The Bayesian Objection
Ch 4 of *Seemings and Justification*

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4. The Bayesian Objection

4.1 Introduction

In this chapter I analyse an objection to phenomenal conservatism to the effect that phenomenal conservatism is unacceptable because it is incompatible with Bayesianism. I consider a few responses to it and dismiss them as misled or problematic. Then, I argue that this objection doesn't go through because it rests on an implausible formalization of the intuitive notion of seeming-based justification. In the final part of the chapter, I investigate how seeming-based justification and justification based on one's reflective belief that one has a seeming interact with one another.

4.2 White's objection

According to the phenomenal conservative,

(PC) If it seems to *S* that *P*, *S* thereby has prima facie justification for believing *P*.

As clarified in §2.1, the 'thereby' in (PC) indicates that *S*'s justification for *P* rests solely on *S*'s appearance that *P,* which need not be justified. *S*'s justification for *P* is thus immediate because it is not based on any independent justification of *S*. Furthermore, *S*'s justification for *P* is non-inferential because it is not available to *S* through some inference or possible inference of *S*.

Schiffer (2004), Cohen (2005), White (2006), Weatherson (2007) and Wright (2007) have all argued that (PC) is flawed or very problematic because it is at odds with Bayesianism. These objections are very similar. I focus on White (2006) because White's objection is the most detailed and clear, and the most discussed in the literature. All these authors crucially rely on the same implausible formalization of the intuitive notion of seeming-based justification, which I criticize and reject in this chapter. Thus my reply to White is meant to respond — indirectly — to the other Bayesian objections as well.

White specifically targets *perceptual dogmatism* — namely, phenomenal conservatism circumscribed to perceptual justification. White's challenge could nevertheless be re-formulated to target phenomenal conservatism in other domains.[1] The Bayesian assumes that our degrees of rational confidence — or credences — obey probability calculus. Furthermore, the Bayesian conceives of both hypotheses and evidence as propositions held to be true by the subject with a degree of rational confidence enclosed between 0 and 1, where 0 represents certainty in the proposition's falsehood and 1 certainty in its truth.[2] The charge raised by White against (PC) is to the effect that (PC) is inconsistent with the Bayesian account of how perceptual evidence rationally affects our credences in hypotheses. Given its intuitive appeal, ductility and an impressive list of insightful analyses, Bayesianism is enormously influential in today's epistemology. If (PC) were actually incompatible with Bayesian reasoning, many would conclude that it is (PC) that has to go to the wall. At any rate, this clash would generate a philosophical puzzle with no easy solution.

White (2006) formulates his argument *synchronically*. Since it actually concerns epistemic *processes* (i.e. acquisition of evidence and credence revision), I prefer to re-formulate it *diachronically*. Let Pr be the credence function of a rational subject S, and let Pr_F be S's credence function updated upon S's learning F. I take the updating procedure to be *standard* conditionalization, according to which $Pr_F(P) = Pr(P|F)$ and $Pr_F(F) = 1$. These identities state that for any propositions P and F on which Pr is defined, as S learns F, S's credence that P equates to the conditional credence that P given F that S had before learning F, and S's credence that F becomes the highest possible. White assumes that S's *degree of epistemic justification* for believing a proposition P that S has in a given situation and S's *degree of confidence* that P that S should rationally have in the same situation coincide, or — at least — that the second provides an accurate model of the first. The last assumption has a strong intuitive appeal, so I will take it on board. From this assumption, White infers that S acquires some

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1 In which case my response can be adjusted accordingly.
2 A good introduction to Bayesian methodology is Weisberg (2011).

justification for believing a proposition *P* from evidence *F* if and only if *S*'s credence that *P* should increase upon *S*'s learning *F*.[3]

Let's stipulate that:

P = 'this is a hand',

F = 'it appears to *S* that *P*',

SH = 'this is a fake-hand'.

