields. This aligns with how philosophers standardly think about the relationship between phenomenal concepts and phenomenal knowledge, and this link enables us to determine the content of a phenomenal concept by considering what one can know on the basis of that phenomenal concept.

#### DEGREES OF PURITY

The *degree of purity* of a phenomenal concept is how precisely that phenomenal concept represents what it is like to undergo its target experience. Phenomenal concepts with higher degrees of purity yield more exact knowledge of what it is like to undergo their target experiences, while phenomenal concepts with lower degrees of purity yield more approximate knowledge of what it is like to undergo their target experiences.

To motivate degrees of purity, let us focus on an example. Let us stipulate that ‘scarlet’ refers to the maximally specific kind of color experience you have

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<sup>5</sup> On the view I favor, the phenomenal concept trivially suffices for knowledge of phenomenal character and non-trivially suffices for knowledge of phenomenal facts.

when looking at scarlet color chips under ideal conditions. To clarify, what it is for an experience to be scarlet is for it to have a certain phenomenal character (rather than for it to be caused by a scarlet color chip). Let ‘SCARLET’ refer to your concept of scarlet. To clarify, so long as you can think thoughts that refer to scarlet (which you are presumably doing as you read this paper), you possess the concept SCARLET. Now, suppose that you deploy your concept SCARLET to think about scarlet experience. Then we can ask: what can you know about what it is like to see scarlet just on the basis of SCARLET?

It is plausible that you can acquire some knowledge of what it is like to see scarlet just by thinking about the experience. As evidence for this, consider how you can reliably recognize instances of scarlet when presented against dissimilar experiences (such as non-red experiences), how you can imagine what it is like to see scarlet (to at least some degree of detail and vivacity), how you can know that seeing scarlet is similar to seeing other shades of red just by thinking about the phenomenal character of the relevant experiences, and how you have a better grasp of what it is like to see scarlet than what it is like to echolocate.

Nevertheless, you cannot know exactly what it is like to see scarlet just by thinking about the experience. As evidence for this, consider how you cannot reliably recognize scarlet experience when presented against extremely similar red experiences induced by barely different red color chips, how you cannot imagine exactly what it is like to experience scarlet (as opposed to other nearby color experiences), how you cannot know that scarlet experience is exactly as similar (with respect to hue) to crimson experience as it is to amaranth experience simply on the basis of thinking about what it is like to undergo those experiences, and how you are in a better position to know what it is like to experience scarlet if you are actually undergoing a scarlet experience than if you are merely thinking about scarlet experience.

It is also possible to illustrate degrees of purity by appeal to the phenomenal concepts of different subjects. Consider a color expert who has spent their life studying color experiences, who can easily distinguish scarlet from vermillion from crimson, who can imagine each of those experiences vividly, and who can acquire

knowledge of a rich set of phenomenal facts about scarlet experience just by thinking about what it is like to see scarlet. It is plausible that the color expert's concept of scarlet experience is purer than yours. Conversely, consider a colorblind person with monochromatic vision who has never had a scarlet experience, but who knows that 'scarlet' refers to the color experience induced by scarlet color chips in neurotypical subjects, who can recognize scarlet experience against extremely dissimilar color experiences (such as white), who can imagine at least the saturation and brightness aspects of scarlet experience (just as you can imagine at least the redness aspect of scarlet experience), and so forth. It is plausible that the colorblind person has a phenomenal concept of scarlet experience (since their concept of scarlet experience still yields a limited grasp of what it is like to see scarlet), though it is also plausible that their phenomenal concept is much less pure than yours.

Though SCARLET will be my focal example, it is easy to see that analogous arguments apply to other phenomenal concepts. As some other examples, consider the total experience you had upon first waking up this morning, the complex flavor experience you have when drinking a good wine, or the maximally-specific kind of visual experience you have when looking at a speckled hen.<sup>6</sup> As before, it is plausible that your phenomenal concepts of those experiences yield some knowledge of what it is like to have each of those experiences, given your recognitional, imagination, and inferential abilities. But as before, it is also plausible that you do not know exactly what it is like to have each of those experiences, given the limits in your epistemic abilities.

At this point, some might object that it possible to acquire approximate knowledge of what it is like to see scarlet even if one lacks a phenomenal concept of scarlet experience. Suppose that you possess a phenomenal concept RED that

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<sup>6</sup> Note that we need not take a stance on whether your visual experience is rich or sparse, as is debated in the speckled hen literature. Even if you experience the hen merely as having many speckles (as opposed to a determinate number of speckles), it remains plausible that you have limited epistemic abilities with respect to that generic visual experience. See Poston [2011] and Hasan & Fumerton [2019] for more detailed discussions of the speckled hen.

yields exact knowledge of what it is like to see red, that you lack a phenomenal concept of scarlet experience, and that you know that scarlet experience is a type of red experience. Then it would be unsurprising that you have approximate knowledge of what it is like to see scarlet, even if phenomenal concepts do not have degrees of purity. However, I am concerned with what one can know about what it is like to see scarlet just on the basis of SCARLET. This is consistent with thinking that there are other ways of acquiring knowledge of what it is like to see scarlet that involve other kinds of knowledge acquisition methods.

Another objection appeals to the idea that phenomenal concepts are partially constituted by their target experiences. For example, one might argue that when one deploys the concept RED, one undergoes a red experience. On such a picture, it is hard to see how to make room for approximate knowledge of phenomenal character. However, few philosophers literally believe that one cannot think about what it is like to undergo an experience unless one is actually undergoing that experience.<sup>7</sup> For example, one can think about what it is like to be in severe pain without actually experiencing severe pain; if one is faced with the choice of either thinking about severe pain or undergoing severe pain, it is obvious which option is better. Instead, the more plausible view is that thinking about an experience requires instantiating a mental image that resembles (but is phenomenally distinct from) the target experience. But this is consistent with degrees of purity, since there is no reason to think that mental images that resemble their target experiences necessarily yield exact knowledge of the phenomenal characters of those target experiences.

My argument for degrees of purity assumed that limits in our recognitional, imaginative, and inferential abilities are evidence that our phenomenal concepts yield only approximate knowledge of what it is like to undergo their target experiences.

