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A new obstacle for phenomenal contrast

I suspect that when we claim to be just using our powers of inner observation, we are always actually engaging in a sort of impromptu theorizing—and we are remarkably gullible theorizers, precisely because there is so little to “observe” and so much to pontificate about without fear of contradiction (Dennett 1991, pp. 67-68).

Abstract: Phenomenal contrast arguments (henceforth, PCAs) comprise the most important and widely used strategy for showing that particular mental features contribute to the phenomenal character of experience. Siegel (2006, 2007, 2009, 2010b) famously uses PCAs to argue that visual phenomenal experience represents such “high level properties” as causation, subject-independence, kind properties (*being a pine tree*, *being a word of Russian*), and more. Strawson (1994), Siewert (1998), Horgan and Tienson (2002), Chudnoff (2015a,b), and Kriegel (2015) have used versions of the same argument form to argue for the view that cognitive mental states contribute their own, non-sensory phenomenology to our overall experience (the so-called “cognitive phenomenology” view).¹ In this paper we’d like to bring out a general obstacle for PCAs that has not been widely discussed, and to offer reasons for being skeptical that it can be overcome in individual cases.²

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1 Phenomenal contrast arguments: A primer

We begin with an overview of the argument form under consideration, and a reminder of several prominent instances from the recent literature.

PCAs offer the hope of shedding light on the elusive question of just what fixes the phenomenal character of experience. They also have the benefit of purporting to generate immediate phenomenal evidence that lends support to their preferred conclusions. We can characterize PCAs, as a general argumentative form, as a type of inference to the best explanation (IBE). They begin with an alleged datum—viz., that there is a phenomenal contrast between an actual/possible pair of experiences constructed so as to differ only in some target feature or dimension F , such as having

¹Others, most notably Pitt (2004), use argument forms closely related to PCAs not as arguments *per se*, but as a form of demonstration, to bring to mind the phenomena of interest. While we will not discuss these demonstrative uses in what follows, the concerns we discuss plausibly raise trouble for them as well.

²We are not the only authors who have had concerns with PCAs, of course. See e.g. Koksvik (2015), Fürst (2017), and Jorba and Vicente (2019) for recent critical remarks.

a particular kind of representational content, or holding a particular type of cognitive state. Since, by design, the target dimension F is the only parameter that differs between the two examples, the PCA goes on to offer an IBE of this alleged datum in terms of F . If successful, this allows the theorist to conclude that F -hood contributes to phenomenal character.

As illustrative examples of this argumentative strategy, consider Siegel's cases of alleged phenomenal differences involving the acquisition of knowledge of a language or a recognitional capacity for a natural kind:

Almost all of us have experienced hearing others speak in a foreign language that we don't understand and that we can't parse into words and sentences. The phenomenology of hearing the same speech when we do understand is markedly different. . . .

Suppose you have never seen a pine tree before and are hired to cut down all the pine trees in a grove containing trees of many different sorts. Someone points out to you which trees are pine trees. Some weeks pass, and your disposition to distinguish the pine trees from the others improves. . . . Gaining this recognitional disposition is reflected in a phenomenological difference between the visual experiences had before and after those had after the recognitional disposition was fully developed (Siegel 2010b, pp. 99-100).

Or consider Chudnoff's cases of alleged phenomenal differences involving the acquisition of the cognitive states of understanding (first example) or intuition (second example):

[Understanding] You are trying to read the instructions for a medicine a veterinarian prescribed for your dog. At first it is illegible. Then you see that it says to administer the medicine twice daily for one week.

[Intuiting] In a book you read, "If $a < 1$, then $2 - 2a > 0$," and you wonder whether this is true. Then you "see" how a 's being less than 1 makes $2a$ smaller than 2 and so $2 - 2a$ greater than 0. . . .

In . . . these situations there is a change in phenomenal state. There is something it is like for you before understanding [or] intuiting, There is something it is like at the moment of understanding [or] intuiting, And what it is like before being in these mental states is different from what it is like while being in these mental states (Chudnoff 2015a, pp. 1-2; cf. Chudnoff 2015b, pp. 82-83).

In each of these examples, the authors point to what they take to be clear instances of phenomenal contrast between a critical pair of experiences differing in specified mental respect F —respectively, the capacity to recognize words of Russian, the capacity to recognize pine trees, understanding of a written mark, appreciating the consequences of an arithmetic relation.³ The idea is that there is a phenomenal difference, and variations in F are the most plausible sources of this phenomenal difference. They go on to conclude that, therefore, the mental dimensions on which the critical pairs differ must be dimensions that contribute to phenomenal character—i.e. that representing the property *being a word of Russian* or *being a pine tree*, or the cognitive states of understanding a written mark or appreciating an arithmetic relation, are part of the explanatory ground that fixes the phenomenal character of our experience.

³Chudnoff (2020, pp. 46-48) uses similar cases in his discussion of perceptual expertise.