A fake-hand is everything that isn't a hand but cannot be visually distinguished from a hand. 'Examples of fake-hands include [for instance] perfect plastic replicas of hands, and moving projected holograms of hands' (2006: 528), and — I would add — hallucinations of hands induced by a Cartesian demon. *SH* stands therefore for any *error conjecture* that *S* can conceive of, which is incompatible with *P* but entails *F* or makes *F* highly probable. White imagines a scenario in which *S* looks at her hand for the first time — so *S* has a perceptual appearance that *P* — and he analyses the bearing of this perceptual evidence on *S*'s credence that *P* and *SH*.

Before proceeding any further with the presentation of White's argument, let me clarify a crucial point. White relies on a formal model that takes *S*'s perceptual evidence to be a reflective *belief* of *S* about her own perceptual appearance that *P* — that is to say, *S*'s reflective belief that

(*F*) it appears to *S* that *P*,

entertained by *S* with the highest possible confidence. The phenomenal conservative — on the other hand — would take *S*'s perceptual evidence to be *S*'s *appearance* that *P*. White doesn't think that there is a substantive mismatch here. For he claims that *S*'s perceptual appearances and *S*'s correlated reflective beliefs have the same justifying force (at least in the cases relevant to his Bayesian proof). Unlike White, I find this claim very problematic. For the sake of discussion, I will nevertheless question it only in the next section.

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3 The *only if* direction of this biconditional is controversial (cf. Wright 2011 and Moretti and Piazza 2013). I won't press this objection here because it would distract us from more serious difficulties of White's arguments.

To forestall possible confusion, let me sharply distinguish between 'S's having an appearance that P' and 'S's being reflectively aware of an appearance that P'.[4] These two expressions don't refer to the same mental states. The first expression refers to a mental state of S — her appearance that P — which can exist in S's mind even if she doesn't reflect on her own mental states. The second expression refers to a more complex state of S, one that encompasses at least these three items: (i) S's appearance that P, (iii) S's reflective acquaintance with her appearance that P,[5] and (ii) S's reflective belief that (F) S has an appearance that P, based on her acquaintance with her appearance that P.

This is White's argument. It looks true that $Pr_P(F) \cong Pr_{SH}(F) \cong 1$ — namely, S's credence that F should be close to certainty when S learns P or SH. Furthermore, since S shouldn't in general expect to have an experience of a hand, $Pr(F) << 1$ — namely, S's prior credence that F should be far from certainty. Thus $Pr_P(F) > Pr(F)$ and $Pr_{SH}(F) > Pr(F)$. The first inequality entails via probability calculus that $Pr_F(P) > Pr(P)$. The second inequality entails via probability calculus that $Pr_F(SH) > Pr(SH)$. So, when S learns F — or, equivalently for White, when S has an appearance that P — S acquires some justification for believing both P and SH. Let's focus on $Pr_F(SH) > Pr(SH)$. This inequality implies via probability theory that

(1) $Pr_F(\neg SH) < Pr(\neg SH)$.

(1) states that when S learns F, S's credence that $\neg SH$ (i.e. that SH is false) should *decrease*. Hence, when S has an appearance that P, S *cannot* acquire justification for believing $\neg SH$.

Now note that given that P *entails* $\neg SH$, it follows through probability calculus that

(2) $Pr_F(P) \leq Pr_F(\neg SH)$.

That is to say, when S learn F, S's credence that $\neg SH$ cannot be smaller than S's credence that P. Finally, (2) and (1) trivially entail by transitivity that

(3) $Pr_F(P) < Pr(\neg SH)$.

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4 There is a *third* expression that one might want to distinguish from these two expressions, that is to say: 'S's directing her attention to her appearance (or appearance-part) that P'. This expression refers to S's act of selecting just one of her concurrent mental states. This act of S doesn't require S to become *reflectively aware* — in the sense I clarify above — of the selected state.

5 Where 'acquaintance' should be intended as a form direct awareness in Fumerton (1995)'s sense.

(3) shows — according to White — that 'its appearing to [*S*] that this is a hand can render [*S* rationally] confident [to any degree] that it is a hand, only if [*S* is] already [rationally] confident that it is not a fake-hand [to a higher degree]' (2006: 534). We saw before that when *S* has an appearance that *P,* in White's model, *S* does acquire some justification for believing *P*. (3) places an upper bound on the strength of this justification. For it shows — according to White — that its appearing to *S* that *P* can give *S* some degree of justification for believing *P* only if *S* has already, and so independently, a higher degree of justification for believing ¬*SH*. This entails that when *S* has an appearance that *P*, unless *S* has independent justification *sufficient* to believe ¬*SH*, *S* cannot have justification *sufficient* to believe *P*. White takes this proof to show that, against (PC), *S*'s appearance that *P* cannot give *S immediate* prima facie justification for believing *P* (cf. Tucker 2013: 18).