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<sup>7</sup> Some might object that there are philosophers who posit direct phenomenal concepts, which are stipulated to be constituted by their target experiences (for some examples, see Chalmers [2003] and Horgan & Kriegel [2007]). However, I am making only the extremely modest claim that it is possible to think about what it is like to have an experience even if one is not actually undergoing that experience (rather than that no phenomenal concepts are constituted by their target experiences). See Sundström [2011] for more discussion of this.



Since we often cannot recognize target experiences with perfect reliability, imagine target experiences with perfect detail, or know all phenomenal facts about target experiences just on the basis of thinking about those target experiences, we have reason to think that our phenomenal concepts enable us to know only approximately (rather than exactly) what it is like to undergo their target experiences. Though it is possible to reject this connection between epistemic abilities and degrees of purity, doing so leaves one in an awkward position: if our phenomenal concepts enable us to know exactly what it is like to undergo their target experiences, then why do the associated epistemic abilities have a graded structure?

The upshot is that knowing what it is like to have an experience is a matter of degree, rather than a matter of kind. The graded structure is due to the fact that some phenomenal concepts yield only approximate knowledge of what it is like to have their target experiences, meaning those phenomenal concepts do not represent what it is like to have their target experiences with maximal precision.<sup>8</sup>

#### PURITY vs. DETERMINABILITY vs. VAGUENESS

Before moving on, let me respond to two objections that deflate degrees of purity by attempting to reduce it to more familiar phenomena.

The first objection is that purity is simply a matter of *determinability*, or the relation between determinates and determinables. For example, scarlet is a determinate of red (and red a determinable of scarlet). It might seem that what I call a phenomenal concept that yields approximate knowledge of scarlet experience is really a phenomenal concept that yields exact knowledge of red experience. On this view, you do not have a phenomenal concept of scarlet experience at all: instead, you merely possess a phenomenal concept of red experience.

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<sup>8</sup> Note that this is different from saying that one can approximately know what it is like to have an experience (where the graded structure lies in the knowledge relation itself) or that one can know what it is like to approximately have experience (where the graded structure lies in the object of knowledge).

The problem is that such a view leads to some implausible predictions. Suppose that it is right that you lack a phenomenal concept of scarlet. Then, by definition, you cannot think about what it is like to see scarlet. But intuitively, you can think about what it is like to see scarlet (even if you cannot do so with maximal precision). The objector might respond that you are mistaken when you take yourself to be thinking about what it is like to see scarlet. However, it is then incumbent on the objector to develop an error theory of why we are regularly mistaken about the contents of our thoughts about our own experiences. The objector might also respond that we think about what it is like to see scarlet by drawing inferences from our knowledge of what it is like to see red and our beliefs about the relation between scarlet experience and red experience. However, it is psychologically plausible that we can simply think about what it is like to see scarlet without making inferences from our other beliefs.

In the next section, I will explain in detail why purity is dissociable from determinability. But in preview: purity is a matter of how many candidates for what it is like to undergo the target experience are left open by a phenomenal concept, while determinability is a matter of how determinate those candidates are. Some determinate phenomenal concepts have low degrees of purity (for example, your concept SCARLET is maximally determinate but arguably not maximally pure) and some determinable phenomenal concepts have high degrees of purity (for example, your EXPERIENCE is maximally determinable yet might still be maximally pure).

What about vagueness? Let us say that a concept is *vague* just in case it has borderline cases and *sharp* just in case it is not vague.<sup>9</sup> The concept BALD is vague, while the concept PHOTON is sharp. Since I characterized purity as a matter of how precisely a phenomenal concept represents its target experience, and since vague

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<sup>9</sup> Vagueness is normally understood to be a property of terms, rather than a property of concepts. By contrast, it does not make sense to ascribe purity to terms: for example, there is no sense in which we can say that the phenomenal term ‘scarlet experience’ is more or less pure. But in order to consider the strongest version of the vagueness objection, I will set this aside and assume that vagueness can also be attributed to concepts.

representations are imprecise, it may be tempting to think that purity is just a matter of vagueness. But while it is correct that purity and vagueness both involve imprecise representation, the kind of imprecision is different: whereas vagueness essentially involves borderline cases, purity is independent of borderline cases.

To see why purity is distinct from vagueness, we can see how purity can vary even when we hold vagueness fixed. Consider again scarlet experience: the maximally determinate kind of color experience that you have when looking at scarlet color chips under ideal conditions. Since it is maximally determinate, there are no borderline cases of scarlet experience. Consequently, any concept of scarlet experience is sharp (or else it would not be a concept of scarlet experience). Yet I argued earlier that your concept of scarlet experience is only partially pure (given the limits in the recognition, imagination, and inferential abilities associated with the concept) and that other subjects (such as the color expert and the colorblind person) can have phenomenal concepts of scarlet experience that are more or less pure. It follows that degree of purity can vary even when we hold vagueness fixed.

What about a case involving vague (rather than sharp) phenomenal concepts? Consider red experience, for which there are clearly borderline cases (for example, the color experience induced by persimmon color chips). Since there are borderline cases of red experience, it may be tempting to think that when you think about what it is like to see red, you do not know exactly what it is like to see red. But suppose that you are as competent in thinking about red experience as one could possibly be and that you know exactly what it is like to have any specific color experience. In such a situation, it is inappropriate to say that you do not know whether or not persimmon experience is a kind of red experience, for you know everything there is to know about what it is like to see red. It is not as though learning more information about the world would enable you to discover whether or not persimmon experience is in fact a kind of red experience. Instead, persimmon experience is simply a borderline case of red experience. By contrast, compare this to the case of the colorblind person whose phenomenal concept of red experience does not yield knowledge of whether scarlet experience is a kind of red experience. In this case, the deficit is due to impurity, rather than vagueness. It is not that scarlet experience is

a borderline case of red experience for the colorblind person's concept of red; instead, the colorblind person's concept of red experience does not yield knowledge of whether or not what it is like to see scarlet is a species of what it is like to see red.

