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DOES SUPPOSITIONAL REASONING SOLVE THE BOOTSTRAPPING PROBLEM?

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ABSTRACT: In a 2002 article Stewart Cohen advances the "bootstrapping problem" for what he calls "basic justification theories," and in a 2010 followup he offers a solution to the problem, exploiting the idea that suppositional reasoning may be used with defeasible as well as with deductive inference rules. To curtail the form of bootstrapping permitted by basic justification theories, Cohen insists that subjects must know their perceptual faculties are reliable before perception can give them knowledge. But how is such knowledge of reliability to be acquired if not through perception itself? Cohen proposes that such knowledge may be acquired *a priori* through suppositional reasoning. I argue that his strategy runs afoul of a plausible view about how epistemic principles function; in brief, I argue that one must actually satisfy the antecedent of an epistemic principle, not merely suppose that one does, to acquire any justification by its means – even justification for a merely conditional proposition.

KEYWORDS: bootstrapping, suppositional reasoning, defeasible rules, *a priori* justification, frontloading

In an influential article, Stewart Cohen advances the "bootstrapping problem" for what he calls "basic justification theories."[1] In a followup, he offers a solution to the problem, exploiting the idea that suppositional reasoning may be used with defeasible as well as with deductive inference rules.[2] He argues that suppositional reasoning with the basic justificationist's principles may be used to obtain *a priori* justification for believing in the reliability of perception, and that the availability of this *a priori* justification enables us to avoid what is bad about bootstrapping.

I argue that the suppositional reasoning strategy Cohen proposes runs afoul of a plausible view about how epistemic principles function. To acquire justification by means of an epistemic principle, one must actually *satisfy* the antecedent of the principle, not merely *suppose* that one does, so suppositional reasoning cannot yield *a priori* justification regarding the reliability of perception. Consequently, the bootstrapping problem is still with us.

[1] Stewart Cohen, "Basic Knowledge and the Problem of Easy Knowledge," *Philosophical and Phenomenological Research* 65 (2002): 309-29.

[2] Stewart Cohen, "Bootstrapping, Defeasible Reasoning, and *A Priori* Justification," *Philosophical Perspectives* 24 (2010): 141-59.

Though I focus on Cohen, my criticisms have broader relevance. As explained in the final section, they are applicable as well to Chalmers' use of "frontloading" as a strategy in his neo-Carnapian program of "constructing the world."[3]

1. The Problem and Its Solution

The following skeptical dyad lies in the background of Cohen's treatment of the bootstrapping problem:

(1) We cannot have justified perceptual beliefs without having a prior justified belief that perception is reliable (or at least having propositional justification for the thesis that perception is reliable).[4]

(2) We cannot be justified in believing perception is reliable (or even have propositional justification for it) without having prior justified perceptual beliefs.

If (1) and (2) are both true, perceptual knowledge is impossible, for we would need to have justified perceptual beliefs before we had them. If a disastrous skepticism is to be avoided, then, one proposition in the dyad must be denied. Some theorists deny (1), maintaining that we can acquire justified perceptual beliefs without having any antecedent justification for thinking perception reliable. Such theorists Cohen calls basic justification theorists. Others deny (2), maintaining that there is *a priori* justification for believing that perception is reliable. Cohen is in the latter camp. He argues that the bootstrapping problem shows that (1) must be upheld and that the possibility of using suppositional reasoning in the way he suggests shows that (2) may be denied.

Basic justification theorists hold that perceptual experience provides prima facie or defeasible justification for perceptual beliefs even if the subject has no justification for believing that perception is reliable. The mere fact that an object looks red to you may make you prima facie justified in believing that the object is red, regardless of whether you have any reason to think your perceptual systems are reliable. That being so, a subject is in a position to learn that his color vision is reliable by going through a course of reasoning with the following steps:

Card 1 looks red.

Card 1 is red.

[3] David Chalmers, *Constructing the World* (Oxford: Oxford University Press, 2012).

[4] Cohen's formulation leaves out the parenthetical expression, but his subsequent discussion indicates that it should be there (154).

Card 1 looks red and is red – it is the way it looks.

Similarly for cards 2 through *n*.

Therefore, my color vision is reliable.

Such is bootstrapping – a procedure that strikes many people as absurdly easy, since one reaches a conclusion about the reliability of one's color vision without testing it in any independent way. After considering and dismissing a number of restrictions that a proponent of basic justification might use to block bootstrapping, Cohen advances his own solution to the problem of how to avoid skepticism without condoning bootstrapping as a way of knowing.