4.3 Responding to White's objection

The responses to White given by supporters of (PC) fall within either of these categories: the revisionary ones, which agree with White that (PC) is incompatible with Bayesianism but propose revising Bayesianism to resolve the incompatibility, and those that retort that (PC) and Bayesianism haven't actually been shown to be incompatible by White.

Revisionary responses propose, for instance, to replace the probability function with an original superadditive function (cf. Pryor 2007); to switch to imprecise probabilities and introduce a non-standard conditionalization procedure (cf. Weatherson 2007); to re-interpret Bayesian formalism in a non-standard way (cf. Kung 2010); and to replace the probability function with an *intuitionist* probability function (cf. Jehle and Weatherson 2012). I won't discuss these proposals because I think they are on the wrong track.[6] In this section I will argue that White hasn't actually proven that (PC) and

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6 It is fair to say that these revisionary proposals aren't *ad hoc*. They are typically introduced as means to respond to White and — simultaneously — resolve independent shortcomings of Bayesianism; for instance, its inability to provide states of uncertainty (or absence of evidence) or defeaters of certain types with adequate formalizations.

Bayesianism are incompatible. Silins (2007) has made a case for the same conclusion.[7] Before laying down my response to White, let me detail Silins' response and the reasons of my discontent with it.

The salient *formal* result of White's objection is the proposition that (3) $Pr_F(P) < Pr(\neg SH)$. White takes (3) to contradict (PC). Silins agrees that (3) models an important feature of perceptual justification but insists that (3) doesn't establish that S's having independent justification for believing $\neg SH$ is a condition necessary *and basing* for S's acquiring perceptual justification for P. (3) only establishes — according to Silins — that S's having independent justification for believing $\neg SH$ is a condition *necessary* for S's acquiring perceptual justification for believing P. Silins concludes that since (PC) doesn't disallow conditions for perceptual justification that are necessary but *not* basing, White's inequality doesn't contradict (PC). Silins gives a few examples of conditions for perceptual justification that are necessary but not basing, and that aren't disallowed by (PC). Let's consider two of them.

Take the conceptually true proposition that (R) a hand is a hand. S does have (a priori) justification for believing R if S possesses the concepts required to entertain R. Presumably, S can have a seeming that (P) this is a hand, only if S has the concepts required to *represent* that P. But these include the concepts required to *entertain P*, and thus R. Consequently, if S has an appearance that P, S possesses prima facie justification for believing P but also independent justification for believing R. S's having independent justification for R is thus a necessary condition for S's having perceptual justification for P, but it doesn't look like a basing condition for it. For S's perceptual justification for believing P doesn't appear to be *constituted* by, among other things, S's independent justification for believing R.

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7 To be accurate, Silins (2007) aims to defend, not (PC), but a position that he calls *liberalism,* following Pryor (2004).
According to liberalism:

> In some cases C, S's visual appearance that P gives S some justification for believing P, and what makes S's appearance capable of giving S some justification for believing P doesn't include S's having some independent justification for believing other propositions. (Cf. 2007: 111-112)

Silins (2007: 108) makes it clear that one C-case is the one inspected by White (2006), in which P states that there is a hand. It is quite clear that for Silins (PC) and liberalism largely overlap.

Take now the contingent proposition that (R*) S exists. Whenever S has a perceptual appearance that P, and thus prima facie justification for believing P, S also has a cogito-style independent justification for believing R*. In this case too, S's having independent justification for R* is a necessary condition for S's having perceptual justification for P, but this doesn't appear to be a basing condition for it.