It is natural to think of purity as an epistemic phenomenon and vagueness as a linguistic phenomenon. But what about *epistemicism*, the view that vagueness is a matter of ignorance? According to the epistemicist, there is a fact of the matter about how many hairs are required for someone to not be bald, and the vagueness of BALD is due to our ignorance of this fact. Nevertheless, even the epistemicist will want to distinguish purity from vagueness.<sup>10</sup> This is evident when we observe (as we did above) that it is possible to vary the purity of concepts of red experience even while holding fixed degree of vagueness. This is also evident when we observe (as I will discuss later) that concept mastery of phenomenal concepts requires possession of phenomenal concepts that are maximally pure (but arguably not maximally sharp). So even for the epistemicist, the kind of ignorance that constitutes vagueness is different from the kind of ignorance that constitutes impurity.

For the rest of this paper, I will presume that all phenomenal concepts I discuss are perfectly sharp. This will allow us to precisify purity while remaining neutral on theories of vagueness.

#### CONNECTIONS TO LITERATURE

In the philosophical literature on phenomenal concepts, there has been little discussion of degrees of purity.<sup>11</sup> In fact, most accounts of phenomenal concepts seem

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<sup>10</sup> It is also possible for the epistemicist to take purity to be a species of vagueness (though even on this account, purity will be distinct from other species of vagueness for the reasons discussed in this paragraph).

<sup>11</sup> A good deal of the phenomenal concepts literature focuses on what makes phenomenal concepts distinctive from other kinds of concepts and how this bears on the mind-body problem. By contrast, this paper is mostly neutral on both issues. For a limited sample of papers addressing both these issues, see Loar [1990], Sturgeon [1994], Hill [1997], Hill & McLaughlin [1998], Papineau [2002], Chalmers [2003], Levin [2006], Sundström [2011], and McLaughlin [2012]. For a broader overview of the literature on phenomenal concepts, see Balog [2009].

to presume that purity is an all-or-nothing property.<sup>12</sup> This is evidenced by the fact that most discussions of phenomenal concepts simply distinguish phenomenal concepts from mere concepts of experience, with the implicit implication that there are no further distinctions to be made within the class of phenomenal concepts. Furthermore, theories of phenomenal concepts normally suggest the way phenomenal concepts represent phenomenal character is sufficient for determining reference to a target experience,<sup>13</sup> but (as I discuss in §3) this assumption is in tension with degrees of purity. Finally, discussions of phenomenal concepts sometimes explicitly state that phenomenal concepts capture exactly what it is like to have an experience.<sup>14</sup>

The notion of degrees of purity also has natural connections to the philosophical literature on inexact knowledge.<sup>15</sup> However, there are a few important respects in which the focus of this paper deviates from extant discussions of inexact knowledge. First, discussions of inexact knowledge tend to provide analyses of inexactness in propositional terms, whereas I will be neutral on whether or not knowledge of phenomenal character must be understood in propositional terms. Because of this,

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<sup>12</sup> An exception is Schroer [2013], who makes different arguments leading to similar conclusions to those made in this paper.

<sup>13</sup> In particular, the most popular theories of phenomenal concepts seem to accept this. For example, *recognitional theories* take phenomenal concepts to have modes of presentation that are identical to their referents (see Loar [1990], Carruthers [2003], Tye [2003] for examples), *indexical theories* take phenomenal concepts to be demonstrative contents that specify their target experiences via acts of ostension (see Levin [2006], Schroer [2010], Perry [2001] for examples), and *constitutive theories* take phenomenal concepts to be partially constituted by their target experiences (see Papineau [2002] and Balog [2012] for examples).

<sup>14</sup> Consider the following quote from Chalmers [2003]: “When Mary believes *roses cause [phenomenal red] experiences*, or *I am currently having [a phenomenal red] experience*, she thereby excludes all epistemic possibilities in which roses cause some other quality (such as G, phenomenal greenness), or in which she is experiencing some other quality: only epistemic possibilities involving phenomenal redness remain.”

<sup>15</sup> See Williamson [1992] for a classic discussion of inexact knowledge. See Mahtani [2008] and Carter [2019] for some more recent discussions.

I will remain neutral on whether or not approximate knowledge of phenomenal character is a species of inexact knowledge. Second, purity is a property of concepts, rather than a property of knowledge. Though degree of purity is systematically connected to exactness of knowledge, the goal of this paper is to explain one of the sources of inexact knowledge. Third, there is (as far as I know) no overlap between the literature on inexact knowledge and the literature on phenomenal concepts. In fact, as mentioned above, discussions of phenomenal concepts often seem to presume that purity is all-or-nothing (rather than degressed).

Finally, the notion of degrees of purity has obvious connections to literatures connecting consciousness and representation. However, most philosophical discussion of these issues concerns either whether one is reducible to the other (which this paper remains neutral on) or representation *by* experiences (rather than representation *of* experiences). The literature that directly address the representation of experiences tends to focus on the epistemology and metaphysics of such representations (such as in discussions of introspection and self-knowledge), rather than on the contents. And the literature that focuses on the contents of the representations of experiences tends to fall within the phenomenal concepts literature.<sup>16</sup>

To summarize, I have advocated for a *degressed* (rather than binary) picture of knowing what it is like to have an experience. On my view, phenomenal concepts vary along a spectrum in how precisely they represent what it is like to undergo their target experiences. The purer a phenomenal concept, the more exact the knowledge of phenomenal character yielded by that concept.

## § 2 | THE FRAMEWORK

The goal so far has been to argue for the existence of degrees of purity. The goal in what follows will be to explain how to think about degrees of purity more

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<sup>16</sup> See Bourget & Mendelovici [2016], Siewert [2016], and Lycan [2019] for overviews of the relation between consciousness and representation. See Kriegel [2013] for discussion of representation by conscious experiences. See Gertler [2015] for discussion of self-knowledge and Schwitzgebel [2019] for discussion of introspection.

systematically. To do this, I will develop a general framework for modeling how phenomenal concepts represent phenomenal character.

#### PHENOMENAL POSSIBILITIES

The core idea behind my framework is that every phenomenal concept rules out some (and leaves open other) *phenomenal possibilities*, or possibilities for what it is like to have the target experience. For example, your phenomenal concept SCARLET rules out the possibility that what it is like to experience scarlet is what it is (in fact) like to experience pain, but it does not rule out the possibility that what it is like to experience scarlet is what it is (in fact) like to experience crimson.

