

Defending Phenomenal Explanationism:
Responses to Fumerton, Huemer, McAllister, Piazza, Steup, and Zhang

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If a book is evaluated by the caliber of its critics, then *Appearance & Explanation (A&E)* is a smashing success. We could not have asked for better critics to discuss our book for this symposium. Each raises numerous issues that are worthy of careful consideration and extended discussion. Unfortunately, due to the limited word count with which we are working, we cannot hope to address them all. We can only offer brief replies to the objections to Phenomenal Explanationism (PE) that we do discuss, and must forgo responding to criticism of our objections to Phenomenal Conservatism (PC). We hope what we say is enough to indicate the ways in which we think PE can be defended. In what follows, we provide responses to each critic in alphabetical order. We would like to thank all the contributors for taking the time to read *A&E* so carefully and for writing such engaging critiques. We are especially grateful to Matthias Steup for all of his work organizing this symposium.

1. Response to Fumerton

Richard Fumerton raises several questions and difficulties for PE. While we would love to dive into all of them and the deep issues underlying them, we will limit our responses to four of his most pressing concerns.

1.1 The business of looking for explanations

Fumerton's first objection raises the threat of a vicious regress for PE. He grants that it may be that we are justified in believing propositions that are part of the best explanation of our evidence. However, Fumerton contends that "we are not even in the business of looking for an explanation of some phenomenon until we have knowledge or justified belief that there is some truth that needs explaining—a potential *explanandum*. If our discovery of an *explanandum* requires it to be the explanation of yet something else, regress looms." Fumerton takes it that our response to the problem here is to appeal to presentational appearances and insist that those provide the potential *explanans* because they directly give us the justification for thinking that something needs explaining. However, he correctly notes that this would seem to render PE much less unified than we claim.

We agree with Fumerton that appealing the presentational appearances in the way he considers would make PE disunified. Additionally, we agree that "we are not even in the business of looking for an explanation" until we are aware of facts that need explaining. Where we disagree is the import this has for PE. Unlike Fumerton, we think there is none. What Fumerton describes

would be a serious problem *if* PE were to say that justification is a matter of making inferences to the best explanation. But it doesn't say that. PE is an Evidentialist theory of justification.¹ So, it says that to have justification for believing *p*, one needs evidence. It does not say that one needs justification for believing that one has evidence in order to have justification for believing *p*. We do not need to know or have a justified belief that we have some evidence. For justification we simply have to have the evidence. Thus, no regress looms.

1.2 A problem with pain

Although when discussing the previous objection, Fumerton was willing to grant that being the best explanation of our evidence can provide justification, he questions this when it comes to introspective beliefs. He says, "I don't see how the explanation of severe pain has much, if anything, to do with what justifies me in believing that I am in severe pain when I am... Importantly, I don't think that possessing explanations that in some sense involve the pain that is directly before my mind increases the strength of the justification I have for being in pain."

Our answer is straightforward. The reason why Fumerton has such strong justification for his pain belief in this situation is that [Fumerton is in pain] is not only an explanatory consequence of the best explanation of his evidence, it is an explanatory consequence of *every* potential explanation of his evidence (where his evidence includes the pain experience itself). Fumerton is right that the explanation of why he is in pain, because, say, he smashed his finger in a door, does not increase his justification for believing that [Fumerton is in pain]. But this is not a problem for PE. Fumerton's justification for believing that [Fumerton is in pain] does not depend on him even having an explanation for the pain he experiences. It arises from the fact that any explanation of his evidence will have that [Fumerton is in pain] as a consequence.

1.3 Conspiracy theories

Whereas Fumerton's previous objection charged PE with not allowing for enough justification, his concern with conspiracy theories alleges that PE has the opposite flaw. He contends that PE counterintuitively says that one has justification when it is clear that one doesn't. As he puts it, "it still seems really odd to me to suppose that there is justification for me to believe some wild conspiracy theory just because through some equally wild set of circumstances the theory turns out to be true, or, for that matter, to claim that there is justification for me to believe that I am a brain in a vat should I be unfortunate enough to be a brain in a vat."

