

# PHENOMENAL PROPERTIES ARE LUMINOUS PROPERTIES<sup>1</sup>

ABSTRACT. A property is phenomenal if and only if there is something that it is like to have it. A property is consistent if and only if it fails to entail every property. A property is luminous if and only if having that property entails knowing that you have it. I argue that phenomenal properties are all and only the consistent luminous properties.

## 1. INTRODUCTION

Theories of phenomenal consciousness divide into first order and higher order varieties.<sup>1</sup> More often than not, however, proponents of both varieties unite in rejecting a *luminous* conception of phenomenal features according to which, roughly, they comprise all and only those features that one couldn't have without being aware that one has (or at least without being in a position to be aware that one has.<sup>2</sup>) Proponents of first order varieties reject such a conception because they reject any constitutive link between consciousness and epistemic properties.<sup>3</sup> Thus, according to Dretske,

Failure to understand how [an experience can be conscious without anyone being conscious of having it] constitutes a failure to understand what makes something conscious and, hence, what consciousness is. (1993, 263)

Proponents of common varieties of higher order theses about consciousness reject the luminous conception because it does not respect the primary motivation for their view, namely, that one and the same feature is sometimes conscious and sometimes not. Thus according to Carruthers,

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<sup>1</sup>First-order theories: Siegel 2010, Speaks 2015, Byrne 2001, Pautz 2010, Dretske 2000; 2003, Tye 1995, and Chalmers 2004. Higher order theories: Rosenthal 2004; 2005, Carruthers 2005; 2016, Lycan 1996, and Armstrong 1968.

<sup>2</sup>See Williamson 2000, Weatherson 2004, Berker 2008, and Srinivasan 2015 for discussion. Also Lewis 1996, p. 553.

<sup>3</sup>See in particular Dretske 1993; 2006.

The main motivation behind higher-order theories of consciousness . . . derives from the belief that all (or at least most) mental-state types admit of both conscious and unconscious varieties. (2016)

This paper is a defense of the luminous conception of phenomenal features. Properly formulated this conception provides a simple, elegant and (arguably) reductive theory of the phenomenal that has quite a bit more going for it than has often been supposed. I formulate the theory in §2 and situate it within the literature. In §3, I provide several novel arguments for the view and engage in some light theory building to illustrate potential applications. There have been many objections to this view in the literature. Some of them seem to me to have rather straightforward responses; some less so. In §4, I formulate and respond to what I take to be the most pressing objections to the theory.

## 2. PHENOMENAL PROPERTIES AS LUMINOUS PROPERTIES

A property is phenomenal if and only if there is something that it is like to have it. It is luminous if and only if having it entails knowing that you have it.<sup>4</sup> And consistent if and only if it does not entail every property.<sup>5</sup> According to the luminous conception of phenomenal properties, a property is phenomenal if and only if it is consistent and luminous.

But the thesis is not just that phenomenal properties happen to coincide with the consistent luminous properties. Rather, being consistent and luminous is just what it is to be phenomenal. We'll say that  $F \leq G$  if being  $F$  implies being  $G$  and that  $F = G$  if being  $F$  is being  $G$ . For any property  $F$ ,  $K(F)$  is the property of knowing that one is  $F$  (and so  $K()$

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<sup>4</sup>The term 'luminous' comes from Williamson (2000). Williamson talks of luminous *conditions* (triples of worlds, times and subjects), I talk of luminous properties. This is because the subject of the paper is phenomenal properties. One could approach phenomenal properties via luminous conditions in a roundabout way (somewhat similarly to the way in which Williamson approaches narrow and broad states in terms of narrow and broad conditions). But I see no reason in particular to do this. The focus on properties instead of conditions also helps avoid potential counterexamples to the thesis I will defend; see footnote 6.

<sup>5</sup>This paper takes property entailment as primitive. I will suppose that if  $F$  entails  $G$  then necessarily everything is necessarily  $G$  if  $F$  but remain, for the most part, agnostic on the converse. In various places in what follows I will make assumptions about what entailment is like. I will flag these assumptions when made. I will also remain agnostic on what properties are. My preferred framework is to treat property talk as shorthand for sentences that involve quantification into predicate position. So regimented 'being phenomenal' is properly treated as a higher-order predicate: a 'predicate' that combines with a predicate to give a sentence. But these issues are mostly orthogonal to the subject of this paper.

can be understood as roughly the operator of *knowing oneself to have*). The thesis that I aim to defend can then be stated as the following metaphysical analysis:

**LC** For any  $F$ , for  $F$  to be phenomenal is for  $F$  to be consistent and  $F \leq K(F)$ .<sup>6</sup>

If mutually entailing conditions are identical then, since  $K(F) \leq F$  by the factivity of knowledge, the thesis admits of an equivalent and illuminating definition.<sup>7</sup>

For any  $F$ , for  $F$  to be phenomenal is for  $F$  to be consistent and  $K(F) = F$ .

In brief, to be phenomenal is to be a consistent “fixed point” of the  $K$  operator. Thus the phenomenal properties form a natural kind within a coarse grained theory of the operands of  $K$ . Sometimes in what follows I will suppose that properties are coarse grained in this way. This simplifies some aspects of the discussion, but it is by no means required by the luminous conception of phenomenal features.

The thesis *LC* provides necessary and sufficient conditions for a property to be phenomenal in terms that do not presuppose or employ phenomenal notions. Indeed if correct it tells us *what it is* for a property to be phenomenal in terms that do not presuppose or employ phenomenal notions. The relevant notion of entailment is meant to be a worldly or metaphysical notion of entailment. Whether one property entails another is not a matter of the phenomenal properties of any actual or possible agent. Being  $F$  entails being  $G$  only if it is necessary that something is  $G$  if it is  $F$ , where the sense of ‘necessity’ at issue is a

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<sup>6</sup>When I say that  $F$  entails knowing that one is  $F$ , I do *not* mean that necessarily any *person* who is  $F$  knows that they are  $F$ . Rather I mean that necessarily anything *whatsoever* that is  $F$  knows that it is  $F$ . This avoids possible counterexamples like *existing* or *being self identical*. Perhaps all persons automatically count as knowing that they are identical to themselves. But self identity does not entail knowledge of such identity: ordinary objects like rocks and trees are self identical but do not know anything. The thesis *LC* could be true without being knowable a priori. Thus *LC* does not automatically face the ‘distinct existence argument’ which turns on the claim that one can conceive of having a phenomenal property without the corresponding knowledge (see Stoljar 2016.) All that this argument establishes is that *LC* is not a priori true. Without substantial assumptions connecting conceivability and metaphysical possibility, it does not refute *LC*. The analysis should be understood to at least entail that it is metaphysically necessary that  $F$  is phenomenal if and only if  $F$  is consistent and  $F \leq K(F)$ . The converse need not be assumed. On the intended reading, the thesis tells us what it is to be phenomenal, which may or may not go beyond mere necessary coextensiveness.