2 Adequacy requirements for phenomenal contrast arguments

It should be clear from this characterization of PCAs that such arguments must satisfy at least the following conditions in order to justify their intended conclusions (cf. [Siegel 2010b](#), 90ff; [O’Callaghan 2011](#)):

- A PCA is a non-starter if there is not, in fact, a phenomenal contrast between members of the critical pair of experiences on which the argument is based. For one thing, if there is no contrast between members of the critical pair, then there is no explanatory target at which the ensuing IBE to an explanation in terms of *F*-hood might be aimed. Moreover, and crucially, the contrast in question must be a *phenomenal* contrast. For, if not, then, whatever else we may wish to say about the pair, we will have no reason to believe that *F*-hood makes any difference to phenomenal character in particular, which is what PCAs are intended to establish.
- It must be true that the difference in *F*-hood is the best explainer of the putative phenomenal contrast. Among other things, this means the experiences in the critical pair should be constructed so as to comprise a minimal pair: they should differ in *F*, but hold as much as possible constant other than *F*. This is because, if the aim is to show that the phenomenal contrast between the two experiences is best explained in terms of the difference in *F* (as per the IBE on offer), then any non-*F* differences might ground competitor explanations of the phenomenal contrast, and so threaten the alleged superiority of the explanation of the contrast in terms of *F*-hood.

The first condition can be seen as a constraint on the choice of cases used to ground an adequate PCA—constraints that are ordinarily satisfied by the time one offers a pair of experiences (cleverly constructed just for this very purpose). Perhaps for this reason, proponents of such arguments have offered relatively scant explicit argumentation on this point, instead treating it as more or less settled by consulting one’s intuitions about the carefully selected cases they offer.⁴ This comes out clearly in [Siegel \(2010b\)](#), who labels her articulation of the requirement “premise (0),” presumably in view of its foundational/preliminary status:

I’m going to call the premise that is unproblematic if the cases are convincing premise (0):

- (0) The target experience differs in its phenomenology from the contrasting experience.

Claim (0) is supposed to be an intuition. It is the minimal intuition one has to have for the argument to get off the ground (101).

In striking contrast, defenders of PCAs have typically devoted much more space to our second condition—i.e. to showing that the critical feature at issue is a better explainer of the putative datum than whatever alternatives are available (see, e.g. [Siegel 2010a](#); [Kriegel 2015](#)). Critics of these arguments have, similarly, most often focused on our second condition, arguing that there are further possible sources of phenomenal difference available as explanations, even in the most carefully constructed examples (see, e.g. [Koksvik 2015](#); [Fürst 2017](#); [Jorba and Vicente 2019](#)).

⁴An notable exception is [Kriegel \(2015\)](#); we come back to his discussion in §4.

That the second condition has received extensive discussion strikes us as appropriate: because the range of possible alternative explanations and the plausibility of these alternatives differs considerably between cases, it's hard to imagine any way of showing that this clearly necessary requirement is met other than through painstaking, case by case, critical evaluation of potential explanatory alternatives. However, we are less sanguine about the relative under-discussion of our first condition—i.e. premise (0). It is *this* step that will be our focus.

3 Illusory phenomenal contrasts?: Premise (0) reconsidered

We worry that alleged phenomenal contrasts, used as the crucial data for PCAs, have been deployed without sufficient (or, sometimes, any) argument for treating the contrasts in question as resulting from a *phenomenal* difference. Almost always, the alleged phenomenal differences are stipulated to be intuitively obvious, supported by introspective access to the experiences. We think that in many cases—especially in many prominent PCAs—intuition and introspection are insufficient grounds to justify Premise (0). To be clear, our concern is not that there is no contrast whatsoever between mental states in the relevant cases of allegedly phenomenally contrasting pairs. We are not proposing that proponents of PCAs have miraculously converged in identifying a merely hallucinated contrast. On the contrary, we believe that in such cases there is a genuine contrast between members of the pair, and that subjects have psychological access to this contrast (as must be true for proponents of PCAs to report on the contrast from their own cases). Our concern is that, in such cases, we are not given sufficient reason for thinking that the contrast on which the argument turns is a *phenomenal* contrast.

Before we elaborate this concern, a methodological remark is in order. In conversation, a number of interlocutors have suggested that our objection to PCAs is merely or unduly skeptical, in the sense that it raises a merely possible (/not independently supported) doubt about an auxiliary premise. Thus, an anonymous referee asks why a PCA-proponent should not simply take the phenomenality of certain contrasts as a datum (i.e. as something that can't be argued for from any more plausible premises).⁵ This reaction strikes us as misplaced. If the history of cognitive science teaches us anything, it is that we're bad at identifying the factors underlying our own psychological discriminations: we think we're detecting ungrammaticality, but it turns out we're responding to the overtaxing of working memory (or some other performance-related factor) while parsing a perfectly grammatical string; we think we're detecting a difference in line length, but it's all the result of the orientation of the fins flanking lines of equal length; and on and on. We suppose it is conceivable that our minds should turn out to be able to diagnose reliably those psychological contrasts reflecting specifically phenomenal/non-phenomenal difference. But given that our minds are not able to diagnose reliably psychological contrasts of other sorts, and given that (as we're about to suggest) there are plenty of live and empirically-supported (hence not merely theoretical or unduly skeptical) non-phenomenal competitor factors that would undercut the versions of premise (0) figuring in parade instances of PCAs (and that these worries spread widely to other instances of the argument form), it would seem unwise to