We agree with Fumerton's intuitions regarding these sorts of cases. Just because a wild conspiracy theory is true or one happened to actually be a brain-in-a-vat it does not mean that one has justification for believing these things. Fortunately, PE does not force us to go against these shared intuitions. In the sort of case that Fumerton describes, while it is true that the wild conspiracy theory is the *actual* explanation of the relevant portion of his evidence, it does not follow that it is the *best* (sufficiently good) *potential* explanation of his evidence. PE is a fallibilist theory of justification and as such it allows that sometimes it turns out that the best (sufficiently good) potential

¹ As we noted in "Explaining Phenomenal Explanationism", PE is a theory of propositional justification (when one has justification for a particular doxastic attitude) rather than a theory of doxastic justification (when one's doxastic attitude is well-founded).

explanation, which is what one is justified in believing, is not the actual explanation, i.e. is false. The case Fumerton describes is just such a case in which the best (sufficiently good) potential explanation of the evidence turns out to be false.

1.4 Vague skeptical hypotheses

The final objection from Fumerton we consider concerns PE's prowess in responding to skepticism. Fumerton worries that our response to skepticism by focusing on very well-developed skeptical hypotheses (those isomorphic to the Real World Hypothesis (RWH)) fails to address the threat posed by more vague hypotheses. He explains, "one might expand this skeptical alternative so that it isn't nearly as specific as a brain-in-a-vat hypothesis... just think that the world of appearance has *some* cause or other" that produces appearances with the features ours have. Fumerton recognizes that such a skeptical hypothesis does not clearly conflict with the RWH. However, although he allows that insisting that "our grasp of physical objects is always through their supposed causal powers" could help avoid the threat of a vague skeptical hypothesis, he insists that such a move to structural realism comes with costs.

We take no stand on the merits of structural realism here, but will merely note that it seems the skeptic may be committed to denying it, whereas supporters of PE can be neutral on it.² That said, PE does not have to rely upon structural realism or the insistence that our grasp of physical objects is mediated in the way that Fumerton mentions. The reason why the vague skeptical hypothesis that Fumerton suggests poses no threat to the RWH is that the two are not competitors. If the RWH is true, then so is the hypothesis that our appearances have "some cause or other". The RWH is simply one way of filling in the details of the vague hypothesis that Fumerton describes. PE says that we are justified in believing both, and that seems clearly correct.

2. Response to Huemer

Unsurprisingly, Michael Huemer, who coined the term "phenomenal conservatism" and remains one of its chief proponents, found our objections to PC unpersuasive. However, as noted above, we cannot attempt to rebut his responses here. Rather, we will focus on replying to two objections he raises for PE.³

2.1 Logical truths

Huemer raises two primary challenges with respect to logical truths. Since the first is very similar to Xiaoxing Zhang's concern about PE making justification for logical truths too easy, we will limit our focus to Huemer's challenge concerning defeat. The heart of this challenge is that it seems PE does not account for how S's justification for logical truths can be defeated. Huemer worries that in a case

² For much more on this and PE's responses to several skeptical problems see McCain (2025).

³ Huemer raises objections under three categories, but we limit ourselves to his first and third categories here. The second is covered by McAllister's second line of objection below.

where “a hundred expert logicians credibly attest to S that Q [a logical truth] has been decisively refuted”, PE will be committed to claiming that S is still justified in believing that Q. The reason for this is that since Q is a logical truth, it will be entailed by the best explanation of S’s evidence regardless of what that explanation is. So, the best explanation of the logicians’ testimony will entail Q, which means that Q is an explanatory consequence of the best explanation of S’s evidence. So, on PE “Q’s justification is undefeated and undefeatable.”