<sup>7</sup>By the “factivity of knowledge” I mean the thesis that knowing that  $P$  entails  $P$ , and so in particular that knowing that one is  $F$  entails being  $F$ .

broad objective necessity rather than an epistemic one.<sup>8</sup> More controversially, whether some proposition is known is not *in general* a matter of the phenomenal properties of any actual or possible agent. It is consistent to suppose a world has knowers at a given time even if no one at that world has any phenomenal properties at that time (perhaps all knowers fall into a dreamless sleep, for instance). If knowledge iterates and so knowing  $p$  entails knowing that you know  $p$ , then according to *LC* knowing  $p$  is phenomenal for any  $p$ . This would strain the sense of ‘phenomenal’ at issue since for many propositions there is intuitively nothing that it is like to know them. The motivations that I take to favor *LC* are consistent with knowledge failing to iterate. In what follows I’ll suppose that knowledge does fail to iterate.

Many philosophers are familiar with both the notion of a luminous property (or related notions) and the notion of a phenomenal property. Moreover, assertions that phenomenal properties *happen* to be luminous or are luminous *because* they are phenomenal are familiar albeit controversial. But the claim that being phenomenal *consists* in being luminous might seem a bit jarring. So before I get to what I take to be the strongest arguments in favor of the analysis, I want to highlight several traditions of thinking on the phenomenal with which *LC* is congruous.

Consider first an overly simplistic higher order thought (HOT) theory of phenomenal properties according to which for a property  $F$  to be phenomenal is for one to be aware that one is  $F$ . Mundane counterexamples to this thesis come from properties like being a human being, having black hair and other obviously non-phenomenal properties one is aware that one has. A standard fix is to put some extra conditions on the property  $F$ . For instance, we might say that a property  $F$  is phenomenal if being  $F$  is a mental state and, moreover, one is aware that one is  $F$ . One’s phenomenal properties are all and only the mental states that one is aware that one has. Perhaps further conditions can be put on how that awareness is generated and what kind of mental state being  $F$  is supposed to be.

One immediate problem with this line of thought is that the analysis of the phenomenal now makes reference to the somewhat unclear notion of a mental state. Thus in order for

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<sup>8</sup>Williamson 2016.

HOT to offer any kind of illuminating account of the phenomenal it has to be supplemented with an account of what it is for a property to be a mental state. *LC* can be seen as a way of getting around the mundane counterexamples to HOT without appealing to some unexplained notion of a mental state. The phenomenal properties are not merely the ones that one is aware of, but the ones that one cannot help but be aware of.<sup>9</sup> There being something that it is like to be *F*, according to *LC*, consists in the fact that being *F* and being aware that you are *F* are one and the same.<sup>10</sup>

*LC* offers a plausible explanation to those who think that phenomenal properties and beliefs are sufficiently tightly connected so that having the phenomenal property entails believing that one has the phenomenal property.<sup>11</sup> If having the phenomenal property simply is knowing that one has the phenomenal property, then provided that knowledge entails belief, we have a plausible explanation of the connection. *LC* will also be an improvement on those views that take phenomenal properties to be those such that to have them is just to believe that you have them. For instance, David Lewis expresses sympathy for this thought when discussing experiential properties:

I rather think that an experience of a certain (suitable) kind and a belief that one is having an experience of that kind are one and the same thing. (1999, p. 6)

But there is always a potential worry with these views that one could mistakenly take oneself to have a phenomenal property that one does not have. Indeed one of the main problems for higher order thought theorists is the contention that it makes higher order misrepresentation

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<sup>9</sup>Sometimes I'll use talk of awareness in place of talk of knowledge when it seems natural to do so. The official formulation though is in terms of knowledge. *LC* can be brought closer to traditional HOT theories if we combine it with the thesis that knowing *p* is a mental state for any *p*. My own view is that the application of any stative propositional attitude to a proposition (in its "second" argument place) should result in a mental state, but this is not required to accept *LC*. See Williamson 1995; 2000, ch. 1 and Nagel 2013.

<sup>10</sup>As mentioned above one reason not to take this route is that that it does not respect the standard HOT claim that some properties can have the property of being phenomenal contingently, at least not given some standard and plausible assumptions. Suppose that *F* is phenomenal and so consistent and such that  $F = K(F)$ . Since, plausibly, *F* is necessarily consistent if consistent and necessarily identical to  $K(F)$  if identical to  $K(F)$  it follows that necessarily *F* is consistent and such that  $F = K(F)$ . Given the further claim that metaphysical analyses are metaphysically necessary it follows that necessarily *F* is phenomenal.

<sup>11</sup>For relevant discussion see Weatherson 2004 and Berker 2008.

impossible.<sup>12</sup> *LC* avoids these problems by formulating the thesis in terms of knowledge instead of the non-factive attitudes of thought and belief.<sup>13</sup>

Let me be clear that these are not the reasons why I think one should accept *LC*. Both HOT and doxastic phenomenal connections are just too controversial to motivate its acceptance. The purpose of mentioning them here is just to show that *LC* is a *natural* principle to accept if one has sympathies with these research programs since in the one case it captures the intuition that being phenomenal has something to do with higher order awareness without recourse to new primitives and in the other offers explanations of propositions that some have been disposed to accept.

### 3. MOTIVATIONS

So why should we accept that phenomenal properties are luminous? On my view, *LC* is motivated by the fact that it unifies and explains other attractive theses in epistemology and the philosophy of mind. Broadly speaking *LC* will draw support from the *role* that phenomenal properties and knowledge play in our theorizing.

There is a further attraction of the view. One of the more interesting consequences of *LC* is that it offers a route to something like a reductive analysis of consciousness in non-phenomenal terms. This seems to me to be a welcome and surprising prediction that should be of interest even to those who are ultimately unconvinced.

**3.1. Epistemology and Phenomenal Properties.** The following three principles have received quite a bit of defense within the literature on epistemology:<sup>14</sup>

PHENOMENAL CONSERVATISM: For any  $P$ , if it seems to one that  $P$ , then one is justified in believing that  $P$ .

EVIDENTIALISM: For any  $P$ , if one is justified in believing that  $P$ , then the proposition that  $P$  is supported by one's evidence.

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<sup>12</sup>See Byrne 1997 and Neander 1998.

<sup>13</sup>It is consistent to hold that  $a$  believes that  $a$  is  $F$  when  $a$  is not  $F$  even if being  $F$  is luminous.

<sup>14</sup>For discussion of PHENOMENAL CONSERVATISM see Pryor 2000 and Huemer 2001; 2007. For a defense of EVIDENTIALISM see see Feldman and Conee 1985 and Williamson 2000, ch. 9. Williamson (2000, ch. 9) also defends  $E = K$ .

E = K: For any  $P$ , one knows that  $P$  if and only if the proposition that  $P$  is part of one's evidence.