As Cohen construes them, basic justification theories endorse the following as a correct though defeasible inference rule (I extend the use of '$\vdash$' so that it may express defeasible as well as deductive rules):

a looks red $\vdash$ *a* is red.

Something's looking red defeasibly justifies you in believing that it is red. Your justification may be defeated – you may learn that there are red lights playing on the object, for instance – but in the absence of defeaters, your justification stands.

Cohen's idea is that if the foregoing inference rule is correct, it may be used in something analogous to what logic books call conditional proof, generalized to apply to defeasible as well as deductive rules. The more general procedure he calls suppositional reasoning. One of his examples is based on the defeasible inference rule of statistical syllogism – most Fs are Gs, *x* is an F $\vdash$ *x* is a G:

1. Most pit bulls are dangerous (supposition for suppositional reasoning, not known to be true).
2. That dog is a pit bull (background knowledge)
3. That dog is dangerous (inferred from 1 and 2 by statistical syllogism).
4. Therefore, if most pit bulls are dangerous, that dog is dangerous (from 1-3 by suppositional reasoning).

If one were claiming to reach a conclusion that was entirely *a priori*, one would have to discharge assumption 2 as well, adding it to the antecedent of 4.

Let's see how Cohen proposes to use suppositional reasoning to avoid what is bad about bootstrapping and to arrive at *a priori* justification for the reliability of perception. Without looking at card 1, I simply *suppose* that it is red. From that supposition, I infer by my defeasible rule the provisional conclusion that card 1 is red. I then infer by suppositional reasoning that if card 1 looks red, it is red. I do the same for each of cards 1 through *n*. Conjoining the conditionals and using enumerative induction, I then arrive at the conclusion *for every card, if it looks*

red to me, it is red. I can do the same for all the other colors to which the rule applies. My vision, at least as regards the colors of cards, is reliable.

Actually, Cohen is not totally explicit about the procedure by which he thinks the conclusion about reliability is to be derived. A more compact way than the one I just described would couple suppositional reasoning with universal generalization instead of induction:

> Card *x* looks red (supposition employing a free variable).
>
> Card *x* is red (inferred from 1 by the basic justification theorist's defeasible rule).
>
> If card *x* looks red, card *x* is red (inferred from 1 and 2 by suppositional reasoning).
>
> For any card, if it looks red to me, then it is red (inferred from 3 by universal generalization).

Cohen does not identify any such universal generalization procedure or commit himself to it. Nonetheless, if defeasible inference rules may be used in suppositional reasoning at all, they may presumably be used when the supposition is framed using a free variable, thus making universal generalization legitimate.

Cohen maintains that by suppositional reasoning one may achieve, if not quite a *proof* of the reliability of one's color vision, at least a defeasible *a priori* justification for belief in the reliability of it. This strategy is supposed to show that (2) in the skeptical dyad is false – there is an *a priori* method, not involving perception, whereby one may possess propositional justification for the reliability of perception. Although Cohen thinks basic justification theorists are wrong to deny (1) in the dyad, his strategy concedes that the defeasible rules of justification they propound are correct. His strategy also concedes that the bootstrapping reasoning outlined above contains no mistake. It is just that it does not give you any *additional* reason to believe in the reliability of your vision – any reason that was not already available to you just by virtue of your competence in the defeasible rule.[5]

2. Experiential Justification and a Lesson from Descartes

To explain why I think Cohen's strategy does not work, I begin by distinguishing two routes to being justified in believing something. One route – the only one

[5] I have encountered the opinion that Cohen's aim is to reduce the basic justificationist's rules to absurdity by showing that they permit an *a priori* proof of reliability. On the contrary, Cohen endorses both the rules and the *a priori* proof; his point is that bootstrapping is harmless because it does nothing to add to the justification one already had for thinking perception reliable.

recognized by Cohen – proceeds in terms of reasons; the other proceeds in terms of experiences.

In the reasons route, one "has" a reason, which supports some further proposition. A typical case would involve believing some premises and inferring a conclusion from them; the premises would be one's reasons (or their conjunction one's reason). Cohen is willing to speak also of reasons in cases in which one does not believe the premises or draw any explicit inference. I think this much is clear, however: having a reason P that supports Q does not make you justified in believing Q (or make Q propositionally justified for you) *unless P is justified for you*. This point suggests (by an all-too-familiar argument) that there must be a mode of justification that does not involve having reasons: if justification for Q always involved a reason, then (since the reason would have to be justified), there would be either an infinite regress of reasons or a circle of reasons.