Before responding to this objection, we need to acknowledge an error we made which Huemer brings to light. When discussing a case similar to Huemer’s in $A \leftrightarrow E$, we said that $\sim Q$ would be part of S’s evidence. This is not correct though as $\sim Q$ is a contradiction and cannot be the best explanation of anything. We should have said, instead, simply that evidence against Q is part of S’s evidence. That said, what should we say in response to Huemer’s concern? He is right. The propositional justification that S has for Q is undefeated in his case because it is undefeatable. Logical truths are always supported by S’s evidence, whatever it happens to be. However, before one concludes that PE is totally implausible because of this feature, two things should be noted. First, this consequence of PE is in line with the best formal models of rationality, such as Bayesianism, because they assign probability 1 to all logical truths. Second, supporters of PE can reasonably maintain that although S’s *propositional* justification for Q in the case that Huemer envisions is untouched, her *doxastic* justification is defeated. After all, it is plausible that in a situation where S has a great degree of credible misleading testimony for $\sim Q$, she can no longer have a well-founded belief that Q, i.e. S cannot believe Q on the basis of her evidence in the way required for that belief to be doxastically justified. Thus, while PE’s response to Huemer’s case might seem less than intuitive at first, closer examination reveals that it is acceptable.

2.2 Flexibility

The second objection from Huemer is that PE is too “flexible”. By this Huemer is referring to PE’s ability to accommodate intuitive data. While it is generally a good thing to accommodate a lot of the relevant data, Huemer insists that too much of a good thing is bad. He claims that PE is excessively flexible because “it can be made to accommodate a wide range of sets of epistemological intuitions.” Huemer supports this by citing the fact that we acknowledge PE is consistent with a variety of accounts as to what makes for the justificatory difference among experts and novices in cases of perception. Ultimately, Huemer concludes that “the problem is that our intuitions about the goodness of explanations are not independent of our intuitions about justification. This prevents us from using intuitions about justification to test [PE].”

We certainly agree with Huemer that PE is flexible in that it accommodates a wide range of intuitive data, but we reject his claim that PE’s flexibility is excessive. It would be difficult to point out places where PE fails to capture the intuitively correct judgments about justification, as doing so would seem to suggest that we acknowledge counterexamples to our own theory. Fortunately, we do not have to counterexample our own theory, which we think would be very hard to do, in order to respond to this objection. We can simply note that Huemer’s own intuitions about justification and the goodness of explanations seem to come apart enough for him to use the former to judge the latter. After all, in the previous section we discussed his objection to PE on the grounds that it

purportedly leads to the wrong assessments of our justification for logical truths. Also, Huemer along with McAllister (see below) seems to think that PE conflicts with intuitive judgments about the justification possessed by non-reflective agents. While we think that Huemer is mistaken in both of these cases, as PE does in fact yield intuitively correct results, the point remains that he seems perfectly capable of using his intuitions about justification to test PE. Thus, the charge of excessive flexibility seems misplaced.

3. Response to McAllister

Blake McAllister primarily offers two related challenges for us. First, he contends that we have failed to establish that Phenomenal Conservatism (PC) really does face the problem of reflective awareness. Second, he raises a symmetrical problem for PE, what he calls the “problem of no reflective awareness”. Let us take a look at both of these in turn.

3.1 A solution to the problem of reflective awareness?

Simply put, the problem of reflective awareness arises for PC because according to PC, appearances have their justifying power inherently. However, once one becomes reflectively aware of a particular appearance that appearance loses its inherent justifying power. Rather than motivating the problem more fully we will focus instead on McAllister’s proffered solution and why it fails to save PC.