I find Silins' response to White problematic for at least two reasons. This is the first: suppose that S's possessing independent justification for ¬SH were actually a necessary but not basing condition for S's having perceptual justification for P. A consequence of this would be that if S had a seeming that P but no independent justification for ¬SH, S would not have prima facie justification for believing P, in which case (PC) would be *false.* Therefore, if S's having independent justification for ¬SH were actually a necessary but not basing condition for S's having perceptual justification for P, the phenomenal conservative would be committed to claiming that S does have some sort of *default* justification for ¬SH that is not constitutive of S's perceptual justification for P. Indeed, the phenomenal conservative would be committed to making the same claim about *any* conceivable error conjecture relevant to the content of *any* perceptual seeming falling within (PC)'s domain. Note that showing that S has default justification of this sort[8] is much more demanding than showing that S has independent justification for relatively trivial truths like R or R*. A line of response to White that did not embark the phenomenal conservative on such an arduous enterprise would be preferable.

Another problem of Silins' response is that it concedes to White that S's having independent justification for ¬SH is a condition necessary for S's having perceptual justification for P. Silins concedes this because he endorses White's assumption that perceptual appearances and correlated reflective beliefs have, in the circumstances of White's thought experiment, the same justificatory force (cf. 2007: 125n22). Given that this assumption is implausible, Silins' thesis that S's having independent justification for ¬SH is a condition necessary for S's having justification for P is ungrounded. This is my second reason why I take Silins' response to White to be inadequate.

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8 See Wedgwood (2013) for an ingenious attempt. See also Balcerak-Jackson (2016)'s objections.

I now explain why White's assumption is implausible. I will then argue that since White's case crucially relies on this assumption, it doesn't get off the ground. The phenomenal conservative takes S's perceptual evidence to be S's perceptual appearance. White, on the other hand, relies on a formalism in which S's perceptual evidence is S's reflective belief that S has a perceptual appearance. The result is that when the phenomenal conservative identifies the evidential basis of S's perceptual justification for believing a proposition X with S's appearance that X, White's formalism identifies the evidential basis of S's perceptual justification for believing the same proposition X with S's reflective belief (Y) that S has an appearance that X. White's formalism can accurately model the notion of justification deployed by the phenomenal conservative and describe important features of it only if the justifying force of S's perceptual appearance that X and the justifying force of a correlated reflective belief that Y of S are identical or very similar, at least when X and Y are propositions relevant to White's proof. This is precisely what White assumes.

For example, White (2006: 535) considers whether the formal step in his objection constituted by

(1) $Pr_F(\neg SH) < Pr(\neg SH)$

can be interpreted as describing a feature of the justifying force of S's *appearance* that P (rather than S's reflective belief that F) with respect to $\neg SH$. White takes it to be true that if S happens to have a perceptual appearance that P *accompanied by* a correlated reflective belief that F, the strength of S's justification for $\neg SH$ should be identical to the strength of S's justification for $\neg SH$ depending on S's *sole* belief that F. (I agree with White on this point. I return to it in the next section.) Considering what (1) specifically states, this means that when S has a perceptual appearance that P accompanied by a correlated reflective belief that F, the strength of S's justification for $\neg SH$ should decrease. White then suggests that:

> If the rational response to its appearing that this is a hand, when [*S*] also believe[s] that it
>
> appears that this is a hand, is to decrease [*S*'s] confidence that it is not a fake-hand,[9] then
>
> surely this is the rational response to the same experience when [*S* does] not even consider
>
> how things appear to [her]. (535)

In conclusion, according to White, *S*'s appearance that *P alone* should lessen *S*'s justification for ¬*SH*, exactly as *S*'s belief that *F* alone does.