⁵" $T \rightarrow D$ & maybe not D' simply does not rebut, or even get a leg up on rebutting, ' T because it explains E '. What you need, if you're to do that, is some reason to believe 'not D' and 'maybe not D' doesn't, of course, amount to one of those" (Fodor 2001, p. 117).

simply assume without argument that our psychologies are reliably tuned in this way.⁶ This is just to say that it seems perfectly reasonable to think that a PCA-proponent (like a proponent of any other argument) incurs the dialectical burden of answering these doubts — i.e. of supporting her own premises — before we accept her conclusions.

Having said this much by way of methodological preliminary, we can begin to lay out our concern about premise (0) by considering Siegel’s example of the contrast between (i) the auditory experience of speech in a language we don’t understand, and (ii) the auditory experience of the same speech after we have come to understand that language (at least sufficiently well to be able to “parse [the speech segment] into words and sentences”). Siegel takes this contrast to be obviously phenomenal. She is not alone in this view. As O’Callaghan (2011) notes, the assumption that there is a phenomenal difference in these cases is widely held. There are worries one might have even if this assumption is correct. One such worry is that it requires that we can isolate our target experience narrowly, and be reasonably sure that we are not illicitly capturing other plausible phenomenal changes in the vicinity, such as those which arise from outside the target experience, for instance from changes to motor preparation and biasing, or changes in overall motivation and emotional state.⁷ This is, obviously, a serious concern. But it is not the concern we are raising. Our concern is that, even conceding that we can successfully latch on to the correct target experience, narrowly construed, we are still in need of a reason to suppose that the contrast involving the target experience in a case like Siegel’s is phenomenal. That is, there seem to us to be many possible sources of introspectable differences between the contrast cases, and not all of these will be phenomenal in the required sense to run a PCA.

Now, we certainly recognize from our own experience that there are differences between Siegel’s cases, and so can agree with Siegel that there *is* a contrast between the members of the critical pair (i) and (ii). Moreover, our ability to recognize this contrast from our own experience means that the contrast is a contrast to which we have psychological access—it could not be merely a contrast in subpersonal states that we are unable to report on. But we, *qua* recipients of the deployed PCA, worry: is the contrast we recognize in these cases really *phenomenal*? After all, the difference between (i) and (ii)—viz., the difference between not understanding and then understanding some fragment of a new language—is accompanied by a range of mental/cognitive differences:

Linguistic understanding relies not just on hearing, but also on memory, conceptual skills and mastery of syntax, grammar and semantics not afforded by sensory perception alone. Grasping meanings thus involves forms of cognition distinct from sensory perception (whether grasping meanings involves some non-sensory or wholly cognitive form of perception is beyond this paper’s scope). Therefore the proposal being considered

⁶As we’ll discuss in §4, the assumption in question may seem more plausible given a more liberal construal of phenomenality on which, roughly, any psychologically accessible difference counts as phenomenal (cf. Block 1995). However, we’ll argue there that, though this liberal understanding may nominally save premise (0), it will result in PCAs unable to secure the conclusions for which they have been put forward in the literature.

⁷O’Callaghan raises the further methodological worry that the basic form of comparison on which PCAs rest is not so easy to pull off: “In order to convince yourself of the contrast with the language fixed, you cannot just listen in turn to two utterances and compare your experiences. Instead, you have to start out ignorant of the language and then wait a long time until you have put in the effort to learn it. Alternatively, you have to compare your experience with someone else’s experience and figure out whether their phenomenal characters differ” (O’Callaghan 2011, p. 787).

entails that the difference between the experience of listening to speech in known and in unknown languages includes cognitive differences that outstrip auditory perception . . . If so, the phenomenal difference between the experience of listening to utterances spoken in known and in unknown languages includes no difference in auditory perceptual awareness. It is entirely extra-perceptual (O’Callaghan 2011, p. 789).⁸

This strikes us as an important worry. To be clear, the worry isn’t that we are skeptical about phenomenal properties in general or our ability in many cases to access them through introspection. Instead, our worry stems from a more expansive conception of sources of contrast, sources which account for the introspectible difference but which do not provide the necessary evidence for use in a typical PCA.