According to McAllister, the problem of reflective awareness relies upon a principle that he terms “fragility”. He formulates it this way:

Fragility – If S justifiably believes p on the basis of a seeming that p, and S becomes aware of some possibility of error with respect to this seeming that p, then S is no longer justified in believing that p on the basis of that seeming unless S secures independent verification of its reliability.⁴

Fragility is false, McAllister claims, because it is too general—it doesn’t take account of a key distinction between “*serious*” and “*non-serious*” error possibilities. McAllister insists that **Fragility** is only true when we are talking about the serious sort of error possibilities. He contends that once we recognize this, it is clear that the problem of reflective awareness does not saddle PC with a choice between losing its anti-skeptical bite, or allowing illegitimate bootstrapping. Hence, the problem of reflective awareness is not a genuine problem for PC at all.

We agree with McAllister that his distinction between *serious* and *non-serious* error possibilities is important. Further, we agree that recognition of this distinction might help solve the problem of reflective awareness.⁵ A difficulty for McAllister’s defense of PC is that the way this works is by moving from PC to PE. To see this, consider what makes the difference between *serious* and *non-serious* error possibilities. McAllister explains, “whether a possibility of error is serious or not is then determined by what level of plausibility it has.” Although he doesn’t give us a precise account, McAllister does offer an example to illustrate. When one has an appearance that there is a dog outside, that one is in the Matrix is not sufficiently plausible to offer a serious possibility of error.

⁴ McAllister uses the terms “appearance” and “seeming” interchangeably. While we think that there are good reasons for treating them as distinct, we will treat them as synonymous here for the purpose of making our responses.

⁵ However, for our latest discussion of the problem of reflective awareness see McCain and Moretti (forthcoming).

However, that one “didn’t get a great look” and knows that “there are coyotes around” has enough plausibility to defeat the justification the dog appearance provided for believing there is a dog outside.

In light of McAllister’s illustrations, it seems that what determines the level of plausibility a possibility of error has is one’s background evidence. Thus, whether or not an appearance justifies believing that its content is true depends upon not just the appearance and the absence of defeaters, but one’s total evidence.⁶ How exactly are we to determine whether the background evidence is such that the error possibilities are serious enough to defeat the justification provided by an appearance? McAllister does not tell us, but we have an answer: it depends upon whether or not the truth of the appearance’s content is a part of the best sufficiently good explanation of the total evidence.

3.2 The problem of no reflective awareness

Here is the McAllister’s problem of no reflective awareness:

1. Human beliefs caused by seemings are doxastically justified only if those beliefs are caused by virtue of the properties that make seemings propositional justifiers.
2. If PE is true, then the properties that make seemings propositional justifiers are their explanatory properties.
3. Human beliefs caused by seemings usually are not caused by virtue of seemings’ explanatory properties.
4. Thus, if PE is true, then human beliefs caused by seemings usually are not doxastically justified.

While we think that both premises 1 and 3 are doubtful, we limit our focus to premise 1. McAllister explains that this premise “is just an iteration of the right-way requirement”. This requirement says that a belief that *p* can be doxastically justified only if it is “caused by the propositional justifiers of *p* by virtue of the properties that make them propositional justifiers of *p*.”

McAllister is right when he says, “Internalists especially have reason to endorse some sort of right-way requirement on doxastic justification” because “[they] often reject externalism because externalism allows beliefs to be justified even when, as far as the subject is concerned, there is nothing indicating the truth of those beliefs.” We agree that there is a “right-way requirement on doxastic justification”. The mistake in McAllister’s argument is that premise 1 is the wrong way to cash out this requirement. As one of us has argued, a largely underexplored aspect of Evidentialist theories, of which PE is one, is appreciating one’s evidence.⁷ The rough idea related to McAllister’s point is that satisfying the right-way requirement is a matter of appreciating what one’s evidence supports. This appreciation is a matter of having an appearance that one’s evidence supports particular doxastic attitudes. In particular, a reflective belief that *p* is doxastically justified only if it is based (caused) by an *undefeated* appearance that *p* is sufficiently supported by *S*’s total evidence. Lest one worry that this would amount to vast over-intellectualization and McAllister’s general criticism

⁶ Note that this clashes with the standard formulation of PC.