Despite White's conviction, it appears false or very implausible that *S*'s *appearance* that *P* should lessen *S*'s justification for ¬*SH*, as *S*'s belief that *F* does. One might find it intuitive that appearances and correlated reflective beliefs must always have the same justifying force. However, our intuitions about this matter crucially depend on the conception of appearance we work with. If one adopts the conception presupposed by the phenomenal conservative — according to which appearances are non-doxastic attitudes that represent states of affairs as actualized — one will naturally conclude that appearances and correlated introspective beliefs may often have *very dissimilar* justifying force. In the case in point, note that the content of *S*'s *belief* that *F* — the proposition that it appears to *S* that this is a hand — and the content of *S*'s *appearance* that *P* — the proposition that this is a hand — are about disparate states of affairs, where the first concern *S*'s mind and the second the external world. Furthermore, note that these contents don't stand in the same logical relation with *SH* — the proposition that this is a fake-hand. Because of all of this, *S*'s belief that *F* and *S*'s appearance that *P* presumably don't have, when separately considered, the same evidential bearing on *SH*, and thus on ¬*SH*. Since *SH* entails *F* or makes *F* highly probable, it is intuitive that *S*'s coming to believe *F* should result in *S*'s acquiring justification for *SH*, and so lessening her justification for ¬*SH*. On the other hand, since *P* is *logically incompatible* with *SH*, it is very implausible that *S*'s appearance that *P* — in which it seems to *S to ascertain that P* — could result in *S*'s acquiring justification for *SH*.[10] It is much

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9 White's original passage omits 'not' and literally reads 'it is a fake-hand'. This is certainly a typo.
10 Pryor acknowledges this when he writes: 'My view is that whenever you have an experience as of *P*, you thereby have immediate prima facie justification for believing *P* … Your experiences do not, in the same way, give you immediate prima facie justification for believing that you are dreaming, or being deceived by an evil demon, or that any of the skeptic's other hypotheses obtain.' (2000: 536).

more plausible that *S*'s appearance that *P* should result in *S*'s acquiring justification for ¬*SH*, and so in *S*'s lessening her justification for *SH*.

Since *S*'s appearance that *P* and *S*'s correlated belief that *F* turn out to have *divergent* evidential force in the case just considered, it is very dubious that White's formalism could accurately model the notion of seeming-based justification that (PC) aims to account for. Thus, it is very dubious that the consequences that White draws from his formal framework could capture key features of that notion of perceptual justification.

To persuade the unimpressed reader that White's objection actually goes off the track, let me re-formulate it directly in terms of seeming-based justification. If White's objection goes through, this re-formulation of it must also go through. But it doesn't.

Since *S* knows that *P* entails ¬*SH* and degrees of justification are presumably closed under known entailment, when *S* has an appearance that *P*, *S* has some degree of justification for believing *P* only if *S* has at least the same degree of justification for believing ¬*SH* given the same appearance that *P*. Therefore, considering that *S's appearance that P lowers S's degree of justification for ¬SH*, *S* can have some degree of justification for believing *P* when *S* has an appearance that *P* only if *S* has already — and so independently — a higher degree of justification for believing ¬*SH*.

Since it is false that *S*'s appearance that *P* lowers *S*'s degree of justification for ¬*SH*, this argument is unsound.

To salvage the cogency of White's argument, one might think of re-formulating it by replacing *F* with *P* itself. The hope might be that since a belief that *P* and an appearance that *P* share the same content, believing *P* could prove a closer surrogate than believing *F* for having an appearance that *P*. This would require replacing $Pr_F(P)$, $Pr_F(SH)$ and $Pr_F(\neg SH)$ with, respectively, $Pr_P(P)$, $Pr_P(SH)$ and $Pr_P(\neg SH)$, which refer to the degrees of confidence in *P*, *SH* and ¬*SH* that *S* should rationally have

when S comes to believe P (rather than F) with certainty. The goal would be proving that $Pr_P(P) < Pr(\neg SH)$. It is easy to show, however, that this proposition is false. In fact, note that $Pr_P(P) = 1$.[11] Hence, given that 1 is the highest possible degree of credence, it cannot possibly be that $Pr_P(P) < Pr(\neg SH)$. One might perhaps think of proving the *weaker* proposition that

   (3*) $Pr_P(P) \leq Pr(\neg SH)$.