There must then be reasons that are justified by some factor that is not itself justified, and that means there must be reasons justified by something other than reasons. By what, then? By *experiences*, broadly speaking: perceptual experiences, memory experiences, intuitions or "intellectual seemings," and perhaps other varieties of experience as well. Being in the state of seeming to remember eating eggs for breakfast yesterday justifies you in believing that you *did* eat eggs for breakfast yesterday, and being in the state in which something looks red to you justifies you in believing that the thing is red.[6] The justification need only be prima facie – other information could come to light that would defeat your justification. But according to basic justification theories that recognize this second mode of justification, being in one of these states is *all it takes* to generate justification – there is no additional requirement that one have justification for thinking the experiences are reliable indicators of the truth of what they justify.[7]

In insisting on this second mode of justification – let me call it the experiential mode – I may be rejecting one of the assumptions of Cohen's article, which he puts as follows:

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[6] If someone were to insist that 'x is red' is justified by the *reason* '*x* looks red,' what would justify the reason? Would it not have to be the subject's being in the state of having *x* look red to him? Sooner or later we must have recourse to experiential justification.

[7] Basic justification theorists who countenance experiential justification include Roderick Chisholm in his *Theory of Knowledge*, 2d edition (Englewood Cliffs, NJ: Prentice-Hall, 1977), James Pryor in his "The Skeptic and the Dogmatist," *Nous* 34 (2000): 517-49, and Michael Huemer in his *Skepticism and the Veil of Perception* (Lanham, MD: Rowman and Littlefield, 2001). John Pollock is a basic justification theorist in his *Knowledge and Justification* (Princeton: Princeton University Press, 1974), but to the extent that he insists that all justification proceeds in terms of reasons, it is not clear that he countenances experiential justification.

> Perceptual justification proceeds in terms of propositional, i.e., propositionally representable, reasons concerning how things appear. (150)

I am not sure I fully grasp everything Cohen means by this or whether I am indeed rejecting it. If I am, I suspect I am quarreling with the 'reasons' part rather than the 'propositional' part.[8]

To repeat, a basic justification theorist who recognizes an experiential mode of justification would say that there are certain perceptual experiences that are *all it takes* to make you prima facie justified in believing certain things – there is no additional requirement that you be justified in believing that perception is reliable. Cohen thinks there *is* such a requirement, and that it can be satisfied by suppositional reasoning. But how would suppositional reasoning work in the framework of an experiential theory, in which what justifies me in believing that something is red is the experiential state of something's looking red to me?

First, I would make the supposition that *x* looks red to me; let's say I write it down. Next, I would conclude that *x* is red and write that down, too. But what authorizes me in doing that? What it takes to make me justified in believing that something is red is *being in the state* of having it look red to me, and I am not in that state.

I may seem to be raising a silly objection. Why could someone not raise a similar objection to conditional proofs in logic books? "What justifies you in writing down the next line after the supposition? You are not in any state that warrants you in doing so." Well, you are justified in writing it down because *you know it follows from the supposition and antecedent lines*. You may not be justified in accepting it outright, but you are justified in accepting it conditionally. (More accurately, you are justified in accepting the conditional: if the supposition, then the conclusion drawn from it.) But in the perceptual setting, is a subject similarly entitled to infer that a thing is red from the supposition that it looks red? Not unless he knows that if a thing looks red, it is red (or, more cautiously, that if

[8] Some epistemologists seem to me to stretch the word 'reason' to the breaking point. A case in point is Fred Dretske, for whom experiential states qualify as reasons ("Conclusive Reasons," *Australasian Journal of Philosophy* 49 (1971): 1-22). When R is a reason for P, he says a subject S *has* R as his reason for P provided he believes P on the basis of R and R is either (i) something S knows to be the case or is (ii) an experiential state of S. Can the same type of R really play both of the roles (i) and (ii)? What is known to be the case is a proposition, but is an experiential state also a proposition? An experiential state may have a proposition for its content, and there may be a proposition saying that one is in the state, but it does not seem right to me to say that the state *is* a proposition. In any case, we must come to a point at which it is states that do the justifying.

a thing looks red, one is prima facie justified in believing it to be red).[9] But where is that knowledge supposed to come from? And are there not many subjects who lack it? If a thing did look red to them, their being in that state would prompt the belief that something is red and make it prima facie justified for them, but if they merely *supposed* that something looks red to them, they would be in no position to draw further conclusions.