After all, acquiring understanding of a new language uncontroversially involves coming to hold reportable new beliefs about the semantic, syntactic, morphological, phonological, prosodic, intonational, and other features of the new language, its lexical inventory, “false friends” (merely apparent cognate forms) between the new and old languages, and more. Moreover, in addition to such general beliefs about the properties of the second language, by coming to understand the language, one will come to hold reportable new beliefs about the linguistic properties manifested in the specific speech segment one hears (e.g. that there is a word boundary in a particular place, that the head noun is plural masculine, that the verb phrase is an idiom, etc.). Of course, many of the representations underwriting a child’s process of first language acquisition are plausibly not accessible for report (Chomsky 1965). However, by contrast, it appears that at least very many of the representations that ordinarily come with second language acquisition of the sort that distinguishes (i) from (ii) are new and overt metalinguistic beliefs about the second language.⁹ Given this raft of accessible cognitive features that distinguish the mental state of the subject of (i) from that of the subject of (ii), we have a number of actual — not merely/speculatively theoretical — cognitive sources of introspectible contrast between the critical pair (i) and (ii) that do not, at least not without argument, count as phenomenal differences.¹⁰

Now, to be sure, if we already knew that holding beliefs about the linguistic features in question made for a phenomenal difference (and we knew that such beliefs were the only sources of introspectible difference), then this would suffice to ensure that the introspectible contrast between (i) and (ii) is, after all, phenomenal.¹¹ The trouble is

⁸Block (2023, p. 77) appears to raise a similar worry with respect to Siegel’s pine tree case. However, he later makes it clear that he accepts the premise (0) assumption that the difference in the case is phenomenal (“I acknowledge the phenomenal difference but dispute [Siegel’s] explanation of it” (Block 2023, p. 299)), and parts ways with Siegel only over whether what they both take to be a phenomenal difference is a difference in perceptual as opposed to cognitive phenomenology.

⁹Cf. the “Noticing Hypothesis” of Schmidt (1990, 2001). One line of experimental confirmation comes from “think-aloud” protocols (Leow 2001; Leow and Morgan-Short 2004), in which second language learners explicitly describe their own cognitive strategies in their first language while solving second language linguistic tasks (e.g. understanding or producing new forms). For discussion of the role of metalinguistic belief in early L2 learners, see Altman et al. (2018).

¹⁰As we make clear below, this worry arises not because we ourselves have any particular view of phenomenal properties. We are not the ones running an inference to the best explanation. Instead, our worry is that a typical PCA will run an IBE on the contrast simply assuming that the main source of the contrast is phenomenal. If there are other actual non-phenomenal but accessible sources of difference (as there are in this case), then such inferences are bound to falter.

¹¹Of course, if this *were* the source of the phenomenal difference, it would undermine Siegel’s conclusion that the difference in felt qualities was best explained by the presence of high-level properties in *perception*.

that we *don't* already know, at this point in the dialectic, that holding beliefs about such linguistic features makes for a phenomenal difference. Indeed, the dominant/traditional view has it that doxastic/cognitive states such as holding beliefs contrast with sensory states in *lacking* phenomenal status. Of course, the cognitive phenomenology tradition rejects this traditional contrast, and instead holds that cognitive states contribute their own form of phenomenology to our overall experience. But it would be inappropriately question-begging to help ourselves to the cognitive phenomenology view at this point in the dialectic — i.e. at a point when we are attempting to assess the force of PCAs. PCAs are put forward as among the principal arguments for the cognitive phenomenology view. One cannot both rely on PCAs to defend cognitive phenomenology and rely on cognitive phenomenology to defend PCAs.

It would seem, then, that the proponent of PCAs needs some further argument (i.e. one that is independent of PCAs, and doesn't amount to presupposing positions whose principal or only support comes from PCAs) for rejecting the alternative, non-phenomenal sources of the targeted contrast. We need an argument that the contrast is the result of a phenomenal difference in particular. Without such an argument, and given the wide array of plausible alternative sources of contrast, we are not warranted by introspection alone in thinking that there is a *phenomenal* contrast between members of the pair. And, as we have said, if there is no phenomenal contrast to be taken as explanandum, no PCA based on such a case is possible.¹²

The general point is not restricted to cases involving language. Many purported examples of phenomenal contrast involve a number of accessible psychological changes, not all of which are obviously phenomenal in nature.¹³ We can make this point by consideration of a number of other prominent PCAs that have appeared in the literature.

For example, consider Siegel's pine tree case, which involves a contrast between a first visual experience of pine trees had before, and a second visual experience of pine trees had after, the development of an overtly reportable recognitional capacity to distinguish pine trees. Siegel writes that, "Gaining this recognitional disposition is reflected in a phenomenological difference between the visual experiences had before and after those had after the recognitional disposition was fully developed" (100). Once again, we certainly agree that there is an introspectible contrast between the two

¹²An anonymous referee suggests that a PCA-proponent might answer our concern by adopting the view that experiences just are configurations of phenomenal features (or are at least type-individuated by their phenomenal features). On this view, if an accessed contrast used in a PCA turns out to target non-phenomenal features, the right thing to say is that it is not a contrast between experiences after all, but, rather, a contrast between non-experience mental states; this would allow one to maintain, despite our skepticism, that any discernible contrast that is a true contrast between experiences (themselves) will entail a phenomenal difference, per premise (0).