What exactly is a phenomenal possibility? The core theoretical role is that phenomenal possibilities are candidates for what it might be like to undergo a target experience. The basic idea behind the framework is that every difference in how phenomenal concepts represent what it is like to have their target experiences can be captured in terms of differences in which phenomenal possibilities are left open by those phenomenal concepts. Consequently, the guiding constraint in an analysis of phenomenal possibilities is that the set of phenomenal possibilities must be exactly rich enough to capture any difference in the representation of phenomenal character.

Every phenomenal concept refers either to a particular experience (e.g., the red experience I am having right now) or to a phenomenal property (e.g., phenomenal red).<sup>17</sup> In light of this, it might be tempting to take the set of phenomenal possibilities to simply be the union of the set of phenomenal properties and the set of particular experiences. Since every target experience is either a phenomenal property or a particular experience, this option is guaranteed to distinguish between all candidates for target experiences. However, this option arguably generates more phenomenal possibilities than necessary. What it is like to undergo a particular experience is just the same as what it is like to undergo the maximally specific phenomenal property characterizing the total phenomenal character of that particular experience.

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<sup>17</sup> Note that I will always use the term ‘target experience’ to mean the referent of a phenomenal concept, whether that referent is a phenomenal property or a particular experience.

What if we take the set of phenomenal possibilities to be the set of phenomenal properties? Though this option avoids the redundancies discussed above, I suspect it also generates more phenomenal possibilities than necessary. Suppose that phenomenal hue is instantiated always and only with phenomenal saturation (though specifying a particular value of hue does not suffice to determine a particular value of saturation, and vice versa). In this case, phenomenal hue and phenomenal saturation are distinct phenomenal properties, yet they may not correspond to distinct phenomenal possibilities. At least, one might think that a phenomenal concept that merely represents its target experience as instantiating hue does not differ (with respect to how it represents what it is like to have the target experience) from a phenomenal concept that merely represents its target experience as instantiating saturation. If this is right, then phenomenal properties may be more fine-grained than phenomenal possibilities.

The option I favor is to characterize phenomenal possibilities as sets of possible experiences. A *possible experience* is a maximally specific way that a total experience could be (just as a possible world is a maximally specific way that the world could be). Possible experiences are individuated wholly by phenomenal character, so distinct possible experiences necessarily have distinct phenomenal characters. And possible experiences are maximally complete, in that they specify a total experience (rather than just a part or aspect of an experience). Under this option, the set of phenomenal possibilities is the powerset of the set of possible experiences.

Is this analysis of phenomenal possibilities representationally adequate? As noted earlier, phenomenal possibilities are candidates for target experiences, and target experiences are always either particular experiences or phenomenal properties. For any particular experience, the corresponding set of possible experiences is just the singleton set containing the possible experience type-identical to the particular experience. For any phenomenal property, the corresponding set of possible experiences will be the set of possible experiences that instantiate that phenomenal property. The more determinate a phenomenal property, the smaller its corresponding set of possible experiences; the more determinable a phenomenal property, the larger its corresponding set of possible experiences. In light of this, the possible-experiences



analysis of phenomenal possibilities seems exactly rich enough to satisfy our initial desideratum of distinguishing between all phenomenal possibilities.

#### THE FRAMEWORK

Now we can develop the framework in detail. The core idea is that we can capture the way any phenomenal concept represents phenomenal character by specifying the set of phenomenal possibilities left open by that phenomenal concept.

Let us say that the *subjective content* of a phenomenal concept is the way that the phenomenal concept represents what it is like to have its target experience.<sup>18</sup> On the current proposal, subjective contents are sets of phenomenal possibilities. Consequently, the subjective content of any subjective content can be specified as  $\{x_1, x_2, \dots, x_n\}$ , where each  $x_i$  is a phenomenal possibility left open by that phenomenal concept. Since every phenomenal possibility is itself associated with a set of maximally-specific experiences, each phenomenal possibility  $x_i$  can be specified as  $\{e_1, e_2, \dots, e_n\}$ , where each  $e_i$  is a maximally-specific experience.

How does the framework capture degrees of purity? At first pass, we characterized degrees of purity as a matter of how precisely a phenomenal concept represents what it is like to have its target experience. This may be further analyzed as a matter of the number of phenomenal possibilities ruled out by a phenomenal concept. Consequently, the degree of purity of a phenomenal concept is a matter of how many phenomenal possibilities are ruled out by that phenomenal concept.

To assign numerical values to degrees of purity, let us say the *purity value* of a phenomenal concept is the proportion of the set of all phenomenal possibilities ruled out by that phenomenal concept.<sup>19</sup> As a result of this formalization, all

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<sup>18</sup> Note that ‘subjective content’ does not mean content that supervenes on phenomenal character, as the term is sometimes used in discussions of phenomenal intentionality.

<sup>19</sup> Since there is an infinite number of phenomenal possibilities, we cannot simply take degrees of purity to correspond to the number of phenomenal possibilities ruled out by a phenomenal concept. Instead, we need a measure that works for infinitary sets. This issue is analogous to that for accounts of content that appeal to sets of possible worlds. For limits of space, I will set aside discussion of potential solutions to this issue.

phenomenal concepts have a purity value from 0–1 inclusive, where higher values indicate higher degrees of purity. For practical convenience, let us suppose that we scale purity values logarithmically, so that a purity value of 0.5 denotes a moderately pure phenomenal concept (rather than an extremely impure phenomenal concept).<sup>20</sup> Throughout the rest of the paper, I will denote phenomenal concepts by designating their target experiences in small-caps and their purity value in subscripts. For example, SCARLET<sub>0.2</sub> denotes a relatively impure phenomenal concept of scarlet while RED<sub>1</sub> denotes a maximally pure phenomenal concept of red.