Generally those who accept PHENOMENAL CONSERVATISM reject EVIDENTIALISM and E = K. However,  $LC$  provides a way in which the theses can all come out true. For suppose that it's seeming to one that  $P$  is phenomenal. Hence, whenever it seems to one that  $P$ , one knows that it seems to one that  $P$ . So by E = K, it's seeming to one that  $P$  is part of one's evidence. Since, plausibly, the proposition that it seems to one that  $P$  raises the probability that  $P$ , this allows us to hold PHENOMENAL CONSERVATISM without giving up EVIDENTIALISM.<sup>15</sup>

Here is another way to put the argument. If PHENOMENAL CONSERVATISM, EVIDENTIALISM and E=K are true, then *whenever* it seems to one that  $P$ , that  $P$  is supported by what one knows. But if this holds for any case, the only relevant proposition to know that can support  $P$  will be the proposition that it seems to one that  $P$ . Thus the conjunction of these three principles naturally leads to the claim that seemings are luminous. Since seemings are paradigms of phenomenal states, this accords with the requirements of  $LC$ .

Of course many will be inclined to reject one of the above principles precisely because they do not think seemings luminous. But each of the above principles has quite a bit going for it. The theory consisting of  $LC$  and the above three principles gives phenomenal properties a distinguished evidential role. For any phenomenal property  $F$ , that one is  $F$  is part of one's evidence if and only if one is  $F$ . Consequently when evaluating whether a subject is justified in believing a proposition, we can always take into account how things stand phenomenally with that subject. The result is a knowledge first view that validates phenomenal conservatism and recognizes a special distinguished role for phenomenal evidence in the justification of belief.<sup>16</sup>

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<sup>15</sup>Of course one might give up one of these principles for different reasons. Bacon (2014), for instance, shows that there is a tension between EVIDENTIALISM and E = K given a thoroughgoing anti-skeptical epistemology together with a probabilistic analysis of support. These worries do not effect my overall case since the hard cases are those concerning knowledge of the future, not knowledge of one's own present phenomenal state.

<sup>16</sup>The view thus vindicates Susanna Schellenberg's (2013; 2016) contention that subjects in indiscriminable cases can share phenomenal evidence while still differing in factive evidence, although it does so in a way that is not congenial to her overall project.

**3.2. Phenomenal Properties and Action.** It is always appropriate to act as if one has the phenomenal properties one in fact has when the phenomenal bears on one's decisions. For instance, if it matters in a current choice situation whether one is in pain and one *is* in pain, then it is appropriate to act as if one is in pain. When someone cites their pain as a reason for acting, challenges to this reason are often heard as accusations of lying, for instance. This appears to be a distinctive feature of phenomenal properties. More generally, the following principle strikes me as a plausible generalization about the phenomenal:

THE REASON-PHENOMENAL PRINCIPLE: If  $F$  is a phenomenal property, then for any  $x$ , if  $x$ 's choice depends on the proposition that  $x$  is  $F$  then it is appropriate to treat the proposition that  $x$  is  $F$  as a reason for acting if and only if  $x$  is  $F$ .

The reason-phenomenal principle picks out a distinctive place for phenomenal properties in action. A welcome prediction of *LC* is that this principle follows as a corollary from *LC* given the more widely accepted principle connecting knowledge and action:

THE REASON-KNOWLEDGE PRINCIPLE: If an agent's choice depends on  $p$  then it is appropriate to treat  $p$  as a reason for acting if and only if the agent knows  $p$ .<sup>17</sup>

The reason why one is always licensed to rely on their phenomenal properties in acting is that one always knows that one has the phenomenal properties they do and one is always licensed to rely on what they know in acting. Of course one is not always licensed to act as if things are how they seem. If I am subject to a hallucination and I know this, I should not rely on how things seem while acting. But all that the reason-phenomenal principle says is that I can rely on the fact that things *do* seem that way.

**3.3. Phenomenal Properties and Functionalism.** Another motivation for *LC* stems from the plausibility of functionalism. While sameness of functional role might not suffice in every case for sameness of property, it is certainly evidence of this. And it seems quite plausible that for any phenomenal property  $F$ , being  $F$  and knowing that you are  $F$  will

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<sup>17</sup>See Hawthorne and Stanley (2008).



play the same functional role. Consider the state of being in pain. A sort of standard gloss of its functional role is that it is a

a state that tends to be caused by bodily injury, to produce the belief that something is wrong with the body and the desire to be out of that state, to produce anxiety, and, in the absence of any stronger, conflicting desires, to cause wincing and moaning. (Levin, 2018)

But this functional role is also plausibly played by the state of knowing that one is in pain. If one were to guess which state was being functionally characterized in the above quotation, it is unclear what grounds there would be for saying it was pain as opposed to knowledge of pain. Perhaps one could object by saying that knowledge of pain might lead one to, for instance, take pain killers but mere pain without knowledge of pain would not. But we should be careful to distinguish knowing that one is in pain under the guise of the sentence ‘I am in pain’ and knowing that one is in pain under some guise or other. If I am in pain, I know that I feel like *this*. I know this even if I am unsure whether to describe how I am feeling using the word ‘pain’. But since I am indeed in pain, what I know when I know that I feel like this is that I am  $F$ , where  $F$  is the property of being in pain.

**3.4. LC as an account of what it is to be conscious.** I take the above considerations to provide some initial motivation for endorsing  $LC$ . They are by no means knock down arguments. My overall argumentative strategy, however, is abductive. The theory comprised of  $LC$  with plausible auxiliary assumptions recommends itself on the basis of simplicity and explanatory power. A case in point is that  $LC$  together with plausible and shared assumptions affords us something like an account of *what it is* to be conscious that does not use or presuppose any phenomenal notions.

Suppose that the property of being conscious is the most general phenomenal property, that phenomenal property one has if one has any phenomenal properties at all. Then the thesis  $LC$  can be used to uniquely pin down consciousness in non-phenomenal terms: the property of being conscious is the unique consistent luminous property that is entailed by

every consistent luminous property. I think this is a very interesting and striking accomplishment. With very minimal resources, *LC* delivers an account of what it is to be conscious.