In our view, this response merely moves the bump to a different sub-rug location. If there were, on the old view, reasons for doubt that a contrast is genuinely phenomenal, on the new view the very same considerations will count as reasons for doubt that the contrast holds between experiences at all. This new form of the concern will be just as damaging to the prospects for a successful PCA: if the contrast holds between non-experiences, there's no point in running an IBE targeting that contrast in the hope of explaining anything about the phenomenal character of experience. Moreover, we don't see any reason to think that the concern can be more (or less) easily met in this new form. Accordingly, we'll set this suggestion aside.

¹³And, importantly, these differences need not be considered over wide temporal gaps. As we'll see, the sort of worry we raise here arises also in pairs of cases succeeding one another immediately in time. For instance, this is true of the case Chudnoff labels [Understanding]: the imagined alteration here plausibly results in *immediate* new beliefs and cognitive states in addition to (or, indeed, instead of) any changes in phenomenology.

experiences, and that the introspectability of the contrast means that it cannot be rooted in a merely subpersonal difference. But, also once again, there seem to be many possible sources for the contrast, not all of which are obviously phenomenal. It is unclear that the contrast Siegel points to should be construed as a specifically phenomenal contrast, rather than simply a contrast between the (reportable) mental states of lacking and having the recognitional disposition. That is, while Siegel claims that acquiring the recognitional disposition “is reflected in a phenomenological difference”— a difference that must be numerically distinct from the difference between lacking and having the recognitional disposition, in order that the latter can be an explainer of the former, as proposed — we are suggesting the possibility that there might be nothing to explain about the contrast between the two experiences over and above the uncontroverted introspectible difference in whether the recognitional disposition is present. Until we have a reason to reject this possibility, we can’t be confident we have identified a phenomenal contrast, in particular, and so will be unable to run a PCA on the case.

Similarly, consider the example Chudnoff labels [Understanding], involving the contrast between a pair of visual experiences of looking at a medical instruction; in the first, you cannot decipher its contents, and in the second, you can. Now, it is uncontroversial that the difference between these two experiences consists, in part, in an accessible/reportable change in cognitive state: you first lack, and then come to possess, understanding of the content of the medical instruction. Chudnoff proposes that there is, in addition, a phenomenal contrast between the two experiences. Indeed, the point of his ensuing PCA is to explain that phenomenal contrast in terms of the cognitive difference. But we should ask: why think that the experiential contrast Chudnoff takes as his explanatory target is, indeed, a phenomenal contrast, rather than simply the reportable cognitive contrast that, according to all sides, distinguishes one experience from the other? Just as in other cases we’ve discussed, this alternative description must be eliminated before we are in a position to run a PCA based on the case.

Indeed, on the face of things, the worry we are considering threatens to spread widely to other PCAs, though it may be more easily answered in some cases than in others. The worry is obviously applicable to any of the PCAs enlisted by Chudnoff and others in the service of motivating the cognitive phenomenology view. The whole point of those PCAs, of course, is to point to an allegedly phenomenal contrast between pairs of experiences that differ in some stipulated cognitive respect, and to explain the contrast in terms of that cognitive difference, thereby motivating the conclusion that cognitive features contribute to phenomenology. But since the setup of such cases guarantees that the pair of contrasting experiences differ in an accessible cognitive respect, we know in advance that there is an alternative possible description of the observed contrast as a cognitive, rather than phenomenal contrast.¹⁴ And, on this re-description, the argument cannot be taken to establish its intended conclusion that cognitive features contribute to phenomenology; rather, it will show, at most, only that cognitive features contribute to cognitive states (which is hardly surprising).¹⁵ Thus, before we can treat members of this class of PCAs as justifying their conclusions, we need a way of ruling out the

¹⁴To repeat what we said above, we cannot assume without begging the question that cognitive differences will also be phenomenal; proponents of the arguments in question need an *independent* reason for treating the contrasts as phenomenal.

¹⁵As noted above, we are bracketing the additional concern that there may be other sources of phenomenal difference that arise outside the target experience, but caused by the cognitive change. For instance, the cognitive differences may cause downstream changes in attention, mood, emotion, vigilance, behavior, and motor control that are mistaken for changes in the target experience. This

contemplated cognitive re-description of the allegedly phenomenal contrasts on which they are based—that is, we need a way of ensuring that these contrasts are, indeed, genuinely phenomenal (and if they are, that the source of the phenomenal difference genuinely lies in the intended target state).

Moreover, we suggest that the concern we have raised is applicable to PCAs outside the subclass of PCAs deliberately framed around pairs differing in overtly cognitive respects. For, as we have seen in our discussion of Siegel’s language acquisition and pine tree cases, the pairs of contrasting cases enlisted in PCAs not framed in terms of quite as overtly cognitive differences often turn out to be accompanied by cognitive differences nonetheless. And, once again, this opens the door to a possible re-description of the contrasts involved as cognitive rather than phenomenal contrasts, thereby threatening the instance of premise (0) necessary for the success of the PCA at issue.