(3*) can be interpreted as indicating that when S has an appearance that P, unless S has independent justification sufficient to believe $\neg SH$, S doesn't have justification sufficient to believe P. However, (3*) is also false. Since P entails $\neg SH$, $Pr_P(\neg SH) = 1$. Furthermore, since S cannot be just certain that $\neg SH$, $Pr(\neg SH) < 1$. Thus, $Pr_P(\neg SH) > Pr(\neg SH)$. The latter inequality and the proposition that $Pr_P(P) = 1 = Pr_P(\neg SH)$ jointly entail that $Pr_P(P) > Pr(\neg SH)$.

   Another suggestion might be that of replacing F with P while deploying *Jeffrey conditionalization* rather than standard conditionalization. Suppose X is an evidential proposition of S. Jeffrey conditionalization enables S to update her credence function on *uncertain* evidence — i.e. on a mere change of S's confidence in X that may not result in S's holding X with credence 1. Let Pr_{old} be S's credence function before S changes her credence that X, and let Pr_{new} be S's credence function upon S's changing her credence that X. Let Y be any proposition on which Pr_{old} is defined. On Jeffrey conditionalization,

   (JC) $Pr_{new}(Y) = Pr_{new}(X)\, Pr_{old}(Y|X) + Pr_{new}(\neg X)\, Pr_{old}(Y|\neg X)$.

(JC) states that S's credence that Y upon S's changing her credence that X equates to the sum of two things: the product of S's new credence that X by S's conditional credence that Y given X before S changed her credence that X, and the product of S's new credence that $\neg X$ by S's conditional credence that Y given $\neg X$ before S's changed her credence that X.

   Suppose now that S's evidential proposition X is P. Jeffrey conditionalization enables S to update her credence function on a mere increase in her rational confidence that P. A mere increase in

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11 I follow White (2006) in assuming that $Pr(P) > 0$ so that P can actually be learned by S.

S's confidence in *P* might appear to be a very close surrogate for *S*'s having an appearance that *P*. One might hope to rehabilitate White's argument by showing that

(3+) $Pr_{new}(P) \leq Pr_{old}(\neg SH)$.

However, (3+) is false because one of its instances is false. To see this, consider that *standard* conditionalization is just a special case of Jeffrey conditionalization in which the evidential proposition is held by *S* with credence 1.[12] Given this, in any case in which the evidential proposition *P* is held by *S* with credence 1, the formalism of Jeffery conditionalization can be replaced *salva veritate* with the formalism of standard conditionalization. For example, in these cases, we can replace $Pr_{new}(P) = 1$ with $Pr_P(P) = 1$, and $Pr_{old}(\neg SH) = n$ with $Pr(\neg SH) = n$. A consequence of this is that in any case in which the evidential proposition *P* is held by *S* with credence 1, (3+) $Pr_{new}(P) \leq Pr_{old}(\neg SH)$ can be re-written salva veritate as (3*) $Pr_P(P) \leq Pr(\neg SH)$. This shows that (3*) is actually an instance of (3+). Since we have seen that (3*) is false, (3+) is also false.

At this point, one might still hope to obtain a working variant of White's argument by showing that (3+) is true for some specific range of values of $Pr_{new}(P)$, not inclusive of 0 and 1, suitable to formalize the epistemic import of *S*'s entertaining an appearance that *P*. But this looks like something very hard to show.

To wrap up, White hasn't actually shown that (PC) is incompatible with Bayesianism. For the formal notion of justification at work in his argument doesn't provide a sufficiently accurate model of the intuitive notion of seeming-based justification, and there is no easy way to produce a working variant of White's argument that relies on a more accurate formalization.

4.4 Perceptual appearances and reflective justification

Before concluding this chapter, I would like to probe a few interesting issues that might have crossed the mind of the reader in the course of the former discussion. My investigation will pave the way for the task of appraising the actual antisceptical bite of phenomenal conservatism, carried out in the next

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12 In fact note that when $Pr_{new}(X) = 1$, (JC) reduces to $Pr_{new}(Y) = Pr_{old}(Y|X)$.

chapter. Phenomenal conservatives can and should generalise the thesis that *S*'s appearance that *P* and *S*'s reflective belief that *F* have different evidential force with respect to *SH* and ¬*SH* to other propositions. Consider any appearance that *X* of a subject *S* capable of entertaining beliefs about her own seemings. The phenomenal conservative can legitimately claim that the justifying force of *S*'s appearance that *X*, with regard to a given proposition *Z*, and the justifying force of *S*'s reflective belief that (*Y*) *S* has an appearance that *X*, with regard to the same proposition *Z*, need not coincide and may diverge. This claim prompts the following question: how do the justifying force of *S*'s seeming that *X* and the justifying force of *S*'s reflective belief that *Y* generally work *together* to determine *S*'s justification for *Z*?