Now we can identify the limit cases for purity. At one limit are *maximally pure phenomenal concepts*, which have purity value 1, which rule out all phenomenal possibilities except one, and which provide exact knowledge of what it is like to have the target experience. At the other limit are *minimally pure phenomenal concepts*, which have purity value 0, which rule out no phenomenal possibilities (though still specify that the target experience is an experience), and which represent the phenomenal character of their target experiences with minimal precision.<sup>21</sup> Between those extremes are *partially pure phenomenal concepts*, which have purity values between 0 and 1, which rule out some (and leave open other) phenomenal possibilities, and which yield approximate knowledge of what it is like to undergo the target experience. It is plausible that many (if not all) of the phenomenal concepts possessed by normal humans are partially pure, at least assuming that the epistemic abilities discussed in §1 are indicative of purity.

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<sup>20</sup> Without logarithmic scaling, a purity value of 0.5 would mean that leaving open half of all phenomenal possibilities, which would presumably count as extremely impure.

<sup>21</sup> Some might be reluctant to apply the term ‘phenomenal concept’ when the degree of purity is 0. However, even phenomenal concepts with degree of purity 0 still represent the target experience as a kind of experience (as opposed to another kind of thing). Because of this, such phenomenal concepts arguably provide a minimal grasp of the phenomenal character of the target experience, and zombies arguably could not acquire such concepts. However, this is largely a verbal issue, and nothing substantial is lost if we reserve the term ‘phenomenal concept’ for only concepts with degree of purity  $> 0$ .

A noteworthy consequence is that phenomenal concepts are far easier to acquire than philosophers have typically assumed. For example, it is sometimes held that there is an experiential requirement on the acquisition of phenomenal concepts, in that one cannot acquire phenomenal concepts for experiences one has never had. But if the degreed picture is correct, then the experiential requirement is false, for it is possible to acquire phenomenal concepts for all sorts of experiences. Instead, the grain of truth in the experiential requirement is that one can acquire much purer phenomenal concepts for experiences one has had than for experiences one has never had. But given that even our phenomenal concepts for our own experiences are normally only partially pure, the experiential requirement is best understood as tracking a degreed property rather than an all-or-nothing property.

The framework enables us to dissociate purity and determinability. Whereas purity is a matter of the number of phenomenal possibilities ruled out (i.e., the set size of its subjective content), determinability is matter of how specific those phenomenal possibilities are (i.e., the set sizes of the members of its subjective content). The formal difference between purity and determinability is illustrated in the following diagram (where each circle represents a phenomenal possibility and where the size of the circle represents the number of possible experiences associated with that phenomenal possibility):



FIGURE 1: Purity vs. determinability.

To see how determinability dissociates from purity, consider SCARLET<sub>0.5</sub> versus RED<sub>0.5</sub>. Both phenomenal concepts leave open the same number of phenomenal possibilities, meaning that the concepts are equally pure. However, each phenomenal possibility for SCARLET<sub>0.5</sub> is more specific than each phenomenal possibility for RED<sub>0.5</sub>, meaning that SCARLET<sub>0.5</sub> represents its target experience as a more determinate phenomenal property than RED<sub>0.5</sub>. To see how purity dissociates from determinability, consider RED<sub>0.5</sub> versus RED<sub>1</sub>. Both phenomenal concepts leave open phenomenal possibilities associated with the same number of possible experiences, meaning they are equally determinate. However, RED<sub>1</sub> leaves open only one phenomenal possibility while RED<sub>0.5</sub> leaves open five, meaning RED<sub>1</sub> is purer than RED<sub>0.5</sub>.<sup>22</sup>

Let me briefly go over some of the formal structure of the framework. Let A and B be two phenomenal concepts.<sup>23</sup> First, if A and B are associated with exactly the same phenomenal possibilities, then they represent the phenomenal character of their target experiences in exactly the same way. Second, if A and B partially overlap, then they leave open the possibility that they pick out the same target experience. Third, if A and B are completely disjoint, then they rule out the possibility that they pick out the same target experience. Last, if A is a proper subset of B, then A eliminates all phenomenal possibilities that B eliminates plus more. In such a case, we can say that A is *strictly purer* than B, meaning that A provides strictly more exact knowledge than B of what it is like to undergo the target experience.

At this point, it is natural to wonder whether analogous arguments could show that there is something like degrees of purity for other kinds of concepts as well. However, I wish to remain neutral and maintain focus only on phenomenal concepts, for both a philosophical reason and a practical reason. The philosophical

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<sup>22</sup> A noteworthy case is the concept EXPERIENCE<sub>1</sub>, which is maximally determinable (since it applies to every possible experience) yet maximally pure (since the only phenomenal possibility it leaves open is the set of all possible experiences). In my view, EXPERIENCE<sub>1</sub> is a good candidate for being a maximally pure phenomenal concept acquirable by normal humans.

<sup>23</sup> For simplicity, I will ascribe set-theoretic relations to phenomenal concepts, but this should be taken to be elliptical for ascribing those relations to the subjective contents of those phenomenal concepts (since concepts themselves do not stand in set-theoretic relations).

reason is that I believe that the representation of what it is like is a natural representational kind, that developing a theory of it will carve at the joints of representation. I will not argue directly for this claim, though I believe it provides a partial diagnosis of why there is an explanatory gap between phenomenal concepts and physical concepts. The practical reason is that there are distinctive issues for phenomenal concepts that I wish to address in this paper. As mentioned, degrees of purity have been largely overlooked in the philosophical literature on phenomenal concepts, and I will soon argue that degrees of purity have ramifications for a range of further issues. The targeted focus of this paper enables a more fine-grained analysis of these issues.

### § 3 | APPLICATIONS

In what follows, I will explain how degrees of purity provide insight into how phenomenal concepts *refer*, which phenomenal facts are *knowable* on the basis of any given phenomenal concept, and what it takes to *master* a phenomenal concept.

#### REFERENCE

How do phenomenal concepts refer to their target experiences? On the de-greed picture of purity, the way a phenomenal concept represents what it is like to have its target experience underdetermines the identity of its target experience. This is because for any phenomenal concept, there is a range of possibilities for what it is like to have the target experience that are consistent with its subjective content.<sup>24</sup> As a result, subjective contents alone do not suffice for reference. In fact, even the subjective contents of maximally pure phenomenal concepts do not suffice for reference, at least given our analysis of phenomenal possibilities in terms of possible experiences. Even though a maximally pure phenomenal concept enables one to know exactly what it is like to undergo its target experience, it still leaves open whether

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<sup>24</sup> In fact, even the subjective contents of phenomenal concepts that provide exact knowledge of phenomenal character underdetermine reference, for reasons I discuss later.

the phenomenal concept refers to a particular experience or a maximally determinate total phenomenal property.