Indeed, it would seem that the question “is this difference a phenomenal difference?” is in principle applicable to any PCA at all. We don’t see a method for predicting in advance how easily or decisively that question can be answered in particular cases. However, we contend that having an answer to it is a precondition for the success of any PCA.

4 What counts as a phenomenal difference? More than mere access

We have suggested that, without a demonstration that the initially registered contrast in a PCA is genuinely phenomenal, the argument will always fall short of its intended aim of identifying the features that contribute to the phenomenal character of experience. However, we can imagine a proponent of PCAs arguing that our skepticism is misplaced/too strong. We have in mind a critic who holds a fairly robust conception of our introspective abilities — one on which we can reliably tell from the inside whether or not a difference is genuinely phenomenal or not. Such a critic might urge that, if the initial contrast is identifiable at all, and properly described, then there could be no serious worries about whether the intended difference is phenomenal. After all, she might say, if the contrast is identifiable to the subject, then this guarantees that things introspectively seem different between what it is like to have the two experiences: that’s the only sort of difference that the subject has access to, and therefore that could ground her identification of the initial contrast. But if there is in such cases of contrast a difference in what it is like to have the two experiences, then there is a phenomenal difference between them after all, since that is just what we typically mean by a calling a difference *phenomenal*.

We believe this response rests on a vacillation that parallels Block’s celebrated distinction between access and phenomenal consciousness (A-consciousness and P-consciousness). Block (1995) uses the distinction between access consciousness and phenomenal consciousness to uncover many problematic argument forms in which there is a conflation of access (changes in cognition, beliefs, reportable facts, etc.) and phenomenal properties (genuine changes in experiential qualities). We contend that the response to our skepticism about PCAs now under consideration is another instance of such a conflation.

worry puts additional pressure on the proponents of PCAs to show that there is a phenomenal difference in the target state itself.

According to the response under consideration, any identifiable difference at all between a pair of experiences — viz., any difference to which an experiencing subject has psychological access — counts as a phenomenal difference. Now, it is certainly true that some use the expressions ‘phenomenal’ and ‘what it’s like’ in this permissive way; and we concede that the contrasts at issue in the cases discussed above count as phenomenal in this permissive sense. However, we claim that this permissive conception of phenomenality/what it’s like is too permissive to be of interest in the disputes we are addressing. We stress that this is not because we ourselves have some rich and demanding conception of phenomenality in mind that the permissive conception fails to meet. Rather, and crucially, our contention is that the permissive conception is too permissive by the standards of proponents of PCAs themselves: understanding phenomenality in this way will leave such arguments suitable for establishing correspondingly weak conclusions that will be unsatisfying to their own proponents, and, in fact, that could have been secured more simply without the need for PCAs. If we are right about this, then the hope the permissive conception offers for answering our challenge to the legitimacy of PCAs is illusory.

We can see this by noting that the permissive conception will extend automatically and trivially to a great many contrasts not traditionally taken to be phenomenal at all, or at least not taken to be phenomenal without substantial further argument. It follows from the permissive conception that the difference between any pair of distinct beliefs, however close (say, the difference between the belief that Smith blundered and the belief that Smith erred), will count as a phenomenal difference so long as it is accessible to the subject which of them she holds. Similarly, any attitudinal difference, however slight (say, the difference between bearing credence .8 and bearing credence .9 to the content p), will count as a phenomenal difference so long as it is accessible to the subject which of them she is in. For the same reason, any subject-accessible difference in motivation, mood, attention capture, epistemic stance, or any other aspect of mentality will qualify without further argument as a phenomenal difference. This strikes us as a surprising entailment: while perhaps some of these differences should be counted as phenomenal at the end of the day, that this much falls out (and as a result of verbal stipulation rather than substantive argument) is an indication that the permissive conception is preventing us from engaging with the issues about phenomenality that have seemed pressing to many. Be that as it may, things seem yet more problematic when viewed from within the context of the two principal philosophical aims to which PCAs have been put — those of shedding light on which mental properties contribute to the phenomenal character of experience, and for arguing for the presence of cognitive phenomenology. We claim that, if one allows oneself the permissive conception, one thereby largely removes the need for PCAs within those dialectical contexts. On the one hand, if one allows the permissive conception in the course of arguing that a feature F has phenomenal content, one can at best hope to show that F -hood is accessible — something one could presumably test for directly, without the need for a PCA. Similarly, within the context of a PCA directed at establishing the existence of cognitive phenomenology, if any accessible difference whatsoever counts as a phenomenal difference, then any accessible cognitive difference that could not be accounted for by a change in sensory phenomenology would suffice, all by itself, to demonstrate the presence of cognitive phenomenology.¹⁶ Again, no detour through the construction and defense of a PCA would be necessary. That their

¹⁶At best, proponents of such PCAs might find some utility in their use to screen off sensory from cognitive contributions to phenomenology; but, again, if any accessible difference indicates a phenomenal difference, then constructing such cases is trivial.

proponents have persisted in appealing to PCAs in both of these ways, then, suggests to us that they see a point to such arguments, hence that they are not content with what they could secure with the permissive conception of phenomenality.