One might object that being conscious is not the most general phenomenal property on the grounds that it is not phenomenal. Some authors exclude consciousness from the category of the phenomenal even though they include more specific determinates. Jeff Speaks (2015), for instance, stipulates that ‘phenomenal property’ means ‘determinate of the property of being conscious’. Since, plausibly, nothing is a determinate of itself, being conscious is not phenomenal on Speaks’ account. I am working with a broader conception of phenomenal properties as simply “properties for which there is something that it is like to have.” Being conscious is not obviously excluded from that category. The determinates of such determinables may still form a natural class and thus there is not much theoretical cost if some generalizations about the phenomenal need to be restricted to determinate phenomenal properties. Additionally, even without the assumption that being conscious is phenomenal, we may still be able to extract an account of what it is to be conscious. For instance, if properties are relatively coarse grained, we can pick out consciousness as the least upper bound of the phenomenal properties under entailment. Consciousness will be the unique property entailed by every phenomenal property that moreover entails every property entailed by any phenomenal property.<sup>18</sup> If we call the least upper bound under entailment of some properties the disjunction of those properties, then the thesis can be equivalently formulated as: to be conscious is to have the disjunction of the consistent luminous properties.<sup>19</sup>

**3.5. Knowledge and phenomenal intentionality.** I’ve assumed that *LC* tells us what it is for a property to be phenomenal without using or presupposing phenomenal notions. One might object to this on the grounds that the analysis of knowledge will make reference

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<sup>18</sup>Remember we are here *not* assuming that being conscious is phenomenal. The proposal is thus quite simple. If properties form a complete lattice with respect to  $\leq$ , and  $X$  is the set of phenomenal properties, then the property of being conscious is the join  $\bigvee X$ . Since *LC* allows us to pick out  $X$  without using phenomenal notions, and we can define the join without using phenomenal notions, *LC* allows us to pick out being conscious without using phenomenal notions.

<sup>19</sup>Note that if being  $F$  and being  $G$  are consistent and luminous it does not automatically follow that being  $F$  or being  $G$  is consistent and luminous. If one is  $F$  then one knows one is  $F$  and is  $F$  or  $G$ . But in order to know one is  $F$  or  $G$  requires another inference.

to phenomenal notions. On my own view, the notion of knowledge is quite a bit clearer than than the notion of a phenomenal property and thus we should welcome an analysis of the latter in terms of the former. Some philosophers disagree. According to the *phenomenal intentionality theory* the phenomenal is a “main ingredient” in the analysis of intentional states more broadly. There is a potential for conflict: according to *LC*, the phenomenal is partly constituted by knowledge. According to the phenomenal intentionality theory, knowledge is partly constituted by the phenomenal (since all intentional states are). But if *A* is partly constituted by *B* then *B* is not partly constituted by *A*. Thus *LC* is not compatible with the phenomenal intentionality theory.

On closer inspection the conflict is seen to be illusory. For instance, David Bourget and Angela Mendelovici (2019) offer three different formulations of the theory, the strongest of which they call “Strong PIT”:

Strong PIT: All intentional states are phenomenal intentional states.

Since knowing that one is *F* is certainly an intentional state, Strong PIT entails that the explanation of the phenomenal offered by the luminous conception makes reference to a particular phenomenal state. But there is nothing in general troubling about an analysis of being *F* that mentions some particular *F*. There may even be reductive analyses of various properties that mention instances of those properties. For instance, consider the analysis of the property of being an even integer:

for an integer *n* to be even is for there to be some integer *k* such that the product of the integer 2 with *k* is identical to *n*.

This analysis entails that 2 is itself an even integer, and thus that the analysis of being an even integer makes reference to a particular even integer. Nevertheless, the analysis is illuminating and in some sense reductive. Learning this analysis can put someone in a position to understand ‘even integer’ who did not grasp that notion prior to learning the definition.

**3.6. Phenomenal Properties and the Precision of Consciousness.** One further area where *LC* may have some interesting consequences concerns the relation between experience and vagueness. Many authors have expressed sympathy for the thought that it can never be indeterminate whether something is conscious: the lights are either on or off, as it were.<sup>20</sup> The principle *LC* explains why this is so given the standard principles concerning the relation between knowledge and determinacy. If knowledge prevents borderlineness, then it follows from *LC* that it is always determinate that something is conscious if it is conscious. To be more precise, the following principle is widely assumed:<sup>21</sup>

PRECLUSION: If one knows that *p*, then it is not borderline whether *p*.

For suppose that being conscious is phenomenal. Then by *LC*, one knows that one is conscious if one is conscious. And so by PRECLUSION it is not borderline whether one is conscious if one is conscious. Since it is determinate that *p* if and only if *p* and it is not borderline whether *p*, it follows that if one is conscious, it is determinate that one is conscious.

However one might also take *LC* as grounds for revising PRECLUSION. Suppose you look up into a clear blue sky. You instantiate some phenomenal property we might call ‘sensing bluely’. As day turns to night, blue turns to black and sensing bluely turns to sensing blackly. In the interim, there are borderline cases. You are neither clearly sensing bluely nor clearly not sensing bluely: it is borderline whether you are sensing bluely. The principles *LC* and PRECLUSION are jointly inconsistent with the judgment that in some of these borderline cases, you actually are sensing bluely (given the assumption that sensing bluely is phenomenal). But since plausibly there are borderline cases, this commits us to a rather bizarre asymmetry: there are borderline cases, but whenever it is borderline whether one senses bluely, one is not in fact sensing bluely.

Another reaction one could have is to take the above argument that sensing bluely is a counterexample to *LC* as an argument that it is not phenomenal. We can distinguish a narrow sense of phenomenal properties of which *LC* provides an analysis and a broader class

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<sup>20</sup>For explicit defenses see Antony 2006; 2008 and Simon 2017.

<sup>21</sup>See Williamson 1994 and Bacon 2018 for defenses. For denials see Barnett 2011 and Dorr 2003.

of phenomenal properties which supervene on the narrow class of phenomenal properties. Sensing blue is broadly phenomenal in the sense that necessarily anyone who senses blue has some phenomenal property such that necessarily anyone with that phenomenal property senses blue. Thus sensibly blue will be metaphysically necessarily equivalent to the disjunction of phenomenal properties that necessitate it. But we should deny that they are identical. The phenomenal properties do not admit of borderline cases whereas sensing blue does.<sup>22</sup>

Whether or not we accept preclusion, the motivations behind the idea that consciousness is precise can be explained by *LC* independently of any definite connection with vagueness. The reason why consciousness strikes us as not admitting of borderline cases is simply that it is never hidden from view: one knows one is conscious when one is conscious.

This concludes my positive case for *LC*. I'll now turn to what I take to be some of the more salient objections in the literature. While the thesis *LC* is rarely explicitly addressed in the literature, there are some arguments in the literature that can be construed as arguments against *LC*. In what follows I will formulate and respond to these objections.

#### 4. OBJECTIONS AND REPLIES

4.1. **Nonhuman Animals.** Some philosophers have objected to the luminous conception on the grounds that it over intellectualizes the phenomenal. If knowing that  $\dots F \dots$  requires having the concept of  $F$ , then knowing that one is in pain requires having the concept of pain. But, these philosophers maintain, many creatures can be in pain that lack the concept of pain—perhaps some creatures can be in pain that lack concepts altogether. Even if there are no actual creatures like this, surely it is *possible* that something be in pain but lack the concept of pain. If that's right then *LC* must be false.