⁷ See McCain (forthcoming a) and (forthcoming b).

still apply, we note that the account of appreciation developed for reflective beliefs can be extended to non-reflective beliefs by appealing to dispositions to have such appearances about evidential support.⁸ Ultimately, what matters is that PE can respect the need for a right-way requirement for doxastic justification without any trouble.

4. Response to Piazza

Tommaso Piazza's central objection to PE contends that PE is not an internalist position because it fails to satisfy an intuitive internalist requirement, which asserts that

(IR) S has justification for believing *p* only if this belief would not be accidentally true from S's perspective, once held by S.

We agree that (IR) is an important internalist requirement but, unlike Piazza, we think PE does satisfy it. Piazza's argument finds its easiest formulation when applied to non-inferential justification based on presentational appearances. To simplify a bit, on PE, S's presentational appearance that *p* gives S *prima facie*, propositional justification for believing *p* if *p* is the best (sufficiently good) explanation of why S has that appearance. Piazza correctly points out that PE does not require S to justifiably believe or even be able to believe that the relevant explanatory fact obtains, in order to have that justification. This means PE allows S to have justification for *p* when S is unaware of, and even when S cannot be aware of, why her presentational appearance that *p* is relevant to *p*'s truth and justification. It would seem, therefore, that PE does not satisfy (IR). Piazza acknowledges, however, that this conclusion follows on the assumption that the accidental character of *p*'s truth can only be removed from S's perspective by a *doxastic* state of S, which is controversial to say the least. One important reason against this assumption is that this interpretation of (IR) would probably amount to a death sentence for internalism, since requiring a higher-order doxastic state of this sort would give rise to both over-intellectualization and a vicious infinite regress. Declan Smithies (2012) helpfully proposes that (IR) should instead be understood as requiring that S have access to the facts capable of removing accidentality from S's perspective in a mere *epistemic* sense, rather than a doxastic sense. This means, in the case in point, that S must only have *propositional* justification for believing that her appearance that *p* is relevant to the truth of *p* and the justification for believing *p*.

Nevertheless, Piazza argues that PE is unable to satisfy (IR) even when epistemically construed as suggested by Smithies. Why? The answer is that "it doesn't seem obvious ... that whenever *p* is the best (sufficiently good) explanation of S's presentational appearance that *p*, S is *eo ipso* in possession of evidence supporting the belief that this explanatory fact obtains." Piazza insists that S can come to possess that evidence only by doing some epistemic work. But, clearly, if PE says that S must do such epistemic work, the problems of over-intellectualization and a vicious regress surface again. Since PE cannot satisfy (IR), according to Piazza, it is doubtful that PE qualifies as internalist.

One problem with this criticism is that Piazza does not clarify what S's missing evidence would have to be. He leaves it a mystery as to what sort of product the epistemic work S must do is

⁸ This is similar to the idea that McCain (2014) develops as a requirement for when explanations are available to a subject.

to produce. In contrast, we do not think that S is missing any evidence or needs to perform some additional epistemic tasks in order to have propositional justification for p when she has a presentational appearance that p. The only evidence S needs to possess to have propositional justification for believing that her appearance that p is relevant to p's truth and justification—let us call it 'propositional meta-justification'—is the appearance that p itself. What Piazza does not say is that, to avoid ascribing to S the *ability* to justifiedly believe an infinite hierarchy of increasingly complicated meta-justificatory propositions, Smithies' epistemic reading of (IR) conceptualizes S's propositional meta-justification as one that is ascribed to S through an idealization. Roughly, the propositions that S has meta-justification for believing given her evidence are those that would be believed *on the very same evidence* by a non-omniscient counterpart S* of S with idealized psychological and rational abilities (see Smithies 2019: Chap. 8). Thus, for example, S* would come to justifiedly believe that the presentational appearance that p is relevant to the truth of p and the justification for believing p on the sole basis of her reflective awareness of the presentational appearance that p and a priori reasoning about the evidential import of that appearance. We presupposed a similar idealization in $A \not\Rightarrow E$. Once S's propositional meta-justification is conceived in this way, it is unclear that S must acquire any new evidence in order to possess propositional meta-justification.⁹