Let me take a case from the history of philosophy to illustrate what I am driving at. The fundamental principle of Descartes's epistemology is that there is a certain sort of illuminous and irresistible intellectual seeming that confers certainty on its objects – as he formulated it, "Whatever I clearly and distinctly perceive to be true is certain." Descartes sought to validate this principle by deducing it from the existence and veracity of God, and he held that only after doing this could one be certain that the principle itself is true. To this contention, his critic Mersenne objected, "Are you not implying, implausibly, that an atheist cannot know any of the truths of geometry?" Descartes's answer was *no*.[10] The atheist can be certain of truths of geometry as well as I can, Descartes said, *when* he is clearly and distinctly perceiving them to be true. That is because clear and distinct perception is a state by being in which you become certain of its objects. The atheist need not know that clear and distinct perception is reliable or certainty-producing in order to acquire certainty by means of it – Descartes is a basic justification theorist in Cohen's terms, as well as an experiential theorist in mine. But Descartes claimed an epistemic advantage over the atheist nonetheless. He claimed that at a time when he and the atheist were both *remembering* having a clear and distinct perception of a certain truth T (but not currently doing so), Descartes, but not the atheist, would still know that T is true. (We may suppose that each of them may trust his memories.) Descartes, having proved the epistemic principle above, would be in a position to use it to infer T. The atheist would not. The atheist's knowledge would therefore be meager and fleeting. To restore it, he

[9] The more cautious formulation may prompt the following question: why would the practitioner of suppositional reasoning be entitled to write down 'the thing is red' rather than 'I am justified in believing the thing to be red'? In the latter case, what is proved at the end would not be 'my color vision reliably produces true beliefs' but 'my color vision reliably produces justified beliefs.'

[10] René Descartes, *Selected Philosophical Writings*, edited and translated by John Cottingham, Robert Stoothoff, and Dugald Murdoch (Cambridge: Cambridge University Press, 1988), 40.

would have to get back into a state of clear and distinct perception with respect to the lost truths, which can only be done with respect to a few things at a time.[11]

Now let's bring Cohen's strategy into the picture. If epistemological principles are always to be recast in terms of reasons and rules in the way he posits, and if suppositional reasoning works the way he thinks it does, then the atheist's disadvantage quickly evaporates. For the atheist can reason as follows – as a geometer, he is no doubt adept at conditional proof:

> I have a clear and distinct perception of P (supposition).
>
> P is true (inference from the above using Descartes's rule, which Descartes says governs the atheist as well as anyone else).
>
> If I have a clear and distinct perception of P, P is true (from the previous steps by suppositional reasoning).
>
> For any P, if I have a clear and distinct perception of P, then P is true (from the previous step by universal generalization).
>
> Yesterday I had a clear and distinct perception of T (as memory attests).
>
> Therefore, T is true.[12]

In this fashion, the atheist can know everything Descartes can know.

It seems to me that Descartes has a coherent epistemology (whatever its overall merits) and that he would rightly object to this way of the atheist's closing the epistemic gap between them. Although clear and distinct perception is a prima facie justifier (and indeed a source of certainty) for the atheist as well as for Descartes, it does not work in the way envisioned in the suppositional reasoning above. Clear and distinct perception gives you knowledge *only when you are in its throes*. Or if you are not in its throes, it contributes to your knowledge only because you know that you once had it (or someone else has it) *and* that Descartes's rule is true – whatever is clearly and distinctly perceived is certain. To get knowledge of conditional propositions by using the rule in suppositional reasoning, therefore, you would have to know that the rule is correct, but that is precisely what the atheist does not know. Nor does Descartes himself know it at the beginning of his project in the *Meditations.*

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[11] Here I am following the account of Descartes's advantage over the atheist given in James Van Cleve, "Foundationalism, Epistemic Principles, and the Cartesian Circle," *The Philosophical Review* 88 (1979): 55-91.

[12] If you wonder how the atheist knows the theorem he proved yesterday is still true today, suppose the content of yesterday's clear and distinct perception was the *eterna*l truth of T.

Descartes's epistemology permits something akin to bootstrapping reasoning, but it is bootstrapping not mitigated by Cohen's strategy.[13] Perhaps it will be said that all I have done is to point out that there are epistemologies beyond the reach of rescue by Cohen, in which case, so much the worse for them.[14] I am inclined to think, however, that salient features of these epistemologies may be indispensable in *any* epistemology – a point to which I return in section 4.