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<sup>22</sup>This is consistent with the assumption that mutually entailing properties are identical if we suppose that entailment is more demanding than necessitation. For discussion of the relationship between supervenience and vagueness see Bacon 2018, pp. 284-88.

What is it to have the concept pain? On a deflationary reading, to have the concept pain is just to be able to have beliefs about pain. So interpreted the argument might be put this way:

- (1) Possibly something is in pain but is not able to believe that it is in pain.
- (2) Necessarily, whatever one knows one is able to believe.
- (3) Thus it is not necessary that if one is in pain one knows that one is in pain. (1,2)
- (4) If the luminous conception is true and pain is phenomenal, then necessarily if one is in pain one knows that one is in pain.
- (5) Pain is phenomenal.
- (6) The luminous conception is not true. (3-5)

There are more inflationary readings of concept talk. But if the deflationary argument proves to be unsound so will any version of the argument that uses some more inflated reading of concept talk.

The argument is valid. Is it sound? I won't challenge premises (4) or (5). This only leaves premises (1) and (2). Premise (2) can be motivated by a pretty straightforward argument: (i) necessarily whatever one knows one believes; (ii) necessarily whatever one believes one is able to believe. (ii) strikes me as completely obvious. What about (i)? Does knowledge entail belief? Myers-Schulz and Schwitzgebel (2013) have argued that there are cases in which someone knows a proposition despite its being indeterminate whether they believe it.<sup>23</sup> In fact they think something stronger: there is some particular case and they think that in that case they know a proposition they don't determinately believe. If that is correct, then plausibly there are cases in which it is *determinate* that someone knows a proposition but indeterminate whether one believes it.<sup>24</sup> Any such case would be a counterexample to the principle that knowledge determinately entails belief. If knowledge fails to determinately entail belief then one is not in a position to know whether the above argument for (2) is sound since one is not in a position to know one of the premises.

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<sup>23</sup>For a response see Rose and Schaffer 2013.

<sup>24</sup>The reason is that they are prepared to assert that in that particular case, the proposition is known. But plausibly one should not assert that which is indeterminate.

Even if (i) is true, some philosophers do not think it should be given default status. Some recent studies by Murray et. al (2013) show that in a variety of cases, a significant minority of English speaking non-philosophers are willing to ascribe knowledge without belief. Premise (i) is not unassailable. While I am somewhat sympathetic to a conception of knowledge on which it fails to entail belief, given that the majority of philosophers accept (ii) I do not want *LC* to stand or fall with its denial. In what follows I am going to sketch a response that denies (1).

What can be said in favor of (1)? A standard motivation for premise (1) is to argue that there are actually cases of nonhuman animals who feel pain but do not believe that they feel pain. According to these objectors, the physical conditions required for pain are *simpler*, in some sense, than those required for belief. The behavior indicative of pain is found in very unsophisticated creatures. In these creatures, so the objection goes, there is no evidence of belief like behavior.

But there is something unstable about this argument. The very evidence that the relevant creature is in pain, it seems to me, is evidence that they believe that they are in pain (and thus able to believe that they are in pain). Here is a simple argument for this conclusion. First, we ought to favor a simple and uniform theory of human behavior according to which all behavior is explained by belief desire psychology. So in particular, pain behavior in human persons ought to be explicable in terms of their beliefs and desires. And second, similar behaviors in different species suggest similar explanations. So in particular, the evidence that nonhuman animals are in pain, namely that they exhibit similar pain behavior to us, suggests a similar explanation to ours in terms of beliefs and desires. So when one finds a creature that exhibits pain behavior, presumably that behavior is recognizable as pain behavior because it is similar to our pain behavior. But our pain behavior is often explained by our belief that we are in pain. Thus the natural conclusion is that nonhuman animals pain behavior is similarly explained.

The point can perhaps be put more simply. The objector claims that there are creatures who behave as if they are in pain, but lack beliefs. So either there is an asymmetry between

the explanation of their pain behavior and ours, or else there is no uniform theory of human behavior in terms of beliefs and desires. Each of those options, it seems to me, is a theoretical cost.

I suspect that these considerations will fail to convince someone who is already committed to (1). But sometimes it seems to me that philosophers who are committed to (1) do so because they over intellectualize propositional attitudes.<sup>25</sup> Neither knowledge nor belief, on my view, requires any sort of capacity for language. An account of knowledge closer to what I have in mind is that one knows that  $p$  insofar as they have the capacity to make their actions depend on whether  $p$ .<sup>26</sup> On this picture, insofar as nonhuman animals have the capacity to make their actions depend on whether they are in pain, which they surely do, they are able to know that they are in pain. The plausibility of the principle that knowledge entails belief combined with this theory of knowledge makes (1) look quite implausible.

**4.2. Accessibility.** The following story seems possible. Late for work I search my room desperately for my one missing shoe. After completing what I take to be a thorough search and turning up empty, I ask my roommate for help. Upon entering, they notice the shoe, lying on top of my bed. In this situation, surely I *saw* the shoe. It was there in plain sight, so to speak. When I was searching, as my eyes scanned the room, there was a point when I looked right at it. Eyes wide open, one could have drawn two straight lines, roughly five feet in length, from each of my eyes to the shoe. It seems perfectly natural to say in such a situation that while I had a visual experience of the shoe, I didn't know that I did. If I had known at the time that I had this experience, why did I not act on this knowledge? Why did I continue to search the room? Why did I utter the sentence 'I cannot find my shoe! I looked everywhere in my room and did not see it!?'

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<sup>25</sup>Sometimes they do so because they overintellectualize propositions. Propositions, on my way of thinking of them, are just as much of worldly entities as properties and relations. Propositions are entities that stand to the number 0 as properties stand to the number 1 and relations whose arity is  $n$  stand to the number  $n$ . The precise account of what these relations are requires engaging in some difficult metaphysics.

<sup>26</sup>See Stalnaker 1999, and Greco 2014.



If we attempt to turn these rhetorical questions into explicit arguments, we find that they rely on premises that, while somewhat plausible, are open to question. For instance, one might attempt to argue that (I) I had an experience of the shoe, and (II) if I had known that I had an experience of the shoe, I wouldn't have continued to search the room, but (III) I did continue to search the room, so (IV) I did not know that I had an experience of the shoe and thus (C) I had an experience of the shoe and I did not know that I had an experience of the shoe. If *having an experience of the shoe* is a phenomenal property, we can then turn this into an argument against *LC*.

For the purposes of this section I'll grant that having an experience of the shoe is phenomenal. We can question premise (II). There are plenty of cases in which it is plausible to say that one knows something despite the fact that they failed to act on what they knew. Not all of one's knowledge is *actionable* in every case. More generally, it is not true that if one knows that  $p$ , then the proposition that  $p$  is *accessible* in the sense of being available for use in theoretical and practical reasoning in every single case.