An additional problem with Piazza's challenge for PE is that it relies upon the assumption that to have propositional justification for believing p, S must possess some evidence, E "such that, on the basis of E, S could form the doxastically justified belief in the relevant position." This assumption is false. To see this consider the following case. S is currently reflecting upon her own mental states. She notices that she is fully attending to a particular pain experience at the time. The experience is so intense that she is not introspectively aware of anything else. Presumably, in this situation it is true that S's introspection provides propositional justification for "S is not considering the number 18,786." After all, it is intuitive that her introspective experience provides strong evidence for both what is currently thinking about and what she is not thinking about. It is clear that the only thing she is thinking about is her pain. Nevertheless, S cannot "form the doxastically justified belief" that "S is not considering the number 18,786" because in doing so she would have to consider the proposition, which would destroy her justification for it. Our general point is that sometimes we have evidence that provides propositional justification for things we cannot justifiedly believe on that evidence.

5. Response to Steup

Matthias Steup raises several questions and challenges for PE. We limit our focus to the three that not only strike us as the most pressing, but also allow the most opportunity for clarifying PE.

5.1 The threat of circularity

Steup interprets PE as follows:

⁹ An objection might be that S and S* can share the same evidence only if S has the introspective appearance that she has an appearance that p. Yet in $A \not\Rightarrow E$ we clarify that phenomenal explanationists are not committed to the existence of introspective appearances.

- (1) S has at least some degree of justification for believing that p if and only if (i) it seems to S that p, (ii) S's seeming that p is undefeated, and (iii) p is, relative to S's evidence, the best explanation (or part of the best explanation) of why it seems to S that p.

An immediate problem with this as an expression of PE is that (1) is a biconditional which makes (i) a necessary condition for justification. Whereas PE allows S to have justification for believing p even when (i) is false because S does not have an appearance that p but p is an explanatory consequence of the best explanation of S's evidence. Further, the conditional asserting that

if (i), (ii) and (iii) are true, then S has some justification for believing p

is not an expression of the content of PE. In this case, the problem is that, against (iii), PE does *not* relativize the best explanation to S's evidence in the sense Steup has in mind. What PE actually says is that S has some justification for believing p, if (i), (ii) and (iii*) "p is a non-redundant part of the best *potential* explanation of S's appearance that p". The best potential explanation of this seeming is one that, *whether or not it is actually true*, would be the best if it were true.

Steup considers (iii*) but claims that phenomenal explanationists are committed to endorsing (iii) instead. This is so because, unlike (iii), (iii*) cannot make PE satisfy a basic internalist requirement. The requirement in question says that when it appears to S that p, S needs to have defeasible justification for believing p, rather than any skeptical alternative sk. According to Steup, the problem for (iii*) is that, if sk is true,

when the two hypotheses are assessed right out of the gate, [sk] is the clear winner, precisely because it is true and [p] is false. Of course, if [p] were in fact true, it might be the better explanation. Nevertheless, it is in fact false and therefore is a bad explanation. The counterfactual possibility—if it were true, it would be a good explanation—doesn't change that.

Steup contends that the only way for PE to avoid this problem is to stick to (iii). But this, he claims, has the unfortunate side-effect of making PE problematically circular. The reason for this is that he takes it that the explanationist component of PE is "meant to give us an account of what evidence is." So, by relativizing the best explanation to S's evidence, (iii) makes the account of evidence circular.