Is this result plausible? At first pass, it may seem plausible that one can refer to a target experience by just thinking about what it is like to have an experience. But consider again what it is like to see scarlet, and then consider what it is like to see vermilion. Speaking for myself, it is not clear to me that there is any difference in how my concept SCARLET represents what it is like to see scarlet versus how my concept VERMILLION represents what it is like to see vermilion. If we tested my recognitional, imaginative, and inferential abilities with regard to each experience, I suspect my concepts would be indistinguishable on the basis of those tests.<sup>25</sup> Yet even though it is unclear whether the subjective contents of SCARLET and VERMILLION differ at all, it is obvious that my concept SCARLET refers to scarlet experience my concept VERMILLION refers to vermilion experience.

This might lead to puzzlement about how phenomenal concepts refer to their target experiences. But the puzzlement arises only if we presume that subjective contents are the only factor relevant for reference. Though that presumption may seem plausible if we take purity to be all-or-nothing, it is unmotivated once we recognize the existence of degrees of purity. Instead, we can appeal to standard accounts of reference that apply to other kinds of concepts, such as descriptive accounts, causal accounts, character accounts, intentionalist accounts, and so forth.<sup>26</sup> Since these are familiar issues that turn on more fundamental questions in the philosophy of language, I will set aside discussion of which account of reference is best.

Nevertheless, this may strike some as not fully satisfactory. It is often held that phenomenal concepts refer to their target experiences directly in terms of their phenomenal character. For many concepts, such as WATER and H<sub>2</sub>O, reference

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<sup>25</sup> Perhaps there are other differences in the contents of my concepts—for example, perhaps my concept SCARLET (versus VERMILLION) represents SCARLET (versus VERMILLION) experience as the kind of color experience normally caused by SCARLET (versus VERMILLION) color chips. However, these are not differences in how the concepts represent what it is like to have their target experiences (and so not differences in the subjective contents of the concepts).

<sup>26</sup> See Michaelson & Reimer [2019] for general discussion of these issues.

depends in part on the external world. But for phenomenal concepts, it seems that reference is independent of the external environment. This arguably captures the sense in which there is no appearance-reality gap for experiences. In the case of concepts such as WATER, the way the phenomenon appears to us may be distinct from the way the phenomenon actually is. But in the case of phenomenal concepts, we are concerned with experiences themselves, so the way the target appears to us just is the way the target is.

Is it possible for the degreed picture to capture this special referential role of subjective contents? Though subjective contents do not directly *refer* to a target experience, they still arguably directly *constrain* the candidates for the target experience. In particular, it is plausible that the referent of any phenomenal concept must be amongst the phenomenal possibilities left open by that phenomenal concept.<sup>27</sup> In other words, it is plausible that the way a subjective content constrains what the target experience might be is independent of the external environment (even though the external environment may still play a role in determining a unique target experience for the phenomenal concept). In light of this, we can reconcile the insight that phenomenal concepts have direct referential properties with degrees of purity.<sup>28</sup>

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<sup>27</sup> Is it possible for there to be a mismatch between what the target experience is like and how the phenomenal character of the target experience is represented? This would require concepts to have veridicality conditions. However, it is plausible that concepts do not have veridicality conditions (since a concept cannot be true or false). Instead, purported cases of mismatch are arguably cases of reference failure (like in cases of concepts with inconsistent contents such as SQUARE CIRCLE).

<sup>28</sup> A noteworthy consequence is that the primary intensions and secondary intensions of phenomenal concepts come apart, contra the standard assumption that the primary intensions and secondary intensions of phenomenal concepts coincide (see, e.g., Chalmers [2003]). Nevertheless, since subjective contents directly constrain candidates for target experiences, the insight of collapsing the intensions is arguably retained. In particular, if we think of an intension\* as a function from worlds to sets of possible extensions (and an intension as a limit case of an intension\*), then the primary intensions\* and the secondary intensions\* of subjective contents coincide.

## KNOWLEDGE OF PHENOMENAL FACTS

A *phenomenal fact* is a fact characterizing what it is like to have an experience. Which phenomenal facts can one know on the basis of a given phenomenal concept?

On the all-or-nothing picture of purity, this explanatory task is trivial: if phenomenal concepts always yield exact knowledge of what it is like to undergo their target experiences, then it would be natural to think that phenomenal concepts always put one in a position to know all phenomenal facts about their target experiences. After all, there would be no information about what it is like to have the target experience that is not already contained within one's phenomenal concept. However, while there are many experiences you can think about in terms of their phenomenal character, you cannot know all phenomenal facts about those experiences just by thinking about those experiences.

Once we recognize that there are degrees of purity, it is a challenge to explain which phenomenal facts one can know on the basis of any given phenomenal concept. This is because whenever a phenomenal concept yields only approximate knowledge of what it is like to undergo its target experience, that phenomenal concept will yield knowledge of some but not all phenomenal facts about its target experience. For example, your phenomenal concept SCARLET enables you to know that scarlet experience is a type of color experience, but it does not enable you to know that scarlet experience is as similar (with respect to hue) to crimson experience as to amaranth experience.<sup>29</sup> What we seek is an account of which phenomenal facts one can know on the basis of any phenomenal concept at any degree of purity.

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<sup>29</sup> Some might worry about experiences such that undergoing them interferes with one's knowledge acquisition processes. For example, it is plausible that the experience of being bored and distracted would interfere with one's ability to introspect one's experiences. However, I will assume that we can distinguish how good of an epistemic position one is in from how well one's knowledge acquisition processes function in that position.