Take the following example. I know, and have known for many years, what my social security number is, despite the fact that there have been instances where I was unable to recall the number. Thus plausibly there are cases in which I know that my social security number is  $x$  without being able to recall that it is  $x$ . If there are cases in which one knows that  $p$  despite being unable to recall that  $p$ , then we should expect cases in which one does not act as if  $p$  even though they know that  $p$ . If one knows that  $p$ , then perhaps they have a *disposition* to act as if  $p$ . But this does not mean the disposition will manifest itself in every case. This just goes to show that the premise 'If I had known that I had an experience of the shoe then I wouldn't have continued to search the room' is open to question. We can further solidify this judgment by extending the original case given above.

Imagine that I decide to give up on the search and leave the house wearing another pair of shoes. Upon leaving, however, I suddenly recall that I did in fact see the shoe on the bed. This strikes me as a commonplace experience. I cannot recall what I did not already know. Thus I did know that I saw the shoe, I just did not realize that I knew this - the knowledge

I had was *implicit*. I say that this is possible. And if it is possible, another alternative explanation of the above case presents itself: I saw the shoe, I knew that I saw the shoe, but I did not attend to the fact that I saw the shoe (i.e., the knowledge I had was *implicit* in some sense.)

Put somewhat more abstractly the response is that while the phenomena identified in the example is real, they do not provide counterexamples to *LC*. According to those who think it provides a counterexample to *LC*, they should be described as cases in which one has some phenomenal property but fails to know; according to me they are cases in which one has some phenomenal property but fails to attend or *explicitly* know.<sup>27</sup> We should favor the latter description over the former because for any such case there is a case that is similar in all the relevant respects but in which the subject later recalls that they had the phenomenal property thus showing that they did in fact know they had the phenomenal property after all. The claim that one fails to explicitly know or attend is not some ad hoc posit but is rather needed to explain the phenomena.

**4.3. Difference of awareness and awareness of difference.** The following train of thought has some initial plausibility:

Suppose that I present an arrangement of dots on a board in front of you. You briefly experience this arrangement before I switch the board with a new arrangement of dots. The new arrangement of dots is exactly similar to the old arrangement of dots apart from the inclusion of one extra dot. However, you fail to notice this dot. You would report that the two experiences were qualitatively indistinguishable. This certainly seems like a possible case. But given that it is possible, it would appear that there could be differences in one's perceptual experiences without any differences in one's knowledge of which perceptual experiences one is having. Since the luminous conception predicts that there cannot be differences in one's perceptual experiences—construed as phenomenal properties—without a difference in knowledge of which perceptual experiences one is having, the luminous conception is false.

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<sup>27</sup>And hence *LC* should be construed as the thesis that *F* is phenomenal if it is consistent and implicitly knowing one is *F* is being *F*. Explicit knowledge is something like attending to the fact that something is the case, implicit knowledge is simply knowledge, which may be present without one attending to the fact to what one knows.

This objection has been raised by Dretske in several influential papers arguing against the higher order view of consciousness. His conclusion, in his own words, is that

...there can be conscious differences in a person's experience of the world—and, in this sense, conscious features of his experience—of which that person is not conscious. If this is true, then it cannot be a person's awareness of a mental state that makes that state conscious.(Dretske 2000, p. 132)

The argument is fallacious, at least applied to *LC*. Call the two arrangements presented 'arrangement 1' and 'arrangement 2'. Call the phenomenal property one has upon observing arrangement 1 'experiencing arrangement 1' and the phenomenal property one has while observing arrangement 2 'experiencing arrangement 2'. I will follow Dretske in supposing that experiencing arrangement 1 is not experiencing arrangement 2. The inclusion of another dot in arrangement 2 makes for a real conscious difference upon experiencing it. In the case described, there is a certain time  $t_0$ , such that

(1) at  $t_0$ , one experiences arrangement 1.

And there is a time  $t_1$  after  $t_0$  with the property that

(2) at  $t_1$ , one experiences arrangement 2.

At neither  $t_0$  nor  $t_1$  is one experiencing both arrangement 1 and 2. *LC* together with (1) and (2) entails both (3) and (4).

(3) at  $t_0$ , one knows that one is experiencing arrangement 1.

(4) It is not the case that at  $t_1$ , one knows that one is experiencing arrangement 1.

That is, *LC* predicts that a change in phenomenal properties corresponds to a change in knowledge of phenomenal properties. However, (4) does not entail (5)

(5) at  $t_1$ , one knows that it is not the case that one is experiencing arrangement 1.

Now (2), together with the luminous conception entails

(6) at  $t_1$ , one knows that one is experiencing arrangement 2

But even with (6), (3) and (4) do not deliver (5). *LC* does not predict that whenever there is a change in one's phenomenal properties, one knows that there is a change in one's phenomenal properties.

How does Dretske think we get to (5) from the description of the case and *LC*? One hypothesis is that Dretske subtly conflated positive introspection and negative introspection. Positive introspection says that whenever a certain condition obtains, it is known to obtain. Negative introspection says that whenever a certain condition *fails* to obtain, one knows that it fails to obtain. *LC* entails positive introspection. It does not entail negative introspection.

Dretske sometimes puts the point as follows: there can be differences in our conscious awareness without awareness of the difference. So put, the point is ambiguous. On one reading it is true but consistent with the luminous conception. On another reading, it is false, but that reading is so hard access that it is no wonder that the sentence *sounds* true.

A simple model of the above situation will help bring out the ambiguity. Suppose that experiencing arrangement 1 is identical to the conjunction of  $f_1, \dots, f_n$  and experiencing arrangement 2 is identical to the conjunction of  $f_1, \dots, f_{n-1}, g_n$ . Intuitively  $g_n$  is that phenomenal property which corresponds to the extra dot that one experiences and  $f_n$  is that phenomenal property associated to the blank space. When one experiences arrangement 2, "the difference in one's conscious awareness" might just be identified with  $g_n$ . Is one aware of that difference? Well if the the luminous conception is correct, then one knows that one has  $g_n$ . So there is a difference, namely  $g_n$ , such that one is aware, in some sense, of *it*. But that is consistent with one not knowing that there is a difference i.e., not knowing that there is some phenomenal property they currently have but didn't have several moments ago. All Dretske's case shows is that there can be a difference and one not know that there is a difference. It doesn't show that there can be difference, a particular phenomenal property, despite one not knowing that one has it. There being a property that is the difference such that one knows that one has it, and one knowing that there is some property that is a difference are different cognitive accomplishments.

4.4. **Anti-luminosity.** A celebrated argument due to Timothy Williamson attempts to show on the basis of general structural constraints on knowledge that there are no non-trivial luminous conditions. The argument can be adapted to the present case. In this context, it is given as an argument for the conclusion that there are no consistent luminous properties. If sound, *LC* would then have the consequence that there are no phenomenal properties.