There are two mistakes here. The first is simply that the explanationist component of PE aims to explain what *evidential fit* is, not what evidence is. The nature of evidence is accounted for by the phenomenal component of PE—evidence is ultimately a matter of appearances. The second mistake lies in not distinguishing *actual* and *potential* explanations. In Steup's example, sk is the *actual* explanation, but that does not make it the best. In this case p, though merely a *potential* explanation, is the best.¹⁰ Given that for PE justification depends on the best *potential* explanation (and not the

¹⁰ To have a concrete example of how the *actual* explanation may fail to be the best, consider a situation where S has been framed for a crime. What would allow someone to successfully frame S for a crime of which she is innocent? The villain would need to make sure that the available evidence is such that it is best explained by the false hypothesis that S

actual explanation), the internalist requirement is satisfied. Once it is clarified that PE does not relativize S's justification to S's evidence, it is clear that PE does not run in any circularity problem.

5.2 The role of background evidence

Steup contends that being the best explanation of S's evidence is only a sufficient condition for justification not a necessary one. He rests this contention on the idea that in some cases our beliefs are directly justified by our background evidence.

There is no problem for PE here though. Indeed, PE says that S has justification for believing p when p satisfies *either* what Steup calls the "Best Explanation Condition" or when p is an explanatory consequence of the best explanation of S's evidence. In the examples where Steup claims that p is justified by S's background evidence it is the case that p is an explanatory consequence of the best explanation of S's evidence. For example, Steup claims that his belief with content

(p) my car is still in the parking

is justified by his background beliefs:

(E1) my 10-year old Nissan is an unlikely target of car theft.

(E2) in the neighborhood in question, College Hill, car theft is rare.

Assuming that E1 and E2 are justified for Steup, it seems plausible that p is justified as well on their basis. Nevertheless, this poses no problem at all. The reason that p is justified on the basis of these justified background beliefs is that p is an explanatory consequence of E1 and E2 because it is much better explained by their truth than $\sim p$ would be.

5.3 A problem of equally good explanations

A final challenge from Steup arises from consideration of a case where there are two purportedly equally good explanations. Suppose Steup is reading in his study and the lights go out. According to Steup, the following hypotheses explain his evidence equally well:

H1 The fuse blew.

H2 The light bulb burned out.

Nevertheless, Steup adds to the case two things:

M1 He remembers there weren't any previous instances of the fuse blowing.

committed the crime. In such a case, while the hypothesis that S committed the crime is not the *actual* explanation, it is the best *potential* explanation of the available evidence.

M2 He remembers not having switched the bulb in his desk lamp since he purchased the lamp several years ago.

Correctly, Steup concludes that the intuitive judgment is that he is justified in believing H2 and not H1 in this case. The problem for PE, he claims, is that it cannot yield this result without making the concept of *evidential support* “more fundamental” than the concept of *explaining better*.

Again, the mistake at the heart of this challenge for PE is failing to consider the role of explanatory consequence in justification. Grant that H1 and H2 are equally good explanations of the evidence that the light just went out in Steup’s study. This does not mean that PE is committed to claiming that they are equally justified. PE says to look at Steup’s total evidence, which includes M1 and M2. While Steup is right that H2 does not explain M1 or M2, there is another explanatory relationship between these three things: H2 is an explanatory consequence of M1 and M2. That is to say, H2 is much better explained by the best explanation of M1 and M2 (that their contents are true) than \sim H2 (which includes H1) is. Hence, PE yields the intuitively correct result without any appeal to evidential support as somehow more fundamental than explanatory considerations. This objection, like the previous two, illustrates the importance of explanatory consequence for justification.

6. Response to Zhang

Xiaoxing Zhang presents PE with a dilemma: either continue to omit an awareness requirement on propositional justification and be stuck with the problem of logical omniscience, or add an awareness requirement and land in a vicious regress. We accept the first horn (no awareness requirement), but deny that this poses a genuine problem for PE. Zhang insists that omitting an awareness requirement leaves PE with two problems when it comes to logical truths. Let us see why neither challenge is actually problematic.