To begin, observe that for any phenomenal possibility, there is a set of phenomenal properties that applies to all possible experiences that comprise that phenomenal possibility. For example, consider the phenomenal possibility  $x_1 = \{\text{red}_1, \text{red}_2, \dots, \text{red}_{100}\}$ , where each  $\text{red}_i$  is a possible phenomenal red experience. Then the property *red experience* applies to all possible experiences within  $x_1$ , as well as the properties *color experience* and *visual experience*. On the other hand, consider another phenomenal possibility  $x_2 = \{\text{red}_1, \text{red}_2, \dots, \text{red}_{100}, \text{green}_1, \text{green}_2, \dots, \text{green}_{100}\}$ . Then the property *red experience* does not apply to all possible experiences within  $x_2$ , though the properties *color experience* and *visual experience* still do.

Since every phenomenal concept is associated with a set of phenomenal possibilities and every phenomenal possibility is associated with a set of possible experiences, we can iterate the procedure above so that we identify the set of phenomenal properties that applies to every possible experience associated with every phenomenal possibility for a phenomenal concept. The result is a set of phenomenal properties that the phenomenal concept's target experience is guaranteed to have (at least given the considerations about reference from the previous subsection).

Now we have the basis for an account of which phenomenal facts are knowable on the basis of a given phenomenal concept. In particular, suppose a phenomenal concept A is associated with the set of possible experiences  $\{e_1, e_2, \dots, e_n\}$ . Then for any phenomenal property F that applies to each of  $\{e_1, e_2, \dots, e_n\}$ , one can know on the basis of A that the target experience is F. As an example, consider your phenomenal concept  $\text{SCARLET}_{0.5}$  whose subjective content is  $\{\text{red}_1, \dots, \text{red}_{100}\}$ . Since all possible experiences associated with  $\text{SCARLET}_{0.5}$  are phenomenal red experiences, you can know on the basis of your phenomenal concept that scarlet experience is a type of red experience.<sup>30</sup>

What about facts ascribing relational (rather than monadic) properties? Consider the phenomenal fact that red experience is more similar to orange experience

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<sup>30</sup> Note that this account aims only to capture how subjective contents of phenomenal concepts yield knowledge of phenomenal facts. In other words, it does not apply to objective contents or to knowledge of non-phenomenal facts.

than to green experience. This case will involve three phenomenal concepts, RED, ORANGE, and GREEN, three sets of possible experiences ( $\{r_1, r_2, \dots, r_n\}$ ,  $\{o_1, o_2, \dots, o_n\}$ , and  $\{g_1, g_2, \dots, g_n\}$ ), and the three-place predicate *is more similar to than*. The account predicts that if any  $r_i$  is more similar to any  $o_i$  than to any  $g_i$ , then one can know on the basis of the phenomenal concepts RED, ORANGE, and GREEN that red experience is more similar to orange experience than to green experience. By contrast, if there is a set of possible experiences  $r_i$ ,  $o_i$ , and  $g_i$  such that it is not the case that  $r_i$  is more similar to  $o_i$ , than to  $g_i$ , then one cannot know on the basis of the phenomenal concepts RED, ORANGE, and GREEN that red experience is more similar to orange experience than to green experience.

It is easy to verify that the account makes the right predictions across different kinds of cases. If phenomenal concept A and phenomenal concept B are associated with exactly the same phenomenal possibilities, then they provide knowledge of exactly the same set of phenomenal facts. If A and B *overlap*, then for all one knows the target experiences of A and B might be the same. If A and B are *disjoint*, then one can rule out the possibility that A and B have the same target experience. And if A is *strictly purer* than B (i.e., A rules out all phenomenal possibilities B rules out and more), then one can know strictly more phenomenal facts on the basis of A than on the basis of B. Intuitively, in such a case A provides strictly more information about what it is like to have its target experience than B.

Consider again the limit cases for purity. If A is a maximally pure phenomenal concept (i.e., A leaves open a single phenomenal possibility), then one is in a position to know all phenomenal facts about that experience (since every predicate that applies to the target experience also applies to all phenomenal possibilities for A. On the other hand, if B is a minimally pure phenomenal concept (i.e., B leaves open every phenomenal possibility), then the only phenomenal facts about the target experience that one is in a position to know on the basis of B are those that would hold for any experience whatsoever (since only properties that apply to all experiences apply to all phenomenal possibilities for B).

Does knowing a phenomenal fact on the basis of a phenomenal concept really require ruling out all phenomenal possibilities inconsistent with that fact? That

requirement may seem too strong given that most philosophers are fallibilists about knowledge, according to which knowledge does not require ruling out all possibilities. However, motivations for fallibilism tend to focus on empirical knowledge rather than conceptual knowledge. For example, even if contextual constraints enable fallible perceptual knowledge of the external world, that does not mean that the same kinds of contextual constraints apply to conceptual knowledge. In fact, canonical examples of conceptual knowledge tend to focus on knowledge that is arguably infallible (so long as the subject is ideally rational). Nevertheless, philosophers who favor fallibilism about conceptual knowledge can still accept this as a core account while extending it further. In other words, one could simply take this account to capture how phenomenal concepts yield knowledge of a core set of phenomenal facts while allowing for further, fallible knowledge beyond this core set.

#### CONCEPT MASTERY

Philosophical discussions of concept mastery standardly take concepts to be abstract entities (rather than mental representations). Within this framework, many different mental representations can be used to grasp the same concept, and some mental representations provide better grasps of that concept than others. As a classic example, suppose that two subjects both have thoughts that refer to arthritis, but one subject thinks of arthritis as a disease of the muscles and the other subject thinks of arthritis as a disease of the joints. Both subjects grasp the concept ARTHRITIS (in virtue of the fact that both subjects have concepts that refer to arthritis), but the second subject has greater mastery of the concept than the first.<sup>31</sup>

By contrast, I have presumed that concepts are mental representations. But this way of thinking about concepts tends to elide issues concerning concept mastery. This is because changing the mental representation will often mean changing the concept itself. Consequently, concept mastery within the mental representation framework is more naturally understood as a matter of acquiring the right concept (rather than a matter of fully grasping a concept). In what follows, I will use locutions

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<sup>31</sup> See Burge [1979] for the original example.

like having ‘concept mastery for scarlet experience’ to mean possessing a concept of scarlet experience that satisfies the requirements for concept mastery.<sup>32</sup>