It is intuitively plausible that when *S* has a reflective belief that *Y*, the justifying force of *S*'s appearance that *X* becomes *irrelevant* to *S*'s epistemic standing with regard to *Z*. We can rephrase this epistemological thesis by stating that the evidential import that *S*'s sole appearance that *X* has for *Z* is *overridden* by the evidential import that *S*'s reflective belief that *Y* has for *Z*, when *S* also entertains this reflective belief. When the evidential import that *S*'s appearance that *X* has for *Z* is overridden by the evidential import that *S*'s belief that *Y* has for *Z*, the strength of *S*'s *all things considered* justification for *Z* — i.e. the strength of the justification for *Z* that *S* has when she entertain both the appearance that *X* and the correlated reflective belief that *Y* — is the same as the strength of *S*'s justification for *Z* based on *S*'s reflective belief that *Y* alone. Let's call *reflective justification S*'s justification for *Z* based on *S*'s reflective belief that *Y* alone.

To appreciate the intuitive plausibility of this thesis, consider the following thought experiment. *S* faces a randomly chosen table in a room. Since *S*'s eyes are closed, *S* cannot see the colour of the table. However, *S* is reliably told that

> (*BK*) The room has two white tables and two red tables. One of the white tables is illuminated by a hidden red light, so that it looks red, but the other three tables are illuminated by natural light.

Let's stipulate that:

> R = 'the table is red'.

> A = 'it appears to S that the table is red'.

> SH^* = 'the table is white but looks red because it is illuminated by a hidden red light'.

Given BK, it is easy to determine what the strength of S's confidence in R and $\neg SH^*$ should be before S opens her eyes. Since S knows that the chance that R is ½ and the chance that $\neg SH^*$ is ¾, then $Pr(R)$ = ½ and $Pr(\neg SH^*)$ = ¾.[13] The strength of S's credence that R and $\neg SH^*$ can be taken to indicate the strength of S's justification for believing R and $\neg SH^*$. Considering that the justification threshold for plain belief is presumably very high and near to 1, the justification values ½ and ¾ are intuitively insufficient to sustain, respectively, S's belief that R and S's belief that $\neg SH^*$. Accordingly, before opening her eyes, S doesn't have justification sufficient to believe R or $\neg SH^*$.

Given BK, it is also easy to determine what the strength of S's confidence in R and $\neg SH^*$ should be if S believed A. Since S would know that the cases in which R is true are 2/3 of those in which A is true, and the cases in which $\neg SH^*$ is true are also 2/3 of those in which A is true, $Pr_A(R)$ = $Pr_A(\neg SH^*)$ = 2/3. Again, this level of reflective justification would intuitively be insufficient to sustain S's belief that R or that $\neg SH^*$. So, if S believed A, S wouldn't thereby have reflective justification sufficient to believe R or $\neg SH^*$.

Now imagine that S opens her eyes and has an *appearance* that R. Given (PC), S must acquire prima facie justification sufficient to believe R. Furthermore, since S's seeming gives her the impression of verifying R, which is incompatible with SH^*, it is plausible that S has also justification sufficient to believe $\neg SH^*$, but not SH^*.

Suppose that after this, S reflects on her experience and comes to believe A. It is strongly intuitive that at this point S's appearance that R will cease to be evidentially relevant for R and $\neg SH^*$. At this point, S's all things considered justification for R and $\neg SH^*$ will only be determined by the

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[13] This follows from the application of (some version of) Lewis' *Principal Principle*. I take S's information BK to be *embedded* in *Pr*.

evidential force of S's reflective belief that A. Since $Pr_A(R) = Pr_A(\neg SH^*) = 2/3$, S won't have all things considered justification sufficient to believe R or $\neg SH^*$.