6.1 Logical omniscience

Zhang argues that PE “implies an implausible form of logical-mathematical omniscience” because since every logical truth is an explanatory consequence of any body of evidence, we possess *prima facie* justification for believing all of these truths.¹¹ The problem of logical omniscience arises in formal models where it follows from certain assumptions that rational agents must assign credence 1 to all tautologies. The problem is that requiring this for rationality appears over-demanding and thus implausible.

Although the problem of logical omniscience is a challenge for formal models, it is not for PE. Nothing in PE that says that S is epistemically required to assign a particular credence to every proposition or believe everything supported by her evidence. This is true whether the proposition in question is a logical truth or not. Sometimes the problem of logical omniscience is phrased in terms of knowledge rather than assigning credences: the rational agent *knows* all logical truths. But again, this clearly does not follow from PE. While knowledge requires *doxastic* justification, PE is a theory

¹¹ Incidentally, Zhang suggests PC is not affected by this dilemma because it can explain inferential justification by appealing to inferential seemings. This is incorrect: PC itself can only explain non-inferential justification. Huemer’s (2016) *expansion* of PC aims to account for inferential justification in the way Zhang suggests, but this theory is afflicted by serious problems (see Moretti 2019 and *A&E*: 103-104).

of propositional justification. A related difficulty raised by Zhang is that, on PE, “we have *some* level of initial *prima facie* justifications for all logical truths” (Zhang’s emphasis). But why should this be a problem? Remember that PE is a form of Evidentialism. PE does not entail that logical truths come with some degree of initial justification attached to them independently of evidence, which would be implausible. Instead, on PE, it turns out that all logical truths have some level of initial *prima facie* justification *because there is some evidence for them*.

Putting the point more generally, while it is true that on PE, S has *prima facie* justification for believing all logical truths, this does not translate into S having an epistemic duty to believe any of these propositions. Instead, PE simply yields the result that S’s evidence supports believing all logical truths. It does not follow that S could properly base beliefs in all logical truths on her evidence, and so justifiably believe all of these things. Nor does it follow that S fails to be rational by not believing all logical truths. On PE, S’s evidence makes it permissible, but *not obligatory*, for her to believe all logical truths. What PE is committed to is not logical omniscience, and it does not look problematic.

6.2 Degrees of justification

Zhang’s second challenge for PE is that even if it avoids the problem of logical omniscience, which it does, it falls into a related problem. Zhang contends that PE cannot account for different degrees of justification for logical truths. He takes it as obvious that we have more justification for believing simple logical truths than we do for believing more complex ones. Nevertheless, Zhang argues that PE cannot account for this fact because it holds that all logical truths are equally well supported by any body of evidence.

Zhang’s objection misses its mark when we are careful to distinguish between propositional and doxastic justification. PE does deny that there is a difference in degree when it comes to the propositional justification we have for logical truths. They are all equally supported by any body of evidence S has. Here PE is aligned with our best formal models, such as Bayesianism, and this is a good feature rather than a bug of the theory. That said, it is plausible that there are different degrees of justification for logical truths when we consider doxastic justification. The most obvious difference arises when we compare cases where S has a justified belief in a logical truth, *p*, and where S does not have a justified belief in some other logical truth, *q*. In the first case S has doxastic justification, but in the latter she does not (either because she does not even believe that *q* or because she fails to properly base her belief on her evidence). It is also consistent with PE—since it is a theory of propositional justification—that there can be differences in how strongly (doxastically) justified a belief is depending on how well S appreciates the evidential support she has for the believed proposition. It may be that doxastic justification depends not only on basing a belief on the evidence but also appreciating how strongly the evidence supports the proposition believed. Regardless of the exact details of how this works, the key point is clear. PE does not have a problem here because it is consistent with there being different degrees of *doxastic* justification for logical truths.

While there is more that could be said in response to each of the challenges raised by our critics and in response to their other points, we need to end our defense of PE here. Hopefully, we

have said enough to establish that PE is worthy of serious consideration. And, we again thank our critics for such thoughtful critiques of *A&E*.

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