3. An Incoherence?

Though Descartes is sometimes regarded as an arch-internalist, his theory is actually externalist in two important senses. First, clear and distinct perception is a state that gives you knowledge regardless of whether you know you are in that state. Second, clear and distinct perception is a state that gives you knowledge regardless of whether you know anything about (or have propositional justification regarding) the reliability of such states.[15] It is the second feature that makes Descartes's theory a basic justification theory in Cohen's sense and a "dogmatic" or "liberal" theory in Pryor's sense. Cohen maintains that basic justification theories are incoherent (150), but I wish to raise the possibility that his objection to them is incoherent.

Cohen himself uses the defeasible justification rules espoused by basic justification theorists, such as the rule letting you pass from *x looks red* to *x is red*. The idea behind the rule can perhaps be expressed by saying "something's looking red to you makes you prima facie justified in believing that it is red" or, in other words, "something's looking red to you is *sufficient* (in the absence of defeaters)

[13] Descartes's procedure is not the bootstrapping of current discussion, but it is a species of the same genus. The genus is using a source to know premises from which you subsequently infer that the source is reliable. In Descartes's case, the source is clear and distinct perception and the premises are propositions about causation and God. In the bootstrapper's case, the source is color perception and the premises are propositions about the colors of cards and thus about the accuracy of one's color perception in various particular instances. Both species would be ruled illegitimate by (1) in the skeptical dyad or an appropriate analog of it for sources other than perception. Incidentally, since Descartes regarded clear and distinct perception as a conclusive rather than a prima facie justifier, we see from his epistemology that defeasible justification rules are not essential for generating bootstrapping problems.

[14] Cohen suggests that there are forms of reliabilism that make bootstrapping possible while lying beyond his help ("Bootstrapping," 156).

[15] In the terms used by W.P. Alston in "An Internalist Externalism," *Synthese* 74 (1988): 265-83, Descartes is not a perspectival internalist with regard either to the obtaining of one's grounds or to their epistemic adequacy.

for your justifiably believing that it is red." At the same time, he parts company from basic justification theorists by affirming proposition (1) in the skeptical dyad:he says that no one has justified perceptual beliefs who does not have prior justification for thinking perception reliable. He thinks the required prior justification is available *a priori*, thanks to suppositional reasoning using the basic theorists' own rules. I gather this is where the incoherence in their view is supposed to lie: they insist that you can have justified perceptual beliefs via the rules without having any justification for the reliability of perception, but you inevitably do have it thanks to the suppositional strategy. In affirming (1), however, must Cohen not say that the justification rules are *not* correct as they stand? Something's looking red to you is *not* sufficient, even in the absence of defeaters, for yours being justified in thinking it is red. More is necessary. The correct rule must be stated in some more complex way, perhaps as follows:

x looks red to S & S has justification for thinking perception is reliable

$\vdash$ *x* is red

Or perhaps self-referentially, as follows:

x looks red to S & S can use this very rule to know *x looks red to S* $\rightarrow$ *x is red*

$\vdash$ *x* is red

In any case, it seems that Cohen cannot really endorse the rule as originally stated – as expressing a sufficient condition for prima facie justification.

In correspondence, Cohen has disavowed the more complicated formulations of the rule above and insisted that he does take *x looks red* to be sufficient for having propositional justification for *x is red*. But if it were truly sufficient, nothing else (nothing not entailed by it) would be necessary. And Cohen does take justification regarding reliability to be necessary – that is precisely his bone of contention with the basic justification theorist. It may not be necessary in the sense that it must figure as a premise in the subject's reasoning, but it is necessary in the sense that if the subject lacked propositional justification for the reliability of his color vision, a thing's looking red to him would not justify the proposition that it is red.[16]

[16] Here may lie a difference between how Cohen and I conceive of epistemic principles. If he takes them to be rules that license transitions from premises to conclusions, he may well balk at saying the reliability of one's color vision must be included in the antecedent. But if epistemic principles are meant (as I take them) to give sufficient conditions for a subject's possessing justification for something, then justification for the reliability of one's color vision *must,* on Cohen's view, be included in the antecedent – otherwise he would not be disagreeing with the basic justification theorist.