The most straightforward adaptation makes use of the principle that knowledge requires safe belief: if one knows that  $p$ , then in nearby circumstances one does not falsely believe that  $p$ . More precisely:

SAFETY: For any possible situation  $s$ , if in  $s$  one knows that  $p$ , then for any possible situation  $s'$  nearby  $s$ , either in  $s$  one does not believe that  $p$  or in  $s$ ,  $p$ .

A sequence of (possible) situations  $s_1, \dots, s_n$  is *problematic* for a property  $X$  if and only:

- (1) In  $s_1$ , one is  $X$ .
- (2) In  $s_n$ , one is not  $X$ .
- (3)  $s_{i+1}$  is nearby  $s_i$  for  $1 \leq i < n$ .
- (4) If in  $s_i$ , one knows that one is  $X$ , then in  $s_{i+1}$ , one believes that one is  $X$ .

Suppose that there is a sequence  $s_1, \dots, s_n$  of situations that is problematic for a phenomenal property  $X$ . In  $s_1$ , one is  $X$  and in  $s_n$  one is not  $X$ . Therefore, there is some  $1 \leq i \leq n$  such that in  $s_i$ , one is  $X$  and in  $s_{i+1}$ , one is not  $X$ . Since  $s_{i+1}$  is nearby  $s_i$ , SAFETY guarantees that either one does not believe one is  $X$  in  $s_{i+1}$  or one does not know that one is  $X$  in  $s_i$ . So from condition (4), in  $s_i$ , one does not know that one is  $X$ . So there is some phenomenal property  $X$  such that possibly (for some possible situation) one is  $X$  and does not know that one is  $X$ . In other words, if there is a sequence of situations that is problematic for a phenomenal property, *LC* is false.

Are there problematic sequences for phenomenal properties? Williamson thinks so:

Consider a morning on which one feels freezing cold at dawn, very slowly warms up, and feels hot by noon. One changes from feeling cold to feeling

not cold, and from being in a position to know that one feels cold to not being in a position to know that one feels cold.[97]

More formally, let  $t_1, \dots, t_n$  be a sequence of times at one millisecond intervals from dawn to noon. For  $1 \leq i \leq n$ , let  $\alpha_i$  be a centered possible world whose time coordinate is  $t_i$  and whose center is the agent described in Williamson's case. Then  $\alpha_1, \dots, \alpha_n$  is a candidate for being a problematic sequence for the property of feeling cold.<sup>28</sup>

The problem here is that, assuming that feeling cold is phenomenal, we need some further argument that  $\alpha_1, \dots, \alpha_n$  satisfies condition (4). On the present view, feeling cold and knowing that one feels cold are one and the same property. When one stops feeling cold, one automatically stops knowing that one feels cold. What reason is there to think the belief lingers on? Many authors have pointed out that *if* one has a conception of the phenomenal according to which having a phenomenal property and believing that one has a phenomenal property are somehow constitutively connected, there is indeed no reason to accept (4).<sup>29</sup> There are also some positive reasons to resist Williamson style arguments in the present context.

Suppose for the moment that knowledge is the most general factive mental state (as Williamson does). Now take Williamson's case in which one gradually warms throughout the day. At some point in the day, one was cold but didn't know that one was cold. Thus at some point in the day, one was cold but couldn't feel that one was cold, since 'one could feel that' expresses a factive attitude. But this strikes me as being inconsistent with a standard line in which being cold (used to pick out a phenomenal property) just is feeling cold.

The above point is not restricted to just feelings. Consider a sequence of chips gradually changing from red to blue. There is some last chip in which one's perceptual experience represents it as being red. Let's suppose that one is perfectly accurate: one's perceptual

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<sup>28</sup>We can suppose for the sake of argument that feeling cold *is* phenomenal, though I suspect that it is better thought of as derivative from one's phenomenal properties rather than a phenomenal property in the strict sense.

<sup>29</sup>See Berker 2008, Weatherson 2004 and Srinivasan 2015 for discussion.

experience represents a chip as red only if it is red. In other words, suppose that one's perceptual system is perfectly calibrated to detect wavelengths of light within the red spectrum. Could one see that the chip is red in this situation? I'm inclined to say Yes. Since one is perfectly tracking the color of the chips, it is red, and one's experience represents it as being red, plausibly, one sees that it is red. But if one could see that the chip is red, then one knows that the chip is red. But anti-luminosity type arguments equally show that there is no knowledge in cases like this.

Lastly, consider the sorts of phenomenal properties of most interest in the philosophy of perception: those phenomenal properties that correspond to the fine grained representation of colors. For instance, in the above phenomenal sorites one has a sequence of phenomenal properties:  $\text{red}_{121}$ ,  $\text{red}_{120}$  and so on. Can one know that one has them *at all*? Well it is not clear why if the reasoning in Williamson's argument is correct. The border between fine grained shades that are both within the red spectrum is not all that different from the border between shades that straddle the spectrum. So suppose one has some highly specific phenomenal property  $X$ . If one knows that one is  $X$  then in nearby situations one's confidence shouldn't lower much. But there are nearby situations in which one has a only barely discriminable phenomenal property  $Y$ . So if one's confidence must be retained in that situation, safety will then deliver that one does not know that one is  $X$ . Thus the sort of reasoning behind anti-luminosity seems to deliver something much stronger than we might have first thought: for any highly specific phenomenal property, no one is ever in a position to know that they have it. Now suppose that one has some highly specific phenomenal property. Does one know that one has it? Well it seems at least possible to me. They know that things are like *this* and that is a way of knowing that they have that highly specific phenomenal property. This suggests that something has gone wrong with the reasoning behind the anti-luminosity argument.<sup>30</sup>

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<sup>30</sup>Amia Srinivasan (2015) grants that someone who accepts a tight connection between the phenomenal and the doxastic avoids Williamson's argument as it is formulated above. However there is a more sophisticated version of the argument that she takes to avoid the pitfalls of the simpler version. Unfortunately responding to Srinivasan's formulation of the argument will have to wait.

## 5. CONCLUSION

In this paper I've set out (part of) the case for the thesis that to be phenomenal is to be consistent and luminous. There is much more to be said for and against this thesis. Some possible future avenues for investigation is a better accounting of the costs and benefits as compared to other first order theories of the phenomenal. There are also further applications of the thesis to the philosophy of action, the philosophy of understanding and the philosophy of emotions that are worth investigating. There are no doubt many other objections that I could have addressed. For instance, the thesis likely has some bearing on the question as to whether experiential content is "conceptual" or 'nonconceptual," though spelling out what the connection is precisely is not straightforward. Here, I only hope to have shown that the thesis is worth taking seriously as a theory of the phenomenal.