Let me describe a different thought experiment which might hopefully persuade readers still unconvinced that the evidential force of S's appearance that R is overridden by the evidential force of S's reflective belief that A. Suppose an oracle — who S knows to be virtually infallible — tells S that S will have an appearance that R at a future time t. So, *now*, S already believes A without hesitation.[14] Imagine, the oracle instantly adds information BK about the chance that R and $\neg SH^*$ will have at t — which S also believes without hesitation. So, *now, S* has already a suitable amount of justification for R and $\neg SH^*$ based on A.[15] Suppose that, at t, S actually comes to have an *appearance* that R. It is intuitive that S's degree of justification for R and $\neg SH^*$ shouldn't change. This suggests, again, that the evidential force of S's reflective belief that A with respect to R and $\neg SH^*$ overrides the evidential force of S's sole appearance that R with respect to R and $\neg SH^*$.

As we will see in §5.3, an independent reason to accept the thesis that the justification based on S's appearances is generally overridden by the justification based on S's correlated reflective beliefs is that this thesis plays a crucial role in resolving the problem of *easy justification*, which apparently afflicts phenomenal conservatism.

Let me make a few final remarks. Suppose S has a seeming that X and a reflective belief (Y) that she has a seeming that X. To begin with, note that S's seeming-based justification for X and S's reflective justification for X are *different in type*. In particular, S's seeming-based justification for X is both non-inferential and immediate. Whereas S's reflective justification for X is both *inferential* and *non-immediate*. S's reflective justification for X is inferential because it is available to S through an inference from Y to X. (For instance, the inference from 'it appears to S that the table is red' to 'the table is red'.) S's reflective justification for X is non-immediate because it is *constituted* by the portion of S's justification for believing Y transmissible to X through the inference.

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14 S's belief that A isn't — rigorously speaking — a *reflective* one before t, but this is irrelevant.
15 To forestall possible confusion let's make the implicit temporal references in A, R and $\neg SH^*$ explicit. Thus, A = 'it appears to S *at t* that the wall is red *at t*', R = 'The wall is red *at t*', and $\neg SH^*$ = 'At t the wall is white but looks red because it is illuminated by a hidden red light'.

Consider now any error conjecture Z that states that although S has a seeming that X, X is false. White's proof — generalized to any perceptual proposition X, correlated reflective belief Y and correlated error conjecture Z — shows that $Pr_Y(X) < Pr(\neg Z)$. This means that the degree of S's *reflective* justification for believing X has an upper bound in the degree of independent justification that S has for believing that Z is false. However, note that we have found no reason to think that the degree of S's *seeming-based* justification for believing X has such an upper bound.

Finally, note that S's reflective justification for X may not suffice to support S's belief that X, though S's seeming-based justification *alone* may suffice to it. (This happens, for instance, in the examples about the coloured tables examined before.) This possibility indicates that S's reflective belief that Y (accompanied by suitable background information) can act as a *defeater* of S's seeming-based justification for Y. Indeed, since reflective justification generally overrides the correlated seeming-based justification, there is a sense in which S's reflective belief that Y is *always* a defeater of S's seeming-based justification for Y. What I intend to highlight here is simply that in some cases the overriding justification for X may be weaker than the overridden justification for X.

4.5 Conclusions

White has articulated the sharpest and most detailed Bayesian objection to (PC) delivered in the recent literature. I have argued that White's objection is nevertheless inconclusive because it relies on an implausible model of the intuitive notion of seeming-based justification. I cannot exclude that a more accurate formalization of this notion could ultimately be found.[16] However, I have no reason to suppose that such a formalization would show that perceptual justification doesn't have the central features that (PC) credits to it. My analysis of White's objection lends support to the following propositions: seemings and correlated reflective beliefs can diverge in justifying power, the strength of reflective justification (but not the strength of the correlated seeming-based justification) has an upper bound in the strength of the justification for denying any relevant error conjecture, reflective justification

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16 An interesting attempt is in Miller (2016).

generally overrides the correlated seeming-based justification, a reflective belief can act as a defeater of the correlated seeming-based justification.

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