4. Epistemic Supervenience

When I said above that the features of Descartes's epistemology that put it beyond the reach of rescue by Cohen may be indispensable to any epistemology, that was because I think any acceptable epistemology must respect the principle of *epistemic supervenience.* This principle could be put as follows: if two beliefs (occurring in the same or different worlds) are just alike in all *nonepistemic* respects – in their content, their environmental causes, the experiences that accompany them, their relations to the other beliefs of the subject, and so on – then they are also alike in epistemic status; both are justified to the same degree. Equivalently, whenever a belief is justified or has a certain epistemic status, it also has some constellation of nonepistemic properties such that (necessarily) any belief with those properties is justified. For short, for any epistemic property any belief possesses, there is a nonepistemic sufficient condition for it.

In Descartes's theory, being in a state of clear and distinct perception is precisely such a sufficient condition, and it bestows knowledge to those who are in it regardless of whether they know clear and distinct perception to be reliable. "Regardless of whether they know it to be reliable" – that is the "externalist," "dogmatic," or "liberal" feature to which Cohen and many other contemporary writers object. But how are we to reject this element without violating the principle of epistemic supervenience? We would certainly flout it if we said "no factor you can cite gives you knowledge of P unless you know that factor is reliably connected with what it purports to give knowledge of." In that case, we would be saying that there are no epistemic consequents without epistemic antecedents.

I do not say that epistemic supervenience requires us to deny proposition (1) in the skeptical dyad. Perhaps there is a way of spelling out in nonepistemic terms conditions sufficient for being justified in perceptual beliefs, but no way of doing so that does not also provide sufficient conditions for being justified in beliefs about the reliability of perception. In that case, (1) would be true and supervenience respected. The holistic coherence view sketched by Cohen in his 2002 response to the bootstrapping problem upholds (1) without violating supervenience. But I do not see how the suppositional reasoning approach accomplishes this feat.

5. Frontloading

My objection to Cohen's use of suppositional reasoning potentially carries over to Chalmers' use of "frontloading" principles in *Constructing the World*. One of the principal theses of the book is Conditional Scrutability, which says there is a

certain class of basic truths, designated as PQTI, such that for any true proposition S, it is knowable that if the truths in PQTI obtain, then S is true. PQTI contains all physical truths, phenomenal or qualitative truths, "that's all" or totality truths, and indexical truths. A more ambitious thesis is *A Priori* Scrutability, which is like Conditional Scrutability except it adds that the conditional *if PQTI, then S* is knowable *a priori*. To extend Conditional Scrutability to *A Priori* Scrutability, Chalmers uses a "frontloading argument:" if the conditional *if PQTI, then S* is justified by empirical evidence E, then the conditional *if PQTI & E, then S* is justified independently of E. The evidence E itself is derivable from PQTI given its composition, so the original *if PQTI, then S* is knowable *a priori*.

Chalmers notes that the argument just given relies on the following frontloading principle: "If one knows M with justification from E ... then one can have conditional knowledge of M given E with justification independent of E" (162). The idea is that if E justifies M, one could suppose E for the sake of conditional proof, conclude M from this supposition, and then discharge the supposition, arriving at a belief in the conditional *if E, then M* that is justified independently of E.

If E justifies M in the experiential mode I have described, my objection to Cohen applies with equal force to Chalmers. In the experiential mode, you get justification for M by being *in* the phenomenal state described by E, not merely by supposing E is true. The route Chalmers proposes for obtaining justification for *if E, then M* is therefore cut off.

There may be a qualified version of the frontloading principle that works in Chalmers' overall project. In Chalmers' use of the frontloading principle, M is itself a conditional proposition, namely, *if PQTI then S*.[17] Perhaps when empirical evidence E justifies a conditional, it does so in a "reasons" mode, not an experiential mode, and perhaps in that case, suppositional reasoning goes through. Nonetheless, his frontloading principle as stated is open to the same objection I have raised against Cohen.

It may be an implication of what I say here about experiential justification that acquiring evidence E can give you knowledge of a proposition H even though there was no antecedently high subjective probability for you of H given E.[18] If so, Bayesian conditionalization is not the only way in which acquiring new evidence

[17] I presume that the conclusion of the frontloading argument is obtained by using the frontloading principle with M instantiated to *if PQTI then S*, then using the logical law of exportation.

[18] See Chalmers, *Constructing the World*, 177.

can make a contribution to what you know – but that is a subject for another occasion.[19]

[19] For helpful comments on earlier drafts of this paper, I thank Mark Schroeder, Jacob Ross, Ram Neta, David Chalmers, and Stewart Cohen.