## REFERENCES

- Antony, Michael. 2006. "Papineau on the Vagueness of Phenomenal Concepts," *Dialectica* 60(4): 475-483.
- Antony, Michael. 2008. "Are our Concepts CONSCIOUS STATE and CONSCIOUS CREATURE vague?" *Erkenntnis* 68: 239-263.
- Armstrong, D.M. 1968a. *A Materialist Theory of the Mind*. Routledge.
- Bacon, Andrew. 2014. "Giving your Knowledge Half a Chance. *Philosophical Studies* (2):1-25.
- Bacon, Andrew. 2018. *Vagueness and Thought*. Oxford University Press.
- Barnett, David. 2011. "Does vagueness exclude knowledge?" *Philosophy and Phenomenological Research*, 82(1): 22-45.
- Berker, Selim. 2008. "Luminosity Regained." *Philosophers' Imprint*, 8(2):1-22.
- Bourget, David and Mendelovici, Angela, "Phenomenal Intentionality", *The Stanford Encyclopedia of Philosophy* (Spring 2019 Edition), Edward N. Zalta (ed.),=.
- Byrne, Alex. 1997. "Some Like it Hot: Consciousness and Higher-Order Thoughts. *Philosophical Studies* 86 (2):103-129.
- Byrne, Alex. 2001. "Intentionalism Defended." *Philosophical Review*, 110(2):199-240.



- Carruthers, Peter. 2005. *Consciousness: Essays From a Higher-Order Perspective*. Oxford University Press UK.
- Carruthers, Peter, "Higher-Order Theories of Consciousness", *The Stanford Encyclopedia of Philosophy* (Fall 2016 Edition), Edward N. Zalta (ed.).
- Chalmers, David. 2004. "The Representational Character of Experience." In Leiter 2004, pp.153-181.
- Dretske, Fred. 1993. "Conscious Experience." *Mind* 102 (406):263-283.
- Dretske, Fred. 2000. *Perception, Knowledge and Belief: Selected Essays*. Cambridge University Press.
- Dretske, Fred. 2003. "Experience as Representation." *Philosophical Issues*, 12(1):67-82.
- Dretske, Fred. 2006. "Perception Without Awareness." in Gendler and Hawthorne 2006, pp. 147-180.
- Dorr, Cian. 2003. "Vagueness Without Ignorance." *Philosophical Perspectives*, 17(1):83-113.
- Dorr, Cian. 2016. "To Be F Is To Be G." *Philosophical Perspectives* 30 (1):39-134.
- Feldman, Richard and Conee, Earl. 1985. "Evidentialism." *Philosophical Studies* 48 (1):15 - 34.
- Gendler, Tamar Szabo and Hawthorne, John (eds.). 2002. *Conceivability and Possibility*. Oxford University Press.
- Greco, Daniel. 2014. "Iteration and Fragmentation." *Philosophy and Phenomenological Research*, 88(1):656-673.
- Hawthorne, John and Stanley, Jason (2008). "Knowledge and Action." *Journal of Philosophy* 105 (10):571-590.
- Huemer, Michael. 2001. *Skepticism and the Veil of Perception*. Lanham: Rowman and Littlefield.
- Huemer, Michael. 2007. 'Compassionate Phenomenal Conservatism'. *Philosophy and Phenomenological Research* 74: 30-55.
- Leiter, Brian (ed) 2004. *The Future for Philosophy*. Oxford University Press.

- Levin, Janet. 2018. "Functionalism." *The Stanford Encyclopedia of Philosophy* (Fall 2018 Edition), Edward N. Zalta (ed.), URL = <https://plato.stanford.edu/archives/fall2018/entries/functionalism/>, accessed April 30, 2019.
- Lewis, David. 1995. "Should a Materialist Believe in Qualia?" *Australasian Journal of Philosophy*, 73(1): 140-44.
- Lewis, David. 1996. "Elusive Knowledge." *Australasian Journal of Philosophy* 74 (4): 549-567.
- Lewis, David. 1999. Letter to Timothy Williamson, 21 May 1999. Available on the *Age of Metaphysical Revolution* website, letter of the month, October 2018. <<http://www.projects.socialsciences.manchester.ac.uk/lewis/letter-of-the-month-november-2018/>>, accessed April 30, 2019.
- Lycan, William. 1996. *Consciousness and Experience*. MIT Press.
- Murray, Dylan ; Sytsma, Justin and Livengood, Jonathan 2013. "God knows (but does God believe?)." *Philosophical Studies* 166 (1):83-107.
- Myers-Schulz, Blake and Schwitzgebel, Eric (2013). Knowing That P without Believing That P. *Noûs* 47 (2):371-384.
- Nagel, Jennifer. 2013. "Knowledge as a Mental State." *Oxford Studies in Epistemology* 4:275-310.
- Neander, Karen. 1998. "The Division of Phenomenal Labor: A Problem for Representational Theories of Consciousness." *Noûs* 32 (S12):411-434.
- Pautz, Adam. 2010. "Why Explain Visual Experience in Terms of Content?" In Nanay 2010, pp 254-309.
- Pryor, James. 2000. "The Skeptic and the Dogmatist." *Noûs* 34 (4):517-549.
- Rayo, Augustin 2013. *The Construction of Logical Space*. Oxford University Press.
- Rose, David and Jonathan, Schaffer. 2013. "Knowledge Entails Dispositional Belief." *Philosophical Studies* 166:19-50.
- Schellenberg, Susanna. 2013. "Experience and Evidence." *Mind* 122 (487):699-747.

- Schellenberg, Susanna. 2016. "Phenomenal Evidence and Factive Evidence." *Philosophical Studies* 173 (4):875-896.
- Siegel, Susanna. 2010. *The Contents of Visual Experience*. Oxford University Press.
- Speaks, Jeff. 2015. *The Phenomenal and the Representational*. Oxford University Press.
- Srinivasan, Amia. 2015. "Are We Luminous?" *Philosophy and Phenomenological Research*, 90(2):294-319.
- Stalnaker, Robert. 1999. *Context and Content: Essays on Intentionality in Speech and Thought*. Oxford University Press UK.
- Simon, Jonathan. 2017. "Vagueness and Zombies: Why 'phenomenally conscious' has no Borderline Cases," *Philosophical Studies* 174: 2105-2123.
- Stoljar, Daniel. 2016. "Introspection and Necessity." *Noûs*, 51(1).
- Tye, Michael. 1995. *Ten Problems of Consciousness*. Cambridge, MA: Bradford Books/MIT Press.
- Van Inwagen, Peter. 1998. "Modal epistemology." *Philosophical Studies* 92 (1):67-84.
- Weatherson, Brian. 2004. "Luminous Margins." *Australasian Journal of Philosophy*, 82(3): 373-383.
- Williamson, Timothy. 1994. *Vagueness*. Routledge.
- Williamson, Timothy. 1995. "Is Knowing a State of Mind?" *Mind* 104 (415):533-65.
- Williamson, Timothy. 2000. *Knowledge and its Limits*. Oxford University Press.
- Williamson, Timothy. 2016. "Modal science." *Canadian Journal of Philosophy* 46 (4-5):453-492.