For these reasons, we suspect that proponents of PCAs have in mind a richer and more interesting conception of phenomenality more like what [Block \(1995\)](#) calls P-consciousness — one on which differences in what experiences are like are not just any accessible differences whatsoever between them, but accessible differences between them in a distinctive type of sensuous, qualitative character. This more restrictive, qualitative, conception of the phenomenal does not (at least simply by stipulation) take accessible mental states to automatically possess experiential qualities.¹⁷

However, if a richer, more restrictive notion of phenomenality is what is intended in the context of interesting PCAs (as we suspect), then it won't do to secure premise (0) from our skepticism merely to register that the contrasts in question count as phenomenal in the thinner, more permissive sense. Precisely because the permissive notion of phenomenality at work is so liberal, it does not offer any independent evidentiary support for conclusions about which features contribute to the qualitative character of experience — which it is just the burden of PCAs to uncover. Rather, an adequate PCA must be framed around a contrast that is phenomenal in the richer, more restrictive, qualitative sense. Hence, the proffered rebuttal to our skepticism, which is rooted in mere psychological access to the contrasts, is insufficient.

We have noted that most proponents of PCAs rely entirely on intuition to secure the initial contrast as phenomenal, and have argued that more is owed on this front. However, there is a notable exception to this trend. [Kriegel \(2015\)](#) offers a robust argument for an instance of premise (0), here in the context of a PCA involving the case of Zoe, which he uses to argue for the cognitive phenomenology view. We are told first to imagine a subject without visual phenomenology, and then sequentially to remove the phenomenology from her other senses, from pain and pleasure, and from her emotions. She loses thereby all of her sensory, non-cognitive phenomenology. Then we are asked to imagine her being extremely gifted at math, and to consider a scenario in which she has a mathematical break-through, and solves a difficult problem:

Often she struggles to find the solution of some problem—she feels stuck, if you will. But sometimes a nice thing happens next: suddenly ‘the coin drops’ and she can see, so to speak, how the solution must go. Often on those occasions, a sudden intellectual gestalt shift makes Zoe realize what the missing element is, which results in a sort of affectively neutral upheaval of thought—a greater vivacity in her thinking. These victorious moments are very distinctive, and Zoe remembers many of them. Thus Zoe’s mental life has its own inner rhythm, with new beginnings, stretches of inner flow, slowed down by occasional struggling and feeling stuck,

¹⁷Though we have framed the worry in Block’s terms, his worry about the inadequacies of introspective access as a tool for probing phenomenality is not unique to him or those who accept the distinction between P- and A-consciousness. For instance, [Millikan \(2014\)](#) articulates a version of this concern by suggesting that our introspective access to our experiences may be mediated by unreliable phenomenal concepts, and that the methods of introspection are at any rate unreliable: “[T]he phenomena that phenomenology purports to investigate cannot be studied over time and over a variety of different perspectives. This makes phenomenology inherently wide open to the breeding and feeding of chimaeras” (13-14). Similarly, [Schwitzgebel \(2006\)](#) has emphasized the possibility that introspection might not easily settle the issue of phenomenal properties, given how unreliable most of us are in deploying it. Similar concerns can be found in [Dennett \(1991\)](#), [Nanay \(2012\)](#), and [Wu \(2023\)](#).

often eventually punctured by breakthroughs of sudden insight and then starting over with a new mathematical problem (56).

At this point we have a PCA. There is, intuitively, a difference or change in what it's like for Zoe when she experiences the break-through, the "aha!" moment. This difference in what it's like for her must be cognitive, since by stipulation, all of her non-cognitive, sensory phenomenology has been removed. While there are of course many ways of critically engaging with this particular argument on its own terms,¹⁸ the critical issue for our purposes is whether we have a reason for thinking that the contrast in question is genuinely phenomenal, and in the robust sense which is required. In other words, is there an argument for premise (0)?

Thankfully, and unusually, Kriegel does provide such an argument. Distilling greatly, he argues for the phenomenality of the contrast by claiming that the properties persist after we have explained away all of the functional and informational elements. They involve an 'explanatory-gap.' That is to say, Kriegel's argument makes use of the following criterion for phenomenal status:

(P1) For any property F, F is a phenomenal property if there is an explanatory gap between F and physical properties.

Kriegel urges that the contrast in the Zoe case meets that criterion, and therefore is a genuine *phenomenal* difference because the supposed difference in her states before and after solving the problem (the moment when, as he says, 'the coin drops') is not one that is explainable by any of the physical facts, including the functional facts:

Having imagined Zoe's mental life, we may ask ourselves whether there is a rational appearance of the right explanatory gap for it. It seems to me that there obviously is. Consider an individual episode of sudden realization of how a proof must go. It is entirely natural to be deeply puzzled about how this episode could just *be* nothing but the vibration of so many neurons inside the darkness of the skull. For that matter, how do molecular processes in Zoe's brain translate into her occasional thought that a given proof is complete? How can such thoughts, or such sudden realizations, be not even brought about, but constituted, by the transmission of electro-chemical impulses among cells? The chasm between these two types of phenomenon appears very much intellectually impassable (58).