On the degreed picture, it is natural to think that mastery of phenomenal concepts requires possessing maximally pure phenomenal concepts. After all, phenomenal concepts are concepts of experiences, and there seems nothing more important for grasping what an experience is than grasping its phenomenal character. If one had a phenomenal concept of scarlet experience that does not enable them to know exactly what it is like to experience scarlet, then it is hard to see how they could nevertheless have concept mastery of scarlet experience. Furthermore, if one rejected maximal purity as a requirement for concept mastery, it is hard to see where to draw the line. It is plausible that at least some knowledge of what it is like to have the target experience is necessary for mastery of a phenomenal concept. But once we accept that some degree of purity is needed for concept mastery, there seems no principled cutoff short of maximal purity.<sup>33</sup>

This hypothesis also aligns with standard accounts of concept mastery: in particular, the requirements for mastery of phenomenal concepts are often specified in terms of recognition, imagination, or inferential conditions, and it is plausible that all of these criteria are satisfied by subjects possessing maximally pure phenomenal concepts. If one’s phenomenal concept enables one to know exactly what it is like to have a target experience, then it seems that one will be able to recognize instances of that target experience with perfect reliability, imagine the target experience with perfect detail and vivacity, and know all phenomenal facts about the target experience just on the basis of one’s phenomenal concept.<sup>34</sup>

Talking about concept mastery is useful for clarifying the explanatory ambitions of this paper. The analysis of degrees of purity can be understood as providing

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<sup>32</sup> For some recent discussions connecting phenomenal concepts and concept mastery, see Ball [2009], Rabin [2011], and Alter [2013].

<sup>33</sup> Note that I only wish to suggest possession of maximally pure phenomenal concepts as a necessary (rather than a sufficient) condition for mastery of phenomenal concepts.

<sup>34</sup> See Rabin [2011] for more in-depth discussion of mastery of phenomenal concepts.

an account of the subjective contents for all levels of mastery of phenomenal concepts (as opposed to only maximally pure phenomenal concepts). In fact, I suspect that part of the reason that the idea of degrees of purity has been neglected is because philosophers thinking about phenomenal concepts tend to presume idealized scenarios, where subjects have mastery of their phenomenal concepts. This hypothesis is supported by the fact that the philosophical literature on phenomenal concepts tends to presume that concepts are mental representations (a presumption that tends to elide issues about concept mastery, as discussed above).

A noteworthy consequence is that there is an asymmetry between achieving mastery of phenomenal concepts and achieving mastery of physical concepts. Whereas mastery of phenomenal concepts requires ruling out all phenomenal possibilities but the target experience, mastery of physical concepts does not require ruling out all physical possibilities but the target phenomenon. For example, it is plausible that one may achieve mastery of water concepts even if one does not know that water is H<sub>2</sub>O, whereas one cannot achieve mastery of phenomenal concepts unless one knows exactly which experience one's phenomenal concept refers to. This difference is arguably due to the familiar idea that there is an appearance-reality gap that holds for the physical but not the phenomenal.

The asymmetry mentioned above also explains both the appeal and controversy over REVELATION, the thesis that the possession of a phenomenal concept puts one in a position to know the essence of its target experience. For example, proponents of REVELATION hold that in virtue of possessing a phenomenal concept of scarlet, one is in a position to know exactly what it is for something to be a scarlet experience. The appeal of REVELATION for phenomenal concepts (but not physical concepts) is explained by the asymmetry in concept mastery for phenomenal concepts (versus physical concepts). Mastering phenomenal concepts requires knowing exactly what it is like to have the target experience (which might be thought to entail knowing the essence of that experience).<sup>35</sup> In contrast, mastering physical

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<sup>35</sup> Actually, this is somewhat delicate. Oftentimes revelation is used as a premise in arguments against physicalism, but the considerations in this paragraph arguably have no bearing on

concepts arguably does not require knowing the essence of the referent. Because of this, REVELATION rightly identifies an epistemic asymmetry between phenomenal concepts and physical concepts. At the same time, the controversy over REVELATION is explained by the fact that it is false for nearly all phenomenal concepts. Even though maximally pure phenomenal concepts yield exact knowledge of phenomenal character, all other phenomenal concepts yield only approximate knowledge.

## CONCLUSION

To recap, I began by arguing that phenomenal concepts vary with respect to degrees of purity, or how precisely they represent what it is like to undergo their target experiences. The main motivation for positing degrees of purity is that the epistemic abilities associated with our phenomenal concepts (such as our recognitional, imaginative, and inferential abilities) have a graded structure. In light of this, most phenomenal concepts provide only approximate (rather than exact) knowledge of what it is like to undergo their target experiences.

Then I developed a general framework for modeling how phenomenal concepts represent phenomenal character. The core idea is that every phenomenal concept rules out certain phenomenal possibilities and that the way any phenomenal concept represents what it is like to undergo its target experience can be specified just in terms of which phenomenal possibilities are ruled out. I argued that phenomenal possibilities are best understood as sets of possible experiences, and I showed how such an analysis yields some attractive formal results. I also explained how the framework dissociates degree of purity (which is a matter of how many phenomenal possibilities are ruled out) from determinability (which is a matter of how specific those phenomenal possibilities are).

Finally, I applied degrees of purity to issues concerning which phenomenal facts are knowable on the basis of any given phenomenal concept (namely, the

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physicalism. To get an argument against physicalism, we would need the additional premise that knowing exactly what it is like to have an experience puts one in a position to know the metaphysical nature of that experience.

phenomenal facts that ascribe phenomenal properties common to all possible experiences left open by that phenomenal concept), how phenomenal concepts refer (namely, subjective contents directly constrain the candidate target experiences but do not identify a unique target experience), and concept mastery (where concept mastery requires possessing maximally pure phenomenal concepts).

This paper has developed the core motivations, structure, and applications of degrees of purity, but each of these aspects warrants richer discussion than there has been room for in this paper. Moreover, limitations of space have permitted only brief discussions of the connections to other philosophical literatures, such as those on phenomenal concepts, inexact knowledge, concept mastery, and intensional semantics. Nevertheless, I hope this paper has sufficed to demonstrate that thinking about degrees of purity is both theoretically fruitful and philosophically perspicuous.

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