Because genuinely phenomenal properties just are those subject to an explanatory gap, and we have reason to posit an explanatory gap here, the contrast between Zoe before and after she realizes the solution is supposed to be a genuine phenomenal difference. This constitutes an argument for premise (0).

One immediate worry, noted by Chudnoff (2015b), is that there seem to be several other explanatory gaps that are not phenomenal. He suggests *intentionality* as one such example (how could mere matter ever have genuine intentionality?). This would put both sides of the Zoe case in explanatory gap territory, undermining the shift from gap to phenomenal contrast. We agree with Chudnoff on this point, and suggest that there might plausibly be additional non-phenomenal contrasts that generate epistemic gaps: all of genuine intelligence, curiosity, motivation, creativity, satisfaction, and the like, might seem to be underdetermined in some sense by the mere activity of fundamental

¹⁸Is the case really conceivable? Are our intuitions about the scenario reliable? Can we rule out lingering sensory imagery in her mathematical practice? And so on. (For worries along these lines, see Chudnoff 2015b).

matter.¹⁹ All of these elements seem involved in Zoe’s case, since we already have to imagine her having genuine intelligence and motivation and (non-sensory) satisfaction. It is a genuine mystery — a real explanatory gap — how one could be motivated and curious and satisfied with a result when entirely lacking any sensory, emotional, or algedonic phenomenology. And this could be so even if none of those elements were themselves phenomenal. Each of these features could plausibly be invoked as the source of felt contrast in Zoe’s case (she went from struggling to satisfied, how does ‘the vibration of so many neurons’ explain *that* transition?)

More importantly for our purposes, the feeling that there is an epistemic gap is not more secure or plausible than the intuition that there is a difference in what it’s like for Zoe in the scenario. So it hardly seems like such an argument adds any additional support to the intuitive claims already there. Indeed, there is reason to think that our judgments/intuitions about whether there is an epistemic gap in these unusual circumstances are less secure than our intuitions about phenomenal properties generally, especially in more realistic scenarios. For this reason, we believe that relying on the epistemic-gap criterion doesn’t do much to assuage worries about premise (0). We are, therefore, left with just the problem with which we began.

5 Conclusion

In this paper we have raised a general obstacle to the success of PCAs — perhaps the most widely-used tactic in philosophy of mind for arguing that some particular mental element contributes to the phenomenal character of experience. Our claim has been that such arguments cannot hope to establish their intended conclusions unless it can be shown that the critical contrasts on which they turn are genuinely phenomenal (in the demanding, qualitative, sense at issue). Moreover, we have argued that this challenge has not been met in familiar and prominent instances of the argument form, and have raised general skeptical worries about whether it can be met.

While we take our worries to be persuasive in the context of the recent debates we have discussed—for instance in debates about the existence of cognitive phenomenology and high-level contents in perception—we don’t take ourselves to have provided a decisive general argument for the conclusion that no PCA can ever succeed. (Nor do we take our concerns about premise 0 to undermine appeals to phenomenal character more generally.) This invites the question: what might a successful defense of premise 0 look like? We take our view to be continuous with ordinary practice in cognitive and perceptual psychology, as well as cautions about appeals to phenomenology in the ways urged by such otherwise disparate philosophers as [Dennett \(1991\)](#), [Block \(1995\)](#), [Millikan \(2014\)](#), [Papineau \(2021\)](#), and [Wu \(2023\)](#) and [Nanay \(2012\)](#). As we see it, one *can* argue for the phenomenal status of mental states, but this (i) requires argument and/or evidence, and (ii) this argument/evidence will require carefully controlling for possible confounds in a more systematic way than is possible from the armchair.²⁰

¹⁹Of course, there is the genuine worry that the *appearance* of a gap is an unreliable indicator of a genuine gap, but this seems already built into Kreigel’s formulation, which as he describes it only relies on the appearance of a gap to individuate phenomenal properties.

²⁰A way of addressing the issues that goes some (but not all) of the distance toward meeting our concern is that employed in traditional psychophysics: one asks subjects to introspect experiences while engaging in carefully constructed tasks that ideally combine behavioral and physiological data with the introspective reports. (Cf. [Wu \(2023\)](#) on optometrists’ use of constrained and statistically measured comparisons with calibrated stimuli seen under uniform conditions one right

Thus, though we do not take what we have said in this paper to have ruled out the deployment of PCAs conclusively, we hope to have thrown down a challenge that any PCA must surmount before it can be treated as providing support for its conclusion, and to have shown that this challenge has not yet been met by prominent philosophical instances of the argument form.²¹

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after the other — rather than soliciting ordinary armchair introspection — as a way of comparing visual episodes.) That said, and while use of these methods may improve matters, this won’t, by itself, settle dispositively the question of whether a contrast is phenomenal; on this matter, much will of course depend on just how the PCA proponent understands the notion of phenomenality (something we cannot predict in advance).

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